MEDICAL TERMINOLOGY, RECORDS AND INSURANCE (DHHM03) (PG – DIPLOMA)

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Paper – III MEDICAL TERMINOLOGY, MEDICAL RECORDS AND MEDICAL INSURANCE

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UNIT – 1

Lesson –1 OVER VIEW OF INDIAN HEALTH CARE SYSTEM AND LEARNING MEDICAL LANGUAGE

Structure

1.0 OBJECTIVES

After going through this lesson you should be able to:

- understand the Health Care System in India in brief;
- understand analysis of Medical terms;
- learn meanings of prefixes and suffixes of various medical terms;
- learn terms which will not follow any kind of root analysis.

1.1 INTRODUCTION

Good health is a pre-requisite of human productivity and development process. A healthy community is the platform upon which an economically viable society can be built. Charaka, the renowned ayurvedic physician is known to have said “Health is vital for ethical, artistic, material and spiritual development of man”. Ideal health will, however, always remain a mirage because

every thing in our life is subject to change. Sound health also is a byproduct of socio-economic developments and on the other hand, it is also an important determinant of quality of human resources of the country.

1.2 EVOLUTION OF HEALTH CARE SYSTEM IN INDIA

The way we perceive and understand the health sector today is shaped largely by capitalism, and its critique and contradictions. In pre-capitalist times the health care provider was an independent producer who catered to the local market. His/her skills were acquired through personal contact, usually within the family. Of course, there were institutions which provided knowledge and practice skills, especially for higher levels of learning, and often under state patronage.

In pre-capitalist times in India, right down to the very ancient times of the Indus valley civilisation, there is evidence as pointedout by historians to suggest that state patronage for both public health as well as medical care was common - well planned urban centres, universities, medical texts of Ayurveda, Siddha and later Unani.

Hospitals, more in the nature of infirmaries or dharmashalas to house the sick, crippled and destitute were very much there which provided care freely and free of cost (Fa-Hein as quoted in Jaggi, 1979 XIV:3). For instance, during Ashoka's reign, such hospitals were built all over the empire, and also in other countries by the State, and facilities were made available free (Kosambi, 1975 and Thapar, 1973). Similarly during the Mughal Sultanate, the rulers established such hospitals in large numbers in the cities of their kingdom where all facilities were provided to patients free of charge. These activities were financed not only by the kings but also through charities of the rich traders and wealthy persons in the kingdom (Jaggi, 1979 IIV: 3-4).

Hence in the pre-capitalist period, which coincides with the pre-colonial period, structured health care delivery had three clearly established characteristics. Firstly it was considered a social responsibility; and thus, State and philanthropic intervention were important. Secondly, the services provided were free of cost to all who could avail them or had access to of course, caste, class and other such biases were there. And thirdly, most of these facilities were in Towns; thus, showing neglect of the countryside.

Colonial Period: Under colonialism, Indian medical science declined rapidly. Ayurveda, due to its unwillingness to become open and adapt to changing times, and due to reduced patronage, with Unani-Tibb becoming dominant in the medieval period, had already suffered a set back. With the coming of the Europeans even Unani medicine suffered from reduced patronage.

The impact of colonialism was far reaching. The gradual destruction of the local economy also destroyed local medical practices. However, the diffusion of modern medicine which was emerging was poor, especially in the rural areas. Hence people living in these areas had to resort to whatever remained of what is now called folk and / or traditional medicine.

While the first 'modern' hospital was established by the Portuguese in Goa as early as 1510, it was only under British colonialism that modern health care established in the country itself firmly; expanded its influence and was available more widely, albeit, restricted for access

to the elite and the middle classes and of course in urban areas. The English East India Company set up its first hospital in 1664 at Fort St. George in Madras because they could not see the "English men drop away like dogs" (Crawford, 1914, 11:401).

As the needs of the British population, especially the armed forces, increased due to larger territories coming under their administration and an increased number of English troops, a more organised medical establishment was necessitated. Thus on the New Year day of 1764 the Indian medical Service (IMS) was founded, initially as the Bengal Medical Service (Jaggi, 179, XIV:27).

The IMS catered mostly to the needs of the armed forces. However, by early 19th century, hospitals for the general population were established in chief moffusil towns, besides the Presidency headquarters (Crawford, 1914, 11:430). The expansion of medical facilities followed the devolution of the imperial government, especially after 1880 with the setting up of municipalities and district boards.

However, these medical facilities had a distinct racial and urban bias. Separate provisions were made on employment and racial grounds, though in some places non-official Europeans might be allowed access to hospitals designed for civil servants. In general, hospital wards for Europeans and Eurasians were separated from those for the rest of the population (Jeffery, 1988, 87). These facilities, at least until the Montague-Chelmsford reform of 1919, were located in urban areas in the military and civilian enclaves of the English.

Rural areas had to wait till the Government of India Act 1919 when health was transferred to the provincial governments and the latter began to take some interest in rural health care. In fact, rural health care expansion began in a limited way began in the country, first from 1920 onwards when the Rockfeller Foundation entered India, and started preventive health programs in the Madras Presidency in collaboration with the government; and gradually extended its support for such activities in Mysore, Travancore, United Provinces and Delhi. The focus of their activities was on developing health unit organisations in rural and semi-urban areas, in addition to support for malaria research and medical education (Bradfield, 1938, 274-275).

This intervention of the Rockfeller Foundation is historically very important for the development of health care services, and health policy in India, especially for rural areas. It may be considered a watershed that paved the path for the ideology that rural areas need only preventive health care, and not hospitals and medical clinics; that is, they need "public health" and not "medical care". There was a romance attached to leaving the rural areas to their folk traditions and practices for their medical care; but intervention was needed to maintain public health so that epidemics could be controlled. The result of this was that medical care activities of the State were developed mainly in urban areas; and rural areas were deprive of the devolution of medical care within their reach. This is an important historical fact to note because this same differential treatment between urban and rural areas has continued even in the post-colonial period. The international actors, now many more in number and more aggressive at that, provide at present for its continuity, both financially and ideologically.

The imperial government in India adopted measures that were totally inadequate to deal with the problems at hand. Apart from the racial and urban bias in developing public health infrastructure they also ignored the way the private health sector was developing. Private practitioners became a significant segment of the health sector only after independence. Infact, as early as 1881, there were 84,187 male medical practioners (Census-1881, 1883 – female occupations were not recorded in the 1881 census). At the time of Independence, the qualified allopaths had reached 50,000 and others 1,50,000. During the colonial period hospitals and dispensaries were owned mostly by the State as also financed by it, but as stated earlier, they were located in urban areas or district headquarters, and hence their access was fairly restricted for the general population.

Post-colonial Era: Independent India has not as yet seen a radical transformation in provision of health care services for its majority population, especially the masses in rural areas, inspite of the National Health Plan being available on the eve of Independence. The detailed plan set out by the Bhore Committee was both well studied and comprehensive; and designed to suit Indian conditions. It sought to construct a health infrastructure which would require an increase in resource allocation by the state by about three times the existing amount. These state health services would be available universally to all, free of cost; and would be run by a whole time salaried staff. The Bhore Committee plan was biased in favour of rural areas with the intention of correcting the wide rural-urban disparities in the shortest possible time. When implemented fully, in 25-30 years, the level of health services would improve ten-fold (of that existing in the early forties) to 567 hospital beds per 100,000 population, 62.3 doctors per 100,000 population, and 150.8 nurses per 100,000 population, spread proportionately all over the country. This development would make the private health sector dispensable.

The First and Second Health Ministers Conference after Independence accepted the Bhore Committee recommendations in principle. Private enterprise should have a public purpose; and there is no such thing under the present conditions as completely unregulated and free enterprise. Private enterprise functions within the conditions created largely by the state. Apart from the general protection that the state gives by way of maintenance of law and order, and the preservation of sanctity of contracts; there are various devices by which private enterprise derives support from the government through general or special assistance by way of tariffs, fiscal concessions and other direct assistance; the incidence of which is on the community at large. In fact, as the experience of recent years has shown, major extensions of private enterprise can rarely be undertaken except through the assistance of the state in one form or another" - first five year plan (Planning Commission, 1952: p33).

On the other hand state health services which were to be created to serve the underprivileged majority, have not even reached half the level which the Bhore Committee had envisaged way back in 1946. Even that which has developed is in urban areas with an increasing share of the private sector. The only target of the *BHORE* Committee which has been realised is the availability of doctors; but most of these doctors are in the private sector and in urban areas.

1.3 HEALTH CARE SYSTEM IN INDIA : *KEY MARKET CHARACTERISTICS*

India has a comprehensive health care system comprising government and private service providers. Indian health care industry is worth Rs. 730 billion, and occupies 4 per cent of country's GDP. In India, the health care system is organised into primary, secondary and tertiary levels of delivery system.

Looking at numbers, in absolute terms healthcare in India is a Rs. 100,000 crore (Rs. 1,000 billion) sector and accounts for 5.8 percent of the GDP of the nation. It is a large employer, with over 4 million Indians directly employed. To put it in perspective, the Information Technology sector (for all its well founded optimism about its future potential for India), currently generates less than 0.5 million jobs, and accounts for about 1.7 per cent of India's GDP.

According to industry observers, India's health care industry is expected to grow by around 13 per cent per annum to 2005. The main factors that will propel this growth are India's large population, and the unsustainably low per capita health care spend, currently only Rs. 831 (£11.80). Only if this spend increases by say 10 per cent (entirely possible, given the yearly GDP growth of 6-6.5 percent), the estimated growth levels can be achieved. The increasingly affluent and more consumer-oriented middle class population of 100 million is demanding and willing to pay for a higher standard of health care. The private sector is playing an increasingly important role in the provision of health care services at present.

TIME –TRENDS IN HEALTH CARE (1951-2004)

Table – 1

Components	1951	1981	2003
PHC*/SC**/ CHC***	725	57,363	1,63,195 (March 2001)
Dispensaries and hospitals	9,209	23,555	38,031 (January, 2002)
Beds (Private and Public Hospitals)	1,17,198	5,69,495	9,14,543 (January 2002)
Nursing Personnel	18,054	1,43,887	8,32,000 (December 2001)
Doctors (Modern System)	61,800	2,68,700	6,05,840 (December 2002)
Malaria (Case in millions)	75	2.7	1.65 (2003)
Leprosy (Cases /10,000 population)	38.1	57.3	2.4 (2004)
Polio (Number of cases)	29,709	225	214 (December 2003)

Source: Government of India, Ministry of Finance, Economic Division (2005), Economic Survey (2004-05), New Delhi.

*PHC = Primary Health Centres, **SC = Sub-Centres, ***CHC = Community Health Centres.

Hospitals: There are 38,031 dispensaries and hospitals accounting for 914,543 hospital beds in India. In addition, there are 163,195 Primary Health Centers sub-centers and commodity health centers serving the semi-urban and rural areas. (Source: Economic Survey, GOI 2004-05). According to some estimates there is a demand for 80,000 multi or super-specialty beds in India, but construction in the next year will provide only 3,000. This shortfall has resulted in the proliferation of small private "Nursing Homes" in profitable niches such as cardiology,

developed by doctors as an alternative source of income. These doctors lacked the funding and management skills necessary to establish large, private multi and super-specialty hospitals. Interest rates on such projects have been prohibitively high and exchange rate exposure has limited foreign investment in hospital construction. Recently, the Apollo Group has succeeded in developing a chain of high quality, multi-specialty private hospitals characterised by professional management, state-of-the art equipment and world class specialists. Financed by share capital and listed on the stock market, Apollo, enjoying occupancy rates of over 80 per cent is the benchmark for the private sector. Wockhardt, Escorts and Max India are the other major corporates following suit. In future, such hospital groups will develop networks of diagnostic centres across the country, and provide patients with multi and super specialty hospitals (based in the metros), vertically integrating the provision of primary, secondary and tertiary care. The private hospital sector is most evolved in the south, while charitable / trust hospitals proliferated in the west. The dearth of high quality private medical care is most pronounced in the eastern region, while the north is also underdeveloped. The key therapeutic areas are Cardiology, Nephrology, Oncology, Orthopedics, Geriatrics, Maternity and Trauma / Critical Care.

Table - 2

INDIA'S GLOBAL POSITION IN HUMAN AND GENDER DEVELOPMENT

Index	1990	2001	2002	Rank in 2002 (UNDP – HDR 2004)
Human Development Index (HDI)	0.519	0.59	0.595	127 out of 177 countries
Gender Development Index (GDI)	0.401	0.574	0.572	103 out of 144 countries
Gender Empowerment Measures (GEM)	0.226 (1992)	0.240		

Source: United Nations' Development Programme (2005), *Human Development Report* 2005, UNDP in association with Oxford University Press, Newyork.

Table - 3
SELECTED HEALTH INDICATORS – ALL INDIA

Indicators	1951	1981	1991	Current Level
Crude birth rate (CBR)	40.8	33.9	29.5	25.0 (2002)
Crude death rate (CDR) (per 1000 population)	25.1	12.5	9.8	8.1 (2002)
Total fertility rate (CFR) (per annum)	6.0	4.5	3.6	3.1 (2001)
Maternal mortality rate (MMR) (per one lakh live births)	N.A.	N.A.	437 (1992-93)	407 (1998)
Infant mortality rate (IMR) (per 1000 live births)	146 (1951-61)	110	80	64 (2002)
Child (0-4 years) mortality rate (CMR) per (1000 live births)	57.3 (1972)	41.2	26.5	19.5 (2000)
Couple protection rate (CPR) (%)	10.4 (1971)	22.8	44.1	48.2 (1998-99)
Life expectancy at birth (Years)				
Male	37.2	54.1	59.7 (1991-95)	63.9 (2001-06)
Female	36.2	54.7	60.9 (1991-95)	66.9 (2001-06)
Combined	36.7	54.3	60.77 (1991-95)	65.0 (2001-06)

Source: Government of India, Ministry of Finance, Economic Division (2005), Economic Survey (2004-05), New Delhi.

Education & Training: In 2002 (Source: OPPI), there were 162 Medical Colleges in India. With over 605,840 doctors and 832,000 nurses, there is a tremendous stock of intellectual capital in Indian health care (source: OPPI, 2001-02 estimates). However, there is a pressing need for qualified, specialist nurses. Several private hospitals have invested in nurse education, but are concerned about loyalty. Trained nurses often leave India, attracted by higher wages offered in the Gulf countries. Specialist training of nurses will become vital as the number of specialty and multi-specialty hospitals increases. Doctors in India are inclined towards UK medical processes, and accreditation bodies such as the Royal Colleges. While private hospitals are attracting the most qualified individuals, entrepreneurial doctors have set up their own private clinics or nursing homes in addition to their hospital work. But the effectiveness of doctors is hampered by their involvement in day-to-day management, administration and financial concerns; and this has highlighted the desperate need for professional hospital management, administration and executive development. Doctors and medical colleges are specifically interested in the exchange programme with British Universities, especially focusing on the educational value of India's clinical diversity. The growth of the diagnostics /analytics sector has also unearthed the need for training in biochemical engineering. The development of medical services such as clinical waste management and emergency medicine will generate specific educational requirements, e.g., paramedics. Telemedicine and distance learning are other exciting concepts with the potential to

facilitate novel partnerships in education. It is imperative for UK academia to define educational projects and their commercial viability in precise terms.

Health Care Services: Two services that are desperately needed in India are emergency medical services (EMS) and clinical waste management. In both cases, there is willingness for the private and public sectors to work together to implement effective systems. EMS and clinical waste initiatives involve a host of products and services including education, consultancy, and equipment. The specific services and stakeholders must be clearly defined and financial responsibilities should made clear from the outset. EMS and clinical waste are services implemented at the municipal level. A successful pilot in a particular city could establish a model to be used by others. EMS is most conducive to the comparatively advanced infrastructure that characterizes the cities of the south, while clinical waste projects have generated great interest in both the western and southern regions.

Insurance: Legislation has been identified as a priority, item by the present government, and it is broadly accepted that private health insurance will catalyse growth across the health sector. Estimates place the current potential market size between £20 (Rs. 1400) to £600 (Rs. 42,000). Insurance will drive quality consciousness, and increase demand for better standards, accreditation and patient / management information systems. Corporations will be the first ones to subscribe to private insurance schemes, developing the market for third party administration of insurance packages. The major international players will establish networks of affiliated hospitals and may seek direct involvement in the development of new facilities, especially cost-effective diagnostic cenres.

1.4. TRENDS IN HEALTH CARE SECTOR

India is one of the pioneers in health service planning with a focus on primary health care. The Bhore Committee report, which laid the foundation of the health care system in Independent India, preceded the Alma – Ata declaration by three decades. Being a signatory to the Alma-Ata Declaration 1978, India is, thus, committed to attain the goal of “Health for all by 2000 AD”. India could be able to fulfill the goal to a certain extent.

The efforts have resulted in a discernible impact on mortality with Crude Death Rate (CDR) declining from 27 in 1951 to 9 in 1998. The Infant Mortality Rate has also recorded a significant trend by limiting the rate from 129 in1970 to 71.6 in 1988. Birth rate of India has also declined considerably from 36.8 in 1970 to 26.4 in 1988, recording a favourable trend towards development.

The life expectancy at birth has increased from 41.3 years in 1951-52 to 62.9 years in 1999-2000. These indicators reflect India’s significant achievements in the case of development of its human capital. However, a comparison of status of health in India with other developing countries may not give a satisfactory result.

Institutional Framework: The Union Ministry of Health and Family Welfare (the Ministry) is instrumental and responsible for implementation of various programmes of national importance

like family welfare, prevention and control of major diseases etc, which form the main plank of the developmental efforts. Apart from these, the Ministry also assists states in preventing and controlling the spread of outbreaks and epidemics through technical assistance.

The Ministry comprises the following departments, each of which is headed by a Secretary to the Government of India: (i) Department of Health, (ii) Department of Family Welfare, and (iii) Department of Indian Systems of Medicine & Homeopathy.

Opening of the Insurance Sector: In India, approximately 60 per cent of the total health expenditure comes from self-paid category as against government's contribution of 25-30 per cent. A majority of private hospitals are expensive for a normal middle class family. The opening up of the insurance sector to private players is expected to give a shot in the arm of the healthcare industry.

Health Insurance will make health care affordable to a large number of people. Currently in India, only 2 million people (0.2 per cent of total population of 1 billion) are covered under Mediclaim, whereas in developed nations like USA, about 75 per cent of the total population are covered under some insurance scheme or the other. General Insurance Company (GIC) has never aggressively marketed health insurance. Moreover, GIC takes up to 6 months to process a claim and reimburses customers after they have paid for treatment out of their own pockets. This will give a great advantage to private players like Cigna, which is planning to launch Smart Cards that can be used in hospitals, patient guidance facilities, travel insurance, etc.

The Consultants, Financiers and Insurance Agencies are to benefit from this boom. The insurers will use PPOs that will grow into HMOs, to assume insurance risks on client's behalf. Medical equipments, medical software, and hospital will see the biggest boom in the near future.

1.5 LEARNING MEDICAL LANGUAGE

The job of aspirant of diploma in hospital and health care management is primarily to communicate effectively with medical doctors. To be able to do it, one should have an understanding of the language used by doctors. Like in any other profession, medical profession uses a large number of profession specific terms. These terms are often derived from Latin and Greek. Since we are not conversant with these languages, it is very essential to put in serious efforts to learn these medical terms. It is relatively easier to learn these with the help of 'Analytical Method'.

1.5.1 Medical terms are made up of the following parts

(i) Word root (iii) Suffix
(ii) Prefix (iv) Combining Vowel

1.5.2 List of common Prefixes and their meanings

S. No.	Prefix	Meaning
1.	A / An	Absence of
2.	Ant/ Anti	Against
3.	Ante	Before
4.	Bi	Twice

5.	Brady	Slow
6.	Chemo	Chemical or drug
7.	Co / Con	Together
8.	Contra	Against
9.	De	To remove
10.	Dextro	Clockwise or to the right
11.	Dip / Diplo	Double
12.	Dis / Dys	Difficult, Painful
13.	Endo	Within
14.	Epi	Upon or outside
15.	Eryth / Erythro	Red
16.	Eu/Normo	Normal
17.	Ex / Exo / Extra	Outside
18.	Haem	Blood
19.	Hyper	High or above
20.	Hypo	Below or low
21.	Inter	Between
22.	Intra	Inside
23.	Leuco / Leuko	White
24.	Macro / Megalo	Large
25.	Multi	Many or excessive
26.	Meta	Beyond
27.	Neo	New
28.	Oligo	Less or deficient
29.	Os / Stoma	Opening or mouth
30.	Pan	All
31.	Para / par	Beside or away
32.	Peri	Around
33.	Post	After
34.	Pre / Pro	Before
35.	Pseudo	False
36.	Py / Pyo	Pus
37.	Re	Again
38.	Retro	Behind
39.	Sub	Below
40.	Supra	Above
41.	Syn	Together
42.	Tachy	Fast

1.5.3 List of common Suffixes and their meaning

Sl. No.	Suffix	Meaning
1.	Aemia / Emia	A state of blood
2.	Al/ic/ac/eal/ous/ary	Pertaining to
3.	Algia	A state of pain
4.	Ase	Catalyst or enzyme

5.	Blast	Immature cell
6.	Cidal / cide	Killing
7.	Ectasis	Permanent dilatation
8.	Ectomy	Removal
9.	Gen/genesis/generic	Generation of
10.	Lasis/asis/esis/osis/ia	A state of
11.	Itis	Inflammation of
12.	Logy	Science or study
13.	Lysis / lytic	Break down
14.	Malacia	Weakening or softening
15.	Megaly	Enlargement
16.	Oma	Tumour or Swelling
17.	Oid	Resembling
18.	Osis	Condition
19.	Pathy	Disease
20.	Plasia	Formation or growth
21.	Plasm	Substance growth
22.	Penia	State of deficiency in blood
23.	Philia / Philic	Attraction to
24.	Poiesis / Poietic	Formation of
25.	Rrhage / Rrhagia	Flow of blood
26.	Sclerosis	Hardening
27.	Scopy / Scope	To view or See
28.	Spasm	Persistent state of muscular contraction
29.	Stasis	Stagnation or cessation of

1.5.4 Combining Vowel

It is often used between two words, eg. Gastroenteritis. It may be used between a word and suffix Eg. Arthropathy. The combining vowel usually is an “O”. Combining vowel is not used between a word root and suffix, if the suffix begins with a vowel, eg., Hepatic. However, combining vowel is used between two words, even if vowels are present at the junction, eg., Osteoarthritis.

1.5.5 Special Terms

Here the above mentioned analytical method is not applicable. Hence they need to be memorised.

Eponyms : Terms which are named after the discoverer, eg., Koch’s disease used for tuberculosis.

Synonyms : When more than two names are used for the same term, eg., Eczema and dermatitis.

Acronym : When an abridged term is used instead of full form, eg., G.I.T. for Gastrointestinal tract, U.T.I. for urinary tract infections.

1.5.6 Steps of analysing and defining medical terms

Step I : Separate different parts as shown below
Gastr/o/enter/itis

Step II : Label these parts
Gastr/o/enter/itis
Wr/cv/wr/s

Step III : Define the meaning of each part
gastr _____ stomach
entero_____ small intestine
itis _____ inflammation

Step IV : Start with suffix and go to the beginning of the term
Gastr/o/enter/itis _____ inflammation of stomach and small intestines.

1.5.7 List of Medical Terms and their Meanings (Analytical Method)

Sl. No.	Term	Analysis	Meaning
1.	Anorexia	An/o/rex/ia	A state of absence of appetite
2.	Dyspepsia	Dyspepsia	Indigestion
3.	Dysphagia	Dys/phag/ia	A state of difficulty in swallowing
4.	Apnoea	A/pnoe/a	A state of absence of breathing
5.	Bradycardia	Brady/card/ia	A state of slow heart rate
6.	Endocarditis	Endo/card/itis	Inflammation of innerlining of heart
7.	Thrombosis	Thromb/osis	A state of clotting of blood
8.	Anuria	An/ur/ia	State of absence of urine
9.	Somnolence	Somn/o/lence	A state of sleepiness
10.	Sedative	Sedat/ive	Pertaining to or causing sedation
11.	Agranulocytosis	A/granulocyt/osis	A state of absence of granulated WBCs in blood
12.	Thrombocytopenia	Thrombocyt/o/penia	A state of lack of platelets in blood
13.	Empyema	Em/py/ema	A state of pus in a cavity
14.	Mastoiditis	Mastoid/itis	Inflammation of the bony prominence behind the ear

Sl. No.	Term	Analysis	Meaning
15.	Folliculitis	Follicul/itis	Inflammation of hair follicle (boil orfuruncle)
16.	Haemathrosis	Haem/arthro/osis	A State of blood in joint (Bleeding inside the joints)
17.	Impotence	Im/potence	Lack of power (usually sexual)
18.	Gynaecomastia	Gynaec/o/mast/ia	A state of female like breast or

			enlargement of male breast
19.	Bronchiectasis	Bronchi/ectasis	A state of permanent pathological dilatation of bronchi
20.	Bronchopneumonia	Bronch/o/pneumonia	Inflammation of small bronchioles and the surrounding lung tissue
21.	Osteomyelitis	Oste/o/myel/itis	Inflammation of bone and bone marrow
22.	Cellulitis	Cellul/it is	Inflammation of cells (refers to the inflammation of interstitial tissues)
23.	Glomerulonephritis	Glomerul/o/nephr/itis	Inflammation of glomerulus and nephrons in kidney
24.	Meningitis	Mening/itis	Inflammation of coverings of brain and spinal cord.
25.	Septicaemia	Septic/aemia	A state of infection of blood
26.	Otitis	Ot/itis	Inflammation of ear
27.	Pyelonephritis	Pyel/o/nephr/itis	Inflammation of renal pelvis and nephrons in kidney.
28.	Prostatitis	Prostat/itis	Inflammation of prostate gland.
29.	Arthritis	Arthr/itis	Inflammation of joint
30.	Ischaemia	Isc/haem/ia	Relative lack of blood supply
31.	Paronychia	Par/onych/ia	Inflammation of tissues around nail
32.	Lymphangitis	Lymph/ang/itis	Inflammation of lymph vessels
33.	Lymphadenitis	Lymph/aden/itis	Inflammation of lymph glands
34.	Phlebitis	Phleb/itis	Inflammation of vein
35.	Thrombophlebitis	Thromb/o/phleb/itis	Inflammation of vein with clot formation
36.	Mastitis	Mast/itis	Inflammation of breast
37.	Diplopia	Dipl/op/ia	A condition of double vision
38	Glosits	Glos/its	Inflammation of tongue

1.5. 8 Medical Terms not following the above Pattern of Analysis – A Different Appeal

	Term	Analysis	Meaning
1.	Paroxysm	One word	Sudden attack
2.	Carbuncle	One word	Inflammation of cluster of hair follicles
3.	Abscess	One word	A localised collection of PUS
4.	Trachoma	One word	Infection of eye membrane
5.	Syphilis	One word	Sexually transmitted disease (Hard chancre on genital organs)
6.	Chanchroid	One word	Sexually transmitted disease (painful, soft chancre on genital organs)
7.	Biopsy	One word	Removal of a small piece of tissue for laboratory examination
8.	Oedema	One word	Swelling due to fluid collection in Interstitial tissues.
9.	Tinnitus	One word	A feeling of sound of ringing bell in the ear.
10.	Urticaria	One word	Raised, itchy patches on skin
11.	Rheumatoid Arthritis	Complex word	Inflammation of synovial joints (thought to be an auto-immune disease)
12.	Rheumatic fever	Complex word	Joint inflammation with fever (damages the heart)
13.	Septic shock	Complex word	Marked fall in blood pressure and other vital functions due to sepsis.
14.	Anaphylactic shock	Complex word	Severe life threatening shock due to allergic reaction
15.	P.I.D	Acronym	Pelvic inflammatory disease
16.	Fibrositis	Pseudonym	Vague aches and pains in the back
17.	Infarction	One word	Death of tissue due to lack of blood supply
18.	Mastectamy		Removal of breast
19.	Apendectomy		Removal of Apendix
20.	Prostatectomy		Removal of prostate

1.5.9 Terms used for colours

1.	Chromo/o	-	Colour
2.	Cyan/o	-	Blue
3.	Erythr/o	-	Red
4.	Leuk/o	-	White
5.	Melan/o	-	Black
6.	Xanth/o	-	Yellow

1.5.10 Reading Prescription Made Easy

Wondering why you can't read what the doctor wrote on your prescription? Ever see the doctor's notes in your medical record and found peculiar abbreviations and jargon? Doctors commonly use a variety of abbreviations in order to rapidly and succinctly record information about, and give instructions to, their patients and to their hospital staff. Below is a listing of many common terms and abbreviations defined so that you can decipher those charts!

a.c.: Before meals. As in taking a medicine before meals.

a/g ratio: Albumin to globulin ratio.

ACL: Anterior cruciate ligament. ACL injuries are one of the most common ligament injuries to the knee. The ACL can be sprained or completely torn from trauma and/or degeneration.

Ad lib: At liberty. For example, a patient may be permitted to move out of bed freely and orders would, therefore, be for activities to be ad lib.

AKA: Above the knee amputation.

Anuric: Not producing urine. A person who is anuric is often critical and may require dialysis.

b.i.d.: Twice daily. As in taking a medicine twice daily.

Bandemia: Slang for elevated level of band forms of white blood cells.

Bibasilar: At the bases of both lungs. For example, someone with a pneumonia in both lungs might have abnormal bibasilar breath sounds.

BKA: Below the knee amputation.

BMP: Basic metabolic panel. Electrolytes (potassium, sodium, carbon dioxide, and chloride) and creatinine and glucose.

BP: Blood pressure. Blood pressure is recorded as part of the physical examination. It is one of the "vital signs."

BSO: Bilateral salpingo-oophorectomy. A BSO is the removal of both of the ovaries and adjacent Fallopian tubes and often is performed as part of a total abdominal hysterectomy

C&S: Culture and sensitivity, performed to detect infection.

C/O: Complaint of. The patient's expressed concern.

cap: Capsule.

CBC: Complete blood count.

CC: Chief complaint. The patient's main concern.

cc: Cubic centimeters. For example, the amount of fluid removed from the body is recorded in ccs.

Chem panel: Chemistry panel. A comprehensive screening blood test that indicates the status of the liver, kidneys, and electrolytes.

COPD: Chronic obstructive pulmonary disease.

CVA: Cerebrovascular accident (Stroke).

D/C or DC: Discontinue or discharge. For example, a doctor will D/C a drug. Alternatively, the doctor might DC a patient from the hospital.

DDX: Differential diagnosis The variety diagnostic possibilities being considered.

DM: Diabetes mellitus.

DNC, D&C, or D and C: Dilation and curettage. Widening the cervix and scrapping with a curette for the purpose of removing tissue lining the inner surface of the womb (uterus).

DNR: Do not resuscitate. This is a specific order not to revive a patient artificially if they succumb to illness. If a patient is given a DNR order, they are not resuscitated if they are near death and no code blue is called.

DOE: Dyspnea on exertion. Shortness of breath with activity.

DTR: Deep tendon reflexes. These are reflexes that the doctor tests by banging on the tendons with a rubber hammer.

DVT: Deep venous thrombosis (Blood clot in large vein).

ETOH: Alcohol. ETOH intake history is often recorded as part of a patient history.

FX: Fracture.

GOMER: Slang for "get out of my emergency room."

gtt: Drops.

H&H: Hemoglobin and hematocrit. When the H & H is low, anemia is present. The H&H can be elevated in persons who have lung disease from long term smoking or from disease, such as polycythemia rubra vera.

H&P: History and physical examination.

h.s.: At bedtime. As in taking a medicine at bedtime.

H/O or h/o: History of. A past event that occurred.

HA: Headache.

HTN: Hypertension.

I&D: Incision and drainage.

IM: Intramuscular. This is a typical notation when noting or ordering an injection (shot) given into muscle, such as with B12 for pernicious anemia.

IMP: Impression. This is the summary conclusion of the patient's condition by the healthcare practitioner at that particular date and time.

in vitro: In the laboratory.

in vivo: In the body.

IU: International units.

JT: Joint.

K: Potassium. An essential electrolyte frequently monitored regularly in intensive care.

KCL: Potassium chloride.

LBP: Low back pain. LBP is one of most common medical complaints.

LLQ: Left lower quadrant. Diverticulitis pain is often in the LLQ of the abdomen.

LUQ: Left upper quadrant. The spleen is located in the LUQ of the abdomen.

Lytes: Electrolytes (potassium, sodium, carbon dioxide, and chloride).

MCL: Medial collateral ligament.

mg: Milligrams.

ml: Milliliters.

MVP: Mitral valve prolapse.

N/V: Nausea or vomiting.

Na: Sodium. An essential electrolyte frequently monitored regularly in intensive care.

npo: Nothing by mouth. For example, if a patient was about to undergo a surgical operation requiring general anesthesia, they may be required to avoid food or beverage prior to the procedure.

O&P: Ova and parasites. Stool O & P is tested in the laboratory to detect parasitic infection in persons with chronic diarrhea.

O.D.: Right eye.

O.S.: Left eye.

O.U.: Both eyes.

ORIF: Open reduction and internal fixation, such as with the orthopedic repair of a hip fracture.

P: Pulse. Pulse is recorded as part of the physical examination. It is one of the "vital signs."

p.o.: By mouth. From the Latin terminology per os.

p.r.n.: As needed. So that it is not always done, but done only when the situation calls for it (or example, taking a pain medication only when having pain and not without pain).

PCL: Posterior cruciate ligament. **PERRLA**: Pupils equal, round, and reactive to light and accommodation.

Plt: Platelets, one of the blood forming elements along with the white and red blood cells.

PMI: Point of maximum impulse of the heart when felt during examination, as in beats against the chest.

q.d.: Each day. As in taking a medicine daily.

q.i.d.: Four times daily. As in taking a medicine four times daily.

q2h: Every 2 hours. As in taking a medicine every 2 hours.

q3h: Every 3 hours. As in taking a medicine every 3 hours.

qAM: Each morning. As in taking a medicine each morning.

qhs: At each bedtime. As in taking a medicine each bedtime.

qod: Every other day. As in taking a medicine every other day.

qPM: Each evening. As in taking a medicine each evening.

R/O: Rule out. Doctors frequently will rule out various possible diagnoses when figuring out the correct diagnosis.

REB: Rebound, as in rebound tenderness of the abdomen when pushed in and then released.

RLQ: Right lower quadrant. The appendix is located in the RLQ of the abdomen.

ROS: Review of systems. An overall review concerns relating to the organ systems, such as the respiratory, cardiovascular, and neurologic systems.

RUQ: Right upper quadrant. The liver is located in the RUQ of the abdomen.

s/p: Status post. For example, a person who had a knee operation would be s/p a knee operation.

SOB: Shortness of breath.

SQ: Subcutaneous. This is a typical notation when noting or ordering an injection (shot) given into the fatty tissue under the skin, such as with insulin for diabetes mellitus.

T: Temperature. Temperature is recorded as part of the physical examination. It is one of the "vital signs."

T&A: Tonsillectomy and adenoidectomy.

t.i.d.: Three times daily. As in taking a medicine three times daily.

tab: Tablet.

TAH: Total abdominal hysterectomy.

THR: Total hip replacement.

TKR: Total knee replacement.

UA or u/a: Urinalysis. A UA is a typical part of a comprehensive physical examination.

URI: Upper respiratory infection, such as sinusitis or the common cold.

ut dict: As directed. As in taking a medicine according to the instructions that the healthcare practitioner gave in the office or in the past.

UTI: Urinary tract infection.

VSS: Vital signs are stable. This notation means that from the standpoint of the temperature, blood pressure, and pulse, the patient is doing well.

Wt: Weight. Body weight is often recorded as part of the physical examination.

CHECK YOUR PROGRESS

(1) State the meaning of osteomyelitis _____

(2) Indian Health Care System is organised into (1) _____ (2) _____ (3) _____

(3) "Eponym" means _____

(4) In what context combining vowel is used?
_____

1.6 LETS SUM UP

Good health is prerequisite to human productivity and development process. India has a comprehensive health care system comprising government and private service providers. The health distribution system comprises three levels; primary, secondary and tertiary levels. Indian health care market is currently dominated by the mushrooming of corporate and privately run hospitals largely based in metro cities. Two services that are desperately needed in India are

emergency medical service and clinical waste management. Health Insurance will make health care affordable to a large number of people.

Medical professionals use a large number of profession specific terms. Medical terms are made up of various components; word root, prefix, suffix and combining vowel.

1.7 ANSWERS TO CHECK YOUR PROGRESS

(1) Inflammation of bone and bone marrow

(2) Primary, secondary, tertiary levels

(3) Medical terms named after discoverer

(4) Combination of words

1.8 TERMINAL QUESTIONS

(1) Enunciate the evolution of Health Care System in India.

(2) What are various key market characteristics that influence Health Care System in India.

(3) Discuss the procedure to analyse medical terms. Write few medical terms that follows analytical method.

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Lesson - 2 LEVELS OF HEALTH CARE AND SYSTEMS OF MEDICINE IN INDIA

Structure

2.0 OBJECTIVES

After going through this lesson you should be able to:

- understand the levels of health care system in India;
- learn about different systems of medicine;
- understand the concept of integrated medicine.

2.1 INTRODUCTION

The health of a nation can best be judged based on health status attained by its people. Historically speaking, at the time when India has got its Independence, the health situation in the country was extremely dismal. As you learned in earlier lesson that considerable progress has

been made over the last five decades; this is reflected in the improvement in some health indicators (like crude death rate, infant mortality rate and life expectancy). Overall, mortality (in particular, infant mortality) has declined dramatically and life expectancy at birth has increased to 64 plus years with the constructive cooperation of various health institutions driven by National Health Policy of Government of India.

The India Health Care System predominantly can be broadly divided into three levels. They are: Primary, Secondary and Tertiary level delivery systems. The development of health is a holistic process related to the overall growth and development of social, cultural, economic, educational, political and environmental factors. Health services comprise medical care and public health services, and are a function of the political system of a community.

Colonial policies served the interests of the elite and urbanised classes presenting the increased commercialisation of medical establishments, and the rapid expansion of the drug industry, besides greater specialisation and super specialisation.

The Classical Stream of Indian System of Medicine can be broadly divided into Ayurveda, Siddha, Unani, Homeopathy, Naturopathy and Yoga. Recent developments of the Indian health care sector include the concept of integrated medicine wherein all specialities will be offered under one roof to cater to the needs of the society.

2.2 LEVELS OF HEALTH CARE SYSTEM IN INDIA

The WHO defines health as a state of physical, mental and social well-being, not merely an absence of diseases or infirmity. The Indian Health Care Sector is one of remarkable integrated systems that contributes for the development of the economy through addressing various health care problems of people through codified and organised knowledge with sophisticated theoretical foundations ex-present several regional manuscripts and covering all branches of medicine and surgery. The Bhore committee's findings and recommendations are focused for the betterment of Indian Health Care System. Many diseases could be brought under control through the integrated efforts of all public health institutions. The National Health policy statement 1983 presented a gloomy picture of public health in India. It stated that hospital based, disease and curative-oriented approach should be directed at comprehensive primary health care. The primary health care can be dispensable to the public through structured organisational set up. The health status of the public is fundamentally determined by three factors: Environment, Nutrition and Life Style.

The National goal *Health for all* can be achieved through the organisational set up which can be broadly divided into three levels.

A. Primary Health Care : Elementary medical and primary health care at the village level.

B. Secondary Health Care : Medical care provided by specialists at the mandal (taluk), sub-divisional and community health centre level.

C. Tertiary Health Care : Sophisticated care provided by super-specialists at medical colleges and hospitals (district head quarters.

In India there is a three tier system of structure in Health Care. This consists of the Primary Health Centre (PHC); Community Health Centre (CHC) and the District Hospital. These three levels roughly coincide with the three administrative levels of control, the Gram Panchayat (GP), the Taluk - Panchayat (TP) and the Zilla Parishad (ZP). The PHC being population based may not coincide with every village level. However the other levels would coincide. The level of care provided at these three levels is known as primary, secondary and tertiary.

Location Level	Administrative Level	Health Care Level	Type of Health Care
District Headquarters	Zilla Parishad	District Hospital	Tertiary
Taluk / Block Headquarters	Taluka Panchayat or Panchayat Samiti	Community Health Centre	Secondary
Village	Gram Panchayat	Primary Health centre/ Sub centre	Primary

The above table explains the hierarchical system in health care. It may however be subject to minor modifications depending on geographical, topographical and communication line locations.

The hierarchical system whether in health care or in administration are generally based on population figures. Population is the overriding deciding factor as it determines the resources available and the type of services that could and need to be provided. Complex, costly and infrequently used facilities should be made available at a place where the catchment area is large and where the facilities would be adequately utilised. For example, complex surgeries and investigative facilities would be better utilised at the tertiary level hospital in the District Headquarters. Quite often, this may be associated with a Medical College too which would enhance the provision and utilisation of these facilities.

In any large organisation, it is necessary to lay down a hierarchy of services. You have learnt about the hierarchy of services as it exists in health care at district level, panchayat level and at the level of the village. You have also learnt of the three tiered system of the District Hospital, the Community Health Centre and the Primary Health Centre, and how these three levels are complimentary to each other. Cooperation and coordination between these three levels is essential and integral to the success of the entire process and will also ensure smooth and uninterrupted flow of information up and down the three levels. This will help to coordinate. The flow of patients for referral from the PHC to the CHC and then on to the District Hospital, if necessary, and then back to his village with the necessary follow up notes. You have also learnt how the structuring of authority and responsibility takes place between themselves. You have also touched upon the type of differences that could arise in such a system if total cooperation and coordination is not present between the different levels, and if the person at the helm of

affairs does not have the necessary authority, or if this has been delegated to persons who are unable to implement them.

You will agree that health care administrative set up closely follows that of the district hierarchy itself. The District Medical Officer or the District Health Officer is located in the headquarters where the District Collector or Commissioner is also located. This hierarchical ladder goes right down to the village level where the functionaries are at the same level too. The care afforded to the patient is also in the same hierarchical pattern depending on the facilities available. Tertiary care being available at lower levels, secondary care is provided at the CHC and primary care at the village level in the PHC.

2.2.1 Primary Level

These services generally constitute the first contact of a patient with the health care facility and organisation. The PHC and the Sub Centre (SCs) cater to the needs of the villagers and need to be given due attention. They should be adequately staffed and also properly equipped to carry out the necessary functions. It is planned to give the three tiers greater autonomy in order that their functioning is not interfered with in any way.

You would be visiting a Primary Health Centre as a part of practical activities. You should take this as an opportunity to see for yourself the working of the PHC and make an assessment of the level of regionalisation. Find out if the PHC has gained any degree of autonomy after 1993. Has there been any difference in the functioning of the centre? Has the staffing and the equipment position improved and is the PHC doing all that it is capable of?.

Health programme management at a micro level is done by the Gram Panchayat (GP). Are the members of the GP capable of this? Health programmes have to be managed judiciously and with care. At times GPs are staffed by illiterates, neo-literates or even first-time-ever-office bearers, and this often causes a bit of stagnation in the process, and lack of progress. You should be able to assess this and if you think that this requires to be rectified then you should suggest corrective steps. Do you think that the members of the GPs should go through some sort of training? Should they be introduced to the health programmes and the functioning of the PRI (Panchayat Raj Institutions)? These questions need to be answered by you in your assessment of the programme.

2.2.2 Secondary level

Here we are dealing with the Taluk Panchayat as it is called in Karnataka and in many other states. It is also referred to as the Panchayat Samiti in some states. This is the middle level Generally, the medical facility available here is the Community Health Centre of the Community Hospital. The effect of the concept of Regionalisation of health care could be felt here. There should be enough staff and equipment here for the patient to receive secondary level of treatment. If this centre or hospital is well equipped and staffed it would take the load off the District Hospital. At present due to poor staffing and equipment often it is seen that the patient goes from the PHC directly to the District Hospital and thereby puts a strain on the system of tertiary care, which that centre is meant to provide.

2.2.3 Tertiary Level

The tertiary level services are provided at the tertiary level hospital, that is the District Hospital. Here there is a concentration of the more specialised services like sophisticated laboratory and investigative facilities. Here there are better facilities for treatment too. More complicated and high tech operations and treatment of a higher order are offered. This is the apex of the pyramid of regional care as has been earlier started. Cases are referred from the Primary Health Centre at the village level to the Community Health Centre at the block or Taluk level, and then from there, the more complicated cases are referred to the District Hospital.

Manning of these centres by technical personnel is also dependent on the level of technical expertise expected of them. In the concept of regionalisation, it will be seen that the more highly trained manpower is required at the tertiary level and medium trained persons at the middle level; and basic training is imparted to the personnel at the primary level. This is true of all technical manpower. Doctors also follow the same pattern, an MBBS doctor in the PHC and possibly a new post graduate at the CHC and an experienced post graduate with higher specialisation at the District Hospital. This fits in with the overall concept of **regionalisation** as you have understood so far.

2.2.4 The illustrative division of functions of Indian Health Care System

1. General Administration

Administrative Services
Management Analysis
Personnel
Public Information
Stores and Procurement
Accounts and Audit
Statistics and Data Processing
Planning
International Health

2. General /Basic Health Services

Primary Health Care	–	Sub-District Services
Secondary Health Care	-	District/Civil Hospitals, Basic Specialised Hospitals
Tertiary Health Care	-	Super-Specialist Hospitals

3. Epidemiology and Preventive Services

Communicable Disease Control
Non-Communicable Disease Control
Disability and Rehabilitation
Occupational Health
Epidemiological Surveillance
Health and Welfare of Children & Women
Nutrition
Mental Health

4. Community Health Services

IEC and Health Education
Nursing
Social/Voluntary Work/ Voluntary Organisations
Private Medical Practice
School Health
CHWs/HGs
Drugs Control

5. Environmental Sanitation

Water supply
Excreta Disposal
Solid Waste Disposal
Vector Control
Sullage Disposal
Air Pollution
Food Sanitation
Radiation

6. Laboratory Services

Public Health
Food and Drugs
Air and Industrial Hygiene
Field Services
Microbiology
Virology
Parasitology

7. Dental Hygiene and Health

8. Health Manpower Development

General / Family Physicians
Public Health (Physician, engineer, social scientist, epidemiology and other specialists)
Super-specialists
Nursing-basic (Post-basic)
Health Workers
Health Assistants
Community Health Officers
Laboratory and Clinical Technicians

9. Research and Development

Health Surveillance
Research Planning and Consultation
Statistical Consultation to Programmes

10. Central Health Services and Parliament Work

Central Government Health Scheme (CGHS)
Union Territories
CHS Cadre Management
Central Hospitals and Institutions
Parliament Questions and other matters
International Health and Aid.

Check Your Progress (A)

1) What do you understand by the term hierarchy of health care system?
……
……
……

2) What are three levels of Health care facilities within a District?
……
……
……

3) Where would you expect the highest level of care, and where would you expect the most modest type of care within a district?
……
……
……

2.3 SYSTEMS OF MEDICINE IN INDIA

India has an incomparably rich heritage in ancient systems of medicine that make up a veritable treasure house of knowledge for both preventive and curative health care. These systems, through their safe, effective, and inexpensive treatments, have the potential to make a significant contribution to the health care of the common people. But their true potential is still largely unrealized, despite a large and well-dispersed infrastructure.

Indian system of medicine is classified into following types:

2.3.1 Allopathy

Allopathy is the conventional form of medicine using pharmaceuticals and invasive techniques for diagnosis and treatment. Allopathy has evolved over the years with the various discoveries and inventions made in the field of science. A patient is physically examined, then diagnostic tests are conducted, and after the confirmation of disease, the therapy is instituted. The diagnostic procedures give an indication of the prognosis of the disease condition. Allopathy also involves the preventive aspect where stress is laid on hygiene, improvement of socio-economic conditions and on immunizations. There are several disciplines in Allopathy: General

medicine, General surgery, Obstetrics & Gynecology, Pediatrics, Orthopedics, Neurology and Cardiology, etc.

2.3.2 Ayurveda

Ayurveda means the "science of life" in Sanskrit. It is one of the oldest and the best documented among the ancient systems of medicine. The documentation of Ayurveda is referred to in the Vedas (1500 B.C-500 B.C), said to be the oldest recorded wisdom in the world. It derives its basic principles from the Charaka Samhita (600 B.C) and the Susruta Samhita (500 B.C). The approach is essentially philosophic, holistic, and humanistic. Ayurveda emphasizes life and health more than disease and treatment. It presents a comprehensive life science and encompasses total health - physical, mental, and spiritual - in a holistic way. The system is based on the laws of nature, and the individual human being regarded as a miniature replica of the universe. The individual and the universe are both essentially *pancamahabhuta*, or made up of five basic physical factors or elements: 'akasa' (ether\space), 'vayu' (air\motion), 'teja' (fire\radiant energy), 'jala' (water\cohesive factor) and 'prithvi (earth\mass). The individual (purusa) and the universe (loka) remain in constant interaction with each other, and as long as this interaction is wholesome and optimal, the human being enjoys good health. Any disharmony in this interaction is the basic cause of disease, and all treatments in Ayurveda attempt to restore this harmony and the normal balance of the five elements in body and mind. In this sense, Ayurveda is a system of medicine very close to nature.

The five physical attributes of pancamahabhuta constitute three major biological components of the living body called tridosha, i.e. vata, pitta, and kapha. All ailments arise out of the imbalance of the three doshas or humours, and the role of medicine is to assist the natural healing powers of the body.

It is not possible to deal with the various aspects of this ancient system in detail here. Suffice it to say that it is a complete and well-developed promotive, preventive, and curative system of medicine with eight major clinical specialties: kayacikitsa (internal medicine), salya tantra (surgery), salakya (ENT), kaumarabhrtya (pediatrics, obstetrics, and gynecology), bhutavidya (psychiatry), agada tantra (nutrition, rejuvenation, and geriatrics), and vajikarana (sexology).

Ayurvedic drugs are usually soft medications, acting as molecular nutrients for different organs and tissues. Their action is explained more in terms of nutrition dynamics rather than actual pharmacodynamics. All preparations are from natural sources; most of them are herbal, but the system also makes extensive use of minerals and ashed metals.

Panchakarma: Panchakarma is the Sanskrit word for the five purification therapies of Ayurveda. Pancha means 'five' and karma means 'actions' or 'processes'. This is a combination of five processes to cleanse the body, mind and emotions. The five processes are; (i) therapeuting vomiting (vaman), (ii) purgation (virichan), (iii) enema therapy (vasti), (iv) nasal administration (nasya), and (v) blood-letting (rakta moksha).

2.3.3 Homeopathy

The German physician and chemist Samuel Hahnemann put homeopathy together in the 19th century after extensive research. The term homeopathy comes from the Greek word 'homios' meaning like and 'pathos' meaning suffering. Homeopathy works by treating a person as a whole, or holistically. So the system, while looking at the symptoms, will also take into account the individual's mental, physical, emotional and spiritual health before deciding the treatment. Homeopathy is based on the principles that 'like cures like' (from the Latin similia similibus curentur), meaning the treatment given is similar in substance to the illness. The treatment works for acute illness and chronic ailments: and the aim is to prevent illness as well as treat it. Homeopaths see symptoms as an expression of the body's attempts to heal itself. They see them as a positive sign that the body is fighting illness; and so they should not be suppressed. Homeopathic remedies are aimed at stimulating and supporting the body's healing mechanism. For this reason, they can sometimes provoke what homeopaths call an 'aggravation', where symptoms may worsen before they improve.

2.3.4 Naturopathy

Naturopathy is based on the fundamental principles of Ayurveda. While Ayurveda uses medicines in addition to bio-purificatory and dietary practices, Naturopathy relies solely on the latter. The basic tenet of Naturopathy is to live according to the laws of nature: disease occurs due to the accumulation of toxins in the body, and to cure the ailment, the body is purified with the use of natural methods, dietary regulation and exercise. A Naturopath uses mud, water, heat, and air as the instruments for therapy, but never any drugs.

2.3.5 Unani

The Unani system originated in the fourth and fifth century BC in Greece under the patronage of Hippocrates (460BC-377BC) and Galen. It gradually absorbed the experience and wisdom of many ancient cultures, including those of Egypt, Arabia, Persia, China, Syria, and of course, India. The system was documented in 'Al noon' by Sheikh Bu-Ali Sina (AD 980-AD1037) and 'Al havi' by Razi (AD 850-AD923). The system is based on the humoural theory that good health depends on the balance of the four humours, blood, phlegm, yellow bile, and black bile. Like Ayurveda, this is a holistic system including promotive, preventive, and curative interventions. Regimental therapy, dietotherapy, pharmacotherapy and surgery are some of the modalities of this system.

2.3.6 Physiotherapy

Physiotherapy is a health care profession, which involves assessment, treatment prevention, both in health and in disease, right from a neonate to an aged individual. Physiotherapists, also known as physical therapists, have a detailed understanding of how the body works and are university educated and trained to assess and improve movement and function and relieve pain, Physiotherapists promote good health by encouraging their patients to improve and increase their independence.

The role of a physiotherapist begins right from the conception of life, until aging. Thus a physiotherapist plays a major role in the diverse medical fields. It begins with the neonate, where early identification and intervention helps improve the rehabilitation outcome and minimizes the disability and handicap in the future.

In the Intensive Care Unit, the physiotherapist is involved in maintaining the pulmonary hygiene, and in improving the cardio-pulmonary endurance in order to facilitates recovery and functional independence. Sports physiotherapy is a popular branch in physiotherapy. Sports Physiotherapist treats sports people, who are pushed to the limits of their capacity, in their profession, and aims at improving their fitness levels. It also aims at faster rehabilitation, so as to achieve the pre-injury status in the event of an injury. In industrial workers, productivity is decreased because of work related disorders. A Physiotherapist with and understanding of *Ergonomics* plays a vital role in the identification of a work-related disorder, by analysis of their work place, and suggesting means of prevention and better ergonomic design to improve work efficiency. As the majority of population resides in the rural area, physical therapy has shifted its focus to community physiotherapy, which involved training health workers, conducting surveys and identifying problems in the community. Under physiotherapy in the community set-up, services are rendered in the fields of geriatrics, and woman and child health.

With the advent of World War II and a nation wide polio epidemic during the 1940's and 1950's, physical therapists were in greater demand then ever before. From treating returning war amputees of the World Wars through innovative therapies for the polio epidemics that swept communities in the 40's and 50's and the onslaught of new types of injuries associated with the wide spread introduction of the automobile, physiotherapy has been there to meet the challenge.

2.3.7 Acupuncture

Acupuncture is an ancient Chinese method of treating ailments. The word acupuncture is made of two parts- 'acus', which means a needle and 'puncture'. This method provides relief from illness by needle puncture of specific points on the body. Reference to acupuncture as a modality of treatment can be found in ancient Chinese literature when stone needles called 'bien' were used for this purpose. With the advent of metal era, practitioners of this form started using needles of copper and iron. This form of alternative medicine is based on the concept of 'Qui' or 'Chi'. This is a vital energy force comparable to 'prana' in Indian philosophy. According to traditional Chinese concept the structure of the universe is explained on the basis of Yin and Yang. They represent two aspects of energy, imbalance of which results in disease. 'Yin' stands for all that is negative like peace, endurance, weakness etc. And 'Yang' stands for all the positive influences like strength, warmth, sun, etc. Traditional Chinese Medicine (TCM) states that the body is made up of five hollow organs. These are represented on the body surface according to their energy flow on 'Meridians'. Specific points or 'Acu' points were charted out on these meridians. The stimulation of these points by needles leads to a balance of energy forces, and this is responsible for cure of diseases caused by imbalance of body energy.

2.3.8 Siddha

Siddha, an equally ancient system, is similar to Ayurveda in its fundamental principles. But there is considerable difference in the way the two systems have evolved. The Siddha system got its name from the ancient masters, who, besides practicing medicine, also performed many miraculous acts. Siddha means a master; thus the name denoted the mastery of such practices. The most famous of the siddhas was Nagarjuna, whose rasatantra forms the basis of this system. The literature of Siddha is in Tamil, unlike Ayurveda, where the ancient texts are all in Sanskrit. The system flourished in South India and Sri Lanka, and at present, it is practiced primarily in the state of Tamil Nadu. The distinctive features of Siddha are its reliance on minerals and metallic compounds, and its emphasis on rejuvenation therapies.

2.3.9 Yoga

Yoga is not really a system of medicine. Its objectives are self-realization and spiritual union with the all-pervasive divine cosmic power. But certain intermediary practices and yogic attitudes have proved beneficial for reducing stress, preventing many lifestyle-related diseases, and promoting general health and well-being. It has also proved useful in the treatment of many chronic and intractable ailments. Along with meditation, this is by far the most popular ancient system globally. Essentially, yoga is devoted to the integration of the physical, mental, intellectual, and spiritual dimensions of one's being. The technology of the practice of yoga is based on Patanjali's yoga sutra (around 200 BC), containing the schema of astanga yoga (eight limbic yoga) with the ultimate goal of attaining samadhi or union with the cosmic force. Meditation is an essential ingredient of yoga. However, in common parlance, yoga is associated with certain postures (asana) and breathing exercises (pranayama), which have wide and varied beneficial influences on both physical and mental health.

2.3.10 Integrated Medicine

Integrated medicine is the methodology of integrating different systems of medicines. It is not the concept of a doctor in one system of medicine practicing all the other systems of medicines incorporating one or two therapies; for instance, Yoga therapy – Aroma therapy. An integrated doctor is one who is an expert in one system, and has enough knowledge of other systems of medicines, and is open to accepting these systems.

Integrated medicine or health care is not another term for complementary medicine, nor does it represent an alternative to western medical care. An integrated approach is much wider. It has a focus on health and healing, not just disease and treatment.

Integrated medicine is a system in which main stream medical health care and complementary therapies are integrated together within a practice, institution etc, each complementing the other.

Holistic Philosophy

The term 'holism' has its origin in the Greek word *'holos'* means *'whole'*. Holism is the philosophy of life that relates to the whole rather than the parts. Physical, mental, vital, intellectual and spiritual - these are the five levels of being. For medicine to be holistic, it should

be universally applicable, cover all aspects of health, on all the five levels; more generally the mind, the body and the soul.

The fundamental principle underlying holistic treatment is that the natural defense and immune system of an individual, when strengthened, has the potential to heal and prevent diseases. The natural healing process will be slow since the disease process is also slow. The holistic approach, nevertheless, combines the pick of the past, interlaced with the best of the present and prepares you for the future; giving you a comprehensive insight into the hitherto unknown areas of your system.

Alternative Medicine: It is often used by the laymen and some health care practitioners to refer to medical techniques, which are not known or accepted, by the majority conventional or Allopathic medical practitioners (Usually MDs). These could include non-invasive, non-pharmaceutical techniques such as medical herbalism, Acupuncture, Homeopathy, Reiki, and many others. However, alternative medicine can also refer to any experimental drug or non-drug technique that is not currently accepted by 'conventional' medical practitioners.

Complementary Medicine: It is often used by conventional medical practitioners to refer to non-invasive and non-pharmaceutical techniques that complement ‘conventional’ medical treatment such as drugs and surgery. In many cases, properly chosen non-invasive and non-pharmaceutical healing techniques plus properly chosen lifestyle changes can completely and safely heal both acute and chronic illnesses. In other cases conventional medicine is only needed in emergencies or when the safer non - invasive, non - pharmaceutical methods fail. In some cases conventional medicine will be major part of a holistic healing plan, but in some other cases it is not needed at all.

Integrated Health Care: Integrated health care recognizes the effect of sociological, psychological, economic, ecological and even political influences on health. It is a system of health care that fosters a cooperative relationship among all those involved, leading towards optimal attainment of the physical, mental, emotional, social and spiritual aspects of health. It encompasses all stated modalities of diagnosis and treatment including drugs and surgery if no safe alternative exists. Integrated medicine focuses on education and responsibility for personal efforts to achieve balance and well-being.

There are presently more than 10 systems of medicine - Allopathy, Ayurveda, Homeopathy, Unani, Naturopathy, Siddha, Physiotherapy, Traditional Chinese medicine, Acupuncture, etc. Taking into account one’s body, mind, emotions, and spiritual life, Integrative health combines the best of modern scientific diagnosis and monitoring techniques with both ancient and innovative health promotion methods. These include natural diet and herbal remedies, nutritional supplements, exercise, relaxation, psycho - spiritual counseling, meditation, breathing exercises, and other self-regulatory practices. It addresses not only the symptoms, but also the entire person; and his or her current predicament in life, family, job, and religious life. It emphasizes prevention, health maintenance, high-level wellness and longevity.

2.4 LET US SUM UP

Indian Health Care System can be broadly divided into three levels. They are: Primary, Secondary and Tertiary Health Care. Primary Health Care Centres caters the needs at village level, secondary level caters the needs at block level. Tertiary level caters at District level.

India has an incomparably rich heritage of ancient systems of medicine that make up a veritable treasure house of knowledge for both preventive and curative health care. Indian system of medicine is classified into Allopathy, Ayurveda, Homeopathy, Naturopathy, Unani, Physiotherapy, Acupuncture, Siddha and Yoga.

Integrated Medicine is of recent origin which integrates different systems of medicine.

CHECK YOUR PROGRESS (B)

Write notes on ideology of the following:

(A) Ayurveda

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(B) Homeopathy

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(C) Unani

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(D) Acupuncture

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2.5 TERMINAL QUESTIONS

1. Discuss different levels of Health Care System in India.
2. What are the prime functions of various levels of hierarchy of Indian Health Care System.
3. Write notes on ideologies of various systems of medicine in India.

2.6 SUGGESTED READINGS

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Web sites:

http://indianmedicinenet.com

Lesson – 3 TERMS OF GENERAL AND SPECIALITY HOSPITALS, PREVENTIVE AND CURATIVE MEDICINE

Structure:

3.0 OBJECTIVES

After studying this lesson you should be able to:

- understand types of hospitals offering health services;
- learn the functioning of multi specialty and Intensive Care Hospital;
- understand the terms of preventive and curative medicine;
- learn the terms of communicable diseases.

3.1 INTRODUCTION

Hospitals serve as the main care station for injured people. There are two distinctive types of hospitals, they are public and private hospitals. Both types give good medical care and advice. The doctors at each hospital are equally qualified to work in any other hospital, depending on whether their insurance coverage, Medicaid and Medicare. The hospital, a major social institution offers considerable advantage to patients and society. It is the place where a patient can get quality health care through professionally and Technically skilled medicine practitioners.

3.2 TYPES OF HOSPITALS

The hospitals are broadly categorized into Public hospitals (Government) and Private hospitals.

Public Hospitals: Public hospitals have a well-trained staff but sometimes they are given a bad reputation because of their surroundings. A public hospital is most of the time the only place where Medicaid and Medicare patients can go to receive treatment, because these hospitals are government funded. A public hospital is very hectic place but at the same time, the best care possible is given to each patient. Frequently doctors are equally qualified to work in either a public or a private hospital. Many times public hospitals are the only choice for people that have no insurance, or people who are unable to pay.

Private Hospital: The second type of hospital is known as private hospital, these hospitals can be divided into non-profit and for profit hospitals. Private hospitals are usually less hectic because there are fewer Medicaid or Medicare patients because the hospital is privately funded. The reason that fewer Medicaid or Medicare patients come to private hospitals is that provider in their programs is not compatible with the programs that the hospital expects. Also at a nonprofit private hospital all of the profits they make, to a certain extent, go back into he community, directly back into the hospital, or another organization. Most of the time these hospitals reinvest the money back into the hospital, which enables them to have the most up to date technology and facilities. Many of the non-profit hospitals are affiliated with a religion and have the respective clearly on staff to comfort the patients. Out of the three types of hospitals the nonprofit hospitals are right in the middle when it comes to efficiency.

A for profit private hospital is the same as a not for profit hospital except that a for profit hospital tries to maximize the returns for the owners and shareholders. It is very important for these hospitals to keep their competitive advantage by becoming the best hospital in their respective area. These hospitals have to pay taxes just like any other citizen. For profit hospitals usually have some of the newest technology and facilities. These hospitals are usually the most efficient of the three types.

Every Hospital offers two types of patient services basing on need for medical assistance.

1) Out patient services
2) Impatient Service

3.2.1 Out-patient Services

Outpatient service refers to health service extended to the patients where limited service is offered in the form of consultation, prescription and advice. Where the patient is not required constant supervision by the doctors.

3.2.2 In-patient Services

Health service where a patient is required to undergo continuous supervision and medical assistance by the doctors along with temporary or long period of accommodation with in the hospital.

3.3 FACILITIES

The various facilities that are to be offered in a hospital are categorized into four types. They are; (1) Physical Facilities, (2) Surgical Facilities, (3) Operation Department, (4) Mobile Equipment.

3.3.1 Physical Facilities: The physical facilities may be considered under following groups:

(a) Public Areas (Entrance Zone)
(b) Clinical Areas (Ambulatory Zone and Diagnostic Zone)
(c) Administrative Areas
(d) Circulation Areas.
(e) Ancillary Facilities
(f) Auxillary Facilities

Public Areas: Public areas includes entrance, waiting lobby, waiting room, reception, and administrative staff working area.

Clinical Areas: An OPD includes Surgical, Dental, Ophthalmic, ENT, Obstetric and Gynaecological, Paediatric, Medical, Psychiatric, Dermatology and Venereology, Orthopaedic and Emergency Departments.

Administrative areas: These areas are represented by office room, record room, supervisor's room, public relations department, conference hall, VIP waiting halls, etc.

Circulation areas: Circulation area includes the patient's attendance waiting room, corridor, lounge, dressing, bath, toilet, waiting halls, etc.

Ancilliary Facilities:

(i) Injection Room: Room where injections will be given to patients.

(ii) Treatment and dressing Room.
(iii) Pharmacy: Area where medicines are dispensed through honouring prescriptions.

Auxilliary Facilities:

(i) Laboratory
(ii) Radiology
(iii) Blood Bank
(iv) Health Education Facility
(v) Medical Social Service Facility
(vi) Screening Clinic

3.3.2 Surgical Facilities:

a) Basic Activities Involved in the Act of Surgery:

- Reception and identification of patient: Patient disease
- Pre-operating supervision of patient: Checking the patient before operation
- Depilation of patient
- Transfer of patient to operation table
- Administration of anaesthesia and giving local sedation to patient
- Intubation: Fixing tube to supply needed content
- Positioning
- Preparation of the operative area and surrounding skin
- Draping of patient: Clearing the patient's site of operation.
- The act of surgery, OPERATION, which may involve blood transfusion parenteral fluid administration and x-ray examination.
- Wound sewn up and dressed
- Drapes removed and begged
- Extubation
- Transfer of patients from operation table to trolley or bed and to the post anaesthetic recovery area.
- Post operative supervision of patient.

(b) Supporting Procedures:

- Staff changing to operation room garments and shoes
- Putting on cap
- Masking
- Aseptic washing of hands
- Gowning placing gowns
- Putting on apron
- Laying out, checking and re-checking the number of instruments and dressing to be used during the operation.

(c) Administrative Procedures:

- Preparation of operation lists, duty schedules
- Requisition of patient
- Notification to wards of time for patient transport to and for the surgical department.
- Distribution of messages
- Requisition of records, equipment and material
- Contacts with other departments, laboratories, workshops and suppliers.
- Ascertain availability of essential doctors and supporting staff for emergency assistance.

(d) Clerical Procedures

- Preparation of operation records
- Preparation of operation rooms records
- Filing
- Statistical interpretation of operation room records

(g) Housekeeping Procedures:

- Collection of used instruments
- Collection of used materials and soiled surgical instruments, dressings and underlays.
- Cleaning of operation rooms and other areas in the surgical department.
- Disposal or incineration of refuse.

(f) Storekeeping and Repairs:

3.3.3 Operations Department

Division of Operating Department: It is universally agreed that operation is to be performed under the most aseptic conditions. To ensure this aseptic condition the operating department is divided into conditions. To ensure this aseptic condition the operating department is divided into four distinct Zones: Protective Zone, Clean Zone, Sterile Zone and Disposal Zone.

(a) Protective zone: It usually provides facilities like:
- (i) Reception
- (ii) Waiting Room for patients relatives
- (iii) Changing Room
- (iv) Pre-anaesthesia Room
- (v) Store Room
- (vi) Autoclave/TSSU
- (vii) Trolley Bay
- (viii) Control area of electricity

(b) Clean Zone: It provides facilities such as:
- (i) Pre-operating Room
- (ii) Recovery Room
- (iii) Theatre Work Room
- (iv) Plaster Room
- (v) X-ray unit with dark room
- (vi) Sisters Work Room

(vii) Staff Work Room (viii) Anesthesia Store

(c) Sterile Zone: This zone has facilities like:
(i) Operating Room (ii) Scrub Room
(iii) Anesthesia Room (iv) Instant Instrument Sterilization
(v) Instrument Trolley area

(d) Disposal Zone: This zone provides facilities like:
(i) Dirty wash up room
(ii) Disposal Corridor
(iii) Janitor's Closet

3.3.4 Mobile Equipment: The mobile equipment used in operation theatre are:
(i) Anaesthetic apparatus (ii) Anaesthetic table
(iii) X-ray equipment (iv) Diathermy equipment
(v) Electrical suction apparatus (vi) Pulse monitor
(vii) Ventilator (viii) Monitor – cum – defibrillator
(ix) Heart lung machine
(x) Other devices for physiological and isotope investigations

3.4 MULTI SPECIALITY HOSPITALS

A hospital with sophisticated facilities, expertise and with several specialty departments where in a patient is extended with intensive medical treatment and supervision. The multi specialty hospital may have the following specialties:

Orthopedics	:	Deals with Bone & Joint Diseases
Pediatrics	:	Looks after children health care
ENT	:	Treat the diseases of Ear, Nose, Throat
Pediatric Surgery	:	Conducts surgery (operation) to kids
Gynecology & Obstetrics	:	Deals with women related diseases, pregnancy
Ophthalmology	:	Deals with Eye related diseases
Psychiatry	:	Treat mental disorders
24 Hours Trauma Care	:	Emergency care for injured people
Pathology	:	Deals with infected tissues and organs
Cardiology	:	Treat heart diseases
Coronary care unit	:	Close supervision and medical assistance to critically ill patients with the help of display equipment.
Neonatal Intensive Care Unit	:	Premature baby care unit
Pediatric Intensive Care Unit	:	Intensive medical assistance to children
Dermatology	:	Treat Skin Diseases
Nephrology	:	Deals with Kidney diseases
Neurology	:	Deals with mental disorders Brain and Spinal cord Health care
Gastro-enterology	:	Deals with stomach and intestine disorders
Fertility Clinic	:	Facilitates pregnancy.

Laparoscopic Surgery	:	Surgery Performed with Laparoscope
Physiotherapy	:	Deals with body movement and functioning both in pre-operative and post-operative conditions as per the directions of qualified doctors.

Plastic Surgery:

- Correction of Congenital Anomalies
- Burns Unit
- Cosmetic Surgery

Laboratory Facilities:

- Radiology & Imaging
- Ultra Sound
- Laparoscopes
- Surgical Microscopes
- Microbiology, Biochemical & Pathological Investigations

3.5 INTENSIVE CARE UNIT

An Intensive Care Unit (ICU) is a specific area of the hospital where sophisticated monitoring, titillated life support, specific therapy and specialized nursing, can best provided for potentially salvageable, critically ill patients with life threatening illness or injury. It is a place and not a form of treatment.

The ICU's were developed to concentrate three critical components – the seriously sick patients, highly skilled staff with the knowledge and experience to treat the patients and use equipment for better results at reduced costs.

3.5.1 Types of Intensive Care Unit

Intensive care as you know is a method of organising medicine and nursing so that expertise and sophisticated equipment's are concentrated where they are most needed and efficiently utilized. However, the development of ICU's has suffered from overemphasis on gadgets and spatial designs and under emphasis on personnel.

Classification on Type of Patient Admitted: Intensive care units can be classified into following depending on type of patients admitted:

1)	ICTU	:	Intensive Care and Therapy Unit
2)	CICU	:	Coronary Intensive Care Unit
3)	PICU	:	Pulmonary Intensive Care Unit
4)	BICU	:	Burns Intensive Care Unit
5)	OICU	:	Obstetric Intensive Care Unit
6)	NICU	:	Neonatal Intensive Care Unit
7)	ANCU	:	Acute Nursing Care Unit
8)	MSICU	:	Medical and Surgical Intensive Care Unit

3.5.2 Classification of Organisational Structure in ICUs

All the above Intensive Care Units can be of three types:

(a) **Open Unit:** All attending physicians may admit and care for patients. However, Triage decision falls on director of ICU when there is bed or staff shortage.

(b) **Semi Closed Unit:** The Directors of ICU and/or associates must review and approve all admissions. However they should take into care the appropriateness of care and staffing level. All final decisions are of administrators.

(c) **Closed Unit:** The Directors and/or associates are responsible for all admissions and discharges. Once the patient is admitted, the unit team looks after in collaboration with admitting team for efficient patient care.

Isolation Rooms: Securable cabinet compartment for personal effects of personnel in ICU.

Intensive Coronary Care Unit: The coronary patients have special needs. They are fully aware of their surroundings but still requires immediate and intensive care. In addition to above requirements, the following standards apply to all. Each patient must have separate room for acoustic and visual privacy. Each patient must have access to a toilet in room. Portable commodes if used the provision must be made for theirs storage, servicing, and odour control. Each unit must have equipment for continuous monitoring with visual display at patients bedside and at nurse station. Monitors should be located for permitting easy viewing.

3.6 PREVENTIVE AND CURATIVE MEDICINE

3.6.1 Birth of Preventive Medicine

Preventive Medicine really dates back to the 18th century. It developed as a branch of medicine distinct from public health. Curiously, it came into existence even before the causative agents of disease were known. James Link (1716-1794), a naval surgeon advocated the intake of fresh fruit and vegetables for the prevention of scurvy in 1753. Edward Jenner (1749-1823) of Great Britain, a pupil of John Hunter, discovered vaccination against smallpox in 1796. These two discoveries marked the beginning of a new era of disease prevention specific measures.

Preventive medicine got a firm foundation only after the discovery of causative agents of disease and the establishment of the germ theory of disease. The latter part of the 19th century was marked by treatment (1883) cholera vaccine (1892), diphtheria antitoxin (1894), anti-typhoid vaccine (1898), antiseptics and disinfectants (1827-1912), etc. A further advance was the elucidation of the modes of disease transmission. For example, in 1896, Bruce, a British Army surgeon, demonstrated that the African sleeping sickness was transmitted by tsetse fly. In 1898, Ross demonstrated that malaria was transmitted by the Anopheles. In 1900, Walter Reed and his colleagues demonstrated that yellow fever was transmitted by the Aedes mosquito. With the knowledge derived from bacteriology, it became possible to control disease by specific measures such as blocking the channels of transmission, e.g., quarantine, water purification, pasteurization of milk, protection of foods, proper disposal of sewage, destruction of insects and disinfection.

The development of laboratory methods for th3e early detection of disease was a further advance. In its early years, preventive medicine was equated with the control of infectious diseases. The modern concepts of primary, secondary and tertiary prevention were not known.

3.6.2 Types of Medicine

Modern Medicine: The dichotomy of medicine into two major branches namely curative medicine, and public health / preventive medicine was evident at the close of the 19th century. After 1900, medicine moved faster towards specialization, and a rational, scientific approach to disease. The pattern of disease began to change. With the control of acute infectious diseases, the so-called modern diseases such as cancer, diabetes, cardiovascular disease, mental illness and accidents came into prominence and have become the leading causes of death in industrialized countries.

Curative Medicine: Although curative medicine in thousands of years old, modern medicine, as we know today, is hardly 100 years old. Its primary objective is the removal of disease from the patient (rather than from the mass). It employs various modalities to accomplish this objective, e.g., diagnostic techniques, treatment.

Preventive Medicine: Preventive medicine developed as a branch of medicine distinct from public health. By definition, preventive medicine is applied to "healthy" people, customarily by actions affecting large numbers of populations. Its primary objective is prevention of disease and promotion of health.

The introduction of tissue culture of viruses led to the development of anti-viral vaccines, e.g., polio vaccines (1955, 1960). The eradication of smallpox (the last case of smallpox occurred in Somalia in 1977) is one of the greatest triumphs of preventive medicine in recent times.

Social Medicine: Social medicine has been primarily a European specialty. The germ theory of disease and discoveries in microbiology checked the development of these ideas. In 1911, the concept of social medicine was revived by Alfred Grotjahn (1869-1931) of Berlin who stressed the importance of social factors in the aetiology of disease, which he called "social pathology". Others called it geographical pathology and population pathology. Social medicine has varying meanings attached to its label. By derivation, social medicine is the study of man as a social being in his total environment. Social medicine stands on two pillars-medicine and sociology.

3.6.3 Pathogenesis Phase:

The pathogenesis phase begins with the entry of the disease "agent" in the susceptible human host. The further events in the pathogenesis phase are clear-cut in infectious diseases, i.e., the disease agent multiplies and induces tissue and physiologic changes, the disease progresses through a period of incubation and later through early and late pathogenesis. In chronic diseases (e.g., coronary heart disease, hypertension, cancer), the early pathogenesis phase is less dramatic. During the presymptomatic stage, there is no manifest disease. The pathological changes are essentially below the level of the "clinical horizon".

1. Biological Agents: These are living agents of disease, viz, viruses, rickettsiae, fungi, bacterial, protozoa and metazoa. (i) Infectivity: This is the ability of an infectious agent to invade and multiply (produce infection) in a host; (ii) pathogenicity: this is the ability to induce clinically apparent illness, and (iii) virulence: this is defined as the proportion of clinical cases resulting in severe clinical manifestations.

2. Nutrient Agents: These can be proteins, fats, carbohydrate, vitamins, minerals and water. Any excess or deficiency of the intake of nutritive elements may result in nutritional disorders. Protein energy malnutrition (PEM), current nutritional problems in many countries.

3. Physical Agents: Exposure to excessive heat, cold, humidity, pressure, radiation, electricity, sound, etc may result in illness.

4. Chemical Agents: (i) Endogenous: Some of the chemicals may be produced in the body as a result of derangement of function, e.g., urea (ureamia), carbonate (kidney stones), etc: (ii) Exogenous: Agents arising outside of human host, e.g., allergens, metals, fumes, dust, gases, insecticides etc. These may be acquired by inhalation, ingestion or inoculation.

3.6.4 Host factors (intrinsic)

In epidemiological terminology, the human host is referred to as "soil" and the disease agent as "seed". In some situations, host factors play a major role in determining the outcome of an individual's exposure to infection (e.g., tuberculosis).

The host factors may be classified as (I) Demographic characteristics such as age, sex, ethnicity; (ii) Biological characteristics such as genetic factors; biochemical levels of the blood (e.g., cholesterol); blood groups and enzymes; cellular constituents of the blood; immunological factors; and physiological function of different organ systems of the body (e.g., blood pressure, forced expiratory ventilation). Etc. (iii) Social and economic occupation, stress marital status, housing, etc. and (iv) Life style factors such as personality traits, living habits, nutrition, physical exercise, use of alcohol, drugs and smoking, behavioural patterns, etc. The association of a particular disease with a specific set of host factors frequently provides an insight into the cause of disease.

Environmental factors (extrinsic): The external or macro-environment is defined as "all that which is external to the individual human host, living and non-living, and with which he is in constant interaction". This includes all of man's external surroundings such as air, water, food, housing, etc.

Disease elimination: The term "elimination" is used to describe interruption of transmission of disease, as for example, elimination of measles, polio and diphtheria from large geographic regions or areas. (Regional elimination is now seen as an important precursor of eradication.

Disease eradication: Eradication literally means to "tear out by roots". Eradication of disease implies termination of all transmission of infection by extermination of the infectious agent.

Sentinel Surveillance: No routine notification system can identify all cases of infection or disease. A method for identifying the missing cases and thereby supplementing the notified cases is required. This is known as "sentinel surveillance".

3.6.5 Levels of prevention: In modern day, the concept of prevention has become broad-based. It has become customary to define prevention in terms of four level:

1. **Primordial Prevention:** Primordial prevention, a new concept is receiving special attention in the prevention of chronic diseases.

2. **Primary prevention:** Primary prevention can be defined as "action taken prior to the onset of disease, which removes the possibility that a disease will ever occur". It signifies intervention in the pre-pathogenesis phase of a disease or health problem (e.g., low birth weight) or other departure from health.

3. **Secondary prevention:** Secondary prevention can be defined as "action which halts the progress of a disease at its incipient stage and prevents complications". The specific interventions are early diagnosis (e.g, screening tests, case finding programmes).

4. **Tertiary Prevention:** When the disease process has advanced beyond its early stage, it is still possible to accomplish prevention by what might be called "tertiary prevention". Tertiary prevention can be defined as "all measures available to reduce or limit impairments and disabilities, minimise suffering caused by existing departures from good health and to promote the patient's adjustment to irremediable conditions".

Modes of intervention: "Intervention" can be defined as any attempt to intervene of interrupt the usual sequence in the development of disease in man.
Rehabilitation: Rehabilitation has been defined as "the combined and coordinated use of medical, social, educational and vocational measures for training and retraining the individual to the highest possible level of functional ability". It involves disciplines such as physical medicine or physiotherapy, occupational therapy, speech therapy, audiology, psychology, education, social work, vocational social work, vocational guidance and placement services.

(a) Medical rehabilitation – restoration of function.
(b) Vocational rehabilitation – restoration of the capacity to earn a livelihood.
(c) Social rehabilitation – restoration of family and social relationships.
(d) Psychological rehabilitation – restoration of personal dignity and confidence.

Population Medicine: Knowledge about human health and disease is sum of the contributions of a large number of disciplines, classified as (a) basic sciences (b) clinical sciences, and (c) population medicine. Population medicine is referred to as hygiene, public health, preventive medicine, social medicine or community medicine.

Hygiene: The world "hygiene" is derived from Hygeia, the goddess of health in Greek mythology. She is represented as a beautiful woman holding in her hand a bowl from which a serpent is drinking. In Greek mythology, the serpent testifies the art of healing which symbol is

retained even today. Hygiene is defined as "the science of health and embrances all factors which contribute to healthful living".

Community Medicine: The term "community medicine" is a newcomer. It is the successor of what has been previously known as public health preventive medicine, social medicine and community health. "The practice of medicine concerned with groups or populations rather than with individual patients".

Community Diagnosis: The diagnosis of disease in an individual patient is a fundamental idea in medicine. It is based on signs and symptoms and the making of inferences from them. When this is applied to a community, it is known as community diagnosis. The community diagnosis may be defined as the pattern of disease in a community described in terms of the important factors which influence this pattern.

3.6.6 Epidemiology

Epidemiology is the basic science of preventive and social medicine. By identifying risk factors of chronic disease, evaluating treatment modalities and health services, it has provided new opportunities for prevention, treatment, planning and improving the effectiveness and efficiency of health services. The current interest of medical sciences in epidemiology has given rise to newer off-shoots such as infectious disease epidemiology, chronic disease epidemiology, clinical epidemiology, serological epidemiology, cancer epidemiology, malaria epidemiology, neuro epidemiology, genetic epidemiology, occupational epidemiology, psychosocial epidemiology.

Epidemiology has been defined by john M. Last in "The study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to the control of health problems".

Epidemiology Vs. Clinical medicine: The basic difference between epidemiology and clinical medicine is that in epidemiology, the unit of study is a "defined population" or "population at risk"; in clinical medicine, the unit of study is a "case" or "cases". In clinical medicine, the physician is concerned with disease in the individual patient, whereas the epidemiologist is concerned with disease patterns in the entire population.

Epidemiological Approach: The epidemiological approach to problems of health and disease is based on two major foundations:

(a) Asking Questions
(b) Making Comparison

Incidence: Incidence rate is defined as "the number of NEW cases occurring in a defined population during a specified period of time". It is given by the formula

$$\frac{Number\ of\ new\ cases\ of\ specific\ disease\ during\ a\ given\ time\ period}{Population\ at\ risk\ during\ that\ period} \times 1000$$

Prevalence: The term "disease prevalence" refers specifically to all current cases (old and new) existing at a given point in time, or over a period of time in a given population. A broader

definition of prevalence is as follows: "the total number of all individuals who have an attribute or disease at a particular time (or during a particular period) divided by the population at risk of having the attribute or disease at this point in time or midway through the period.

Point Prevalence: Point prevalence of a disease is defined as the number of all current cases (old and new) of a disease at one point in time in relation to a define population.

Propagated Epidemics: A propagated epidemic is most often of infectious origin and results from person-to-person transmission of an infectious agent (e.g., epidemics of hepatitis A and polio).

Long-term or secular trends: The term "secular trend" implies changes in the occurrence of disease (i.e., a progressive increase or decrease) over a long period of time, generally several years or decades.

Analytical Epidemiology: Analytical studies are the second major type of epidemiological studies. That look at entire populations, in analytical studies, the subject of interest is the individual within the population.

Analytical studies comprise two distinct types of observational studies:

(a) case control study
(b) Cohort study

Clinical trials: For the most part, "clinical trials" have been concerned with evaluating therapeutic agents, mainly drugs. Some of the recent examples include – evaluation of beta – blockers in reducing cardiovascular mortality.

Preventive trials: Prevention is synonymous with primary prevention, and the term "preventive trials" implies trials of primary preventive measures. These trials are purported to prevent or eliminate disease on an experimental basis. The most frequently occurring type of preventive trials are the trials of vaccines and chemo-prophylactic drugs.

Cessation experiments: Another type of preventive trial is the cessation experiment. In this type of study, an attempt is made to evaluate the termination of a habit which is considered to be casually related to a disease.

Trial of aetiological agents: Epidemiology is to confirm or refute an aetiological hypothesis. The best known example of trial of an aetiological agent relates to retrolental fibroplasia (RLF). Retrolental fibroplasia, as a cause of blindness, was non-existent.

Infection: The entry and development or multiplication of an infectious agent in the body of man or animals. It also implies that the body responds in some way to defend itself against the invader, either in the form of an immune response.

Contamination: The presence of an infectious agent on a body surface; also on or in clothes, beddings, toys, surgical instruments or dressings, or other inanimate articles or substances including water, milk and food.

Infestation: For persons or animals the lodgement, development and reproduction of arthropods on the surface of the body or in the clothing, e.g., lice, itch mite.

Contagious disease: A disease that is transmitted through contact.

Communicable disease: An illness due to a specific infectious agent or its toxic products capable of being directly or indirectly transmitted from man to man, animal to animal, or from the environment.

Epidemic: (Epi = upon; demos = people). The "unusual" occurrence in a community or region of disease, specific health-related behaviour (e.g., smoking) or other health-related events (e.g., traffic accidents) clearly in excess of "expected occurrence".

Endemic: (En = in; demos = people). It refers to the constant presence of a disease or infectious agent within a given geographic area or population group, without importation from outside; may also refer to the "usual" or expected frequency of the disease within such area of population group.

The term "hyperendemic" expresses that the disease is constantly present at high incidence nd/or prevalence rate and affects all age groups equally; and the term "holoendemic" a high level of infection beginning early in life and affecting most of the child population, leading to a state of equilibrium such that the adult do the children, as in the case of malaria. The word sporadic means scattered about. The cases occur irregularly, haphazardly from time to time, and generally infrequently.

Pandemic: An epidemic usually affecting a large proportion of the population, occurring over a wide geographic area such as a section of a nation, the entire nation, a continent or the world e.g., influenza and acute haemorrhagic conjunctivitis in 1971 and 1981.

Exotic: Diseases which are imported into a country in which they do not otherwise occur, as for example, rabies in UK.

Zoonosis: An infection or infectious disease transmissible under natural conditions from vertebrate animals to man. May be enzootic or brucellosis, salmonellosis, endemic typhus, hydatidosis, etc.

Epizootic: An outbreak (epidemic) of disease in an animal population (often with the implication that it may also affect human populations).

Epornithic: An out break (epidemic) of disease in a bird population.

Enzootic: An endemic occurring in animals e.g., anthrax, rabies, brucellosis, bovine tuberculosis, endemic typhus and tick typhus.

Nosocomial infection: Nosocomial (hospital acquired) infection is an infection originating in a patient while in a hospital or other health care facility.

Opportunistic Infection: This is infection by an organism(s) that takes the opportunity provided by a defect in host defence to infect the host and hence cause disease. The organisms include Herpes simplex, Cytomegalovirus, toxoplasma, M. tuberculosis, M. avium intracellulare, pneumocystis, etc.

Latrogenic (physician-induced) disease: Any untoward or adverse consequence of a preventive, diagnostic or therapeutic regimen or procedure, that causes impairment, handicap, disability or death resulting from a physician's professional activity or from the professional activity of other health professionals.

Communicable Period: The communicable period is defined as "the time during which an infectious agent may be transferred directly or indirectly from an infected person to another person, from an infected animal to man, or from an infected person to an animal, including arthropods".

3.6.7 Vaccines

Vaccine is an immuno-biological substance designed to produce specific protection against a given disease. It stimulates the production of protective antibody and other immune mechanisms. Vaccines may be prepared from live modified organisms, inactivated or killed organisms, extracted cellular fractions, toxoids or combination of these.

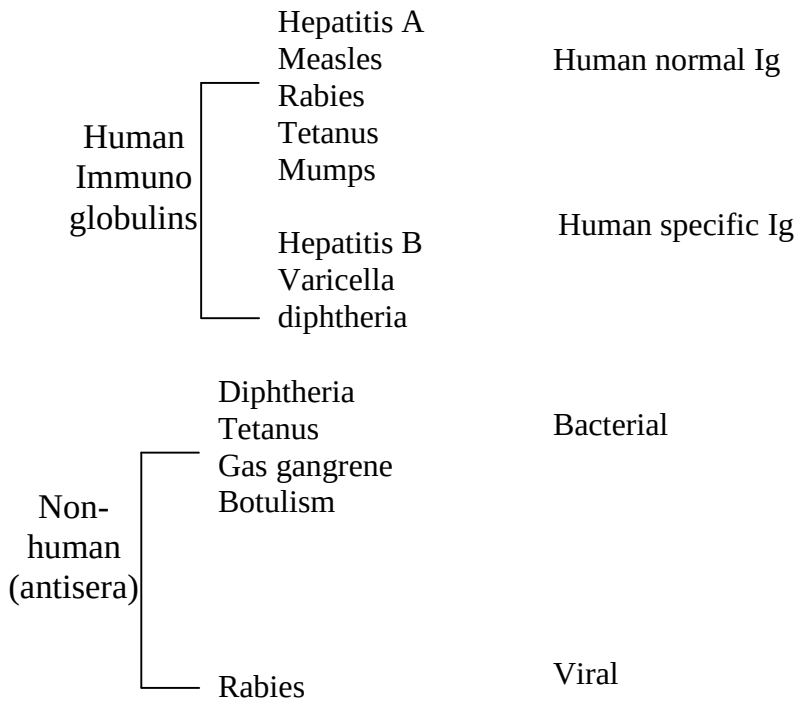
Live Vaccines: Live vaccines (e.g., BCG, measles, oral polio) are prepared from live (generally attenuated) organisms.

3.1 TABLE

VACCINES

Live attenuated vaccine	BCG, Typhoid oral, Plague	Bacterial
	Oral polio, Yellow fever, Measles, Rubella, Mumps, Influenza	Viral
	Epi.typhus	Rickettsial
Inactivated or killed vaccines	Typhoid, Cholera, Pertussis, C.S. meningitis, Plague	Bacterial
	Rabies, Salk (polio), Influenza, Hepatitis B, Japanese encephalitis	Viral
	KFD	
Toxoids	Diphtheria, Tetanus	Bacterial

Table 3.2
Immuno Globulins



Inactivated or killed vaccines: Organisms killed by heat or chemicals, when infected into the body stimulate active immunity. They are usually safe but generally, less efficacious than live vaccines. For example, cholera vaccine offers only 50 per cent protection. The efficacy of 3 doses of pertussis vaccine is about 80 percent in the first three years.

Immunoglobulins: The human imunnoglobulin system is composed of 5 major classes (IgG, IgM, IgA, IgD and IgE) and sub-classes within them.

IgG: IgG is the major immunoglobulin of serum, comprising about 75 per cent of the total serum immunoglobulins. IgG can diffuse into the interstitial fluid.

IgM: It accounts for about 10 percent of normal serum immunoglobulins. It represents antibody that is promptly formed with exposure to antigen. Its presence may be indicative of recent infection. IgM antibody has high agglutinating and complement-fixing ability. Its half life is about 10 days.

IgA: Constitutes about 15 per cent of the total serum immunoglobulins. Antibody activity to a wide range of viral and bacterial antigens has been reported in this class. IgA is found relatively in large quantities in body secretions, e.g., saliva, milk, colostrum, tears, bronchial secretions, nasal mucosa, prostatic fluid.

IgD: Normal serum is estimated to contain 0.3 to 40 mg per 100 ml of IgD. Its half-life is 2.8 day.

IgE: The serum level of Ig E is 10-130 micrograms per 100 ml. Half-life is 2.3 days. IgE is concentrated in submucous tissues. It is the major antibody responsible for immediate allergic anaphylactic reactions.

CHECK YOUR PROGRESS (A)

1. What is ICU ?

   _____
   _____

2. What is Social Medicine ?

   _____
   _____

3. What is primordial prevention?

   _____
   _____

4. Define endemic and pandemic.

   _____
   _____

5. What is multi speciality hospital ?

   _____
   _____

3.3 TABLE
National Immunization Schedule

(a)	For infants		
	At birth (for institutional deliveries)	-	BCG and OPV-O dose
	At 6 weeks	-	BCG (if not given at birth)
		-	DPT-1 and OPV-1
	At 10 weeks	-	DPT-2 and OPV-2
	At 14 weeks	-	DPT-3 and OPV-3
	At 9 months	-	Measles
(b)	At 16-24 months	-	DPT and OPV
(c)	At 5 – 6 years	-	DT – the second dose of DT should be given at an interval of one month if there is no clear history or documented evidence of previous immunization with DPT.

(d)	At 10 and at 16 years	-	Tetanus Toxoid – The second dose of TT vaccine should be given at an interval of one month if there is no clear history or documented evidence of previous immunization with DPT, DT or Ttvaccines.
(e)	For Pregnant Women		
	Early in pregnancy	-	TT-1 or Booster
	One month after TT-1	-	TT-2

Note: (i) Interval between 2 doses should not be less than one month.

(ii) Minor cough, colds and mild fever are not a contraindication to vaccination.

3.4 TABLE
WHO EPI Immunization Schedule
(when early protection is a must)

Age	**Vaccine**
Birth	BCG, oral polio
6 weeks	DPT, oral polio
10 weeks	DPT, oral polio
14 weeks	DPT, oral polio
9 months	Measles

Immunization is frequently postponed if children are ill or malnourished. This is not acceptable in the light of present knowledge. In fact, it is particularly important to immunize children with malnutrition. Low grade fever, mild respiratory infections or diarrhoea and other minor illnesses should not be considered as contraindications to immunization. These are the very children who are most in need of immunization. They are most likely to die should they acquire a vaccine-preventable disease.

Chemoprophylaxis:

Chemoprophylaxis implies the protection from, or prevention of, disease. This may be achieved by causal prophylaxis, or by clinical prophylaxis:

(i) Causal prophylaxis implies the complete prevention of infection by the early elimination of the invading or migrating causal agent. For example, there is no causal prophylaxis available against malaria.

(ii) Clinical prophylaxis implies the prevention of clinical symptoms; it does not necessarily mean elimination of infection.

3.5 TABLE
Indications for chemoprophylaxis

Disease	Chemoprophylaxis
Cholera	Tetracycline or furazolidone for house-hold contacts.
Conjunctivitis, bacterial	Erythromycin ophthalmic ointment (no effect on viral conjunctivitis)
Diphtheria	Erythromycin (and first dose of vaccine)
Influenza	Amantadine (effective only for type A) for contacts suffering from chronic diseases.
Meningitis, meningococcal	Sulphadiazine for 4 days only If the strain is shown to be non-resistant, for household and close community contacts; immunization should be initiated in all cases (against sero groups A and C)
Plague	Tetracycline for contacts of pneumonic plague.

3.6.8 Terms of Communicable Diseases and Control

Smallpox: Obituary: An acute infectious disease caused by variola virus, and clinically characterised by a sudden onset of fever, headache, backache, vomiting and sometimes convulsions, especially in children. On the third day of fever, a typical rash appears which is centrifugal in distribution and passes through successive stages of macule, papule, vesicle, pustule and scab with subsequent scarring.

Control: There is no specific treatment for chickenpox. The usual control measures are notifications, isolation of cases for about 6 days after onset of rash and disinfection of articles soiled by nose and throat discharges.

Measles: An acute highly infectious disease of childhood caused by a specific virus of the group myxoviruses. It is clinically characterised by fever and catarrhal symptoms of the upper respiratory tract (coryza, cough), followed by a typical rash. Measles is associated with high morbidity and mortality in developing countries.

Clinical features: There are three stages in the natural history of measles, viz. the prodromal or pre-eruptive stage, eruptive stag and post-measles stage.

Mumps: An acute infectious disease caused by a specific virus which has a prediliction for grandular and nervous tissues. Clinically, the disease is recognised by non-suppurative nlargement and tenderness of one or both the parotid glands.

Control: The control of mumps is difficult because the disease is infectious before a diagnosis can be made. The long and variable incubation period and the occurrence of sub clinical cases make the control of spread difficult.

Influenza: Influenza is an acute respiratory tract infection caused by influenza virus, of which there are 3 types – A, B and C. All known pandemics were caused by influenza A strains. The disease is characterised by sudden onset of chills, malaise, fever, muscular pains and cough.

Diphtheria: Diphtheria is an acute infectious disease caused by toxigenic strains of Corynebacterium diphtheriae. Three major clinical types have been described: anterior nasal, faucial and laryngeal; however, the skin, conjunctiva, vulva and other parts of the body may be affected.

Table - 3.6
Diphtheria Immunization

Current prophylactics:
These may be grouped as below:

a. Combined or mixed vaccines
   - DPT (diphteria-pertussis-tetanus vaccine)
   - DT (diphtheria-tetanus toxoid)
   - dT (diphtheria-tetanus, adult type)

b. Single vaccines
   - FT (formal-toxoid)
   - APT (alum-precipitated toxoid
   - PTAP (purified toxoid aluminium phophate)
   - PTAH (purified toxoid aluminium hydroxide)
   - TAF toxoid-antitoxin floccules)

c. Antisera
   - Diphtheria anti-toxin

Whooping Cough: An acute infectious disease, usually of young children, caused by B. pertussis. It is clinically characterised by an insidious onset with mild fever and an irritating cough, gradually becoming paroxysmal with the characteristic “whoop” (loud crowing inspiration). The spectrum of disease varies from severe illness to atypical and mild illness without whoop. The chinese call it a “Hundred Day Cough”.

Typhoid Fever: Typhoid fever is the result of systemic infection mainly by S. typhi found only in man. The disease is clinically characterised by a typical continuous fever for 3 to 4 weeks, relative bradycardia with involvement of lymphoid tissues and considerable constitutional symptoms. The term “enteric fever” includes both typhoid and paratyphoid fevers. The disease may occur sporadically, epidemically or endemically.

Malaria: Malaria is a protozoal disease caused by infection with parasites of the genus Plasmodium and transmitted to man by certain species of infected female Anopheline mosquito.
Yellow fever: Yellow fever is a zoonotic disease caused by an arbo-virus. It shares clinical features with other viral haemorrhagic fevers but is characterised by more severehepatic and renal involvement. Severe cases develop jaundice with haemorrhagic manifestations (black

vomit, epistaxis, melena) albuminuria or anuria, shock, agitation, stupor and coma. An acute disease induced by the exotoxin of Clostridium tetani and clinically characterised by muscular rigidity which persists throughout illness punctuated by painful paroxysmal spasms of the voluntary muscles, especially the masseters (trismus or "lock-jaw"), the facial muscles (risus sardonicus), the muscles of the back and neck (opisthotonus), and those of the lower limbs and abdomen.

Leprosy: Leprosy (Hansen's disease) is a chronic infectious disease caused by M.Leprae. It affects mainly the peripheral nerves. It also affects the skin, muscles, the eye, bones, testes and internal organs. Leprosy is clinically characterised by one or more of the following cardinal features:

a. Hypopigmented pathces.
b. Partial or total loss of cutaneous sensation in the affected areas (the earliest sensation to be affected is usually light touch).
c. Presence of thickened nerves, and
d. Presence of acid-fast bacilli in the skin or nasal smears.

Re-emerging diseases: The term re-emerging diseases refers to the diseases which were previously easily controlled by chemotherapy and antibiotics, but now they have developed antimicrobial resistance and are often appearing in epidemic form.

3.6.9 Terms of Preventive Measures

Family Planning: There are several definitions of family planning. An Expert Committee (1971) of the WHO defined family planning as "a way of thinking and living that is adopted voluntarily, upon the basis of knowledge, attitudes and responsible decisions by individuals and couples, in order to promote the health and welfare of the family group and thus contribute effectively to the social development of a country".

Contraceptive Methods: Contraceptive methods are, by definition, preventive methods to help women avoid unwanted pregnancies. They include all temporary and permanent measures to prevent pregnancy resulting from coitus.

Abortion: Abortion is theoretically defined as termination of pregnancy before the foetus becomes viable (capable of living independently).

Preventive Pediatrics: Pediatrics, which is synonymous with child health, is that branch of medical science that deals with the care of children from conception to adolescence, in health and disease.

Preventive pediatrics comprises efforts to avert rather than cure disease and disabilities. It has been broadly divided into antenatal pediatrics and postnatal pediatrics. The aims of preventive pediatrics and preventive medicine are the same: prevention of disease and promotion of physical, mental and social well being of children so that each child may achieve the genetic potential with which he / she is born.

Preventive and Social Measures: High maternal mortality reflects not only inadequacy of health care services for mothers, but also a low standard of living and socio-economic status of the community. In the world as a whole , the problem of maternal mortality is principally one of applying existing obstetric knowledge through antenatal, intra-natal and postnatal services rather than developing new skills. Any attempt to lower MMR must take into consideration the following measures:

1. Early registration of pregnancy.
2. At least three antenatal check-ups
3. Dietary supplementation, including correction of anaemia.
4. Prevention of infection and haemorrhage during puerperium.
5. Prevention of complications, e.g., eclampsia, malpresentations, ruptured uterus.
6. Treatment of medical conditions, e.g., hypertension, diabetes, tuberculosis, etc.
7. Anti-malaria and tetanus prophylaxis
8. Clean delivery practice
9. In India, a large number of maternal deaths could be prevented with the help of trained local dais and female health workers.
10. Institutional deliveries for women with bad obstetric history and risk factors.
11. Promotion of family planning – to control the number of children to not more than two, and spacing of births.
12. Identification of every maternal death, and searching for its cause.

3.7 LETS SUM UP

Hospital is a place where a patient can get quality health care through professionally and technically skilled medicine practitioners. There are two types of Hospitals public and private hospitals. Hospitals offers two types of facilities out patient services and in patient services. Every Hospital should have physical facilities, surgical facilities, operation theatre, mobile equipment. A multi specialty. Hospital is one which offers specialised medical care in all areas. Intensive care unit is defined as a place where seriously sick or injured patients are offered medical treatment.

Patients medicine is a branch of medicine that is applied to healthy people as a part of prevention of disease spread and promotion of health. Curative medicine deals with removal of disease from the patient or among people. Epidemology is the study of distribution and determinants of health related states or events in specified problems. Vaccine is an immunobiological substance designed to produce specific protection against a given disease. Chemoprophylaxis offers the protection from, or prevention of disease with help of chemicals.

CHECK YOUR PROGRESS (B)

1. What is live vaccine?

   _____

   _____

2. Define IgG, IgA, IgE.

_____
_____

3. Causative organisms of small pox and malaria

_____
_____

4. Characteristics Features of Yellow Fewer

_____
_____

5. What is Intensive coronary core unit?

_____
_____

3.8 TERMINAL QUESTIONS

1. Discuss various facilities that are offered in Hospitals.
2. Discuss different types of ICUs.
3. What are various levels of prevention?
4. What are immunoglobulins? Discuss their applications.
5. What is family planning? What measures are initiated by Hospitals to prevent MMR (Mother Mortality Rate)?

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UNIT - 2

Lesson – 4 CLINICAL, DIAGNOSTIC AND THERAPEUTIC WISE TERMINOLOGY

Structure

4.0. OBJECTIVES

After studying this lesson you should be able to:

- understand the common terms of pathology;
- learn the terms of diagnosis and clinical aspects;
- learn the terms of therapy.

4.1 INTRODUCTION

Generally a hospital offers two types of health services. They are: Out-patient services and In-patient services. Out-patient service refers to, a patient who would like to get the consultation and medical advice for his illness from a qualified doctor without taking accommodation in a hospital. In-patient service refers to, the service offered to a patient under continuous supervision and medical assistance with temporary or long period of accommodation in the hospital.

Planning, organisation and management of outpatient services is an integral part of hospital services. Outpatient services in hospitals have evolved in line with patients needs demands and expectations from a limited service, offering basic and minor clinical services to a highly evolved and organised service. Outpatient services when functionally integrated with the inpatient services of the hospital lead to continuity of care.

The family doctor or general practitioner (G.P) referring his patient for specialist opinion had three options – the patient's own home, the specialist's room or the out-patient Department of the hospital.

4.2 OUT-PATIENT SERVICES

There are two types of outpatient services.

(i) Centralised Outpatient Services: In centralized outpatient services all the outpatient care relating to all the specialities are provided in a compact area which includes all diagnostic and therapeutics facilities also being provided in the same unit. Polyclinic in various hospitals is based on this concept.

(ii) Decentralized Outpatient Services: In decentralized outpatient service, the outpatient care is provided in the respective departments. The same holds true for diagnostic and therapeutic services also. The speciality clinics are usually based on this concept.

Equipments in Outpatient Room: Equipments as related to the specialty examination should be available in the concerned room. Sufficient numbers of wheelchairs and stretchers in a conveniently accessible location should be made available. Each consultation-cum-examination room should have a work table, physicians desk, wall mounted cabinets, x –ray view box, revolving stools and chairs besides examination couch, wash basin, instrument trolley. All OPDs should have equipments for resuscitation of patient collapsing suddenly.

OPD Timings: The Out-patient department (OPD) timings should be decided to suit the local and organisational needs. General OPDs with basic specialities are usually conducted six days in a week may be from 0800 hr to 1300 hr or so.

4.3 IN-PATIENT SERVICES

Functions: The prime objective of inpatient areas is to provide accommodation for patients at the point of an illness along with constant supervision. Because of this, they are offering continuous day and night services in the form of medical assistance and operations.

Every in-patient nursing unit should be designed in such a way that it can be built and operated at the lowest possible cost and at the same time, it can achieve the functional goals of the unit which are as follows:

1) To provide the highest possible quality of medical and nursing care for the patients.
2) To provide necessary equipment, essential drugs and all other stores required for patient care in an organised manner in the ward.

3) To furnish most desirable environment substituting as temporary home for the patients designed to accommodate all their basic needs (eating, sleeping, toilet activities, diversional matters).
4) To provide facilities to meet the needs of the visitors and attendants.
5) To provide highest degree of job satisfaction for the nursing and medical staff and render opportunity for training and research.

Open Ward: The rectangular pavilion type of ward was first constructed in 1770 by a Frenchmen. About 80 years later Florence Nightingale adopted this design and it is still known after her name. This ward consisted of patients beds in two rows at right angles to the longitudinal walls with bath rooms and WC facilities at one end and nursing station, doctors room and other facilities at the other end. It was usual to house 30-35 patients in such wards and the length of the ward was not less than 96 feet. This type of ward continued till 1925. Subsequently nurses.

Rigs' Ward: The first major development over above mentioned defects appeared in Rigs hospital, Denmark and thus name Rig's ward. In this design the ward unit is divided into small compartments or cubicles separated for each other by low partitions, each cubicle having 1, 2, 4 or 6 beds arranged parallel to the longitudinal walls.

Treatment Room: A treatment room is required for each nursing unit for physical examination, dressing and certain procedures which cannot be carried out conveniently at the bed side of the patient. The room should be equipped with an examination table, spot light, cabinets and a dressing trolley, Hand washing facilities should be provided inside the treatment room.

Clean Utility Room: This room 100-200 sq. ft is used for clean storage e.g., intravenous sets and solutions. CSSD articles, packing dressing drugs and clean work like setting up a trolley or a treatment tray for minor procedures and so on. This is sometimes combined with treatment room.

Ward Kitchen / Pantry: The major function of the ward kitchen is temporary storage and distribution of meals and the preparation of beverages.

Janitor's Room: A janitor's room is provided in each ward for keeping mops, brooms, cleaning material and buckets. It should have a large sink for cleaning buckets and other equipment and adequate supply of hot and cold water.

Wheel Chair / Trolley Bay: A suitable area is needed for parking wheel chairs and trollies in the nursing unit.

Patient Care: Providing adequate care to the patient.

Administration: Related to the direct process through which the unit operates.

Education: It forms a part of the education programme for nursing students and other class of workers.

House Keeping: Involves in maintenance of clean, safe and comfortable environment.

Off-Station: The activities which take nurses away from the unit but have definite relationship of the patient or the unit.

4.3.1 Nursing Care

A WHO Expert Committee on Nursing defines the Nursing Service as that part of the total health organisation which aims to satisfy the nursing needs of the community. The major objectives of the nursing services is to provide:

- The Nursing care required for the prevention of disease and the promotion of health.
- The nursing care required in the interest of his mental and physical comfort, by reason of the disease from which he is suffering.

Ward-Incharge (Sister): The ward incharge is responsible for the smooth running of the ward.

Definition of Nursing Care: WHO expert committee on define the nursing as "the conscious practice of human relationships. It is clear that nurses must keep alert to observe the needs of their patients as individual human beings".

Impairment: An impairment is a permanent or transistory anatomical, physiological or psychological loss or abnormalities, e.g., a missing limb, paralysis after polio, mental retardation etc.,

Functional Limitation: Impairment may cause functional limitations which are partial or total inability to perform those activities necessary for motor, sensory or mental functions within the range and manner of which a human being is normally capable, e.g., walking seeing speaking a hearing etc.

PMR: Physical Medical and Rehabilitation.

4.3.2 Disability

It is defined as an existing difficulty in performing one or more activities, which in accordance with the subject's age, sex and normative social role are generally accepted as essential basic components of daily living.

Primary Prevention: Primary prevention can be defined as "action taken prior to the onset of the disease".

Secondary Prevention: It can be defined as "action which halts the progress of the disease at its incipient stage", and prevent complications. The specific interventions are "early diagnosis and adequate treatment". It is largely the domain of the clinical medicine.

Tertiary Prevention: When the disease process has advanced beyond its early stage, it is still possible to accomplish prevention by tertiary prevention. It signifies intervention in the late pathogenesis phase. Tertiary prevention can be defined as all measures available to reduce or limit impairments and disabilities and minimise suffering caused by existing disability. The tertiary phase or prevention is also called rehabilitation, which includes physical, psychosocial and vocational measures taken to restore the patient back to normal or near to normal condition.

Rehabilitation: Rehabilitation has been defined as the "combined and coordinated use of medical, social, educational and vocational measures for training and retraining the individual to the highest possible level of functional ability".

Disability: Types, Magnitude and Causes:

1) Locomotor disability i.e., Disability of moving.
2) Visual disability i.e, disability of seeing.
3) Hearing and speech disability i.e., Disability of hearing and speaking.
4) Mental retardation i.e., Low I.Q.
5) Low vision
6) Leprosy cured
7) Mental illness

Medical Causes of Disabilities:

(a) Genetic: Genetic defect

1. Mental Retardation
2. Hearing Impairment
3. Speech Disturbance
4. Visual Impairment
5. Genito Urinary Malformations
6. CHD
7. Malformations of digestive systems

(b) Non-Genetic Disorders: Include consequences of disease or functional disturbances affecting the foetus during pregnancy or delivery.

Perinatal Disability, low birth weight

i) Malnutrition, severe anaemia during pregnancy

ii) Disease during pregnancy
- Communicable Disease : Rubella
- Syphilis
- Tetanus
- Drug Use

iii) Complications during delivery owing to low quality midwifery
- Birth trauma
- Brain damage
- Respiratory or circulatory disturbance

4.4 TYPES OF OPERATIONS AND EQUIPMENT

The significance of classifying operations as major and minor operations has been seriously questioned. Statistics based on this classification may not produce meaningful data. Surgical operations may instead be broadly classified as emergency and elective operations.

Emergency Operation is that which must be carried out as soon as possible after the diagnosis has been made and the patient prepared for the operation in a proper way. Emergencies from outside include patients who are admitted as urgent cases. In the case of in-patients emergencies, in a case like a wound dehiscence or post-operative intestinal obstruction, the decision to operate is made by the surgeon-in-charge of the patient.

Elective Operations, which are the majority, are carried out some time after the diagnosis has been made and when they suit best for the patient and the hospital.

Currently there are at least fifteen surgical specialities or subspecialities which requires Operation Theatre to be equipped with specialised equipment. Some of the advances that had taken place in recent years are:

Microsurgery: Microsurgery may be defined as surgery performed under magnification; some people confine to surgery using the operating microscope, while other includes loupes and other ocular aids.

Microsurgery has proved its usefulness in otorhinolaryngology, ophthalmology, neurosurgery, particularly peripheral nerve surgery, vascular, plastic and hand surgery.

Cryosurgery: Cryosurgery is that type of surgery which is based on use of liquid nitrogen at a very low temperature. Nitrogen is brought into contact through prop with diseased tissue which dies and sloughs away. In this the local pain is absent.

Laproscopic Surgery: Major surgical interventions are done with the help of laproscope. Its use requires minimal incision post operative care and stay in the hospital.

Bio-medical Laser: Light amplification by simulated emission of radiation is one of the ways to make the conventional scalpel obsolete. In this procedure there is absence of physical contact and the cutting is without mechanical pressure which makes the operation non-traumatic. The risk of infection is also less.

Reflectance (Glare): The instruments, clothes of operating room should be selected to avoid glare.

Fiber Optic Operation Lamp: We have earlier mentioned about laproscopic surgery, in which fiber optic lamps are used. The light in a fiber optic operation lamp is transmitted through electrically powered flexible fibers. It is also called cold light because the tube

does not become hot. The optical fiber may be incorporated in instruments itself to bring the light to operating field.

General Light: General light luminance intensity may vary from 500 lux to 2000 lux. This will also depend upon the luminance intensity used for the operating lamp/light.

Presently in the market different types of operating lights are available. Prismatic type of light is also available which does not give any shadow or obstructions to the site of operation. However, before going for this light one has to cater for extra bulbs for emergency replacement as these lights have got one or more bulbs. While installing this light one should also see the radius of its operation as the movement should preferably not interfere with other suspended equipments like pendant etc.

Service Pendent: For ease of function and movement of surgeon team, it is felt that no wires should be lying on the floor around the operation table. Therefore, certain hanging fixtures are added in the OT. These are called service pendents. Service pendents are ceiling mounted and provide manifold and electric outlet at convenient height for use.

These can be made use of quickly by surgeon and anasthetist. Three designs are available:

(a) Fixed length service pendent.
(b) Telescopic service pendent are designed to give ideal working height in the downward position. When not in use, they can be raised above the ceiling.
(c) Rotating type pendent can rotate in X-axis, but this is costly as compared to the ones mentioned above.

Staffing of Operation Theatre: For routine general surgery operative team size will vary between 4 and 7 persons. The operative team consists of:

(i) Surgeon
(ii) Anaesthetist
(iii) Assistant to help the surgeon with ligatures, retractors
(iv) Scrub nurse to pass instruments to the surgeon
(v) Circulating nurse
(vi) Anaesthetist nurse

There may be up to four assistants to help the operative team. These are:

(i) Radiographer
(ii) Technicians
(iii) Sterilising staff
(iv) Disposal staff

4.5 COMMUNICABLE AND NON-COMMUNICABLE DISEASES

1) Communicable Diseases - Common

1. Poliomyelitis 2. TB
3. Influenza 4. Trachoma

Others

1. Meningitis 2. Encephalitis
3. Herpes 4. Osteomyelis
5. Veneral Disease 6. Septic Arthritis
7. Chronic eye infections 8. Otitis media
9. AIDS

2) Non-Communicable Somatic Diseases

1. Back disorders 2. Paralysis
3. Arthrosis 4. Rh. Arthrosis
5. Heart Conditions 6. CVA
7. Pulmonary Dysfunctions 8. Epilepsy
9. Vision impairments 10. Hearing impairments
11. Diabetes 12. Cancer

3) Functional Psychiatric Disorders

Psychotic : Schizophrenia
Non-psychotic : Phobic states

4) Alcoholism and Drug Abuse

5) Trauma and Injuries

Traffic accidents : Rail, Road, Air, Sea
Work accidents : Industrial, agricultural
Home accidents
Other sources :
Recreation and sports
War and civil unrest
Natural catastrophies
Earthquake
Floods
Cyclones

1) Community Based Rehabilitation (CBR): Is a strategy within the community for the development of the rehabilitation services, equalization of opportunities, and social integration of people with disabilities, CBR is implemented through the combined efforts of disabled people themselves, their families and communities and the appropriate health, education, vocational and social services.

2) Institution Based Rehabilitation (IBR): takes place in institutions. People with disabilities attend the rehabilitation institution in order to undergo training under the direction of staff in the institution. Institutions also serve as referral centers to a CBR Programme.

3) **Out Reach Programme:** For rehabilitation is one in which the professional in the rehabilitation field provide services to people with disabilities, who visit the community, or the homes of people with disabilities. Advice is given on how to improve in specific activities such as self-care, moving around or communication.

4.6 FUNCTIONAL COMPONENTS OF CLINICAL LABORATORY

The Functional Components of a clinical laboratory are:

i) Histopathology	ii) Clinical Pathology
iii) Microbiology	iv) Haematology
v) Biochemistry	vi) Research laboratories

i) **Histopathology:** Laboratory performing organ, tissues, cell examination for the diagnosis of various types of abnormalities / diseases is called as Histopathology Laboratory. Examinations of tissues / organs are from living/dead body, in the form of either surgical specimen; biopsy or autopsy.

ii) **Clinical Pathology:** This is the branch of pathology in which all body fluids such as blood, urine, sputum, stool, pleural, peritoneal fluid are examined for physical, chemical, bacteriological and microscopic examination for normal or abnormal contents.

iii) **Microbiology:** This is the science which deals with study of microbes such as bacteria, viruses, parasites etc. The study involves the identification, morphological and cultural studies, serology and sensitivity of organisms responsible for causing the disease or commonly found as commensals.

iv) **Haematology:** Branch of laboratory, Medicine in which the study of blood component is done for detection of various abnormalities in normal and ill health.

v) **Chemical Pathology (Biochemistry):** Science which determines and measures various chemical substances in normal and abnormal amounts produced during disease process. The study includes examination of various groups of clinical substances, hormones, enzymes, isoenzyme, vitamin and metabolites etc.

i) **Clinical Research Laboratories:** Are those laboratories which deal with research related to patient care system or services, research related to development of techniques, methods, and applications, therapeutic traits of drugs, reagents, kits, equipment devilment and animal experimentation.

4.6.1 Types of Laboratories:

Most of the hospital laboratories function as

i) **OPD Services:** OPD Laboratories are basically Central laboratories in a large hospital which caters to the need of out patient department during OPD hours.

ii) **Ward Services:** Ideally each ward is attached with functioning laboratory catering to needs of the ward for routine investigations.

iii) Emergency Services: These can be 24 hours (round the clock services or restricted emergency services.

a) Round the Clock Services: Majority of hospitals having 100 bed capacity and above should give round the clock emergency services. Each Emergency Service includes 3 shifts of duties (24 hours)

b) Restricted Emergency Services: These types of emergency laboratory services are restricted to one or two shifts excluding public holidays and national holidays.

Table 4.1
"Bio-Medical Wastes (Management and Handling), Rules, 1995"

Colours of Containers	Types of Wastes
Yellow	Clinical Waste for Incineration only
Yellow with black stripes	Clinical waste which is suitable for landfill disposal
Light blue or transparent with light blue lettering	Wastes for autoclaving or equivalent treatment before final disposal
Red	Human anatomical wastes
Black	Normal household waste

4.6.2 Types of diagnosis services

Radiology: Conventionally radiology services are linked with x-rays. However ever changing need for more and more information and introduction of newer technology has definitely revolutionalised these services to a great extent. The radiology is linked to images of human body, and these images can be achieved either by transmission or by emission from a source.

Transmission: is a technique where there is a source which emits rays and which are picked up after reflection from body part and taken on plate or on screen (films) and studied by competent professional. The modalities under this group are: X-rays, CT Scan, Ultrasound.

Emission: is a technique which involves giving a dose of radioisotopes or radionuclides to the patient which are picked up by target organs or cells and emitted gamma rays are recorded by gamma or scintillation camera.

X- Rays: X- Ray is oldest radio diagnostic tool. The principle is transmission of rays from a source to the specified part of body and images are taken on films.

Ultrasound and Colour Doppler: It is no longer a newer modality but its role has been ever increasing since its introduction, because of continuous improvement in results by introducing improved version transducer, machines and also expertise. This modality is

also increasingly accepted, because of lack of significant biological hazards associated with this modality and easy accessibility.

Computer Assisted Tomography: With introduction of CAT Scan, which is considered as most significant advancement in the x-ray field, as this modality has astonishing clarity details of morphology, previously seen only at necropsy or anatomy atleast. Although conventional roentgenography is valuable in evaluating tissues with large differential densities, it cannot clearly distinguish most soft tissue structures, and display overlapping superimposed shadows of the area under investigation, but CT images has overcome this limitation and provides sensitive well demarcated and detail images. The CT scanning plays vital role in CNS (Brain and Spine) diseases or injuries to decide treatment plan particularly in emergency situations.

Magnetic Resonance Imaging (MRI): This non-invasive modality has further facilitated diagnostic approach by providing even clear images of human body without any biological burden. The concept is a magnetic field is created over part of body being evaluated by a strong magnet which results in emission of RF (Radio Frequency) signals by hydrogen nuclei of tissues after they have been perturbed by RF pulses in presence of strong magnetic field. The RF signal so emited has characteristics called relation time : T1 relaxation time (longitudinal magnetization) and T2 transverse magnetization.

Positron Emission Tomography (PET): Its more dynamic modality which helps in studies of physiology of human body e.g, isotopes of short half life can be utilized by PET scanner in obtaining information regarding fundamental metabolic process. The equipment also needs a cyclotron to complete the study. The PET is based upon three dimensional restructure of brain section using positron emitting radionuclides By utilization of a number of individual radionuclides and radiolabeled moieties, it provides an opportunities to measures quantitatively: regional cerebral blood flow, blood volume, oxygen metabolism, glucose transport and metabolism, neurotransmitter metabolism and its permits neurotransmitter localization.

Mammography: An x-ray based modality commonly used to detect breast diseases. The role of this technique has assumed great importance particularly in screening the breast cancer. Incidence of this cancer is very high in Indian population.

Nuclear Imaging: The nuclear medicine is the specialty in which radioactive tracer (Radionuclides) are applied to medical situations. In broader sense, the nuclear medicine specialty should be part of diagnostic imaging team. As such the Nuclear Medicine expert should be part of diagnostic imaging team. However, this practice is not commonly seen in our country.

Single Photon Emission Computed Tomography (SPECT): This is widely available and less expensive system of obtaining images of gamma-emitting radionuclide molecules in the body those can also cross blood brain barrier. For example isopropyl amphetamine (IMP) and other radionuclides have been used to demonstrate abnormalities in epilepsy. Alzheimer’s disease and in Parkinson’s disease.

Radiation: Radiation as you know, is an energy emitted in the form of a beam of rays or waves, whereas hazards are risk involved to life, health or property due to poisonous nature or combustibility or other environmental causes of dangerous substance, here in mainly related to radiation.

Acute Radiation effect is called as acute radiation syndrome (ARS). This is combination of syndromes occurring in stages during period of hours to week after exposure, as injury to various organs expressed. It occurs in three successive phases.

Prodromal	Appearing within a first few hours, lasting for a day or more.
Latent Period	Lasting for days and weeks
Manifest phase	Where recovery or death occurs within 6 weeks of exposure.

Chromic or Delayed Effects occur months to years after radiation exposure and include a variety of effects on almost all tissues and organs. Some of the possible delayed effects are:

a) Shortening of life span.
b) Cataract formation
c) Chronic radio dermatitis
d) Leukaemia
e) Cancer
f) Decreased fertility
g) Genetic mutation.
h) Epilation (falling of hair)

Video Imaging Modalities: Video imaging modalities (diagnosis imaging) in radiology department are those which do not involve direct or indirect exposure of radiographic films.

Digital Radiography: In digital radiography, an x-ray image produced by an image intensifier is recorded digitally and stored in a computer memory, replacing the conventional x-ray film. An image intensifier is a device for greatly enhance the faint fluorescence of an input phosphor screen in response to radiation, by electron release and capture, causing much brighter fluorescence of an output phosphor screen viewed by a TV camera.

Digital Subtraction Angiography: Digital Subtraction Angiography (DSA), previously known as Digital Vascular Imaging (DVI), is similar to digital radiography, but may be included as an “add-on” to fluoroscopic imaging equipment as well as being built into digital radiographic equipment.

Sonography (Ultrasound Scanning): Ultrasound scanning uses a robe operating by the piezo electric effect to emit ultrasound of frequency 3.5-10 MHz into the patient and receive returning echoes from internal structures, producing a real time, grey scale image displaying the echo intensity as a 2-D image on a TV monitor, Doppler Ultrasound allows flow within vessels to be displayed.

Echocardiography: Pulsed ultrasonic doppler techniques afford opportunities for making transcutances measurements on the cardiovascular system and to provide information.

Thermography: Thermography is an infra red scanning system for measuring changes in distribution of surface temperature and presentation of the temperature distribution and development. Warm areas may represent inflammatory or cancerous processes. Cool areas may signify inadequate blood supply.

Cardiac Catheterized laboratory: Cardiac Catheterized. Besidaratory is vital to the diagnosis and treatment of coronary diseases. Cardiac cast metallation is the insertion of a catheter (a long, narrow, flexible tube) through a blood vessel into the heart. It allows examination of the heart and coronary arteries The procedures may be either diagnostic or therapeutic. Coronary angiography (injection of contrast media) is a diagnostic procedure the causes arteries to become visible or x-rays Therapeutic procedures include the instillation of pace makers and angioplasy (balloon catheter) which can clear an occlusion in the artery.

Laser Imaging: The laser imaging is a much more sophisticated method of converting an analog or digital signal from an imaging modality into hard copy. The electronic data of an image is converted into a digital signal from which a laserbeam of corresponding intensity scans across a photographic film exposing it in proportion to the brightness of the image line by line in exactly the saem manner as the electron beam scans the phosophor screen of a TV monitor.

Nuclear Medicine Imaging: Nuclear medicine imaging or gamma camera/ rectilinear scanner produces images from gamma rays emitted by radionuclide injected into the patient.

Position Emission Tomography: Nuclear medicine includes Position Emission Tomography (PET) which is not common to most facilities. Positron emission tomography scanning is generally used in experimental settings and requires space for a scanner and for a cyclotron.

4.7 TERMS OF THERAPY

Radiation Therapy: Radiation therapy is a specialty in the field of oncology.

Brachytherapy: Brachytherapy involving use of ionizing radiation is an important mode of treatment for cancers of specific sites.

Mega Voltage Therapy (Teletherapy): Teletherapy involving use of ionizing radiations of greater than one million volts. This include cobalt 60 and a via jofaccelarators using high energy x ray.

Ortho Voltage Therapy: Ortho voltage therapy involving use of ionizing radiation with energies from 150 to 400 kilovolts. This equipment now stands replaced largely by megavoltage units.

Superficial Therapy: Superficial therapy employing ionizing radiation with energies from 8 to 140 kilovolts. Relatively soft x-rays are used for non-infiltrating cancers such as skin cancers.

CHECK YOUR PROGRESS

1. What is centralized out-patient service?

   _____

   _____

2. Where do you use fiber optic operation lamp?

   _____

   _____

3. What is Rigs' ward?

   _____

   _____

4. State a few non-communicable somatic diseases.

   _____

   _____

5. What is histopathology?

   _____

   _____

6. Expand CT and PET ?

   _____

   _____

4.8 LET US SUM UP

Usually big hospitals offers two types of services. They are out-patient services and In-patient services. Operations are of two types: major and minor. Some times they can be emergency and elective operations. The disability is due to medical, non-medical, genetical or non-genetical reasons. The functional components of laboratory are histopathology, clinical pathology, microbiology, haematology, bio-chemistry and research laboratories. The diagnosis is a process of identification of disease and the intensity of infection with the help of electronic equipment and laboratory tests.

TERMINAL QUESTIONS

1. Discuss types of operations performed in a hospital.
2. What are various communicable and non-communicable diseases?
3. Discuss various services of diagnosis.
4. State different types of therapies.

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Lesson-5 TERMS OF PATHOLOGY, PEDIATRICS, DENTISTRY AND GASTROENTEROLOGY.

Structure:

5.0 OBJECTIVES

After going through you should be able to:

- understand terms of pathology;
- learn terms of pediatrics;
- make a note on dental diseases;
- learn terms of gastro-enterology.

5.1 INTRODUCTION

The study of diseased Tissue and its implication is called pathology. The study of stomach and intestinal disorders, functions and diseases, referred as gastro-enterology. Pathology refers to study of diseased tissues. The word “Dental” refers to tooth. Study of Tooth related issues are called Dentistry.

5.2 COMMON TERMS OF PATHOLOGY

Biopsy: The removal of a sample of tissue for purpose of diagnosis. (Many definitions of "biopsy" stipulate that the sample of tissue is removed for examination under a microscope. This may or may not be the case. The diagnosis may be achieved by other means such as by analysis of chromosomes or genes.)

Carcinoma: Cancer that begins in the skin or in tissues that line or cover body organs. For example, carcinoma can arise in the breast, colon, liver, lung, prostate, and stomach.

Cauterization: The use of heat to destroy abnormal cells. Also called diathermy or electro diathermy

Chemotherapy: 1. In the original sense, a chemical that binds to and specifically kills microbes or tumor cells. The term chemotherapy was coined in this regard by Paul Ehrlich (1854-1915). **2.** In oncology, drug therapy for cancer. Also called "chemo" for short.

Clinical trials: Trials to evaluate the effectiveness and safety of medications or medical devices by monitoring their effects on large groups of people.

Conization: Surgery to remove a cone-shaped piece of tissue from the cervix and cervical canal. Conization may be used to diagnose or treat a cervical condition. Also called cone biopsy.

Cryosurgery: Treatment performed with an instrument that freezes and destroys abnormal tissue.

Disease: Illness or sickness often characterized by typical patient problems (symptoms) and physical findings (signs). Disruption sequence: The events that occur when a fetus that is developing normally is subjected to a destructive agent such as the rubella (German measles) virus.

Douching: Using water or a medicated solution to clean the vagina.

Dysplasia: Abnormal in form. From the Greek dys- (bad, disordered, abnormal) and plassein (to form). For example, retinal dysplasia is abnormal formation of the retina during embryonic development.

Ectopic: In the wrong place. Out of place. An ectopic kidney, for example, is one that is not in the usual location.

Excision: 1. Surgical removal, as in the excision of a tumor . **2.** The removal as if by surgery, as in base excision repair .

Hormone therapy: A form of treatment that takes advantage of the fact that certain cancers depend on hormones to grow. Hormone therapy may include giving hormones to the patient or decreasing the level of hormones in the body.

Hyperplasia: A condition in which there is an increase in the number of normal cells in a tissue or organ.

Hysterectomy: A surgical operation to remove the uterus and, sometimes, the cervix. Removal of the entire uterus and the cervix is referred to as a total hysterectomy. Removal of the body of the uterus without removing the cervix is referred to as a subtotal hysterectomy.

Incision: A cut. When making an incision, a surgeon is making a cut.

Intravenous pyelogram: An x-ray of the kidneys and urinary tract. Structures are made visible by the injection of a substance that blocks x-rays. Also called IVP.

Laboratory: A place for doing tests and research procedures and preparing chemicals, etc. Although "laboratory" looks very like the Latin "laboratorium" (a place to labor, a work place), the word "laboratory" came from the Latin "elaborare" (to work out, as a problem, and with great pains), as evidenced by the Old English spelling "elaboratory" designating "a place where learned effort was applied to the solution of scientific problems." A test that is done in the laboratory where the appropriate equipment, supplies, and certified expertise are available.

Laparotomy: An operation to open the abdomen.

Laser surgery: A type of surgery that uses the cutting power of a laser beam to make bloodless cuts in tissue or remove a surface lesion such as a skin tumor. There are a number of different types of lasers that differ in emitted light wavelengths and power ranges and in their ability to clot, cut, or vaporize tissue. Among the commonly used lasers are the pulsed-dye laser, the YAG laser, the CO2 (carbon dioxide) laser, the argon laser, the excimer laser, the KTP laser, and the diode laser.

Lesion: Pronounced "lee-sion" with the emphasis on the "lee," a lesion can be almost any abnormality involving any tissue or organ due to any disease or any injury.

Local therapy: Treatment that affects only affected area and the area close to it.

Lymph: An almost colorless fluid that travels through vessels called lymphatic, in the lymphatic system and carries cells that help fight infection and disease.

Microscope: An optical instrument that augments the power of the eye to see small objects. The name microscope was coined by Johannes Faber (1574-1629) who in 1628 borrowed from the Greek to combined micro-, small with skopein, to view. Although the first microscopes were simple microscopes, most (if not all) optical microscopes today are compound microscopes.

Pain: An unpleasant sensation that can range from mild, localized discomfort to agony. Pain has both physical and emotional components. The physical part of pain results from nerve stimulation. Pain may be contained to a discrete area, as in an injury, or it can be more diffuse, as in disorders like fibromyalgia. Pain is mediated by specific nerve fibers that carry the pain impulses to the brain where their conscious appreciation may be modified by many factors.

Palpable: Something that can be felt or touched. For example, a palpable tumor is one that can be felt. From the Latin "palpare" (to stroke or to pat).

Pap smear: A Pap smear (also known as the Pap test) is a medical procedure in which a sample of cells from a woman's cervix (the end of the uterus that extends into the vagina) is collected and spread (smeared) on a microscope slide. The cells are examined under a microscope in order to look for pre-malignant (before-cancer) or malignant (cancer) changes.

Radiation: 1. Rays of energy. Gamma rays and X-rays are two of the types of energy waves often used in medicine. **2.** The use of energy waves to diagnose or treat disease.

Radiation therapy: The use of high-energy rays to damage cancer cells, stopping them from growing and dividing. Like surgery, radiation therapy is a local treatment that affects cancer cells only in the treated area.

Rejection: In transplantation biology, the refusal by the body to accept transplanted cells, tissues or organs. For example, a kidney transplanted may be rejected.

Remission: Disappearance of the signs and symptoms of cancer or other disease. When this happens, the disease is said to be "in remission." A remission can be temporary or permanent.

Side effects: Problems that occur when treatment goes beyond the desired effect. Or problems that occur in addition to the desired therapeutic effect.

Systemic: Affecting the entire body. A systemic disease such as diabetes can affect the whole body. Systemic chemotherapy employs drugs that travel through the bloodstream and reach and affect cells all over the body.

Therapy: The treatment of disease.

Transplant: The grafting of a tissue from one place to another, just as in botany a bud from one plant might be grafted onto the stem of another. The transplanting of tissue can be from one part of the patient to another (autologous transplantation), as in the case of a skin graft using the patient's own skin; or from one patient to another (allogenic transplantation), as in the case of transplanting a donor kidney into a recipient.

Tumor: An abnormal mass of tissue. Tumors are a classic sign of inflammation, and can be benign or malignant (cancerous). There are dozens of different types of tumors. Their names usually reflect the kind of tissue they arise in, and may also tell you something about their shape or how they grow. For example, a medulloblastoma is a tumor that arises from embryonic cells (a blastoma) in the inner part of the brain (the medulla). Diagnosis depends on the type and location of the tumor. Tumor marker tests and imaging may be used; some tumors can be seen (for example, tumors on the exterior of the skin) or felt (palpated with the hands).

Ultrasound: High-frequency sound waves. Ultrasound waves can be bounced off of tissues using special devices. The echoes are then converted into a picture called a sonogram. Ultrasound imaging, referred to as ultrasonography, allows physicians and

patients to get an inside view of soft tissues and body cavities, without using invasive techniques. Ultrasound is often used to examine a fetus during pregnancy. There is no convincing evidence for any danger from ultrasound during pregnancy.

Common terms of reference in pathology:

	TERM	MEANING
1.	Achlorhydria	Absence of hydrochloric acid in stomach.
2.	Adenoids	Lymphoid tissue at the back of the throat behind.
3.	Afebrile	Not showing any signs of fever.
4.	Alopecia	Absence of hair.
5.	Amnesia	Total or partial loss of memory.
6.	Ankylosis	Fusion of the bones across a joint space either by bony tissue or by shortening of connecting fibrous tissue.
7.	Antibody	A special kind of blood protein that is syntehsised in lymphoid tissue in response to an antigen and circulates in the plasma to attach the antigen to render it harmless.
8.	Antigen	Any substance that the body regards as foreign or potentially dangerous and against which it produces and antibody.
9.	Hyperplacia	Rate of growth of tissue
10.	Aplasia	Total or partial failure of development of an organ or tissue.
10.	Appendicitis	Inflammation of the Vermiform appendix.
11.	Bacteraemia	Presence of bacteria in the blood.
12.	Cervicitis	Inflammation of cervix of uterus.
13.	Cholecystitis	Inflammation of gall bladder.
14.	Cirrhosis	Destruction of important cells in liver.
15.	Contagious	Disease which is transmitted by contact.
16.	Cystitis	Inflammation of urinary bladder.
17.	Dermatitis	Inflammation of skin.
	Optic nuritis	Inflammation of optic nerve
	Gengiritis	Inflammation of Gums
18.	Dyspepsia	Indigestion
19.	Eczema	A superficial inflammation of the skin, mainly affecting the epidermis.
20.	Emetic	An agent that causes vomiting.
21.	Emollient	An agent that softens or soothes the skin.
22.	Encephalitis	Inflammation of brain.
23.	Faculative	Describing an organism that is not restricted to one way of life.
24.	Flatulence	Gas formation in G.I. tract.
25.	Gangrene	Necrosis i.e. death of body tissues.
26.	Gonorrhoea	A veneral disease that affects the genital mucous membrane of either sex.

	TERM	MEANING
27.	Impetigo	Inflammatory pustular skin disease, commonest on the face and sclap.
28.	Jaundice	Yellowness of the skin, mucous membranes and excretions due to hyperbilirubinemia and deposition of bile pigments.
29.	Malena	Blood in stools.
30.	Myositis	Inflammation of muscle fibres
31.	Oophoritis	Inflammation of ovaries.
32.	Osteomyelitis	Inflammation of bone and bone marrow.
33.	Palpitation	An awareness of the heart beat.
34.	Psoriasis	A chronic disease of the skin characterised by dry, patchy areas and this usually involves scalp, eye-brows, knees and buttocks.
35.	Pustule	A blister in skin containing pus.
36.	Pyaemia	Presence of pus.
37.	Rhinitis	Inflammation of the mucous membrane of the nose.
38.	Salpingitis	Inflammation of fallopian tubes.
39.	Spondylitis	Inflammation of synovial joint of backbone.
40.	Tonsillitis	Inflammation of Tonsils.
41.	Urethritis	Inflammation of urethra.
42.	Uretrities	Inflammation of ureter.
43.	Sphosromayo meter	Meaning Blood pressure.
44.	Autrophy	Absence of functions.
45.	Dystrophy	Functional reduction in the particular organ.

5.3 PEDIATRICS

"Pediatrics is concerned with the health of infants, children and adolescents, their growth and development, and their opportunity to achieve full potential as adults." (Richard E.Behrman in Nelson's Textbook of Pediatrics)

Pediatrics became a medical specialty in the mid-19th century. Before that time the care and treatment of childhood diseases was included within such areas as general medicine and obstetrics (and midwifery).

The first pediatric monograph written in the U.S. was by Charles Caldwell who received his medical degree from the University of Pennsylvania in 1796. His doctoral thesis was on diseases of childhood associated with fever.

Children's Illnesses: Unfortunately, even the healthiest baby can get sick. It is worth knowing the signs and symptoms of the common childhood illnesses as well as the treatment and prevention of these illnesses. There are a number of common childhood conditions such as ear infections and even tonsillitis, which may be unavoidable. But children are also subject to serious infectious diseases, some of which can be prevented by immunizations.

Children may be born with health problems. For example, a cleft lip or palate is evident at birth. But some equally common birth defects, such as heart malformations, may not be immediately apparent. Birth defects of all kinds are a consequential concern for children and their parents. It is estimated that between 2-3% of all children are born with birth defects.

Children's Injuries: It may not be possible to prevent a specific birth defect or an illness, but it should be possible to protect a child from an accident and injury, such as from common cuts and burns. Considerable progress has been made in the safety arena, for example, in the rapid recall of dangerous toys. The mandated uses of car seats, safety belts and bicycle helmets are also examples of advances in child safety.

Pink eye: Pink eye or conjunctivitis refers to a redness or irritation of the membranes on the inner part of the eyelids and the membranes (conjunctiva) covering the whites of the eyes. These membranes react to a wide range of bacteria, viruses, allergy- provoking agents, irritants, and toxic agents, as well as to underlying diseases within the body. Viral and bacterial forms of conjunctivitis are common in childhood but can occur in people of any age. Overall however, there are many causes of pink eye. These can be classified as either infectious or noninfectious.

Autism: Autism is a developmental disorder that is characterized by impaired development in communication, social interaction, and behavior. Autism is classified as a Pervasive Developmental Disorder (PDD), which is part of a broad spectrum of developmental disorders affecting young children and adults--the Autistic Spectrum Disorders (ASD). The range of these disorders varies from severely impaired individuals with autism to other individuals who have abnormalities of social interaction but normal intelligence--Asperser's syndrome. The ways in which autism is exhibited can differ greatly. Additionally, autism can be found in association with other disorders such as mental retardation and certain medical conditions.

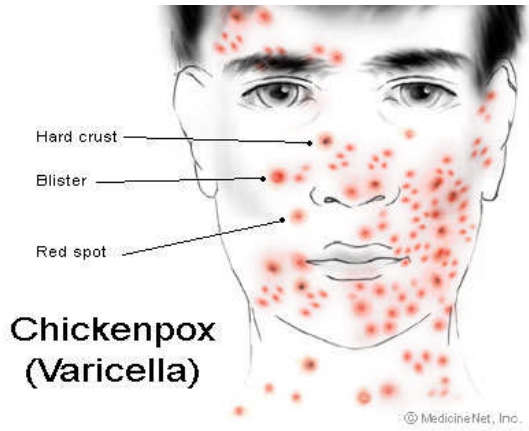
Bedwetting: Bedwetting, which is also called nocturnal enuresis , is the involuntary passage of urine while asleep. Inherent in the definition of bedwetting is satisfactory bladder control while the child is awake.

Types of bedwetting: Two types of bedwetting occur:

1. Primary enuresis - bedwetting since infancy; and
2. Secondary enuresis - wetting developed after being continually dry for a minimum of six months.

Cerebral palsy: Cerebral palsy (CP) is one of the most common conditions seen by pediatric neurologists. A major problem faced by both clinicians and parents is that there is no absolute definition of CP. Many clinicians, however, would agree that CP is an abnormality of motor function (as opposed to mental function) that is acquired at an early age, usually less than a year of age, and is due to a brain lesion that is non-progressive.

Chickenpox: Chickenpox is a common childhood disease caused by a virus. The virus is called the varicella-zoster virus.



Most people contract chickenpox by age 15, the majority between age 5 and 9, but all ages can contract it. Chickenpox is usually more severe in adults than children. Winter and spring are the most common times of the year for chickenpox to occur.

Chickenpox is very highly contagious. It is easily passed between members of families and school classmates through airborne particles, droplets in exhaled air and fluid from the blisters or sores. Indirect transmission also occurs through contact with articles of clothing and other items exposed to fresh drainage from open sores. Patients are contagious up to 5 days (more commonly, 1 to 2 days) before and 5 days after the date that their rash appears. When the sores have crusted over, the person is usually no longer contagious.

Diaper Rash: Diaper rash is very common in babies and is not a sign of parental neglect. Diaper rash is a kind of contact dermatitis.Bacteria or yeast normally present on the skin may infect diaper rash. Effective treatment can eliminate diaper rash.

Down syndrome: Down syndrome is a relatively common birth defect caused by the presence of an extra chromosome number 21 (three instead of two number 21 chromosomes, or, trisomy 21). This chromosome abnormality adversely affects both the physical and intellectual development of the individual. Causes mental retardation, a characteristic facial appearance, and Down syndrome multiple malformations. It is associated with a major risk for heart malformations, a lesser risk of duodenal Artesia (part of the small intestines is not developed), and a small but still significant risk of acute leukemia.

Rubella (German measles):A respiratory disease caused by a virus. The symptoms of rubella are Rash and fever for two to three days (mild disease in children and young adults).The complications of rubella includes Birth if acquired by a pregnant woman: deafness, cataracts, heart defects, mental retardation, and liver and spleen damage (at least a 20% chance of damage to the fetus if a woman is infected early in pregnancy). Rubella spread from person to person by coughing and sneezing.

CHECK YOUR PROGRESS

A. Answer the following:

1. What is biopsy ?

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_____

2. Define Cryosurgery.

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_____

3. What is hyperplasia?

_____
_____

4. What is papsmear ?

_____
_____

5. Define tumor

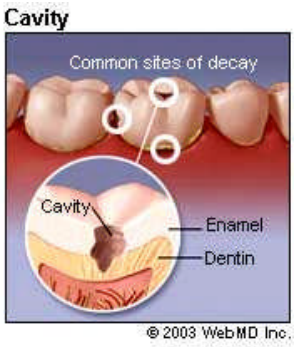
_____
_____

B. Match the following

A. Flatulence	( )	1. Verecella – zoster
B. Pediatrics	( )	2. Gas formation in gastrointestinal tract
C. Diaper rash	( )	3. Concerned with health of children
D. Chickenpox	( )	4. Contact dermatitis

5.4 TERMS OF DENTAL DESEASES

Cavities: Holes in the two outer layers of a tooth called the enamel and the dentin. The enamel is the outermost white hard surface and the dentin is the yellow layer just beneath enamel. Both layers serve to protect the inner living tooth tissue called the pulp, where blood vessels and nerves reside.



5.4.1 Types of dentists

Dentists: Doctor who deals with tooth problems.

General Dentist: A general dentist is your primary care dental provider. This dentist diagnoses, treats and manages your overall oral health care needs, including gum care, root canals, fillings, crowns, veneers, bridges and preventive education.

Endodontist: An endodontist is the dental specialist concerned with the causes, diagnosis, prevention and treatment of diseases and injuries of the human dental pulp or the nerve of the tooth.

Oral and Maxillofacial Radiologist: A radiologist is the oral health care provider who specializes in the production and interpretation of all types of X-ray images and data that are used in the diagnosis and management of diseases, disorders and conditions of the oral and maxillofacial region.

Oral Medicine: Oral medicine is the specialty of dentistry that provides for the care of the medically complex patient through the integration of medicine and oral health care. This includes the diagnosis and management of oral diseases including oral cancer, lichen planus, candidiasis, and aphthous stomatitis. Oral medicine also evaluates complex medical patients prior to open-heart surgery, chemotherapy, and cancer therapy, as well as hospital inpatients. Oral Pathologist: An oral pathologist is the oral health care provider who studies the causes of diseases that alter or affect the oral structures (teeth, lips, cheeks, jaws) as well as parts of the face and neck. Oral pathologists examine and provide a diagnosis of the biopsy, tissue, or lesion sent to them by other oral health care providers.

Oral Surgeon: An oral surgeon is the oral health care provider who performs many types of surgical procedures in and about the entire face, mouth, and jaw area. Oral surgeons treat accident victims who suffer facial injuries and offer reconstructive and dental implant surgery.

Orthodontist: An orthodontist is the oral health provider who specializes in diagnosis, prevention, interception and treatment of malocclusions, or "bad bites," of the teeth and surrounding structures. Malocclusions can result from crowded, missing or extra teeth or jaws that are out of alignment. This is the specialist whose responsibility is to straighten teeth by movement of the teeth through bone by the use of bands, wires, braces, and other fixed or removable corrective appliances or retainers. This specialist treats children as well as adults who may wish to improve their appearance and bite.

Pedodontists/Pediatric Dentist: A pediatric dentist is the oral health care provider who specializes in the diagnosis and treatment of the dental problems of children from the age of one or two to early adulthood.

Prosthodontist: A prosthodontist is the oral health provider who specializes in the repair of natural teeth and/or the replacement of missing teeth on a much larger scale than the general dentist. The prosthodontist uses artificial teeth (dentures), gold crowns (caps), or ceramic crowns to replace the missing or extracted teeth.

Fillings: To treat a cavity your dentist will remove the decayed portion of the tooth and then "fill" the area on the tooth where the decayed material once lived. Fillings are also used to repair cracked or broken teeth and teeth that have been worn down from misuse (such as from nail-biting or tooth grinding). Two types of fillings:

1. **Ceramics**, which are made most often of porcelain, are more resistant to staining than composite resin material but are also more abrasive. This material generally lasts more than 15 years and can cost as much as gold.
2. **Glass ionomer** is made of acrylic and a specific type of glass material. This material is most commonly used for fillings below the gum line and for fillings in young children (drilling is still required). Glass ionomers release fluoride, which can help protect the tooth from further decay. However, this material is weaker than composite resin and is more susceptible to wear and prone to fracture. Glass ionomer generally lasts 5 years or less with costs comparable to composite resin.

Cracked Tooth Syndrome:" Cracked Tooth Syndrome" refers to toothache caused by a broken tooth (tooth fracture) without associated cavity or advanced gum disease. Biting on the area of tooth fracture can cause severe sharp pains.

Crown: 1. In dentistry, the portion of the tooth that is covered by enamel. **2.** Also in dentistry, a type of restoration that covers all or most of the natural tooth. **3.** In anatomy, the top of the head, as in the crown-rump length of a fetus . **4.** In obstetrics, when a generous portion of the fetal scalp (the crown) becomes visible at the vaginal opening during labor

Curettage: The removal of growths or other material from the wall of a cavity or other surface, as with a curet. A curet, or curette, is a spoon-shaped instrument with a sharp edge. The word "curette" comes from French and means a scraper. The verb "curer" means to scrape or clean.

Dental Cavities: The most common cause of a toothache is a dental cavity. Dental cavities (caries) are holes in the two outer layers of a tooth called the enamel and the dentin. The enamel is the outermost white hard surface and the dentin is the yellow layer just beneath the enamel. Both layers serve to protect the inner living tooth tissue called the pulp, where blood vessels and nerves reside.

Dentin: Dentin is the hard tissue of the tooth surrounding the central core of nerves and blood vessels

Gum disease: Inflammation of the soft tissue (gingiva) and abnormal loss of bone that surrounds the teeth and holds them in place. Gum disease is caused by toxins secreted by

bacteria in "plaque" that accumulate over time along the gum line. This plaque is a mixture of food, saliva, and bacteria. Early symptoms of gum disease include gum bleeding without pain. Pain is a symptom of more advanced gum disease as the loss of bone around the teeth leads to the formation of gum pockets. Bacteria in these pockets cause gum infection, swelling, pain, and further bone destruction. Advanced gum disease can cause loss of otherwise healthy teeth.

Impaction & Eruption: Impacted (teeth pressing together) or erupting (tooth growing out or "cutting") molar teeth (the large teeth in the back of the jaw) can cause pain. As the molar teeth erupt, the nearby tissues can become inflamed and swollen. Impacted teeth can require pain medication, antibiotics, and surgical removal. This most commonly occurs with impacted molar (wisdom) teeth.

Jaw: The bones below the mouth (the mandible) and the bone above the mouth just above the mouth (the maxilla). The word jaw comes from the Anglo-Saxon ceowan meaning to chew.

Mandible: The mandible is the bone of the lower jaw. The joint where the mandible meets the upper jaw at the temporal bone is called the temporomandibular joint.

Molar: In dentistry, a molar is one of the posterior teeth well adapted to grinding, in keeping with its origin from the Latin mola-meaning millstone.

Periodontal: The word "periodontal" literally means "around the tooth." Periodontal diseases are bacterial infections that destroy the attachment fibers and supporting bone that hold the teeth in the mouth. Left untreated, these diseases can lead to tooth loss. The main cause of periodontal disease is a bacterial plaque, a sticky, colorless film that constantly forms on teeth. *Periodontics* is the branch of dentistry concerned with the prevention, diagnosis and treatment of diseases affecting the gums and supporting structures of the teeth. *Periodontists* are also expert in the placement and maintenance of dental implants.

Plaque: 1. An semi-hardened accumulation of substances from fluids that bathe an area. Examples include dental plaque and cholesterol plaque.

Tartar: Tartar is the hardened product of longstanding plaque accumulating minerals from the saliva and foods. Plaque is the soft accumulation of food debris and bacteria around teeth. These bacteria feed on left over food in the mouth to excrete toxins that irritate the gums and dissolve the bone. Proper brushing and flossing at home can remove plaque. Tartar can become as hard as a rock and then can require a dentist or dental hygienist with special tools to remove it. Dental **plaque and tartar cause inflammation** of the bone surrounding the teeth referred to as "periodontia."

TMJ: Tempero-mandibular joint, the joint that hinges the lower jaw (mandible) to the skull. **Temporo-Mandibular Joint (TMJ) Syndrome:** Diseases of the temporo-mandibular joint(s) can cause pain, usually in front of one or both ears. The TMJ hinges

the lower jaw (mandible) to the skull. Pain in the temporo-mandibular joint(s) can be caused by acute trauma (such as a blow to the face), inflammatory or degenerative arthritis, or by the mandible being pushed back towards the ears whenever the patient chews or swallows.

Tooth Root Sensitivities: Chronic gum disease also contributes to toothache due to root sensitivities. The roots are the lower 2/3 of the teeth that are normally buried in bone. The bacterial toxins dissolve the bone around the roots and cause the gum and the bone to recede, exposing the roots.

Toothache: Toothache usually refers to pain around the teeth or jaws. In most instances, toothaches are caused by tooth or jaw problems, such as a dental cavity, a cracked tooth, an exposed tooth root, gum disease, disease of the jaw joint (temporo- mandibular joint), or spasms of the muscles used for chewing. The severity of a toothache can range from chronic and mild to sharp and excruciating. T

5.5 TERMS OF GASTRO - ENTEROLOGY

Achalasia: Achalasia is a rare disease of the muscle of the esophagus (swallowing tube). The term achalasia means "failure to relax" and refers to the inability of the lower esophageal sphincter (a ring of muscle between the lower esophagus and the stomach) to open and let food pass into the stomach.

Appendicitis: Appendicitis is inflammation of the appendix. It is thought that appendicitis begins when the opening from the appendix into the cecum becomes blocked. The blockage may be due to a build-up of thick mucus within the appendix or to tools that enters the appendix from the cecum. The mucus or stool hardens, becomes rock-like, and blocks the opening. This rock is called a fecalith (literally, a rock of stool). At other times, the lymphatic tissue in the appendix may swell and block the appendix. Bacteria, which normally are found within the appendix, then begin to invade (infect) the wall of the appendix. The body responds to the invasion by mounting an attack on the bacteria, an attack called inflammation. If the inflammation and infection spread through the wall of the appendix, the appendix can rupture. After rupture, infection can spread throughout the abdomen; however, it usually is confined to a small area surrounding the appendix (forming a peri-appendiceal abscess).

Belching: The ability to belch is almost universal. Belching, also known as burping, is the act of expelling gas from the stomach out through the mouth. The usual cause of belching is a distended (inflated) stomach caused by swallowed air. The distention of the stomach causes abdominal discomfort, and the belching expels the air and relieves the discomfort. The common reasons for swallowing large amounts of air (acrophobia) are gulping food or drink too rapidly, anxiety, and carbonated beverages. People are often unaware that they are swallowing air. "Burping" infants during bottle or breast-feeding is important in order to prevent.

***Clostridium difficile* colitis (*C. difficile*):** *Clostridium difficile* (*C. difficile*) is a bacterium that is related to the bacterium that cause tetanus and botulism. The *C. difficile* bacterium has two forms, an active, infectious form that cannot survive in the environment for prolonged periods, and a non-active, "noninfectious" form, called a spore, that can survive in the environment for prolonged periods. Although spores cannot cause infection directly, when they are ingested they transform into the active, infectious form.

Constipation: Constipation means different things to different people. For many people, it simply means infrequent stools. For others, however, constipation means hard stools, difficulty passing stools (straining), or a sense of incomplete emptying after a bowel movement. The cause of each of these "types" of constipation probably is different, and the approach to each should be tailored to the specific type of constipation. Constipation can also alternate with diarrhea. This pattern is more commonly considered as part of the irritable bowel syndrome (IBS). At the extreme end of the constipation spectrum is fecal impaction, a condition in which stool hardens in the rectum and prevents the passage of any stool.

Diarrhea: Diarrhea is an increase in the frequency of bowel movements or a decrease in the form of stool (greater looseness of stool). Although changes in frequency of bowel movements and looseness of stools can vary independently of each other, changes usually occur in both.

Diarrhea needs to be distinguished from four other conditions that can be confused with diarrhea. Although these conditions may accompany diarrhea, they often have different causes and different treatments than diarrhea. Bowel movements immediately after eating a meal

Dyspepsia: Dyspepsia is a functional disease in which the gastrointestinal organs, primarily the stomach and first part of the small intestine, function abnormally. It is a chronic disease in which the symptoms fluctuate in frequency and intensity.

- Theories of the cause of dyspepsia include abnormal input from intestinal sensory nerves, abnormal processing of input from the sensory nerves, and abnormal stimulation of the intestines by motor nerves.
- The primary symptoms of dyspepsia are upper abdominal pain, belching, nausea, vomiting, abdominal bloating, early satiety, and abdominal distention (swelling). The symptoms most often are provoked by eating.

Eosinophilic Esophagitis: Eosinophilic esophagitis is an inflammatory condition of the esophagus that affects both children and adults and men more than women. Eosinophilic gastroenteritis may be due allergy to an as yet unknown allergen. The major symptom among adults with eosinophilic esophagitis is dysphasia for solid food.

Fatty Liver, NAFLD, and NASH: Nonalcoholic fatty liver disease (NAFLD) refers to a wide spectrum of liver disease ranging from simple fatty liver (steatosis), to nonalcoholic steatohepatitis (NASH), to cirrhosis (irreversible, advanced scarring of the liver). All of

the stages of NAFLD have in common the accumulation of fat (fatty infiltration) in the liver cells (hepatocytes). In NASH, the fat accumulation is associated with varying degrees of inflammation (hepatitis) and scarring (fibrosis) of the liver.

The term *nonalcoholic* is used because NAFLD and NASH occur in individuals who do not consume excessive amounts of alcohol. Yet, in many respects, the histological picture of NAFLD (when we look at a biopsy piece of liver under the microscope) is similar to what can be seen in liver disease that is due to excessive intake of alcohol. As we shall see, however, the clinical circumstances in NAFLD and NASH are very different from those in alcoholic liver disease (ALD).

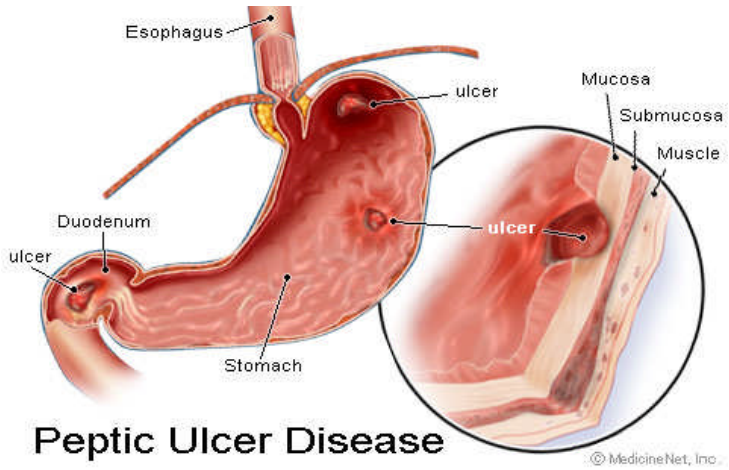
Hepatitiss: The hepatitis C virus (HCV) is one of the most significant health problems affecting the liver. More than 4 million Americans (1.3% of the U.S. population) and 170 million individuals in the world (3% worldwide) are infected with hepatitis C virus. The prevalence (number of cases in a population at a specific time) of hepatitis C virus infections varies in different parts of the world. For example, the prevalence of hepatitis C virus in Scandinavia is less than 0.5% of the population, whereas the prevalence in Egypt is over 20%. In the U.S. and Western Europe, the complications of hepatitis C virus chronic hepatitis and cirrhosis are the most common reasons for liver transplantation.

Cirrhosis: Cirrhosis is a complication of many liver diseases that is characterized by abnormal structure and function of the liver. The diseases that lead to cirrhosis do so because they injure and kill liver cells, and the inflammation and repair that is associated with the dying liver cells causes scar tissue to form. The liver cells that do not die multiply in an attempt to replace the cells that have died. This results in clusters of newly-formed liver cells (regenerative nodules) within the scar tissue. There are many causes of cirrhosis; they include chemicals (such as alcohol, fat, and certain medications), viruses, toxic metals (such as iron and copper that accumulate in the liver as a result of genetic diseases), and autoimmune liver disease in which the body’s immune system attacks the liver.

Hepatitis B: The hepatitis B virus (hepatitis B virus) is a unique, coated DNA virus belonging to the Hepadnaviridae family of viruses. hepatitis B virus is not related to the hepatitis A virus or the hepatitis C virus.Over 300 million individuals in the world and over one million in the U.S. are chronically (long duration) infected with hepatitis B. Healthy carriers of hepatitis B virus tend to remain healthy, but they can transmit (spread) hepatitis B virus to others. Hepatitis B infection is transmitted through sexual contact, blood-to-blood contact (for example, intravenous drug use), and from mother to child, but not through food, water, or casual contact.

Peptic ulcer: A peptic ulcer is a hole in the gut lining of the stomach, duodenum, or esophagus. A peptic ulcer of the stomach is called a gastric ulcer; of the duodenum, a duodenal ulcer; and of the esophagus, an esophageal ulcer. An ulcer occurs when the acidic digestive juices, which are secreted by the stomach cells, corrode the lining of these organs. Peptic ulcer disease is common, affecting millions of Americans yearly.

The medical cost of treating peptic ulcer and its complications runs in the billions of dollars annually. Recent medical advances have increased our understanding of ulcer formation. Improved and expanded treatment options are now available.



Causes of peptic ulcers:For many years, excess acid was believed to be the major cause of ulcer disease. Accordingly, treatment emphasis was on neutralizing and inhibiting the secretion of stomach acid. While acid is still considered significant in ulcer formation, the leading cause of ulcer disease is currently believed to be infection of the stomach by a bacteria called "Helicobacter pyloridus" (H. pylori). Another major cause of ulcers is the chronic use of anti-inflammatory medications, commonly referred to as NSAIDs (non-steroidal anti-inflammatory drugs), including aspirin. Cigarette smoking is also an important cause of ulcer formation and ulcer treatment failure.

Ulcerative Cohitis: Ulcerative colitis is a chronic inflammation of the large intestine (colon). The colon is the part of the digestive system where waste material is stored. The rectum is the end of the colon adjacent to the anus. In patients with ulcerative colitis, ulcers and inflammation of the inner lining of the colon lead to symptoms of abdominal pain, diarrhea, and rectal bleeding.

IBD: Ulcerative colitis is closely related to another condition of inflammation of the intestines called Crohn's disease. Together, they are frequently referred to as inflammatory bowel disease (IBD). Ulcerative colitis and Crohn's diseases are chronic conditions that can last years to decades. They affect approximately 500,000 to 2 million people In the United States. Men and women are affected equally. They most commonly begin during adolescence and early adulthood, but they also can begin during childhood and later in life.

CHECK YOUR PROGRESS (C)

1. Write notes on peptic ulcers & cirrhosis

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_____

2. Define Tartar

_____

_____

3. What is TMJ?

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_____

4. Who is ortho-dontist?

_____

_____

5.6 LET US SUM UP

Some of technical terms we have learned:

Carcinoma	:	Cancer that begins in the skin or in tissues.
Cryosurgery	:	Treatment performed with an instrument that freezes and destroys abnormal tissue.
Histerectomy	:	Removal of Uterus or cervix.
Aplacia	:	Failure of development of tissue.
Bedwitting	:	Also called enuresis.
Pedo-dontist	:	Doctor who deals with dental problems of children.
Plaque	:	deposition of semi-hardened material on tooth.
Hepatitis	:	The disease that effects liver.
IBD	:	Inflammatory Bowel Disease
Cirrhosis disease:		Inflammation of uterus.

5.7 TERMINAL QUESTIONS

1. Discuss various types of dentists.
2. Explain laporoscopy and tumor.
3. State the features of Appendicitis and diarrhea.
4. What is NAFLD and NASH?

ANSWERS TO CHECK YOUR PROGRESS (B)

A-2 B-3 C-4 D-1

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Lesson-6 TERMS OF PSYCHIATRY, CARDIAC, NEUROLOGY, DERMATOLOGY, NEPHROLOGY

Structure

6.0 OBJECTIVES

After studying this lesson you should be able to:

- learn common terms in psychiatry;
- understand terms of cardiology;
- learn terms of neurology;
- conclude the terms of dermatology.

6.1 INTRODUCTION

Understanding common terms of various specialities is vital in the management of hospitals. The profession specific terms of common use usually follow common pattern of ward root / suffix / prefix etc. The word psychiatry refers to mental health and disorders. Cardiology refers to functional and dis-functional aspects of Heart. Neurology refers to study of nerves, neurons, spinal cord, brain functioning.

6.2 TERMS OF PSYCHIATRY

Psychiatry refers to study of mental health. Various mental disorders include; depression, anxiety etc.

Depression: Depression is an illness that involves the body, mood, and thoughts, that affects the way a person eats and sleeps, the way one feels about oneself, and the way one thinks about things. A depressive disorder is not the same as a passing blue mood. It is not a sign of personal weakness or a condition that can be wished away. People with a depressive disease cannot merely "pull themselves together" and get better. Without treatment, symptoms can last for weeks, months, or years. Appropriate treatment, however, can help most people with depression.

Anxiety: Most everyone experiences temporary anxiety, a feeling of nervousness or fear, as a normal reaction to a stressful situation at some point in life. However, people who experience anxiety that is overwhelming and consuming may have a condition called generalized anxiety disorder (GAD).

GAD: excessive, exaggerated anxiety and worry about everyday life events characterize Generalised Anxiety Disorder (GAD). People with GAD tend to always expect disaster and can't stop worrying about health, money, family, work or school. In people with GAD, the worry often is unrealistic or out of proportion for the situation. For GAD sufferers, daily life becomes a constant state of worry, fear and dread. Eventually, the anxiety so dominates the person's thinking that it interferes with daily functioning, including work, school, social activities and relationships.

Symptoms of GAD: GAD affects the way a person thinks, but the anxiety can lead to physical symptoms, as well. Symptoms of GAD include:

- Excessive, ongoing worry and tension
- An unrealistic view of problems
- Restlessness or a feeling of being "edgy"
- Irritability
- Muscle tension
- Headaches
- Sweating
- Difficulty concentrating
- Nausea
- The need to go to the bathroom frequently
- Tiredness
- Trouble falling or staying asleep
- Trembling
- Being easily startled

In addition, people with GAD often have other anxiety disorders (such as panic disorder, obsessive-compulsive disorder and phobias), suffer from depression, and/or abuse drugs or alcohol.

Postpartum depression: Having a baby can be one of the biggest and happiest events in a woman's life. While life with a new baby can be thrilling and rewarding, it can also be hard and stressful at times. Many physical and emotional changes can happen to a woman when she is pregnant and after she gives birth. These changes can leave new mothers feeling sad, anxious, afraid, or confused. For many women, these feelings (called the baby blues) go away quickly. But when these feelings do not go away or get worse, a woman may have postpartum depression. This is a serious condition that requires quick treatment from a health care provider.

Postpartum depression (PPD) is a condition that describes a range of physical and emotional changes that many mothers can have after having a baby. PPD can be treated

with medication and counseling. Talk with your health care provider right away if you think you have PPD.

There are three types of PPD, women may suffer from these after pregnancy:

- **The baby blues** happen in many women in the days right after childbirth. A new mother can have sudden mood swings, such as feeling very happy and then feeling very sad. She may cry for no reason and can feel impatient, irritable, restless, anxious, lonely, and sad. The baby blues may last only a few hours or as long as 1 to 2 weeks after delivery. The baby blues do not always require treatment from a health care provider. Often, joining a support group of new moms or talking with other moms helps.

- **Postpartum depression (PPD)** can happen a few days or even months after childbirth. PPD can happen after the birth of any child, not just the first child. A woman can have feelings similar to the baby blues - sadness, despair, anxiety, irritability - but she feels them much more strongly than she would with the baby blues. PPD often keeps a woman from doing the things she needs to do every day. When a woman's ability to function is affected, this is a sure sign that she needs to see her health care provider right away. If a woman does not get treatment for PPD, symptoms can get worse and last for as long as 1 year. While PPD is a serious condition, it can be treated with medication and counseling.

- **Postpartum psychosis** is a very serious mental illness that can affect new mothers. This illness can happen quickly, often within the first 3 months after childbirth. Women can lose touch with reality, often having auditory hallucinations (hearing things that aren't actually happening, like a person talking) and delusions (seeing things differently from what they are). Visual hallucinations (seeing things that aren't there) are less common. Other symptoms include insomnia (not being able to sleep), feeling agitated (unsettled) and angry, and strange feelings and behaviors. Women who have postpartum psychosis need treatment right away and almost always need medication. Sometimes women are put into the hospital because they are at risk for hurting themselves or someone else.

Post-traumatic stress disorder (PTSD): Post-traumatic stress disorder (PTSD), is defined in terms of the trauma itself and the person's response to the trauma. Trauma occurs when a person has experienced, witnessed, or been confronted with a terrible event that is an actual occurrence. Alternatively, the person may have been threatened with a terrible event, perhaps injury (physical or psychological) or death to themselves or others. Then, the person's response to the event or to the threat involves intense fear, helplessness, and/or horror.

Seasonal affective disorder: Seasonal affective disorder is a type of depression that tends to occur (and recur) as the days grow shorter in the fall and winter. It is believed that affected persons react adversely to the decreasing amounts of light and the colder

temperatures as the fall and winter progress. Symptoms of seasonal affective disorder include tiredness, fatigue, depression, irritability, body aches, loss of sex drive, poor sleep, and overeating.

Schizophrenia: Schizophrenia is a devastating brain disorder—the most chronic and disabling of the severe mental illnesses. The first signs of schizophrenia, which typically emerge in young people in their teens or twenties, are confusing and often shocking to families and friends. Hallucinations, delusions, disordered thinking, unusual speech or behavior, and social withdrawal impair the ability to interact with others. Most people with schizophrenia suffer chronically or episodically throughout their lives, losing opportunities for careers and relationships. They often are stigmatized by lack of public understanding about the disease.

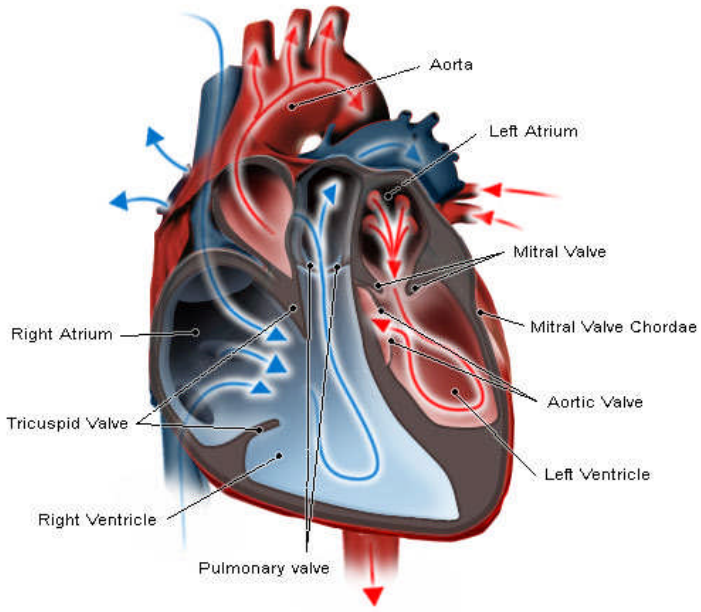
Bipolar disorder: Bipolar disorder, also known as manic-depressive illness, is a brain disorder that causes unusual shifts in a person's mood, energy, and ability to function. Different from the normal ups and downs that everyone goes through, the symptoms of bipolar disorder are severe. They can result in damaged relationships, poor job or school performance, and even suicide. Bipolar disorder can be treated, and people with this illness can lead full and productive lives.

6.3 TERMS OF CARDIOLOGY

CARDIOLOGY refers to study of Heart and its functions

Arrhythmia: An abnormal heart rhythm.

Aortic stenosis: The heart is a muscular pump with four chambers and four heart valves. The upper chambers, the right atrium and left atrium (atria - plural for atrium), are thin walled filling chambers. Blood flows from the right and left atria across the tricuspid and mitral valves into the lower chambers (right and left ventricles). Blood circulates through the arteries to provide oxygen and other nutrients to the body, and then returns with carbon dioxide waste through the veins to the right atrium. When the ventricles relax, blood from the right atrium passes through the tricuspid valve into the right ventricle. When the ventricles contract, blood from the right ventricle is pumped through the pulmonic valve into the lungs to reload on oxygen and remove carbon dioxide. The oxygenated blood then returns to the left atrium and passes through the mitral valve into the left ventricle. The left ventricle pumps blood across the aortic valve into the aorta and the arteries of the body. A number of conditions cause disease and narrowing of the aortic valve **(aortic stenosis**). When the degree of narrowing becomes significant enough to impede the flow of blood from the left ventricle to the arteries, heart problems develop. Aortic stenosis occurs 3 times more commonly in men than women.



Heart and Valves

Acidosis: Too much acid in the body, a distinctly abnormal condition resulting from the accumulation of acid or from the depletion of alkaline reserves. In acidosis, the pH of the blood is abnormally low. Acidosis is associated with diabetic ketoacidosis, lung disease, and severe kidney disease. The opposite of acidosis is alkalosis in which there is too high a pH due to excess base or insufficient acid in the body.

Heart attack: A heart attack (also known as a myocardial infarction) is the death of heart muscle from the sudden blockage of a coronary artery by a blood clot. Coronary arteries are blood vessels that supply the heart muscle with blood and oxygen. Blockage of a coronary artery deprives the heart muscle of blood and oxygen, causing injury to the heart muscle. Injury to the heart muscle causes chest pain and pressure. If blood flow is not restored within 20 to 40 minutes, irreversible death of the heart muscle will begin to occur. Muscle continues to die for 6-8 hours at which time the heart attack usually is "complete." The dead heart muscle is replaced by scar tissue.

Stroke Warning Signs: The risk factors for stroke include high blood pressure, diabetes, cigarette smoking, a family history of stroke, heart disease, prior history of stroke, alcohol abuse, and increasing age.

The five major signs of stroke:

1. Sudden numbness or weakness of the face, arm or leg, especially on one side of the body. The loss of voluntary movement and/or sensation may be complete or partial. There may also be an associated tingling sensation in the affected area.
2. Sudden confusion, trouble speaking or understanding. Sometimes weakness in the muscles of the face can cause drooling.

3. Sudden trouble seeing in one or both eyes
4. Sudden trouble walking, dizziness, loss of balance or coordination
5. Sudden, severe headache with no known cause

Angina: Angina (angina pectoris - Latin for squeezing of the chest) is the chest discomfort that occurs when the blood oxygen supply to an area of the heart muscle does not meet the demand. In most cases, the lack of blood supply is due to a narrowing of the coronary arteries as a result of arteriosclerosis .Angina is usually felt as a squeezing, pressure, heaviness, tightening, or aching across the chest, particularly behind the breastbone. This pain often radiates to the neck, jaw, arms, back, or even the teeth. Patients may also complain of indigestion, heartburn, weakness, sweating, nausea, cramping, and shortness of breath. Angina usually occurs during exertion, severe emotional stress, or after a heavy meal.

Angiography: A procedure performed to view blood vessels after injecting them with a radio opaque dye that outlines them on x-ray. This technique can be usefully used to look at arteries in many areas of the body, including the brain, neck (carotids), heart, aorta, chest, pulmonary circuit, kidneys, gastrointestinal tract, and limbs.

Angioplasty: Procedure with a balloon-tipped catheter to enlarge a narrowing in a coronary artery. Also called Percutaneous Transluminal Coronary Angioplasty (PTCA).

Aorta: The largest artery in the body, the aorta arises from the left ventricle of the heart, goes up (ascends) a little ways, bends over (arches), then goes down (descends) through the chest and through the abdomen to where ends by dividing into two arteries called the common iliac arteries that go to the legs.

Aortic dissection: A progressive tear in the aorta. The inner lining (intima) of the aorta tears and blood surges through the tear, creating a new false channel and separating (dissecting) the middle layer (media) from the outer layer of the aorta.

Arteriosclerosis: Hardening and thickening of the walls of the arteries. Arteriosclerosis can occur because of fatty deposits on the inner lining of arteries (arteriosclerosis), calcification of the wall of the arteries, or thickening of the muscular wall of the arteries from chronically elevated blood pressure (hypertension).

Atherosclerotic: Pertaining to atherosclerosis, the process of progressive thickening and hardening of the walls of arteries from fat deposits on their inner lining.

Atrium: One of the two smaller chambers of the heart. Each atrium consists of an open space with recessed walls. The plural of atrium is atria.

Blood clot: Blood that has been converted from a liquid to a solid state. Also called a thrombus.

Blood pressure: The blood pressure is the pressure of the blood within the arteries. It is produced primarily by the contraction of the heart muscle. It's measurement is recorded by two numbers. The first (systolic pressure) is measured after the heart contracts and is highest. The second (diastolic pressure) is measured before the heart contracts and lowest. A blood pressure cuff is used to measure the pressure. Elevation of blood pressure is called “hypertension”).

Bypass: An operation in which a surgeon creates a new tubular pathway for the movement of fluids and/or other substances in the body.

Cholesterol: The most common type of steroid in the body, cholesterol has gotten something of a bad name. However, cholesterol is a critically important molecule.

Chronic: This important term in medicine comes from the Greek chronos, time and means lasting a long time.

Coronary arteries: The vessels that supply the heart muscle with blood rich in oxygen. They are called the coronary arteries because they encircle the heart in the manner of a crown. The word "coronary" comes from the Latin "corona" and Greek "koron" meaning crown. Like other arteries, the coronaries may be subject to arteriosclerosis (hardening of the arteries). There are a number of coronary arteries. Those most often bypassed today include the right coronary artery, the posterior descending coronary artery, the left main coronary artery, the left anterior descending coronary artery and the left circumflex coronary artery. Plaques obstructing the coronary arteries may also be treated by balloon angioplasty, stents, and other techniques.

Costochondritis: Costochondritis is inflammation of the cartilage of the chest wall, usually involving that which surrounds the breast bone (sternum). It causes local pain and tenderness of the chest around the sternum.

Echocardiography: Echocardiography is a diagnostic test which uses ultrasound waves to make images of the heart chambers, valves and surrounding structures. It can measure cardiac output and is a sensitive test for inflammation around the heart (pericarditis). It can also be used to detect abnormal anatomy or infections of the heart valves.

Echocardiography, stress : A supplement to the routine exercise cardiac stress test. During stress echocardiography, the sound waves of ultrasound are used to produce images of the heart at rest and at the peak of exercise.

Electrocardiogram: A recording of the electrical activity of the heart. An electrocardiogram is a simple, non-invasive procedure. Electrodes are placed on the skin of the chest and connected in a specific order to a machine that, when turned on, measures electrical activity all over around the heart. Output is usually in the form of a long scroll of paper displaying a printed graph of activity.

Embolism: The obstruction of a blood vessel by a foreign substance or a blood clot blocking the vessel. Something travels through the bloodstream, lodges in a vessel and plugs it.

Exercise treadmill test: A test (sometimes simply called a treadmill test or exercise test) in which a continuous electrocardiogram (ECG or EKG) recording of the heart is made as the patient performs increasing levels of exercise on the treadmill which is tilted to produce the effect of going up a small hill. The patient can stop the test at any time, if necessary. Afterwards the patient has heart and blood pressure checked.

Heart rate: The number of heart beats per unit time, usually per minute. The heart rate is based on the number of contractions of the ventricles (the lower chambers of the heart). The heart rate may be too fast (tachycardia) or too slow (bradycardia). The pulse is bulge of an artery from the wave of blood coursing through the blood vessel as a result of the heartbeat. The pulse is often taken at the wrist to estimate the heart rate.
High blood pressure: Also known as hypertension, high blood pressure is, by definition, a repeatedly elevated blood pressure exceeding 140 over 90 mmHg -- a systolic pressure above 140 with a diastolic pressure above 90.

Hyperkalemia: hyperkalemia means an abnormally elevated level of potassium in the blood. The normal potassium level in the blood is 3.5-5.0 milliequivalents per liter (mEq/L). Potassium levels between 5.1 mEq/L to 6.0 mEq/L are mild hyperkalemia. Potassium levels of 6.1 mEq/L to 7.0 mEq/L are moderate hyperkalemia, and levels above 7 mEq/L are severe hyperkalemia.

Palpitations: Palpitations are unpleasant sensations of irregular and/or forceful beating of the heart. In some patients with palpitations, no heart disease or abnormal heart rhythms can be found.

Paroxysmal atrial tachycardia: Bouts of rapid, regular heartbeats originating in the atrium (upper chamber of the heart). Paroxysmal atrial tachycardia (PAT) consists of periods of very rapid and regular heartbeats that begin and end abruptly. During the bouts of PAT, the heart rate typically speeds up to 160-to-200 beats per minute.

Premature ventricular contractions: Premature ventricular contractions (PVCs) are premature heartbeats originating from the ventricles of the heart. PVCs are premature because they occur before the regular heartbeat. During a premature ventricular contraction, the ventricle electrically discharges (and contracts) prematurely before the normal electrical discharges arrive from the SA node. These premature discharges are due to electrical “irritability” of the heart muscle of the ventricles, and can be caused by heart attacks, electrolyte imbalances, lack of oxygen, or medications.

Stethoscope: An instrument used to transmit low-volume sounds such as the heartbeat (or intestinal, venous, or fetal sounds) to the ear of the listener. A stethoscope may consist of two earpieces connected by means of flexible tubing to a diaphragm placed against the skin of the patient.

Stress echocardiography: A supplement to the routine exercise cardiac stress test. During stress echocardiography, the sound waves of ultrasound are used to produce images of the heart at rest and at the peak of exercise.

Tran- esophageal echocardiography: A diagnostic test, using a special probe placed within the esophagus, that employs ultrasound waves to make images of the heart chambers, valves and surrounding structures. Tran- esophageal echocardiography (TEE) has unusually accurate imaging capabilities that permit the identification of previously unidentified anatomic features and surgical results that may necessitate a change in surgical plan or surgical revision before the patient leaves the operating suite. TEE is used to assess the anatomy and blood flow in congenital heart disease. TEE is used during surgery to evaluate the effects on the heart, for example, of the repair of a congenital heart defect. TEE can detect blood clots in the atrium and is therefore useful in guiding cardio version (to normalize the heart rhythm) in patients with arterial fibrillation who are prone to form such clots.

Trauma: Any injury, whether physically or emotionally inflicted. "Trauma" has both a medical and a psychiatric definition. Medically, "trauma" refers to a serious or critical bodily injury, wound, or shock. This definition is often associated with trauma medicine practiced in emergency rooms and represents a popular view of the term. In psychiatry, "trauma" has assumed a different meaning and refers to an experience that is emotionally painful, distressful, or shocking, which often results in lasting mental and physical effects.

6.4 TERMS OF NEUROLOGY

Autism: Autism is a developmental disorder that is characterized by impaired development in communication, social interaction, and behavior. Autism is classified as a Pervasive Developmental Disorder (PDD), which is part of a broad spectrum of developmental disorders affecting young children and adults--the Autistic Spectrum Disorders (ASD). The range of these disorders varies from severely impaired individuals with autism to other individuals who have abnormalities of social interaction but normal intelligence--Asperger's syndrome.

Agitated depression: A major depressive disorder with restlessness and motor excitement. Agitated depression was once called melancholia agitata. It is now also known as mixed mania.

Alzheimer's disease: Alzheimer's disease (AD) is a progressive disease of the brain that is characterized by impairment of memory and a disturbance in at least one other thinking function (for example, language or perception of reality).

Bipolar disorder: *Bipolar depression* also called bipolar disorder or "manic-depressive" disease is a mental illness that causes people to have severe high and low moods. People with this illness switch from feeling overly happy and joyful (or irritable), to feeling very sad.

Botulism: Botulism is a rare but serious illness that causes paralysis of muscles. A nerve toxin, called botulinum toxin that is produced by the bacterium Clostridium botulinum, causes it. There are three main types of botulism, which are categorized by the way in which the disease is acquired:

- **Food-borne botulism** is caused by eating foods that contain the botulinum toxin.
- **Wound botulism** is caused by toxin produced from a wound that is infected with the bacteria Clostridium botulinum.
- **Infant botulism** occurs when an infant consumes the spores of the botulinum bacteria. The bacteria then grow in the intestines and release the toxin.

Cerebral: Pertaining to the brain, the cerebrum or the intellect.

Cerebral palsy: Cerebral palsy (CP) is one of the most common conditions seen by pediatric neurologists. A major problem faced by both clinicians and parents is that there is no absolute definition of CP. Many clinicians, however, would agree that CP is an abnormality of motor function (as opposed to mental function) that is acquired at an early age, usually less than a year of age, and is due to a brain lesion that is non-progressive

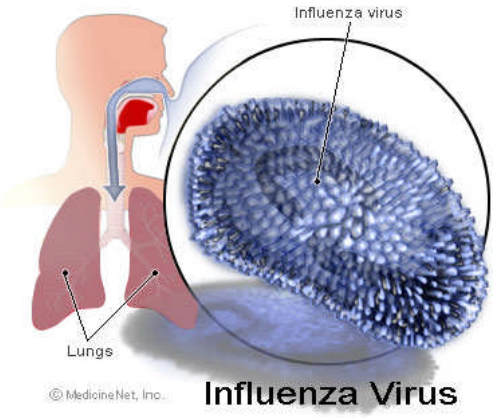
Dementia: The term *dementia* describes a group of symptoms associated with the loss of brain function as a side affect of mental or physical illness. Common forms of dementia include memory loss, lack of problem solving ability, and confusion.

Encephalomyelitis: Inflammation of both the brain and the spinal cord. Encephalomyelitis can be caused by a variety of conditions that lead to inflammation of the brain and spinal cord. Among the common causes of encephalomyelitis are viruses, which infect the nervous system.(Also called ***Myeloencephalitis*** -"Myelo" refers to the spinal cord; "encephal-" comes from the Greek "enkephalon", brain; and "-itis" means inflammation = spinal cord and brain inflammation.

Hemorrhoids: A precise definition of hemorrhoids does not exist, but they can be described as masses or clumps (“cushions”) of tissue within the anal canal that contain blood vessels and their surrounding, supporting tissue made up of muscle and elastic fibers. The anal canal is the last four centimeters through which stool passes as it goes from the rectum to the outside world. The anus is the opening of the anal canal to the outside world.

Influenza(Flu): Influenza, commonly called "the flu," is an illness caused by viruses that infect the respiratory tract. Compared with most other viral respiratory infections, such as the common cold, influenza (flu) infection often causes a more severe illness.

ICU psychosis: ICU psychosis is a disorder in which patients in an intensive care unit (ICU) or a similar setting experience anxiety, hear voices, see things that are not there, and become paranoid, severely disoriented in time and place, very agitated, or even violent, etc. In short, patients become temporarily psychotic.



Lambert-Eaton myasthenic syndrome: An autoimmune disease characterized by weakness and fatigue of the proximal muscles (those near the trunk), particularly the muscles of the pelvic girdle (the pelvis and hips) and the thighs, with relative sparing of eye and respiratory muscles.

Dystrophy, muscular: One of a group of genetic diseases characterized by progressive weakness and degeneration of the skeletal or voluntary muscles which control movement. The muscles of the heart and some other involuntary muscles are also affected in some forms of muscular dystrophy, and a few forms involve other organs as well.

The major forms of muscular dystrophy include:

- Duchenne muscular dystrophy
- Becker muscular dystrophy
- Limb-girdle muscular dystrophy
- Facioscapulohumeral muscular dystrophy
- Congenital muscular dystrophy
- Oculopharyngeal muscular dystrophy
- Distal muscular dystrophy
- Emery-Dreifuss muscular dystrophy and
- myotonic dystrophy.

Myasthenia gravis: Myasthenia gravis (MG) is a chronic neuromuscular disease characterized by varying degrees of weakness of the skeletal or voluntary muscles of the body. The muscle weakness increases during periods of activity and improves after periods of rest.

Parkinson's disease: Parkinson's disease can be described as a neurodegenerative disease in which communication between the brain and muscles in the body is affected. Parkinson's causes loss in the motor functions of individuals over time, and the illness generally has a greater chance of onset after the age of fifty-five. The ***causes of Parkinson's*** **are** unknown, and therefore there is no complete cure. There are a number of medications that can be taken improve the condition and reflexes of ***Parkinson's disease victims***. However, these medicines become less effective over time.

Progressive supranuclear palsy: Progressive supranuclear palsy or PSP is a rare neurodegenerative disease that is often misdiagnosed as Parkinson's disease because it carries similar symptoms. Because of its rarity, PSP is mostly unknown by the general public. Causes PSP are:PSP develops because of the deterioration of brain cells in a few small, but very important areas at the base of the brain. The most important affected area is the substantial nigra. When the disease affects this area of the brain, a lot of the palsy's symptoms become more visible. Research is still being conducted as to why the brain cells degenerate.

Reye syndrome: Reye syndrome (RS) is an unusual reaction to infection (generally by a virus) that results in brain swelling and fatty disease of the liver and kidneys and can sin death. RS is most harmful to the brain and the liver, because it causes an increase of pressure within the brain and, often, massive accumulation of fat in the liver and other organs.

Seizures: A seizure is an involuntary behavior that occurs abnormally and is generally associated with epilepsy, but can come from other sources.

Epilepsy: is a neurological condition, which causes repeat seizures in the patient. Epilepsy is thought to be caused by such things as head trauma, malformed sections of the brain, tumors, and other afflictions of the brain. **Epileptic seizures** can be marked by various different symptoms, and may not simply be the uncontrollable shaking and muscle movement that people normally equate with **epilepsy**. In fact, partial epileptic seizures can occur that allow a person to continue to function normal while in the middle of being afflicted.

Scoliosis: Scoliosis is a sideways curvature of the spine, or backbone. The bones that make up the spine are called the vertebrae. The degree of scoliosis ranges from mild to severe. Patients with milder curves may only need to visit their doctor for periodic observation. Persons with more severe scoliosis may require treatment.

Subarachnoid: Literally, beneath the arachnoid’s, the middle of three membranes that cover the central nervous system. In practice, subarachnoid usually refers to the space between the arachnoid’s and the pia mater, the innermost membrane surrounding the central nervous system. The subarachnoid space is a potential space. It normally contains cerebrospinal fluid. A subarachnoid hemorrhage is a bleed into this space.

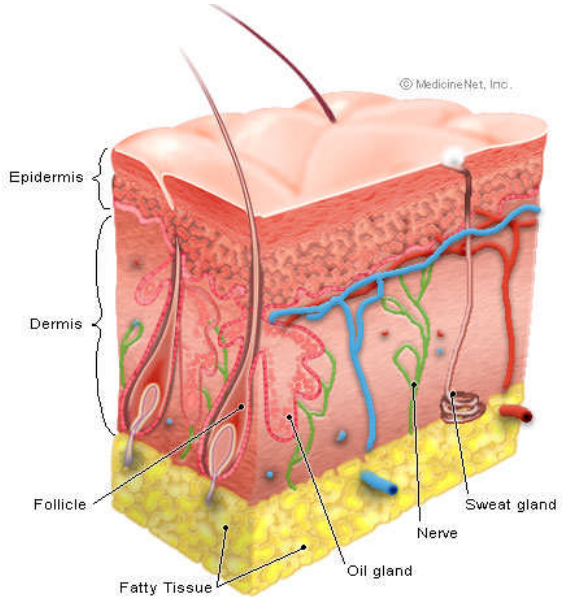
Tremors: Tremors are abnormal movements of the body that occur because of conditions affecting the nervous system. Some tremors occur at rest and become less apparent with activity, referred to as *rest tremors*. The classic rest tremor is from Parkinson's disease. Some tremors are most apparent as the extremity is lifted against gravity and not moving toward a target ,these tremors are referred to as *positional or postural tremors*. Some tremors are more prominent with movement actions toward a target and are referred to as *intention tremors*.

6.5 TERMS OF DERMATOLOGY

"Dermatology" refers to study of skin and its functional aspects

The Skin: The skin is the body's largest organ. It protects us against sunlight, injury, and infection. It helps regulate body temperature, stores water and fat, and produces vitamin D. The skin has two main layers: the outer epidermis and the inner dermis. The epidermis is mostly made up of flat, scale like cells called squamous cells. Round cells called basal cells lie under the squamous cells in the epidermis. The lower part of the epidermis also contains melanocytes.

The dermis contains blood vessels, lymphatic vessels, hair follicles, and glands. Some of these glands produce sweat, which help regulate body temperature, and some produce sebum, an oily substance that helps keep the skin from drying out. Sweat and sebum reach the skin's surface through tiny openings called pores.



Normal Skin

Healthy cells that make up the skin normally grow, divide, and replace themselves in an orderly way as the body needs them. This helps keep the skin in good repair.

Acne: Acne can affect people from ages 10 through 40 and up. Acne can show up as any of the following; congested pores, whiteheads, blackheads, pimples, pustules, or cysts (deep pimples). These blemishes occur wherever there are many oil (sebaceous) glands, mainly on the face, chest, and back. Acne is commonly referred to in slang as zits. You can do a lot for your acne if you understand what brings it on and what really doesn't (despite what people tell you)--and if you know what you can get at a drugstore or cosmetic counter without a prescription. For tougher cases, you should consult a physician.

Actinic keratosis: An actinic keratosis (AK), also known as a solar keratosis, is a small, rough spot occurring on skin that has been chronically exposed to the sun. Actinic keratoses generally measure in size between 2 to 6 millimeters in diameter (between the size of a pencil point to that of an eraser). They are usually reddish in color and often have a white scale on top.

Bruise: You fall off your bike, bang your shin on the coffee table (that you swore you would move months ago) or run into a wall and wake up with a wallop of a bruise. A bruise (medically referred to as a contusion) is caused when tiny blood vessels are damaged or broken as the result of a blow to the skin (be it bumping against something or hitting yourself with a hammer). The raised area of a bump or bruise results from blood leaking from these injured blood vessels into the tissues as well as from the body's response to the injury. A purplish, flat bruise that occurs when blood leaks out into the top layers of skin is referred to as an ecchymosis.

Cellulitis: Cellulitis is a spreading infection of the skin that usually begins as a small area of tenderness, swelling, and redness on the skin. As this red area begins to spread, the person may develop a fever, sometimes with chills and sweats, and swollen lymph nodes ("swollen glands") near the area of infected skin. Unlike impetigo, which is a very superficial skin infection, cellulitis refers to an infection involving the skin's deeper layers; the dermis and subcutaneous tissue. The main bacteria involved in cellulitis are Staphylococcus ("staph"), the same bacteria that causes many cases of impetigo. Occasionally, other bacteria may cause cellulitis as well.

Dermatitis: The word "rash"(Dermatitis) means an outbreak of red bumps on the body. The way people use this term; "a rash" can refer to many different skin conditions. The most common of these are scaly patches of skin and red, itchy bumps or patches all over the Place.

Freckles: Freckles are flat, circular spots that typically range in the size of the head of a nail. The spots develop randomly on the skin, especially after repeated exposure to sunlight and particularly in persons of fair complexion. Freckles vary in color -- they may be red, yellow, tan, light brown, brown, or black -- but they are always darker than the skin around them since they are due to deposits of the dark pigment called melanin. The word "freckle" comes from the Middle English "freken," which, in turn, came from the Old Norse "freknur," meaning "freckled." (Some speakers of Old English and Old Norse must have had a tendency to developing freckles.)

Types of freckles: There are two basic types of freckles -- both with somewhat strange names -- ephelides and lentigines:

1. Ephelides (singular: ephelis, the Greek word for freckle): This term refers to flat spots that are red or light brown and typically appear during the sunny months and fade in the winter. They are most often found in people with light complexions and in some families, they are an hereditary (genetic) trait. The regular use of sunscreen during times of sun exposure helps to suppress the appearance of the ephelis-type freckle.

2. Lentigines (singular: lentigo, from the Latin word for lentil): Children may develop a small tan, brown, or black spot which tends to be darker than an ephelis-type freckle and which does not fade in the winter. This kind of spot is referred to as lentigo simplex. Although occasionally lentigines are part of a rare genetic syndrome, for the most part they are just isolated and unimportant spots.

Melanoma: Melanoma is a type of skin cancer. It begins in certain cells in the skin called melanocytes. Each year more than 53,600 people in the United States find out they have melanoma. To understand melanoma, it is helpful to know about the skin and about melanocytes, what they do, how they grow, and what happens when they become cancerous.

Psoriasis: Psoriasis is a chronic (long-lasting) skin disease characterized by scaling and inflammation. Scaling occurs when cells in the outer layer of skin reproduce faster than normal and pile up on the skin's surface. Psoriasiss affects 2 to 2.6 percent of the United States population, or almost 5.8 to 7 million people. It occurs in all age groups and about equally in men and women. People with psoriasis may suffer discomfort, restricted motion of joints, and emotional distress.

When psoriasis develops, patches of skin thicken, redden, and become covered with silvery scales. These patches are sometimes referred to as plaques. They may itch or burn. The skin at joints may crack. Psoriasis most often occurs on the elbows, knees, scalp, lower back, face, palms, and soles of the feet. The disease also may affect the fingernails, toenails, and the soft tissues inside the mouth and genitalia. About 10 percent of people with psoriasis have joint inflammation that produces symptoms of arthritis. This condition is called arthritis. Psoriasis is not contagious in any way. It is not possible to "catch" psoriasis by touching a person afflicted with it.

Rosacea: Rosacea is a skin disease that affects the middle third of the face, causing persistent redness over the areas of the face and nose that normally blush -- mainly the forehead, the chin and the lower half of the nose. The tiny blood vessels in these areas enlarge (dilate) and become more visible through the skin, appearing like tiny red lines (called telangiectasias). Pimples can occur in rosacea that resemble teenage acne. In fact, rosacea is frequently mistaken for acne and is also referred to as acne rosacea.

Scleroderma: Scleroderma is a disease that typically involves abnormalities of the skin. It is also a systemic disease, meaning that it has the potential to involve internal organs of the body. The features of the illness vary greatly from patient to patient. Nevertheless, it has been found that scleroderma can manifest according to certain patterns. These patterns have important differences in the frequency and distribution of involvement of various organs, as well as prognosis.

Seborrhea: Seborrhea is not just skin dryness. Actually, the word "seborrhea" means "too much oil." Seborrhea is also known as seborrheic dermatitis or common dandruff. Seborrhea can present as a variety of conditions such as dandruff, thick scales on the scalp, redness on the face or in the armpits, or raw, red patches below the breasts.

Although some of these conditions may feel "dry," moisturizing only makes them redder. In other cases the skin may seem oily or even oily and dry at the same time.

"Shingles": Shingles is a skin rash caused by the same virus that causes chickenpox. The virus responsible for these conditions is called Varicella zoster. After an individual has chickenpox, this virus lives in the nerves and is never fully cleared from the body. Under certain circumstances, such as emotional stress, immune deficiency (from AIDS or chemotherapy) or with cancer, the virus re- activates causing shingles. In most cases, however, a cause for the reactivation of the virus is never found. The herpes virus that causes shingles and chicken pox is not the same as the herpes virus that causes genital herpes (which can be sexually transmitted) and herpes mouth sores. Shingles is medically termed Herpes zoster.

Skin tag: A skin tag is a common, benign condition, which consists of a bit of skin that projects from the surrounding skin and may appear attached to the skin. Skin tags can vary quite a bit in appearance. They may be smooth or irregular, flesh colored or more deeply pigmented, and her simply be raised above the surrounding skin or have a stalk (a peduncle) so that the skin tag hangs from the skin.

Sunburn: Sunburn is an inflammation of the skin that is caused by overexposure to ultraviolet (UV) radiation from the sun. A similar burn can follow overexposure to a "sun" (tanning) lamp. UV radiation can also damage the eyes, although no surface burn is apparent.

Tinea versicolor: Tinea versicolor is a fungus infection that mainly affects the skin of young people. This common condition is unsightly, but it is neither permanent nor serious. Spots can be either light- or reddish- brown or else lighter than the surrounding skin (hence, the name "versicolor"). There may be just a few spots, or there can be so many that they run together (like a shawl) and make it seem that islands of normal skin color are the spots, not the other way around.

Conditions that look a little like tinea versicolor but are really quite different include:

- Pityriasis Alba. This is a mild form of eczema seen in young people that produce mild, patchy lightening of the face, shoulders, or torso.

- Vitiligo: This condition results in a permanent loss of pigment. Vitiligo is more likely to affect the skin around the eyes and lips, or the knuckles and joints. Spots are porcelain-white and are permanent.

Warts: Common warts are local growths in the skin that are caused by virus infection. They are generally not contagious. Common warts can be annoying to anyone. This information is about the treatment of common warts. It does not apply to genital or venereal warts.

Weber-Christian disease: Weber-Christian disease is also referred to as Christian disease. Christian disease is the correct term for a disease that is associated with a skin condition that features recurring inflammation in the fat layer of skin (panniculitis). The involved areas of skin become reddish, tender, and raised (inflamed). Usually both sides of the body are affected and the thighs and lower legs are the most frequent areas. The inflamed areas can loose their blood supply, the skin can actually die in the area, ooze yellowish drainage, and become infected. Scarring is common. Weber-Christian disease is also referred to as idiopathic nodular panniculitis.

Biopsy of skin: A biopsy of the skin will show changes of the skin that are characteristic of lupus in a majority of patients. Therefore, in helping the doctor to diagnose lupus the skin biopsy can be very important, especially when other criteria for lupus are absent.

The biopsy findings in the skin will usually demonstrate inflammation in a particular level of the skin layers (between the dermis and epidermis). Moreover, if special antibody staining tests (immunoflourescent stains for immune deposits) are also performed (take 3 weeks for results), then antibodies can be noted to be deposited at the junction of the dermis and epidermis. The antibodies form a line of fluorescence when viewed under a microscope and this type of examination has been referred to as a "lupus band test." It is positive when performed in involved skin in 90% of patients.

6.6 TERMS OF NEPHROLOGY

“Nephrology” is the study and treatment of kidney disease. Doctors, nurses and technicians all specialize in treating patients with kidney disorders. Nephrologists treat patients with kidney disorders and manage transplant protocols in hospitals and for transplant networks.

Diuretics: Substances that augment "diuresis," or the removal of fluids from the body through urination, are considered diuretics.

Incontinence: Broadly speaking, the medical term *incontinence* refers to any involuntary release of bodily fluids, but many people associate it strongly with the inability to control urine flow. There are actually several different forms of incontinence -- fecal, urinary and in some cases seminal. The other common form of incontinence is called *stress incontinence*. Anyone who has experienced involuntary leaks of urine after laughing or coughing has experienced stress incontinence. Pregnancy can also trigger a bout of stress incontinence as the uterus and other organs press down on the bladder. Many sufferers of stress incontinence wear protective garments to minimize the effects of accidents.

Anesthesiology: is the study and practice of administering sedation and/or anesthesia to a living creature for the purpose of blocking pain.

Bladder Infection: A bladder infection is an infection of the urinary tract, often called a UTI (urinary tract infection). More common in women than in men, a bladder infection is quickly and easily treated with a course of antibiotics but if left untreated can be very dangerous.

Dialysis: Dialysis is a medical process through which a person's blood is cleansed of the toxins the kidneys normally would flush out. It is generally used when a person's kidneys no longer function properly. This can be a result of congenital kidney disease, long-term diabetes, high blood pressure or other conditions.

There are two main kinds of dialysis used: "peritoneal" and "hemodialysis". Peritoneal dialysis can be done in the home, by the patient, either alone or with a helper. Peritoneal dialysis uses the body's peritoneal membrane, inside the abdomen, to infuse a glucose-based solution into the abdominal cavity. The solution remains in the abdomen for about two hours, and is then drained out.

The term ***convalescent homes*** are often used interchangeably with nursing or rest homes, but there are some differences between these institutions. Convalescent homes are primarily designed to provide a home-like environment while patients recover from long term illnesses or medical procedures.

Sundowners syndrome: a Sundowners syndrome also known as sundowning, is a condition often associated with the early stages of Alzheimer's, although a definitive connection has not been made. Sundowners syndrome can also be considered a mood disorder or even a sleep disorder.

Drug rehab: The different types of drug rehab depend upon the degree of dependence, the patient's social situation, and the kind of drug to which they are addicted. Some rehabilitation treatments have medical components, to ease the symptoms of withdrawal, intensive counseling, and methods that address underlying causes of addiction. In

general, one can differentiate between drug rehab with in-patient, or residential, requirements versus out-patient treatment.

Megalomania: Although megalomania is a term often ascribed to anyone who is power-hungry, the clinical definition is that of a mental illness associated with **narcissistic personality disorder (NPD)**. Narcissism is most simply defined as self-love. Though it is considered healthy to be narcissistic to some degree, when someone loves himself to the exclusion of all else and others become objectified to be used only to serve the self, this is no longer considered healthy or normal.

Gastric bypass surgery (sometimes called stomach stapling) is a medical procedure in which the patient's stomach pouch is drastically reduced in size with medical staples and reattached to the midsection of the intestines. The rest of the stomach pouch is also attached to the upper intestines to aid in digestion. Following gastric bypass surgery, the patient can only consume 1 to 2 ounces of food at one sitting. The result is significant weight loss and a reduced craving for food.

Liposuction is the process of surgically removing fat from one's body using a suction pump. Thanks to the wonders of medicine, cosmetic surgeries in particular, those who are not happy with their excess body weight can now have it vacuumed out.

Reconstructive surgery is corrective surgery to repair the body due to birth defects, disease or trauma. It is usually performed for the purpose of returning function to the body, but can also be used to improve the appearance of a person, particularly in the case of trauma or birth defects.

A urinary tract infection (UTI) is caused when bacteria enter the urethra and spread throughout the urinary system. The urinary tract actually includes the kidneys, the ureters, the bladder and the urethra, although infections of specific organs are given individual names. Infections will usually start in the urethra and the bladder and then move on to the ureters and kidneys, so it's important to get UTIs treated promptly before they become more serious.

Porcelain gallbladder means the wall of the gallbladder has been calcified to a hard and bluish white texture resembling porcelain ceramic. This medical condition primarily results from a chronically inflamed organ. When many gallstones collect in the gallbladder, it becomes irritated, and precipitates calcification that might necessitate surgery.

6.7 LETS SUM UP

Common terms we have learned in this chapter.

1. Anxiety	:	A feeling of nervousness and / or fear.
2. GAD	:	Generalised Anxiety Disorder, intensified anxiety about to day to day events.
3. Bipolar disorder	:	Unusual shift in person moods, behaviour.
4. Angina	:	Chest discomfort
5. Aorta	:	Largest artery in the body
6. Electrocardiogram (ECG)	:	Device that records heart beat
7. Dermatitis	:	Rash appeared on skin
8. Diuretics	:	Removal of fluids from body through urination.
9. Lyposuccession	:	Removal of fat from body through surgery

CHECK YOUR PROGRESS

1. State the features of depression.

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2. Expand PPD.

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3. What is trauma ?

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4. What is encephalomyelitis?

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5. What is cellulitis?

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6. Biopsy of skin refers to-

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7. What is dialysis?

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6.8 TERMINAL QUESTIONS

1. State the symptoms of GAD.
2. What are heart stroke warning sings?
3. What is tran-esophagial echocardiography?
4. State major forms of muscular dystrophy.
5. Explain dialysis and drug rehab.

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Lesson-7 TERMS OF OBSTETRICS AND GYNECOLOGY, CORONARY CARE, CASUALTY AND EMERGENCY CARE

Structure

7.0 OBJECTIVES

After studying this unit you should be able to:

- understand terms related to obstetrics and gynecology;
- learn terms related to coronary care;
- get brief idea on terms of casualty and emergency care.

7.1 INTRODUCTION

Obstetrics refers to "The art and science of managing pregnancy, labour and puerperium (the time of delivery). The Gynaecology refers to treatment of Women related problems. The coronary care refers to critical medical treatment extended to seriously ill patients with titrated life support, sophisticated monitoring specialised nursing and focus therapy that can be provided for potentially solvagable and life threatening conditions. The medical emergency refers to the medical care i.e., required in life threatening conditions. It is also called as causality service.

7.2 TERMS OF GYNECOLOGY&WOMEN RELATED DESEASES

Gynecology: Refers to study of functional aspects of reproductive system of women.

Study of Amniocentesis: Amniocentesis is a procedure whereby fluid is extracted from the amniotic sac. The amniotic sac is the fluid-filled structure inside the pregnant uterus within which the baby lives. Fetal cells, proteins, and fetal urine freely move within this sac.

Abortion: In medicine, an abortion is the premature exit of the products of conception (the fetus, fetal membranes, and placenta) from the uterus. It is the loss of a pregnancy and does not refer to why that pregnancy was lost.

Bacterial vaginosis: Bacterial vaginosis is an abnormal vaginal condition that is characterized by vaginal discharge. The condition results from an overgrowth of normal bacteria in the vagina. In the past, the condition was called *Gardnerella vaginitis*, after the bacteria that were thought to cause the condition. However, the new name, bacterial vaginosis, reflects the recent research establishing that there are a number of species of bacteria that naturally live in the vaginal area. The *Gardnerella* organism is not the sole culprit causing the symptoms. When these multiple species of bacteria become imbalanced, a woman can have a vaginal discharge that is associated with a foul odor.

Benign: Over growth of cells in any part of body. Not cancer. Not malignant. A benign tumor does not invade surrounding tissue or spread to other parts of the body. A benign tumor may grow but it stays & put the same place.

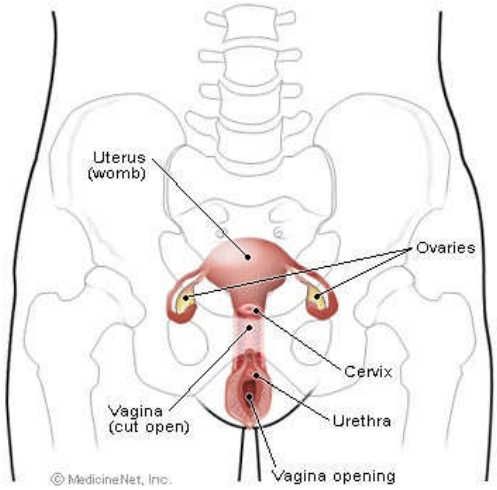
Breast Lumps: Breast lumps can be caused by infections, injuries, non-cancerous growths, and cancer. Breast cancer usually causes no pain in the breast. The symptoms of breast cancer include painless breast lumps, nipple discharge, and inflammation of the skin of the breast. The chances that a particular breast lump could be cancerous depends on many factors, including past medical history, physical examination, mammogram and ultrasound results. There only one way to be certain that a lump is not cancerous is to have a tissue sampling (biopsy). There are several ways to do the biopsy. The treatment of a breast lump depends on its cause.

Breast Cancer: Breast cancer is diagnosed with self- and physician-examination of the breasts, mammography, ultrasound testing, and biopsy. There are many types of breast cancer that differ in their capability of spreading to other body tissues (metastasis). Treatment of breast cancer depends on the type and location of the breast cancer, as well as the age and health of the patient. The American Cancer Society recommends that a woman should have a baseline mammogram between the ages of 35 and 40 years. Between 40 and 50 years of age mammograms are recommended every other year. After age 50 years, yearly mammograms are recommended.

Fibrocystic breasts: Fibrocystic breasts are characterized by lumpiness and usually discomfort in one or both breasts. The condition is very common and benign, meaning that fibrocystic breasts are not malignant (cancerous). Fibrocystic breast disease (FCD) is the most common cause of "lumpy breasts" in women and affects more than 60% of women. The condition primarily affects women between the ages of 30 and 50 and tends to become less of a problem after menopause.

Cervix Cancer: The cervix is the lower, narrow part of the uterus (womb). The uterus, a hollow, pear-shaped organ, is located in a woman's lower abdomen, between the bladder and the rectum. The cervix forms a canal that opens into the vagina, which leads to the outside of the body. Cancer is a group of more than 100 different diseases. They all affect

the body's basic unit, the cell. Cancer occurs when cells become abnormal and divide without control or order. Like all other organs of the body, the cervix is made up of many types of cells. Normally, cells divide to produce more cells only when the body needs them. This orderly process helps keep us healthy. If cells keep dividing when new cells are not needed, a mass of tissue forms. This mass of extra tissue, called a growth or tumor, can be benign or malignant.



Ectopic pregnancy: An ectopic pregnancy is a condition where a fertilized egg settles and grows in any location other than the inner lining of the uterus. The vast majority of ectopic pregnancies occur in the fallopian tube (95%), however, they can occur in other locations, such as the ovary, cervix, and abdominal cavity.

Gynecological Disorders

The NICHD (National Institute of Child Health and Human Development) funds and conducts research on many disorders that affect the organs in a woman's abdominal and pelvic areas. In general, most of these disorders don't directly affect a woman's changes of getting pregnant naturally. Some of these conditions include:

- Vulvodynia
- Vaginitis
- Pelvic Floor Disorders
- Pelvic Pain

Vulvodynia: Vulvodynia (vul-voh-DINN-nee-uh) is the term used to describe chronic discomfort or pain of the vulva, especially burning, stinging, irritation, or rawness of the area. Health care providers don't agree on the exact definition of vulvodynia. Currently, the term is used to describe a variety of conditions.

Vaginitis: (va-jinn-EYE-tiss) is a term used to describe any disorder that causes swelling or infection of both the vulva and the vagina. Vaginitis is different from vulvodynia

because it affects the vagina, which is inside the woman's body; vulvodyina only affects the vulva, which is outside the woman's body.

Pelvic Floor Disorders: The term "pelvic floor" refers to the group of muscles that form a sling or hammock across the opening of the pelvis. These muscles, together with their surrounding tissues, keep all of the pelvic organs (bladder, uterus, and rectum) in place so that the organs function correctly. A "pelvic floor disorder," then, is a problem with these muscles or the surrounding tissues that leads to dysfunction of one or more of the pelvic organs.

Pelvic Pain: Pelvic pain is a general term that health care providers use to describe steady pain, or pain that comes and goes, that occurs mostly or only in the lower abdomen area. In some cases, the pain might be severe and might get in the way of daily activities; in other cases, the pain might be dull and occur only during the menstrual cycle. Pelvic pain also describes pain that occurs during sexual intercourse.

HCG: Human chorionic gonadotropin, a human hormone made by chorionic cells in the fetal part of the placenta. Human chorionic gonadotropin (HCG) is directed at the gonads and stimulates them. Hence, the name "gonadotropin."

Infertility: Infertility is defined as the diminished ability to conceive a child. In specific terms, infertility is the failure to conceive after a year of regular intercourse without contraception.

Obesity: The state of being well above one's normal weight.

Ovaries & Ovarian Cancer: The ovaries are a pair of female reproductive organs. They are located in the pelvis, one on each side of the uterus. Each ovary is about the size and shape of an almond. The ovaries have two functions: they produce eggs and female hormones. Malignant tumors are cancer. Each year, more than 22,000 women in the United States learn they have ovarian cancer. Cancer cells can invade and damage tissues and organs near the tumor. Also, cancer cells can break away from a malignant tumor in the ovary and spread to other organs in the abdomen and form new tumors. Ovarian cancer spreads most often to the colon, the stomach, and the diaphragm. The cancer cells can also enter the lymphatic system or the bloodstream and spread to other parts of the body. The spread of cancer is called metastasis.

Miscarriage: A miscarriage (spontaneous abortion) is any pregnancy that is non-viable (wherein the fetus cannot survive or is born before the 20th week of pregnancy). Miscarriages can be divided according to when in pregnancy they occur. Miscarriage occurs in about 15-20% of all recognized pregnancies, and usually occurs before the 13th week of pregnancy.

Menopause: Menopause is the time in a woman's life when the function of the ovaries ceases. The ovary, or female gonad, is one of a pair of reproductive glands in women. Menopause does not occur overnight, but rather is a gradual process of transition. This

transition period (known as perimenopause) is different for each woman. Women in perimenopause transition typically experience abnormal vaginal bleeding such as erratic periods or abnormal bleeding patterns. Eventually a woman's periods will completely stop as she completes this transition into menopause.

Polycystic ovarian disease: Polycystic ovarian disease (PCO), also known by the name Stein-Leventhal syndrome, is a hormonal problem that causes women to have a variety of symptoms including:

1. Irregular or no periods
2. Acne
3. Obesity and
4. Excess hair growth.

PCO: 1. Abbreviation in medical records for "Patient complains of." **2.** Abbreviation for polycystic ovary.

Trimester: The nine months of pregnancy is traditionally divided into three trimesters: distinct periods of roughly three months in which different phases of fetal development take place.

Uterus cancer: The uterus (womb) is a hollow, pear-shaped organ located in a woman's lower abdomen between the bladder and the rectum. The narrow, lower portion of the uterus is the cervix; the broader, upper part is the corpus. The corpus is made up of two layers of tissue. In women of childbearing age, the inner layer of the uterus (endometrium) goes through a series of monthly changes known as the menstrual cycle. Each month, eudiometrical tissue grows and thickens in preparation to receive a fertilized egg. Menstruation occurs when this tissue is not used and passes out through the vagina. The outer layer of the corpus (myometrium) is a muscle that expands during pregnancy to hold the growing fetus. Because most uterine cancer develops in the endometrium, cancer of the uterus also is called endometrial cancer.

Yeast vaginitis: Infection of the vagina by a fungus known as Candida, characteristically causing itching, burning, soreness, pain during intercourse and urination, and vaginal discharge.

OBSTETRICS

The art and science of managing pregnancy, labor and the puerperium (the time after delivery).

Nausea and Vomiting: Usually called "morning sickness," nausea and vomiting are common during early pregnancy. For many women, though, it isn't limited to just the morning. Although it can seem like it will last forever, nausea and vomiting usually go away after the first trimester.

Fetus: The unborn offspring from the end of the 8th week after conception (when the major structures have formed) until birth. Up until the eighth week, the developing offspring is called an embryo.

Constipation: Constipation means hard stools, difficulty passing stools (straining), or a sense of incomplete emptying after a bowel movement.

Prenatal Care: Ring these special months of pregnancy, especially the early ones, visiting your health care provider is very important. Your provider will schedule you for regular check-ups throughout the next nine months to keep your baby healthy and avoid problems with delivery.

Check your progress A

1. Enlist various gynecological disorders

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   _____

2. Expand PCO and state the symptoms

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   _____
   _____

3. Define obstetrics

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7.3 CORONARY CARE

Coronary care unit is a place where critically ill patient is offered with titrated life support, sophisticated monitoring, specialised nursing, specific therapy that can be provided for potentially salvageable and life threatening condition.

What is Heart Failure?

Heart failure does not mean the heart has stopped working. Rather, it means that the heart's pumping power is weaker than normal. With heart failure, blood moves through the heart and body at a slower rate, and pressure in the heart increases. As a result, the heart cannot pump enough oxygen and nutrients to meet the body's needs. The chambers of the heart respond by stretching to hold more blood to pump through the body. This helps to keep the blood moving, but in time, the heart muscle walls weaken and are unable to pump as strongly. As a result, the kidneys often respond by causing the body to retain fluid (water) and sodium. If fluid builds up in the arms, legs, ankles, feet lungs or other organs, the body becomes congested, and congestive heart failure is the term used to describe the condition.

Coronary artery disease: A major cause of illness and death, coronary artery disease (CAD) begins when hard cholesterol substances (plaques) are deposited within a coronary artery.

Treatment for Heart Failure: Today there are more options available for heart failure than ever before. Tight control over your medications and lifestyle coupled with careful monitoring are the first steps. As the condition progresses, doctors specializing in the treatment of heart failure can offer more advanced treatment options.

The goals of treating heart failure are primarily to decrease the likelihood of disease progression (thereby decreasing the risk of death and the need for hospitalization), to lesson symptoms and to improve quality of life.

The table below outlines a basic plan of care that may or may or may not apply to you, based on the cause of your heart failure and your special needs. Ask your doctor to explain therapies that are listed if you do not understand why you are or are not receiving them.

Stage	Definition of Stage	Usual Treatments
Stage A	People at high risk of developing heart failure, including people with: Hypertension; diabetes; coronary artery disease (including heart attack); History of drug therapy that may cause heart failure such as certain cancer treatments, alcohol abuse, rheumatic fever; Family history of cardiomyopathy.	Exercise regularly. Quit smoking Treat high blood pressure. Treat lipid problems. Discontinue alcohol or illegal drug use. An angiotensin converting enzyme. (ACE) inhibitor may be prescribed if you've had a previous heart attack or if you have diabetes or high blood pressure. Beta blockers may be prescribed if you've had a previous heart attack.
Stage B	People diagnosed with systolic heart failure but who have never had symptoms of heart failure.	Treatment methods above for Stage A apply. All patients should take an angiotensin converting enzyme (ACE) inhibitor. Beta-blockers should be added for everyone. Patient and doctor should discuss surgery options for treating coronary artery disease and valve repair or replacement (as appropriate).
Stage C	Patients with known heart failure with current or prior symptoms. Symptoms include: Shortens of breath Fatigue reduced ability to exercise.	Treatment methods above for Stage A apply. All patients should take an angiotensin converting enzyme (ACE) inhibitor and beta blockers. Diuretics (water pills) and digoxin may be prescribed. Restrict dietary sodium (salt).

		Monitor weight. Restrict fluids (as appropriate). Drugs that worsen the condition should be discontinued. Spironolactone may be prescribed when symptoms remain severe with other therapies.
Stage D	Presence of advanced symptoms, after receiving optimum medical care.	Treatment methods for Stages A, B & C apply. Patient should be evaluated to determine if the following treatments are available options: heart transplant, ventricular assist devices, surgery options, research therapies, continuous infusion of intravenous inotropic drugs and end-of-life care.

Aortic: Pertaining to the aorta, the largest artery in the body. Normal quantity of hemoglobin in the blood. The oxygen-carrying capacity of the blood is, therefore, decreased.

Angiotensin: A family of peptides (smaller than proteins) that acts as vasoconstrictors to narrow blood vessels.

Aortic valve: One of the four valves in the heart, this valve is situated at exit of the left ventricle of the heart where the aorta (the largest of all arteries) begins.

Blood: The familiar red fluid in the body that contains white and red blood cells, platelets, proteins, and other elements. The blood is transported throughout the body by the circulatory system. Blood functions in two directions: arterial and venous. Arterial blood is the means by which oxygen and nutrients are transported to tissues while venous blood is the means by which carbon dioxide and metabolic by-products are transported to the lungs and kidneys, respectively, for removal from the body.

Blood Pressure: The blood pressure is the pressure of the blood within the arteries. It is produced primarily by the contraction of the heart muscle. It's measurement is recorded by two numbers. The first (systolic pressure) is measured after the heart contracts and is highest. The second (diastolic pressure) is measured before the heart contracts and lowest. A blood pressure cuff is used to measure the pressure. Elevation of blood pressure is called "hypertension".

Bypass: An operation in which a surgeon creates a new tubular pathway for the movement of fluids and / or other substances in the body.

Cardiology: The study and treatment of heart disorders.

Cardiovascular: The circulatory system comprising the heart and blood vessels which carries nutrients and oxygen to the tissues of the body and removes carbon dioxide and other wastes from them. Cardiovascular diseases affect the heart and blood vessels and include arteriosclerosis, coronary artery disease, heart valve disease, arrhythmia, heart failure, hypertension, orthostatic hypotention, shock, endocarditis, diseases of the aorta and its branches, disorders of the peripheral vascular system, and congenital heart disease.

Cholesterol: The most common type of steroid in the body, cholesterol has gotten something of a bad name. However, cholesterol is a critically important molecule.

Coronary Artery Disease: A major cause of illness and death, coronary artery disease (CAD) begins when hard cholesterol substances (plaques) are deposited within a coronary artery. (The coronary arteries arise from the aorta adjacent to the heart and supply the heart muscle with blood that is rich in oxygen. They are called the coronary arteries because they encircle the heart in the manner of a crown)

The plaques in the coronary arteries can cause a tiny clot to form which can obstruct the flow of blood to the heart muscle producing symptoms and signs of CAD that may include:

1. Chest Pain(Angina Pectoris) from inadequate blood flow to the heart;
2. Heart Attack : (Acute myocardial infarction), from the sudden total blockage of a coronary artery; or
3. Sudden death, due to a fatal disturbance of the heart rhythm.

Diastolic: Referring to the time when the heart is in a period of relaxation and dilatation (expansion).

Dilate: To stretch or enlarge. It comes from the Latin verb “Dilatare”meaning to enlarge or expand.

Ejection fraction: The portion of blood that is pumped out of a filled ventricle as a result of a heartbeat.

Heart Muscle: A type of muscle with unique features only found in the heart. The heart muscle, or cardiac muscle, is medically called the myocardium (“myo-“being the prefix denoting muscle).

Heart Transplant: A surgical procedure in which a diseased heart is replaced with a healthy heart from a deceased person.

Left Ventricle: The left lower chamber of the heart that receives blood from the left atrium and pumps it out under high pressure through the aorta to the body.

Lipid: Another word for "fat" (Please see the various meanings of Fat) A lipid is more formally defined as a substance such as a fat, oil or wax that dissolves in alcohol but not in water. Lipids contain carbon, hydrogen and oxygen but have far less oxygen proportionally than carbohydrates.

LVAD: Left ventricular assist device.

Prognosis: 1. The expected course of a disease.

2. The patient's chance of recovery

The prognosis predicts the outcome of a disease and therefore the future for the patient. His prognosis is grim, for example, while here is good.

Systolic: The blood pressure when the heart is contracting. It is specifically the maximum arterial pressure during contraction of the left ventricle of the heart. The time at which ventricular contraction occurs is called systole.

Transplant: The grafting of a tissue from one place to another, just as in botany a bud from one plant might be grafted onto the stem of another. The transplanting of tissue can be from one part of the patient to another (autologous transplantation), as in the case of a skin graft using the patient's own skin; or from one patient to another (allogenic transplantation), as in the case of transplanting a donor kidney into a recipient.

Ventricle: A chamber of an organ. For example, the four connected cavities (hollow spaces) in the central portion of the brain and the lower two chambers of the heart are called ventricles.

Ventricles: 1. The right ventricle and the left ventricle, the lower two chambers of the heart 2. Two or more of the four connected spaces within the central portion of the brain.

Ventricular: Pertaining to the ventricles, the lower chambers of the heart, as in ventricular fibrillation and ventricular septal defect.

Ventricular assist device: A mechanical pump that takes over the function of the damage ventricle of the heart and restores normal blood flow.

CHECK YOUR PROGRESS B

1. What is coronary Care ?

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2. What is cardio vascular system?

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3. What is coronary artery disease ?

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7.4 CASUALTY AND EMERGENCY CARE

Definitions

"Medical Emergency" is defined as a situation when the patient requires urgent and high quality medical care to prevent loss of life and limb and initiate action for the restoration of normal healthy life. Other wise called casualty service.

"Emergency" may also be defined as a condition determined clinically or considered (perceived) by the patient or his / her relatives (attendants) as requiring urgent 0medical services, failing which, it could result in loss of lift or limb.

An "Accident" is defined as "an unexpected, unplanned occurrence which may involve injury" or " an unpremeditated even resulting in recognisable damage".

Functions

- To provide immediate and correct life saving medical care at all times and in all situations. Services should be both effective and efficient as the patients are likely to deteriorate quickly.
- To be sensitive to the emotional needs of the patients and attendants.
- To liaise with the courts and police in medico legal cases and transportation of patients to and for the hospital.
- To fulfil the role of information and communication centre, especially during disasters.
- Education, training and research activities of Medical staff.

Type of Emergency Services:

There are four types of emergency services :

i) Major Emergency Services :

The department is provided with all its specialised facilities. Diagnostic and therapeutic coupled with specialty in different categories. Generally such services are provided in large, teaching and tertiary hospitals. (District level hospital).

ii) Basic Emergency Services:

This is available in hospital where all basic emergency facility available. The centre is run by general duty medical officer round the clock. Specialists in respective field are available on call duty.

iii) Stand by Emergency Services:

This type of emergency service is seen in PHC and Community Health Centre as first referral centre. These are run by trained nurses round the clock and Medical Officers are on call duty.

iv) Referral Emergency Services:

In these centres only first aid is given and the patient then refer to the health centre hospital according to the severity and need of the case. This type of service are provided by AIMS and other tertiary level hospital.

Essential Equipments:

Broadly speaking the following essential equipments should be present in all patient care areas:

i) Centralised piped oxygen and suction supply.
ii) Airways, outlets and resuscitation bags.
iii) Wall mounted / portable manometer.
iv) Portable defibrillators and ECG.
v) Respiratory aids eg. Ambu bag, ventimask, nebuliser etc.
vi) Cardiac monitors and defibrillators.
vii) Special medications, intravenous equipments and fluids
viii) Sufficient bandages, drugs and plasters.
ix) Utility Table with Emesis basin, kidney tray etc.
x) Slit lamp, loupe, ENT examination equipment.
xi) All equipment that will be required for O.T. and I.C.U.
xii) Adequate Numbers of trollies and wheel chairs.

Intensive Care:

Medical care extended to patients whose condition is critical and require continuous medication and supervision by the medical personal.

CHECK YOUR PROGRESS (C)

1) Enlist the functions of Accident and Emergency Departments in a Hospital.

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2. Enumerate the essential equipments which should be present in emergency care hospitals.

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Categories of Staff required for surgical aspects in casualty and emergency care:

i) **Medical:** Physician, surgeon, paediatrician, orthopaedic surgeon and anaesthetist (in addition, house officers, interns, post-graduate students) should also be posted. These may be available full time on call. A full time faculty incharge should by posted in the Accident and Emergency Services of a large hospital.

ii) **Nursing:** The nursing staff should be competent, intelligent, qualified and flexible, should be able to initiate life saving measures on their own.

iii) **Para Medical:** ECG technicians, O.T. Assistants, operation room attendants, laboratory technicians, Radiographers etc.

iv) **Group D :** Orderlies, sweepers, drivers.

Ambulance Services:

Generally, ambulance services are considered to be a part and parcel of the Accident and Emergency Department. An ambulance is defined as “a vehicle for emergency care which carries equipment and supplies for optimal emergency care at the scene and during the period of transportation to afford maximum safety and comfort and avoid aggravation of his condition.

Medico Legal Issues:

In most of the accident and emergency departments in our country a large majority of the patients who attend are medico legal in nature. A medico legal case is one, where the attending doctor, after taking the history of the patient ; and performing

clinical examination thinks that some investigation by the law enforcing agencies are essential so as to fix responsibility regarding the case in accordance with the law of the land. It is purely the responsibility of the Causality Medial Officer to decide as to when to label a case as medico legal.

CHECK YOUR PROGRESS (D)

(1) List the various categories of staff of Accident and Emergency Dept.

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(2) What is the medico legal case ?

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7.5 LET US SUM UP

In this unit you have learned terms of obstetrics and gynecology coronary care, casualty and emergency care. Obstetrics refers to managing pregnancy before and after. Coronary care refer to acute intensive care extended to critical ill patient with life saving equipment, drugs, close supervising and medical assistance. The emergency equipments have been explained along with the most vital maintenance issue which is imperative in this department. The various categories of staff and the factors affecting staff have been discussed.

CHECK YOUR PROGRESS ANSWERS FOR C & D

C.1) The functions of Accident and Emergency Department are :

- To provide immediate and correct life saving medical care at all times and in all situations. Services should be both effective and efficient as the patients are likely to deteriorate quickly.
- To be sensitive to the emotional needs of the patients and attendants.
- To liaise with the courts and police in medico legal cases whenever required.

C.2) The Essential Equipments which should be present are :

i) Centralise piped oxygen and suction supply
ii) Airways, outlets and resuscitation bags.

iii) Wall mounted / portable manometer.
iv) Portable defibrillators and ECG.
v) Respiratory aids e.g. ambubag, ventimask, nebuliser etc.
vi) Cardiac monitors and defibrillators.
vii) Special Medications, intravenous equipments and fluids.
viii) Sufficient bandages, drugs and plasters.
ix) Utility table with emesis basis, kidney tray etc.
x) Slit lamp, loupe, ENT examination equipment.
xi) All equipments that will be require for O.T. and ICU
xii) Adequate numbers of trollers and wheel chairs

D.1 The various categories of staff are medical, nursing, paramedical and group D.

D.2 The course that are referred to police/judiciary regarding patients profile in accordance to meet law enforcement requirements before undergoing clinical diagnosis and treatment. Ex: Accidents, riots etc.

7.6 TERMINAL QUESTIONS:

1. Explain various gynecological disorders.
2. How heart attack in treated and managed?
3. Discuss types of emergency services.

7.7 SUGGESTED REFERENCES:

1. Sabaratnam Arulkumaran et.al (2005) *Essentials of Gynecology*, Jaypee Brothers Medical Publications Ltd., New Delhi.
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3. Shirley Ooi, Peter Manning (2004), Emergency Medicine, MC Graw Hill, Singapore.
4. Dorlands's Pocket Medical Dictionary (2004), 27th Edition, SUNDERS, An Inprint of Elselvier, Philadelphia, Pennysylvenia.
5. Stedman's Medical Dictionary (2005) illustrated/ 23rd Edition, S.Chand & Company, New Delhi.
6. L.M. Harison (2001), *A Pocket Medical Dictionary*, CBS Publishers and Distributors, New Delhi.

Websites

1. www.medicinenet.com
2. www.medinfo.com

Lesson – 8 MEDICAL RECORD SYSTEM & SECURITY ADMISSION RECORDS

Structure

8.0 OBJECTIVES

After studying this lesson, you should be able to:

- Understand the importance of medical records;
- Learn methods of record filing;
- Understand the admission procedure and formats.

8.1 INTRODUCTION TO MEDICAL RECORDS

A *Medical Record* system must be organized to render service to the patient, the medical staff, hospital administration, and the society. Service in support of good patient care is the primary purpose for which a medical record department exists in a hospital, clinic or other medical institution.

The kind and amount of service rendered will be primarily dependent upon the accuracy of information contained in the medical record, and upon its availability to and utilization by professional staff.

In the interest of economy, accuracy of information and good communication, all information should be concentrated in the original medical record, which should be indexed and filed in the main medical record department. Duplication of recording and indexing should be restricted to the minimum; in fact, it should be permitted only after a thorough study has demonstrated the value of such duplicate records.

System Development: Basic to the development of a good medical record system are: (1) a clear understanding by the governing body, medical staff, hospital administrator, and medical record librarian of the responsibilities of each as far as the system is concerned; and (2) the willingness of each of these persons to assume his or her responsibilities, and to work to assure the highest quality of medical care for patients.

Fundamental also is the need for an awareness by all concerned that the medical record is not a necessary evil to be borne in the interest of securing accreditation. Rather, it is an instrument to be used in providing: (1) the best possible care for the patient; (2) a medium of education for the medical staff and paramedical personnel; (3) a basis for comparative studies and research, and (4) legal protection for all concerned.

Medical records are the primary tools for evaluating the quality of care. It is the responsibility of the medical staff to adopt, and enforce rules and regulations governing the production and quality of the medical records maintained by records, and to educate those members whose medical records demonstrate nonconformity with established policies.

While the medical record librarian may assist the medical and administrative staffs in the development of these policies, the responsibility for policy enforcement should not be delegated to her. The assumption of this responsibility by the medical record librarian will tend more than any other single factor to destroy good working relationship with the medical staff, a relationship imperative for a sound medical record system. Enforcement must be carried out by the medical and administrative staffs. The medical record librarian's responsibility ends with the reporting of deficiencies and of violations of the policies and standards previously adopted by the medical staff and approved by the governing board of the hospital.

Principal Duties of the Medical Record Librarian: The principal duties of the medical record librarian are those basic functions inherent in organizing and managing a medical record system, and in providing efficient medical record service. These have been defined as: (1) development, analysis and technical evaluation of clinical records; (2) preservation of records; (3) development of secondary records (indexes of various types); (4) development of statistics; (5) assistance to the medical staff; (6) safeguarding of information contained in medical records; and (7) supervision of the medical record department.

While other duties may be assigned to the department, depending upon the size and type of institution, these duties should be secondary. Extra duties should be assigned only if the personnel can assume them without disrupting the medical record service.

The medical record librarian plays a major role in the development of a functional medical record system.

The primary operating responsibility of the medical record librarian is to organize and manage the department so that it can render the greatest possible service, and to provide this service with minimum outlay of time, effort and expense.

The final evaluation of the medical record system, therefore, will be dependent upon the utilization of the recorded information; and this implies availability of information, so that it may be used: (1) for the benefit of the patient in the event of future illnesses; (2) as an aid in clinical and statistical research; (3) as an administrative tool for planning and evaluating the hospital program; (4) in legal and quasi-legal proceedings; and (5) for verification of information for third-party payers.

Since the medical record is primarily a medium of communication among the members of the medical and paramedical staffs caring for the patient, it is important to be sure that the language employed is clear, concise, and not subject to misinterpretation.

Filing Equipment: No mater what size is decided upon for the medical record room and / or storage space, it is important that full use be made of the available space, particularly in the area assigned for the current files. Today two types of filing equipment are being used: 4 or 5 drawer cabinets, and open shelves. Most hospitals of all sizes have adopted shelf filing because it utilizes considerably less floor space than do cabinets to house the same number of records, is quieter in operation, makes filing or pulling records easier for file clerks, and lends itself to any type of filing system, including terminal digit. It has been estimated that nine 5-drawer files would occupy approximately 26.1 square feet of floor space, while two sections of double – faced shelves would occupy approximately 12 square feet. Either arrangements would accommodate approximately 1100 letter – size filing inches.

Cabinets are covered shelves offer somewhat better dust protection than open shelves, but the greater accessibility and ease of operation with open shelves makes enclosure desirable only in the case of older or less active records, and then only if there is a serious dust problem.

8.2 RECORD FILING SYSTEM

The purpose of filing records is to facilitate complete and quick retrieval of pertinent information from them whenever the need arises. There are four steps in the filing process: (1) organizing the material on each patient, (2) identifying each record, (3) placing the records on the file, and (4) keeping track of them when they are withdrawn from the file.

For each of the four steps a choice of acceptable procedure exists. To a large extent, the comparative effectiveness of these procedures depends upon the circumstances in the particular hospital, such as activity of the file, space available, and regulations regarding record use. It is important, therefore, to select the filing system that will most efficiently provide the type of service required by the individual hospital.

Unit Record: Of all the methods of organizing medical information about a patient, the unit record is generally conceded to be the most effective for use in continued treatment and for study. The term is often loosely employed, but original usage calls for a single chronological record covering all hospital and outpatient care.

If all the medical information on a given patient is concentrated in a unit record it can pose certain administrative problems.

Dual Records: The separation into a single outpatient and a single inpatient record is in all likelihood the most satisfactory substitute. The effectiveness of this dual system is increased if summaries of each hospital admission are routinely incorporated into the outpatient record, and if a review of outpatient care is a part of each admission history.

Unit Numbering: Numbering has proved to be the most satisfactory means of maintaining the identity and location of the individual medical record. Numbers can be assigned in various ways. The simplest method is to issue one permanent record number to a patient at the start, and in many ways this is also the most desirable.

Modification of Unit Numbering: With the passage of time, the department may find that it is running out of readily accessible storage space for records. This may come about sooner than anticipated because individual records enlarge more rapidly than was estimated, or because the patient load increases, or both. When this occurs, the department will find itself faced with the choice of simple expansion into distant filing areas (with concurrent problems or frequent trips to pull and refile active records) or of adopting some plan to separate inactive records from active ones so that the latter may be kept in the central record department area while inactive records are stored in a remote area, microfilmed, or even, in certain instances, destroyed.

However, if a patient whose record is in remote storage later returns, the same system of reassignment of a new number can be used to restore his record to the active files.

Serial Numbering: In serial numbering, a new record number is assigned for each admission, whether of an old or a new patient. Unit records can be retained under this system by placing any prior records in the new admission folder and filing all under the most recent number. However, it is obvious that, with frequent readmissions, numbers must constantly be changed, index cards must be altered to show the most recent number, and methods must be devised to indicate in the file the current location of the records originally filed under the earlier numbers.

Annual Numbering: When serial numbering is used, the series of numbers are continuous. The practice of beginning a new series each year and distinguishing it by a letter or by the last two calendar year digits has generally caused more trouble than it is worth. The usual purpose is to obtain directly from the record numbers a count of annual admissions or outpatients treated. However, in daily practice the tendency is to omit the distinguishing letter or digits; this produces a confusion that far outbalances the trifling advantage. Since the number is primarily for record identification, the simpler it is kept the more useful it is.

Grouping Digits: In time a single number series will attain more digits than the eye can readily grasp. To facilitate accurate reading, it is sound practice to divide the numbers, on

the record cover at least, into groups of digits. Dividing a four-to seven-digit number into one-or two-digit parts (as 19-76-82 or 38-1-59) is more effective in reducing errors than dividing it into groups of three or more digits (as 197-682 or 358-159). If terminal digit filing is used or is contemplated, the numbers should be divided to comply with the way this is set up.

Terminal Digit Filing: Terminal digit filing is one method of placing numbered records in file. It has nothing to do with the way the numbers are issued. Usually the entire file is divided into a hundred sections, 00 to 99. Into these sections the records go according to their last two digits. Records are then assigned to subdivisions of these major sections by their middle digits. If the file is a very large one, the two next digits are used, making 10,000 subdivisions in the entire file. If the file is smaller, a single middle digit is used, giving 1000 subdivisions. The few records within these subdivisions are arranged numerically by their first digits.

Color coded folders: Color coding of folders is a development made possible by the terminal digit system. This scheme speeds record sorting and further lessens the likelihood of misfiles, since the records in each filing division have their own combination of marginal color bands. However, if color coding is used in conjunction with serial rather than unit numbering, many folders must be discarded because their colors are not keyed to the new numbers assigned to the records.

Straight Numerical Filing: The first attraction of straight numerical filing is its familiarity. However, its chief value lies in using it with serial numbering. Then the active records for the entire file are automatically grouped together. With a terminal digit file, serial numbering brings together the active cases within each subdivision.

A centralized filing system is considered ideal, but generally the system depends upon the design of the hospital; if it consists of scattered buildings, centralization – with every record in one room – is impractical. The alternatives are unpopular with Medical Records Officers for very good reasons but until they are abandoned completely, the medical secretary needs to understand them.

Departments Attendance: A set of Notes is prepared when a patient attends a medical clinic, and a number is allocated to him. Should he be transferred to a surgical clinic, however, they will be closed, and fresh notes will be opened.

Obviously, clinical information can be exchanged between clinics, but this is time-consuming; and often the patient is obliged to tender his basic details more than once. Another disadvantage is that unless the Medical Records Officer is able to maintain rigid control of the situation, departments may adopt the particular filing system that suits them and only them. This will result in loss of continuity.

Hospital Attendance: Records are opened on the first outpatient attendance or admission, and closed on discharge. A fresh set is started at the next series of attendances.

The Three – Department System: The Out-Patients, In-Patients and the Casualty Departments are regarded as three separate units, each one starting records on the first attendance, and closing them on discharge.

The Unit System: Unit system is a comprehensive system that offers an immediate access to master index. Its main features are:

(a) The patient is allocated a hospital or unit-number, and regarded as a separate unit.
(b) Case Notes are created at his first visit to the hospital and, unless he transfers to another general hospital could be used throughout his life, from birth to death, no matter how many different specialists he has to consult.
(c) The Case Notes are filed according to the Unit Number which, as stated, is retained permanently.
(d) Thus, the folder contains a complete medical history.
(e) The system depends upon the existence of a centralized filing system.
(f) As the filing is numerical, a Master Index is essential.

8.2.1 Techniques of Managing Records

Numerical Filing:

As every student of Office Practice knows, this is capable of infinite expansion; so it is appropriate for very large systems. But dealing with long numbers is not easy for some people; so useful variations might be:

(a) Each batch of one thousand Unit Numbers has different coloured folders.
(b) Each speciality or department has its own colour for folders. This is expensive when cases are referred to other specialists, unless the cover is a temporary one, easily slipped on and off the basic folder.
(c) Each Speciality is allocated a set of consecutive numbers. Familiar with their particular range, staff soon learn where to look for the records.
(d) Terminal Digit Filing. Under this method of filing lengthy numbers are broken down into pairs from the right (a nought being added to the beginning, if there is an uneven amount of digits, so that 12345 becomes 01 23 45). Case notes with a unit Number of 234567 will be taken to a main section of the system marked ‘67’. Here a middle section is marked ‘34’, and the Notes are filed according to their first part of digits ‘23’. This is an over-simplification when describing a system consisting of an enormous number of files to which thousands more may be added each week.

Microfilming: Microcopying of Case Notes is not yet widespread among hospitals. Film comes in various shapes and sizes. *Roll film.* This is suitable for the archives or inactive records where insertions are not required. *Microfiche,* whereby approximately a hundred documents can be stored on a piece of film, the size of a post-card, in standardized rows;

is usually brought up to date by *refilming*. It is, nevertheless, often used for the Master Index Jackets. These are an extension of the roll method but the film is fed into a unit which cuts each file or document recorded. The pieces are then inserted into *'jackets'*, transparent holders or slots set in channels on a backing about the size of a post card. Material can be brought up to date either by inserting films into vacant slots or by starting another jacket.

Aperture Cards. These are punched cards mounted with microfilm. The punched holes represent the contents of the film and its indexing.

Edge-punched cards. Microfilm is also mounted on edge-punched cards. As office practice students know, the point of edge-punching is that it facilitates very quick sorting.

8.3 SECURITY OF RECORDS

The Information acquired in a doctor-patient relationship is generally considered to be a confidential or privileged communication.

The code of ethics adopted by the American Hospital Association and the American College of Hospital Administrators in 1957 recognizes the principle of the confidential nature of medical information: "The hospital organization and its individual employees jointly share the responsibility for the best possible care of the patient. To fulfill this obligation, the hospital and the employees are both charged with certain reciprocal ethical obligations… Employees are obligated. … to safeguard confidential information regarding patients and the hospital; to avoid gossip and public criticism of the hospital; to develop a spirit of mutual friendliness with fellow workers, and to be courteous to the public.

The hospital, therefore, is responsible for providing adequate safeguards to prevent access to a patient's medical record by unauthorized persons from the time the record is initiated throughout the patient's hospitalization, and after his discharge.

8.3.1 Confidential or Privileged Communication

In most states information acquired in a doctor-patient relationship is considered a confidential or privileged communication, and may not be disclosed by the physician in a judicial proceeding except upon the consent of the patient. Some 17 states have no such rule. Where a privileged status in doctor-patient relations is accorded by law; a similar status is extended usually, but not always, to the patient's record. However, rules and statutes as to confidential communications, as they apply to medical records, usually do not affect the use of hospital records in situations not involving trials or administrative hearings. Release or non-release of confidential information in such non-judicial situations is influenced by other law or by hospital policy.

Confidentiality of Information: Data in the medical records are of two types:

1. Informational data relating to the identification of the patient and the facts of hospitalization, usually found in the identification section, or face sheet, of the record. These data (name and address of patient, dates of admission and discharge, and name of relative or friend given at the time of admission, etc.) are considered non confidential, and may be released without the consent of the patient. However, even this information should be released with care (e.g., data on newborns), and only in response to proper inquiries. Certain data that would be non-confidential in a general hospital might be considered confidential in a specialty hospital or in a special service of a general hospital, such as the psychiatric unit.

2. Clinical data obtained professionally are usually found in the medical section of the record. These data are considered confidential. Release of confidential information is discussed in the next section.

The names of physicians and house officers associated with a case, while technically not confidential, should be considered so; however, it is customary to disclose the names of attending physicians with their consent.

8.3.2 Release of Confidential Information

General Principles: The principal consideration bearing upon disclosure should be the nature of the information requested, and the persons or agencies requesting the information.

In the Routine case, no problems will arise with respect to legal liability or patient relations, if the facts in the record are divulged to those with legitimate interests. If the information is truthful, and is released with good intention to a person who has a legitimate interest, the risk of action adverse to the hospital, whether of legal or public relations origin, is remote.

Consent to Release Medical Information: Confidential information may be released with appropriate authorization. The consent may be given by the patient himself or by a legally qualified representative, such as the parent of a minor, the spouse, the executor or administrator of an estate, the guardian of an infant, a “committee” representing a person adjudged to be incompetent, or an agency designated by the court as guardian.

Release of Information to Third Parties: Because of the increase in the number of third parties concerned with the patient and his hospital record, it is essential to have a well defined hospital policy which will recognize the legitimate interests of third parties, such as other physicians and hospitals, insurance companies or prepayment agencies, attorneys, and government agencies, while protecting the patient’s right of privacy.

Even though there may be no legal requirements for patient consent, it should be required in appropriate cases. The following general principles are suggested:

1. Requests from doctors, hospitals and institutions concerned with care of the patient should be honored routinely without the consent of the patient. Approved social agencies may be similarly treated; however, the medical record librarian must use discretion in releasing personal history data when such release involves information that the patient might object to having made known.

2. Requests from insurance companies and others concerned with the record from the financial point of view should be honored only with consent of the patient. Many insurance policies incorporate the policyholders' authorizations for access to medical information as a condition of the insurance. Such provisions should be honored unless the patient specifically requests otherwise or unless there is doubt as to the relevancy of the information requested or question of the validity of the proof of authorization. When in doubt, the hospital should obtain a new authorization.

3. A government agency *perse* is not entitled to access to records unless so authorized by law. However, when the interests of the patient would not be adversely affected, cooperation should be extended to government agencies in connection with the discharge of their official functions.

   Confidential information requested in connection with security checks for employment, or by legislative committees, should not be routinely released without the patient's consent. The interests of the government agency versus those of the patient must be weighed in the light of the circumstances in the particular case. For example, the public interest in a law enforcement agency or in a public health office weighs more heavily than in a board reviewing a claim or other situation involving financial considerations only.

4. When litigation is involved, information should not be released in the absence of a subpoena unless the patient has consented. If the hospital or a staff doctor is a party to the litigation, their consent should also be obtained, except in those states where the patient has an unqualified right of access to the record.

5. Information of a psychiatric nature presents special and frequently delicate problems, particularly since the patient may be incompetent for purposes of consenting to access to his record. Frequently, it is desirable to consult the psychiatrist or the attending physician as to what information should be released, and to whom, particularly when the patient or members of his family are seeking the information. When in doubt, the hospital should withhold this type of information.

6. Special care should be exercised in the release of information to an employer, even with the consent of the patient. It is desirable to give only information related to the accident disease or condition for which the employer (or his insurance company) has assumed financial responsibility, and to withhold information not relevant thereto, release of which might harm the patient's employment status.

7. Social service case records, which may contain personal non-medical information, and thus are not properly a part of the record, should be kept in the social service department. An interpretive summary of pertinent information in these records may kept adjacent to, but not necessarily as an integral part of, the record. A separate form that can be easily removed from the record is recommended. This summary should be removed before a record is abstracted, copied or sent to a court in response to a subpoena, unless social service records are specifically subpoenaed.

8. It is preferable not to allow lay persons to examine records themselves. If the medical record librarian or her representative will read to the layman from the record, any misunderstanding of technical terms and abbreviations can be avoided.

9. Special care must be exercised in the release of information for publication (press, radio or television) because this is the kind of disclosure that results in the greatest invasion of the patient's right of privacy, and is the area of greatest risk of legal action against the hospital. To require the consent of the patient before confidential information is released for publication should be an almost invariable rule. Even non-confidential information should be withheld in certain situations.

   The common exception to the foregoing is release of information about well-known public figures, and the identity and condition of patients involved in accidents, particularly events of major proportions in which public interest is great and the detriment to the patient through release of news minimal.

10. When there is doubt about the release of any medical information from the record, the patient's authorization should be procured. The person denied access to the record can always apply for a court order; this, if issued, relieves the hospital of responsibility for the disclosure.

11. The refusal to release medical information will, on occasion, bring the medical record librarian into conflict with the seeker of the information. It is essential that the medical record librarian have administrative support in such situations in the interest of consistent and impartial application of hospital policy.

Certifications and Affidavits: From time to time the medical record librarian will be asked to certify to the accuracy or validity of records or abstracts or data there from. It is proper for her to do so. It may be found advantageous for the medical record librarian or some member of her staff to be registered as a notary public.

Subpoenas: The practices governing the issuance of an compliance with subpoenas vary from jurisdiction to jurisdiction. Guidance in such matters should be obtained from the hospital's attorney.

8.4 THE ADMISSIONS FORM

An Admissions form might also be sent to the patient to complete and bring in with him; to be of real use, it should contain a section marked 'For Hospital Use Only' so that other details can be added, and it needs to consist of NCR paper so that more than one copy is created. Different hospitals follow different customs, sometimes the form is filled in by the Admissions Officer when the patient arrives, but in either case she must receive full information about all patients who are expected. The form contains:

The Patient's Identification Details.

The date of Admission.

The Time of admission, useful with emergency cases.

The Consultant and the ward.

Occasionally additional information is included:

Date and place of birth.

Surname at birth.

Status

Occupation

Religion

Date the patient's name was entered on the Waiting List and grade of priority given.

Diagnosis.

All of these facts aid distribution of copies and the compilation of statistics.

Distribution of the Admissions Form:

Copies might be sent to the following:

1. The ward – to be filed thee as part of the ward register.

2. The Medical Records Department where it can be checked against the Waiting List and the name removed.

…….Hospital

ADMISSION SHEET

You are requested to complete this form, and hand it in on your admission.

SUR NAME (block capitals)	MAIDEN NAME		Please tick as appropriate MARITAL STATUS Married Single Widowed Other
FIRST NAMES			
Home Address Postal Code			Telephone No.
Date of Birth	Age	Religion	Country or Country of Birth

Next of Kin			Relationship
Address			Telephone No
Name and Address of Family Doctor			
Please tick if you receive:	Retirement Pension	And/or Supplementary Benefit	Please Indicate if you are a member of H.M. FORCES YES/NO

FOR HOSPITAL USE ONLY

Date Admitted	Time a.m. p.m.		Hospital No.	Ward
Please tick as appropriate	**SOURCE OF ADMISSION** W.L. DATE ON W.L.		IMMED. TRANSFER	CAS. O.P. ROAD ACCIDENT
Admitted from (if different from Home Address)				
Please tick as appropriate	**CATEGORY OF PATIENT** N.H.S. DAY CASE		SEC. 1 MEDICAL NECESSITY	SEC IV
Consultant in Charge On Admission:-				

A69SO

Fig: Specimen of an admissions form

The Register: As a part of the Medical Records Department's statistical function, admissions and discharges are often recorded by the Admissions Officer in a Register or Ledger. It is commonly referred to as the 'A' and 'D' book, although admissions may well be recorded separately from discharges. Where the admissions form is comprehensive with space for discharge details to be added, there is no reason why a copy cannot be used to make up the Register.

Where an A. and D. book exists, entries for admissions are put on one page, and for discharges on the other. Admission details include:

(a) Name, address and telephone number
(b) Status
(c) Sex
(d) Unit Number
(e) Consultant
(f) Ward
(g) Date and time of admission
(h) Number of admission; this provides a running total of all admissions.
(i) The type of admission; a note about a serious RTA (Road Traffic Accident) is useful when statistics have to be compiled and financial claims made.

8.4.1 Methods of Admission:

There are four ways in which cases can be admitted to hospital:

1. Through the General Practitioner
2. From the Waiting List
3. Through the Casualty Department
4. As a compulsory admission

Admission through the General Practitioner: Acutely-ill patients can be admitted after a visit from their GP or from a hospital Consultant.

After a GP's Visit. Ideally, a number of beds are kept free for emergency admissions; so that the doctor should be able to secure one at the local general hospital. In these days of long Waiting Lists, however, this is not always possible so he may have to contact the Emergency Bed Bureau / Service whose staff will contact neighbouring hospitals on his behalf.

When the patient has attended the hospital before, the Unit Number will be elicited and Case Notes retrieved; otherwise, records will be started on the ward, and registration take place later on. In both instances, as his condition is serious, he will probably be taken straight to the ward (or operating theatre), and the medical section of the Case Notes may well be completed first.

After a Consultant's Domiciliary visit, General Practitioners have a list of those specialists who are willing to examine in their home those patients who, for medical reasons, cannot get to hospital. For this, the Consultant receives a consultation fee: a fee for an obstetric operation, a smaller fee for any other kind of operation, and a fee if he has used his own (not the hospital's electrocardiograph, portable X-ray, ultrasonograph or portable audiometer, as well as the cost of car mileage.

In this context the word 'home' means the patient's residence for the time being, and may include an old people's home, a hotel or a residential school; it may also include a private nursing home when it is a permanent residence, and in the event of an obstetrical emergency.

On receiving the GP's request for a Domiciliary Visit, the consultant's secretary obtains full details, including the degree or urgency, then enters the time, date, etc. in the diary. Afterwards, she checks that the claim form has been filled in and signed. The GP fills in Part 1, whether he attended the consultation or not, and when the patient lives permanently in a private nursing home, he must add the endorsement 'Permanent Resident'.

Admissions from the Waiting List:

The List. This may be kept:

(a) Departmentally, with one for each speciality; this could be more convenient for the Consultant, his 'firm' and his secretary.
(b) Centrally, with each department/speciality submitting names. It will be housed in one office with a staff who are adept at maintenance, answering questions and generally dealing with all the complications of additions to the List and deletions, including those caused by death.

Occasionally cases attend the Out-Patient Department of one hospital while their names are on the Waiting List of another; this is legitimate so long as the hospitals are part of a group or the patient is involved with both.

The List may take the form of a book, a card index, a strip index or a planning board, and it may be computerized but the information recorded is the same.

(a) The name and status; address and telephone number
(b) The unit number
(c) Usually the GP's name and address
(d) Name of the Consultant
(e) Date of entry on to the List
(f) Diagnosis
(g) Degree of urgency; sometimes a grade is allotted, e.g. A,B,C.
(h) Dates when a patient is unavailable e.g. on holiday or working out a necessary period of notice to his employers.
(i) The TCI (to come in) date.

The Waiting List in Book Form. As a rule, a TCI Book is used only in small departments. After ward – care has been ordered, the Sister or medical secretary enters the details, in duplicate or even triplicate. The waiting List clerk will be sent a copy or will examine the book after each clinic.

The Waiting List in Card Form. These might be visible edged cards on which the doctor writes the medical details and the nurse or secretary adds the social details such as holiday dates or the need for transport, etc. depending on the design of the card.

'Mechanical' labels or the embossed imprinter can be used to head up most versions. Some hospitals use blue cards for male patients, and pink for females.

REQUEST FOR PATIENT'S ADMISSION								
Name			Date of Birth	Unit No.				
Address			Tel. No. Home	Tel. No. Business				
			G.P.					
Priority		Remarks					Adm. Date	
Urgent	1							
Soon	2							
Interim	3							
Delay	4							
Diagnosis								
Date placed on W.L.	Name Initials		Operation	Age	Priority			
					4	3	2	1
TYPE IMMEDIATELY ABOVE PERFORATION START ALL TITLES AT UNIFORM POINTS. USE THE TABULATORS. DO NOT USE WORN RIBBON.								

Fig: Specimen of a visible-edge waiting list card

The Waiting List as a Strip Index. This is useful when several names have to be recorded after a clinic because the sheet of perforated strips will fit into the typewriter easily, then be inserted into the metal or plastic frame. Although they can be removed from the system without disturbing continuity, this is an advantage only in a small system, however, as some Medical Records Officers do not consider them ideal for the wear and near suffered by the centralized List.

The Waiting List on a Control / Planning Board. Based on the information provided by conventional lists or cards, etc., the board or chart might be headed up by the names of wards or specialities, with the numbers waiting for admission represented by coloured signals or magnetic studs. The aim is to convey an immediate visual impression of the whole Waiting List situation.

A variation is the Bed Board which displays the beds in use, with the names of wards, patients and Consultants; up-dated daily, it shows the beds available for emergency admissions and can also incorporate a forward-planning system for expected admissions with, say, a seven-day period.

These boards, like so much equipment, require forethought. They should suit the situation, not vice versa, so high they need a step-ladder or so complex that maintenance demands the total working hours of people who have other duties. The really good ones improve control and decision – making.

Computerization. Selection for admission can be made by matching Waiting List demands against the Bed States data.

Admission through Casualty – the Accident and Emergency Department: The attendance will have been noted in the Casualty Register and a Casualty Card issued. The decision to admit may be taken by the Casualty Officer alone or in consultation with another doctor; there is bound to be some degree of urgency about the case.

When the Admissions Officer is informed, she makes the customary entry in the Admissions and Discharges Register, and distributes the usual copies of the Admission Form. Case Notes are either retrieved or set up. The Casualty Card accompanies the patient to the ward, and is inserted into the Case Notes where it remains until he is discharged; then it is returned to the Casualty Department to be filed.

Compulsory Admission: Under the Mental Health Act, 1959, compulsory admission is possible with only two kinds of case:

(a) Patients admitted to a hospital for the mentally – sick on compulsory recommendation. (This distinction has to be made because, as stated, the aim of the law is to have voluntary admission wherever possible. In fact, every effort is made by General Practitioners, psychiatrists and social workers to persuade patients to enter mental hospitals informally; only when this is out of question, is the formal application made).

(b) The aged, infirm and chronically-sick who are incapable of taking care of themselves, and not receiving adequate medical / nursing care.

The Act repealed all previous legislation connected with the admission of patients to psychiatric hospitals. Three sections of it are of particular interest: Sections 25,26 and 29.

Section 29. In the nature of an emergency admission, this is for observation only and cannot last more than three days. It requires the signature of the applicant (the next of kin or the social worker involved in the case) and one medical practitioner.

Section 25. Again for observation only, admission under this section of the Act may last up to twenty-eight days. This time the signatures must be those of the applicant and two doctors, one of whom must have had psychiatric experience.

Section 26. This covers hospitalization of one year's duration for treatment, with the same signature – requirements as section 25. At the end of the twelve months, an official reappraisal of the case is obligatory.

8.5 LET US SUM UP

A Medical Records System must be organised to render service to the patient, the medical staff, hospital administration and the society. A good medical record system should make every one understand about the proceedings of a service concern. The medical record should extend benefits to the needy, i.e., patients, medical staff, researchers, and practitioners of law. A record filing system should facilitate quick and pertinent information to the administrators. The record filing system usually in practice is in the form of unit records, dual records, etc. In view of better accessibility, some hospitals give serial numbering, annual numbering, group digits, and terminal digit codes.

The information that is acquired in a doctor – patient relationship is generally considered to be a confidential or privilege communication. Two types of medical data are available, the personal profile of the patient and clinical information. The release of confidential information to third parties should keep certain principles in mind.

Usually, in hospitals, admissions take place in four ways: They are (1) through General Practitioner, (2) through Waiting List, (3) through Casualty Department, (4) as a Compulsory Admission. The admission form will furnish all the required data of the patient.

CHECK YOUR PROGRESS

1. What is unit Numbering ?

_____

_____

2. What are colour coded folders ?

_____

_____

3. What is privileged information?

_____

_____

4. What is A & D Book?

_____

_____

5. What is compulsory admission ?

_____

_____

6. State the duties of Medical Records Officer (MRO).

_____

_____

8.6 TERMINAL QUESTIONS

1. Discuss the principal duties of Medical Records Librarian.
2. Enunciate different types of filing systems.
3. State the general principles for release of information to third parties.
4. Explain different types of admissions, that take place in a hospital.
5. Draw the admission sheet of any hospital you know.

8.7. SUGGESTED REFERENCES

1. Guide to the Organisation of a Hospital Medical Record Department, American Hospital Association, Chicago.

2. Medical Records, Indira Gandhi National Open University, New Delhi.

Lesson-9 DIAGNOSTIC AND CLINICAL, NURSING AND ICU RECORDS

Structure

9.0 OBJECTIVES

After studying this lesson, you will be able to:

- understand the diagnostic index, clinical records;
- learn the format of nursing records;
- make a note on the records of operation theatre and ICU.

9.1 INTRODUCTION TO DIAGNOSTIC INDEX

The Diagnostic Index: The diagnostic index is a comprehensive system that consists of summarized information of various patients who have undergone treatment in that hospital, arranged in a systematic manner for future reference. Medical Records Department's responsibility is to delegate the work of maintenance to a clerk so that its maintenance receives undivided attention.

The diagnoses of all cases handled by the hospital are listed according to the code numbers based upon the Manual of International Statistical Classification of Diseases, Injuries and Causes of Death; operations are classified by the Code of surgical Operations.

Doctors enter the Final Diagnosis on the Identification Sheet of Case Notes so that the person responsible can code and record it. The Index has two purposes.

1. It enables doctors to investigate diseases and / or treatments that interest them. By using the Unit Number allocated to each patient in a centralized filing system, they can retrieve the relevant Case Notes. This is particularly important in teaching hospitals and institutions where research is carried out.

2. Statistics, such as hospital morbidity rates, can be compiled to facilitate hospital administration, i.e. to estimate the number of beds and other resources needed for specific conditions.

Format of the Index: The Diagnostic Index may consist of cards filed according to the code numbers of the diagnoses, edge-punched cards or a visible-edge system.

Alternatively, in a very large hospital or Group, it may be computerized. This may take place 'on line', that is, through a keyboard connected directly to the computer so that immediate print-outs are available, or it may involve microfiche, or both. A great many hospitals rely on HAA alone for their Diagnostic Index; just how this is accomplished will be explained shortly.

Unit No.	Age	Sex	Specialist	Discharge Date	Results	Other diseases by Code Nos.	Operations Code Nos.

SH 3: This is filled in annually by the MRO, and sent to the Department of Health and Social Security and the Regional Health Authority.

Part 1: Private and Amenity beds, Private Patient Consultations, Beds used by non-in-patients (mothers, relatives).

Part 2: Specialties and Departments.

Work-load, beds, in/out attendances and new patients, waiting list statistics.

Part 3: Available Maternity Services and their use, Specialist services such as:

Radiography
Physiotherapy
Occupational Therapy

Part 4: Any changes in the hospital since the last return.

Standardization of Medical Records: Medical records were standardized when the National Health Service was instituted in order to ensure uniformity of record keeping procedures and continuity of action, and to facilitate the compilation of statistical and research material. By setting down a national standard, the Health Service provides a safe guard for itself.

This is not to say, however, that as the medical secretary moves from one hospital to another during her career, she is going to find herself handling exactly the same forms and following exactly the same procedures. There is a central supply of forms to hospitals but some find it necessary to alter and adapt them, even to print their own if they have the allocation of funds, in order to meet their particular needs. Some have the benefit of computerization and microfilming; some do not, and others are bout to have it. Some participate in Hospital Activity Analysis, and some do not. And some hospitals are large, and some are small. All of these factors influence the physical appearance and purpose of the forms the secretary will be handling, not to mention the amount of them; so she has to be flexible.

The more hospitals she works in, the more clearly will she see that standardization overall does exist but without rigidity.

Case Notes: Basically, these follow the same pattern everywhere, contained in folders of A4 Size, and consisting of four sections:

Identification
Medical
Nursing and
Correspondence

The Identification Section: This sheet is classified as (Hospital Medical Record) HMR 1 unless the hospital is participating in Hospital Activity Analysis when it becomes HMR 1 (P) and, because of its NCR paper (no carbon required) must be filled in on a typewriter or with a ball-point pen. It has spaces for:

(a) The hospital's name and code number which is usually printed.
(b) The patient's name, address and telephone number.
(c) Unit Number
(d) Status
(e) Date of Birth
(f) Occupation
(g) Occupation of spouse
(h) Religion
(i) NHS number
(j) General Practitioner's name, address and telephone number.
(k) Next of kin's name, address and telephone number.
(l) Category, e.g. NHS, BUPA or staff, etc.

Other entries include a case summary with details of admissions and discharges, and the final diagnosis; it is from the latter entry that the Diagnostic Index is maintained.

The Medical Section: This is for the use of doctors only, and consists of:

(a) PCO – patient complains of … The patient's own account of his symptoms.
(b) History (of the present complaint). Now the symptoms are listed in medical language.
(c) PMH – past medical history. Including previous illnesses, accidents and surgery, this may disclose information relevant to the current complaint or a previous attendance at the hospital, indicating that Case Notes already exist.
(d) Family history. A hereditary or infectious connection may be found.
(e) On examination – O/e. There is a blank sheet with headings based on the systems of the body, as well as one for the particular speciality of the Consultant.
(f) Differential Diagnosis. This is a tentative diagnosis, made subject to investigations. Several possibilities may be listed, with the likeliest first.
(g) Investigations. A record of tests ordered. (The actual reports are filed elsewhere in the Case Notes).
(h) Treatment. Drugs, surgery, therapy, etc. are entered in chronological order; surgical treatment will necessitate a Consent Form being signed by the patient or his guardian.
(i) Prognosis. This refers to progress, and is a record of symptoms – disappearance of the old ones and perhaps the manifestation of fresh ones – and the outcome of treatment.
(j) The final diagnosis is entered on the identification sheet (HMRI).
(k) Condition on discharge
(l) Follow-up entries are made by the Out-Patient's Department doctors who can prevent complications or treat them as they occur.
(m) The results of a post-mortem examination – for which the next – of - kin signs a Consent Form. Minor cases will not require all of these entries. Some hospitals maintain a 'continuous' history sheet; where this happens the entries contributed by different clinics should be identified clearly, preferably by a rubber – stamped heading.

IDENTIFICATION SHEET UNIT No.

…… Hospital ……

D of B	Day	Mth	Yr	Age	Male	Female	S	M	W	Not known
					1	2	1	2	3	4

Surname

First Names

N.H.S. Number

Address

Maiden Name

Other Previous Surnames

Change of Address

Tel No. ……..

Employer

Occupation

Religion

Name and address of G.P.

Tel. No.

Next of kin …… Relationship……
Name …… Tel. ……
Address ……

Change of G.P.

Tel. No.

Change if kin …… Relationship……
Name …… Tel. ……
Address ……

Blood Group Rh

Other Records

Drug Sensitivities

Steroids

Date of Admission / /

CONSULTANT

CODES

Date of Disposal
DISCHARGE / /
DEATH

Date entered on W/L / /

WARD DEPT.

Provisional diagnosis

Source of Admission
1. Waiting List
2. Booked
3. Immediate
4. Other
5. Trans. Other Hospital
6. Born in Hospital
7. R.T.A.
8. Home Accident
9. Accident of work
10. Other accident
11. Not known

Type of Bed

1. Priv.
2. Staff
3. Pre-C
4. Con.
5. Other

Discharge diagnosis-principal

- Other

Operation **Date** / /

1. Trans. This/other Hosp.
2. Trans.pre-con bed
3. Trans.con.bed
4. Trans.other
5. Home/other
6. Died autopay
7. Died other

GP.s Notices

Date of Admission / /

CONSULTANT

CODES

Date of disposal
DISCHARGE / /
DEATH

Date entered on W/L / /

WARD DEPT.

Provisional Diagnosis

Source of Admission
1. Waiting List
2. Booked
3. Immediate
4. Other
5. Trans. Other Hospital
6. Born in Hospital
7. R.T.A.
8. Home Accident
9. Accident of work
10. Other accident
11. Not known

Type of Bed

1. Priv.
2. Staff
3. Pre-C
4. Con.
5. Other

Discharge diagnosis-principal

- Other

Operation **Date** / /

1. Trans. This/other Hosp.
2. Trans.pre-con bed
3. Trans.con.bed
4. Trans.other
5. Home/other
6. Died autopay
7. Died other

GP.s Notices

GMR 1

Fig: Specimen of the Identification Sheet

9.2 CLINICAL RECORDS

9.2.1 X-Ray Department Records

This section of the hospital is run by a Consultant who is a specialist in radiology. A senior radiographer supervises the radiographers, some qualified, some in training, and the secretaries, clerks and / or receptionists and porters, as well as 'dark' room staff.

Some departments are closed units, working only for staff doctors; others are open or direct access units to which local General Practitioners can make referrals without first sending cases to the Out-Patients' Departments.

<table>
<tr><td>SURNAME (capitals)
Mr.
Mrs.
Miss.

Reg. No./Address

Tel. No.</td><td>FORENAME(S)

Date of Birth</td><td>X – RAY Dept.

HOSPITAL</td><td>X – Ray No.</td></tr>
<tr><td colspan="2" rowspan="2"></td><td>Report Required By:
Consultant:
G.P.:</td><td>Ward/Dept.</td></tr>
<tr><td colspan="2">Examinations Required</td></tr>
<tr><td colspan="2">Previous X Rays
Date
Hospital</td><td colspan="2"></td></tr>
<tr><td colspan="2"><u>10 DAYRULE</u> Ignore / Observe *
DATE OF L.M.P. ……..……..……
* delete as required</td><td colspan="2">APPOINTMENT DATE</td></tr>
<tr><td colspan="4">Clinical History and Diagnosis

Signature Date Radiographer's Initials</td></tr>
<tr><td colspan="4">JB – 83866

Code ABSP</td></tr>
</table>

Fig: Specimen of an X-ray request form

Reports: The radiologist dictates a report to be typed either on its own form or on the bottom or reverse side of the request form, and it will accompany the plate to the person who requested it. The exception is the GP who receives only the report. Films stay in clinics only long enough for doctors to view them and onwards for the duration of the patients' stay, and are ultimately returned to the Radiography Department. (Only after a certain period of time will they end up in the library or central filing room: or even be microfilmed).

Inside the Case Notes the reports could be affixed to a card marked with the name and Unit Number. When the card is full, another is stapled to it, thus – because the order is chronological – latest report is on top, and a continuous record of all X-ray findings is at hand.

Filing of X-ray Plates

The Medical Records Officer is responsible for the filing of films wherever they are stored. As a rule, current or 'active' films are kept in the X-ray Department itself, usually with a file copy of the report attached, and in an envelope.

Classification varies

(a) Alphabetical filing, best suited to small systems.

(b) Numerical according to the Unit Number, not ideal because there are gaps in the sequence caused by the fact that not every hospital patient has films taken.

(c) Numerical, perhaps Terminal Digit, with a Master Index.

(d) Subject filing according to the parts of the body filmed. The primary guide cards are labelled 'Chest', 'Leg' and so on, and within these are secondary guide cards marked with the alphabet; again, a Master Index is vital.

(e) Microfilming requires coding and indexing, of course.

(f) Chronological filing, except in the smallest of systems, is at best temporary unless it is sub-divided into other classifications, and a Master Index Employed.

(g) A combination of methods might be used, incorporating the separation of large plates from small. As usual, an Index is required.

When films are removed to the main filing room or library, a record is made.

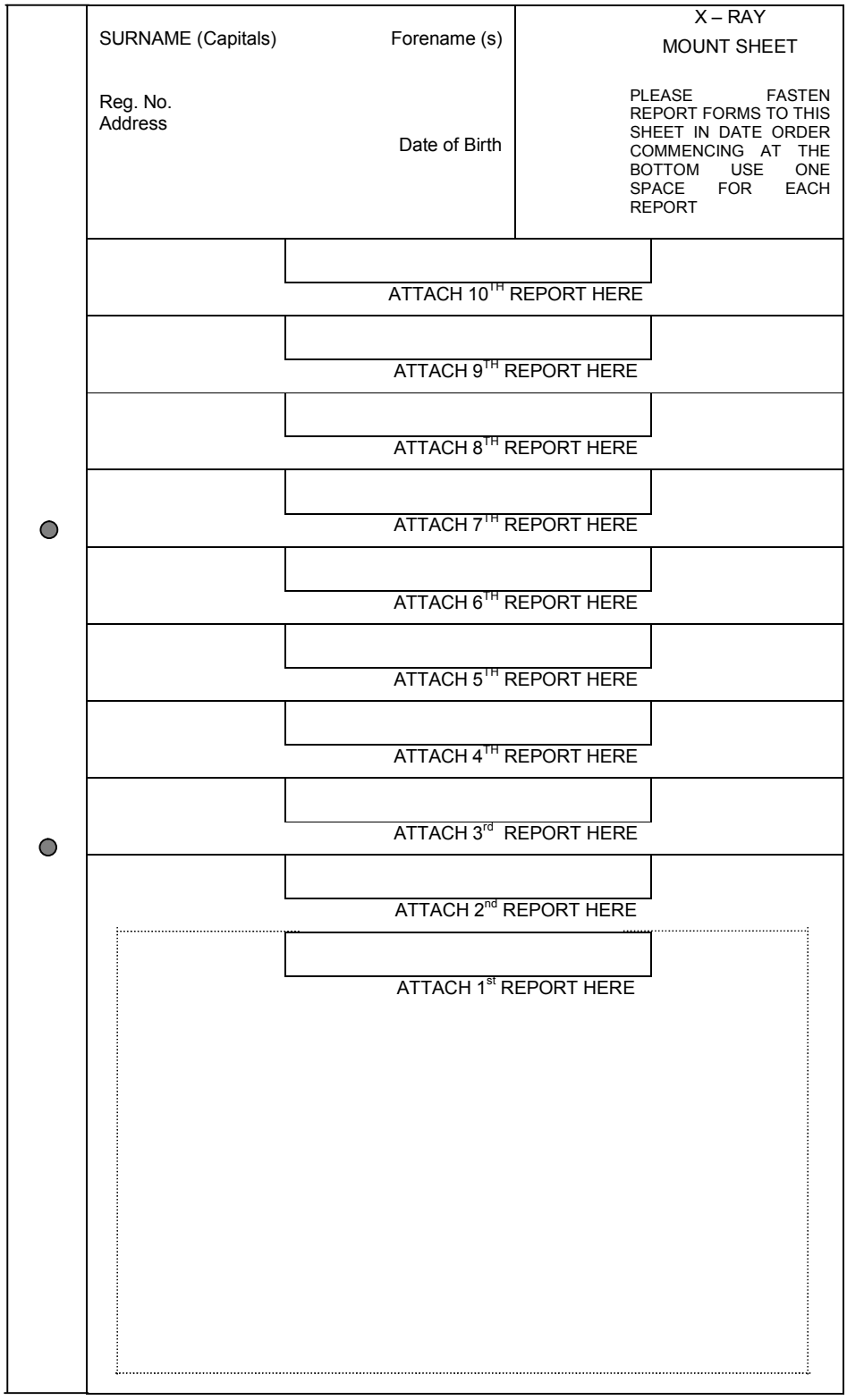

Fig: Specimen of X-ray reports in the case notes

9.2.2 Pathology Laboratory Records

In some teaching hospitals where very advanced diagnostic systems, treatments and/or research are being carried out, there may be highly qualified persons – of a status at least equal to that of the Consultant – who are not medical practitioners; they may be in the employees of universities or the Department of Health and Social Services.

In the average general hospital, the Pathology Laboratory is run by a Consultant Pathologist with the assistance of other pathologists. Technicians, supervised by a senior, might be specializing in biochemistry, the study of living things, or histology, the study of organic tissue, etc., and might be trained or undergoing training. Although not doctors, they are very skilled people, carrying out a wide variety of investigations. Helping them is a third tier of staff, the laboratory assistants. In addition, there are mortuary attendants and porters. The large department has a secretary and /or clerical team and, occasionally a nurse is attached to the staff.

Like the X-ray Department, the Pathology Laboratory may be a closed unit, carrying out work only for the hospital or an open unit to which GPs have direct access.

<table>
<tr><td rowspan="3">SURNAME (Capitals)

Address

Unit No.</td><td rowspan="3">Forename(s)

Date of Birth</td><td colspan="4">> > G.P. >
> Other (specify)</td></tr>
<tr><td>Sex</td><td>Ward</td><td>CLINICIAN/G.P.</td><td>Signature</td></tr>
<tr><td colspan="2">Date collected</td><td>Time Collected</td><td>Lab. No.</td></tr>
<tr><td colspan="2">CLINICAL SUMMARY</td><td colspan="4">INVESTIGATION REQQUIRED</td></tr>
<tr><td colspan="6">FOR LABORATORY USE ONLY</td></tr>
<tr><td>Date received
A10150 JB-82690</td><td>Date of report</td><td>Signature</td><td colspan="2">Haematology Department</td><td>MISCELLANEOUS
HAEMATOLOGY</td></tr>
</table>

Fig: Request form for investigation by Pathology Laboratory

Requests:

1. As with radiography, requests are made by doctors or by nurses and secretaries acting on medical instructions and, in areas without a public laboratory, by General Practitioners.
2. Certain investigations necessitate a period of notice being given.

SURNAME (Capitals) Address Unit No.	Forename(s) Date of Birth	> > G.P. > > Other (specify)			
		Sex	Ward	CLINICIAN/G.P.	Signature
		Date collected		Time Collected	Lab. No.
To be completed by clinician CLINICAL SUMMARY		BLOOD REQUIRED FOR: Put ⌣ a) Group and retain serum (maximum 5 days) > b) Urgent transfusion TIME …… c) transfusion DATE …… (Blood/packed cells) …… UNITS ……			
Blood group if known ABO…. Rh…..Antibodies YES/NO Previous transfusion YES/ NO Date …… All previous pregnancies YES/NO Dates…….. …….. Miscarriages. Early YES/NO Late YES/NO Neonatal jaundice YES/NO		1) 10 ML of clotted blood FULLY labelled with patients forenames. Surname, date of birth. Hospital number (or home address) must accompany this request. 2) A minimum of 24 HOURS notice is required for all routine grouping and cross matching. 3) Blood will be kept for 24 hours ONLY after indicated time of transfusion.			

FOR LABORATORY USE ONLY	Group	ABO	Rhesus	Atypical antibodies	Date	Signature

BLOOD CROSSMATCHED **METHODS OF COMPATIBILITY TESTING**

Date	Test No.	Blood Unit No.	ABO	Rh	Sal 20^{0}C	Sal 37^{0}C	Enz	ALB	Coombs	Comments	Fate	Signature

Date received Time Received A10250 JB-82506	Date of report	Signature	Haematology Department	**BLOOD TRANSFUSION SEROLOGY**

Fig: Request form for investigation by Pathology Laboratory

3. Specially-printed forms are used and vary according to the nature of the test. Secretaries should note when mechanical labels cannot be used to head up the forms; this may be due to their small-box design or to the fact that they are NCR and / or a part of Hospital Activity Analysis. Sometimes the embossed plastic card can be used to imprint identification details. Labels can be used on most containers, however.
4. Out-patients are often sent to the laboratory, either with their specimens or with some kind of authorization, usually the request form itself. Where this occurs somebody will be acting as a receptionist and making the customary entries in a record book.
5. Ward specimens and request form are usually collected by a porter, both he and the ward maintaining a record of what is given and received.
6. Requests are not valid unless signed or initialled by a doctor.

9.2.3 Reports

These may be written at the bottom of request forms or on the reverse side, or the request forms may contain boxes for the results. File copies are retained, filed alphabetically or numerically, sometimes according to Unit Numbers, sometimes not, or with subject classification etc. They may be stored and / or analysed in a computer, with print-outs, as necessary or VDU display. They may be affixed to mount sheets in the Case notes, similarly to X-ray reports.

Phase Use a Ball-point pen	SURNAME (Capitals)	Forename(s)	> > G.P. > > Other (specify)			
			Sex	Ward	CLINICIAN	Signature
	Reg. No/Address	Date of Birth	Date collected		Time collected	Lab No.
BLOOD SAMPLES ONLY TICK PRIORITY TEST(S) TO COVER SMALL SAMPLES OR MACHINE FAILURE	CLINICAL SUMMARY including ALL DRUGS please					
	SMA PROFILE Prior arrangement must be made for Urgent Requests					
	Electrolytes Urea >	Calcium Phosphate >	Creatinine >		Proteins >	
A 107 SO XXXXXX (Oct 78) JB - 86832	Date received	Date of report	Signature Pathology Service		**CLINICAL CHEMISTRY/SMA**	

Fig: Request form for investigation by Pathology Laboratory

9.3 THE NURSING RECORDS

Observations by the nursing staff are recorded only when patients are admitted.

(a) The nursing record. Concerning treatments, this may be written on visible-edge cards, (filed alphabetically or according to bed numbers – on the ward) and recorded in the Case Notes only when the patient is discharged.

(b) Intake and output charts record all fluids taken orally or by transfusion, all fluids lost by mictrition, defaecation, vomiting or drainage.

(c) Graphic records are specially printed sheets for TPRs (temperature, pulse and respiration), blood pressure, mictruition and bowel –function. Entries might be made every fifteen minutes or just twice a day, according to the nature of the case.

The nursing section carries Sister's signature or, in her absence, that of the Staff Nurse. Often a visible – edge system is used, perhaps mounted on the bed rail. Some hospitals retain all these records and some substitute a summary sheet once the case ceases to be current, while others do not keep the nursing section at all after discharge. (The bulkiness of records creates space problems in the filing system).

Surname (Block Letters)	Christian Names	Folder No.
Ward	Date of Admission	Date of Discharge
Address		
Next of Kin & Address (give Telephone NO.)		
Age	Religion	General Practitioner
Provisional Diagnosis	Final Diagnosis	
Date	**Nursing Report**	**Signature**
Name	First Name	Unit No.
Date Ordered		**Date Discontinued**
	Diet	
	Allergies	
A88 SO IBM 3377		

Fig: The nursing Record – Visible – Edge Card System

9.4. OPERATING THEATRE RECORDS

Hospitals basing on their size, may perform operations in their own premises or may carry in other hospitals. In a Group, surgery may be carried out in one hospital and not at another, or one kind of surgery here and another there. In a very small hospital, there may be only one theatre, possibly with a recovery room where patients on trolleys 'come round' from anaesthetics before being taken to wards. Large organizations have several operating theatres with a sister in charge of each and one, sometimes senior, in overall charge. Where the theatre suite is extensive, the permanent nursing staff can specialize.

Roughly speaking, there are two kinds of surgery:

1. Emergency cases at any time of the day or night. These are organized by the Surgical House Officer and the theatre staff; and patients are taken directly into the theatre. The identification section of the Case Notes may not be filled in until afterwards, and in certain circumstances the regulations about the Consent form may have to be waived; as with all matters relating to the Consent Form, ultimate responsibility rests with the surgeon.
2. Non-emergency surgery falls into three groups:
   (a) Cases admitted from the Waiting List.
   (b) Those admitted as emergencies but found to be in need of a period of ward-care prior to surgery.
   (c) Minor surgery for which only a few hours' ward-care is necessary or even none at all; such cases are normally entered on a separate waiting List.

CONSENT FOR OPERATION

_____ Hospital

I _____ of _____

_____ hereby consent to the submission of my child/ward* _____ to undergo the operation of _____ the nature and purpose of which have been explained to me by Dr. / Mr.* _____.

I also consent to such further or alternative operative measures as may be found necessary during the course of the above-mentioned operation and to the administration of general, local or other anaesthetics for any of these purposes. No assurance has been given to me that the operation will be performed by any particular practitioner.

Date _____ Signed _____

Patient / parent/guardian*

I confirm that I have explained the nature and purpose of this operation to the patient / parent/guardian.*

Date _____ Signed _____

Medical /Dental * Practitioner

*Delete in appropriate

St. A.H. IBM 2396 AI5SO JAN 2006

Fig: A Consent for operation form

The Operations List:

The decision about who is to receive surgery at a particular time is taken by the surgical team in consultation with the theatre staff; the availability of beds is shown on the Beds States return made that day to the Medical Records Department.

OTHER DEPARTMENTS:

Ideally, the order in which operations are going to be performed is entered in a diary or register from which the medical secretary can type a circulation list. The Secretary who finds herself in any doubt about the order of this list must seek advice. No theatre Sister welcomes a mixture of long and short operations, complex and simple or 'clean' and 'dirty'; in any case, a surgeon of a particular speciality may be needed, and neither he nor the anaesthetist welcomes a 'staggered' programme.

Declining to accept responsibility for the order until it has been profesionally approved, the secretary will type the details (usually on a specially – printed list) and, if she is wise, delay this until she has been informed that the patients have been admitted and declared fit for surgery. Then it is circulated to:

The surgeon, Surgical Registrar, House Surgeon (A Senior House Officer) and the anaesthetist.
The Theatre Sister, Matron and Ward Sister.
The Pathology and Radiography departments.
The Physiotherapy Departments.
Perhaps the Medical Social Worker, and any other interested parties about whom she will be notified.
The latter could include people responsible for student training, special equipment, photography and so on.

MATERNITY – THE OBSTETRIC DEPARTMENT:

Hospital confinements have taken precedence over home-deliveries; in the Group, maternity cases may be referred to one particular hospital only. But there are cases where three agencies are involved.

The Hospital
The Local Authority
The General Practitioner

The situation is further complicated by the fact that antenatal care may be undertaken by the hospital or by the GP, irrespective of where the confinement is to take place. Under these circumstances, the Co-operation Card is invaluable, as the patient takes it with her to each consultation, no matter where it is being conducted or by whom, so that each party can make an entry for the other (s) to read. On the principle that patients do not have access to their medical records, this card may be returned to the

woman in a sealed envelope each time. This precaution is dispensed with, however, by some doctors who have observed that the recorded information is of tremendous interest to the mother-to-be and stimulates healthy discussion, the voicing of worries and queries. After all, she is not ill and the better she understands what is going on inside her the more relaxed she will be. Unfortunately, there may be clinical and other circumstances contra-indicating such a practice, so the medical secretary receives instructions about whether the envelope is to be sealed or not.

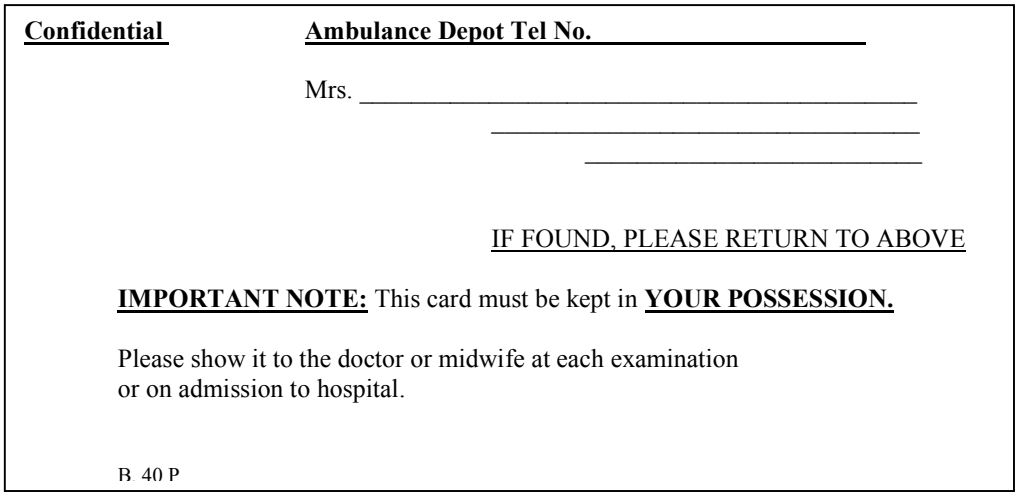

Fig: One kind of envelope in which the cooperation card is kept

After the birth, the Co-operation Card is retrieved by the general Practitioner, summarized or placed in the woman's medical records envelope; the secretary can offer a timely reminder about this.

Integrated Maternity Care:

Although less and less confinements are taking place in the home nowadays, the community midwife still has an important contribution to make in ante-and post-natal care; in many hospitals, she is able to participate in the maternity service, including delivery, as they run a GP maternity unit or welcome her into the consultant Obstetric Unit.

There are several ways in which obstetric care can be integrated. When the patient makes the initial booking for her confinement, she could be seen not only by her GP but the midwife and Health Visitor. Then at the next appointment when she sees the GP and the Consultant Obstetrician, a scheme of management is evolved for her. Assuming that everything is normal, she is from then onwards attended by the GP and the midwife.

The secretary known that ante-natal attendances are commonly monthly up to the twenty-sixth week of pregnancy, fortnightly to thirty-six weeks and then weekly until delivery. General care might be shard by the GP and the midwife, with the patient visiting the obstetrician only when necessary. (Both the hospital and GP secretaries will

be on the alert for DNAs). The Co-operation Card accompanies the patient when she enters hospital for her confinement.

The advantages of controlled integrated care are as follows:

1. The obstetrician's work-load is reduced yet he is monitoring the case with optimum responsibility.
2. The GP-patient relationship is not interrupted.
3. He is more easily accessible than the hospital doctor.
4. She spends the minimum time in unfamiliar surroundings.
5. The midwife is a known figure from the beginning to the end of the pregnancy.
6. The involvement of the Health Visitor adds to the strictly medical / nursing care. Her notes, combined with those of the midwife, and the GP's long-standing record, facilitate the best management of mother and child once they leave hospital (and constitute a limited kind of patient-orientated case history).
7. Nonetheless, all the specialized resources of the hospital are available throughout for problem cases.

9.5 THE INTENSIVE CARE UNIT:

The ICU is not a part of the hospital with which the medical secretary has close contact, but she is familiar with its main features, and she is in a position to enlighten those people who confuse it with the Operating Theatre's Recovery Room!

Staff:

The Intensive Care Unit is run by a specialized team headed by a Consultant Physician and including anaesthetist, pathologist, Senior Registrars in medicine, surgery and anaesthetics, as well as a Senior House Officer (medical). When a patient has been admitted by a particular 'firm' that Consultant, his Registrars and Housemen become members of the team for the duration of the stay. The nurse-patient ratio might be as high as 4-1.

Cases:

The aim of the Intensive Care Unit is the provision of constant medical and nursing attention for the critically ill. Cases may be graded, however, as requiring intensive, medium or minimal care, and the length of stay varies accordingly.

Typical cases are those who have undergone major surgery, and others who need continuous monitoring, the maintenance of an airway, the control of toxaemia, the relief or prevention of shock, cardiac cases, and those with multiple injuries, particularly to the head.

The secretary may become involved if her Consultant or 'firm' is on the team for the duration of a particular case, or she may work permanently for the Consultant in charge of the unit; whatever her position, she observes meticulously all the regulations concerning the ICU.

Intensive Care Unit Record Format:

Intensive care unit records consists of comprehensive information about the patient. The specimen furnished below will reveal nature of information to be filled in by the care taker in the unit. The record is a comprehensive format comprise the profile of patient, disease symptoms, pathology report, consent for operation, diagnosis results CT Scan report findings, pre-operative diagnosis and post operative diagnosis, observations recorded with regular intervals about B.P. Temperature, Pulse rate, ECG rhythm, respiration rate, Blood glucose level medication details, nursing notes and other details etc.

INTENSIVE CARE UNIT

ABC HOSPITAL
GUNTUR

Name of Patient:

Age: Sex:

I.P. No:

Address:

Unit:

Name of Unit Chief:

Date of Admission

Date of Operation:

Date of Discharge:

Diagnosis:

M.L.C./ Non M.L.C.:

I.C.U., ABC Hospital, Guntur, Ph: 0863 -5544332211

SPECIMEN OF INTENSIVE CARE UNIT COMPREHENSIVE RECORD

INTENSIVE CARE UNIT

ABC HOSPITAL, GUNTUR

CASE SHEET

Under Dr…..…..…..…..…..…..…..…..…..…..…..

Date / Time of Admission	**Date of Discharge**		**Date of Operation**
Name of the Patient:	Age Sex	Sex	V/ NV I.P. No.
Address	Occupation: Income:		
Diagnosis:			
Identification:			
Complaint / Duration:			
History of Present Illness:			

Injuries:

General Examination:

Systemic Examination:

Clinical Diagnosis:

ABC HOSPITAL, GUNTUR
INTENSIVE CARE UNIT - INVESTIGATIONS CHART

Biochemistry															
Sodium:	135-145 m M/L														
Potassium:	3.2-5 m M/L														
Chloride:	96-106 nM/L														
Bicarbonate:	22-26 mM/L														
Calcium:	8.5-10.5 mg/dl														
Magnesium	0.6-1.1 nM/L														
Phosphorus	2.7-4.5 mg/dl														
BUn	6-20 mg/dl														
Creatinine	0.6 – 1.4 mg/dl														
Glucose	70-110 mg/dl														
Creatine Kinase (CK)	26-174 U/L														
CK – MB	< 6% OF Total CK														
Total Bilirubin	< 1 mg/dl														
Direct Bilirubin	< 0.4 mg/dl														
SGOT (AST)	0-40 U/L														
SGPT (ALT)	0-40 U/L														
Alkaline Phosphatase	30-115 U/L														
Gama GTP	F5-55, M15-85 U/L														
LDH	90-20 U/L														
Amylase	31-123 U/L														
Lipase															
Total Protein															
Albumin															
HAEMATOLOGY															
RBC	3.5 – 5.5 x 10^6/ul														
Haemglobin	11-17 – gm%														
Haematocrit (PCV)	35-55														
Reticulocyte count	0.5 – 1.5%														
WBC : Total Count	4,000-11,000 /ul														
DC: Poly	40-75%														
Lymph	20-50%														
Mono	2-10%														
Eos	1-6%														
Baso	0-1%														
Misc															
Platelets	150-450 x 10^3 /ul														
ESR	M:3 – 10F : 5-20														
Bleeding Time	1-6 Min														
Clotting Time	1-6 Min														
Clotting Time	5-10 Min														
Prothrombin Time															
APTT															
Fibrinogen / FDP															

ABC HOSPITAL, GUNTUR
INTENSIVE CARE UNIT

X - Ray Report:

Ultra Sound Report:

C.T. Scan Report:

Other Special Investigations:

Date & Time	Progress Notes	Orders

ABC HOSPITAL, GUNTUR

INTENSIVE CARE UNIT

OPERATION RECORD

Name	Age	Sex	Hospital No.	Ward	BED No.
Date of Operation					
Pre-Operative Diagnosis					
Post-Operative Diagnosis					
Operative Procedure Proposed			Type of Procedure	Major Minor	
Operative Procedure Executed					
Surgeon		Assistant: 1		Assistant: 2	
Anaesthetist		Anaesthetic		Nurse	
MATERIAL FORWARDED TO PATHOLOGY DEPT. FOR EXAMINATION					

Skin Preparation	
Findings	
Records Condition of all Organs Examined Procedure include Incision Ligatures Sutures Specimen Removed Drainage Sponge Count Closure Bleed Loss Operative time	

Reporter to sign in FULL at the end of the Report OPERATION RECORD

OPERATION RECORD

PROCEDURE (Continued) Include Incision Ligatures Sutures Specimen Removed Drainage Sponge Count Closure Blood Loss Operating time	
Biopsy Report	

ABC HOSPITAL, GUNTUR

CRITICAL CARE FLOW CHART

TEMPERATURE / CARDIOPULMONARY / NEUROLOGICAL STATUS

Time																				
Temperature																				
40																				
103																				
39																				
101.5																				
38																				
99.5																				
37																				
97.5																				
36																				
Heart Rate																				
ECG Rhythm																				
BP: Cuff																				
BP: Arterial Line																				
Mean Art. Pr.																				
CVP																				
PaOP																				
Cardiac Output																				
SVR																				
Resp. Rate (tot)																				
Res. Rate (sp)																				
Venitlator Mode																				
Oxygen: FiO_2																				
Oximeter: SpO_2																				
Pupil Size																				
Eye Opening																				
Best Verbal																				
Best Motor																				
Rx																				
Blood Glucose																				

CRITICAL CARE FLOW CHART

MEDICATIONS / IV FLUIDS

#	Medication Route & Dose	Timing of Dose						Start Date	Finish Date	Day #	D/C (Signed)
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

#	IV Fluids	Rate	#	IV Fluids	Rate	
1			9			
2			10			
3			11			
4			12			
5			13			
6			14			
7			15			
8			16			

MAINTENANCE OF VASCULAR ACCESS

#	Site	Type of Line	Insert Date	Day #	Dressing Change	Condition of Site
1						
2						
3						
4						
5						

GLASGOW COMA SCORE

Eye Opening		Motor		Verbal	
Spontaneous	4	Follows Commands	6	Oriented	5
Voice	3	Localizes	5	Confused	4
Pain	2	Flexion / withdrawal	4	Words	3
None	1	Flexion	3	Moans	2
		Extensor	2	None	1
		Flaccid	1		
Range = 3-15				Coma < 8	

ESTIMATED CALORIC NEED

1. RESTING ENERGY EXPENDITURE (HARRIS – BENEDICT EQUATION):

Males = 66.4 + 13.8 Wt. + 5 ht. – 6.8 Age =
Females = 655 = 9.6 Wt + 1.8 Ht. – 4.7 Age =

2. STRESS FACTOR:

Moderate = 1.2 x =
Severe = 1.2 x =

3. TOTAL CALORIC NEED

REE x STREES FACTOR =

NURSING NOTES: Date:

Name of Nurse:	Shift:
Signature	

Name of Nurse:	Shift:
Signature	

Name of Nurse:	Shift:
Signature	

ABC HOSPITAL, GUNTUR

INTENSIVE CARE UNIT

INSULIN CHART

Name ……. Block …… Bed No. ……

Date	Time	Colour	Insulin	Tablets	Signature

ABC HOSPITAL, GUNTUR

INTENSIVE CARE UNIT

INSULIN CHART

NAME & ADDRESS	AGE WARD	SEX BED	IP No……

Diagnosis _____

Referred by:

Treatment requested:

Mon -th	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Tot
Jan																																
Feb																																
Mar																																
Apr																																
May																																
June																																
July																																
Aug																																
Sep																																
Oct																																
Nov																																
Dec																																

Date	Treatment & Progress Notes

Physiotherapist

CHECK YOUR PROGRESS :

1. What is diagnostic Index ?

   _____

   _____

2. What are the contents of case notes?

   _____

   _____

3. What is non-emergency surgery?

   _____

   _____

4. Write notes on integrated maternity care?

   _____

   _____

5. What is the primary aim of Intensive Care Unit (ICU) ?

   _____

   _____

9.6 LET US SUM UP

Diagnostic index is a comprehensive system that consists of Summarised information of various patients who have undergone treatment in that hospital, arranged in a systematic manner by giving code numbers. Usually doctors enter diagnosis findings on to the identification sheet to serve the purpose of future reference and statistics as well. Clinical records includes X-Ray format, Pathology reports, Pre-operative and post-operative findings, General Practitioner's impressions etc.

Nursing staff enter the observations like temperature, pulse rate, and rate of respiration (TPR), Blood pressure, etc. in the printed proforma. Before making arrangement for conduct of operation (Surgery) the doctors will take the consent of patient or relatives of patients stating that patient will be held responsible in any circumstances during operation and at later stage.

Intensive care unit offer critical medical care to seriously ill patients who are required to be provided with constant supervision, medication and assistance. Typical cases who have undergone major surgery, heart attack, seriously injured are offered with Intensive care.

9.7 TERMINAL QUESTIONS :

1. Discuss the contents of Diagnostic index.
2. Reproduce X-Ray request form.
3. Redraw the format of pathology investigation form
4. Narrate the content of the proforma of consent for operation
5. What contents do you come across in critical care flow chart?
6. Redraw insulin chart.

9.8. SUGGESTED REFERENCES

1. Guide to the Organisation of a Hospital Medical Record Department, American Hospital Association, Chicago.

2. Medical Records, Indira Gandhi National Open University, New Delhi.

Lesson –10 HOUSE KEEPING, FOOD, ENGINEERING , BILLING RECORDS

Structure

10.0 OBJECTIVES

After studying this lesson, you should be able to :

- understand the format of house keeping and engineering records ;
- know food records and the standards of diet ;
- learn various billing practices.

10.1 INTRODUCTION

House keeping is a specialised wing which looks after the function of keeping the hospital clean and neat. In a few hospitals, house keeping department is otherwise called laundry. House keeping department will collect the linen to be washed from each ward, and make them fresh and clean, and surrender those linen back to the wards. Diet department will take care of supplying the calculated caloried food to different patients. Dietitian will decide upon the content and ingredients to be added to prepare the dish. The dish can be a solid or a liquid. The dietitians usually follow the internationally approved standards while preparing food to different categories of patients.

Billing is an activity that concludes the stay and treatment extended to a patient, and settles the account of financial transactions on his name.

Different Types of Billing Practices can be observed on the basis of the size and the specialty of the hospital. Usually, the bills will reveal the details of date of admission, date of discharge, the services rendered by the hospital, the cost of treatment, and other tests carried out during the stay of patient in that hospital.

Engineering records may not get much attention by the concerned authorities. Every hospital may not operate a separate engineering department to carry out different activities, works, repairs and maintenance, etc. The tertiary level of hospitals do maintain a separate engineering department to take care of the construction, repairs, electrification, water supply, drainage and plumbing work, etc.

10.2 HOUSE KEEPING RECORDS

House keeping department makes the hospital environment clean and hygienic.

House keeping is a dark horse in the entire system of a hospital. Much attention may not be given to this department at large. In most of the hospitals, separate house keeping departments may not be found but this function is facilitated through division of work among different entities. In a few hospitals, house keeping is supervised by the nursing department. In tertiary level hospitals, you find laundry section which takes care of cleaning fabric wear, linen, instruments and other put-ons. A separate wing is organsied to collect the details of linen, aprons, bed-sheets, leg-ins, etc. to be washed from each ward. The entries are made in the printed form.

Name of Ward Section :				**No.**	
Sl. No.	**Item name**	**Number**	**Date of Collection**	**Date of Delivery**	**Remarks**
1.	Bed Sheets				
	1. White				
	2. Green				
2.	Pillow Covers				
3.	Aprons (OT)				
4.	Masks				
	Leggins				
	Caps				
5.	Screen Cloths				
6.	Window Covers				
7.	Woolen Wear				
8.	Wear & Tear				
9.	Door Curtains				
10.	Mosquito Nets				
11	Towels				
12.	Others				

Signature of Ward Sister

Specimen of House Keeping Form

THE AVAILABILITY OF BEDS:

The decision about when to admit has to be based upon the Bed Status & the daily return. The ward Sisters make the Medical Records Department aware of the number of beds occupied, and the number unoccupied. These events are recorded on printed forms, perhaps separate sheets or perhaps in books providing several copies. They are collated in the Medical Records Department; sometimes a control board (The Bed Board) is used to provide instant visual impact of the overall beds situation. Alternatively Bed Status information can be computerized, by checking that one can understand a bed status of an appropriate ward, and selection will be made from the Waiting List.

10.3 FOOD RECORDS

10.3.1 Standards Of Requirements Of Calories And Various Nutrients

It is not convenient to have an estimate of the daily requirement of energy for individual people and so standards of requirements for average people have been made. The table below shows the daily requirement of Calories for adults and children, and also of the various nutrients.

BALANCED DIETS
(As revised in 1981)

Food Item (gms/day/ head)	Adult Man			Adult woman			Children		Boys	Girls
	Seden -tary	Mode-rate work	Heavy work	Seden-tary	Mode-rate work	Heavy work	1-3 years	4-6 years	10-12 years	10-12 years
Cereals	460	520	670	410	440	575	175	270	420	380
Pulses	40	50	60	40	45	50	35	35	45	45
Leafy vegetables	40	40	40	100	100	50	40	50	50	50
Other Vegetables	60	70	80	40	40	100	20	30	50	50
Roots and tubers	50	60	80	50	50	60	10	20	30	30
Milk	150	200	250	100	150	200	300	250	250	250
Oil and Fat	40	45	65	20	25	40	15	25	40	35
Sugar or Jaggery	30	35	55	20	20	40	30	40	45	45

Sources: National Institute of Nutrition, Hyderabad.

Recommended Dietary Intakes of Nutrients

Group	Particulars	Net Calories (Kcal)	Proteins (g)	Calcium (g)	Iron (mg)	Vitamin – A		
						Retional (µg)	Or	β-carotene (µg)
1	2	3	4	5	6	7		8
Man	Sedentary work	2400						
	Moderate work	2800	55	0.4 - 0.5	24	750		3000
	Heavy work	3900						
Woman	Sedentary work	1900						
	Moderate work	2200	45	0.4-05	32	750		3000
	Heavy work	3000						
	Pregnancy (second half of pregnancy)	+ 300	+14	1.0	40	750		3000
	Lactation							
	0-6 months	+ 550	+ 25		32	1150		4600
	6-12 months	+ 440						
Infants	0-6 months	118/kg.	2.0/kg	1.0	400			
	6-12 months	108/kg	1.7/kg	mg/kg	300			1200
Children	1-3 years	1220	22.0			250		1000
	4-6 years	1720	29.4	0.4-0.5	20.25	300		1200
	7-9 years	2050	35.6			400		1600
Boys	10-12 years	2420	42.5	0.4-0.5	30-25	600		2400
Girls	10-12 years	2260	42.1					
Boys	13-15 Years	2660	51.7	0.6-0.7	25	750		3000
Girls	13-15 Years	2360	43.3		35			
Boys	13-15 Years	2860	53.1	0.5-0.6	25	750		3000
Girls	13-15 Years	2200	44.0		35			

Sources: *National Institute of Nutrition, Indian Council of Medical Research, Hyderabad, India.*

Continued in next page.

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Thiamine (mg)	Riboflavin (mg)	Nicotinic Acid (mg)	Vitamin B_6 (mg)	Ascorbic acid (mg)	Folic Acid (µg)	Vitamin B_{12} (µg)	Vitamin D (I.U.)
9	**10**	**11**	**12**	**13**	**14**	**15**	**16**
1.2 1.4 2.0	1.4 1.7 2.3	16 19 26	2.0	40	100	1	
1.0 1.1 1.5	1.1 1.3 1.8	13 15 20	2.0	40	100	1	
+ 0.2	+ 0.2	+ 2	2.5	40	300	1.5	
+0.3 +0.2	+0.3 +0.2	+4 +3	2.5	80	150		
59 µg/kg 54 µg/kg	71 µg/kg 65 µg/kg	750 µg/kg 710 µg/kg	0.3 0.4	20	25	0.2	
0.6 0.9 1.0	0.7 1.0 1.2	8 11 14	0.6 0.9 1.2				
1.2 1.1	1.5 1.4	16 15	1.6	40	100	0.2-1.0	200
1.3 1.2	1.6 1.4	18 15	2.0				
1.4 1.1	1.7 1.3	19 15	2.0				

SUGGESTED SUBSTITUION FOR NON-VEGETARIANS

Food item which can be deleted in non-vegetarian diets	Substitution that can be suggested for deleted item or items
50% of pulses (20-30 g)	1. One egg or 30 g of meat or fish. 2. Additional 5g of fat or oil.
100% of pulses (40-60 g)	1. Two eggs or 50g of meat or fish or one egg + 30 g of meat or fish. 2. 10 g of fat or oil.

ADDITIONAL ALLOWANCES DURING PREGNANCY AND LACTATION

Food Items	During Pregnancy	Calories (Kcal)	During Lactation	Calories (Kcal)
Cereals	35 g.	118	60 g.	203
Pulses	15 g.	52	30 g.	105
Milk	100 g.	83	100 g.	83
Fat	-	-	10 g.	90
Sugar	10 g.	40	10 g.	40
Total	**-**	**293**	**-**	**521**

(as revised in 1981)

10.3.2 Principles of Diet Therapy

The general principles of nutrition relating to health apply also to the treatment of patients suffering from various diseases. Diet in disease must be planned as part of the complete care of the patient. Many modifications may have to be made according to the disease and the condition of the patient, but there are certain general principles which may be used for guidance.

I. General Rules for Treatment:

1. The diet must be planned in relation to changes in metabolism occurring as a result of the disease. This may make it necessary for the patient to change his diet habits, reducing amounts of some foods, and increasing amounts of other foods.

2. The diet must be planned to agree as nearly as possible with the patient's food habits, his likes and dislikes, how food agrees with him, and the amount of exercise he takes.

3. Adequate explanation must be given when it is necessary to make dietary changes quickly. Foods forbidden should be stated clearly, but a food should not be forbidden unless there is a good reason. Otherwise, changes should be made gradually.

4. In a short, sharp illness, appetite often fails, and food should not be forced; but in a long illness, providing adequate amounts of food to replace lost tissue must prevent wasting.

5. Whatever the diet prescribed, there should be plenty of variety; hot foods should be served hot, and cold foods cold.

II. Modifications of Nutrients in Therapeutic Diets:

Modifications of quantities of some of the nutrients may become necessary. However, the following points should be noted.

1. Carbohydrates are usually well tolerated, and are necessary to maintain the stores of liver glycogen. Sugars and well-cooked starches are easily digested and absorbed, and are not held for long in the intestine.

2. The tolerance of fats varies in different individuals; and this nutrient should not be forced if there is nausea and vomiting. At times, the fat used may be the patient's own body fat. During diseased conditions, if food taken by the patient is not adequate for the body needs, then the fat stored in the adipose tissue will be used for energy. Fatty acids coming from these fats are broken down to ketone bodies in the liver. The ketone bodies are then sent to the peripheral tissues for completion of oxidation to carbondioxide and water. In the absence of carbohydrate, ketone bodies are produced more rapidly in the liver than they can be oxidised in the tissues; and so they accumulate in the blood, resulting in the condition known as ketosis.

3. **Protein:** In illness, there is usually an increased demand for protein, due to wasting, and this should be given in easily digestible forms such as milk, eggs, chicken and fish. However, if the level of urea in the blood is greater than normal, the amount of protein in the diet must be restricted.

4. **Inorganic elements:** The requirements of calcium and iron must be maintained during illness; and it is therefore necessary to check these elements if a patient is on restricted diet for a long time. Sodium and potassium may sometimes need to be restricted, especially if there is oedema and ascites.

5. **Vitamins:** The vitamins must always be adequate to maintain the balance of a diet. Fat-soluble vitamins often need to be added as concentrates if a patient has to be on a fat-restricted diet for along time. Vitamins of the B Complex are often deficient in Indian diets and may not be adequately absorbed in pathological conditions of the gastro-intestinal tract. The demand for Vitamin C is greatly increased in fevers, and it is especially necessary for the healing of wounds after surgery.

6. **Roughage:** Excessive bulk hinders the penetration of the digestive juices, but it may be necessary to include foods with a moderately high residue content to produce daily bowel action.

7. **Fluids** are very important to prevent dehydration which is common in conditions of fevers, diarrhoea or vomiting. In such conditions, 2,500-3000 ml must be given in 24 hours with as much variety as possible, both in appearance and in taste. If adequate fluids cannot be given by mouth, they must be given intravenously. Fluids with added protein are necessary for patients who must be fed on liquid diets for along time.

In almost all diseases, milk is one of the best foods, except for its deficiency in iron, thiamine and ascorbic acid, but it must be modified and flavoured in different ways to prevent monotony.

10.3.3. Types of Diets used in Hospitals:

Therapeutic nutrition should begin with the normal diet. The types of diets usually available for patients in hospitals are:

1. Regular or full diet, vegetarian or non-vegetarian, which should be well-balanced and adequate for normal nutrition. This is for patients who do not need any special modifications.

2. Soft or light diet, which is the step between the full liquid and the regular diet.

3. Liquid diet for those unable to take solid food.

4. Modified diet for those requiring modifications of the regular diet in order to supply various needs of the body in disease. Modifications of the regular diet may be made by:
   (a) Changing the methods of preparation, e.g. soft diet.
   (b) Changing the consistency, e.g., liquid diet.
   (c) Increasing or decreasing the total amount of energy (calories).
   (d) Adding or reducing one or more nutrients, e.g., high protein, low sodium.
   (e) Increasing or decreasing bulk, e.g., high or low fibre diets.
   (f) Including or excluding specific foods, e.g., for allergy conditions.

10.3.4 Patient-wise – Ward-wise Diet sheet

In large hospitals the patients are supplied with the required diet. The secondary and tertiary level hospital, supply different types of food taking into account the patient condition. The Diet sheet is a printed proforma which consists of columns stating the requirement of patients in each ward. It comprises details of full diet, Bread & Milk, plain milk, High protein diet (HPD), in solid form and liquid form, Diabetic diet, sago diet from each ward. Accordingly the concerned dietician department will pass on instructions to the supervisor of food preparation and supply takes place accordingly. Once the supply is ensured, the head nurse of respective ward will sign on the diet sheet.

Fig : ***Specimen Of Diet Sheet***

Sl. No.	Name of Ward	Full Diet	Bread & Milk	Plain Milk	HPD Food	HPD Liquid	Dia-betic Diet	Sago Diet	Signature of Head Nurse			Re-marks
									Break fast	Lunch	Din-ner	

10.4 ENGINEERING RECORDS

Engineering Department is a separate department run either autonomously or affiliated to the local municipal authority. Engineering Department carries out the functions like:

- Maintenance
- Floor Creation
- A/c. Provision
- Elevation
- Road Laying
- Servicing
- Beautification
- Renovation
- Water Works
- Construction
- Ventilation
- Electrification
- Repairs
- White Wash / Painting

In secondary level or Tertiary level of hospitals the engineering department receives written instructions from the concerned superintendent stating the details of work to be done. Engineering department on receiving instructions, prepares an estimation of work cost. The superintendent approves the estimated cost, and will direct the accounts department to release the financial aid.

A to Z Hospitals
X Roads, Guntur

Superintendent
A –Z Hospital

Date : 01-02-06

Please attend / Take up following works. Before that submit an estimation.

A) Painting

B) Conversion of Administration Block

By Order

Superintendent

Engineer _____

Sl. No.	Name of the Work	Estimation	Stage of Work	Date	Remarks	Require-ments	Pay-ments
1.	Repairs	Rs.	Completed				
2.	Electrification	Rs.	Completed				
3.	Renovation of Pediatric Ward	Rs.	Completed				
4.	Repair & Water Supply	Rs. Rs.	In process O.K.				
5.		Rs.					
6.		Rs.					
7.		Rs.					

A Specimen Engineering work order – Status

10.5 BILLING RECORDS

Billing is the closing activity in a Hospital where in the patient has to clear the payments towards expenses incurred on treatment. Usually on the discharge day, the patient / patients relatives are asked to settle the bill. In corporate hospitals, the patient should deposit some amount in the form of advance. Patient has a choice of picking up package price where in a comprehensive set of health services are offered. The package includes all relevant consultation, surgery & medication, accommodation and pathology tests.

In small scale hospitals, the bill is prepared according to services rendered plus accommodation. The price of health care service varies from hospital to hospital. The recent development in health care sector is Memorandum of Understanding between health insurance provider and a hospital to facilitate coverage of healthcare expenses through mediclaim policies. The patients who have mediclaim policy coverage will get financial assistance through the health insurance provider. The financial assistance varies from partial coverage to full coverage. The patients who have insurance coverage should retain the copy of bill for future reference and remittance.

The Bill includes the details of date of admission, date of discharge, details of doctor who extended the treatment, services rendered, consultation fees, accommodation charges, cost of drugs used, cost of equipment implanted, diseases addressed, etc. The following few specimen of bills currently in practice in various hospitals.

Fig: Specimen of Package Bill of a Cardiac Patient

A TO Z HOSPITAL / BANJARA HILLS, HYDERABAD
DETAILS OF PACKAGE OF CHARGES

	General	**Sharing**	**Single**	**Deluxe**	**S. Deluxe**	**Suite**
CABG & Open Heart	Rs. 1 Lakhs	Rs. 1.25 Lakhs	Rs. 1.5 Lakhs	Rs. 2 Lakhs	Rs. 3 Lakhs	Rs. 4 Lakhs

(Rs. 10,000/- for medicines included in the package)

1. Package includes Cardiac Surgery, Post Operative ward room charges, medication, OT charges, physiotherapy, surgeon fee, anaesthetist fee, Swan gunz Catheter, PA sheeth, Heparine coated circuits, arterial filter, Food charges and 2Decho. CT ICU stay for 5 days only; for a maximum 10 days.

2. If Patient has Diabetic problem, will be charged extra in General Ward Rs. 4,000/, sharing room Rs.6,000/- single room Rs.7,000/- and in S. Deluxe room Rs.8,000/.

3. In case IABP is used, it will be charged extra in General Ward Rs.36000, sharing room Rs. 40,000, single room Rs. 45,000 and in Super Deluxe Rs. 50,000.

4. Vascular grafts, Pacemakers, Valves, Prosthetic grafts, Valved conduit will be charged extra. Non-Cardio thoracic /Cardiology Consultations, Lab Investigations, Procedures will be charged extra.

5. Fresh and same group Blood Donors have to be provided by patient's party only screening of up to 6 units will be included in the package. The Donors have to come on the day of admission for screening; and again they need to come on the day of surgery for actual Bleeding. Beyond 6 donors, screening charges will be extra, at the rate of Rs. 850 per screening.

6. Only one attendant is permitted to stay with the patient.

7. In the event of hospitalisation of Cardio-thoracic patients exceeding 10 days, the package period is deemed to have commenced 2 days prior to the date of surgery or the date of surgery whichever is earlier. Any stay longer than the package period attracts charges as per the normal tariff of the hospital.

8. When the patient is shifted for surgery the accommodation has to be vacated by the attendants. However, depending upon the availability of accommodation, the management can permit one attendant to retain the accommodation on payment of regular tariff, over and above the package tariff. For single room patient, room can be retained for 3 days. For super deluxe patient room, retention will not be charged during the package period.

9. Patient has to deposit the entire cost of the package at the time of admission only. Cost of additional services/ supplies not covered by package are to be deposited within 24 hours of receipt of intimation from the Hospital to the patient's attendant.

10. Under no circumstances can the patient claim refund for shorter period of hospitalisation than the package period or lesser number of tests performed than provided for in the normal package.

11. Where combined CABG & VALVE REPLACEMENT, REDO & EMERGENCY, DOUBLE VALVE REPALCEMENT, High Risk surgeries will be charged Rs.10,000 extra. Redo CABG Surgeries Rs. 15,000, etc. Retro Grade Cannula Rs. 3,500 extra. HBS Ag. (positive cases) kit Rs. 2,000 extra Hemocor filtration kit Rs. 6750 extra.

12. Medicines up to Rs. 10,000/- only covered in the package.

Note: This Tariff is not applicable for Tie-up/ Corporate Credit Patients.

CT PRO ***Dept. of Cardio-thoracic surgery***

Fig: Specimen of Bill used in Corporate Hospitals

A TO Z HOSPITALS

The Institute of Medical Sciences

Hospital Bill

Bill No:	AB0512001923	Bill Date :	26-09-2005
Reg. No:	0151256702	Bill Time:	07:55
Patient Name:		Admn.Time:	15:07
Age / Sex :	57/Male	Disch. Date:	26-09-2005
Address:	X Roads,	Disch. Time:	11:43
	Hyderabad	Room / Bed:	502/A

Pay Mode: Cash/Credit Card /Policy Name of the Doctor:
Unit : Cardiology

Sl. No.	Service Name	Amount (Rs.)
1.	Cardiology Consultation	
2.	Urology Consultation	
3.	Other Consultations	
4.	Non-invasive invest.	
5.	Drugs and Medicines	
6.	Urology Procedures	
7.	Bed Side procedures	
8.	Critical Care	
9.	Blood Bank	
10.	Hematology	
11.	Radiology – Dopplers	
12.	Bed Charges & Room Rent	
14.	Misc. Services	

Total :
Patient Amt :
Less Adv.:
Less Crdt. Note

Net Refund :

Amount Received :
Rupees in words : _____
Credit Notes :
Receipt No :

24 Hours Emergency Care : Call 106/108/109/554433

A to Z Hospitals : Hyderabad / Guntur/ Vijayawada / Visakhapatnam
www.atozhospitals.com

ABC HOSPITALS 'X' Roads, Guntur – 522 002	
Name of Patient : Date of Admission :_____ Date : _____ Date of Discharge : _____ Clinical & Diagnostic Services Rs. _____	
Services Rendered	**Charges**
1. Operation 2. Room Rent 3. Drugs Used during Surgery 4. Ailments 5. 6. 7.	
Total	

Fig: A Specimen of Billing of Small Scale Hospital

The Correspondence Section:

Correspondence is likely to be:

(a) The General Practitioner's referral.
(b) The Consultant's reports to the GP.
(c) Letters to and from other Consultants, hospitals and local Authority clinics.
(d) The discharge letter to the GP. A proforma discharge note may be issued on the day of discharge so that the family doctor knows as soon as possible that his patient is now at home, but a full case summary, with suggested treatment, if necessary, follows soon afterwards.

Some hospitals retain all correspondence, in chronological order; some replace it on discharge with a summary sheet. (Only the very experienced secretary can summarize medical correspondence, and even she needs professional guidance). Others keep all documents but, nevertheless, have a summary sheet on top so that contents can be assessed at a glance.

Depending upon the nature of the case and the size of the hospital, the following other sheets may be present:

A prescription chart. This is used for in / out patients; it is returned from the pharmacy, and enables doctors to see previous medication at a glance.

A theatre or surgical as Operations Sheet. Each operation is listed, with the names of the surgeon and anaesthetist, along with any relevant comments.

An Anaesthetic Form. Different cases require different anaesthetics; this and the complexity of modern techniques takes a record necessary.

Consent Forms. Patients or their guardians must give consent before operation, sterilizations and post-mortem examinations can be performed.

Photographs. Clinical photography plays its part in hospitals today, creating permanent records of unusual or interesting conditions. Where a large number of pictures exist, when plastic surgery is carried out, for example, they may be filed separately; a note of their where abouts should appear in the Case Notes.

The order of all these sheets inside the folder will vary from, hospital to another; they should ideally be printed on the front. If instructions are not present, the secretary should obtain them. It might be:

(a) Chronological
(b) With a division of in / out patient attendances
(c) With separate folders for in / out patient attendances, reports and correspondence
(d) Occasionally psychiatrists and venereologists will keep very private notes in their own hands in order to make patients feel totally secure.

As always, the golden rule is that when Case Notes are split up a clear and prominent note of their location must be made on the main folder.

The order of all these sections inside the Case Notes may vary from one hospital to another, but within the organization, it should be uniform.

Case Notes follow patients to wards and operating theatres.

CHECK YOUR PROGRESS

1. State the other name of House Keeping Department.

_____

_____

2. How many grams of cereals and pulses should be consumed by an adult man?

_____

_____

3. State the types of diet supplied in hospitals?

_____

_____

4. What is package Billing?

_____

_____

5. What activities are taken up by the Engineering Department in Hospitals?

_____

_____

10.6 LET US SUM UP

House Keeping Department is a very vital department in a hospital. It carries out the function of keeping the hospital clean and hygienic. Usually, these departments supervised are by the Nursing section. In a few hospitals, it is called laundry which would take up the job of cleaning the linen. The diet department in a hospital usually prepares food according to the requirement of patients. The diet department employees will collect the details of food requirements of each ward from the respective ward nurses. The total requirements are coupled to arrive at final requirements. Usually, they supply bread and milk, food, high protein liquid diet, high protein solid diet, diabetic diet, etc.

Billing is important in any hospital as the final activity. The billing practices vary from hospital to hospital. The small scale hospitals maintain small bill formats, whereas the large and corporate hospitals have got their own developed billing proforma. Those hospitals prepare comprehensive bills which depict the total cost of treatment that the patient is given. The billing usually has a serial no. to locate the case at a later date. The presence of the Engineering department may be felt only at few levels of health care services. This department will carry out the functions like plumbing, repairing and maintenance, road laying, water supply, electrification, beautification, etc.

10.7 TERMINAL QUESTIONS

1. Discuss the functioning of house keeping department.

2. Examine various standards of nutrients and requirements of calories needed for an average man.

3. Discuss the principles of diet therapy.

4. Prepare the proforma of diet sheet.

5. What functions are performed by the engineering section?

10.8 SUGGESTED REFERENCES

1. Guide to the Organisation of a Hospital Medical Record Department, American Hospital Association, Chicago.

2. Medical Records, Indira Gandhi National Open University, New Delhi.

Lesson - 11 DISCHARGE, TRANSPORTATION, MORTUARY MAINTENANCE AND MEDICO LEGAL RECORDS

Structure

11.0 OBJECTIVES

After studying this lesson, you should be able to:

- understand the discharge proformas;
- learn the details of transportation records;
- know details of mortuary maintenance records and medico legal requirements.

11.1 INTRODUCTION

Once the patient is found physically, and mentally fit and cured from diseases, the doctor will advise / announce him / her to get discharged, and can continue medication (as directed) in future course time (or) as the situation and case demands. Transportation management is vital for every hospital. Ambulatory services are operated under public as well as private ownership. Majority of the secondary and tertiary level hospitals operate ambulance as a part of offering health service to the society. Most of the hospitals do possess a toll free number to call in order to seek the help of ambulance service during emergency situations. “108” or 999, 5566567 in some cities are the numbers operated as toll free. One can make a request over phone to get ambulance to rescue patients.

Some times the patient is brought in an acute serious condition or dead. If the patient is found dead the body will be handed over to patients’ relatives or will be kept in mortuary. Especially, the medico legal cases are usually referred for postmortem. Before

postmortem and after postmortem on the basis of the on need intensity and as per the directions of the concerned authorities like Police or Forensic specialist, dead body is kept in the mortuary room. In medico legal cases, a comprehensive summary will be prepared by the forensic expert, and submit accordingly to legal authorities or present before the honourable judiciary.

11.2 DISCHARGE RECORDS

As soon as the doctor announces the date on which the patient may leave the hospital, the Ward Sister sends a discharge note to the Medical Records Department; this can be dispensed with if the Bed States form is the type that includes a space for the patients' names.

It is not always possible or practical in busy hospitals to write to the General Practitioner on the actual day of discharge but, as he must assume clinical responsibility for the case, a proforma is posted to him or handed to the patient to deliver. This contains information about the diagnosis and treatment and anything else he needs to know immediately. Shortly afterwards a case summary follows, containing all or some of the following information:

(a) Symptoms
(b) Investigations
(c) Results
(d) Diagnosis
(e) Treatment
(f) Prognosis

A carbon copy of this report is placed in the correspondence section of the Case Notes (or summarized), a dated entry already having been made about the sending of the proforma.

The Admissions officer makes the discharge entry in the Admissions and Discharges Register (A & D register): It includes the following aspects:

(a) The discharge number
(b) The date of discharge or death
(c) Name
(d) Unit Number
(e) Ward
(f) A note may also be made of the fact that a proforma summary has been issued, and any other relevant comments.

Films are returned to the X-ray Department.

If there is a Casualty Card, this is extracted from the Case Notes, and sent for filing in the Casualty Department's secondary file.

The presence of all reports is checked.

RETURN OF PATIENTS

PATIENTS
REMAINING PREVIOUS
RETURN

WARD:

DATE:

IN

ADMISSIONS

HOSPITAL NUMBER	NAME OF PATIENT	HOSPITAL NUMBER	NAME OF PATIENT

INTER-WARD TRANSFERS IN

HOSPITAL NUMBER	NAME OF PATIENT	WARD TRANSFERRED FROM

OUT

DISCHARGES (Forms attached)

HOSPITAL NUMBER	NAME OF PATIENT	HOSPITAL NUMBER	NAME OF PATIENT

DEATHS (Forms attached)

HOSPITAL NUMBER	NAME OF PATIENT	TICK HERE FOR P.M.

TRANSFERS TO OTHER HOSPITALS (Forms attached)

HOSPITAL NUMBER	NAME OF PATIENT	HOSPITAL TO WHICH TRANSFERRED

INTER-WARD TRANSFERS OUT

HOSPITAL NUMBER	NAME OF PATIENT	WARD TRANSFERRED TO

NUMBER OF PATIENTS REMAINING

$Signature \frac{(Nursing\ Officer)}{(Nurse-in-Charge)}$

Fig: Specimen of the bed state

HMR 2A (90-615)		Unit No.
(GP COPY) Please do not enter details in this margin	DISCHARGE NOTIFICATION FROM HOSPITAL TEL No. EXT. (For this matter only)	SURNAME (Block Letters) Mr/Mrs./Miss FIRST NAMES ADDRESS POSTCODE
Fold → **NOTE:** If any of this Information Requires to be known urgently by the GP It should be communicated by telephone – the discharge form should be completed to follow Fold (Continue overleaf if necessary)	Dear Doctor Your patient admitted under the care of ……..……..……..……..……..……..……. Will be discharged / transferred on ……..……..……. to ……..……..……..…….. Diagnosis : Treatment Given : Treatment recommended : Drug Sensitivity: Community services arranged following discharge: • Home Nurse • Health Visitor • Social Worker • Other (please specify) Has Medicine been supplied (for ……. weeks/days) Has not Information given to the patient: has • An appointment been made for attendance as an outpatient on…… has not have • Arrangements been made for attendance as a day patient on …. days a week, Have not commencing • The patient should be fit to return to work on …… • The patient's fitness for work will be reviewed in out-patients/day hospital • The patient has been advised to see you within …..days/weeks. • A summary of the notes will follow Yours sincerely Date: Position held:	

Fig: One kind of discharge notification sent by some hospitals to GPs prior to, or accompanied by a consultant's letter

A DISCHARGE PROFORMA

Name and
Address of
the Hospital

Date _____

Dear Dr. _____

Your Patient _____

(Address) _____

_____

_____

under the care of _____

will be discharged on _____

_____

is being transferred to _____

Diagnosis

Treatment and / or Recommendations:

Information given tot the patient

An appointment has / has not been made for further attendance as an out-patient.

A summary of the notes will follow.

Yours sincerely,

_____

House Physician / Surgeon

Fig: A discharge Proforma

11.3 THE TRANSPORTATION RECORDS – AMBULANCE

The Ambulance Service is under the control of the Area Health Authority. In order to arrange patient-transport the secretary will either contact the Service's headquarters or, in a large hospital, the transport Officer. This may be done on behalf

(a) A General Practitioner who wants a patient brought to the hospital from home and taken back
(b) A hospital doctor who recommends transport for a follow up attendance, discharge or transfer
(c) People who met with an accidents or fire or vehicular accidents.
(d) Critically sick people
(e) In emergency situations like riots and assaults.

Members of the public may dial 108, 999 and ask for the Ambulance Service in cases of accidents outside the home and, in certain circumstances, for women with labor pains.

Today all the corporate hospitals are operating ambulatory service as value addition. Some hospitals are sharing the facilities. The hospitals of trauma and emergency care are managing different types of ambulatory services.

An ambulance is an emergency vehicle with sophisticated medical equipment along with well trained crew to extend medical assistance to critical condition patients who are away from hospital. Usually, ambulance is painted in white colour, and drive through with the help of blue light flickering and with an identified siren. Once the Ambulance reaches the patient, the patient is extended all emergency medical assistance, and brought to nearby hospital. After admitting him in the hospital, the doctor in ambulance fills in the request form. The entries are as follows:

1. Name of Patient
2. From and to destination
3. Cause of illness
4. Reference
5. Date of Journey
6. Time of arrival and departure
7. Directions to address

The vehicle charges are borne by the vehicle user in private hospitals (Govt. and Army vehicles are an exception).

JOURNEY	Pat. No.	Name	From	Clinic	Time Arrive	Time Return	Mobility	INSTR
Date of Journey		To		Patient Classification				

Reason for journey	Admission	Discharge	Transfer	Other	New	Existing	Day	Out Patient	Date of Journey	
Nature of Illness			Infect	Escort	D/H	W/Aid	Walk	Str	Child in Arms	Requisition Received by	
Special Instructions										
Requisition made by		Date	Hospital	Telephone Number	EXT				Zone Code	
Repeat Order	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Start Date	Site Code	
Appointment Time								Fresh Date	Code By	
Return Time										

Directions to Address	00011266 10	**AMBULANCE SERVICE** Requests for transport must be made 48 hours prior to service. AS 2 (Rev 10/79)

Fig: An Ambulance request form

11.4 MORTUARY MAINTENANCE RECORDS

Mortuary is a place where the patients' dead bodies are kept and preserved for a while. Usually unidentified dead bodies, bodies recovered in accidents, deaths in medico legal cases are kept in the mortuary till the legal formalities are completed by the concerned police authorities and law enforcement wing. The inward of dead bodies can be from various wards of in-patient or out-patient. Medical record librarian/assistant should keep the track of details of all problem oriented cases. Once the mortuary organisers receive the dead body, they make following entries in the available record sheet.

Sl. No	I.P. No. :	Ward No:
Name:	Father's Name:	
Age:		
Gender:		
Date of Admission:		
Treatment by:		
Reasons for Death:		Area of Occurrence
Address of Caretaker / Guardian:		
MLC/ Non-MLC remarks (Police)		
		Signature

Fig: A specimen of Mortuary record

11.5 MEDICO LEGAL RECORDS AND CASUALTY CASES

11.5.1 Casualty - (The Accident and Emergency Department or A & E Department)

This department might be called 'Casualty' or just "A and E'. Organization varies from one hospital to another; in some of the smaller towns, two hospitals may share casualty duties over a mutual area on a rotation basis, so that details of dates and locations have to be publicized on posters, etc., and in the local news papers. The secretary must familiarize herself with such arrangements until such time as the powers – that – be can rectify the situation.

Generally the department is run by a Casualty Officer; the requirement of medical assistance he has on hand depends upon its size, although he can, of course, summon specialist help whenever necessary. There may be clerical assistance for the nurses, and there may be voluntary help when there is no receptionist. However Casualty is organized, to cater primary function of providing care for accident and emergency cases; these tend to fall into the following categories:

1. Minor injuries, treated at one or two attendances.
2. Casualties, given instant emergency treatment and then admitted.
3. Minor surgical cases which can be treated 'on the spot' but which, for various reasons, the GP (General Practitioner) cannot handle.
4. This is a social group, rather than medical, made up of the locals who wander in just because the department is there, people who are visiting the area and have neglected to find a temporary GP, and those to whom reference has already been made, who cannot or will not go through the normal channels.

Disposal of Casualty Cases

1. The patient who has wrongly referred himself might be treated, or might not, depending upon the size and busyness of the department. He might be told to call on his GP or, if he is a temporary resident in the area, he will be told that General Practitioners are empowered to treat visitors who are staying from twenty-four hours to three months and to claim payment for it from the Family Practitioner Committee. Furthermore, the patient's own GP at home will receive clinical details about the episode.
2. The patient is treated and discharged; a report is sent to his family doctor.
3. Alternatively, after treatment he may be referred to his GP, to a District Nurse or to his works' Medical Department.
4. He is sent to an Out-Patient Clinic, his Casualty Card acting as the letter of referral.
5. Admission takes place, with normal documentation.
6. He is referred to another hospital, with a full clinical report.
7. He is Brought In Dead – BID (or) dead on arrival – DOA – usually by ambulance, and taken to the hospital mortuary, but the Casualty Department carries out its usual documentation.

8. Patients involved in vehicular episodes are of special interest. According to the Road Traffic Accidents Act, 1960, hospitals treating such cases are entitled to claim compensation from the users of the vehicles involved and their Insurance Companies:
   (a) An emergency treatment fee is payable by the user of the vehicle from which the patient is taken to hospital.
   (vehicles belonging to the hospital, to the Civil Service or the Army are exempted).
   (b) The cost of further treatment, either in the Out-patients' Department or on a ward may be claimed by the hospital against the Insurance Company of the person held responsible for the accident provided that the company has agreed that payment to the injured party is warranted.

Documentation

1. Details about each case are recorded in the Casualty Register; these tend to differ from hospital to hospital, as does the physical appearance of the Register, but generally include: Name, address, age, GP, date and time of arrival, the nature of the injury, and where it occurred, e.g., at home or work, in the street, etc., and any relevant remarks. Usually each entry is numbered; the running total this provides and other information recorded may be needed for the compilation of statistics.

<table>
<tr><td colspan="2"></td><td colspan="2">CASUALTY</td><td colspan="4">Date……..</td></tr>
<tr><td colspan="2">Surname Capital(s)</td><td colspan="2">Forename(s)</td><td colspan="4">Time of arrival ……</td></tr>
<tr><td colspan="2" rowspan="4">Address</td><td colspan="2" rowspan="4">Date of Birth

Occupation</td><td>Disposal</td><td></td><td>Tetanus Toxoid</td><td></td></tr>
<tr><td>Admitted</td><td></td><td>Course</td><td></td></tr>
<tr><td>Discharged</td><td></td><td>Booster</td><td></td></tr>
<tr><td>Cas. Revisit</td><td></td><td>Covered</td><td></td></tr>
<tr><td colspan="4">Referred</td></tr>
<tr><td colspan="3">G.P.s Name and Address</td><td colspan="4">Name of Doctor attending</td></tr>
<tr><td colspan="3">DIAGNOSIS AND TREATMENT</td><td colspan="4">Medical Certificate Issued Yes/No</td></tr>
<tr><td>Date

A 9P</td><td colspan="6">JB-85439</td></tr>
</table>

Fig: Specimen of a Casualty Card with an NCR slip for GP notification

2. Instead of Case Notes of the usual kind the patient has a Casualty card; sometimes this consists of an A4 sheet and sometimes it is NCR, producing copies for GPs.

(a) If the case is to return, the Casualty Card is put in the current file. Visits to this Department must be in the short-term; otherwise, the case can be referred to Out-Patients'. (Sometimes the Casualty Card has a 'flimsy' attached to it to be detached and sent to the GP as automatic notification of his patient's attendance. Another version has two 'flimsies', one for the GP and the other for details of treatment given to a child under five years of age – for use in those areas serviced at different times by the Casualty Departments of two hospitals. This copy is sent, as a matter of routine, to the Principal Nursing Officer (Child Health) so that the risk of over – looking non-accidental injuries is eliminated.

CASUALTY Date……..		
CHILDREN UNDER 5 Surname Capital(s) Forename(s)	Time of arrival ……	
Address Date of Birth Occupation	Disposal Admitted Discharged Cas. Revisit Referred	Tetanus Toxoid Course Booster Covered
G.P.s Name and Address	Name of Doctor attending	
DIAGNOSIS AND TREATMENT	Medical Certificate Issued Yes/No	
Date A 32P	JB-85439	

Fig: Specimen of a Casualty Card used for children under five years of age.

(b) When attendance ceases, the card goes into the secondary file.
(c) It might be filed alphabetically or, in the large Department, numerically, with a Master Index.
(d) Should the patient be admitted, the card accompanies him to the ward where it is lodged in the Case Notes.
(e) On his discharge it is removed from the Case Notes, and returned to the Casualty Department, there to be filed permanently in the secondary file.

3. After treatment, the patient is given a printed form on which clinical details of the episode have been written, and he will take this to his General Practitioner; alternatively a letter is sent to the GP.

11.5.2 Handling Medico Legal Cases

The emergency cases can be MLC (Medico Legal Case) or Non MLC (non-medico legal case). Medico legal cases are defined as those patients who met with an accident on road and referred to police action, or wounded in assaults, riots, attempt to murder, decoiting, firing, suicidal attempts, that demands police inquiry and action, medical assistance as well.

Often the police bring cases to the Casualty Department, and the number of the case may be recorded, in separate column on the Casualty Card or Register. Police enquiries are not uncommon so the secretary should be clear in her/his own mind about public duty and her/his responsibility to the hospital and, above all, she/he should seek instructions as to whether her/his involvement is necessary and, if so, in what particular aspect of the situation. In no way shirking her/his obligations as a member of the public, she/he refers questions elsewhere usually because, as a rule, the contribution she/he can make is limited by the peripheral nature of her/his position.

No.	Date	Time admn.	Time dis	Name	Address	Age	RAT (yes or no)	X-ray		

Own Doctor	Seen by	Treatment	Nature of complaint	Purpose

Fig: Pages from the Casualty Register (ledger) used in some hospitals

11.5.3 Problem – Oriented Records (POR)

POR is a subject receiving considerable attention at the moment. Problem-oriented records contain a comprehensive description of cases with contributions from all the personnel involved, so that there may be medical and surgical notes, psychiatric notes and entries from various social workers. Some times the enquiry officers appointed by Government, voluntary or generations or human rights department may like to seek information from hospitals. So, adequate information need to be furnished accordingly.

The dermatologist who knows of no psychological reason for Mrs. Nageswara Rao's stubborn skin condition will find the psychosomatic indication in the social worker's report; namely, that young Mr. Subba Rao is about to appear in the Juvenile Court.

Unfortunately, the disadvantages of POR are equally obvious; files will become bulkier and require more space.

11.5.4 Legal Requirements

The legal requirements and restrictions with respect to the release of medical information vary from state to state. For this reason the medical record librarian must familiarize herself with the basic statutes, court decisions, and rulings of regulatory bodies in such areas as: ownership and control of records, privileged communications, subpoena powers of various governmental agencies, and the hospital lien law.

The medical record librarian should also inform herself of the administrative channels for getting legal opinions on the many novel and difficult legal questions that will present themselves.

CHECK YOUR PROGRESS

1. Which entries are made in Admission and Discharge Register (A & D)

_____

_____

2. Who should endorse the discharge proforma?

_____

_____

3. What is a medico legal case?

_____

_____

4. What is A & E department?

_____

_____

5. Which aspects should the medical officer of casualty department be familiar with, while handling medico legal cases.

_____

_____

11.6 LET US SUM UP

Once the patient is found physically fit or dead the ward sister prepares a discharge note. The discharge note includes symptoms of the case, investigations, results, diagnosis, treatment and prognosis. Subsequently, admissions officer after receiving the copy of the discharge proforma, makes an entry in admissions and discharge register (i.e., A & D Register).

Ambulance service is under the control of area health officer. One can avail service of ambulance by dialing 108 or 999 or the concerned hospital number. Ambulance is special vehicle that possesses all needed equipment to rescue critically ill / injured patients.

Casualty department offers medical assistance to the critically ill or injured people who are brought to the hospital, to receive medical assistance to minor injuries, cases that require instant surgeries, cases that cannot be handled by general practitioner for various reasons. The admission may be medico legal cases or non-medico legal cases. Medico legal cases are those that are referred to the police for enquiry and action. Entries are made accordingly on the basis of legal requirements of that particular medico legal case with the help of the police and duty doctor.

11.7 TERMINAL QUESTIONS

1. Indicate the requirements of Discharge Proforma?
2. Discuss the process of organising ambulatory services by hospitals.
3. Discuss the methodology of handling casualty cases.
4. What are the requirements of medico legal cases handling?

11.8 SUGGESTED REFERENCES

1. Guide to the Organisation of a Hospital Medical Record Department, American Hospital Association, Chicago.

2. Medical Records, Indira Gandhi National Open University, New Delhi.

Lesson - 12 CONCEPT OF INSURANCE AND HEALTH INSURANCE IN INDIAN SCENARIO

Structure:

12.0 OBJECTIVES

After going through this lesson, you will be able to:

- understand an overview of the Insurance sector;
- learn the differences of Life Insurance Vs General Insurance;
- make a note on Health Insurance Scenario in India ;
- understand Legislative Framework of Insurance in brief.

12.1 INTRODUCTION TO INSURANCE

Historical Background:

The evolution of insurance dates back as early as the commencement of trade between two countries in England, specially between the European countries. During the transportation of goods, there were chances of the ship being drowned in the rough sea conditions or attacked by the pirates, leading to a huge loss to the party sending the goods. The traders of England devised a way whereby the loss of goods would be compensated by every trader putting in some amount as per their financial strength so that a single party may not be the loser. This is the earliest concept of insurance. This concept is taking shape for the last 300 years, yet in India the first insurance company was established in 1818 with the advent of Europeans, mainly to provide insurance for the European widows. The name of the company was Oriental Life Insurance Company.

What is Insurance?

Insurance is a mechanism that ensures an individual to thrive on adverse consequences by compensating the individual, his/her loss financially. Every individuals in the world and all activities connected with him/her; be it life, profession, business, travel or any other pursuits are subject to unforeseen and uncalled for hazards or dangers. The benefits that an individual enjoys in his life by owning a car or a house or a factory can be snatched by sudden accident which can render even the individual immobile, and his family vulnerable. At this critical juncture, only insurance helps him not only to survive but recover his loss and continue his life in a normal manner, which would otherwise be unthinkable.

Purpose and Need of Insurance

Life is full of uncertainties, and insurance is based on uncertainties. If there are no uncertainties about the occurrence of a disaster, the concept of insurance will cease to exist. For insurance, if one is able to predict the forthcoming dangers, then one will take a proper safeguard action and then face the crisis in a very normal manner, but then, this is an utopian concept; because death, disaster and danger CANNOT be predicted. All individuals have assets; both tangible; the house car, factory or intangible like voice of a singer, leg of a footballer, the hand of an author and many such others as quite often seen in the western countries. Now all such assets are insured, because they run the risk of becoming non-functional through a disaster or an accident. Such possible and unforeseen occurrences are known as PERILS. And the damage caused by such perils are the RISK that the assets are exposed to Risk is a contingency and the insurance is done against such possible contingencies.

The concept of insurance is quite simple. People who are in a similar trade and are exposed to the same risks, congregate and come to an agreement that if any individual member suffers a loss, then the loss will be shared by others, and minimised in order to enable the individual member recover from the loss and cover his ground. Similarly different kinds of risks can be identified and separate groups can be formed to counter such risks and reduce the impact to a manageable proportion, in which the share could be collected from members either after the loss or in advance, at the time of admission to the group. This is an exemplary sign of humanity, and insurance, therefore, serves mankind to a great extent; a point most of the individuals tend to overlook; since monetary aspect is involved. Now such insurance is for tangible assets.

The concept of insurance has been extended beyond the coverage of tangible assets. Exporters run the risk of importers in other countries defaulting as well as losses due to sudden fluctuations in the currency exchange rates and economic policies turmoil. These risks are now insured. Doctors run the risk of being charged with negligence and can subsequently become liable for damages. The amounts in question can be fairly large, beyond the capacity of individuals to bear. These are insured. Thus insurance is extended to intangibles. In some countries even the voice of a singer, legs of a footballer can be insured, even though the advantage of spread may not be available in these though the advantage of spread may not be available in these cases. Satisfaction of economic needs requiring generation of income from some sources. If the property, which is the source of

such income, is lost fully or partially, permanently or temporarily, the income too would stop. The purpose of insurance is a safeguard against such misfortunes by making goods the losses of the unfortunate few, through the help of the fortunate many who were exposed to the same risk, but saved from the misfortune. Thus the essence of insurance is to share losses, and substitute certainty by uncertainty.

Similarly human life is also an income-generating asset, *albeit*, intangible. This asset can be lost through an unexpectedly premature death due to some accident or disease or the asset can also be made non-functional through some disabilities. In the case of such unforeseen mishaps, insurance becomes essential to help those who are dependants to maintain their life in a normal and a regular manner. In this context, it becomes essential to mention that living too long can be equally or sometimes more problematic than dying too young. Hence a very old age can be considered to be a risk, and insurance takes care of all such risks which need to be safe-guarded against. Insurance can minimise the impact of the risk on the owner of the asset, and those who depend upon the asset, but only in terms of economy or finance, not in terms of emotions. Hence one can see the need and the purpose of insurance, which sadly speaking still remains a neglected part of an individual's life. The different types of human activities that come under the umbrella of insurance are as follows.

i.	House / Office/ Factory or any movable assets destroyed in fire	- Fire Insurance
ii.	Shipment or transportation of goods by ship, destroyed in catastrophe	- Marine Insurance
iii.	Jewellery / Cash / Household goods stolen or robbed	- Burglary Insurance
iv.	Goods in transit by road or railway destroyed	- Carrier Insurance
v.	Theft or accident of vehicles	- Vehicle Insurance
vi.	Financial cover in ailments / surgery etc.	- Health Insurance

All these are non-life insurance. In conclusion, one can safely say that the purpose of insurance be it life or non-life is to transfer the financial loss to the insurance company which spreads it over to the policy holders.

Insurance and Social Security

Social Security is the tool whereby the Government provides certain provisions for the citizens to enable them to lead a decent life-style. As a matter of fact, most of the western countries provide unemployment allowances, old age pension and subsistence allowance to the down-trodden. In other words, the state provides resources to the individuals in order to protect them against risks. Insurance is one of them. In the Indian context under Article 41, of our Constitution, the state within the limits of its economic capacity and development has to make effective provision for securing the right to work,

to education and to provide assistance in case of unemployment, old-age and illness or disabilities. During the last 50 years, life-insurance has become the main vehicle of carrying social security to the public in general, and the weaker sections in particular. However, in the context it is important to explain that social security is not only the need of persons below the poverty line, and it extends to the needs of the "Haves" also. The institution of insurance has thus proved to be reliable as well as a viable means of carrying the benefits of social security to the people; and it can be said, in particular, that life-insurance policy ultimately provides social security when it meets the needs of the people.

Insurance and Financial Security:

More often than not, insurance is seen more as "Risk-Covering" need instead of a long term investment. With the bank interest rates on deposits coming down, insurance is more of a financial savings than normal risk covering. As a matter of fact, an individual when goes for an insurance also unknowingly invests his financial resources in the right place, because against such long term investment, the individual can also avail the loan facility which enables him to take care of his basis needs. And with every passing year, insurance will become a more intelligent investment as compared to the shares, mutual funds and even fixed deposits. However, the organisations or the insurance companies have realised this aspect quite late and are making it an USP (Unique Selling Proposition).

Insurance and Economic Development:

Investments are the base of an economic development, and mostly these investments are the result of savings. As insurance company is a major instrument for the mobilisation of the savings of people, which are thereafter channelised into investment for economic growth. Insurance provides the continuity in trade and commerce, by covering the risks that could retard the economy, and thereby indirectly helps the economy to grow. As a matter of fact, most of the money or funds collected from the public are invested in Government through the IRDA Act which has made it compulsory that a life-insurance company has to invest at least 15% of its controlled fund in the infrastructure and social sector of the country. In this way an insurance company strengthens the economy in a direct way. However, besides this, an insurance company by purchasing stocks in the share market can raise the price of the shares, and similarly a constant flow of funds from the insurance companies has a sober effect on the market and controls the volatile nature of the market. These are the indirect ways in which an insurance company helps to develop the economy. The below-mentioned statistics of Life Insurance Corporation will make the matter crystal clear. These investment figures are as on March, 31, 2000.

Sl. No.	Sector wise investment	Amount (Rs. Crores)
i.	Housing	15,885
ii.	Road Transport	736
iii.	Water Supply	29,997
iv.	Electricity	11,931
	Total Investment	**1,44,158,75**

The 9th Five Year Plan has so far been beneficial by total investment of Rs. 79,666 crores. Need it be said, that an individual investing in a life-policy is actually a partner in the economic development of the nation.

12.2 LEGAL FRAME WORK OF INSURANCE

Insurance Act, 1938

Insurance Act, 1938 was the first comprehensive legislation in India to regulate the business of insurance, when it was found that the earlier Indian Company Act failed to meet the purpose. It was way back in 1912, when the Indian Life Insurance Companies Act and Provident Fund Insurance Societies Act 1912 was passed, which was further modified and a new legislation was passed in 1928. In 1938, the Insurance Act was passed, which aimed to consolidate and amend the law relating to the business of insurance. The Act came into force with effect from July, 1939. In 1950, certain changes were effected in order to limit the expenses and control the investments. The nationalisation of the insurance business, the Insurance Act, was through the IRDA Act, 1999. The Insurance Act, 1938 contains 120 sections and Eight schedules. It is essential to go through some important sections of this Act, of which section 45, 3, 7, 21, 22 and others are of importance.

Section 2 (7A) – Regarding transaction of business which mentions that only Indian Insurance company registered under the LIC Act, 1956 can conduct business in which the total equity shares holding by a foreign company should not exceed 26% of the paid-up equity capital of the Indian Company.

Section 7 (1) – Regarding the deposit which an insurer has to maintain with the Reserve Bank of India.

(i) General Business - 3% of the gross premium income per annum, not exceeding Rs. 10 crore.
(ii) Life Insurance Business – 1% of the gross premium income per annum, not exceeding Rs. 10 crore.
(iii) Reinsurance Business – Not exceeding Rs. 20 crore per annum.

Section 3: Regarding registration which mentions that any insurer carrying business in India has to obtain a certificate of registration from IRDA and the registration has to be reviewed annually without fail.
Section 21-22: Regarding the powers of IRDA for accepting and declining any such returns which lacks accuracy and can re-valuate if it feels that the returns appear abstract.
Section 45: Regarding the indisputability of policy in which no insurer can dispute a policy after expiry of two years from the date of policy. This section assumes a lot of importance.
Section 113: Regarding the acquisition of surrender value by policy in which a guaranteed surrender value is payable after the payment of premiums for three consecutive years.
Section 2 (5A) defines "Chief Agent" as a person, who not being a salaried employee of an insurer, in consideration of commission.

(i) Performs any administrative and organizing function for the insurer and
(ii) Procures life insurance business for the insurer by employing or causing to be employed, insurance agents on behalf of the insurer.

Section 2 (17) defines Special agent for the life insurance business in similar terms. He only procures business through agents but does not perform administrative functions like a chief agent.

Section 42 A of the Insurance Act, being one of the amendments made to the Act in 1950, provides for the registration of chief and special agents. Certificates to function as such are to be issued after registration. These certificates are valid for 12 months and can be renewed thereafter. No chief agents or special agents were registered till 1999. But under the new circumstances, chief agents and special agents can be registered.

The Act also provides for the registration of insurance companies, maintenance and security of accounts and valuation reports, investment and utilization of funds, permissible limits on expenditure, approval of premium rates and plans, verifying solvency margins and many more. The act also vests the IRDA with power to inspect the documents, appoint additional directors, issue directions, take over the management of the insurer through the appointment of an Administrator to be appointed by the Central Government. Policyholders, interests are taken care through prohibition of policies being called into question after two years providing for nominations and assignments and easy settlement of disputes.

LIFE INSURANCE CORPORATION ACT, 1956

Life Insurance Business in India was nationalized with effect from 19 January 1956. From this date, life-insurance business was transacted by 154 India Life Offices, the Indian business of 16 non-Indian insurers operating in India and 75 provident societies was taken over by the Government of India. LIC of India Act was passed by the parliament on 18 June, 1956, and came into effect from 1 July, 1956. LIC of India commenced its functioning as a corporate body from 1 September, 1956. Its working is governed by the LIC Act. Some of the important provisions of the Act (as amended by IRDA Act, 1999) are stated hereafter.

The LIC is a corporate having perpetual succession and a common seal with power to acquire, hold and dispose of property and can by its name sue and be sued. It consists of not more than 16 members, appointed by the Government, one of whom shall be appointed the chairman.

The corporation's duty is to carry out life insurance business to the best advantage of the community. The Corporation should make actuarial valuation once every 2 years, vide section 26. Effective from 1986, this valuation is done every year. At least 95% of the surplus disclosed by actuarial valuation is to be distributed with profit among policy holders. The remainders shall be paid to be Central Government. Section 30 stated that LIC shall have exclusive privilege to transact life insurance business in India. The exclusive privilege has ceased to exist as a result of amendments made in 1999. Under

section 36, contracts of chief agents and special agents were terminated with effect from 1s September, 1956.

With the nationalisation of the insurance business where all the small and big different insurance companies came under the same roof to conduct the insurance business under Life Insurance Corporation under an Act of similar name which came into force on 1 July, 1956 and the functioning of LIC as a corporate body commenced from 1 September, 1956. Certain important sections under this Act are as follows:

Section 4 says that LIC cannot have more than 16 members, of which one will be appointed as chairman.

Section 5 deals with the capital of LIC which is Rs. five crore provided by the Central Government.

Section 6 authorises LIC to carry out business outside India.

Section 28 mentions that 95% of the surplus generated as per actuarial report is to be distributed among the policy holders and 5% to the Central Govt.

Section 30 A ceases the monopoly of LIC to carry out life assurance business. This section is in reality a big jolt to LIC in March, 2000 as it prevents the privilege of LIC.

Section 38 maintains that LIC cannot be liquidated by any law unless directed by the Central Government to do otherwise.

INSURANCE REGULATORY AND DEVELOPMENT AUTHORITY ACT, 1999

The introducing of Insurance Regulatory and Development Act was a revolution in the Insurance sector and this Act opened the floodgates of insurance business that permitted foreign and private players to have a level playing field in the insurance sector, which till then was monopolised by LIC in life business and GIC in non-life business. This Act can be considered as a landmark by the insurance standards. The Act came into force from March 2000. This Act is basically to provide an authority to protect the interests of policy holders of insurance policies and to promote, regulate and ensure an orderly growth of insurance industry, which till then was in state of stagnancy.

The section 14 of this Act deals with the powers and functions of the authority that include.

(i) Issuing a certificate of registration to the applicant insurer.
(ii) Protecting the interests of the policy holders in matters related to nomination by policy holders, claim settlement, surrender value of policy, assigning of policy and other terms and conditions of contracts of insurance.
(iii) Specifying the code of conduct for surveyors and loss assessors and agents.
(iv) Promoting efficiency in the conduct of insurance business.
(v) Specifying requisite qualifications and practical training for insurance intermediaries and agents.
(vi) Regulating the premium rates and terms.
(vii) Regulating the investment of funds by companies.

(viii) Promoting and regulating professional organisations related to insurance and re-insurance business.
(ix) Levying fees and other charges for carrying out the purpose of this Act.
(x) Regulating the solvency margins.

According to section 20, IRDA has to furnish such reports as required by the Central Govt. from time to time.

12.3 INSURANCE POLICIES

The insurance policies are divided into two broad categories: life insurance and general insurance (marine, fire and accident insurance policies).

Life Insurance Policies:

A contract of life insurance is a contract under which, in consideration of the premium, the insurer agrees to pay a certain amount on the death of the assured or upon the expiry of a certain fixed period, whichever is earlier. The main features of the important life insurance policies are discussed below.

Endowment Policy:

Under this policy, the insured amount is payable either at the end of a specified number of years or upon death of the insured person, whichever is earlier. It may also be taken for the marriage of children when they reach a certain age, or for the education of children after the death of the assured.

Whole-Life Policy: The premium continues to be paid throughout the life of the assured, but the amount becomes payable only after his death. It is the chepaest form of policy.

Limited-Payment Life Policy: It is similar to the whole-life policy in the sense that the policy money is payable only after the death of the assured. The difference is only in respect of the payment of premium. The premium is to be paid only for a certain number of years, or until the death of the assured, if it occurs within that period.

Joint-Life Policy: The policy money becomes payable either on maturity of the policy or on the death of any of the persons jointly insured. Partnership firms find such a policy especially useful because it enables them to pay the capital of the deceased partner.

Convertible Whole-Life Policy: The rate of premium is quite low initially. After some time, the assured is given an option to convert the policy into an endowment policy failing which the policy continues as a whole-life policy.

Annuities: The person taking out an annuity may pay the premium in regular installments over a certain period. Alternatively, he may pay it in a lump sum. After the assured reaches a certain age, the insurer pays back the money in monthly, quarterly, half-yearly, or yearly instalments. An annuity provides a source of regular income to the assured or to his dependents after the expiry of a specific period.

Sinking-Fund Policy: Corporates use this policy for redemption of debentures, repayment of loans or for replacement of assets. A fixed amount is paid as premium annually. The amount keeps increasing with time at a specified rate of interest. After the prescribed period is over, the company gets the entire money.

Double-Accident Indemnity Policy: If the assured dies of an accident, his survivors get double the amount of the policy.

Janta Policy: It can be taken out for a period of 10,15 or 24 years with the condition that the policy should mature before the assured reaches 60 years of age. Such a policy can be taken by a person before the age of 45 only. The formality of medical examination is not necessary if the person taking out the policy is below the age of 35 years. The maximum amount of policy can be only Rs. 1,000. No loan is granted against such policy.

Fire Insurance Policies: A fire insurance policy is a contract under which the insurer agrees, in consideration of a premium, to pay the loss or damage caused by fire during a specified period. In case of loss, the assured can claim from the insurer the actual amount of loss, or the maximum amount specified in the contract, whichever is loss. Some of the important fire insurance policies are outlined below:

Specific Policy: In a specific policy the loss suffered by the assured is covered only up to a specific amount, which is less than the real value of the property. The insurer generally inserts an average clause in such a policy so that in the event of loss, he bears only the ratable proportion of such loss.

Comprehensive Policy: It is known as an all-in-one policy because it covers losses arising from any kind of risks such as fire, theft, burglary, third-party risks, and so on. It may also cover loss of profits for the period during which business transactions remained suspended due to fire.

Valued Policy: The insurer agrees to pay a fixed sum of money irrespective of the amount of loss to the insured. If the loss exceeds the fixed sum, the payment is justified, otherwise not. Being a contract of indemnity, no profit can be made out of any loss under an insurance policy. But under a valued policy, this is what actually happens.

Floating Policy: It covers property lying at different places against loss by fire, for example, goods placed in two godowns at two different places. An average clause is always there in a floating policy.

Replacement or Reinstatement Policy: A replacement or reinstatement policy seeks to check mischief by the assured who, being tempted by the possibility of receiving cash from the insurer, might himself become a party to the destruction of his goods or property by fire. The insurer only agrees to pay the cost of replacement of the property damaged or destroyed by fire. There is no cash payment – only the damaged or destroyed property is replaced or reinstated.

Marine Insurance Policies: Marine Insurance is that branch of insurance which relates to ships and their cargoes. A contract of marine insurance is a contract under which the insurer indemnifies the insured against marine losses, that is to say, losses relating to marine adventure or to navigation or commerce on the sea. At times, such contract may

extend to losses on inland waters or to any land risk relating to any sea voyage. But this can be only by a clear provision in the contract to that effect. The main types of such policies are discussed below:

Voyage Policy: It insures the subject matter "at and from" or "from" one place to another. If the policy is "at and from a port", it covers the subject matter, both while the ship is at the port of departure and also from the time of the sailing of the ship "from a port". Policy covers the subject matter only when the ship sails from the port.

Time Policy: The subject matter is insured for a definite time not exceeding a year. If the policy period comes to an end while the ship is still away from its destination, it is taken care of by a continuation clause whereby the period is extended for such time as is necessary to take the ship safely to the port of destination.

Mixed Policy: It combines a "voyage" and a "time" policy. It covers the risk during a particular voyage for a specified period, for instance, "From Bombay to London for six months".

Valued Policy: It is a policy which specifies the agreed value of the subject matter.

Open and Unvalued Policy: The value of the subject matter is not specified. In case of any loss, it is ascertained subject to the limit of the sum insured.

Floating Policy: This policy only mentions the amount for which the policy is being taken out. The particulars as to the ship or ships, on which the goods are to be shipped, or as to the goods which are to be shipped, are left to be specified later.

CHECK YOUR PROGRESS (A)

1) What is Insurance ?

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2) State different types of Insurance?

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3) Present the salient features of Insurance Act 1938.

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4) What is Endowment Policy & Convertible whole life policy?

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12.4 HEALTH INSURANCE – IN INDIAN SCENARIO

Health Insurance : Meaning

A health insurance policy is a contract between an insurer and an individual or a group, in which the insurer agrees to provide specified health insurance at an agreed-upon price, the premium. Depending on the policy, the premium may be payable either in a lump sum or in installments. Health insurance usually provides either direct payment or reimbursements for expenses associated with illnesses and injuries. The cost and range of protection provided by the health insurance will depend on the insurance provider and the particular policy purchased. These days, most companies give the benefit of health insurance to the employees. However, in case your employer does not offer a health insurance plan, it is advisable to opt for a health insurance scheme.

12.4.1 Need for Health Insurance

Health insurance has become a necessity in today's world considering the rise in the cost of medical care and treatment. The escalating cost of medical treatment today is beyond the reach of the common man. Even if an individual is healthy, and has never had any major problem, it is not possible to predict what may happen in the future. In case of a medical emergency, cost of hospital room, doctor's fees, medicines and related health services, all add up to a huge sum. In such times, health insurance provides the much needed financial relief.

12.4.2 Various Schemes initiated by Government

The Health Facilities made available to the Public are managed and operated under. The authority of Central and State Agencies. In this regard the Government has introduced Employee State Insurance Scheme (ESIS) and Central Government Health Scheme (CGHS).

Central Government Health Scheme

The Central Government Health Scheme (CGHS) was introduced in 1954 as a contributory health scheme to provide comprehensive medical care to the central government employees and their families. It was basically designed to replace the cumbersome and expensive system of reimbursements. Separate dispensaries are maintained for the exclusive use of the central government employees covered by the scheme. Over the years the coverage has grown substantially with provision for the non-allopathic systems of medicine as well as for allopathy. By 1993, there were a total of about 308 dispensaries – of which 230 were allopathic dispensaries. In addition, there were several polyclinics, laboratories and dental units under the scheme. The total number of beneficiaries was 4.5 million by 1993. In addition, the CGHS reimburses patients for part of their out of pocket costs on treatment at the government hospitals and some other facilities. The list of beneficiaries includes all categories of current as well as former government employees, members of parliament and so on. Since the large central bureaucracy in India definitely belongs to the middle-income and high-income categories, they are likely to make above average use of health services.

Employees State Insurance Scheme: Established in 1948, the Employees State Insurance Scheme (ESIS) is an insurance system which provides both the cash and the medical benefits. It is managed by the Employees State Insurance Corporation (ESIC), a wholly government-owned enterprise. It was conceived as a compulsory social security benefit for workers in the formal sector. The original legislation creating the scheme allowed it to cover only factories which have been 'using power' and employing 10 or more workers. However, since 1989 the scheme has been expanded, and it now includes all such factories which are 'not using power' and employing 20 or more persons. A useful overview of the ESIC programme is provided in Subrahmanya (1995). Mines and plantations are explicitly excluded from coverage under the ESIS Act. As of January 1995, the programme covered 1,62,191 employers employing 6.6 million people, or altogether 29 million employees and dependents. Only employees earning basic salaries of less than Rs 3,000 (recently enhanced to Rs 6,500) per month are eligible for ESIS cover. Any establishment offering benefits similar to or better than the ESIS is exempt. The premiums for the ESIS are paid through a payroll tax of 4 per cent levied on the employer, and a tax of 1.5 per cent levied on the employee (recently changed to 4.75 per cent and 1.75 per cent respectively).

12.4.3 Various Schemes initiated by NGO Sector

An important part of private health finance in India is the services provided by voluntary and charitable organisations. Some of the important NGOs offering health services are Child in Need Institute (CINI), Self-employed Women's Association (SEWA), Streehitkarni and Parivar Seva Sanstha. Most of these NGOs offer comprehensive assistance packages with the underlying assumption that health is only one aspect of development, and should therefore be tackled along with other social problems in a holistic fashion.

NGOs are providing valuable health services in many parts of India, especially in the rural areas and to disadvantaged people. It remains clear, however, that despite its growing role, this sector has not yet reached a level where it can make a significant dent in private expenditure on curative care in India.

Who can avail this facility?

Health insurance can be availed of by people aged between five and seventy five years (The upper and lower age limits may vary slightly depending on the policy). The health insurance scheme could either be a personal scheme or a group scheme sponsored by your employer.

Coverage: In anticipation of unexpected events that create the need for medical goods and services, the health insurance does not cover certain ailments. It does not cover ailments in the first year after the policy is taken. It covers hospitalisation charges for:

1. Heart attacks
2. Strokes
3. Prolonged illnesses
4. Loss of limb, eye, or other parts of the body due to accident
5. Injuries
6. Maternity expenses
7. Medicines

12.4.4 Major Health Insurance Companies in India

There are two major insurance companies in India in Public Sector namely:

- The Life Insurance Company of India (LIC)
- The General Insurance Company of India (GIC)

While LIC deals with insurance for life coverage only, the GIC deals with the other aspects of insurance, including health. GIC has four sub-branches covering health. They are:

- The New India Assurance Co. Ltd.
- The National Insurance Co. Ltd.
- The Oriental Insurance Co. Ltd.
- The United Insurance Co. Ltd.

These four companies are subsidiaries of the parent company. The General Insurance Co. The policies have been regulated by the GIC and are marketed by the above four big insurance companies.

What you need to know?

You should understand the policy, and become familiar with common health insurance provisions, including limitations, exclusions, and riders. It is very important to know what your policy covers, and what you have to pay yourself. Health Insurance policies generally cover boarding, nursing and diagnostic expenses, which include room rent charged at the hospital or nursing home, fees of the surgeon, anaesthetist, doctor, etc. Some policies even offer fixed cash amount for each day you stay at any hospital for treatment. If you have a persistent health problem, and then decide to take insurance, it might not be covered. Expenses on hospitalization, incurred in the first 30 days after taking a policy are also not entitled, except in case of an injury from accident. Treatment of certain diseases is not covered during the first year of your policy. The list of diseases may vary form one health policy to another.

12.4.5 Health policies offered by Indian insurance companies

Some of the existing health insurance schemes currently available are individual, family, group insurance schemes, senior citizens insurance schemes, long-term health care and insurance cover for specific diseases. Choose the one that suits you best and insure your health.

The insurance policies offered by GIC are:

- Mediclaim Policy
- Personal Accident – Individual
- Personal Accident – Family
- Group Accident Insurance
- Jan Arogya Bima Policy
- Bhavishya Arogya Policy (Insurance for senior citizens)
- Traffic Accident Policy
- Overseas Mediclaim Policy

The Life Insurance Corporation (LIC) offers:

The Asha Deep Plan: It provides cover for cancer, paralytic stroke, renal failure and coronary artery disease.

Jeevan Asha: The Jeevan Asha policy is the other healthcare product offered by LIC

Why does Indian insurance need foreign players?

Competition improves quality of service. In India, LIC and GIC are well-established names. Only companies of equal strength and track record can effectively compete with them. Foreign players will provide expertise.

Some foreign companies entering the Indian insurance sector and their Indian partners are as below:

Indian Partner	Foreign Insurer	Specialization	Present Status
Aditya Birta Group	Sun Life, Canada	Life	Received Licence
Kotak Mahindra Finance	Old Mutual, South Africa	Life	Received Licence
HDFC	Standard Life, UK	Life	Received Licence
Reliance	No Foreign Alliance	Non-Life, Health	Received Licence for Non-Life
ICICI	Prudential, UK	Life, Health	Received Licence
Max India	New York Life, USA	Life	Received Licence
Tata Group	AIG, USA	Life and Non-Life	Received Licence

What changes are likely to occur with privatisation?

Currently, insurance for health care is tied up with only emergency situations. With privatisation, it is hoped that health care will come within the reach of a large proportion of the population. It is important to remember that health insurance should now change from providing cover for treating sickness to ensuring the wellness of the consumer. An insurance model must be created with the `Total Health' perspective to not only give access to quality healthcare but also incorporate preventive health care into the main system. Hospitals, different service centres and diagnostic centres needs to be accredited.

In India, approximately 80% of the total health expenditure comes from self-paid category as against government’s contribution of 20-30 %. A majority of private hospitals are expensive for a normal middle class family. The opening up of the insurance sector to private players is expected to give a shot in the arm of the healthcare industry.

CHECK YOUR PROGRESS (B)

1. Define Health Insurance

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2. State the subsidiaries of GIC?

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3. State Health Insurance Policies Offered by GIC.

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4. Name a few private sector companies offering health insurance services in India.

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5. Write notes on ESI briefly.

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12.5. LET US SUM UP

Health insurance is considered to be a part of the larger business set-up. And that is precisely the reason why it tends to remain a loss leader in the initial stages. But it definitely is a viable concept in urban context where large-scale risk pooling is possible, and there is an effective demand that is present there. Indian Government initiated two schemes as a part of the policy of social welfare. They are ESI and CGHS. In India both public and private sector agencies have been offering various comprehensive policies. NGOs have been offering different health insurance schemes to the poor and needy.

One of the primary reasons why Health Insurance is becoming popular in India is the escalating cost of medical treatment today, which is beyond the reach of the common man. In case a medical emergency arises, the cost of a hospital room rent, the doctor's fees, medicines and related health services usually work out to be a huge sum. It is in such time that having a health insurance policy ensures that you are provided with the much-needed financial relief. In India, Health Insurance can be availed by people aged between five and seventy-five. The upper and lower age limits may vary slightly depending on the type of the policy that is being availed. The health insurance scheme that is chosen could either be a personal scheme or a group scheme sponsored by the employer. In fact, there is growing evidence that the level of health care spending in India is much higher than that in many other developing countries.

12.6 TERMINAL QUESTIONS

1. Discuss IRDA Act, 1999 briefly
2. State various health insurance policies offered in Indian Environment.
3. Write notes on ESI and CGHS Schemes
4. Enunciate various legislative issues initiated by Government of India.
5. Discuss Importance of Insurance.

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Lesson-13 ECONOMICS OF LIFE AND HEALTH INSURANCE, ADMINISTRATION OF HEALTH INSURANCE SCHEMES ESI AND CGHS

Structure

13.0 OBJECTIVES

After studying this lesson, you should be able to:

- understand the details of insurance contracts;
- learn the requirements to claim during maturity of policy or death of the insured;
- understand the administration of ESIS and CGHS.

13.1 INTRODUCTION

Health Insurance policy is a contract between an insurer and an individual or a group in which the insurer agrees to provide specified health insurance at an agreed upon price, the premium. Life Insurance and Health Insurance provide either direct payment or reimbursements for expenses associated with illness or injuries. The escalating cost of medical treatment today is beyond the reach of common man and demands an alternative fall back system to rely on. Government has been contributing for the benefit of social welfare with the help of comprehensive medical care to central government employees and through ESIS. For state government employees and their families.

13.2 LIFE INSURANCE CONTRACTS

Any agreement between two parties or more than two parties to perform or to abstain from doing an act, with an intention to create a legally binding relationship is

termed as a contract. In the preceding chapter, we have already read about Policy Contract. There are certain essentials of a valid contract such as offer and acceptance, consideration, free consent of the parties, object of contract and competent parties.

In the words of Bunyon, "a contract life of Assurance is that in which one party agrees to pay a given sum on the happening of a particular event contingent upon the duration of human life in consideration of the payment of a sum by another". The essentials of a valid contract are applicable to Policy Contract also, as can be found in the following points.

(i) **Offer and Acceptance:** The intimation of the proposer's intention to buy life assurance is the "offer", while the insurer preparedness to sent or issue a policy, after assessing the proposal for assurance, is the "Acceptance". The Offer in life assurance is called Proposal and has usually three main forms i.e., proposal for assurance, medical reports and the agent's report. The proposal form provides information about moral hazards, medical reports reveal the physical fitness of the life assured while the agent's report furnishes the bonafides of the proposal. The Acceptance is also known as the counter offer which is accepted by the proposer by paying the first premium.

(ii) **Complete Parties:** Both the parties to the contract should be competent. Such as only those insurers can grant policies which have been licensed by the IRDA, and similarly minors, people of unsound mind and criminal background cannot effect assurance, the same applies for bankrupt individuals. In the case of minors the natural guardian can enter into a valid contract on behalf of the minor, till the minor attains 18 years of age and the premium is charged as per the age of the parent or guardian.

(iii) **Free Consent:** When both the parties have agreed to a contract on the terms and conditions of the agreement in the same sense, they are said to have a consent, which can be considered free when it is not obtained by force, fraud, mis-representation, under influence or by mistake. A consent is given when an individual signs a bond, after having understood all the finer points.

(iv) **Object of Contract:** The object of the contract is to satisfy the requirements of the contract, and should not be based on gambling instinct.

(v) **Consideration:** In this contract, the premium is the consideration based on the rate of mortality, interest yield, and office expenses are worked out scientifically on Actuarial principals, and the veracity of these principles are intimated to the IRDA by the insurer which establishes the legality of the consideration.

Besides these, there are two additional elements that are essential to the contract of life assurance, namely (i) the principle of Utmost Good Faith and (ii) Insurable Interest.

The business of life assurance can be termed as a business which is on the principle of the utmost good faith which in technical terms is known as "Uberrima fides" and is the principle of disclosing all material facts. As a matter of fact, the proposer of the life-assurance can conceal much information from the non-insurer and similarly the insurer can also take a wrong decision regarding the approval of life assurance proposal. An insurer is also expected to give a fair deal to the life assured.

One can therefore conclude that Life Insurance Contract is like all other contracts governed by the Contract Act, except for the above-mentioned two additional benefit, and it differs from the other insurance contract in the contract of Indemnity or compensation which is not present in Life Insurance.

13.3 CLAIMS

When an investor makes any investment, he /she does so with certain conditions for definite returns. A claim is a demand for fulfillment of a condition laid down at the time of signing the contract between the insurer and the insured. After being satisfied with the fulfilment of all the conditions by the investor, the insurer is required to perform his part of the contract, i.e., settle the claim. The insurer should see that:

1. **The obligations required to be performed under the contract:** These vary from policy, i.e., payment of bonus, payment of sum assured in instalments, waiver of future premiums, etc.

2. **Obligation Performed by the policy holder:** This can be judged studying the computer printouts of each policy holder. This can reveal the information about sum assured, premiums paid, age admission, loans and interest outstanding, survival benefits if any, legal requirements under MWPA, FER (Foreign Exchange Regulation), report of investigation, police report, etc.

3. **Occurrence of the insured event**

(a) **Persons entitled to demand claims:** Nomination / assignments / Income tax notice / Prohibitory orders / official assignee's notice – all are relevant.

3.3.1 Maturity Claims Intimation

Maturity claims are payable under endowment type of policies. Advanced information is sent by the insurer to the holder of policy. The insurer must satisfy that:

(i) The life and identity of the policy holder is proved.
(ii) The age stands admitted.
(iii) All premiums paid by the policy holder.
(iv) Original policy deposited with completed discharge voucher before making the payment.

The insurance companies are obliged to make payment on maturity date vide post-dated cheques sent in advance.

The policy holder is entitled to such claims only if the policy has not been assigned in favour of anyone else or has been deposited with the bank for overdraft. The benefits of policy will be paid to the trustees under the MWPA policy. The official trustee steps in, when there is no trustee. The payment can be made directly, without the intervention of the trustees, if the beneficiaries are major and competent to contract. The discharge voucher need not be signed by the assured.

The payment will be made to the assignee in the case of absolute assignment. The payment can be made to the assured himself, in case of conditional assignments, after satisfying repayment of loan that may be the reason for assignment.

It is necessary to advertise the loss of policy as precautionary measure. Payment can be made on the basis of an indemnity provided by the holder together with the surety of means. Issue of duplicate policy is not necessary.

13.3.2 Death claim intimations

The death of the life insured has to be intimated to the insurer in writing by the nominee, assignee, relative, the employer, agent or development officer. Particulars to be mentioned are – Name of the life assured, policy number, date of death and relationship of the informant to the deceased.

The intimation of death should be from a concerned person and must establish the identity of the deceased person as the life assured under the policy. Sometime, the insurer need to wait till the intimation of claims is received. Claims can be initiated by receiving information from obituary columns, concerned agent or newspaper reports in case of accidents or air crash. Here again utmost care has to be taken to ensure the identity of the deceased.

13.3.3 Claims Deposit Forms

The following document will be called for, well before the date of maturity in case of maturity claims.

(a) Policy Document

In case it is not available, it may have been deposited elsewhere as a security for loan. In the event the policy is lost by the policy holder, then the claims can be settled on the basis of indemnity bond submitted by the policy holder and a survey of adequate financial means. A letter of indemnity is sufficient in case of small claims. In the case of very small amount like Rs. 1,000/- even this can be done away with.

1. Age proof, if the age in not already admitted.
2. Deed of assignment if any.
3. Discharge form issued by the office.

In case this claim does not finally determine the policy, as in cases of periodical survival payments, the policy documents are returned with due endorsement.

(b) Death Claims documents

The following documents will be asked for in case of claims by death.

1. Policy Document
2. Deeds of assignment / re-assignments
3. Proof of age, if age is not already admitted
4. Death certificates
5. Legal evidence of title, if the policy is not assigned or nominated
6. Executed and properly witnessed discharge form.

In case the claims occur with 3 years from the commencement of the policy, the following additional requirements need to be fulfilled to remove doubts of suppression of material facts.

1. Latest medical statement giving details of last illness and treatment
2. Statement from hospital where the deceased was admitted
3. Statement from the person who saw the dead body and attended the last funeral rites
4. Statement of the employer, if the deceased was an employee, details of leave.

In case of unnatural death such as suicide, accident, police inquiry report, panchnama, chemical analysis report, postmortem report would be looked into. Enquiry may be ordered depending upon preliminary data.

13.3.4 Settlement Procedure

Maturity Claims: Claims amount will be paid by account payee or crossed or ordered cheque after receipt of the completed and stamped discharge voucher from the person entitled to policy money along with policy document. In survival drafts claims, i.e., where sum assured is returned by instalments, the policy will be mentioned to the policy holder after making suitable endorsements on the documents and records. A duplicate discharge form can be issued if it is not in transit.

In case the assured person or the person to sign the discharge form is mentally disordered, then a certificate from court of law under Indian Currency Act appointing a person to act as guardian to manage the property of the lunatic should be called. If the person has recovered from mental disorder, a psychiatric hospital certificate would be necessary.

If the assured has been adjudged insolvent by the court of law before the policy has matured for payment and if the notice is received from the official assignee of the court along with a certificate of the court order declaring the assured as insolvent and also an order appointing official assignee as the assignee of the insolvent's estate, the official

assignee should be informed about the date of the maturity and other details. The claim money has to paid to the assignee under the advice of the life assured. In case of sale of policy under the judicial order, the purchaser, who produces the certificate of sale will be entitled to the policy money.

If a prohibitory order of the court of law or a notice from income tax officer under section 226 (3) of the IT Act is subsisting, the assured should be asked to have proper withdrawal order served on the insurer. Otherwise, the insurer will be out according to the notice.

Under the Evidence Act, a person who has disappeared is presumed to be dead only if he has not been heard for seven years. The court is required to issue a death decree to that effect the premium must be paid until the presumption of death is made, else the payment would be made after the court decree is obtained, as per the status of the policy on the date the premiums stopped.

Payment of claims to non-resident Indians claimants are governed by the Foreign Exchange Control Regulations.

If a policy is financed through HUF funds, the policy belongs to HUF and hence the policy money would be payable to the 'Karta' of the HUF only.

Settlement Procedure for Death Claims: The death claim amount is payable to the assignee or the nominee depending upon the case. If no assignment or nomination, legal proof of title (proof of ownership) such as succession certificate or letters of administration or probate of will (if it exists) would be required. The strict evidence of title may be waived by the insurer, if the amount is small, no estate left by the deceased or in the absence of any dispute among the survivors about the policy money.

The intimation of death will be time barred if it is received after 3 years from the date of death. In case of death within 3 years of the commencement of the policy, simulations, investigation is needed to ensure the bonafides of the claims, without informing the claimant.

It the death has occurred within 2 years of the date of policy (i.e. the date of FPR) the possibility of suppression of evidence cannot be ruled out. The reasons of intimating the claims later, may be a deliberate attempt to tamper with the evidence.

Alternative Proof of Death: Sudden death may take place by cardiac arrest, murder, air crash, accidents, burns, drowning, suicide, hands of justice act of God. In case of air crash, a certificate from airlines authority would be important to certify that the assured was a passenger on the plane. In case of ship-accident, a certified extract from the ship log book would be needed. In the case of defence personnel, a certificate by commanding officer of the unit is needed. In case of court inquiry, its findings are to the obtained.

13.4 ADMINISTRATION OF ESI AND CGH SCHEMES

13.4.1 The Employees State Insurance Act, 1948

The ESI Act passed in 1948 (amended in 1975, 1984 and 1989) is an important measure of social security and health insurance in the country. It provides for certain cash and medical benefits to industrial employees in case of sickness, maternity and employment injury.

Scope: The Act extends to the whole of India. All the state government employees and pensioners are eligible to get provisions of ESI. The ESI Act of 1948 covered all power-using factories other than seasonal factories wherein 20 or more persons were employed (excluding mines, railways and defence establishments). The provisions of the ESI (Amendment) Act of 1975 were extended to the following new classes of establishments:

(a) Small power – using factories employing 10 to 19 persons, and non-power using factories employing 20 or more persons.
(b) Shops;
(c) Hotels and restaurants;
(d) Cinemas and theatres;
(e) Road-motor transport establishments; and
(f) Newspaper establishments.

With effect from 1-1-1979 the Act covers all employees – manual, clerical, supervisory and technical getting salary upto Rs. 6,500 per month. The provisions of the Act can be extended to any other agricultural or commercial establishment.

Administration: The administration of the ESI Scheme under the Act is entrusted to an autonomous body called the ESI Corporation. The Union Minister for Labour is the Chairman and the Secretary to Government of India Ministry of Labour is the Vice-Chairman of this corporation. It consists of members representing Central and State Governments, employers' organizations, medical profession and Parliament. There is a standing Committee, constituted from the members of the Corporation, which acts as an executive body for the administration of the Scheme. The chief executive officer of the Corporation is the Director general who is assisted by four Principal Officers – (1) Insurance Commissioner (2) Medical Commissioner (3) Financial Commissioner (4) Actuary. There is a Medical Benefit Council which is headed by the Director General of Health Services, Government of India who is assisted by the Medical Commissioner in all matters relating to medical relief. For the day to day administration, State-wise Regional Offices and Sub-Regional Offices have been set up at Faridabad, Pune, Nagpur, Provisions (Goa), Bhubaneshwar, Chandigarh, Coimbatore, Madurai, Ahmedabad, Bangalore, Mumbai, Kolkata, Delhi, Guwahati, Hyderabad, Indore, Jaipur, Kanpur, Chennai, Patna, and Trissur. Under the Regional Offices, there are several local offices to receive claim of insured persons, and to pay them cash benefits. There are Inspection Officers throughout the country to inspect factories and for checking insurability of employees and correct payment of contributions.

Finance: The scheme is run by contributions by employees and employers and grants from Central and State Governments. The employer contributes 4.75 per cent of total wage bill; the employee contributes 1.75 percent of wages (revised rates w.e.f. 1-1-1997). Employees getting daily wages of below Rs.15 are exempted from payment of contribution. The State Government's share of expenditure on medical care is 1/8 of total cost of medical care; the ESI Corporation's share of expenditure on medical care is 7/8 of total cost of medical care.

Benefits to Employees: The Act has made provision for the following benefits to insured persons or, to other dependants, as the case may be:

(1) Medical benefit
(2) Sickness benefit
(3) Maternity benefit
(4) Disablement benefit
(5) Dependant's benefit
(6) Funeral expenses
(7) Rehabilitation allowance

1. **Medical Benefit:** Medical benefit consists of "full medical care" including hospitalization, free of cost, to the insured persons in case of sickness, employment injury, and maternity. The services comprise: (1) out-patient care, (2) supply of drugs and dressings, (3) specialist services in all branches of medicine, (4) pathological and radiological investigations, (5) domiciliary services, (8) family planning services, (9) emergency services, (10) ambulance services (11) health education, and (12) in-patient treatment. In complicated cases where specialized treatment is necessary, patients are sent for institutional treatment even outside their State at the expense of the ESI Corporation.

Medical care is provided either directly through the agency of ESI hospitals and dispensaries, or indirectly through a panel of private medical practitioners (panel system) appointed as "insurance medical practitioners". DIRECT PATTERN: (1) In areas having a concentration of 1,000 or more employees' family units, service dispensaries are established with full-time medical and para-medical personnel. On an average, a doctor will attend to about 80 cases in the out-patient department per day, and makes one home visit a day. (2) In areas where the employees are less than 750, part-time ESI dispensaries are established. (3) If the residential concentration of employees is scattered over a long distance, mobile dispensaries are established. INDIRECT PATTERN: This is known as "panel system". Registered medical practitioners designated as Insurance Medical Practitioners are appointed to provide medical care. They are paid remuneration quarterly, according to the number of family units attached to them. An Insurance Medical Practitioner is allowed a maximum of 750 family units. The existing doctor-population ratio under the ESI Scheme is 1:585 as against the national average of 1:2148.

Medical care is also extended to families of workers where requisite arrangements could be made. A start has been made by providing "restricted medical care", i.e. only out-patient care. Where facilities are available "expanded medical care" which includes hospitalization is being given at 116 centres only. The ESI has 3.21 beds per 1,000

employees as on 31-12-1990, as against the national average of 0.76 beds per 1,000 population. The ESI aims to construct hospitals at the rate of 4 beds per 1,000 employees in the near future.

Other Medical Facilities: (1) Dentures, spectacles and hearing aids are provided free to patients who are incapacitated due to employment injury (2) Artificial limbs are provided free to insured persons who lose their limbs in employment injury or otherwise (3) Special appliances such as hernia belts, walking calipers, surgical boots, spinal braces, and jackets are provided as prescribed by specialists.

Cost of Medical Benefit: The per capita cost of medical benefit under the ESI Scheme has been steadily increasing. It was Rs. 23.79 in 1961-62, Rs. 58.91 in 1969-70, Rs. 67.53 in 1973-74 and Rs. 406.78 in 1992-93.

2. **Sickness Benefit:** It consists of periodical cash payment to an insured person in case of sickness, if his sickness is duly certified by an Insurance Medical Officer or Insurance Medical Practitioner. The benefit is payable for a maximum period of 91 days in any continuous period of 365 days, the daily rate being about 7/12 of the average daily wages. A person receiving the sickness benefit is required to remain under medical treatment provided under the Act.

Extended Sickness Benefit: In addition to 91 days of sickness benefit, insured persons suffering from certain long-term diseases are entitled to Extended Sickness Benefit as shown below:

Diseases for which Extended Sickness Benefit is payable for 309 days:

1. Tuberculosis
2. Leprosy
3. Mental Diseases
4. Malignant Diseases
5. Paraplegia
6. Hemiplegia
7. Chronic Congestive Failure
8. Immature cataract with vision 6/60
9. Bronchiectasis
10. Lung abscess
11. Myocardial infarction
12. Dislocation and prolapse of inter-vertebral disc
13. Parkinson’s disease
14. Aplastic anaemia
15. Cirrhosis of liver with ascties
16. Detachment of retina
17. Non-union or delayed union of fracture
18. Empyema
19. Intracranial space occupying lesion
20. Spinal cord compression
21. Chronic (simple) primary glaucoma
22. Monoplegia

23. Cardiac valvular disease with failure/complication.
24. Chronic renal failure.
25. Hemiparasis of more than eight weeks duration.
26. Post traumatic surgical amputations of lower extremity
27. More than 50% burns with infections
28. Computed fractured with chronic osteomyelitis
29. Chronic or pulmonale with congestive heart failure.

The insured person is protected from dismissal or discharge from service by the employer during the period of sickness.

3. **Maternity Benefit:** The benefit is payable in cash to an insured woman for confinement/miscarriage or sickness arising out of pregnancy/confinement or premature birth of child or miscarriage. For confinement, the duration of benefit is 12 weeks, for miscarriage 6 weeks and for sickness arising out of confinement, etc. 30 days. The benefit is allowed at about full wages.

4. **Disablement Benefit:** The act provides for cash payment, besides free medical treatment, in the event of temporary or permanent disablement as a result of employment injury as well as occupational diseases.

5. **Dependant's Benefit:** In case of death, as a result of employment injury, the dependants of an insured person are eligible for periodical payments. Pension at the rate of 40 per cent more than the Standard Benefit Rate will be paid periodically to widow(s) and children in accordance with the prescribed share. An eligible son or daughter is entitled to dependant's benefit up to the age of 18 without any proof of education; the benefit is withdrawn if the daughter marries earlier.

6. **Funeral Expenses:** Funeral benefit is a cash payment payable on the death of an insured person towards the expenses on his funeral, the amount not exceeding Rs. 1000.

7. **Rehabilitation:** On monthly payment of Rs. 10, the insured person and his family members continue to get medical treatment after permanent disablement, or retirement.

The ESI Scheme has been implemented in all States. The Scheme, by 1993, covered 74.44 lakh employees and the total number of beneficiaries being around 283.83 lakhs.

Benefits to employers:

(1) Exemption from the applicability of Workmen's Compensation Act 1923
(2) Exemption from Maternity Benefit Act 1961
(3) Exemption from payment of Medical Allowance to employees and their dependants or arranging for their medical care.
(4) Rebate under the Income Tax Act on contribution deposited in the ESI Account
(5) Healthy work-force.

13.4.2 Central Government Health Scheme

The Central Government Health Scheme (CGHS) was introduced in 1954 as a contributory health scheme to provide comprehensive medical care to the central government employees and their families. It was basically designed to replace the cumbersome and expensive system of reimbursements. Separate dispensaries are maintained for the exclusive use of the central government employees covered by the scheme. Over the years the coverage has grown substantially with provision for the non-allopathic systems of medicine as well as for allopathy. By 1993, there were a total of about 308 dispensaries – of which 230 were allopathic dispensaries. In addition, there were several polyclinics, laboratories and dental units under the scheme. The total number of beneficiaries was 4.5 million by 1993. In addition, the CGHS reimburses patients for part of their out of pocket costs on treatment at the government hospitals and some other facilities. The list of beneficiaries includes all categories of current as well as former government employees, members of parliament and so on. Since the large central bureaucracy in India definitely belongs to the middle-income and high-income categories, they are likely to make above average use of health services.

The Central Government Health Scheme is applicable to the following categories of people residing in CGHS covered cities which are notified by the government born from time to time.

1. All Central Govt. Servants paid from Civil Estimates (other than those employed in Railway Services and those employed under Delhi Administration except members of Delhi Police Force).
2. Pensioners drawing pension from Civil Estimates and their family members – (Pensioner residing in non- CGHS areas also may obtain CGHS Card from the nearest CGHS covered City)
3. Hon'ble Members of Parliament
4. Hon'ble Judges of Supreme Court of India
5. Ex- Members of Parliament
6. Employees & Pensioners of Autonomous Bodies covered under CGHS (Delhi)
7. Ex- Governors and Ex-Vice Presidents
8. Former Prime Ministers
9. Former Judges of Hon'ble Supreme Court of India and Hon'ble High Courts
10. Freedom Fighters

The scheme It provides service through the following categories of systems of allopathy and Indian Medicine

(a) Allopathic (b) Homeopathic

(c) Naturopathy (d) Ayurveda

(e) Unani (f) Yoga

(g) Sidha System

The main components of the Scheme are:

1. The dispensary services including domiciliary care
2. F. W. & M.C.H. Services
3. Specialists consultation facilities both at dispensary, polyclinic and hospital level including X-Ray, ECG and Laboratory Examinations.
4. Hospitalization
5. Organization for the purchase, storage, distribution and supply of medicines and other requirements
6. Health Education *to* beneficiaries.

The dispensary is the backbone of the Scheme. Instructions on various matters have been issued from time to time for the guidance of the specialists and medical Officers. With the rapid and continuous expansion of the Scheme, however, not only the situation has changed and problems arisen but also the rapidly expanding staff have not approved practices, procedures and instructions in regard to their various duties and responsibilities. In the following paragraphs is set *out* the gist of provisions of the Scheme, various instructions and order issued from time to time *to* serve as a Compendium for the guidance of the CGHS staff.

Procedure for Reference to Non-CGHS Hospitals- CGHS Recognized Hospitals and Diagnostic centres: CGHS/ Govt. Specialist / CMO i/c advises specific treatment procedure / test. Permission to undergo the same at one of the recognized Hospitals / Diagnostic centre is granted by CMO i/c in case of pensioner CGHS beneficiaries / ex-Members of Parliament / Freedom Fighters / ex- Governors , etc., by CMO i/c of Concerned dispensary, and by Rajya Sabha Secretariat as the case may be in case of Hon'ble Members of Parliament, and by HOD in case of Serving Govt. employees and by Autonomous bodies in case of serving employees and pensioners of Autonomous bodies covered under CGHS.

If the beneficiary seeks permission from a CGHS recognized hospital in another CGHS city , other than the city where he is registered , permission shall be granted by Addl. Director / Joint Director CGHS of concerned city. However , no TA/DA shall be permitted if treatment facilities are available in the city of residence; TA as per entitlement is permitted if no treatment facilities are available in city of residence. OPD treatment in private recognized hospitals is not permitted except in case of Satellite cities of Delhi , viz., Noida, Gurgaon, Faridabad and Ghaziabad , wherein the CMO i/c can directly refer the beneficiaries to recognized hospitals and in post operative follow up cases of Cardiac surgery, Cancer treatment, Kidney transplantation, Hip/Knee Joint Replacement , Neurosurgery and Accident cases.

FAMILY WELFARE ACTIVITIES IN C.G.H.S.

Besides giving advice and guidance to the married couples, the centres also supply family planning materials. Family Welfare Cell, C.G.H.S. arranged to impart training in I.U.C.D. insertion to a number of lady Medical Officers as well as Family Planning Para Medical Staff with a view to enable them to conduct the programme more effectively with enhanced skill.

FAMILY WELFARE ACTIVITIES

A. Family Planning Methods

1. Sterilization 2. I.U.D. 3. Nirodh 4. Oral Pills

B. Maternal & Child Health

1. Ante-nataI/PerinataI/Post-natal Check ups.

C. Immunisation

1. D.P.T., 2. Polio, 3. T.T, *4.* D.T., 5. Measles & MMR, 6. B.C.G.

D. Information, Education and Communication Activities

1. Documentaries/Film Shows 2. Orientation Training Camp
3. Seminars 4. Composite Programmes
5. Group meetings 6. Mass meetings
7. Well baby Shows 8. Exhibitions

13.5 LET US SUM UP

Health Insurance Policy is a contract between, the Insurance company and an individual or a group in which the insurer agrees to provide specified health insurance at an agreed upon price, the premium. Insurance contracts demand that both parties agree upon the said and terms and conditions approved by IRDA. The motives of Life Insurance are extending financial assistance to the family of the insured even after death, and making provision for children's education, and give them a career. The claims can be at maturity or after death by the family. The claim deposit forms should be supported with age proof, deed of assignments, policy documents (in case of death, a death certificate). The settlement procedure indicates that the claims should be within two years either in the case of death or on maturity.

The government has initiated two schemes for the benefit of the public, especially Central Government Employees and State Government Employees, in the form of ESIS and CGHS. The ESI scheme is entrusted to an autonomous body called ESI Corporation. It extends various benefits to the insured persons as well the dependants. The benefits include: medical benefit, sickness benefit, maternity benefit, disablement benefit, dependent benefit, funeral expenses, and rehabilitation allowance. The CGHS Scheme will offer comprehensive health care to various categories of people who are accountable to central government administration. The main components of the scheme are dispensary service, specialist consideration, and health education through various systems of Indian medicine.

CHECK YOUR PROGRESS

1. What is insurance contract ?

2. How many types of claims do we come across?

3. State the documents required during death claims.

4. State medical benefits extended to employees as a part of ESI.

5. Write notes on maternity benefit of ESI scheme.

13.6 TERMINAL QUESTIONS

1. Discuss the salient features of Insurance Contract.
2. State the requisites of maturity & death claims.
3. Briefly explain the settlement procedure of Insurance.
4. Discuss the salient features of ESI scheme.
5. Discuss the salient features of CGH Scheme.

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Lesson – 14 HEALTH INSURANCE TAXATION, PROVIDERS ANALYSIS OF RISK

Structure

14.0 OBJECTIVES

After studying this lesson, you should be able to

- understand tax planning – health insurance mechanism;
- learn tax benefits of life and health insurance;
- learn types of insurance providers;
- make a note on risk analysis.

14.1 TAX PLANNING – HEALTH INSURANCE

Income Tax Treatment for health and life insurance is altogether a different approach during the process of assessment. The insurer while he is under treatment or medical assistance during pre and post – hospitalisation phase has to work out a certain exercise with regard to the submission of expenses. Section 80 DDB of Income Tax Act is a corollary of section 80 DD which allows tax deductions to resident Indians as apart of their health insurance policy.

The section defines a senior citizen as an individual resident in India who is 65 years or more during the relevant previous year. Once all of the above criteria are met, an assessee can avail of the tax break irrespective of the amount actually spent on the eligible expenses.

The breaks are preceded by a host of conditions, which at times may not be possible to fulfill. Unlike Section 80DD where no proof of medical treatment is required, under 80DDB the assessee has to furnish proof of costs incurred on actual expenses. Also, the amount received under medical insurance from any insurer for either the assessee himself, dependent or relative of Hindu undivided family has to be reduced from the allowed deduction.

14.1.1 Premiums : In most cases, individuals cannot deduct the premiums they pay for individual life insurance when they compute their taxable incomes. The primary exception is for someone who is paying premiums on a life insurance policy owned by a charitable organization. For example, suppose Mr. Mohan is an avid alumnus of the Acharya Nagarjuna University. In response to a university fund-raising drive, Mohan applies for a Rs. 1,00,000 life insurance policy and names the university as both beneficiary and policy owner. Mohan plans to pay the premium on this policy on an annual basis. Because the university owns the policy, he is able to take an income tax deduction for the amount of the premium each year. When Mohan dies, the university will receive the Rs. 1,00,000 face amount.

14.1.2 Death Benefits : As a general rule, when an insured dies and a death benefit is paid by an individual life insurance policy, the beneficary does not have to report the death benefit as taxable income if the proceeds are paid in a lump sum. The income taxation rules are more complex if the policy proceeds are paid in any other manner. (Several payment options in this regard are discussed later in this chapter). When settlement is made through a series of periodic payments from the insurer, the beneficiary generally can exclude only part of each payment from taxable income. Specifically, the amount of each payment that represents a distribution of the original death benefit is not taxed, while the portion that is due to interest earnings is subject to taxation.

14.1.3 Cash Values : If a life insurance policy with a cash value is terminated before death and the contract is surrendered for cash, it is likely that there will be taxable income that must be reported in the year of the surrender. The amount of taxable income in this case is the difference between the cash received at termination and the premiums that were paid during the life of the contract. While a cash value policy is in force, the annual increments to the cash value (sometimes called the inside buildup) often escape immediate taxation. In many policies, these increments are not taxed at all until the policy is surrendered for its cash value. Thus, if the cash value of Alice's whole life policy increases from Rs. 15000 to Rs. 16000 in one year, Alice would not report the Rs. 1,000 increment as taxable income.

In some policies, however taxation of part of the inside buildup occurs every year. The determining factor regarding the manner in which the cash value accumulation is

taxed depends on whether or not the policy meets the statutory definition of life insurance as specified in the Internal Revenue Code. Policies that meet this definition are not subject to immediate taxation of their inside buildup; cash values of policies that cannot meet the requirements of this definition will be partially taxed each year.

According to the Internal Revenue Code, a policy is considered to be life insurance for tax purposes only if it meets at least one of two tests. These alternatives tests are quite technical, and the details are beyond the scope of this text. It is important to note, however, that the intent of both tests is to assure that the cash value in a particular policy is not excessive in relationship to the policy's death benefit. Contracts that are primarily savings vehicles, and have only a nominal death benefit will be unable to pass these tests, and therefore such contracts will not be granted an income tax advantage for the inside buildup of their cash values. This possibility is especially relevant for universal life policies and for endowment contracts.

14.1.4 Tax benefits under life insurance policies

Income tax rebate is given on 20% of the premium amount with a maximum limit of Rs. 60,000/-. The amounts qualifying are:

(a) Premium paid to is an effort to keep in force an insurance policy on the life of an assessee or on life of the wife or husband or child minor or major of the assessee, not withstanding the status of the child.

(b) Premiums that start or continue a contract for Deferred Annuity on the life of assessee or the wife or husband or child (minor or major) or the assessee, provided the contract does not carry an option for exercise by the assured of a facility to receive cash payment in lieu of this annuity.Premiums paid under Jeevan Suraksha annuity plan for pension are deductible from total income up to a maximum of Rs. 10,000/- under section 80 ccc.

Here the amount received as claims, on the maturity of policy or on death, of the life insured, including bonus are exempted from tax, being capital receipt under section 10 (10D).

14.1.5 Tax Benefits under Health Medical Insurance :

Individuals, while conducting their tax planning exercise for the year, should always keep in mind their financial objectives. One objective should be to insure themselves against any unforeseen medical/health expenses.

A medical/health insurance policy helps in achieving this goal. This note explains what the policy is and how it proves to be useful while carrying out the financial as well as the tax planning exercise.

Simply put, a health insurance policy, also popularly known as 'Mediclaim,' helps an individual cover the expenses incurred due to an injury/hospitalisation. Not only does it cover expenses sustained during hospitalisation but also during the pre- as well as post-hospitalisation stages.

An added attraction of these policies is that the individual gets certain tax benefits, which are separate from the Section 80C benefits available on traditional tax-saving instruments. An illustration will help in understanding things better.

The policy devised by New India Assurance covers only diseases or major ailments that fall under the critical list, and require larger outgoings like renal failures that require kidney transplants or dialysis, cerebral or vascular strokes, open and closed heart surgery, neuro surgery, joint replacements, cirrhosis of the liver and such. The policy has a larger cover than any medical policy with a limit of Rs.5 lakh. And any individual between the age of five and 75 years can be covered under this policy.

The policy also covers reimbursement for hospitalization as well as treatment that is given at home unlike the normal medical insurance policies. However, it does not cover pre-existing diseases, any illness contracted within the first 30 days of purchasing the policy or include diseases that are not on the specified list.

Says an insurance agent, “the policy has to be treated as an added cover in addition to Mediclaim. And basically people who have a history of certain diseases in the family and do not want to be bothered with the hassles of claiming small amounts chose to take this on”.

The drawback of this policy is that currently one cannot avail of tax deductions under Section 80D of the Income Tax Act. However, the advantage is that since it covers only major ailments, the premium is 20-25 per cent lower than the normal mediclaim policies.

The policy allows a tenure of one, five and ten years and the limit of domiciliary expenses varies with the sum insured. On an insured sum of Rs. 1 lakh, one would get Rs. 20,000 as the domiciliary limit, and has to pay a premium of Rs. 806 for a cover of one year.

If you have dependants or relatives who are critically ill, you can avail of the tax break. However, if you wish to plan ahead and protect yourself from the added burden of medical expenditure on critical diseases, you might want to consider the Tertiary Care Policy. The Policy is expected to receive a tax concession in the near future, so it may be worth your while to take it into account.

14.2 MEDICAL INSURANCE: SMALL COSTS, HUGE BENEFITS

	Age (Yrs)	Amount to be insured (Rs.)	Annual Premium (Rs.)
United India Insurance Co. Ltd	30	200,000	2,469
New India Assurance Co. Ltd	30	200,000	2,720

Let us assume that an individual aged 30 years, wants to cover himself for a sum of Rs. 2,00,000. As the table shows, if he decides to buy a Mediclaim policy from United India Insurance, the annual premium for the same works out to approximately Rs 2,469 per annum.

Conversely, if the policy were to be purchased from New India Assurance, other factors remaining the same, the premium the individual would have to pay would be approximately Rs 2,720 per annum.

In case the individual has to undergo hospitalisation due to an injury / accident, then the expenses incurred by him will be covered by the policy. The cover will be to the extent of the sum insured.

In this example, the insurance company will pay for expenses up to Rs 200,000. This cover will also include pre and post hospitalisation expenses like money spent for conducting medical tests and buying medicines.

Of course, the payment will be subject to certain conditions. For example, the insurance company directs the individual to undergo treatment from a hospital that has a tie-up with the company. Also, the insurance company will ask for all the necessary documents pertaining to the hospitalisation charges, the medicines bought and other related papers.

Mediclaim policies attract tax benefits under Section 80D. Deduction under this section is available if the premium is paid by cheque. The maximum amount of deduction available under this section is Rs 10,000.

This limit stands enhanced to Rs 15,000 in case an individual is a senior citizen. Tax benefits are also available in case individuals pay for their parents and children who are dependent on them.

A host of added benefits are also available on Mediclaim policies. If suppose, an individual continues to buy a Mediclaim policy from a certain company and has a claim

free year, then the company increases his sum insured in the next year. Alternatively, some companies reduce the premium charged to the individual. Most companies also give a discount on the premium being charged in case individuals want to insure their entire family.

Individuals also have the option of covering themselves for medical expenses by opting for the 'Critical Illness (CI)' rider available with life insurance policies. Life insurance companies have their own list of critical illnesses as defined by them.

If an individual suffers from an illness that is defined by the company in its list of critical illnesses, then he stands to benefit by way of this rider. Section 80D benefits are available on such riders as well.

However, medical insurance differs from these riders in one key aspect. In case of a CI rider, on the occurrence of a 'critical illness' during the policy tenure, an amount as proposed in the policy will be paid out to the individual.

This is irrespective of the expenses incurred by the individual on hospitalisation, medicines, and other such costs. As opposed to this, in case of Mediclaim, the individual is covered only to the extent of the actual expenses incurred subject to the maximum limit as defined by the 'sum insured.'

Medical insurance has also seen a lot of innovation being brought in with the passage of time. Now a days, you have 'cashless hospitalization'. This is where individuals do not have to pay for their hospital bills in case of hospitalisation; the insurance company settles the bill directly.

Of course, certain conditions like those already mentioned earlier have to be met- the hospital needs to have a tie-up with the insurance company, the documents need to be in order and so on. Some companies also offer what they call 'floating cover' which can be best understood by an example.

Under a floating cover, an individual can either cover himself for say, an amount of Rs. 3,00,000 or cover his family of say 3 individuals, for Rs 1,00,000 each. This again, will be subject to the conditions laid down by the insurance company.

However, what needs to be understood is that individuals have a wider choice now with more general insurance companies entering the fray.

With the costs associated with medicine and medical treatment having gone up, individuals need to plan their finances better. They shouldn't be caught in a scenario where they are staring at a huge medical bill, and haven't planned for it.

That apart, although they might have the money at that point in time, their long term financial planning might go awry. It is in such cases that medical insurance proves its worth all the more.

All said and done therefore, a medical insurance policy should always form part of any individual's financial planning as well as the tax planning exercise needs to focus on developing mechanisms, which would help Third Party Administrators (TPAs) to strengthen their human capital, and ensure smooth delivery of TPA services in the emerging health insurance market.

14.3 HEALTH INSURANCE PROVIDERS

Health insurance is provided by several types of organizations:

1. Commercial insurers
2. Blue Cross and Blue Shield associations
3. Health maintenance organizations (HMO)
4. Point-of-service (POS) plans and
5. Preferred provider organizations (PPOs).

When payment for health expenses is provided as an employee benefit, many employers set up self-insurance arrangements to either replace or supplement coverage obtained from one or more of these types of providers. In addition, some health insurance is provided by the Medicare and Medicaid systems, the social insurance arrangements set up through the federal and state governments.

Insurers and the Blues : Until recently, commercial insurers and Blue Cross and Blue Shield Associations (the Blues) were legally very different in terms of structure, though from the perspective of an individual insured they appeared to be very similar. The Blues were originally designed to be non-profit organizations allowing their subscribers (insureds) to prepay some types of health care expenses. Blue Cross associations focused on the prepayment of hospital expenses, whereas Blue Shield groups covered physicians' services. In India commercial insurers can be categorised into public sector and private sector based. Public sector is represented LIC, GIC, New India Assurance, United India Insurance, Oriental Insurance, National Insurance Company, etc. Private sector is represented by ICICI, HDFC, Reliance, Bajaj Alliance, etc. (*Exhaustive list of insurance providers is given in Lesson 15).

Health Maintenance Organizations (HMO) : By the late 1990s, nearly 60 million persons in the United States were enrolled in health maintenance organizations (HMOs), with more than a third of the enrollees living in states. HMOs can be structured in several ways but all are designed to provide their members with comprehensive health services within a well-defined geographical area. The HMO is paid a set fee per month by its members, and it provides all necessary medical services. Coverage is usually much broader than that provided by insurers, and both cost control and prevention of health problems tend to be emphasized. By stressing regular health care, early diagnosis and treatment, and disease prevention, HMOs can be effective in helping their members identify and correct small health problems before they become major ones.

Point-of-Service Plans (POS) : One modification of the HMO concept is the point-of-service (POS) plan, which is some-times referred to as an open-ended HMO. A POS plan can be organized in all of the same ways as an HMO, and the philosophies in an HMO, patients select their own primary care physicians who are responsible for coordinating necessary medical services. The primary difference between a POS plan and an HMO is that individuals in POS plans have more freedom of choice in selecting doctors and other medical care providers, whereas an HMO member must use only HMO doctors. POS members have the option of using either the POS providers or doctors unaffiliated with the POS plan. Furthermore, this choice exists each time medical services are needed.

Preferred Provider Organizations (PPO) : Represent another variation within the network of health care delivery systems. Specific arrangements vary, but most PPOs offer a reduction in the price of health care services in return for certain concessions by the sponsoring organization. For example, doctors in a particular PPO might agree to lower their fees by 15 percent for PPO participants, many of whom are employees receiving health care paid by their employers. In exchange for the lower fees, the employers agree to (1) provide the PPO with a minimum number of patients each month, (2) pay their premiums promptly, and (3) encourage their employees to take advantage of health education programs that are designed to lessen health problems; and hence lower costs. Health Services provided through PPO arrangements may be extensive, as is the case with HMOs and POS plans. In other instances, services provided by PPOs are extremely narrow; and may be focused only on a particular form of treatment, such as vision care or prescription drugs. Sponsors of PPOs may include insurers, HMOs, POS plans, employers, or some combination of these groups.

14.3.1 Types of Insurance Offered by Providers

Hospital Insurance : A hospital insurance contract is one of the basic health insurance policies. Traditionally, basic health insurance policies have had fewer cost-sharing provisions than policies that are not considered to be basic health contracts. A hospital insurance policy provides indemnification for necessary hospitalization expenses, such as room and board while hospitalized, laboratory fees, nursing care, use of the operating room, and certain medicines and supplies.

Surgical Insurance : Another type of basic health insurance is the surgical insurance contract, which covers physician's fees associated with covered surgeries. Both inpatient and outpatient surgical procedures are usually covered in order to prevent unnecessary hospitalizations when a procedure can be performed without an overnight stay in a hospital.

Dental Insurance : Dental Insurance is a newer form of health expense coverage than those discussed so far. Covered services typically include filings, crowns, extractions, bridgework, dentures, root canal therapy, inlays, treatment of gums, and orthodontics.

Long-Term Care Insurance: As more and more people live to an advanced age, there is an increasing risk of loss associated with the eventual need of many persons for nursing

home care or other assistance with daily living. As a result, the market for long-term care (LTC) insurance is growing rapidly.

Disability Income Insurance: Disability income insurance is a different type of health insurance than has been discussed thus far. Rather than covering specified medical or other health expenses, disability income insurance provides periodic income payments to the insured while he or she is unable to work as a result of sickness or injury.

14.3.2 Functioning of Third Party Administrator (TPAs) : TPAs are neither insurance companies nor care providers but intermediaries who bring all factors of health care such as physicians, hospitals, clinics, pharmacies, etc. together. The services provided by them include cashless service at hospitals, telephonic support to policyholders and management of claims and reimbursements. They also provide services to the corporate sector in designing and managing health benefit packages for their employees. The main function of a TPA is to guarantee cashless hospitalisation to policyholders. In short, TPAs are a key link between insurance companies, health care providers, and policyholders.

TPAs sort out health care providers by setting up networks with hospitals, general practitioners, diagnostic centres, pharmacies, dental clinics etc. They sign a memorandum of understanding with insurance companies under which they let policyholders know about the various health care delivery facilities, and the methods for settling claims.

Policyholders get themselves registered with TPAs to benefit from these services and at the time of hospitalisation, health facilities are expected to pass on this information to the TPAs. The medical representative of the TPA examines the acceptability of the case, and accordingly informs the health care providers to go ahead with the treatment.

The agreement between TPAs and health care facilities includes the collection of documents and bills concerning the treatment. Documents are assessed and sent to the insurance company, for reimbursement. TPAs also procure reimbursements from the insurance company and pay the health care provider. TPAs usually have in-house specialists comprising medical doctors, insurance consultants, legal experts and IT professionals. The mainstay of TPAs is an information management system.

The value added services provided by TPAs include ambulance service, medicines and supplies, information about health facilities, hospitals, bed availability, 24 hour help lines, etc.

The client groups of TPAs fall into two categories: corporates and individuals. The major sources of revenue are the fees charged for providing various services. Insurance companies pay the fee in proportion to the volume and scope of services provided by TPAs and usually it is a fixed percentage of the premium collected from the enrolees.

14.3.3 IRDA Regulations : The Insurance Regulatory and Development Authority (IRDA) has made it compulsory for TPAs to get a licence to operate in India. So far, IRDA has granted licence to 23 TPAs. The TPAs have formed an association called Indian Association of TPAs to protect their interests. IRDA along with the Insurance Advisory Committee has formulated the Insurance Regulatory and Development Authority (Third Party Administrators - Health Services) Regulations, 2001 to regulate TPAs.

Some of the Regulations Include

- Only an organisation registered under the Companies Act 1956 with a share capital of at least Rs.10 million in equity shares can set up TPA in health services.
- The primary object of the company should be to carry on business in India as a TPA in health services. It should not be involved in any other business.
- At least one of the directors shall be a qualified medical doctor registered with the Medical Council of India. The CEO or CAO of TPA should have successfully undergone a course in hospital management from an institution recognised by IRDA and have passed the licentiate examination conducted by the Insurance Institute of India, Mumbai. Apart from this he should have undergone practical training of at least three months in the field of health management.
- Foreign equity in TPAs is limited to 26 per cent.
- TPAs shall not charge any kind of fee from the clients
- IRDA guidelines do not permit marketing of health insurance policies by the TPA
- TPAs have to maintain and report to IRDA on transaction carried out on behalf of the insurer.
- TPAs are expected to furnish to the insurance company and the authority an annual report and any other return as may be required by the Authority.
- IRDA has drawn up a code of conduct for the TPAs refraining them from trading information, submitting wrong information to insurers and advertising without prior approval of the insurer among other things.

Issues Faced : TPAs are expected to get better-negotiated agreements with hospitals and medical practitioners and introduce better monitoring system that result in lower claim ratios.

The advent of Third Party Administrators (TPAs) is expected to play an important role in health insurance market in ensuring better services to policyholders. In addition, their presence is expected to address the cost and quality issues of the vast private healthcare providers in India. However, the insurance sector still faces challenge of effectively institutionalising the services of the TPA. A lot needs to be done in this direction: A resent study revealed that (i) low awareness among policyholders about the existence of TPA; policyholders mostly rely on their insurance agents; (ii) policyholders have very little knowledge about the empanelled hospitals for cashless hospitalisation services; (iii) TPAs insist on standardisation of fee structure of medical services/procedures across providers; (iv) healthcare providers do experience substantial delays in settling of their claims by the TPAs; (v) hospital administrators perceive significant burden in terms of effort and expenditure after introduction of TPA; and (vi)

no substantial increase in patient turnover after empanelling with TPAs. However, there is an indication that hospital administrators foresee business potential in their association with TPA in the long run. There is a clear indication from the study that the regulatory Insure your health and save tax.

POPULAR INTERNATIONAL HEALTH INSURANCE PROVIDERS

- **Aetna :** Provider of managed care benefits and dental, pharmacy, vision, and group insurance coverage.
- **Allied Network PPO :** Serving Texas, Louisiana, Arkansas and New Mexico.
- **America Service Group Inc.:** Provide managed healthcare for inmates in jails and prisons.
- **American Healthways**: Provider of diabetes and cardiac disease management services to health plans and hospitals.
- **American Lifecare :** Offers regional managed care products and services.
- **Amerigroup Corporation:** Provider of managed health care services for the public sector.
- **Care Choices:** Serves as a recognised leader and innovator in coordinated care development and operations. Subsidiary of Trinity Health.
- **CHD Meridian Healthcare**: occupational and corporate provider. Includes injury treatment, workers compensation management, and preventive care.
- **Concentra Managed Care :** Offering outsource solutions for cost containment and care management for employers and payors in the occupational, workers' compensation, auto, and group healthcare markets.
- **CorVel Corporation:** National provider of managed care services for workers¿ compensation, accident and health, and auto insurance markets.
- **Coventry Health Care:** provides a range of managed care products and services and administers self-insured plans for large employer groups.
- **First Choice of the Midwest :** Preferred Provider Organisation (PPO). Provides service to Montana, North Dakota, South Dakota, Wyoming, Colorado, Nebraska, Minnesota, and Iowa
- **First Health:** Benefits provider to the group health, workers' compensation, and government markets.
- **Fortified Provider Network:** provides a multi-specialty network of managed care preferred providers including hospitals, ancillary facilities, physicians, and professionals.
- Group Health Incorporated (GHI)
- **Group Health Plan, Inc :** Provides comprehensive health care coverage to employers and union groups in the Missouri and Illinois region through standard HMO and Point of Service health plans.
- **Health Management Corporation of America:** operates open MRI, physical therapy, primary care, and pain management facilities in New York, Florida and Georgia.
- **HealthCare Value Management, Inc.:** New England preferred provider organisation.

- **Health Scope Benefits :** manages healthcare costs for client companies through customer service, benefits administration, managed care, and informatics services.
- **Humana Inc :** Offers coordinated health insurance coverage and related services through traditional and Internet-based plans to employer groups, government-sponsored plans, and individuals.
- **Indiana Health Network (IHN):** Preferred provider organisation (PPO) that provides coverage plans for the state of Indiana, as well as portions of Kentucky, Ohio, Michigan, and Illinois.
- **Lifemark Corporation :** Develops and administers long term healthcare plans for frail, elderly, and chronically ill individuals.
- **M-Care :** providing managed care services to southeast Michigan.
- **Medicare International :** Services include international managed health care, cross border care, and Medicare for expatriates.
- **MHS Insurance Company :** Offers a choice of a health maintenance organisations (HMO), point of service (POS) plans, Medicaid HMO programmes, and Medicare supplement insurance.
- **Mid Atlantic Medical Services, Inc. :** The MAMSI family of health care products and services includes managed care and indemnity health, home health, pharmacy, life insurance and other products.
- **MultiPlan :** National managed health care preferred provider organisation.
- National Capital PPO
- **Oxford Health Plans :** Provides health plans to employers in New York, New Jersey, and Connecticut.
- **Pacific Foundation For Medical Care :** A cost effective network of physicians, ancillary providers and hospitals offers our network and UR services to payors such as insurance companies, TPAs, and HMOs.
- **PacifiCare Health Systems :** Provider of health insurance products for employer groups and Medicare beneficiaries.
- **Partners National Health Plans of North Carolina, Inc. :** Managed care service for the southeastern United States.
- **Preferred Health Systems:** A network of health insurance companies and providers.
- **Preferred Plan :** A national managed care organisation offering PPO, workers' compensation, National Transplant, and other provider networks.
- **Sierra Health Services :** Provides and administers the delivery of managed care benefit plans for employers, government programmes, and individuals.
- **Sloans Lake Managed Care :** Also makes spiritual counselling and alternative care available.
- **Trinity MedCare :** Specialising in the development, operation and marketing of adult and gero-psychiatric inpatient/outpatient programmes for hospitals and health systems.
- **United Health Group :** offers a broad range of health and well-being products and services.
- **United Health care:** Offers a broad range of health care plans and related products and services to individuals and employer groups across the United States.

14.4 RISK ANALYSIS

Risk, which is often used to mean uncertainty, creates both problems and opportunities for businesses and individuals in nearly every walk of life. Executives, employees, investors, students, householders, travelers, and farmers all confront risk and deal with it in various ways. Sometimes a particular risk is consciously analyzed and managed; other times risk is simply ignored, perhaps out of lack of knowledge of its consequences.

Risk regarding the possibility of loss can be especially problematical. If a loss is certain to occur, it may be planned for in advance and treated as a definite, known expense. It is when there is uncertainty about the occurrence of a loss that risk becomes an important problem. Thus, if a store owner knows for sure that a certain amount of shoplifting will occur, this loss may be recovered by marking up all goods by the necessary percentage. There is little or no risk involved unless actual shoplifting is greater than normal. The store is more concerned about the risk of abnormal shoplifting losses than about those viewed as normal or expected.

The Burden of Risk : The idea of risk bearing can be tantalizing. After all, it is a well-known investment principle that the largest potential returns are associated with the riskiest ventures. There are some risks, however, that involve only the possibility of loss. For example, businesses located near the Mississippi River confront the possibility of periodic flooding. When a flood occurs, loss caused by property damage, and lost revenues is likely. On the other hand, no gain is expected merely because in some years a flood does not occur.

Businesses, as well as individuals, may try either to avoid risk of loss as much as possible or to reduce its negative consequences. Overall, an entity's cost of risk is the sum of: (1) expenses of strategies to finance potential losses, (2) the cost of unreimbursed losses, (3) outlays to reduce risks, and (4) the opportunity cost of activities forgone due to risk considerations.

14.4.1 Types of Risks

Pure versus Speculative Risk : An important classification of risk involves the concepts of pure risk and speculative risk. Pure risk exists when there is uncertainty as to whether loss will occur. No possibility of gain is presented by pure risk - only the potential for loss. Examples of pure risk include the uncertainty of damage to property by fire or flood or the prospect of premature death caused by accident or illness. In contrast to pure risk, speculative risk exists when there is uncertainty about an event that could produce either a profit or a loss. Business ventures and investment decisions are examples of situations involving speculative risk.

Static Vs. Dynamic Risk : Static risks, which can be either pure or speculative, stem from an unchanging society that is in stable equilibrium. Examples of pure static risks include the uncertainties due to such random events as lighting, windstorms, and death.

Business undertakings in a stable economy illustrate the concept of speculative static risk. In contrast, dynamic risks are produced because of changes in society. Dynamic risks also can be either pure or speculative. Examples of sources of dynamic risk include urban unrest, increasingly complex technology, and changing attitudes of legislatures and courts about a variety of issues.

A third way to classify risk is by whether it is objective or subjective. *Subjective* risk refers to the mental state of an individual who experiences doubt or worry as to the outcome of a given event.

Objective risk differs from subjective risk primarily in the sense that it is more precisely observable and, therefore, measurable. In general, objective risk is the probable variation of actual from expected experience.

Property Risks : All businesses and individuals that own, rent, or use property are exposed to the risk that the property may be damaged, destroyed, or stolen.

Liability Risks : A second major category of risks is liability exposure. Liability judgements may result in payments made to compensate injured parties as well as to punish those responsible for the injuries, with multimillion dollar awards no longer rare.

Life, Health, and Loss of Income Risks : Potential losses associated with the health and well-being of individuals make up the third and final category of sources of risk. The possibility of the untimely death of star salesperson Ann Costello exposes her employer to potential loss if a replacement with the same skills and experience is not readily available.

Businesses and individuals also face risks associated with health problems. Person who become ill or who are injured in accidents will incur expenses for medical treatment, and the cost of such treatment is becoming increasingly expensive. Sometimes businesses arrange to pay some or all of such expenses for their employees, regardless of whether a sickness or injury is job related. As medical costs increase, however more and more individuals must pay substantial sums each year for medical care for themselves and their families. In addition to these expenses, there is another potential loss associated with sickness and accidents.

Financial Risk : A variety of financial risks, which often are speculative in nature, can impact on a firm’s earnings.

14.4.2 Measurement of Risk: Once risk sources have been identified, it is often helpful to measure the extent of the risk that exists. As noted above, risks that are classified as subjective cannot be precisely measured. In contrast, the amount of objective risk is often more readily observable. Several important concepts related to the measurement of objective risk are discussed in this section.

Chances of Loss : The long-term chance of occurrence, or relative frequency of loss, is defined to be the chance of loss. The concept has little meaning if applied to the chance of occurrence of a single event.

Physical Hazard : A physical hazard is a condition stemming from the material characteristics of an object. Consider the peril of collision, which may cause loss to an automobile.

Physical hazards include such phenomena as the existence of dry forests (a hazard affecting the peril of fire), earth faults (a hazard for earthquakes), and the existence of oily rags in a firm's storage closet (a hazard for fire). Such hazards may or may not be within human control.

Morale Hazard : The mental attitude of a careless or accident-prone person is known as morale hazard. Some times a subconscious desire for a loss may exist, even though the individual is not fully aware of this desire.

Moral Hazard : The condition known as moral hazard also stems from an individual's mental attitude. It is associated with intentional actions designed either to cause a loss or to increase its severity. Moral hazards often are typified by individuals with known records of dishonesty. In addition the existence of insurance may sometimes exacerbate the existence of moral hazard.

Degree of Risk : The amount of objective risk present in a situation, sometimes referred to as the degree of risk, is the relative variation of actual from expected losses. More precisely, the degree of risk is the range of variability around the expected losses, which are calculated using the chance of loss concept by means of the following formula:

$$Objective\ Risk = \frac{Probable\ variation\ of\ actual\ \ from\ expected\ losses}{Expected\ losses}$$

14.4.3 Risk Identification : The identification of risks and exposures to loss is, perhaps, the most important element of the risk management process. Unless the sources of possible losses are recognized, it is impossible to consciously choose appropriate, efficient methods for dealing with the losses should they occur.

A loss exposure is a potential loss that may be associated with a specific type of risk. Loss exposures are typically classified in the same way as are pure risks.

Loss Exposure Checklists : One risk identification tool that can be used both by businesses and by individuals is a loss exposure checklist, which specifies numerous potential sources of loss from destruction of assets and from legal liability.

Some loss exposure checklists are designed for specific industrials, such as manufacturers, retail stores, educational institutions, or religious organizations.

A second type of checklist focuses on a specific category of exposure. The example included in Appendix deals with potential losses associated with real and personal property. Both the risk of physical damage and the risk of liability arising from the use of property are explored through the questions included in this checklist.

Financial Statement Analysis : Another approach that can be used by businesses to identify risks is financial statement analysis. Using this method, all items on a firm's balance sheet and income statement are analyzed in regard to risks that may be present. By including budgets, long-range forecasts, and written strategic plans in the analysis, this method can also help identify possible future risks that may not currently exist.

The flow chart is, especially, useful for businesses in identifying sources of risk in their production processes.

Only through careful inspection of the entire production process can the full range of loss exposures be identified.

Contract Analysis : The analysis of contracts into which the firm enters is another method for identifying potential exposures to risk. It is not unusual for contracts to state that some losses, if they occur, are to be borne by specific parties.

This type of contractual liability may be found not only in construction contracts but also in sales contracts and lease agreements.

On-Site Inspections : Because some risks may exist that are not readily identifiable with the tools discussed thus far, it is important for business risk managers to visit periodically the various locations and departments within the firm. During these visits, it can be especially helpful to talk with department managers and other employees regarding their activities. Through this type of personal interaction, the risk manager can become better informed about current exposures to risk as well as potential future exposures that may arise.

Statistical Analysis of Past Losses : A final risk identification tool that may be helpful for very large firms is that of statistical analysis of past losses. A risk management information system (RMIS) is a computer software program that assists in performing this task.

Risk Analysis : Once a risk is identified, the next step in the risk management process is to estimate both the frequency and severity of potential losses.

In some cases, no particular problem would arise even if losses were incurred regularly, because the potential size of each loss is small.

In evaluating the risk of loss from this peril, one should consider three things: (1) the frequency with which lightening may strike his building, (2) the maximum probable loss that would likely result if lightening did strike, and (3) the maximum possible loss if

the building were completely destroyed. The difference between these last two factors is that the maximum probable loss is an estimate of the likely severity of losses that occur, whereas the maximum possible loss is an estimate of the catastrophe potential associated with a particular exposure to risk.

The actual estimation of the frequency and severity of losses may be done in various ways. Some risk managers consider these concepts informally in evaluating identified risks. They may broadly classify the frequency of various losses into categories such as “slight”, “moderate”, and “certain,” and may have similarly broad estimates for loss severity.

Risk Mapping or Profiling : With the evolution of integrated or enterprise risk management, alternative methods of risk identification and assessment have emerged. One such method is risk mapping, sometimes referred to as risk profiling. Since integrated risk management is based on identifying all the risks facing the firm, it is not unusual for a firm to identify in excess of 100 risks when using this approach.

Probability : The probability of an event refers to its long-term frequency of occurrence. All events have a probability between 0 (for an event that is certain not to occur) and 1 (for an event that is certain to occur). To calculate the probability of an event, the number of times a given event occurs is divided by all possible events of that type.

CHECK YOUR PROGRESS

1. What provisions are made in section 80 DD of income tax with regard to health insurance.

   _____

   _____

2. Who is a commercial insurer?

   _____

   _____

3. Present the bulk form of HMO and POS.

   _____

   _____

4. State the difference between Static Vs. Dynamic risk

   _____

   _____

5. Differentiate Morale Hazard and Moral Hazard.

_____

_____

6. What is Risk Mapping?

_____

_____

14.5 LET US SUM UP

Income tax treatment for health and life Insurance is altogether a different approach during the process of assessment. While submitting expenses the insurer should look at pre and post hospitalisation expenses claim. Section 80 DD deals with income tax exemptions and breakups of different policies. Mediclaim policy attracts tax benefits. Certain policies will have floating coverage, i.e., family members benefit.

Health Insurance provider are of different categories: Commercial Insurers, Blue cross and blue shield association. Health maintenance organisation (HMO), Point of service plans (POS), preferred provider organisation (PPO). Third party administrators (TPA) are neither insurance providers nor care providers but intermediaries who bring all factors of health care together. Risk can be measured through preparing loss exposure checklists, financial statement analysis, on-site inspection, contract analysis, statistical analysis of past losses.

14.6 TERMINAL QUESTIONS

1. Discuss the tax benefits of life and health insurance.
2. State different types of insurance providers in the Indian context.
3. Explain various types of risks in insurance management.
4. How is risk analysed? Illustrate.

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Lesson - 15 INDIAN AND INTERNATIONAL HEALTH INSURANCE PLANS

Structure :

15.0 OBJECTIVES

After studying this lesson, you should be able to:

- understand and differentiate health insurance plans offered in India;
- learn various international health insurance plans available;
- make a note on details of each insurance plan.

15.1 INTRODUCTION

Health Insurance Plans are a type of insurance in which the insurer pays the medical costs of insured, if the insured becomes sick or injured. The insurance may be a private organization or government agency. The health insurance plans have become need of the Hour in the changing economic scenario, especially keeping the intensity of risk in mind. Health Insurance has so far remained the most neglected subject with our insurers in India. The Mediclaim Policy introduced by the General Insurance Corporation has caught the attention of our people because of exclusion of many diseases and surgical intervention. The other main inhibiting factor is that it offers reimbursement of expenses

whereby the insured has to first bear the cost of treatment out of his own pocket; and the claim settlement procedure often puts spokes in the form of production of all medical reports and bills in support of the treatment. This has negated the attitude of people towards this policy. It is the ultimate objective of insurance policy, but was never debated in the Indian context. The lack of it has rather made the problem more complex.

15.2 TYPES OF HEALTH INSURANCE PLANS AND PROVIDERS IN INDIA

In India different organisations both in private sector and public sector have been offering health insurance schemes to different sections of the public. Among them LIC, GIC, the subsidiaries of GIC, TATA AIG, ICICI, HDFC, RELIANCE, METLIFE, BAJAJ ALLIANGE etc. are prominent.

15.2.1 Health Insurance Plans Of LIC

Health Insurance as an adjunct of Life Assurance: It was considered by LIC in year 1993 and especially for four major diseases, namely:

i. Cancer
ii. Paralytic stroke leading to disability
iii. Renal failure (both kidney)
iv. Coronary artery diseases.

Effects of Dreaded Diseases: These dreaded diseases put extra pecuniary burden on the affected person whose :

i. Earning capacity is reduced
ii. Expenses on treatment are very high
iii. Convalescence period is lengthy
iv. Psyche becomes defeatist.

Extra Pecuniary Benefits: These additions to a normal life assurance policy are of great help to the afflicted in overcoming the trauma to the said dreaded diseases:

Types of Policies offered by LIC.

Asha Deep II : It is a life assurance plan which covers the risk of four major ailments.

i. Cancer (malignant)
ii. Paralytic Stroke leading to permanent disability.
iii. Coronary artery diseases where bye-pass surgery has been done.
iv. Renal Failure (both kidneys)

Some other features are:

(i)	Minimum age at entry	18 years
(ii)	Maximum age at entry	50 years
(iii)	Minimum age at maturity	65 years
(iv)	Minimum sum assured	Rs. 50,000
(v)	Maximum sum assured	Rs. 5,00,000
(vi)	Policy Terms	15,20 and 25 Years

Jeevan Asha II: This again is the life insurance plan with elements of health insurance. It is an improvement over its earlier policy, Asha Deep II, and includes more surgical intervention.

Features:

(i)	Minimum age at entry	18 years (completed)
(ii)	Maximum age at entry	50 years (nearer birthday)
(iii)	Minimum age at maturity	65 years (nearer birthday)
(iv)	Minimum sum assured	Rs. 50,000
(v)	Maximum sum assured	Rs. 5,00,000
(vi)	Policy Terms	15,20 and 25

Double / Triple Accident benefits: The proposer will have an option to choose an exclusive additional amount payable on death due to accident to be equal to or double the sum assured for payment of an additional annual premium of Re. 1 or Rs. 2 respectively per Rs. 1,000 sum assured.

Riders / Benefits:

(a) Option I:

(i) On completion for first 3 years of policy, a payment of 2% of sum assured is payable.

(ii) Thereafter after every 2 years, the same amount i.e., 2% of sum assured is paid.

(b) **Option II:** In case the Survival Benefits Option-I is not opted for, the policy holder can avail of an enhanced lump sum benefits towards any health emergency at a later date. This enhanced benefit can be drawn maximum two times during the term of policy.

The option is exercised at the outset. No change is allowed.

Fixed Benefits against Specified / Surgical Treatment: The policy holder shall be eligible for 20% or 50% of sum assured, depending on whether the surgery is categorized as minor or major. Fixed benefits shall be granted subject to satisfactory pre-and post-operative evidences.

(i) The fixed benefits can be availed only once during the lifetime of the policy. However, if the first claim admitted is towards a minor surgical procedures, the policy holder will also be eligible for yet another benefit towards surgical procedure, if any, during the term of the policy, provided the same is specified in the test and is not undertaken within one year for the date of the first of the surgical procedure.

(ii) Premium payment has to continue even after availing fixed benefit.
(iii) The policy holder continues to enjoy the periodic survival benefits payment of 2% of sum assured, even after availing the fixed benefit.

(iv) Guarantee Additions: Guaranteed addition @ Rs. 70 per thousand the sum assured for each completed policy year, for which the premiums are paid will be payable at the end of the term of the policy or earlier deaths of the policy holder.

(v) Loyalty Addition: On the life assured surviving the stipulated date of maturity or on earlier death, loyalty addition may be paid at such rates, and on such terms as may be declared by the corporations.

Benefit on Maturity: The sum assured along with the guaranteed additional and loyalty additionals will be payable subject to deduction of amount paid towards benefit and surgical procedure benefit, if any.

Payment on death before the date of Maturity: On death of the assured while the policy is in full force before the policy matures, the sum assured along with accrued guaranteed additional and loyalty addition, if any, will be payable in full without deducting the benefits paid earlier as explained.

The Surgical Procedure Covered Under the plan are as follows:

(a) Major Surgical Procedures:

		Claim
(i)	**Nervous System:** Benign cerebral tumours and space occupying lesions requiring craniotomy. Repair of cerebral spinal Arterio nenous malformations, cerebral. Aneurysms and excision of cerebral turnour. Other Intra-cranial operations requiring craniotomy.	50% of the S.A. (only 30% if 20%was claimed earlier under minor surgical procedure).
(ii)	**Respiratory System:** Lung transplant or combined Heart-lung transplant.	
(iii)	**Cardiovascular System:** Initial insertion of permanent pacemaker for the Major Surgery on the Aorta Coronary Angioplasty with the implantation (PTCA) with implantation (CABG is excluded) Value replacement using mechanical prosthesis via open heart surgery Valvatomy (e.g. mittal or aortic or pulmonary valvalomy) (Balloon-Valvuloplasty splitting should be detectable) Pericardiectomy done in chronic constructive pericarditis.	

(iv) **Halmic and lymphatic system:**
Bone marrow transplantation (recipient only)

(B) **Minor Surgical Procedures**

(v) **Respiratory System :**
Lobotomy, Pneumonectomy, pleural decordication, pleuretomy, pleuropneumonotony, thoractoplasty. Excision of bening mediastinal lesions. (Evidence of thoracotomy is required. 20% (Allowed two times if no claims made under major surgical procedure)

(vi) **Digestive System** (Gastro Intestinal system) Surgery for treatment of peptic ulcer. Resection Anastomosis of any part of alimentary canal.

(vii) Liver, Gall bladder and pancreas : Partial Resection of live, cholecytectormy, partical pancreatectomy.

(viii) **Endocrine System:**
Complete or partial excision of adrenal glands or Pineal gland or thymes gland. Excision of pituitary gland. Complete or partical Thyroi-dectomy. Parahyroidectomy.

(ix) **Haemic and Lymphatic system :**
Spplementary for haema-tologic conditions

(x) **Eye :**
Corneal transplant or surgery for Retinal detachment Glaucoma

(xi) **Oro-Maxillafical Surgery :**
Total replacement of hip or knee or shoulder of bow joint. Amputation of an arm or a hand or a leg or a foot due to trauma or accident.

(xiii) **Kidney and Urinary Tract:**
Nephrectomy performed due to trauma, infection and other benign disorders (Renal transplantation is excluded. Kidney donors are excluded).
Operations performed on kidney or urinary tract for removal of urinary stone(s), e.g., Nephrotomy nephrolithotomy, Phylalithotomy, Ureterotomy (Lithotripsy is excluded)

Health Care:

(a) Long term benefits of the policy are:

(i) Regular periodic payments every year or once every two years are actually meant for regular health check-up so that the policy holder may not tend to neglect his health for want of resources.

(a) Constant flow of funds also enables the policy holder to incur extra expenses on medicines.

(b) Financial security gives a great psychological boost which goes a long way in the process of recovery of the policy holder.

Health Insurance plans do provide long-term health care.

(ii) Follow up the case with his insurer for proper and prompt action. It is worth while to mention that the insurer desires to be satisfied about the genuineness of the claim, and not the cost of the treatment. Benefits are payable irrespective of the cost of treatment.

(C) Benefits (Riders):

During the term of the policy, if the life assured is afflicted by any of the above listed major ailments, then the policy holder will be eligible for the following benefits.

(i) Immediate payment of 50% of the sum assured.
(ii) Waiver of subsequent premiums
(iii) Payment of an amount equal to 10% the sum assured every year till maturity or earlier death.
(iv) Payment of balance 50% of the sum assured even though 50% of the sum assured would have been paid earlier.

(D) Benefits of life insurance if one remains healthy:

Fortunately, if the life assured does not get afflicted by any of the diseases mentioned above, then the full sum assured and vested bonuses will be paid on the date of maturity of the policy or on death of the life assured whichever is earlier.

(E) Lien: A lien for a period of one year will be imposed on all policies under this plan. That is, if the life assured is afflicted by any of the four ailments mentioned above and its onset falls within a period of one year from the date of issue of first premium receipt, then the policy holder will not be eligible for additional benefits mentioned under sub-section (c) above.

(F) Diseases covered explained / clarified:

(i) Cancer (Malignant): It is the presence of uncontrolled growth and spread of malignant cell. The definition of 'cancer' includes leukaemia, lymphomas and Hodgkins disease.

Exclusion:

This excluded non-invasive carcinoma(s) in situ, localised non-invasive turn our(s) in presence of HIV infection or AIDS, any skin cancer excepting malignant melanoma(s) are also to be excluded.

(ii) Paralytic Stroke (Cerebral – Vascular accidents): Death of a portion of the brain due to vascular causes such as (a) hemorrhage (cerebral), (b) Thrombosis (cerebral), (c) Embolism cerebral) causing permanent disability of two or more limbs persisting for 3 months after the illness.

Exclusion:

(i) Transient / Ischaemic attacks

(ii) Stroke – like syndromes resulting from
   (a) Head Injury
   (b) Intracranial space occupying lesions like abscess, traumatic hemorrhage and tumour.
   (c) Tuberculosis meningitis, pyogenic meningitis and meningoccoccal-meningitis.

(iii) **Renal Failure:** It is the final renal failure stage due to chronic irreversible failure of both the kidneys. It must be well documented. The life assured must produce evidence of undergoing regular haemodialysis and other relevant laboratory investigation and doctor's certification.

(iv) **Coronary artery diseases where bye-pass surgery has been actually done.** The use of surgery on the advise of a consultant cardiologist to correct narrowing or blockage of one or more coronary arteries (Bye-pass surgery).

Exclusions: Non-surgical techniques such as the use of either balloon or laser via a catheter introduced through the arterial system are excluded.

15.2.2. GIC Health Insurance Plan: G.I.C. has been offering mediclaim policy through its 4 affiliates called Mediclaim Policy. There are two types of policies, Mediclaim (Individual) and Group Mediclaim. The Group Mediclaim policy is discussed hereunder.

1. Salient Features: The Group Mediclaim Policy will be available to any Group / Association / Institution / Corporate Body of more than 50 persons provided it has a central administration point. Batch insured should cover all eligible members (insured persons) under one group policy only. In other words, different categories of eligible members shall not be allowed to be covered under different group policies. It is not possible to issue any unnamed group policy.

2. Group Discount: The Group Discount is permissible as per the table given depending upon total number of insured persons covered under the Group policy at the commencement. Increase / Decrease in the size of the group during the continuation of the policy is permissible. The final Group Discount (Increase / Decrease) will be adjusted on the basis of the size of the group existing on the last day of the policy, provided the policy is renewed for the next twelve months.

No.of Persons Insured under the Group Policy	Group Discount
First 100 Persons	15
Next 100 persons	20
Next 500 persons	25
Next 4000 Persons	30
Next 5000 Persons	35
Next 15000 Persons	40
Next 25000 Persons	50
Over and 50,000 Persons	66

1. **Details of Insured Persons:** The insured list is required to furnish a complete list of insured persons in the following format according to the sum insured. Any addition and deletion during the currency of policy should be intimated to the company in the same format. However, such addition and deletion will be incorporated in the policy from the first day to the following month, subject to pro-rata permitted. No change for sum insured for all insured persons will be permitted during the currency of the policy.

2. **Sum Insured:** Minimum of Rs. 15,000/- with multiple of Rs. 5,000 thereafter, with the maximum sum insured of Rs. 3,00,000.

3. **Payment of Premium:** Depending upon the age of insured person(s), and the sum insured for that persons, the premium is calculated.

4. **Low Claim Ratio Discount (Bonus):** Low Claim Ratio Discount at the above mentioned scale will be allowed on the total premium at renewal only, depending upon the incurred claims ratio for the entire group insured under the Group Mediclaim Insured Policy for the preceding 3 completed years, excluding the year immediately preceding the date of renewal. Where the Group Mediclaim Insurance Policy has not been in force for 3 completed years, such shorter period of completed year insurance, excluding the year immediately preceding, the date of renewal will be taken into account.

   Insured Claims Ratio Discount under the Group Policy.

   Not exceeding 60% is 5
   Not exceeding 50% is 15
   Not exceeding 40% is 25
   Not exceeding 30% is 35
   Not exceeding 25% is 40

5. **High Claim Ratio Loading:** The total payment at renewal of group policy will be loaded at the below mentioned scale depending upon the incurred claims ratio for the entire group insured under the Group Mediclaim Insurance

Policy for the preceding 3 years completed the year immediately preceding the rate of renewal. Where the Group Mediclaim Policy has not been in force for 3 completed years, such shorter period of completed years, excluding the year immediately preceding the rate of renewal will be taken into account.

Insured Claims Ratio under the Group Policy	**Loading**
Between 80% and 110%	25
Between 110% and 125%	55
Between 126% and 150%	90
Between 151% and 175%	120
Between 176% and 200%	150
Over 200%	Cover to be reviewed

Important Points under Group Mediclaim Scheme :

(i) Maternity benefits will be available of the 10% loading on total basic premium of the policy.

(ii) Maternity benefits allowable under the policy is Rs. 50,000/- or sum insured, whichever is lower.

(iii) Cost of Health Check-up not payable under the policy.

(iv) Family Discount not to be provided under the policy.

(v) Agency Commission 5% (individual mediclaim 15%)

Claims:

The following aspects are important in handling at claims under mediclaim policy.

(i) Intimation of claim: The provision about period within which intimation is to be given in the policy should be noted.

(ii) Processing of Claims: There are two major supporting documents required for the purpose of security.

Hospitalisation Claims:

i. Duly completed claims forms
ii. Bills, receipts and discharge certificate / card from the hospital.
iii. Cash memos from the hospital / chemist(s), supported by proper prescription.

iv. Receipts & pathological test reports from a pathologist supported by note from the attending medical practitioner / demanding such pathological tests.
v. Surgeons certificate stating nature of operation performed & surgeon's bill & receipts.
vi. Attending doctors / consultants / specialists / anesthetists, etc. bill & receipt when patients is fully cured.

Note: G.I.C. has informed that some offices do not accept stamped receipt on doctor's letter head or supporting document under a mediclaim cover but insist on a printed serial numbered bill / receipt G.I.C. has advised that stamped receipts issued by the doctors on either letter heads may be treated an valid documents.

Domiciliary Hospitalisation Claims:

In case of domiciliary hospitalisation claims, iv to v & vi as shown above, and the following documents are also required.

Certificate from attending medical practitioner, giving reasons like severity of secure, for allowing treatment at home. To confirm whether domiciliary hospitalisation was in fact required, similarly clinical notings contained in the certificate are to be verified.

The above documents are normally required to be submitted within 15 days of completion of the treatment.

The policy is subject to following time limits.

(a) Pre-Hospitalisation : 30 Days
(b) Post-Hospitalisation: 60 days where recurrence of some disease is within 45 days the 60 days limit will apply overall.

Revised Mediclaim Insurance Policy (Individual & Family Package):

1. **Salient Features of the policy:** The policy covers reimbursement of hospitalization and domiciliary hospitalization expenses for illness / diseases or injury sustained.

In event of any claim becoming admissible under their scheme, the company will pay to the insured person the amount of such expenses as would fall under different heads mentioned below and are reasonably necessarily incurred or on behalf of such insured person, exceeding the sum insured in aggregate in any one period of insurance stated in schedule here to

(a) Room boarding expenses provided by the hospital / nursing home.
(b) Nursing Expenses
(c) Surgeon, Anesthetist, Medical Practitioner, Consultants, Specialists fees.

(d) Anesthesia, Blood, Oxygen, Operation charge, Surgical Appliances. Medicine & Drugs, Diagnostic materials & X-Ray, Dialysis & Chemotherapy, Radiotherapy, Pace maker, Artificial limbs & cost of organ & similar expenses.

(N.B. Company's liability in respect of all claims admitted during the period of insurance shall not exceed the sum insured per persons mentioned in the schedule).

This insurance scheme also provides for (a) family package discount in premium (b) cumulative bonus (c) cost of health checkup. (N.B. Renewal of Insurance without break in essential).

Expenses on hospitalization for minimum period of 24 hours is admissible. However, this time is not applied to specific treatments, i.e., dialysis, chemotherapy, radiotherapy, Eye surgery, Dental surgery, Lithotripsy (Kidney stone removal) tonsillectomy, D&C taken in the Hospital/ Nursing home & the insured is discharged on the same day, the treatment will be considered to be taken under hospitalization benefits.

Company may follow the guidelines given below for consideration of claims where the period of stay in hospital is less than 24 hours.

(i) The treatment should be such that it necessitates hospitalization & procedure involved required specialized infrastructural facilities available in hospital.

(ii) Due to technological advancement, hospitalization required is less than 24 hours. To deal with such claims of 24 hours stay in hospital/ nursing homes as per above clarifications scrupulously to avoid any complication in their regard; for any clarification, if required, take opinion of the panel consultant.

Domiciliary Hospitalisation Benefits means: Medical treatment for a period exceeding three days for such illness disease / injury which in the normal course would require case in treatment at a hospital / nursing home but actually taken which confined at home in India under any of the following circumstances namely:

(i) The condition of the patient is such that he/she cannot be removed to the hospital / nursing home or
(ii) The patient cannot be removed to hospital / nursing home for lack of accommodation therein.

Subject however that domiciliary hospitalization benefits shall not cover:

(a) Any treatment not exceeding three days.
(b) Expenses incurred for pre & post hospital treatments.
(c) Expenses incurred for treatment of any of the following disease.
    (i) Asthma
    (ii) Bronchitis
    (iii) Chronic Nephritis & Nephritic Syndrome
    (iv) Diarrhea & all types of Oysenterien including Gastroentreitis.

(v) Diabetes mellitus & Inspidus.
(vi) Epilepsy
(vii) Hypertension.
(viii) Influenza, Cough & Cold
(ix) All Psychiatric & Psychosomatic Disorders.
(x) Pyrexia of unknown origin for less than 10 days.
(xi) Tonsillitis & upper Respiratory tract infection including laryngitis and Pharingitis.
(xii) Arthritis, Gout & Rheumatism.

(d) **Age Limit:** This insurance is available to persons between the age of 5 years & 75 years. Children between the age of 3 months & 5 years of age can be covered provided one or both parents were covered concurrently.

Coverage can be granted to persons above 75 years of age if there are cases of renewals & insured been covered within for a period of at least 3 years. The premium to be charged will be as per age group 71 to 75; is there will be no reduction in the benefits under the scheme to such persons.

(e) **Family Discount:** A discount of 10% in the total premium will be allowed comprising the insured & anyone in more of the following.
(i) Spouse
(ii) Dependent Children (i.e., legitimate or legally adopted children).
(iii) Dependent parents.

15.2.3 Met Life

Met Life Insurance Policy is one of Comprehensive Policy that offers pre Hospitalisation and Post Hospitalization expenses coverage. The ailment start at 6 years to 65 years. except a few identified diseases, this policy would enhance a reimbursement of sum assured as per the agreement.

15.2.4 ICICI Health Insurance Plans

ICICI Lombard brings health policies that covers entire family under one umbrella, thereby enabling you to pay only one premium and covering each member to the full extent of the sum insured. Save maximum tax under 10K Tax Saving Plan. Buy insurance policy online with ICICI Bank Credit Card and pay premium at interest free installments. Health Plans 10 K Tax Saver Plan - A fixed premium plan enabling highest tax saving u/s 80D with comprehensive health benefits. (Code: Misc 34E) Family Floater Plan - A single policy that secures the hospitalization expenses of your entire family. (Code: Misc 34B)

Policy Coverage:

The policy covers medical expenses:

- 30 days prior to hospitalization.
- 60 days post hospitalization.
- Pre-existing disease can be covered after the 4th year provided the policy is renewed with us for four consecutive years.
- Technologically advanced treatment that do not need 24-hour hospitalization but are covered under this policy are:-

- Cataract	- Dilatation & Curettage
- Lithotripsy (Kidney Stone Removal)	- Chemotherapy
– Tonsillectomy	- Radiotherapy
- Eye Surgery	- Coronary Angiography
– Dialysis	- Cardiac Catheterization

Key Benefits: ***Floater benefit*** – One Premium for the entire family. The floater health plan covers your entire family under one policy with one sum insured and one premium. This takes care of hospitalisation expenses in case of a sudden illness, accident or planned surgery of the entire family.

- Maximum income tax benefit under section 80 D.
- Fixed premium of Rs 10,000 for all plans.
- Cashless claim facility available at over 2,500 network hospitals in more than 175 cities across India.
- No health check up required.
- Digitally signed policy available 24X7 online.
- Multiple payment options – credit card, net banking (direct debit), and cheque / demand draft.

One can pay through his ICICI Bank Credit Card and avail of Interest-Free equal monthly installments (EMI) for their premium to know more.

Additional Benefits:

Double Benefit: A benefit of Rs.10,000/- is paid, if more than one member of the family (covered under one policy) are simultaneously hospitalised for a period of 5 consecutive days or more.
Convalescence Benefit : A benefit of Rs.10,000/- is paid, if the period of hospitalisation is 10 consecutive days or more. This benefit is paid once in a year.

Eligibility:

- The enrolment age (of the senior most family member) should be between 19 years to 60 years.

- At least two members must be insured under this policy.
- Other members in the plan can be less than 19 years of age (i.e. up to 91 days).
- The policy cover is renewable till the age of 75 years.

The customer can buy the policy only for his (two or more) family members - defined as self, spouse, dependent children and dependent parents for the purpose of income tax exemption u/s Sec. 80D.

15.2.5 Care Guru Health Insurance Policy

Care Guru is India's first **healthcare** organization, focused specifically on NRI's parents and their loved ones in India. If any NRI who wants to provide the best of **healthcare** for their parents in India, they can utilise this scheme which is very comprehensive and will make the process effortless. The Care Guru offers online enrollment of Insurance and with one time whole payment or EMI.

15.2.6 Royal Sundaram

Their health insurance policy is called Healthshield. Healthshield covers the both spouses, children (above 90 days) and dependent parents (upto 75 years). You will also have access to value added services like Cashless treatment at selected hospitals, a 24 hour help line and ambulance referral facility at no additional cost.

Some features of the plan:

- Access to a 24-hour helpline.
- Family discount of 10% if 3 persons or more are enrolled.
- Cumulative bonus of 5% ie, your sum insured increases by 5% for every claim-free year upto a maximum of 50%.
- No Medical Checkup required for people below the age of 45.
- Income Tax benefits on premium paid as per section 80-D of Income Tax Act.
- Free ambulance referral facilities.

15.2.7 Bajaj Allianz Health Guard

Bajaj Allianz Health guard covers you and your family against expensive medical care. Some features of the plan:

- Cashless Claim settlement with the network of hospitals
- Proposal and application made simpler
- Extended pre and post hospitalization period
- Combination with other health products -Hospital cash & Critical Illness
- Pre-existing disease waiver, if continuously insured with us for last 4 years

15.2.8 New India Assurance Bhavishya Arogya

The Bhavishya Arogya Health Insurance Plan special features are as follows:

Age: from 3 to 50 years. Bhavishya Arogya is essentially to take care of medical expenses needs of persons in their old age.

Coverage: The policy provides for expenses in respect of hospitalisation and domiciliary hospitalisation during the period commencing from the Policy Retirement Age selected till survival. This is selected by the insured for the purpose of commencement of benefits in the policy. The pre-retirement period commences from the date of acceptance of the proposal and ends with the policy retirement age during which the insured pays premium either in installments or as single premium.

Amount: The sum insured ranges from Rs 50,000 onwards and the premium depends on the sum insured the policy retirement age selected and mode of payment (single/installment).

15.2.9 G.I.C. Mediclaim insurance

General Insurance Corporation through its four subsidiaries: Oriental Insurance, New India Assurance, National Insurance Company, United India Insurance.

Age: Between 5 - 80 years. Children between 3 months and 5 years can be covered provided one or both parents are also covered.
***Coverage*:** Insures against any hospitalisation expenses that may arise in future. The scheme reimburses hospitalisation expenses for illness, diseases or injury sustained, excludes any disease existing before taking the policy.
Cost: Sum insured can be anywhere between Rs 15,000 - Rs 5,00,000. Rate of premium ranges between Rs 175 per year to Rs 2,500 per year depending on the age and capital sum insured.
Amount: Compensation up to the extent of sum insured

15.2.10 Tata AIG:

Tata AIG has a variety of insurance policies under Health Insurance Policy. They are :

Accident Guard: Tata AIG brings you Accident Guard for life's big questions - so you can focus on getting well while we take care of your financial needs. This plan covers you for less than Rs.3 a day! And better still, covers your entire family for just one rupee more a day!

***Voluntary Accident Guard*:** Tata AIG presents India's first Group Personal Accident policy, which not only covers you, but also extends that cover to your family, including dependant parents. A voluntary scheme chosen by employees, which involves salary deductions

Group Multi Guard: Tata AIG presents Group Multi Guard, which insures your employees at very affordable rates. Covering them for hospitalisation, disability, even death. A pre-underwritten product for smaller companies with 20-100 people

Group Personal Accident: Tata AIG Accident & Health Division provides tailor-made Group Personal Accident (GPA) Policy to suit the requirements of customers. Tata AIG tailors a customised GPA cover around your company's varying needs and limitations, depending on your choice of benefits in combination with the Accidental Death benefit.

15.2.11 United India Insurance Ltd. Medi Claim Insurance Policy

Salient Features of the Policy:

- The policy covers reimbursement of Hospitalisation / Domiciliary Hospitalisation expenses for illness/diseases or injury sustained.
- In the event of any claim becoming admissible under this scheme, the company will pay to the Insured person the amount of such expenses as would fall under different heads mentioned below, and as are reasonable and necessarily incurred thereof by or on behalf of such Insured Person, bur not exceeding the Sum Insured in aggregate in any one period of Insurance stated in the schedule hereto.

  A) Room, Boarding Expenses as provided by the hospital/Nursing home.
  B) Nursing Expenses.
  C) Surgeon, Anesthetist, Medical Practitioner, Consultants, Specialists Fees.
  D) Anesthesia, Blood, Oxygen, Operation Theatre Charges, Surgical Appliances, Medicines & Drugs, Diagnostic Materials and X-Ray, Dialysis, Chemotherapy, Radiotherapy, Cost of Pacemaker, Artificial Limbs & Cost of Organs and similar expenses.

(N.B. 1. Company's Liability in respect of all claims admitted during the period of insurance shall not exceed the Sum Insured per person mentioned in the schedule.)

(N.B.: 2. Renewal of Insurance without break is essential)

Domiciliary Hospitalisation Benefit : Means Medical treatment for a period exceeding three days for such illness/disease/injury which in the normal course would require Care and treatment at a hospital/nursing home by actually taken whilst confined at home in India under any of the following circumstance namely.

i) The condition of the patient is such that he/she cannot be removed to the hospital/nursing home or
ii) The patient cannot be removed to hospital/nursing home for lack of accommodation therein. Subject however that *domiciliary hospitalisation* benefits shall not cover :-
iii) expenses incurred for pro and post hospital treatment and
iv) expenses incurred for treatment for any of the following diseases
   - Asthma
   - Bronchitis

- Chronic Nephritis and Nephritic Syndrome
- Diarrhoea and all type of Dysenteries including Gastro-enteritis
- Diabetes Melltus and Insipidus.
- Epilepsy
- Hypertension
- Influenza, Cough and Cold
- All Psychiatric or Psychosomatic Disorders
- Pyrexia of unknown Origin for less than 10 days.
- Tonsillitis and Upper Respiratory Tract Infection including Laryngitis and Pharyngitis
- Arthritis, Gout and Rheumatism.

Notes: When treatment such' as Dialysis, Chemotherapy, Radiotherapy etc. is taken in the Hospital /Nursing Home and the Insured is discharged on the same day, the treatment will be considered to be taken under Hospitalisation Benefit section. Liability of the Company under this clause is restricted as stated in the schedule attached hereto.

Any One Illness: Any one illness will be deemed to mean continuous period of illness and it includes relapse within 45 days from the date of last consultation with the Hospital / Nursing Home where treatment may have been taken. Occurrence of same illness after a lapse of 45 days as stated above will be considered as fresh illness for the purpose of this policy.

Pre-Hospitalisation: Relevant medical expenses incurred during period upto 30 days prior to hospitalisation on disease/illness/injury sustained will be considered as part of claim mentioned under item 1.2 above.

Post-Hospitalisation: Relevant medical expenses incurred during period up to 60 days after Hospitalisation on diseases/illness/injury sustained will be considered as part of claim as mentioned under item 1.2 above. Health care has always been a problem for India. More than half its population lives below the poverty line. People who are not below the poverty line in the official reports also live in pathetic health conditions. But surprisingly, a country with the 5th largest economy, insurance has not been a sector that has taken off, considering its immense potential and need.

15.2.12 Miscellaneous Plans

The Medicare Prescription Drug Plan is a new optional benefit. To get coverage, you have to join a plan. There are lots of Medicare plans to choose from. Choice is a great thing - but sometimes having too many options can be more of a headache than a help.

PacifiCare has made choosing a Medicare prescription drug plan simple with Prescription Solutions. You will be able to calculate your specific costs and savings under each plan. Prescription Solutions comes from a company one can trust. PacifiCare's family of companies has been helping members attain better health and more affordable health care coverage for more than 25 years.

15.3 INTERNATIONAL HEALTH INSURANCE PLANS

Diplomat Long Term-Provides Coverage Up to $1 Million Dollars: This health insurance program requires a minimum of 3 months coverage. It is available to anyone visiting other than Home Country, including visitors to USA and Canada. Coverage Maximum is $1 Million dollars and a number of deductibles available. Diplomat America Plan for Short-term (can be purchased for minor children)

CHAMPVA: CHAMPVA is a medical program through which the Department of Veterans Affairs helps pay the cost of medical services for eligible veterans, veteran‘s dependents, and survivors of veterans.

Defined Benefit Plans - 412i Plan : Many physicians, self-employed high network individuals, small businesses who have fewer employees may want to participate in an IRS approved Differed Benefit Plan, which has much higher limits for contributions than the traditional 401(k) type plans. KVR International has tie-up with some very experienced financial planners specializing in 412i defined benefit plans.

Diplomat International Health Insurance Program: This plan is to provide health insurance protection while US citizens or residents visiting other countries. Similarly, this plan is equally powerful for anyone visiting other than their home country, and is underwritten by AIG

Diplomat Medical Evacuation Only Coverage : This insurance program provides basic medical evacuation coverage in case of medical necessity of insured. There is no MEDICAL coverage under this program.

Direct-purchase plans: Direct-purchase health insurance is coverage though a plan purchased by an individual from a private company.

Discount Card Programs - Dental and Vision Card: Multi-Care Card and Total Care Card. These cards offer best economical solution for the entire family. This is not an insurance program. Discounts will be offered by participating providers.

Employment-based plans: Employment-based health insurance is coverage offered through one’s own employment or a relative’s. It may be offered by an employer or by a union.

Golden Rule Health Insurance Scheme : This is a PPO Type coverage available in many states: This health insurance coverage has portability provisions and on showing the proof of credible coverage, certain pre-existing conditions may be covered. Available any US resident with Social Security Number.

Government Health Insurance : Government health insurance includes plans funded by governments as the federal, state, or local level. The major categories of government health insurance are medicare, medicaid, the State Children’s Health Insurance Program (SCHIP), military health care, state plans, and the Indian Health Service.

Health Insurance Programs for NON-US citizens Visiting / Working in USA and Canada: This is a traditional Health insurance Program available to all non-US citizens at affordable premiums offered through the India Network. The maximum coverage

available under the program is $150,000 per sickness with a choice of two deductibles per sickness - $75 and $250. It is available to all age groups.

Indian Health Service: Indian Health Service (IHS) is a health care program through which the Department of Health and Human Services provides medical assistance to eligible American Indians at IHS facilities. In addition, the IHS helps pay the cost of selected health care services provided at non-IHS facilities.

Medicaid: Medicaid is a program administered at the state level, which provides medical assistance to the needy. Families with dependent children, the aged, blind, and disabled who are in financial need are eligible for Medicaid. It may be known by different names in different states.

Medicare: Medicare is the Federal program which helps pay health care costs for people 65 and older and for certain people under 65 with long-term disabilities.

Military health care: Military health care includes TICARE/CHAMPUS (Civilian Health and Medical Program of the Uniformed Services) and CHAMPVA (Civilian Health and Medical Program of the Department of Veterans Affairs), as well as care provided by the Department of Veterans Affairs (VA).

SCHIP: SCHIP, the State Children's Health Insurance Program, is a program administered at the state level, providing health care to low-income children whose parents do not qualify for Medicaid. SCHIP may be known by different names in different states .

State-specific plan: Some states have their own health insurance programs for low-income uninsured individuals. These health plans may be known by different names in different states.

TRICARE / CHAMPUS: TRICARE or CHAMPUS is a military health care program for active duty and retired members of the uniformed services, their families, and survivors.

VA: VA The Department of Veterans Affairs provides medical assistance to eligible veterans of the Armed Forces.

CHECK YOUR PROGRESS

1. Write Notes on Asha Deep II of LIC ?

   _____

   _____

2. State four diseases identified by LIC in their Health Insurance Schemes.

   _____

   _____

3. What is 10K Tax Saver Plan of ICICI?

   _____

   _____

4. Name TATA AIG Health Insurance Policies?

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5. What is Golden Rule Health Insurance Plans?

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6. Define 412i Plan

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15.4 LET US SUM UP

Health Insurance Plans are a special kind of insurance in which the insurer pays the medical costs of insured during sick or injured conditions. In India the health insurance plans are offered by both private and Government Agencies. LIC has been offering two types of policies. They are Asha Deep II and Jeevan Asha II. GIC has been offering different types of policies. Incidentally, it is the first company to have offered the first of its kind. Health Insurance Policy called Mediclaim Policy. Since then the companies like ICICI, HDFC, Bajaj alliance, Royal Sundaram, Metlife, TATA AIG, have come up with veritable policies which could offer comprehensive solutions to the needy.

Internationally very many companies have been offering the health insurance services among them Mid Atlantic Medical Services, Health Management Corporation of America, Americhoice, Indiana Health Network, Omnicare Health Plan of Mitchigan and Trinity Med Care are prominent. The International Health Insurance Plans are governed by both state as well private entrepreneurs. The Golden Rule Health Insurance Scheme is one of popular schemes under preferred provider organisation and is available in many states. The health plans are tailor made to suit different country specific expectations. They also includes the schemes like Discount Card Programmes, Diplomat International Health Insurance Programmes etc.

15.5 TERMINAL QUESTIONS

1. Discuss briefly Asha Deep and Jeevan Asha policies of LIC?

2. Write notes on GIC Policies?

3. Briefly explain coverage aspects of ICICI Lambard Plan ?

4. Name five health insurance plans?

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