

**Faculty of Nursing , Pharmacy, & allied Health Sciences**

**Course: Anatomy & physiology (NURS142L)**

**Course Instructor: Prof. Abdul Salam Abdul Ghani**

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**Title:**

 **Orientation about the locations of the systems and its functions**

**Abstract:**

**In this Lab we talked about the location and function of each system ( GI tract, Respiratory , Renal, Cardiovascular, central & peripheral nervous systems ) , in addition to the theoretical side of anatomy & physiology , we have learned how to unassemble and rearrange the figures.**

**Introduction:**

**our systems work together as one unit, each system depends on the other one, but in order to each system to work perfectly, it has to keep away of any disorders that lead to homeostatic imbalance, from here the urgent need of studying Anatomy & Physiology comes, Anatomy(Form) determines physiology (function), They are inseparable.**

**A brief Explanations about Systems Components in terms of: location( Description) , function, shape.**

**1. Respiratory System**

**2. Digestive System(GIT)**

**3. Renal System**

**4. Cardiovascular System**

**5.Nervous System**

**Respiratory system ☺**

**(Upper & lower RS)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Structure** | **Description, & Distinctive Features** | **Shape** | **Function**  |
| **Nose (External nose & nasal cavity)** | **Jutting external portion is supported by bone and cartilage. Internal nasal cavity is divided by midline nasal septum & lined with mucosa.**  |  | **Produces mucus, filters, Warms, & moistens incoming air , resonance chamber for speech.** |
| **Paranasal Sinuses**  | **Mucosa-lined, air-filled cavities in cranial bones surrounding nasal cavity.** |  | **Lighten skull, may also warm, moisten, & filter incoming air.**  |
| **Pharynx** | **Passageway connecting nasal cavity to larynx & oral cavity to to esophagus. Three subdivisions: nasopharynx, oropharynx, & laryngopharynx** |  | **Passageway for air and food**  |
| **larynx** | **Connects pharynx to trachea. Has framework of cartilage & dense connective tissue. Opening (glottis) can be closed by epiglottis or vocal folds.**  |  | **Air passageway; prevents food from entering lower respiratory tract** |
| **Trachea** | **Flexible Tube running from larynx and dividing inferiorly into two main bronchi. Walls contain C- shaped cartilages that are incomplete poteriorly where connected by trachealis.** |  | **Air passageway ; cleans, warms, & moistens incoming air.** |
| **Bronchial tree** | **Consists of right and left main bronchi, which subdivide within the lungs to form lobar and segmental bronchi & bronchioles.**  |  | **Air passageways connecting trachea with alveoli; cleans, warms, & moistens incoming air.**  |
| **Alveoli**  | **Microscopic chambers at termination of bronchial tree, external surfaces are intimately associated with pulmonary capillaries.**  |  | **Main site of gas exchange** |
| **Lungs**  | **Paired composite organs that flank mediastinum in thorax. Stroma is elastic connective tissue , allowing lungs to recoil passively during expiration.**  |  | **House respiratory passages smaller than the main bronchi.**  |
| **Pleurae** |  **Serous membrane. Parietal pleura lines thoracic cavity; visceral pleura covers external lung surfaces.**  |  | **Produce lubricating fluid and compartmentalize lungs.**  |

**Digestive System (GIT)**

|  |  |  |  |
| --- | --- | --- | --- |
| Organs Photos | Function | Location | Organs |
| C:\Users\User\AppData\Local\Microsoft\Windows\INetCache\Content.Word\images.jpg | **The mouth is the beginning of the digestive process, as it chews food** | **along the body's midline inferior to the nose and superior to the chin** | **Mouth** |
| download | **They secrete saliva that helps moisten food so that we can swallow it easily. It also contains an enzyme called amylase, which makes it easier for the stomach to break down starches in food.** | **There are three salivary glands: the parotid glands located on the inside of the cheeks and the submandibular glands at the bottom of the mouth. sublingual glands under the tongue** | **Salivary glands** |
| DOMAKEdVQAAjQz_ | **transport material from the mouth to the stomach** | **posterior to the trachea and in front of the spine** | **Esophagus** |
| download | **Its main function in the digestive system is to process nutrients absorbed from the small intestine** | **in the upper right-hand portion of the abdominal cavity, beneath the diaphragm, and on top of the stomach, right kidney, and intestines** | **Liver** |
| download | **Its function is to store the bile needed for digestion. When we eat, the gallbladder contracts to send bile into the digestive system** | **under the liver** | **Gallbladder** |
| stomach-opened | **It secretes enzymes that aid in digestion and the breakdown of food into a usable form** | **on the left side of the upper abdomen** | **Stomach** |
| download | **During digestion, the pancreas makes enzymes. These enzymes work to break down sugars, fats, and starches.** | **behind the stomach in the upper left abdomen** | **Pancreas** |
| 19220 | **The purpose of the large intestine is to absorb water and salts from substances that have not been digested as food, and to get rid of any leftover waste.** | **The large intestine wraps around the border of the abdominal cavity from the right side of the body, through the upper abdomen, and finally the left side.** | **Large intestine** |
| download | **The small intestine breaks down food from the stomach and absorbs many nutrients from the food** | **It is located in the central and lower abdominal cavity** | **Small intestine** |
| 375px-Tractus_intestinalis_rectum | **The rectum's job is to receive stool from the colon, let you know that there is stool to be evacuated (pooped out) and to hold the stool until evacuation happens** | **is a chamber that begins at the end of the large intestine, immediately following the sigmoid colon, and ends at the anus** | **Rectum** |
| download | **it's a site of feces excretion, and it's one of the medication routes such as enema in case of constipation** | **The anus is the opening where the gastrointestinal tract ends and exits the body. The anus starts at the bottom of the rectum, the last portion of the colon (large intestine). The anorectal line separates the anus from the rectum** | **Anus** |

**Cardiovascular System**

|  |  |  |  |
| --- | --- | --- | --- |
| **Organs** | **Location** | **Function** | **Organ Photos** |
| **Heart** | **Enclosed within the mediastinum, in the middle of the thorax cavity, the heart extends for about 5 inches obliquely from the second rib to the fifth intercostal space, the heart is superior to the diaphragm, anterior to the vertebral column, posterior to the sternum.** | **the heart is a blood pumping machine, and its functions are:****1- Receive deoxygenated blood from body tissues and pumping it to the lungs where the gas exchange process occurs.****2- Receive oxygenated blood from the lungs and pump it to systematic circuit to supply body tissues.** | Diagram  Description automatically generated |
| **Veins** | **Present throughout the body and are closer to the surface than arteries, pulmonary veins and major systematic veins are directly associated with the heart.** | **All veins share the same function which is carrying blood into the heart, such as: superior and inferior vena cava that carry deoxygenated blood to the heart, pulmonary veins that carry oxygenated blood from lungs to heart.** | Diagram  Description automatically generated |
| **Arteries** | **Present throughout the body, aortic artery is the largest artery of the body.** | **Arteries carry blood away from the heart, aortic artery carries oxygenated blood into the body, pulmonary artery carries deoxygenated blood into lungs.** | Diagram  Description automatically generated |
| **Capillaries** | **Very small blood vessels between veins and arteries.** | **1- Connects veins and arteries.****2- Exchange materials and nutrients between blood and tissue cells.** | Diagram  Description automatically generated |

**Nervous System**

|  |  |  |  |
| --- | --- | --- | --- |
| Organs | Location | Function | Organs photos |
| **Brain** | **The brain is housed inside the bony covering called the cranium. The cranium protects the brain from injury. Together, the cranium and bones that protect the face are called the skull.** | **The brain is a complex organ that controls thought, memory, emotion, touch, motor skills, vision, breathing, temperature, hunger and every process that regulates our body.** | 25316552-1361-415b-9123-c1c6a217bf39 |
| **Spinal cord** | **The spinal cord is an extension of the central nervous system (CNS), which consists of the brain and spinal cord. The spinal cord begins at the bottom of the brain stem (at the area called the medulla oblongata) and ends in the lower back** | **the spinal cord is the pathway for messages sent by the brain to the body and from the body to the brain** | bac9e2cf-50cd-402b-b39c-977620327be1 |
| **Cerebellum** | **The cerebellum (“little brain”) is a structure that is located at the back of the brain, underlying the occipital and temporal lobes of the cerebral cortex** | **The cerebellum is important for making postural adjustments in order to maintain balance.**  | 4f244402-d579-499c-9dce-9ee928393f2c |
| **Medulla oblongata** | **Your medulla oblongata is located at the base of brain, where the brain stem connects the brain to your spinal cord.** | **where the brain stem connects the brain to your spinal cord. It plays an essential role in passing messages between your spinal cord and brain. It's also essential for regulating your cardiovascular and respiratory systems.** | 2c9f7af5-e7b7-466e-9933-ecc00b8bf1e9 |
| **Corpus callosum** | **Corpus callosum is located underneath the cerebrum at the midline of the brain. We can also say that it is located between two cerebral hemispheres.** | **The primary function of the corpus callosum is to integrate and transfer information from both cerebral hemispheres to process sensory, motor, and high-level cognitive signal** | 282bfd7c-fe9d-4f82-991d-5f75a308fced |