NAME: ADEBAYO VICTORIA OLAOLU
MATRIC NO: 18/MHS02/008
LEVEL: 200L
DEPARTMENT: NURSING SCIENCE
COURSE TITLE: PHYSIOLOGY
COURSE CODE: PHS212

SOMATOSENSORY PATHWAY

Discuss the somatosensory pathways

Pathways of some sensation kinesthetic sensations have only first and second order of neurons. Each somatosensory pathway is constituted by two or three groups of neurons:

1. First order neurons
2. Second order neurons
3. Third order neurons

FIRST ORDER NEURONS

These neurons carry signals from the periphery to the spinal cord. They receive sensory impulses from the receptors and send them to sensory neurons present in the present gray horn of the spinal cord through their fibers. Nerve cells bodies of these neurons are located in the **posterior nerve root ganglion.** First order neurons **synapse** with second order neurons.

SECOND ORDER NEURONS

This order neurons carry signals from the spinal cord to the thalamus. The cell bodies of these neurons are found in the **Rexed Laminae** of the spinal cord, or in the nuclei of the cranial nerves within the brain. These are neurons are present in the **posterior gray horn**. These fibera carfry sensory impulses from spinal cord to different brain areas below cerebral cortex. All ascending tracts are formed by fibers of second order pathway except the ascending tract in posterior.

THIRD ORDER NEURONS

This order of neurons carry signals from the **thalamus**, to the **primary sensory cortext**. The cell bodies lie within the VPL of the thalamus. These order neurons and are in the subcortical area. Fibers from these neurons carry the sensory impulses from subcortical to the cortical cortex.