

The Nervous, Digestive, and Excretory Systems

Study Guide

- The Nervous System is the body's message and control center. It controls all your body's actions and jobs
- **The Nervous system is made of: the brain, spinal cord, nerves, and the sense organs.**
- **Parts of the Nervous system:**
 1. The **Central Nervous system** is made up of the Brain and the Spinal Cord.

The central nervous system controls everything in the body.

- The Brain is an organ that controls your emotions, thoughts, and every movement you make.

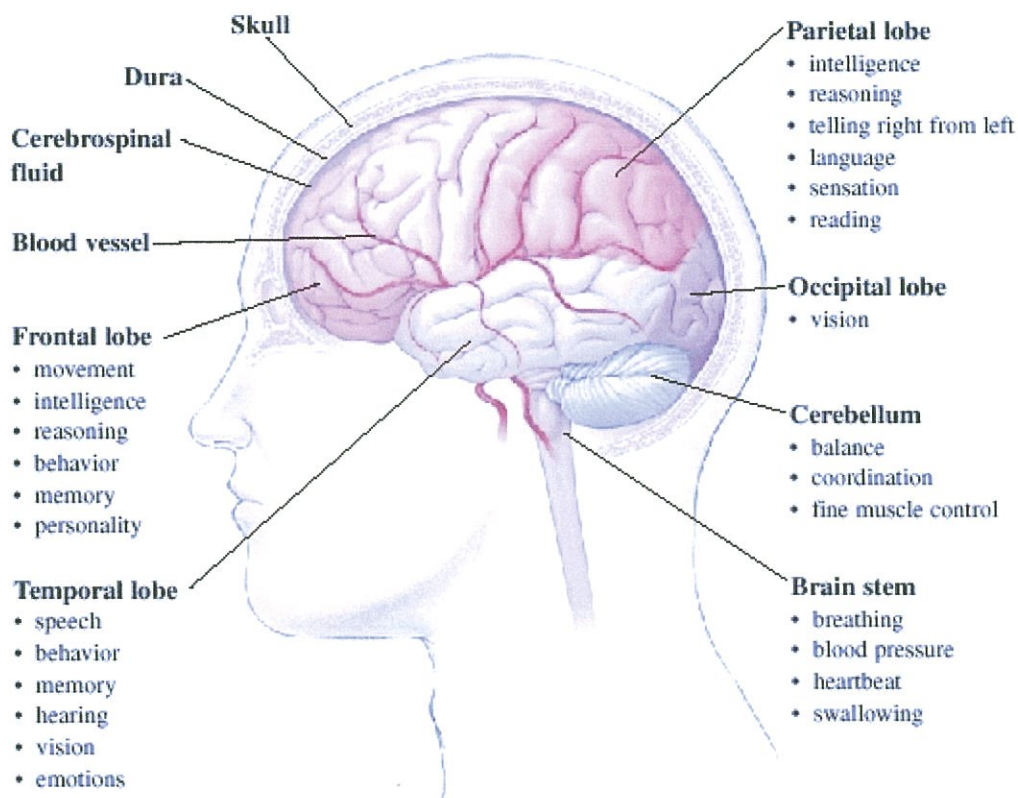
- **The Brain has 3 main parts:**

1. The Cerebrum is the largest part of the brain. It controls your thinking, memory, speaking, movement, and senses.
2. The Cerebellum controls your Balance & posture.

3. The Brain Stem connects the brain to the spinal cord.

The nerves in the brain stem control your Heart Beat,
Breathing, & blood pressure.

- The spinal cord sends messages to the brain.
- The spinal cord is the part of the nervous system that connects the brain to the rest of the nervous system.



2. The **Peripheral nervous system** is made up of the Nerves and the Sense organs.

- The peripheral nervous system carries messages between the central nervous system and the rest of the body.
- The messages are carried throughout the body by nerves.

The Peripheral Nervous System is made up of 2 parts:

1. Somatic nervous system- deals with actions you control (ex flexing your bicep muscle)
2. Autonomic nervous system controls the body's activities that you don't think about (small intestine, breathing, and heart beat).

Problems of the Nervous system

- Traumatic brain injury -most common among teens and young athletes. It is the #1 cause of death and disabilities.
- Spinal cord injuries cause paralysis
- Meningitis infection of the meninges (outer covering of the brain and spinal cord)
- Brain Tumor abnormal growth of tissue that kills normal neurons around it.
- Epilepsy a small area of the brain is damaged. Results in seizures.
- Multiple Sclerosis (MS) the protective outer covering of the nerves are damaged, becomes worse over time.

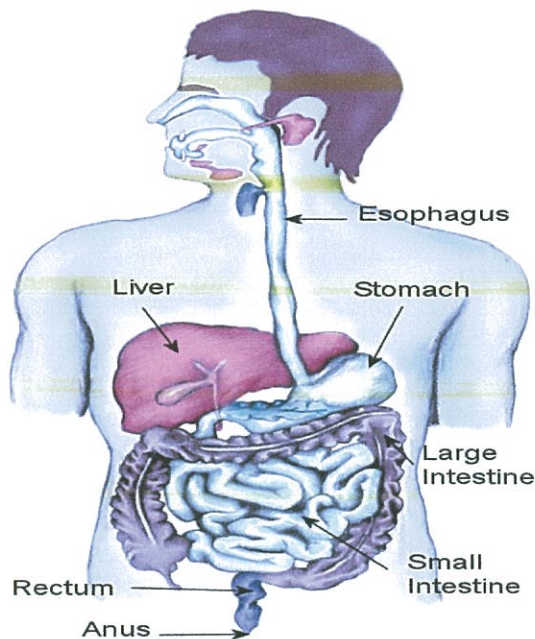
Care For the Nervous system

1. Wear protective gear during sports or physical activity.
2. Get plenty of rest
3. Avoid alcohol and drugs.

Digestive System

- The Digestive System converts fuel into usable energy.
- Digestion is the process of changing food into material the body can use.

Parts of the Digestive System



- The Mouth is the opening to the digestive system. There are two parts of the mouth that aid in digestion
 - a. Teeth
 - b. Salivary glands
- Saliva is produced by the salivary glands. It helps soften and break down the food before swallowing.
- The Esophagus is a muscular tube that connects the mouth and stomach where food travels.
- Peristalsis are waves of muscular contractions that move the food through the digestive system.
- The Stomach produces gastric acid that mixes with enzymes that helps break down food. The stomach also stores the food that is not ready for digestion.
- The Small Intestine is where most digestion takes place. It is a coiled, tube like organ that is 20 feet long. Nutrients are separated from the bulk of the food. They are absorbed into the bloodstream and used for growth, energy, and repair.

Organs That Aid in Digestion

- The Liver is the second largest organ. It produces Bile, a substance that helps break down fats.
- The Gall bladder stores the bile and releases it into the small intestine as needed.

- The Pancreas makes additional digestive enzymes (proteins) which are released into the small intestine to help break down food.

The Excretory System

The Excretory System is your body's waste and removal system.

Excretion is the process of removing wastes from the body.

Organs of the Excretory System

- The Large Intestine (also called the colon) holds the food that cannot be digested.
- The Kidneys filter the water and dissolved wastes from the blood and help maintain proper levels of water & salts in the body.
- The Rectum is where the feces are stored until they leave the digestive system.
- The Anus is where the feces leave the body, which is known as a bowel movement.

Problems of the Digestive & Excretory Systems

- **Ulcers**-sores in the stomach or small intestine-may cause internal bleeding.
- **Gall & Kidney Stones**- painful blockages, caused by mineral crystals.
- **Appendicitis**- inflammation of the appendix, which is serious and requires emergency surgery.
- **Hemorrhoids**- masses of swollen veins at the opening of the anus that are painful and can cause bleeding.

Care for the digestive & excretory systems

1. Do not rush your meals
2. Eat healthful foods
3. Chew your food thoroughly
4. Drink plenty of liquids
5. Wash your hands regularly