



HEALTH & HYGEINE





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STRUCTURE AND FUNCTIONING OF THE HUMAN BODY



INTRODUCTION THE HUMAN BODY IS THE GREATEST OF ALL COMPLEX MACHINERIES. IN ORDER TO CARRYOUT FIRST AID, A FIRST AIDER SHOULD HAVE BASIC IDEA OF STRUCTURE AND FUNCTION OF EVERY PART OF THE HUMAN BODY. MANY LIVES CAN BE SAVED IF PROPER AND TIMELY FIRST AID CAN BE RENDERED.



SKELETAL AND MUSCULAR SYSTEM



Skeletal System: The human body has 206 bones of various shapes and sizes. The bones give shape and firmness to the body, aa also it provides the vital organs like brain,heart,lungs and spinal cord. Bones can either be loosely arranges or densely arranged. The loosely arranged bone is called " spongy bone" and densely arranged bone is called " compact bone".



CLASSIFICATION OF BONES



- Long Bones
- Short Bones
- Flat Bones
- Irregular Bones
- Sesamoid Bones



CLASSIFICATION OF BONES



- Long Bones. These bones are long and tubular and are confirmed to upper and lower limbs.
- Short Bones. This bones are short and tubular and are found in the ankle/ wrists.
- Flat Bones. These bones are flat like plates. e.g. Bones of cranium Skull shoulder or hips.
- Irregular Bones. Irregular or mixed shape. e.g. Vertebral column.
- Sesamoid Bones. They develop in the tendons of the muscles around the joints. e.g. Patella.



MUSCULAR SYSTEM



Muscular System. The muscles form about half of the total weight of the body and are responsible for body movement. The muscles form the flesh of the body that is under the control of nervous system.



CLASSIFICATION



Classification. The muscles of the body classified into the following types:

- a. **Voluntary/Skeletal Muscles.** These muscles are attached to the surface of the bones. these muscles form about 47% of the body weight. Most of the skeletal muscles pan from one bone to another across a joint and by contracting. They act upon the joints and produce movements.
- b. **Invuntary Muscles.** These muscles are controlled by the automatic nervous system.
- c. **Cardiac Muscles.** These muscles are striated structurally, unstrained functionally. They form the part of heart wall.



ORGAN SYSTEM



Circulatory Systems. The circulatory system consists of the Heart, Blood and Vessels and blood. Each time the heart contracts; blood is pumped along the blood vessels. By blood circulation, oxygen, nutrients and other substances are brought to the tissues and the waste products and carbon dioxide formed by the tissues are constantly removed.



ORGAN SYSTEM



- a. **Heart.** The heart is the four chambered pumping organ. It is situated in thorax between the lungs and on to the left side of the body. The size of heart is to a closed fist and the average weight of heart in a male about 300 grams, and in a female about 250 grams.
- b. **Blood.** The blood is also known as the transport system of the body. It consists of plasma and formed of cells such as RBC, WBC and platelets



ORGAN SYSTEM



- c. **Blood Vessels.** Blood vessels are tube like structures which carry blood all over the body for circulation. There are three types.
- i. **Arteries.** These are the blood vessels which carry blood from the heart to other parts of the body.
 - ii. **Capillaries.** These are tiny blood vessels which connect the small arteries & veins. The exchange of oxygen and nutrition with carbon dioxide by the tissue takes place in the capillaries.
 - iii. **Veins.** These blood vessels carry blood to the heart. The main veins are called superior and inferior vena cava.



ORGAN SYSTEM



Respiratory System. Respiration is a process by which oxygen is taken in and carbon dioxide is given out. The main organs of respiratory system are Nose, Pharynx, Larynx, Trachea, Bronchi and the Lungs



ORGAN SYSTEM



Digestive System. Digestion is a mechanical and chemical process by which, complex food substance are converted into simple substance so that they can be easily absorbed by blood and utilized by the various tissues of the body according to their environments. The main organs of digestive system are mouth, salivary glands, pharynx, esophagus, stomach, pancreas, liver, small intestine and the large intestine.



ORGAN SYSTEM



Excretory System. Excretion is a process by which waste products are removed out of the body. Among the organs that contribute towards the elimination of waste products are the skin, lungs, kidneys and the gastrointestinal tract.



ORGAN SYSTEM



Nervous System. Internal balance of the human body is maintained within normal limits by the nervous system and the endocrine system. The neurons are the basic units of nervous system.

- a) **The central Nervous System.** This consists of brain and spinal cord.
- b) **The Peripheral Nervous System.** This forms the connections between the central nervous system and the various organs and muscles.
- c) **The Autonomic Nervous System.** It is an offshoot of the central nervous system and controls the involuntary functions of the various internal organs.



HEALTH & HYGIENE



CHAPTER 02

HYGIENE & SANITATION (PERSONSL & FOOD HYGIENE)



HYGIENE & SANITATION



Introduction. Personal and Food Hygiene are necessary to preserve and improve the health of the individual and of the community as a whole.

Personal Hygiene Maintenance of personal hygiene is very important in preventing disease. It deals with the practices that help in the maintenance and promotion of a person's health.



HYGIENE & SANITATION



Main components of personal hygiene are:-

- a) Sleep is the periodical rest of both body and mind. The duration of sleep one requires varies with individual age. The average requirement of sleep is about 7 to 8 hours a day.
- b) Bathing keeping the skin clean and in healthy condition is essential for good health.
- c) Brush your teeth twice a day. Brushing minimizes the accumulation of bacteria in mouth which can cause tooth decay and gum diseases.
- d) Keeping finger and toe nails trimmed and in good shape will prevent problems as a infected nail beds.



HYGIENE & SANITATION



Food Hygiene. Food hygiene is the condition and measures necessary to ensure the safety of food from production to consumption. Lack of adequate food hygiene can lead to food borne diseases and death of consumer.

The five keys to safer food are listed:

- a) Keep clean
- b) Separate raw and cooked items
- c) Cook thoroughly
- d) Keep food at safe temperatures
- e) Use safe water and raw materials



HYGIENE & SANITATION



Important Components of Food Hygiene

- a. Milk Hygiene. Milk is an efficient vehicle for many disease organisms Contamination of milk be through infected animal, human handler or environmental factors.
 - i. The animal and its surroundings should be healthy and clean.
 - ii. Milk handler should be free from any communicable disease.
 - iii. Milk vessels should be cleaned, sanitized and kept covered
 - iv. Water supply must be safe.



HYGIENE & SANITATION



b. **Meat Hygiene.** The word meat includes various tissues of animal origin. The diseases which may be transmitted through meat are 'Tapeworm Infestation' and 'Bacterial infections' like anthrax, tuberculosis or food poisoning.

c. **Fish Hygiene.** Fish for human consumption should be fresh. In fresh fish, the gills are bright red and the eyes are clear and prominent. Consumption of contaminated fish may give rise to fish poisoning.



HYGIENE & SANITATION



d. **Egg Hygiene.** Though the majority of freshly laid eggs are sterile inside, the egg shell may become contaminated by fecal matter from the hen. The egg must be properly washed before cooking.

e. **Fruits and Vegetables Hygiene.** Fruits and vegetables are an important source for the spread of pathogenic organisms, protozoan and helminthes. Fruits and vegetables consumed raw must be washed well before eating.



HYGIENE & SANITATION



f. Hygiene of Eating Places.

- i. Eating places should not be located near filthy places, open drains, animal sheds, manure/soakage pits and other such places.
- ii. Floors should be easy to clean, and should be preferably tiled.
- iii. Room for storage of food should be well ventilated, insect and rat proof and should have adequate lighting
- iv. Perishable and non perishable items should be kept separately.
- v. Furniture should be strong and easy to clean



HYGIENE & SANITATION



g. Hygiene of Food Handlers.

- i. Complete medical examination of food handlers must be done at the time of employment
- ii. Regular health checkups should be done.
- iii. Food handlers should be regularly educated on health and hygiene aspects.
- iv. They should be constantly reminded about hand washing, trimming of nails, covering of hair, wearing of overalls and covering mouth while coughing and sneezing during cooking.



CHAPTER -III

PHYSICAL & MENTAL HEALTH



PHYSICAL & MENTAL HEALTH



Introduction : Earlier doctors defined health simply as in absence of disease or illness.

Physical Health: Physical health is the absence of disease and infirmity and it is assessed by taking health state measurements of the body. Poor physical health can lead to an increased risk of developing mental health problems. Similarly, poor mental health can have negative impact on physical health, leading to an increased risk.



PHYSICAL & MENTAL HEALTH



Elements of good health.

- a. Absence of disease
- b. Ability to work hard with efficiency and enthusiasm
- c. Ability to endure stress and strain
- d. Cheerfulness
- e. Courage
- f. Freedom from anxiety
- g. Self control and self confidence
- h. Sense of well being
- i. Wholesome mental attitude



Five components of Health Related Fit by WHO

- a. Cardio respiratory Endurance**
- b. Muscular Strength**
- c. Muscular endurance**
- d. Body composition**
- e. Flexibility**



PHYSICAL & MENTAL HEALTH



Mental Health Mental health refers to the successful performance of mental function, resulting in productive activities, fulfilling relationship with other people, ability to adopt to change and cope up with adversities.

Mental disorders

- a. Embarrassment in presence of others
- b. Lack of courage
- c. Low intelligence
- d. Depressed and pessimistic outlook
- e. Bad temper



Measures to improve mental health

- a. Favorable and stress free home and school environment
- b. Regular medical examination
- c. Provision of educational and vocational guidance/counseling
- d. Provision of co curricular activities



PHYSICAL & MENTAL HEALTH



Life style Factors: The life style factors can influence the state of both your physical and mental health physical activity in any form is a great way to keep you physically health as walk improving your mental wellbeing.