

NERVOUS SYSTEM

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DETAILED EXPLANATION OF THE PURPOSE

- ❖ The nervous system is a complex system of special cells known as neurons
- ❖ These neurons transmit signals between different parts of the body
- ❖ This allows a signal to be sent to your brain to make a decision on how to react
- ❖ Ex. You touch a hot pan on the stove. Neurons send a signal to your brain telling you that the pan is hot. Your brain tells you to move your hand off of the pan.

DETAILED EXPLANATION OF FUNCTION OF EACH ORGAN

- ❖ Two functional components
 - The autonomic nervous system regulates certain body processes, such as blood pressure and the rate of breathing, that work without conscious effort.
 - The somatic system consists of nerves that connect the brain and spinal cord with muscles and sensory receptors in the skin.
- ❖ There are two structural components to the nervous system
 - Central nervous system (Brain, spinal cord, and nerves)
 - Peripheral nervous system (Sensory neurons, ganglia, and nerves that connect this system to the central system)

DETAILED EXPLANATION OF ALL ORGANS IN SYSTEM-

❖ Brain

- Contains nearly 100 billion neurons and is the control center of the body
- Controls functions such as consciousness, memory, planning, and voluntary actions

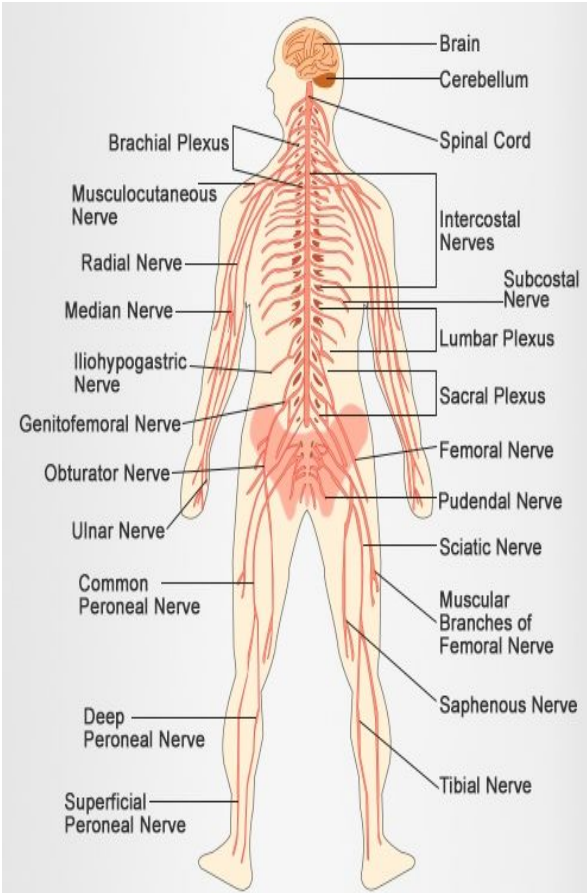
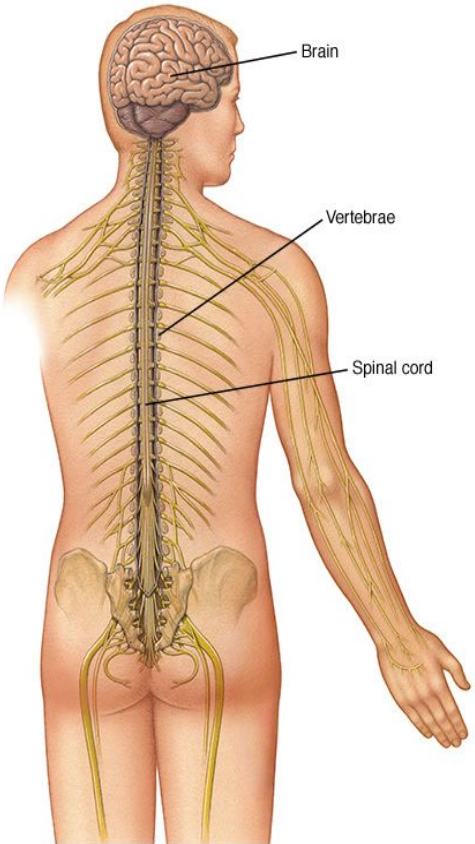
❖ Spinal Cord

- Thin mass of bundled neurons that carries information through the vertebral cavity of the spine
- Starts at medulla oblongata and runs through spinal cord down into lumbar region

❖ Sensory Organs

- Vision, taste, smell, and hearing are all part of the nervous system

DIAGRAMS/ILLUSTRATIONS OF THE SYSTEM



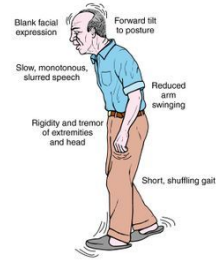
RELATIONSHIP OF SYSTEM TO OTHER BODY SYSTEMS

- ❖ The endocrine system works closely with your brain and central nervous system to control specific hormones and enzymes.
- ❖ The muscular system receives messages from the nervous system to perform an action and when to perform it.
- ❖ The skeletal system gives the nervous system calcium for proper function through your bones.



MEDICAL PROBLEMS/ DISEASES ASSOCIATED WITH SYSTEM

- ❖ Parkinson's disease- problem with nerve cells that controls movement
- ❖ Multiple sclerosis- slowly destroys the protective covering of nerve cells
- ❖ Huntington's disease- causes parts of the brain to break down and causes rapid twitching
- ❖ Alzheimer's- A progressive disease that destroys memory and other important mental functions in brain



SOURCES

- ❖ <http://www.livescience.com/22665-nervous-system.html>
- ❖ <http://www.mayoclinic.org/>