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Assignment.

Discuss the somatosensory pathway.

The nervous system controls all activity of the body. It is quicker than other control system in the body. The nervous system is divided into two:

- Central nervous system (CNS)
- Peripheral nervous system

The CNS includes the brain and the spinal cord. Nervous pathways of sensation are called the sensory pathways. These pathways carry the impulses from receptors in different part of the body to centers in brain.

Sensory pathways are of two types:

- Pathways of somatosensory system
- Pathways of viscerosensory system.

The somatosensory system is distributed throughout all major parts of our body. It is responsible for sensing touch, temperature, posture, limb position, and more. It includes both sensory receptor neurons in the periphery (eg., skin, muscle, and organs) and deeper neurons within the central nervous system.

Somatosensory Pathways

Each sensory pathway is constituted by two or three groups of neurons:

- i. Primary neurons.
- ii. Secondary neurons
- iii. Tertiary neurons.

Primary neurons:

In the periphery, the primary neuron is the sensory receptor that detects sensory stimuli like touch or temperature. The cell body of the primary neuron is housed in the dorsal root ganglion of a spinal nerve or, if sensation is in the head or neck, the ganglia of the trigeminal or cranial nerves.

Secondary neurons:

The secondary neuron acts as a relay and is located in either the spinal cord or the brainstem. This neuron's ascending axons will cross, or decussate, to the opposite side of the spinal cord or brainstem and travel up the spinal cord to the brain, where most will terminate in either the thalamus or the cerebellum.

Tertiary neurons:

Tertiary neurons have cell bodies in the thalamus and project to the postcentral gyrus of the parietal lobe, forming a sensory homunculus in the case of touch. Regarding posture, the tertiary neuron is located in the cerebellum.

