**AKANIMO EMEM**

**18/MHS02/026**

**NURSING SCIENCE**

**200L**

Discuss the somatosensory pathway

1. DORSAL COLUMN-MEDIAL LEMINISCAL (DCML)

Conveys proprioception, vibration sense, and light touch on their way to the somatosensory cortex. It begins with the somatosensory axon entering the spinal cord via the dorsal roots and ascending in the dorsal column ipsilaterally. The first synapse point for this pathway is in the dorsal column nuclei located in the medulla. The axons of neurons originating in the dorsal column nuclei decussate (cross over), ascending via the medial lemniscus to the contralateral ventral posterior thalamic nucleus (VPN). Somatosensory fibres of the trigeminal nerve (CNV), carrying information from the contralateral side of the face and head, also synapse in the VPN. The majority of VPN neurons project to the primary somatosensory cortex (SI), the remaining project to the secondary somatosensory cortex(SII) of the posterior parietal lobe.

2. ANEROLAERAL PATHWAYS

Includes the spinothalamic tract and other associated tracts that convey pain. Temperature sense, and crude touch. It begins with somatosensory axons entering the spinal cord via the dorsal root and synapsing upon entry. The majority of these second -order axons decussate, and ascend to the brain via the anterolateral portion of the spinal cord white mater. This ascending system is composed of three separate tracts, the spinothalamic tract, the spinoreticular tract, and the spinotectal tract.the spinothalamic tract projects to the ventral prosterior nucleus of the thalamus .This tract is involved in the perception of touch, temperature ,and sharp pain . the spinotrecticular tract projects to the brain stem reticular formation on its way to the parafasicular nucleus and intralaminar nucleus of the thalamus.