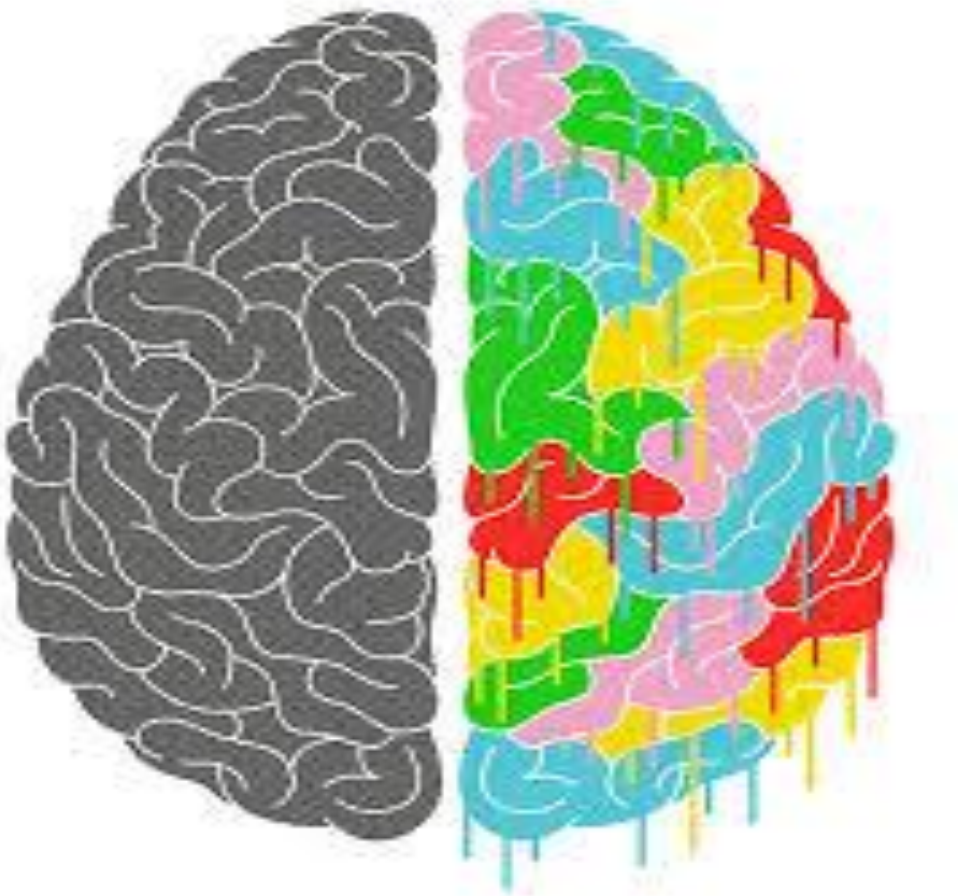
Sensory (Ascending) tract

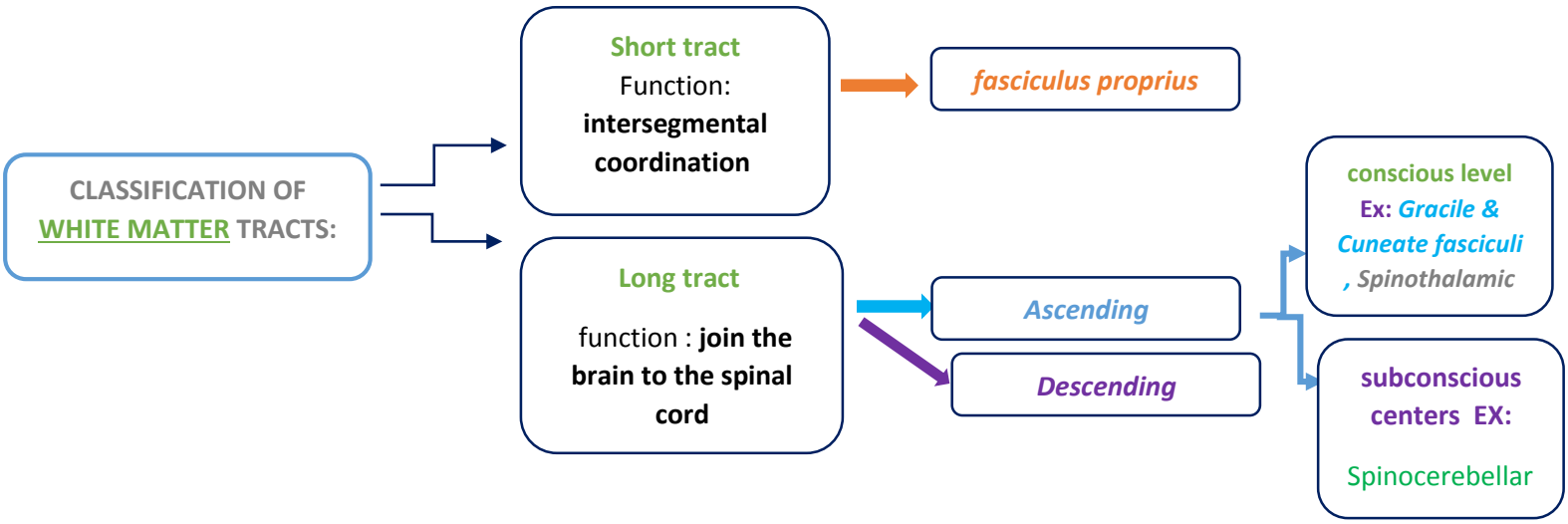
ملاحظة:

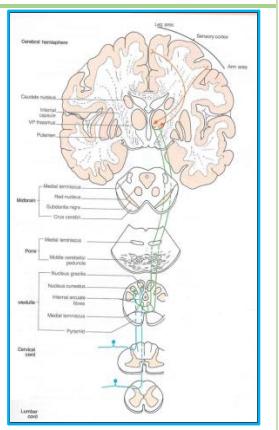
هذا الملف للمراجعة وترتيب المعلومات فقط وليس مرجع للمذاكرة لانه ليست كل المعلومات متضمنة.

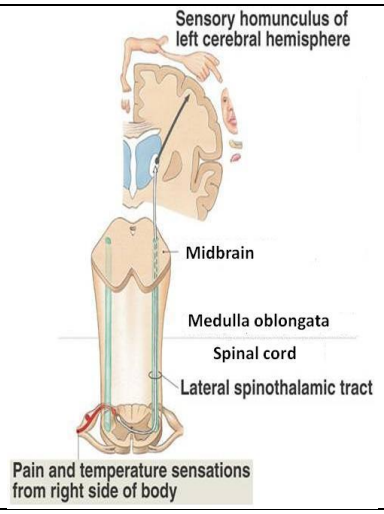
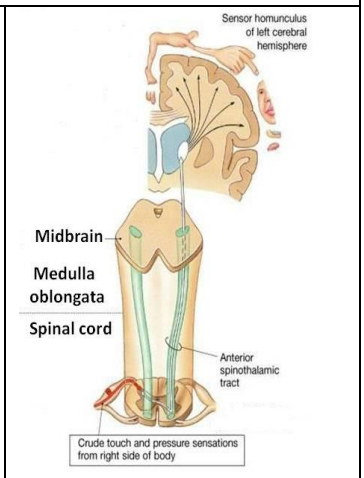


Done by:

شيخة الدوسري



Dorsal Column	Fasciculus Gracilis (FG)	Fasciculus Cuneatus (FC)	Pic
impulses concerned with	proprioception (movement and joint position) , discriminative touch half of the crude touch		
fibers that are received at	sacral, lumbar and lower thoracic levels,	at upper thoracic and cervical levels	
First order neurons	dorsal root ganglion.		
2nd order neurons	nucleus gracilis	nucleus cuneatus	
The axons of the 2nd order neurons	decussate in the medulla as internal arcuate fibers.		
ascend through the brain stem	as Medial Lemniscus		
3rd order neurons	ventral posterior nucleus of the thalamus then project to the somatosensory cortex (thalamocortical fibers)		

Spinothalamic Tracts	Lateral tract	Anterior tract
impulses concerned with	**pain and thermal sensations**	**½ Non- Discriminative touch and pressure**
First order neurons	**Small cells** in the dorsal root ganglia	**Medium sized** cells in the dorsal root ganglia.
2nd order neurons	Cells of **substantia gelatinosa of Rolandi in the posterior horn.**	**nucleus proprius**
The axons of the 2nd order neurons	**decussate in anterior white commissar**	
ascend through the brain stem	**Spinal Lemniscus**.	
3rd order neurons	Cells of VP nucleus of thalamus	
pic		

Spinocerebellar Tracts	Posterior	Anterior
impulses concerned with	derived from muscle spindles, Golgi tendon and tactile receptors to the **cerebellum** for the control of posture and coordination of movements	
fibers that are received at	above level **L3**	the lumbosacral segments
First order neurons	Large cells of dorsal root ganglia.	
2nd order neurons " cell bodies "	**Clark's nucleus**	**base of the dorsal horn** of the lumbosacral segments
The axons of the 2nd order neurons	**ipsilaterally** (uncrossed) means : start from left side end at left side of cerebellar cortex of cerebellum in the cerebellar cortex by entering through the **inferior cerebellar peduncle**	**cross to opposite side, asc**end as far as the midbrain, and then make a sharp turn caudally (the fibers cross the midline for the **second time)** and enter the **superior cerebellar peduncle to** terminate in the cerebellar cortex

Tract	Spinotectal Tract	Spino - olivary Tract	Spinoreticular Tract
Ascends in	in the **anterolateral** part, in close association with spinothalamic system.	all levels of the spinal cord	the ventrolateral region of the cord
First order neurons	Dorsal root ganglia	Indirect spinocerebellar pathway Impulses from the spinal cord are relayed to the cerebellum via **inferior olivary nucleus**	Originate at dorsal horn Contains uncrossed fibers that end in **medullary reticular formation** crossed & uncrossed fibers that terminate in **pontine reticular formation,** finally to the thalamus; that activate the cerebral cortex
2nd order neurons " cell bodies "	base of the dorsal horn		
The axons of the 2nd order neurons	cross to opposite side, and project to the **periaquiductal** gray matter and **superior** colliculus in the midbrain		
impulses concerned with	reflexive turning of the head and eyes toward a point of cutaneous stimulation	to movement coordination associated primarily with **balance**	**Involved in perception of dull aching (slow pain)**

Abnormalities	Tabes dorsalis	Subacute combined degeneration of the spinal cord	Multiple sclerosis	Friedrichs ataxia	Syringomyelia
Affects the	lumbosacral dorsal spinal roots and dorsal columns of the spinal cord.	Dorsal column & lateral Column	fasciculus cuneatus of the cervical region	spinocerebellar tracts	Lateral Spinothalamic Tract
Cause	A late manifestation of syphilitic infection on the CNS.	A systemic disease results from B12 deficiency	immune disease	inherited degenerated disease	The central canal becomes enlarged forming a cavity compressing the adjacent nerve fibres
Lead to loss	loss of proprioception "Sensory Ataxia "	Sensory Ataxia + Weak & spastic limbs	loss of proprioception in hands and fingers (Asteriognosis)	to incoordination of arms, intense tremor, wide base reeling gait ataxia	1. pain and temperature in the upper limbs 2. Charcot's joint