

I. The Nervous System

- Sections
 - **Cerebrum** : largest part of brain
 - Divided into left and right cerebral hemispheres by a deep groove called the longitudinal fissure
 - **Diencephalon** : area between cerebral hemispheres and brain stem
 - Includes the thalamus and the hypothalamus
 - **Brain stem** : connects cerebrum and diencephalon with the spinal cord
 - Midbrain= upper portion
 - Pons=connects midbrain and medulla
 - Medulla oblongata= connects brain and spinal cord
 - **Cerebellum** : « little brain »
 - Connected to cerebrum, brain stem, and spinal cord by the pons
- Coverings of brain and spinal cord
 - **Meninges** : 3 layers of connective tissue
 - Surrounds brain and spinal cord
 - Dura mater = outermost layer
 - Thickest layer
 - Toughest layer
 - « hard mother »
 - arachnoid= middle layer
 - loosely attached allowing for movement of cerebrospinal fluid
 - resembles a spider web
 - pia mater= innermost layer around brain
 - blood supply to brain is carried mostly by this
 - « tender/ soft mother »
 - Disorders of the Meninges
 - Meningitis= inflammation of the brain and spinal cord coverings
 - Caused by virus or bacteria
 - Epidural hematoma= arterial bleeding outside the dura mater

- crusting of skin
- early in childhood

D. Cancer

1. melanoma= malignant
 - fastest growing in US
 - mole/ birthmark
2. squamous cell carcinoma
 - slow growing
 - most common
3. basal cell carcinoma
 - upper face
 - papules
4. Kaposi's sarcoma
 - purplish/brown lesions
 - typically associated with HIV

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Disorders of the Skeletal System

→ Osteoporosis

lack of calcium salt deposits

decrease in bone protein

→ Rickets

a rare childhood disorder in which the bones remain soft and distorted

→ Osteomyelitis

a bacterial infection that inflames the bone and muscle

typically seen with staph infection

Structural Disorders – 3 types

→ Kyphosis

- upper vertebrae (hunch)

→ Lordosis

- sway back

→ Scoliosis

- lateral curvature of the spine

→ Osteoarthritis

inflammation of the bone at the joint

→ Subluxation

dislocation

→ arthritis

inflammation of the joint

rheumatoid- degenerative

→ gout

big toe, men

build up of uric acid

Fracture :

simple (closed)- bone is broken into 2 pieces

Digestive System :

- *Digestion* : the breakdown process of food into particles small enough to pass through the plasma membrane of the cell
 - Absorbtion- the transfer of food into circulation
- The *digestive system* is divided into two groups of organs :
 - **Digestive tract** (muscular tube extending through body)
 - Mucuous membrane
 - Submucosa
 - Smooth muscle
 - Serous membrane
 - **Organs:**
 - Mouth/ oral cavity =
 - Functions
 - Receives food – ingestion
 - Prepares food for digestion
 - Begins the digestion of starch
 - Saliva- secretion produced by salivary glands and secreted into the mouth
 - Pharynx
 - The soft palate
 - Tissue that forms the back of the roof of the mouth
 - Uvula
 - Soft, fleshy, v-shaped mass
 - Bolus
 - Small portion of food mixed with saliva
 - Esophagus
 - Muscular tube about 25cm long
 - Food is lubricated by mucus and moved by perisalsis
 - Stomach

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- **Appendix**

- no one understands its function

- defecation

- elimination of waste from the body
 - aided by voluntary muscles of the diaphragm and abdominals
 - diarrhea
 - « bursting forth »
 - abnormally frequent, watery bowel movements
 - constipation
 - hard stools or trouble defecating

- **excessory glands**

- salivary gland

- produces saliva that contains salivary amylase which starts the process of converting starch to sugar

- liver

- largest glandular organ of the body

- functions

- storage of glucose
 - formation of blood plasma proteins
 - synthesis of urea
 - modification of fats
 - manufacture of bile
 - destruction of old red blood cells
 - by-product= bilirubin
 - detoxification of harmful substances
 - storage of vitamins and iron

- disorders

- hepatitis
 - inflammation of the liver
 - A,B,C,D,E,G
 - Cirrhosis

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I. Lymphatic System

~Pathway for the drainage of tissue fluid

- Lymphatic capillaries
 - Microscopic vessels that drain excess fluid that does NOT return to the heart
- Lymph
 - Tissue fluid that enters the lymphatic capillaries
- Lymph Nodes
 - Series of filters where bacteria and other foreign particles are trapped/destroyed
 - Comparison is like an oil filter in your car
- Lacteals
 - Specialized lymphatic capillaries in the small intestine that act as a pathway for the transfer of digested fats into the bloodstream
- Lymphatic Vessels
 - Named according to location
 - Mammary : breast
 - Tibial : lower thigh
 - Femoral : thigh
 - Axillary = all lymph from the upper extremities and breasts
 - Inguinal = all lymph from the lower extremity
 - Lymphatic ducts = drainage area for lymph
 - Right lymphatic duct = receives only lymph from the URQ, right head, right neck, right thorax, and RU extremity
 - EMPTIES INTO RIGHT SUBCLAVIAN VEIN
 - Thoracic duct = larger
 - ◻ Thoracic duct = larger
 - Receives lymph from all other body parts
 - First part of duct is enlarged to form a cistern (temporary storage pouch)
 - Chyle = milky fluid of fat and lymph
- Lymphoid tissue
 - Distributed throughout body and makes up specialized organs
 - Removes impurities
 - Processes lymphocytes

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