

Lemniscal system

The Lemniscal system, also known as the Dorsal Column Tract, is important for conveying sensory information from the peripheral and internal structures to the brain

Pathway

1. **First order neuron** - the tract starts at the dorsal root ganglion cell (pseudo-unipolar cells) with its dendrites in the periphery; axons enter the posterior funiculus and ascend in the posterior column nucleus (spinobulbar tract)
1. **Second order neuron** - nerve fibres reach the gracilis and cuneate nucleus in the lower medulla oblongata, where its axons project to the thalamus (bulbothalamic tract); fibres of the bulbothalamic tract are internal arcuate fibres, crossing the mid-line (decussation) as they ascend, forming the medial Lemniscal pathway
1. **Third order neuron** - these neurons are located in the ventro-posterolateral (VPL) and posterior nucleus of the thalamus (pulvinar) with VPL neurons terminating in the primary somato-sensory cortex; fibres from the pulvinar of thalamus terminates in the secondary somato-sensory and association cortex

Function

- Form recognition
- Proprioceptive sensation
- Tactile discrimination
- Vibration sensation

Links

Bibliography

SNELL, Richard S. *Clinical Anatomy by Regions*. 8th Edition edition. 2004. ISBN 978-0-7817-6404-9.