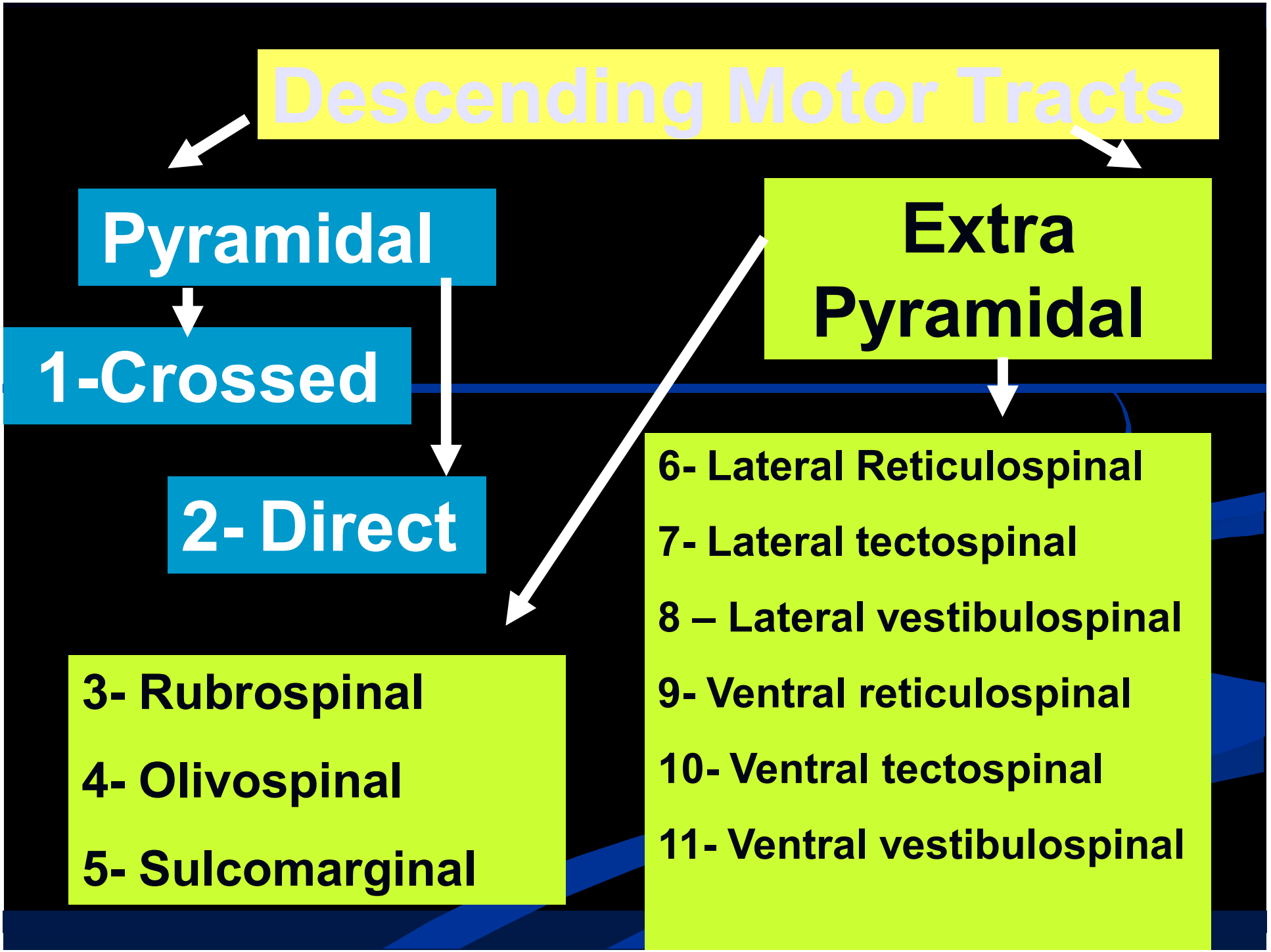
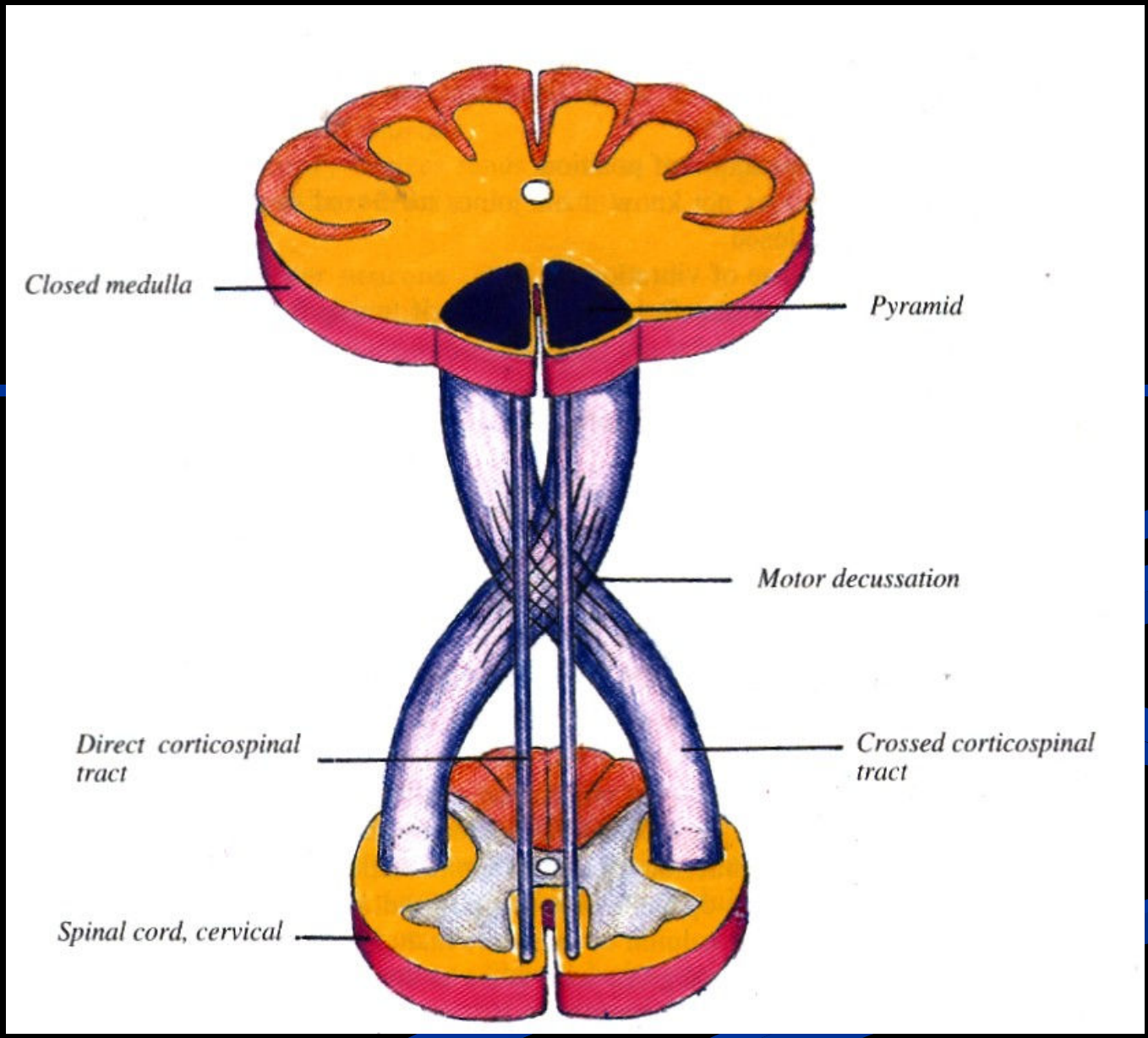
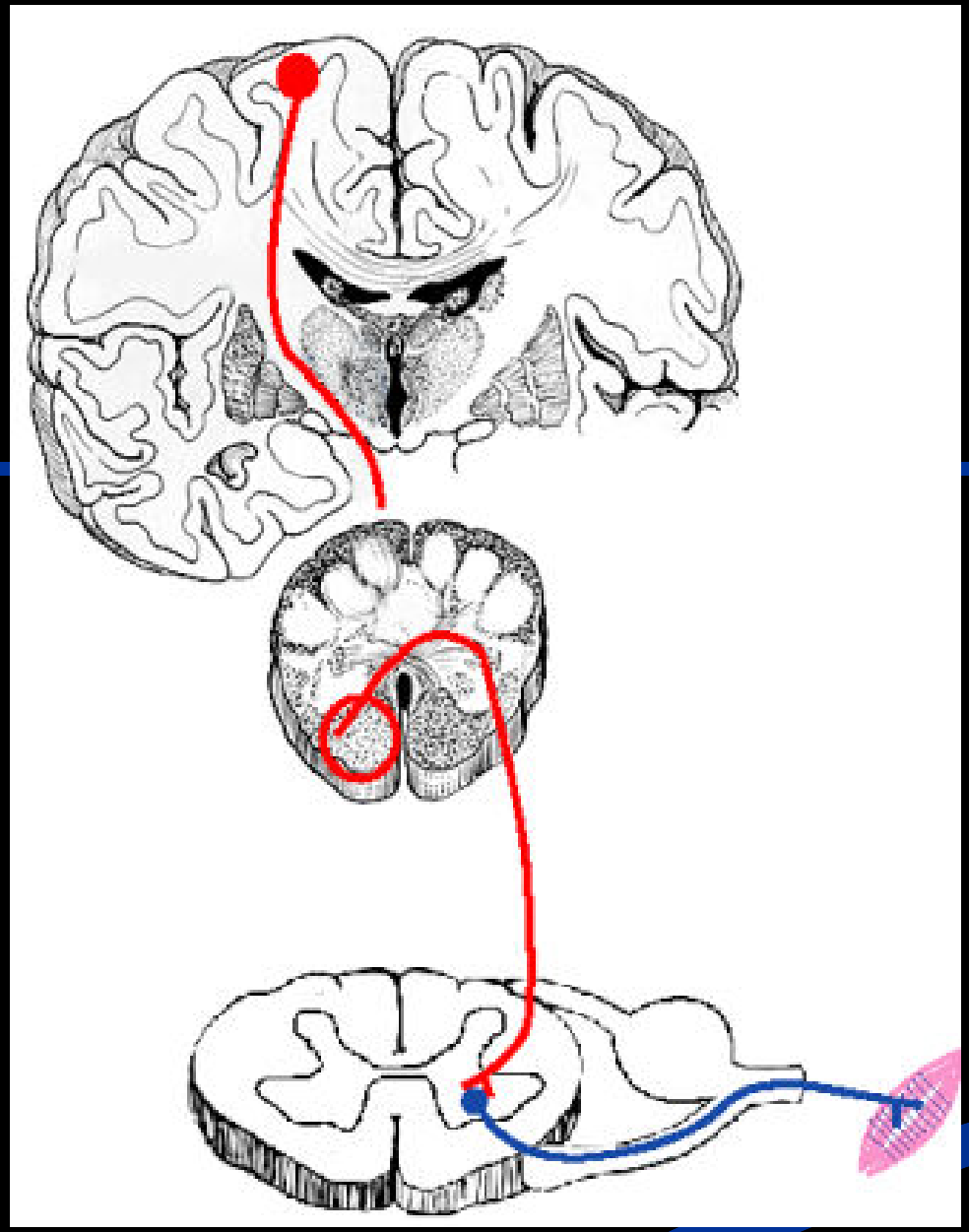
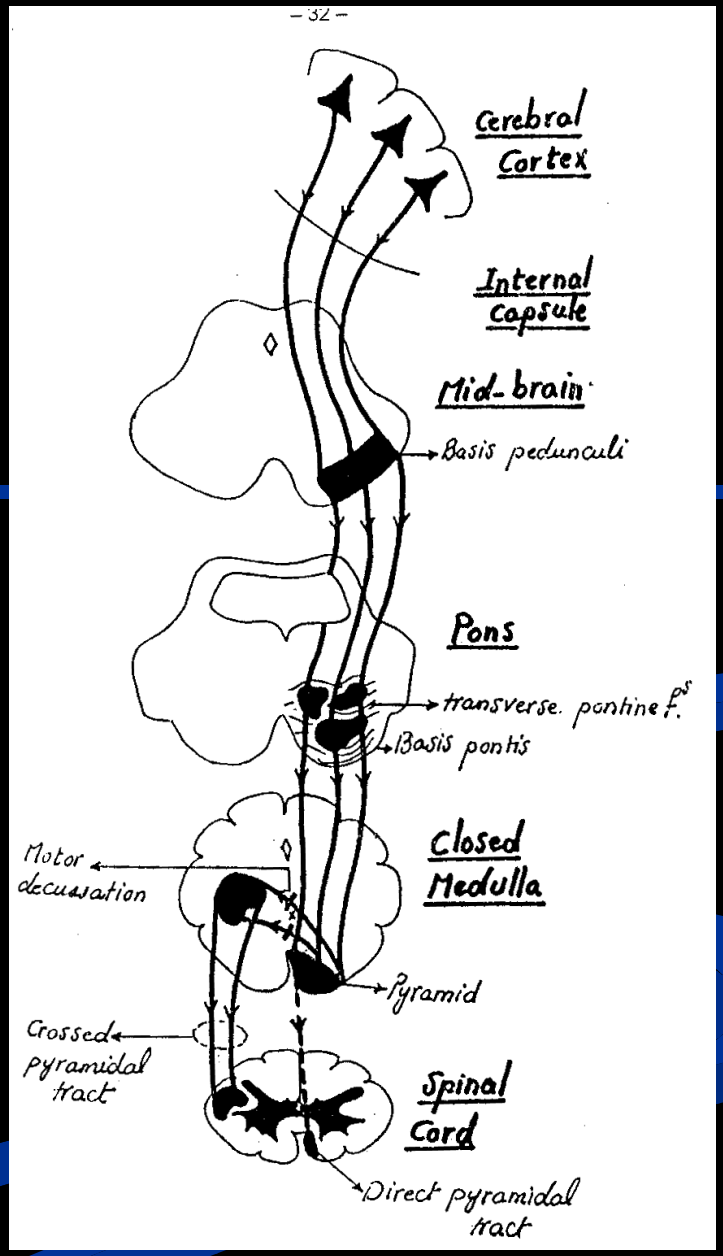

Descending Motor Tracts
Pyramidal
1-Crossed
2- Direct
Extra Pyramidal
3- Rubrospinal
4- Olivospinal
5- Sulcomarginal
6- Lateral Reticulospinal
7- Lateral tectospinal
8 – Lateral vestibulospinal
9- Ventral reticulospinal
10- Ventral tectospinal
11- Ventral vestibulospinal

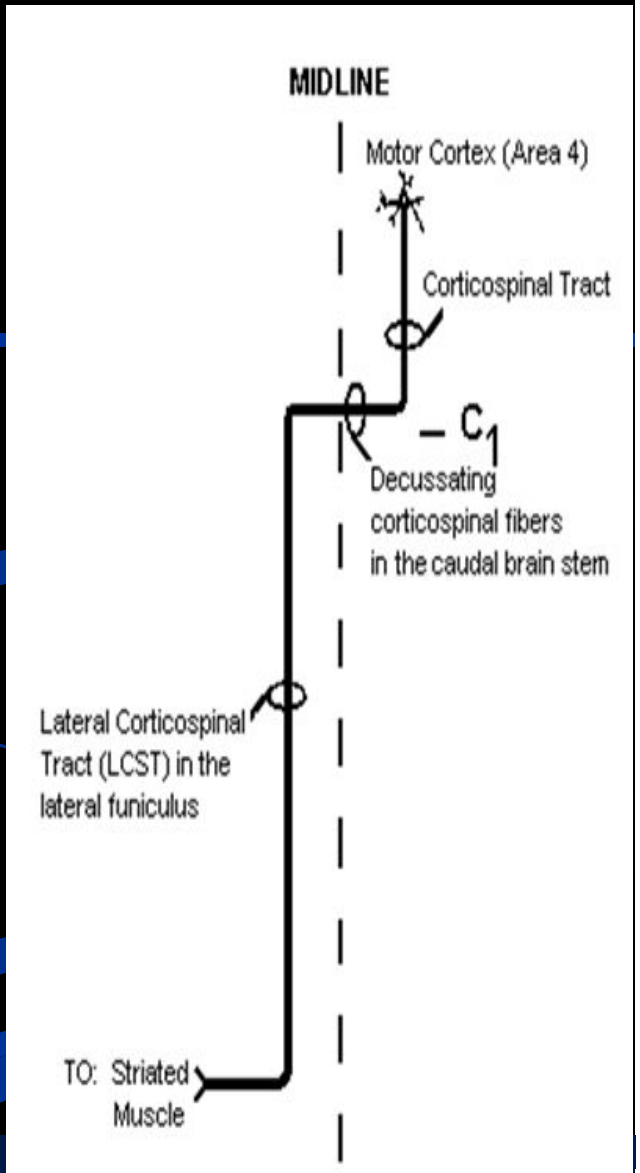

Closed medulla
Pyramid
Motor decussation
Direct corticospinal tract
Crossed corticospinal tract
Spinal cord, cervical




Cerebral Cortex
Internal Capsule
Mid-brain
Basis pedunculi
Pons
transverse pontine fs.
Basis pontis
Closed Medulla
Motor decussation
Pyramid
Crossed pyramidal tract
Spinal Cord
Direct pyramidal tract

A- Corticospinal Tract

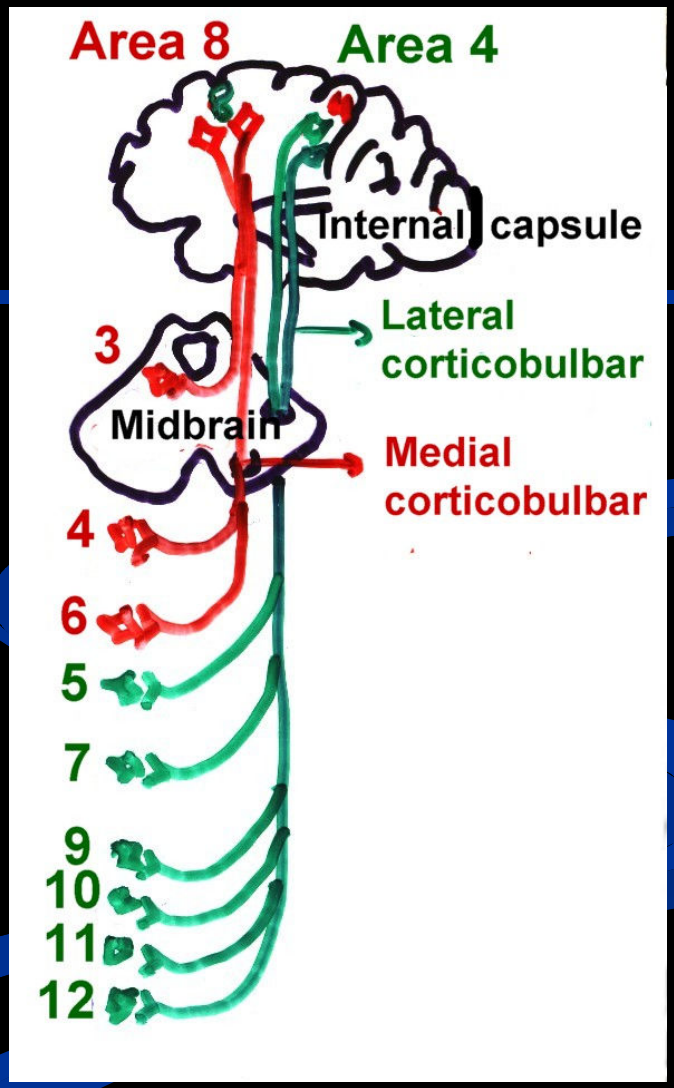
- Origin : Pyramidal Betz cells in upper 2/3 of area 4 (Precentral gyrus)
- Internal capsule : genu & anterior 2/3 of posterior limb
- Basis pedunculi of midbrain
- Basis pontis
- Closed medulla : pyramidal decussation
- 85 % of fibers form crossed pyramidal tract
- 15 % descend as direct pyramidal tract then they cross in the lower thoracic region



B- Corticobulbar tract

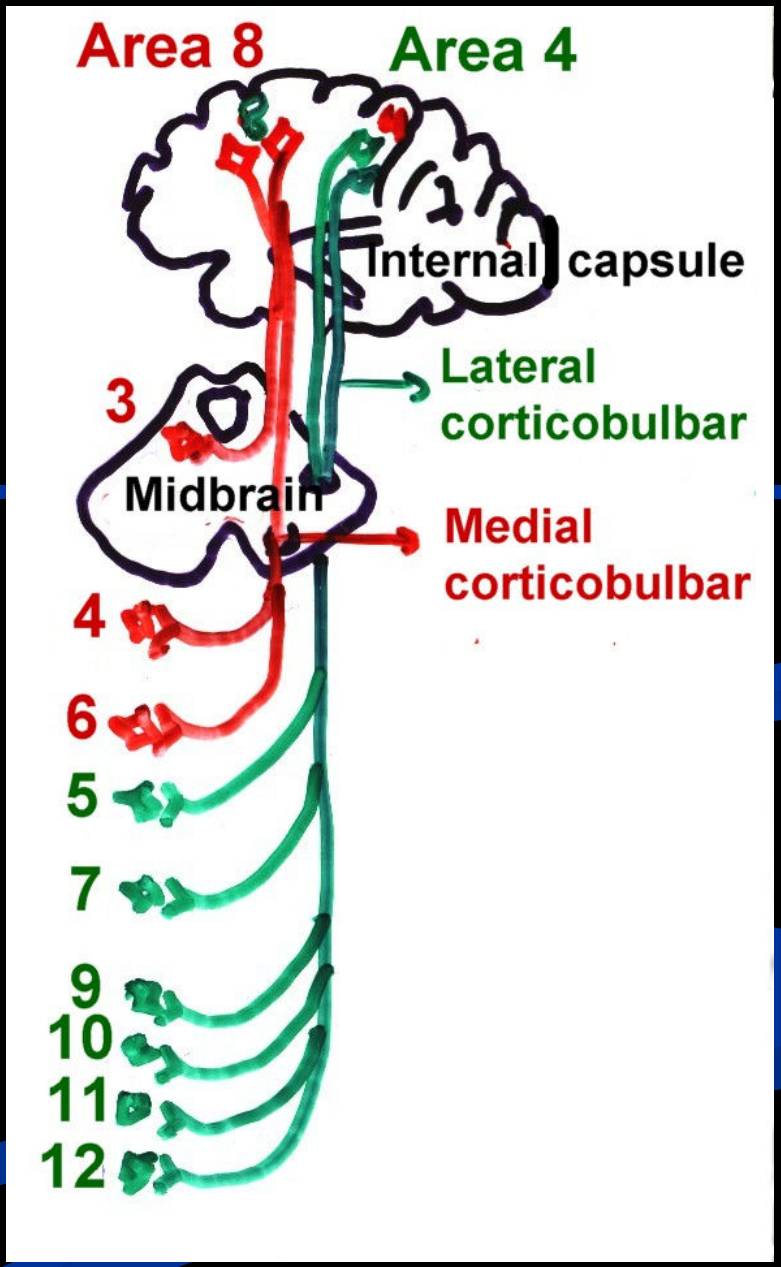
1- Medial corticobulbar

- Origin : area 8 (motor eye field) in frontal lobe
- Descends in genu of in internal capsule
- Descend in basis pedunculi
- Ends in cranial nuclei of cranial nerves 3 , 4 , 6



2- Lateral corticobulbar

- Origin : lower 1/3 of area 4
- Genu of internal capsule
- basis pedunculi of midbrain
- Ends in cranial nerve nuclei 5 , 7 , 9 , 10 , 11 & 12 of the opposite side

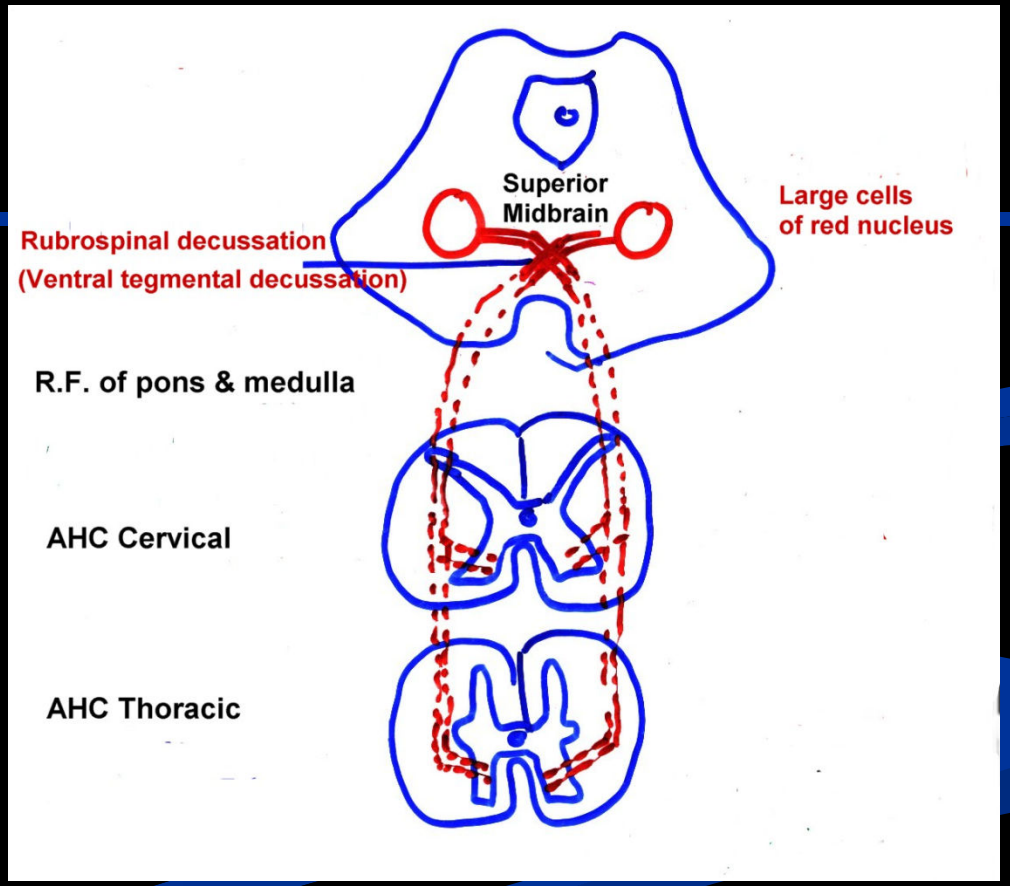


The Extra Pyramidal tracts

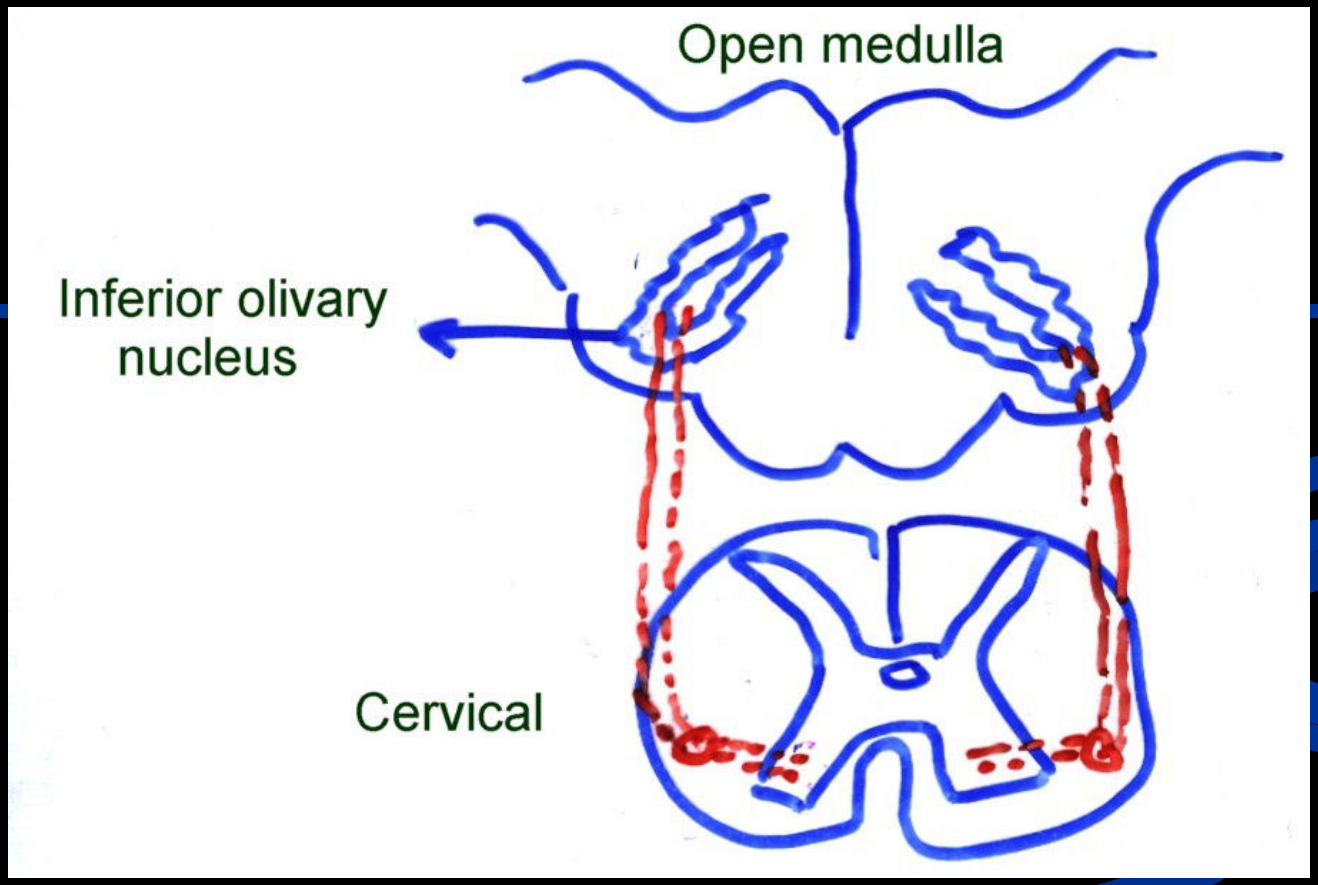
- Descending motor tracts not passing through pyramids of medulla
- Some arise from premotor areas of cortex
- They terminate in nuclei of the brain stem
- Others arise from nuclei in brain stem (Midbrain , pons & medulla)
- They terminate in the anterior horn cells of the spinal cord

3 - Rubro spinal tract (Crossed)

- It lies in the lateral funiculus of the SC ventral in position to the crossed pyramidal tract **Abscent in lumbosacral segmens**
- Function : Relays extra pyramidal impulses from premotor area
- It may be regulatory to muscle tone



4 - Olivo spinal tract (Direct)



- It is small in size & superficial in position

5 - The sulcomarginal tract (Direct)

- Long descending tract
- Continuation of MLB (associative tract in the brain stem)
- Present in all segments of the spinal cord
- The MLB has an important function related to the vestibular apparatus

6- Lateral reticulospinal (Crossed)
9- Ventral reticulospinal (Direct)

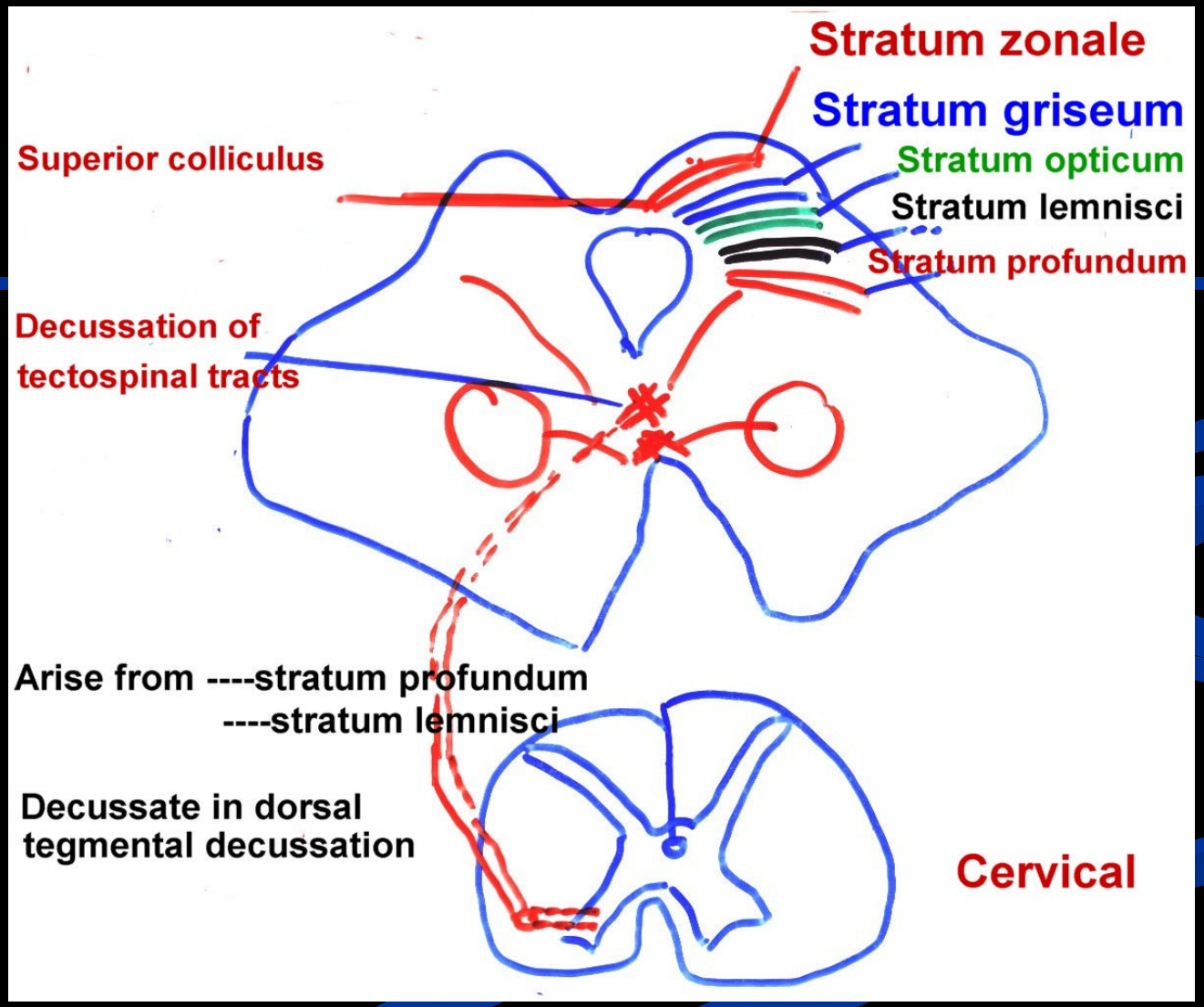
- Arise from cells of reticular formation in the brain stem (Midbrain , pons & medulla)
- Both terminate in the AHCs & sympathetic nerve cells in lateral horns

Functions :

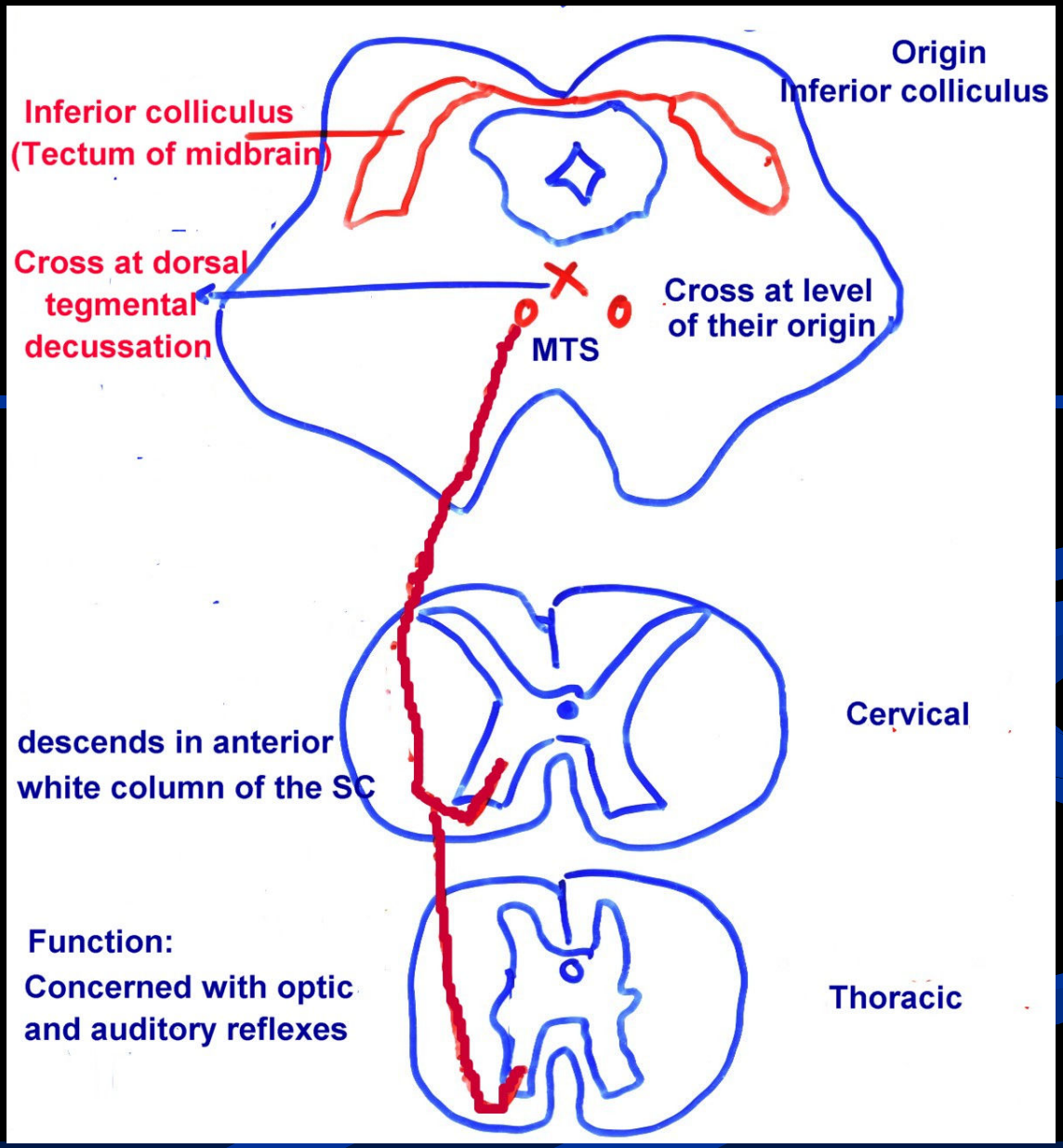
1- Motor impulses from higher centers to the AHCs.

2- Autonomic impulses from higher centers to spinal cord

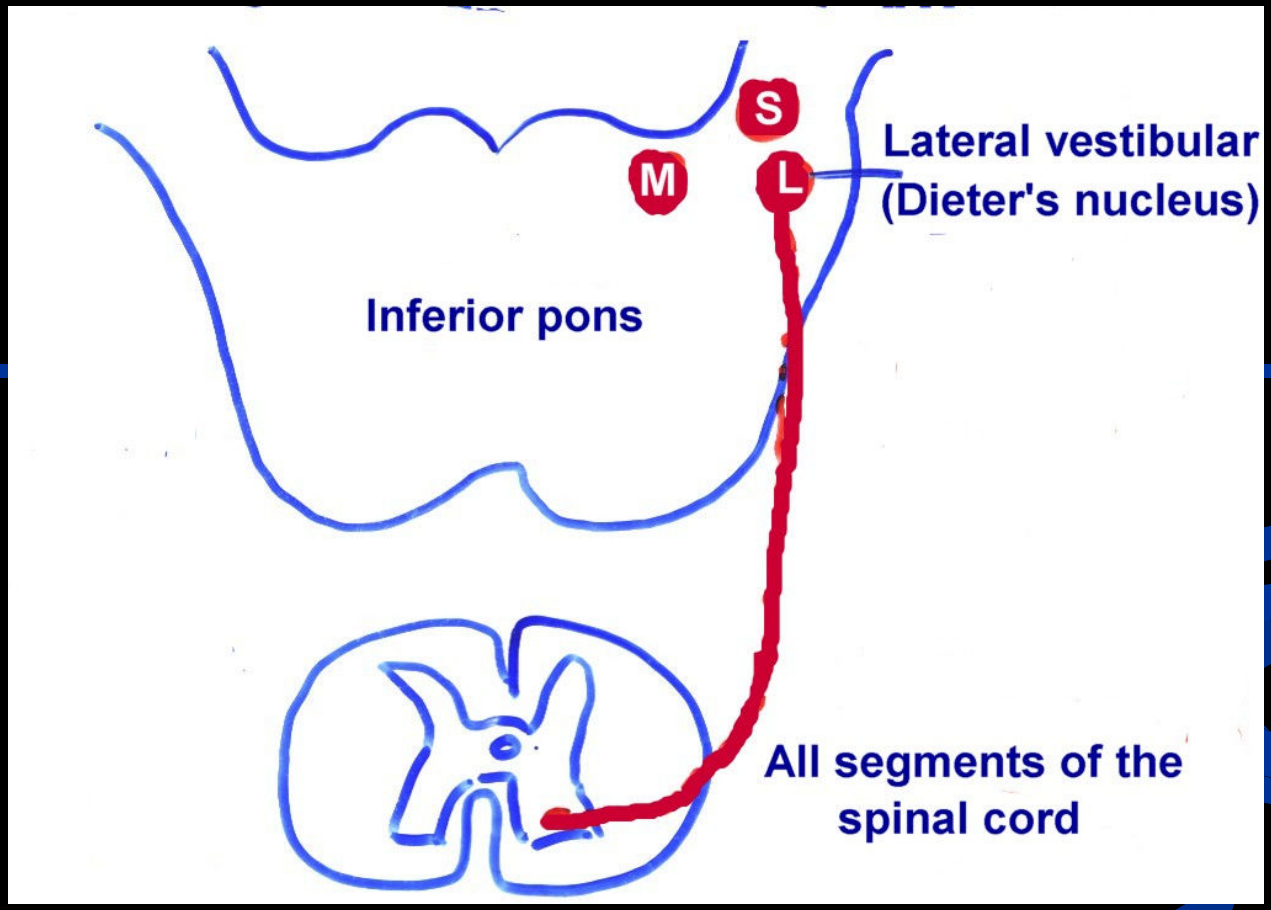
7- Lateral tectospinal (Crossed)



10- Ventral Tectospinal (Crossed)

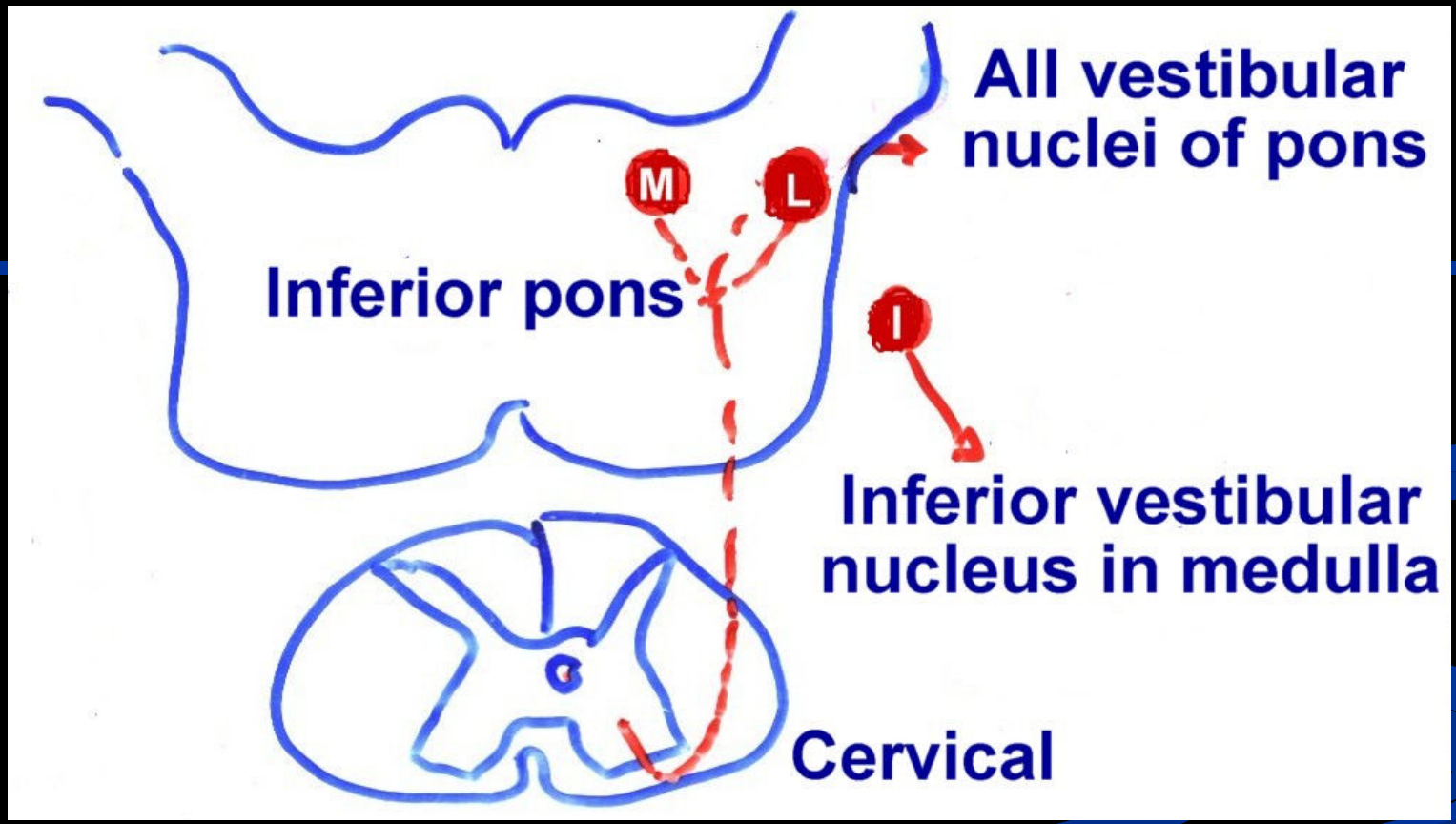


8- Lateral Vestibulospinal (Direct)



- They carry impulses from vestibular nuclei which receive orders from cerebellum to coordinate action of muscles

11- Ventral vestibulospinal tract (Direct)



- This coordination supports body against gravity & keep body in upright position

Functions of Extrapyramidal tracts

- Some are facilitatory to motor movements
- Others are inhibitory
- Responsible for gross movement to maintain posture & equilibrium of the body