

Sensory Tracts in CNS

	site	fibers of DRG	sensation transmitted	relay sites	decussation	charecteristics
ventral spinothalamic	anterior column of spinal cord	- A-delta fibers - some C fibers (in slow pain & warm spots)	1. crude touch (A- delta fibers) 2. crude pressure 3. tickle & itch (C fibers)	- DRG : main sensory nucleus - 2nd order : VPLN	inside spinal cord	- form spinal lemniscus with lateral spinothalamic in the tegmentum of pons & midbrain
Lateral spinothalamic	lateral column of spinal cord	- A-delta fibers - some C fibers (in slow pain & warm spots)	1. pain sensation (A- delta & C fibers) 2. tempreture sensation (A-delta & C fibers)	- DRG : main sensory nucleus - 2nd order : VPLN	inside spinal cord	- form spinal lemniscus with lateral spinothalamic in the tegmentum of pons & midbrain - has two types : paleo (mediates slow pain by C fibers) neo (mediates fast pain by A-delta fibers)
Gracile & Cuneate	dorsal column of spinal cord 	* A-alpha & A-beta afferent fibers	1. Fine touch sensations 2. fine pressure sensations 3. vibration sensations 4. consiouus proprioceptive sensation	- no relay in spinal cord , DRG directed in post . column toward brain stem - DRG : in Gracile & Cuneate nuclei in medulla - -----> formation of medial lemniscus - 2nd order : ascends as medial lemeniscus toward VPLN	in the medulla at the 2nd level , level of sensory decussation N.B : the fibers which originate from Gracile & Cuneate nuclei and make decussation known as internal arcuate fibers , which finally after decussation forms medial lemeniscus	- transmit fine sensations - conduct signals from the same side (because no decussation in the spinal cord) - gracile located medially and carry sensation from lower limb , cuneate located laterally and carry sensation from upper limb . - Some fibers called the external arcuate fibers arise from gracile and cuneate nuclei and enter the cerebellum via the inf. Cerebellar peduncle. - The lateral branches of A-beta afferent nerve fibers form spinocervical tract .
dorsal & ventral spinocerebellar tracts	both located in lateral column of spinal cord	* A-beta afferent fibers	subconscious proprioceptive signals to the cerebellum	- DRG : in Clarke's nucleus in dorsal horn - 2nd order : * dorsal cerebellar ----> in the same side , and enter cerebellum through inferior cerebellar peduncle * anterior cerebellar -----> some fibers cross and other not , so ascends in both sides , enter two hemispheres via superior cerebellar peduncle	anterior cerebellar only , some fibers are decussate in the spinal cord	-----