Introduction

The neurological system is very complex, but there are many changes that occur in this part of our body (The nervous system). The nervous system consists of the brain, spinal cord, and peripheral nervous system. The average human body contains more than 100 billion nerve cells that relay messages from one part to another through electrical pulses called action potentials. What makes the nervous system so important is that it is responsible for the actions of our muscles, senses (sight, sound, and touch), thoughts, emotions, and awareness.

Describe major changes that occur in the neurological system associated with age. Include changes in the central nervous system and peripheral nervous system.

The neurological system is the network of nerves, neurons, and the spinal cord that connects the body to the brain. The nervous system consists of the central nervous system (CNS) and peripheral nervous system (PNS), which are interconnected by neural pathways.

The CNS includes areas of the brain and spinal cord that control voluntary activities such as movement, cognition, and sensation. The PNS includes nerves that control functions such as vision, hearing, equilibrium, and locomotion.

The nervous system is composed of the central nervous system, which consists of the brain and spinal cord, and the peripheral nervous system.

The central nervous system is responsible for coordinating all voluntary movements, while the peripheral nervous system is responsible for controlling involuntary movement. The central nervous system includes the brain and spinal cord, while the peripheral nervous system includes nerves that connect the brain to muscles, glands and organs.

The central nervous system undergoes significant changes throughout life. The brain grows in size during childhood and adolescence but shrinks as adults age. The cerebral cortex (the outer layer of gray matter) becomes thinner as we get older and loses neurons as we age. Brain tissue degenerates with age and nerve cells die off.

Peripheral nerves also undergo significant changes throughout life. In infancy, nerves from your heart to your fingertips are called myelinated nerves; these are unmyelinated fibers that carry information quickly from one point to another. As we get older, these myelinated fibers are replaced by unmyelinated fibers that carry information slowly from one point to another. Myelin provides insulation between neurons so impulses can travel faster along these fibers; this process occurs most rapidly during childhood when there is an abundance of myelin. The loss of myelin is what causes the slowing down of nerve impulses that occur as we age; this process begins at around 2 years old and continues through adulthood.

As people age their nervous systems undergo changes due to the normal aging process. Major changes that occur in the neurological system associated with age include:

1) Loss of motor control – Motor control declines with age due to loss of muscle strength related to physical inactivity and loss of muscle mass related to poor eating habits among other lifestyle choices.

2) Loss of sensory perception – Sensory perception declines with age due to loss of tactile sensitivity among other sensory losses related to poor eating habits among other lifestyle choices.

3) Cognitive decline – Cognitive decline occurs with aging as a result of deterioration in memory function among other cognitive deficits associated with the aging process.

4) Decreased muscle mass – Muscle mass declines with age due to loss of physical activity and poor eating habits among other lifestyle choices.

5) Decreased bone density – Bone density decreases with age due to loss of calcium in the body, which is associated with poor eating habits among other lifestyle choices.

**Conclusion**

In summary, the nervous system is a complex, interrelated collection of cells that are responsible for ensuring the proper function of the body. The central nervous system / peripheral nervous system (CNS/PNS) is the most complex portion of the nervous system. It regulates conscious thoughts, emotions, and responses to stimuli. Although the circuitry is different, both systems have similar structures as well as identical anatomical and functional subsystems including neurons, glial cells, and synapses. Another important fact to be pointed out is that CNS/PNS are made up of two major anatomical divisions: the central nervous system, which consists of the brain and spinal cord, and the peripheral nervous system, which includes all motor and sensory tissues outside these two primary organs.