

EXTRAPYRAMIDAL TRACTS

Overall Function & Location of all Descending tracts.

Axial Musculature.

- Control of skeletal muscle of trunk
 - Gross movements
 - Postural adjustments
- Proximal portions of limbs → Coordinating grp of muscles.

Tracts.

→ Ventral corticospinal tract → Control voluntary movement

→ Medial Descending Brainstem Pathways.

- Tectospinal
- Reticulospinal
- Vestibulospinal.

Control involuntary
Reflexive movement

Distal Musculature

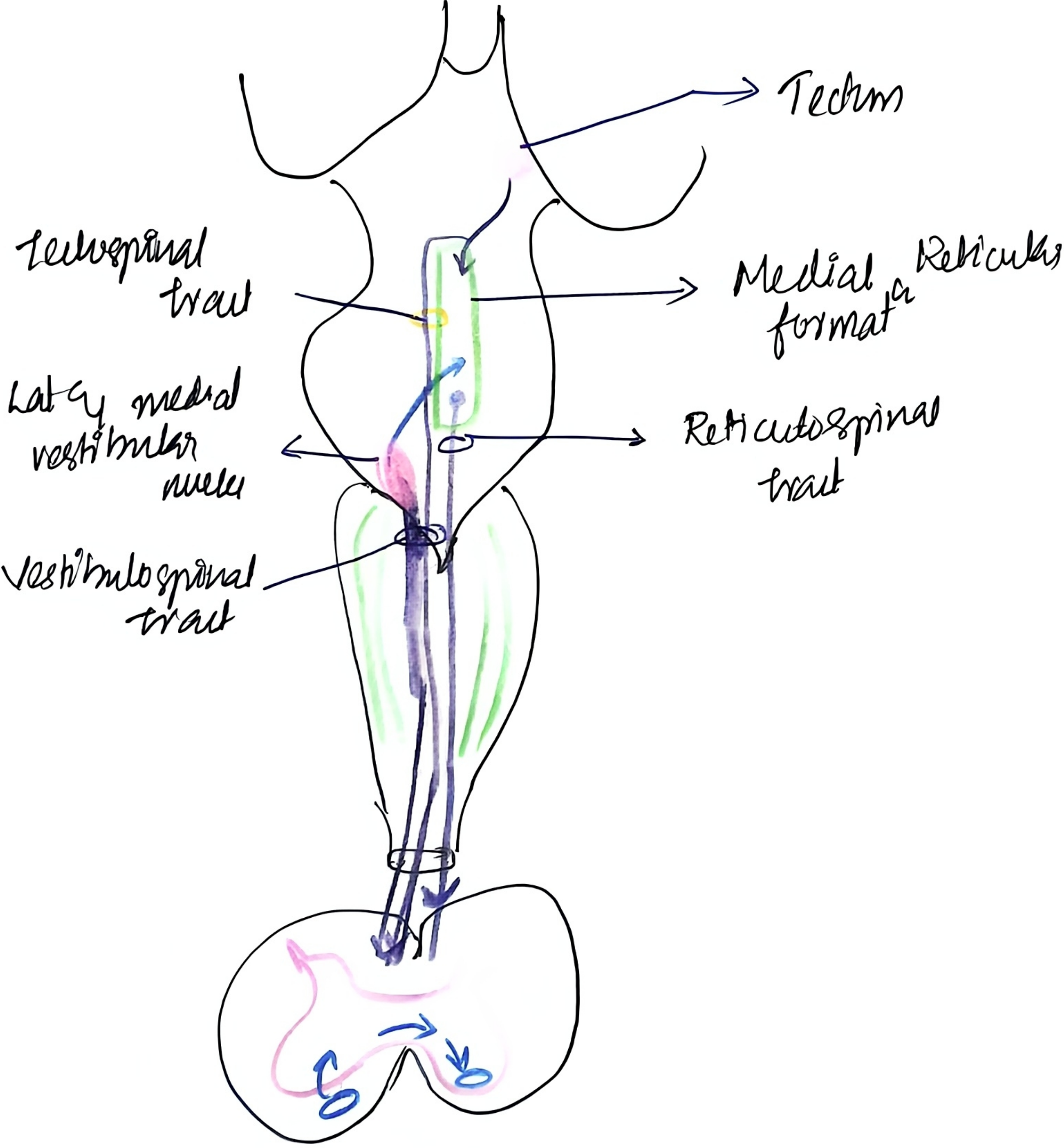
- Control of skeletal muscle of distal portions of limbs

→ Fine skilled movements.

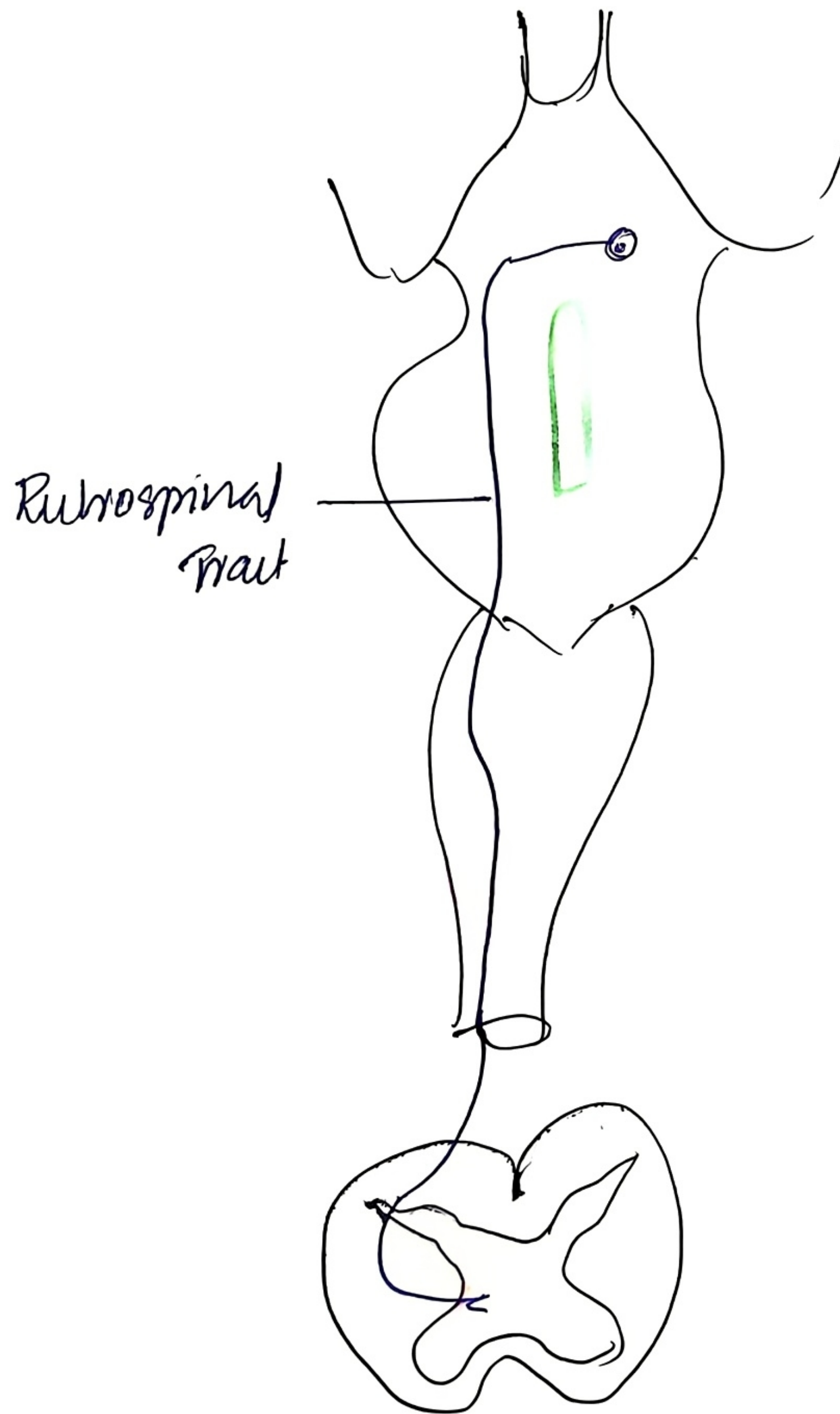
Tracts.

- Lateral corticospinal tracts.
- Rubrospinal tracts

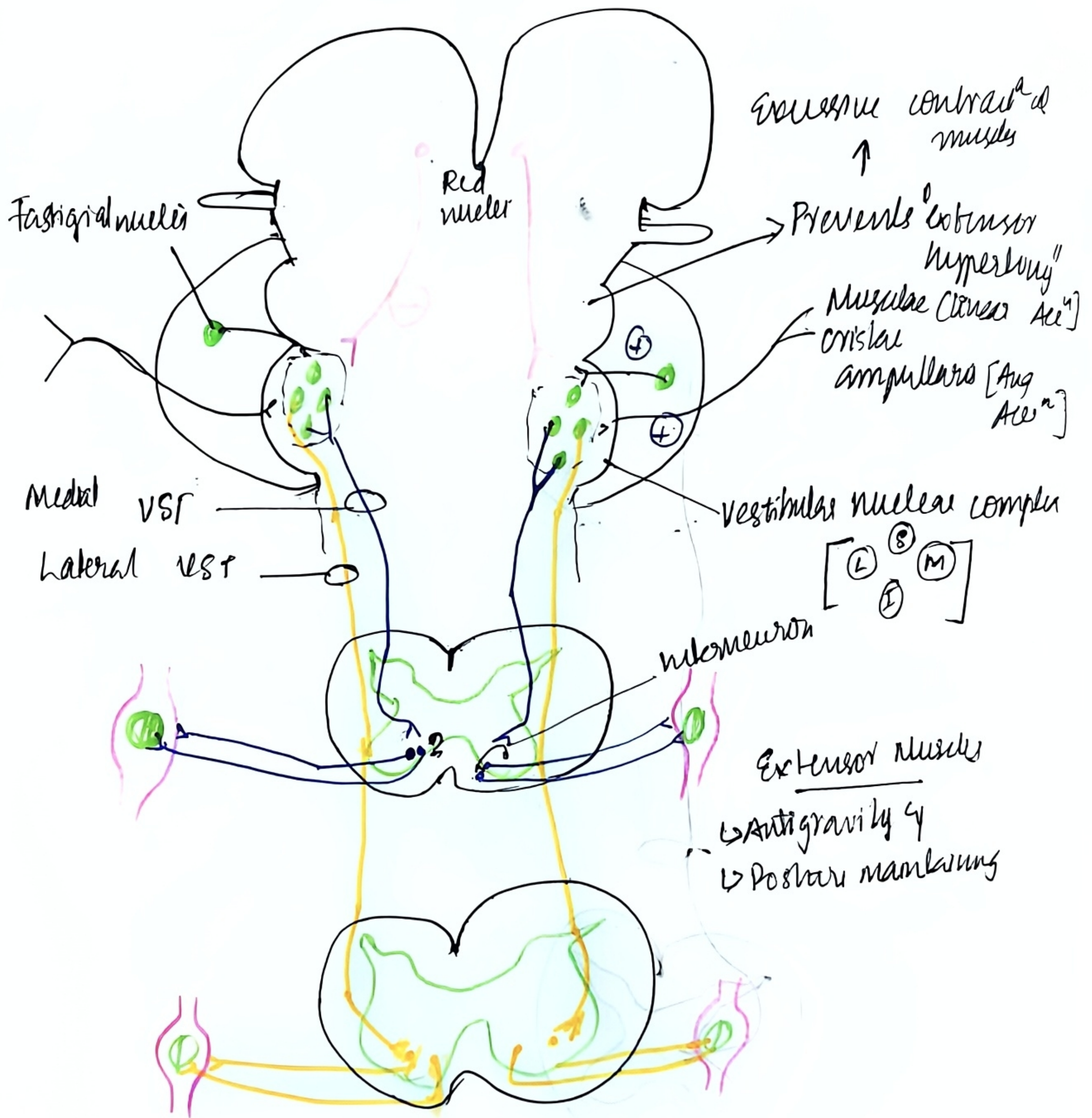
medial brainstem pathways



Lat Brainstem Pathways



VESTIBULOSPINAL TRACT



from vestib. nuclear complex $\rightarrow$ spinal cord

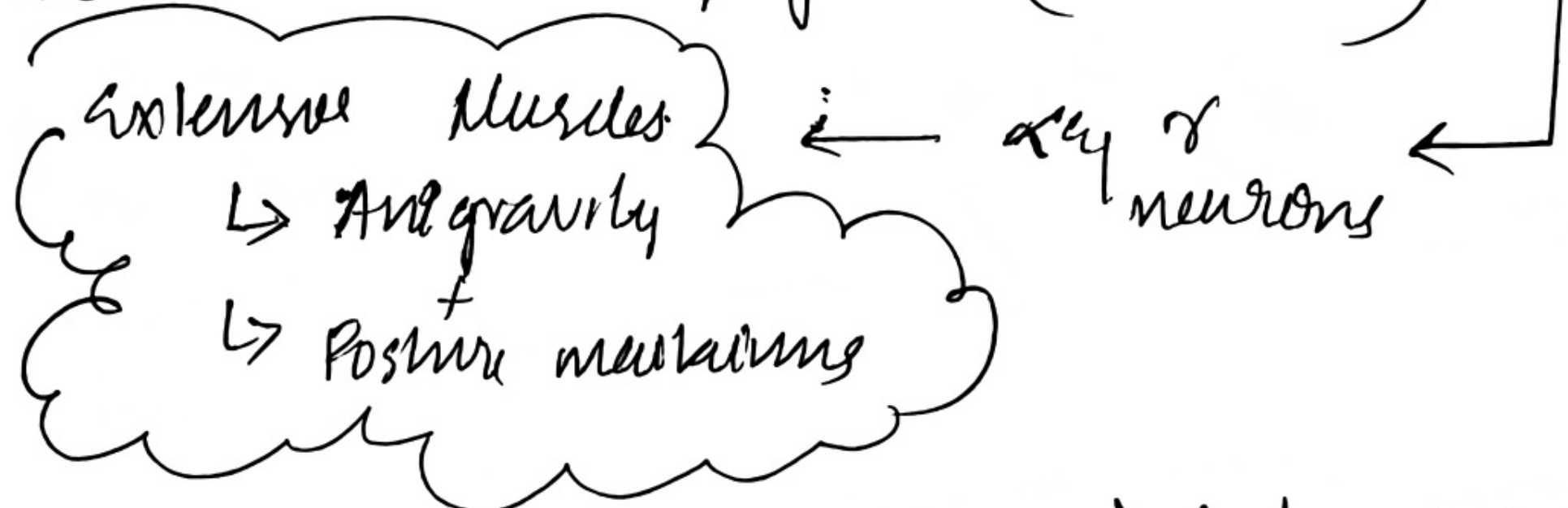
* Maculae (linear acceleratⁿ) & cristae ampullary (angular acceleratⁿ) stimulate vestibular nuclear complex

* Some stimulus also come from fastigial nucleus in cerebellum

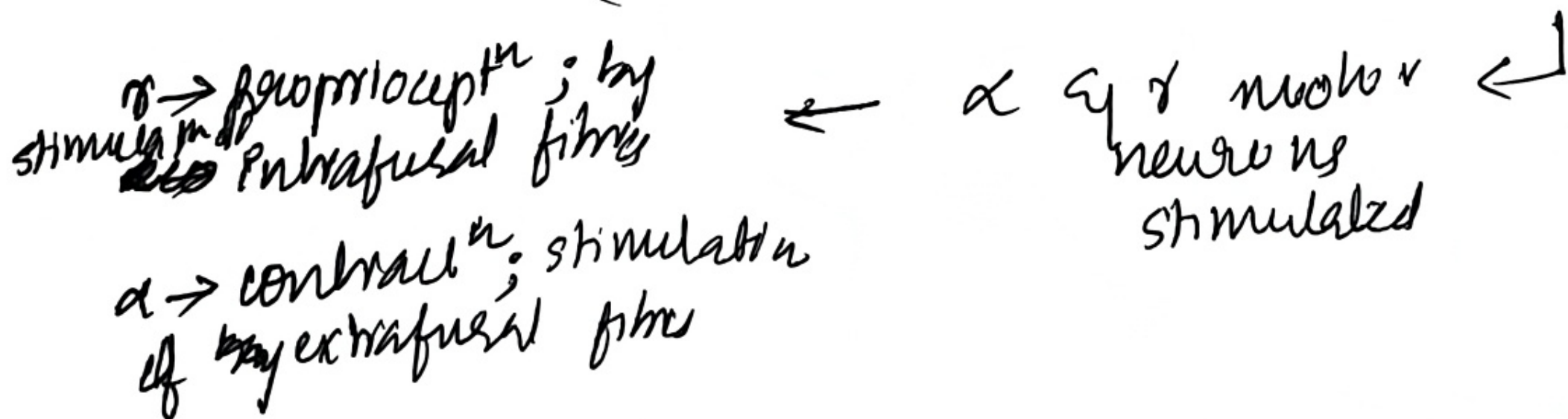
ii [my spinocerebellar tract proprioceptive stimulus reach cerebellum $\rightarrow$ fastigial nucleus - VNC]

* Two tracts develop from VNC $\leftarrow$ lat VST
m. VST

* Medial VST $\rightarrow$ Ant grey horn (termination)



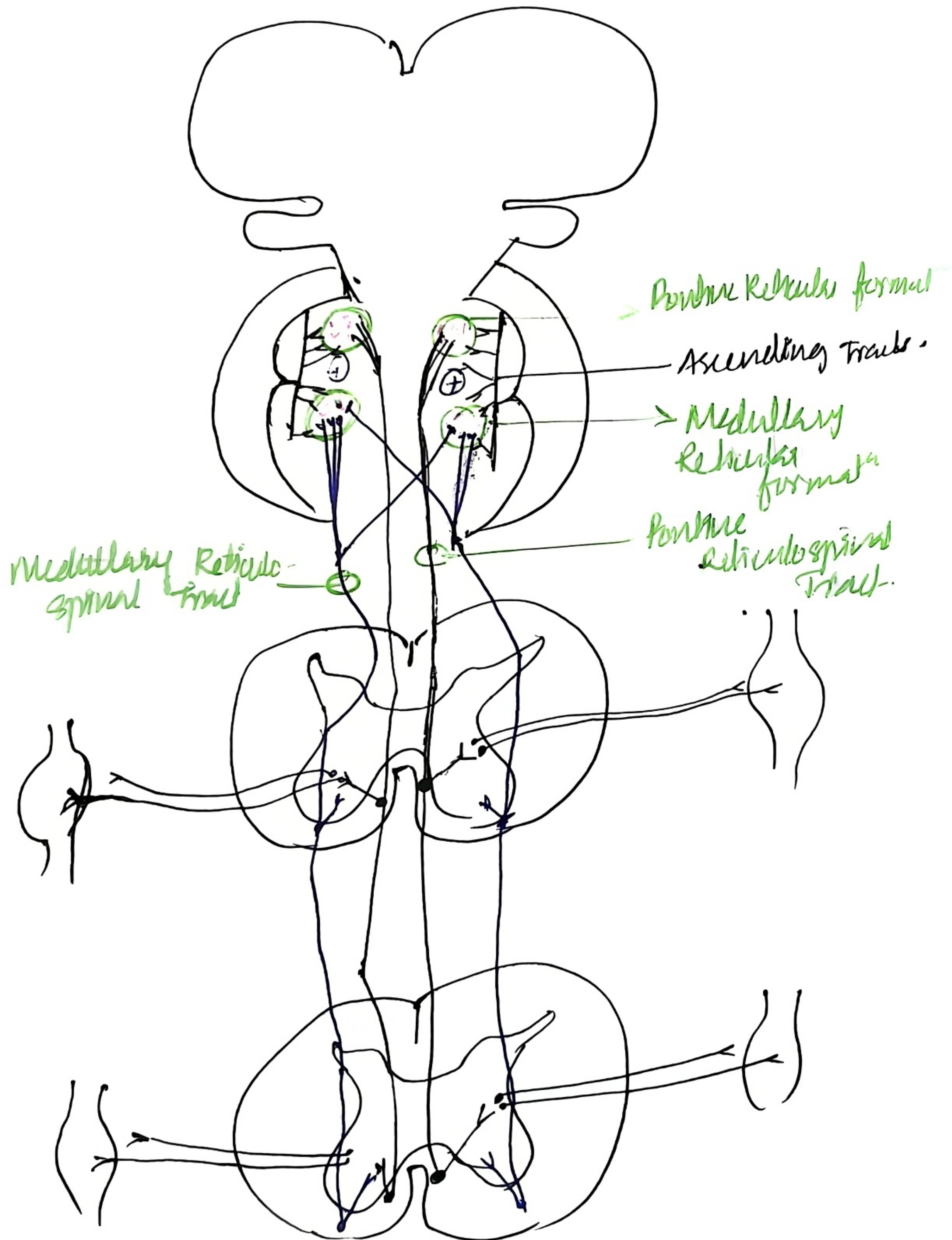
* Lat VST $\rightarrow$ (lower limbs generally) Anterior grey horn



* Extensor hypertrophy: When the feedback of vestib. nuclear complex happens $\Rightarrow$ extends widely.

$\rightarrow$ prevent if red nucleus is present that give α -cell feedback

RETICULOSPINAL TRACT



Reticular formatⁿ: collectⁿ of grey & white matter throughout the brain stem; responsible for arousal activity of brain.

Pontine Reticulospinal tract: exte extensors muscle

Medullary Reticulospinal tract: inhibit " " excite flexor muscle

* Stimulus from ascending tracts. $\rightarrow$ Reticular formatⁿ of pons.

Ant grey horn $\leftarrow$ Descends & reach anterior
white column.

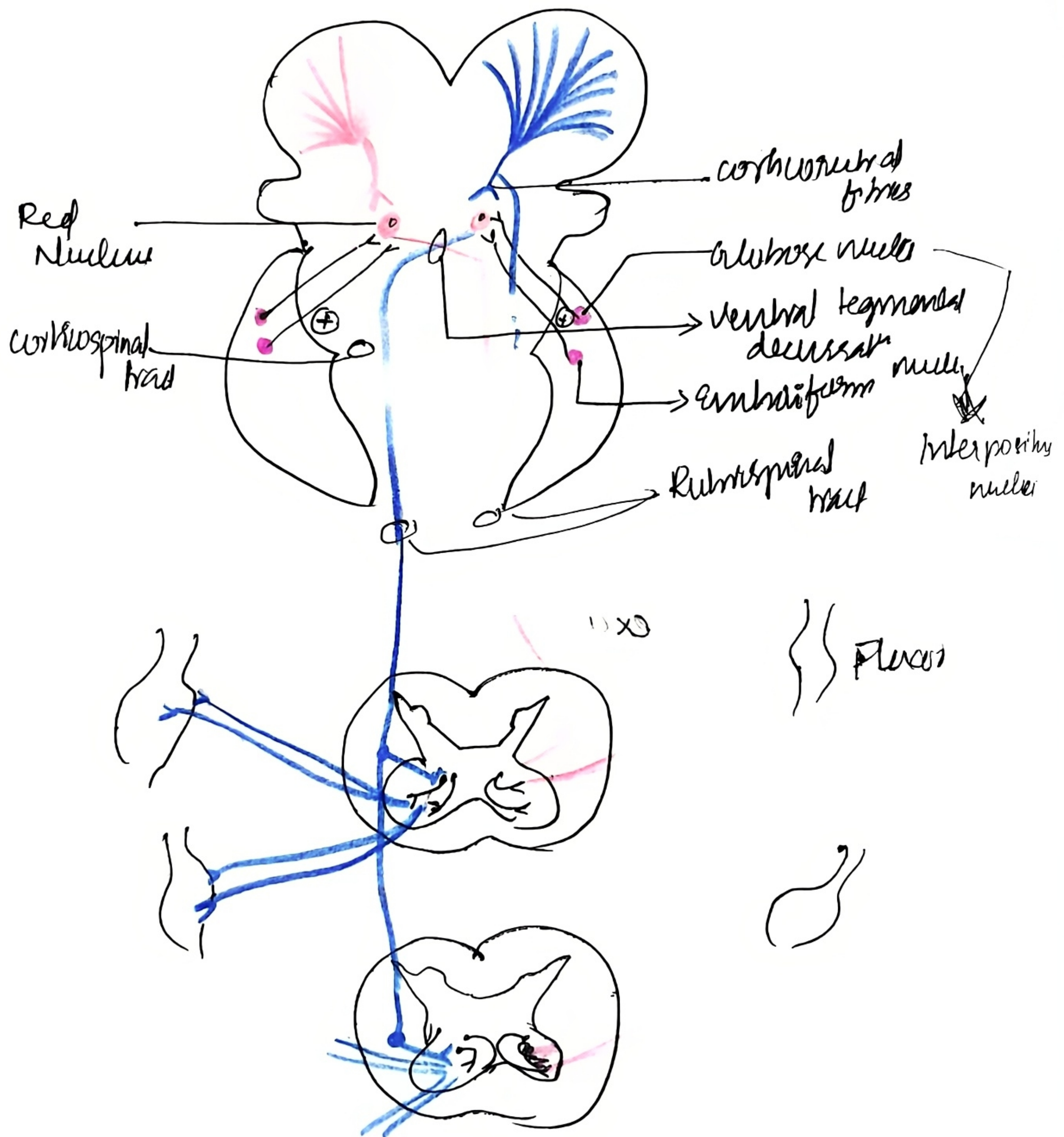
Extensor muscles excited
~~stimulated~~

* Stimulus from ascending tracts $\rightarrow$ Medullary Ret formⁿ

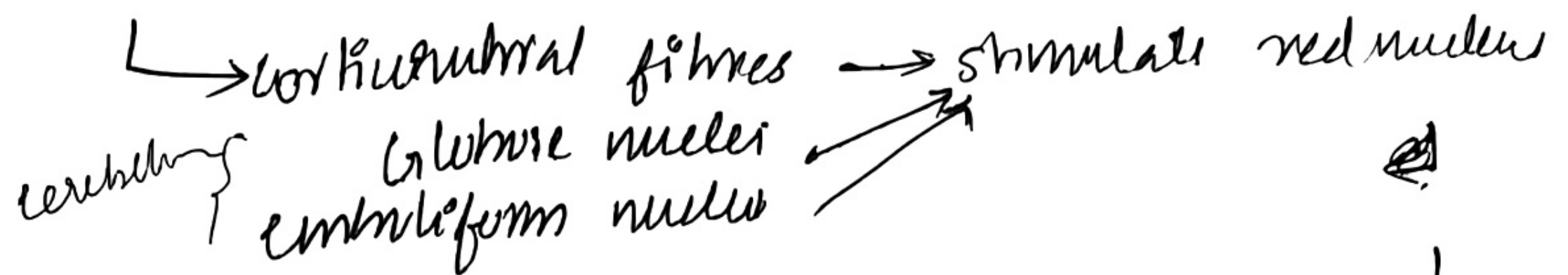
And white column $\leftarrow$ Descends bilaterally $\leftarrow$

Ant. grey horn $\xrightarrow{\alpha/\gamma}$ ~~stimulate~~ ^{excite} flexor muscles
inhibit extensor.

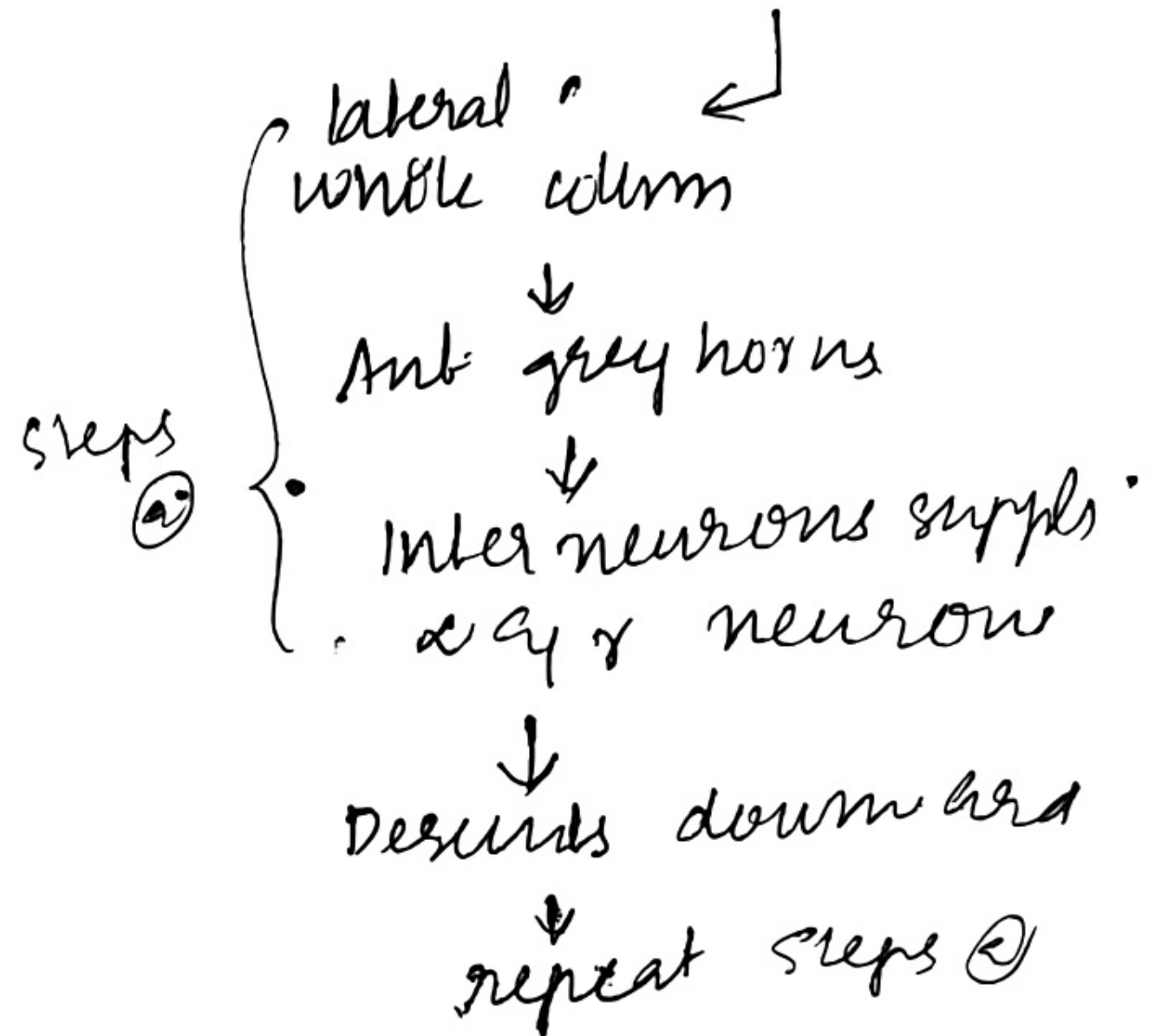
RUBROSPINAL TRACT



Motor cortex → CST

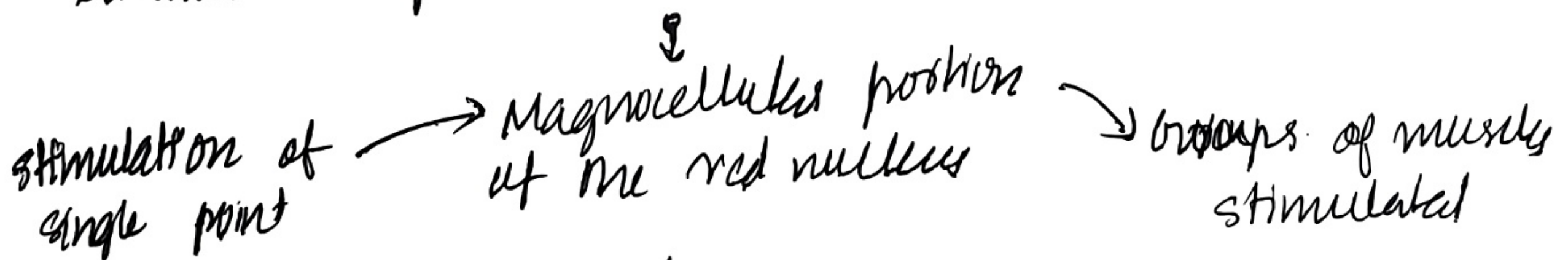


fibres come from magnus cell portion
→ Decussate → decussate laterally



Corticospinal tract + vestibulospinal tract → lateral motor system of cord

Vestibulospinal tract → medial motor system of cord

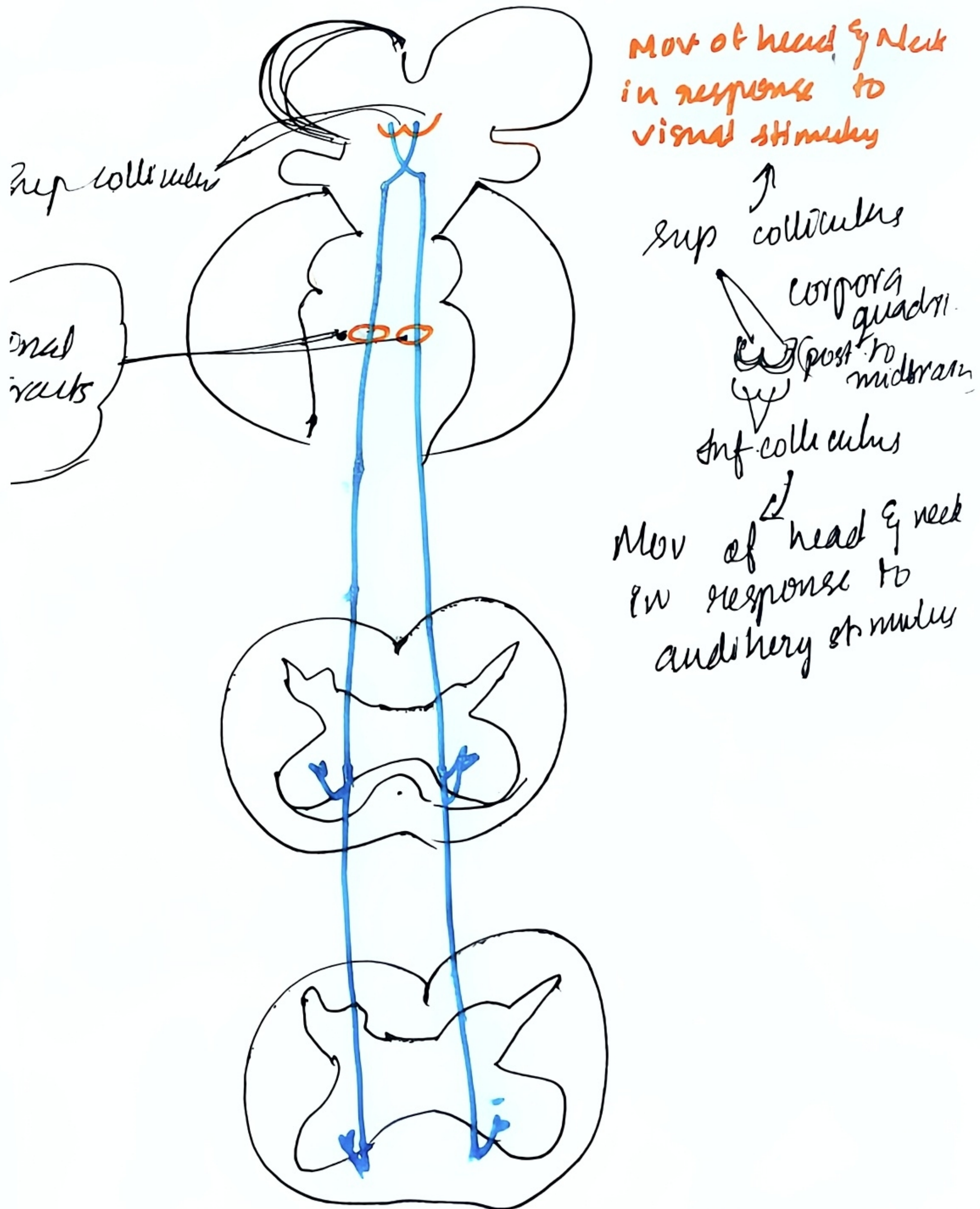


Autographic REP of all muscles like motor cortex

[* But these areas are less developed than motor cortex, very less developed in human beings]

i.e., CRST acts as the alternative route of transmission from motor cortex to spinal cord

CROSPINAL TRACT



* from bottom of brain. to spinal cord.

sup colliculus → tectospinal tract
↓
inf. colliculus
↓
decussate @ lower part of midbrain

Ant grey horn ← Ant white ~~horn~~ column ← descend medially to cervical segment to spinal cord
→ head & neck muscles
stimulate & c p for movement in response to auditory & visual stimulus
↓
descends down. repeat steps.

(ag. zone, chaperone, & scm)