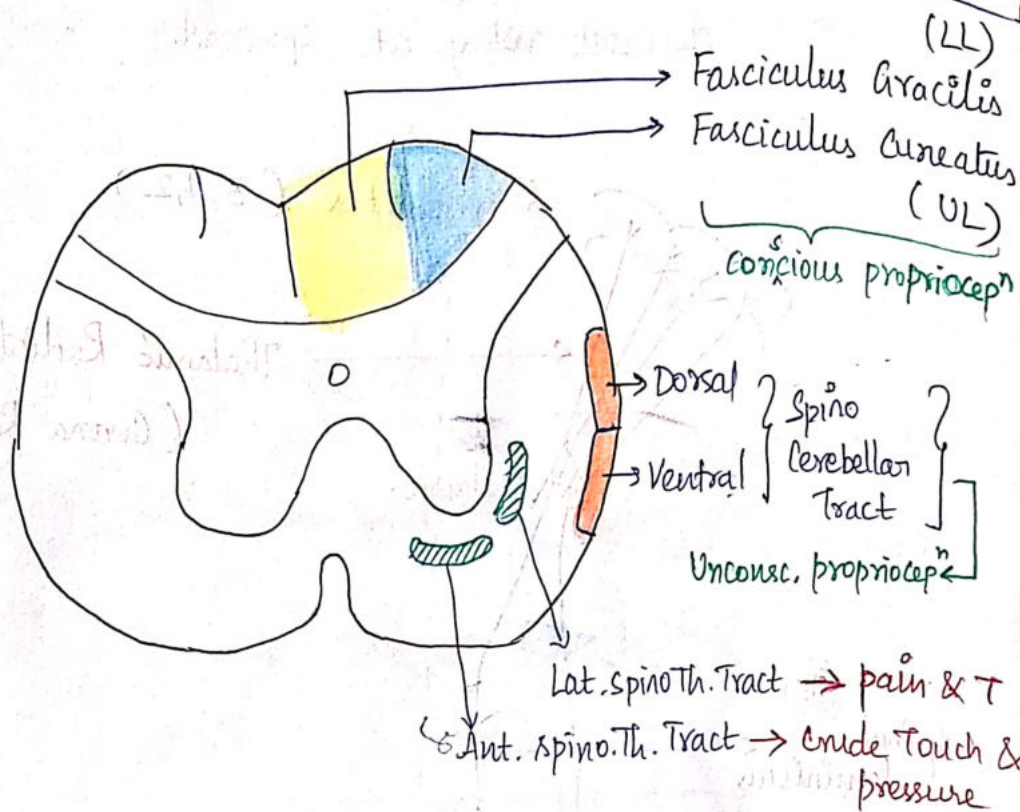




Note:

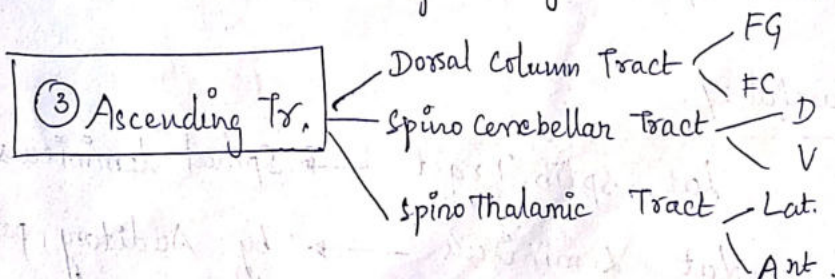
* F. cuneatus found only in T-S of sp. cord at cervical region bcoz it starts from UL.

* Dorsal Column Tract } F. Gracilis } conscious proprioception
F. Cuneatus } fine touch, pressure
vibration & stereognosis.

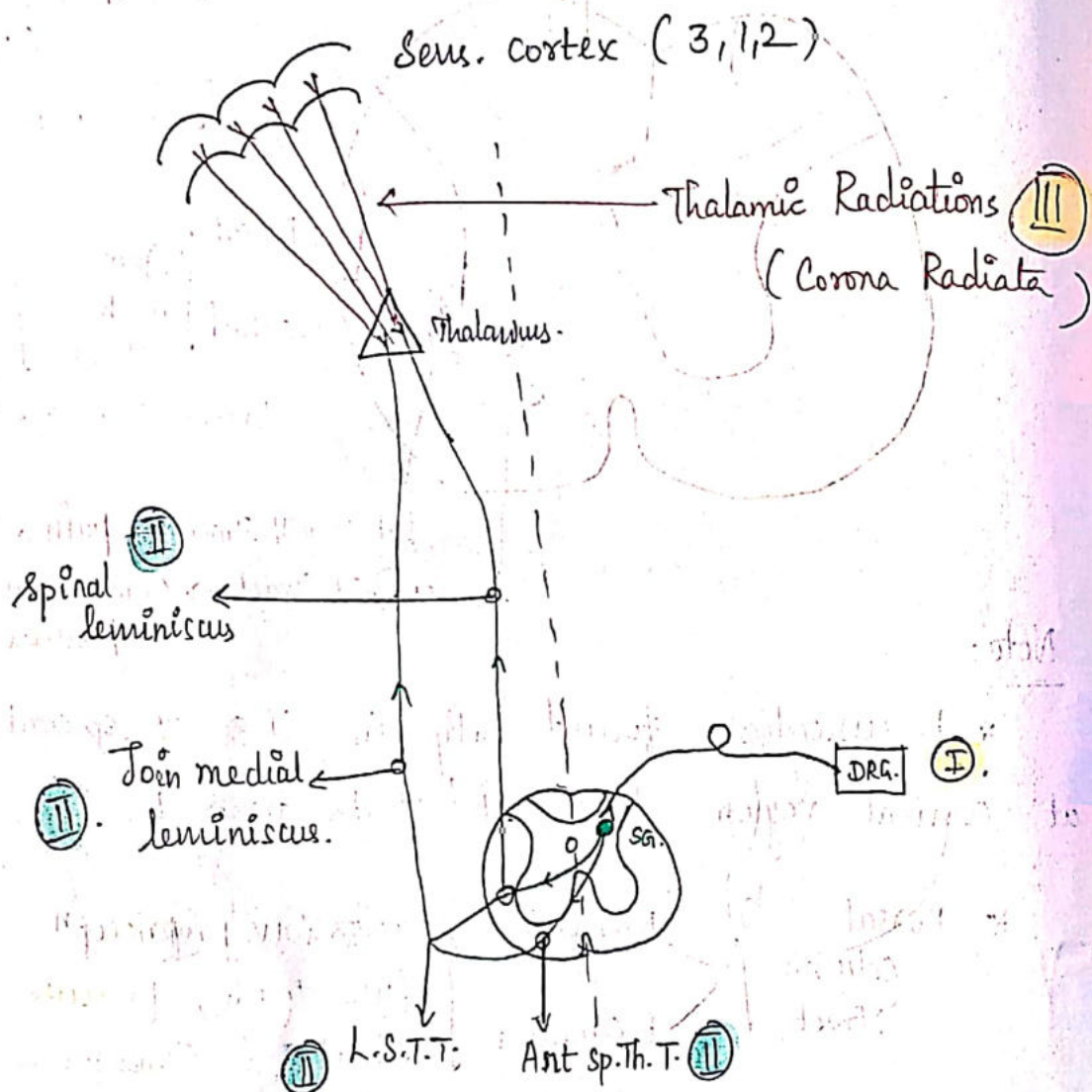
For all ③ Asc^{only} Tracts:

↓
2nd order neuron will Decussate (even optic chiasma)

1st order will always relay on DRG.



decussate ~~relay~~ at sp: cord



Note:

- * Spinal lemniscus is the continuation of Lat. spino Th. Tract
- * Ant. Spino Th. Tract joins the medial lemniscus.

Be careful:

Lat. sp.Th.Tract → Spinal lemniscus

Lat Lemniscus → by Auditory pathway

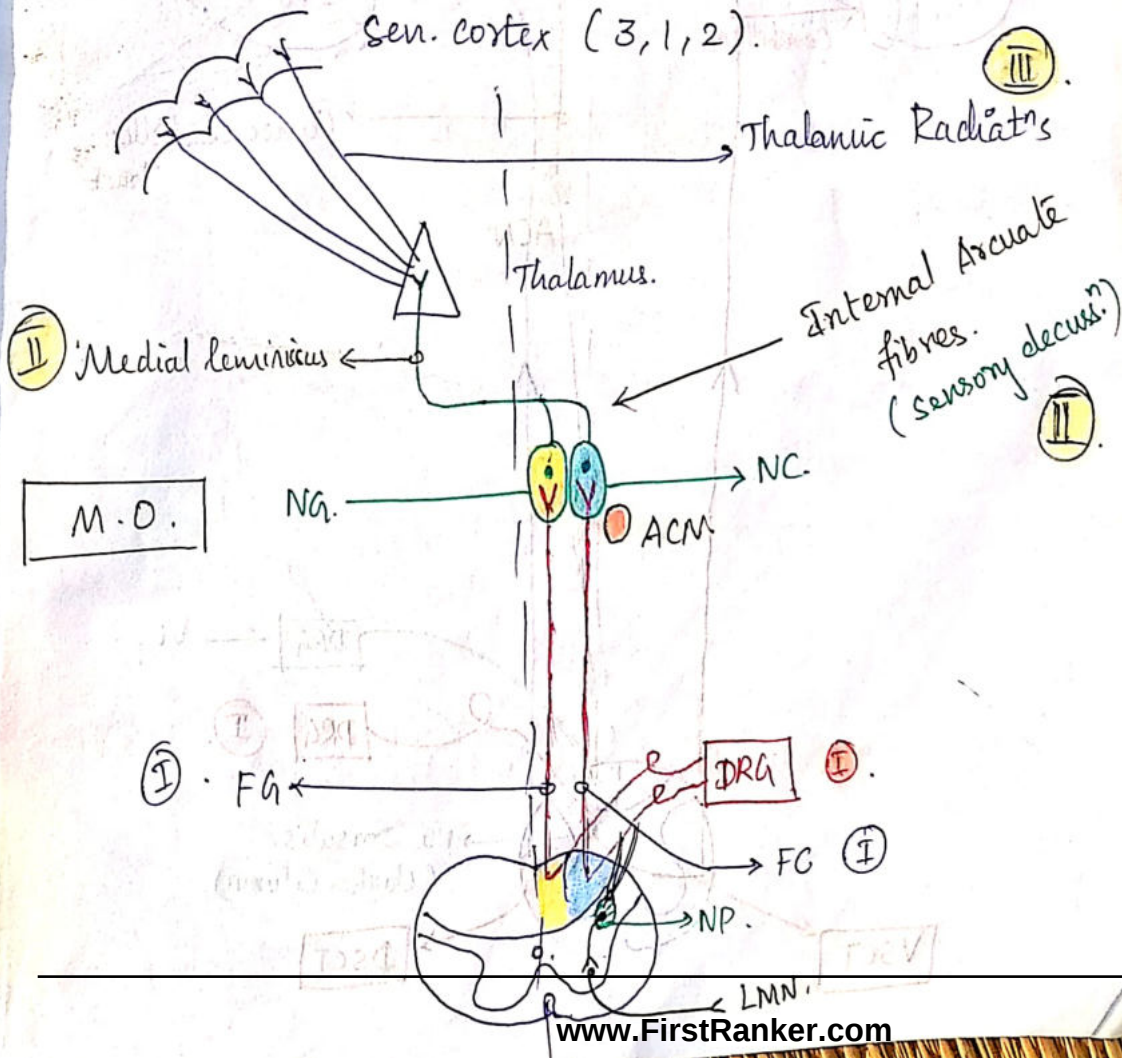
pain fib. don't ascend to the cortex.

Lat & Ant Sp. Th. Tract:

- (I) st → DRG.
- (II) nd → Subs. Gelat. { Sp. lemniscus (lat)
Med. " (ant).
- (III) rd → Thalamic Radiat's.

Dorsal Column: Tract

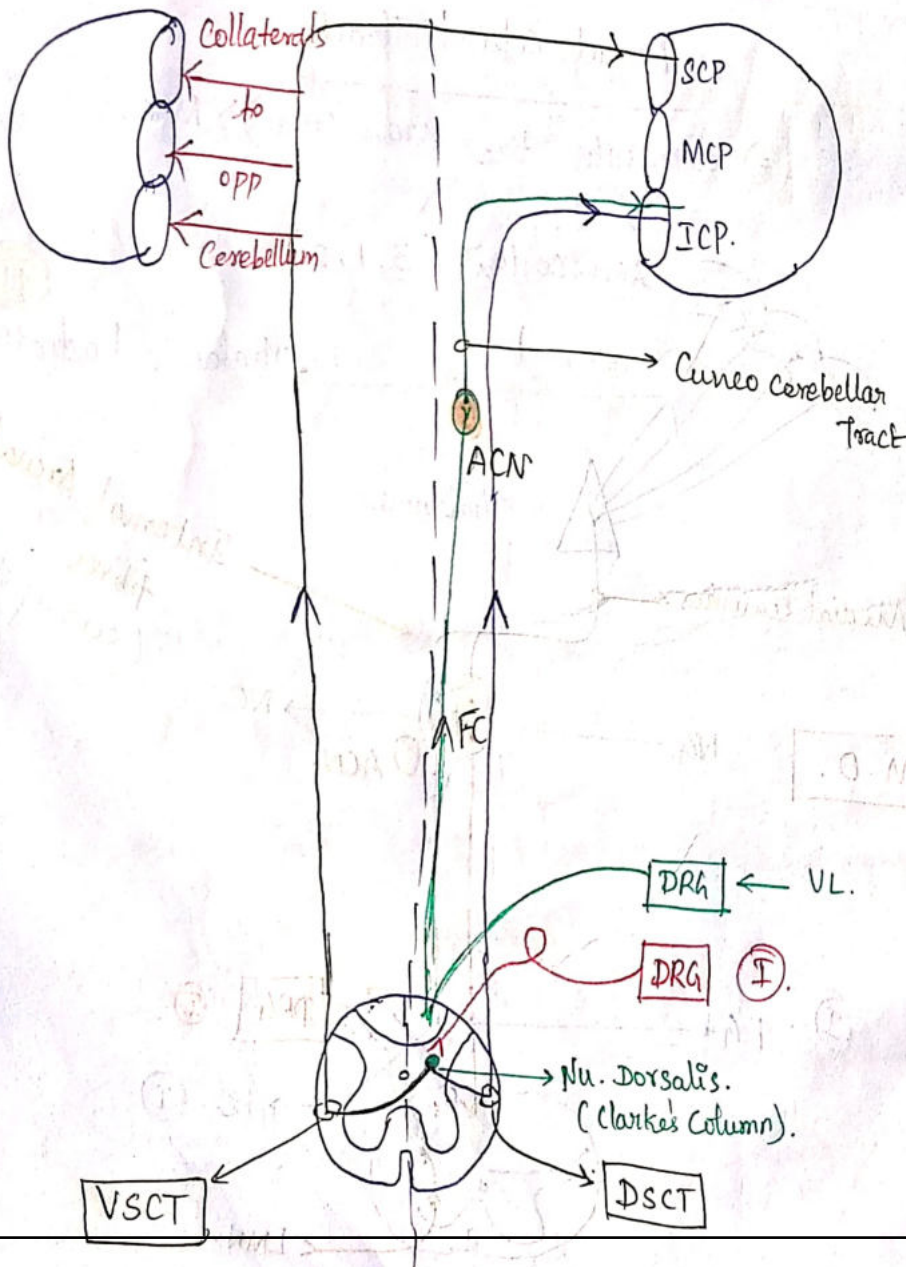
(⇒) decussate^{at} the Brain stem ⇒ M.O.



the white matter of sp. cord go directly into
on grey matter (Nucleus proprius) without relaying

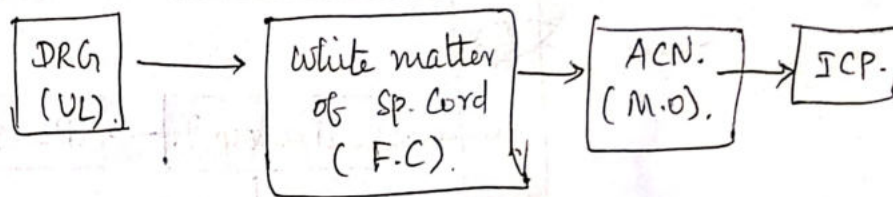
* Some of 1st order neurons relay on
N.P. & give out an interneuron & LMN
for maintaining postural Reflexes.

SpinoCerebellar Tract:



propriocepⁿ is due to VENTRAL Spino Cerebellar Tract (why? Bcoz it gives collaterals to opp. cerebellum)

* D & V Spino Cerebellar Tract carries Uncons. propⁿ. from LL & lower seg. whereas the Uncons. propriocepⁿ from UL is carried by Cuneo Cerebellar Tract

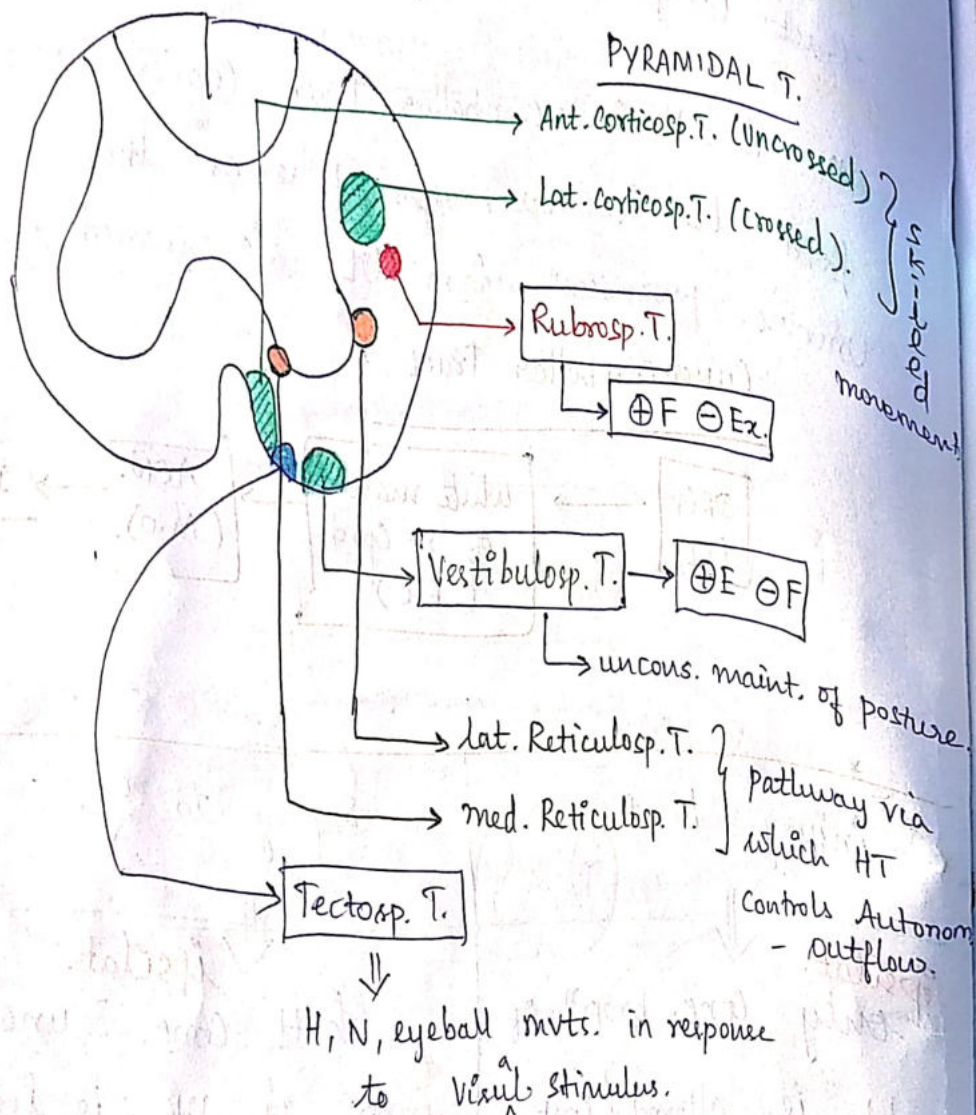


* injury to F.G.

↓
ipsilat.
only Cong. propⁿ of LL is altered/lost.

injury to FC.

↓
ipsilat.
both Cong. & uncons. propⁿ of UL is lost
bcoz F.C. carries along with it the cuneocerebellar pathway



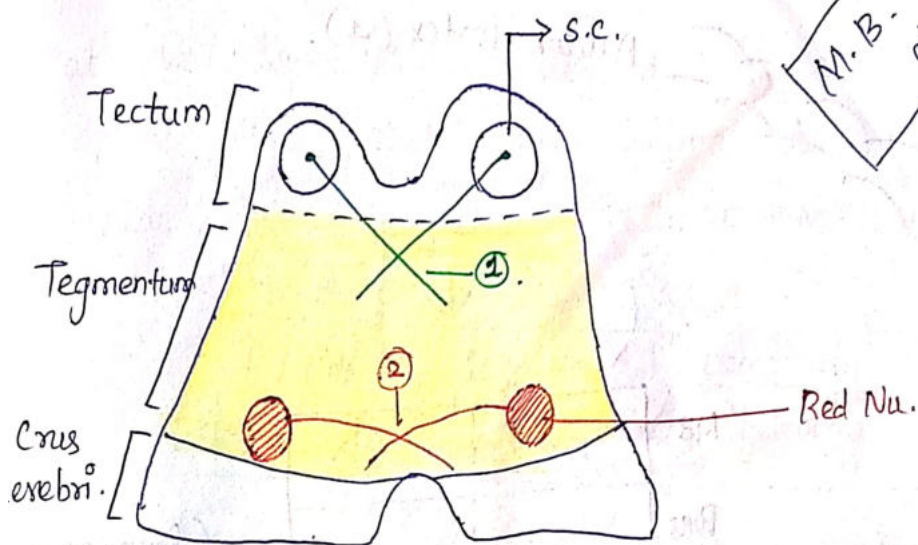
Note:

1) Rubrosp. Tr. $\Rightarrow$ helps in sitting movements ($\oplus F \ominus E$).

Vestibulosp. Tr $\Rightarrow$ helps in standing mvt. ($\ominus F \oplus E$).

2) Rubrosp. Tr. & Tectosp. Tr.

Both originate & decussate at the same level i.e) At the M.B.

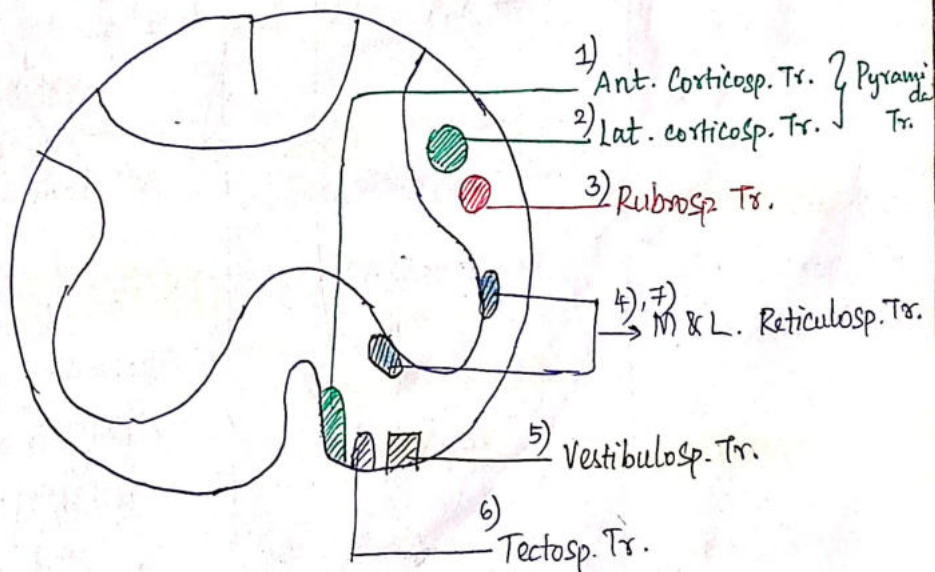


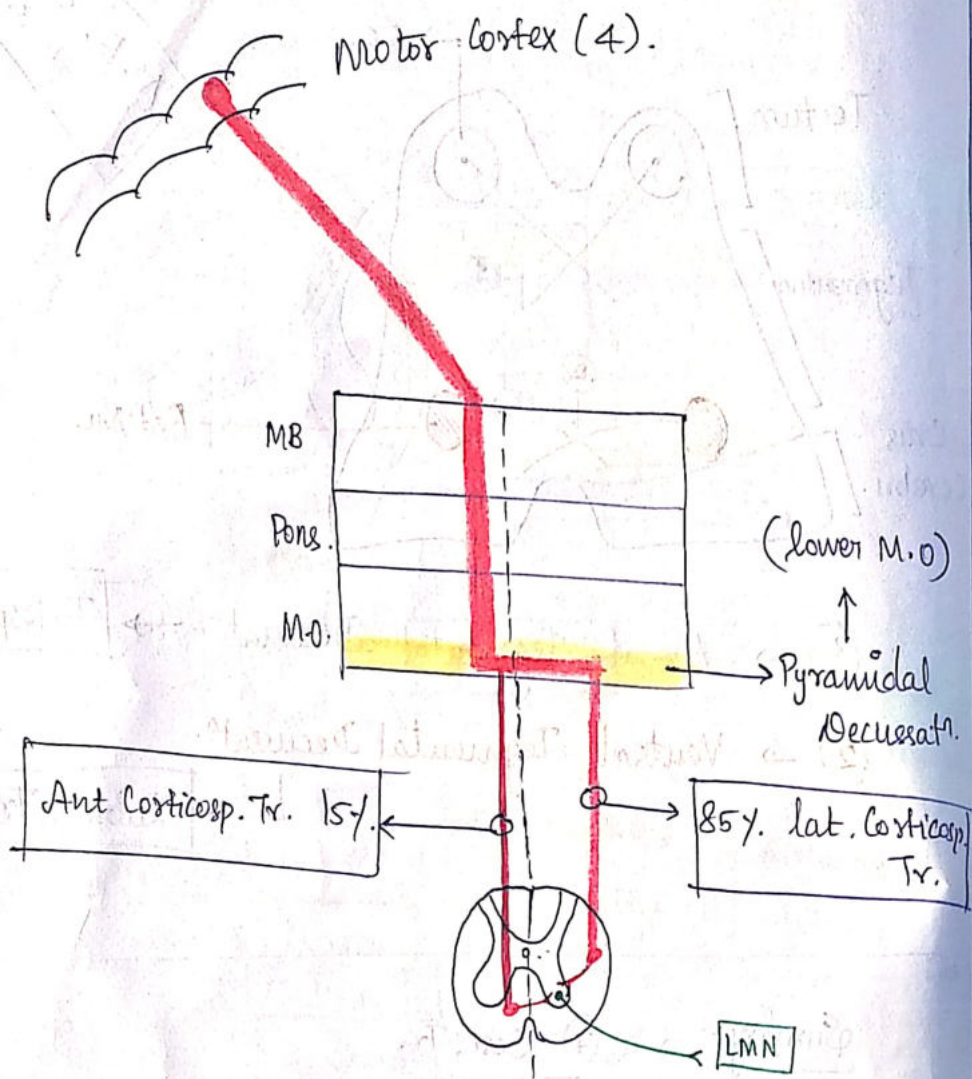
M.B. Cross-section at S.C.

① → Dorsal Tegmental Decussatⁿ → Tectosp. Tr.

② → Ventral Tegmental Decussatⁿ → Rubrosp. Tr.

Summary: ⑦ Desc. Tr.



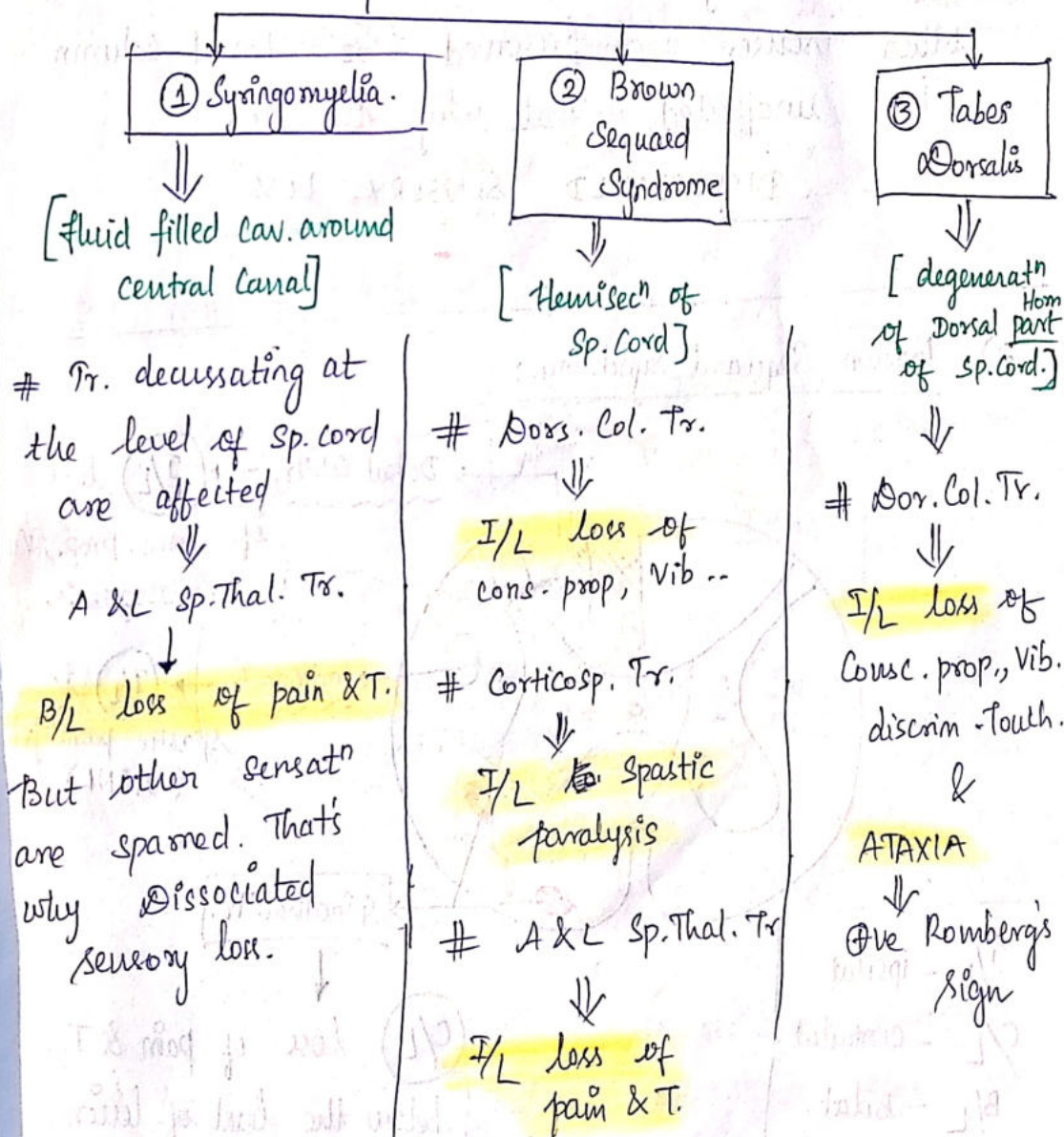


* Although the Remaining 15% Doesn't Decussate at the lower M.O. They do decussate at the spinal seg., That's why Injury to the Corticosp.Tr. leads to complete CONTRALAT. HEMIPLEGIA.

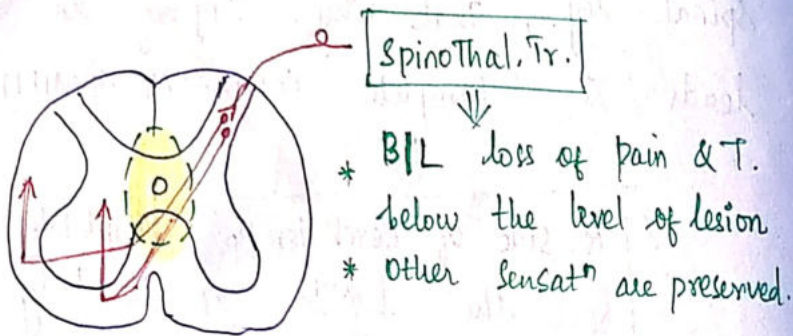


R. side of Cereb. Hemisp. Completely Controls the L side of the body

CLINICAL ASPECT:



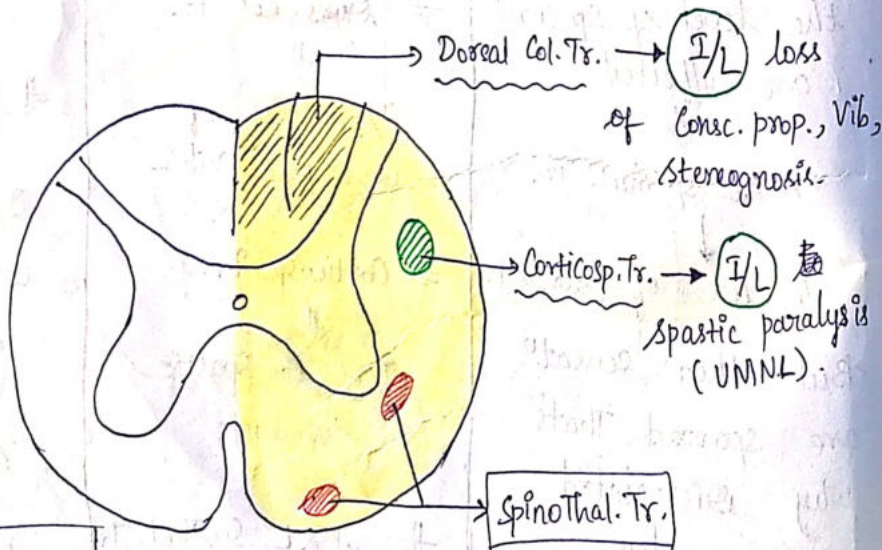
* fluid filled cavity around central canal.



* Decussating Tracts (at sp. cord level) will be affected. $\Rightarrow$ Spinoth. Tr. (A & L.).

* Only pain & T. sensatⁿ are lost
other senses are preserved bcoz Dorsal column is unaffected. That's why it's aka
"DISSOCIATED SENSORY LOSS"

2) Brown Sequard Syndrome:



I/L - ipsilat.
C/L - contralat.
B/L - Bilat.

C/L loss of pain & T. below the level of lesion.
 $\rightarrow$ Bcoz they will decussate.

If any of the T. decussate at the level of Sp. Cord then there will be consequences in the C/L side.



Brown Seq. Syndrome

That's why in B.S.S, pain & T. will be lost in C/L side due to lesion of A & L sp. Thal. Tr. which decussate at the level of sp. cord itself

But in case

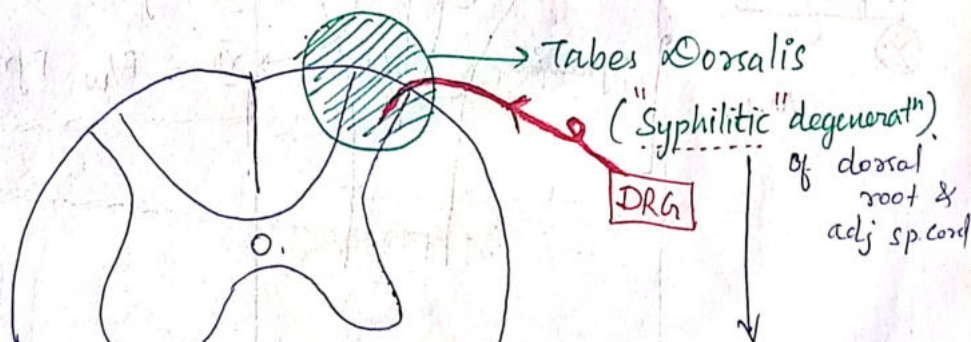
1) Dorsal Col. Tr. $\Rightarrow$ decussate at Medulla

so I/L loss.

2) Corticosp. Tr. $\Rightarrow$ decussate at "lower" Medulla

so I/L loss.

3) Tabes Dorsalis:



1) Dorsal col. Tr.

* I/L loss of Cons. prop.,
vib., discrim. Touch..

* ATAXIC (⊕ve Romberg's Sign).

2) also Nerves carrying sensory inf. are affected bcoz DRG. is lesioned