

NERVOUS BLOCK

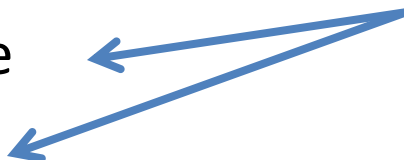
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AFFERENT CRANIAL NERVE NUCLEI

- General Somatic Afferent** (General sensation from the FACE):
 - **Mesencephalic Nucleus** of **5th** for proprioception
 - **Main sensory Nucleus** of **5th** for touch
 - **Spinal Nucleus** of **5th** for pain & temperature
- General Visceral Afferent** (sensation from the VISCERA):
 - **Nucleus Solitarius (Solitary Nucleus)**: receives fibers from viscera along **9th** & **10th**
- Special Somatic Afferent**:
 - **Cochlear Nuclei**: receive fibers from **8th**
 - **Vestibular Nuclei**: receive fibers from **8th**
- Special Visceral Afferent**:
 - **Nucleus solitarius (Solitary Nucleus)**: receives **taste** fibers from tongue along **7th** & **9th**

EFFERENT CRANIAL NERVE NUCLEI

1. General Somatic Efferent (to muscles derived from MYOTOMES):

- **Occulomotor Nucleus** of **3rd** to extraocular muscles **EXCEPT**
 - **Trochlear Nucleus** of **4th** to Superior Oblique
 - **Abducent Nucleus** of **6th** to Lateral Rectus
 - **Hypoglossal Nucleus** of **12th** to muscles of tongue **EXCEPT**
PALATOGLOSSUS
- 

2. General Visceral Efferent (PARASYMPATHETIC):

- **Edinger Westphal Nucleus** of **3rd** to sphincter pupillae & ciliary muscles
- **Superior Salivatory Nucleus** of **7th** to submandibular & sublingual salivary glands + lacrimal, nasal & palatine glands.
- **Inferior Salivatory Nucleus** of **9th** : to parotid salivary gland
- **Dorsal Motor Nucleus** of **10th** : to thoracic & abdominal viscera

EFFERENT CRANIAL NERVE NUCLEI

3. Special Visceral Efferent (to muscles derived from BRANCHIAL ARCHES):

- **Motor Nucleus of 5th** to muscles derived from **1st** branchial arch: muscles of mastication,
- **Motor Nucleus of 7th** to muscles derived from **2nd** branchial arch: muscles of face,
- **Nucleus Ambiguus:**
 1. Along **9th** :to muscles derived from **3rd** arch: stylopharyngeus
 2. Along **10th** & **cranial part of 11th** : to muscles derived from **4th** & **6th** arches: laryngeal + pharyngeal muscles EXCEPT stylopharyngeus + Palatine muscles **EXCEPT** Tensor palati

MIXED CRANIAL NERVES

□ TRIGEMINAL

- **Sensory nuclei: mesencephalic, main sensory & spinal:** general sensation from face.
- **Motor nucleus of trigeminal:** to muscles derived from 1st branchial arch: muscles of mastication,

□ FACIAL

- **Nucleus Solitarius:** taste fibers from anterior 2/3 of tongue
- **Superior Salivatory nucleus:** secretory fibers to submandibular & sublingual salivary glands + lacrimal, nasal & palatine glands.
- **Motor Nucleus of facial:** to muscles derived from 2nd branchial arch: muscles of face,

MIXED CRANIAL NERVES

□ GLOSSOPHARYNGEAL

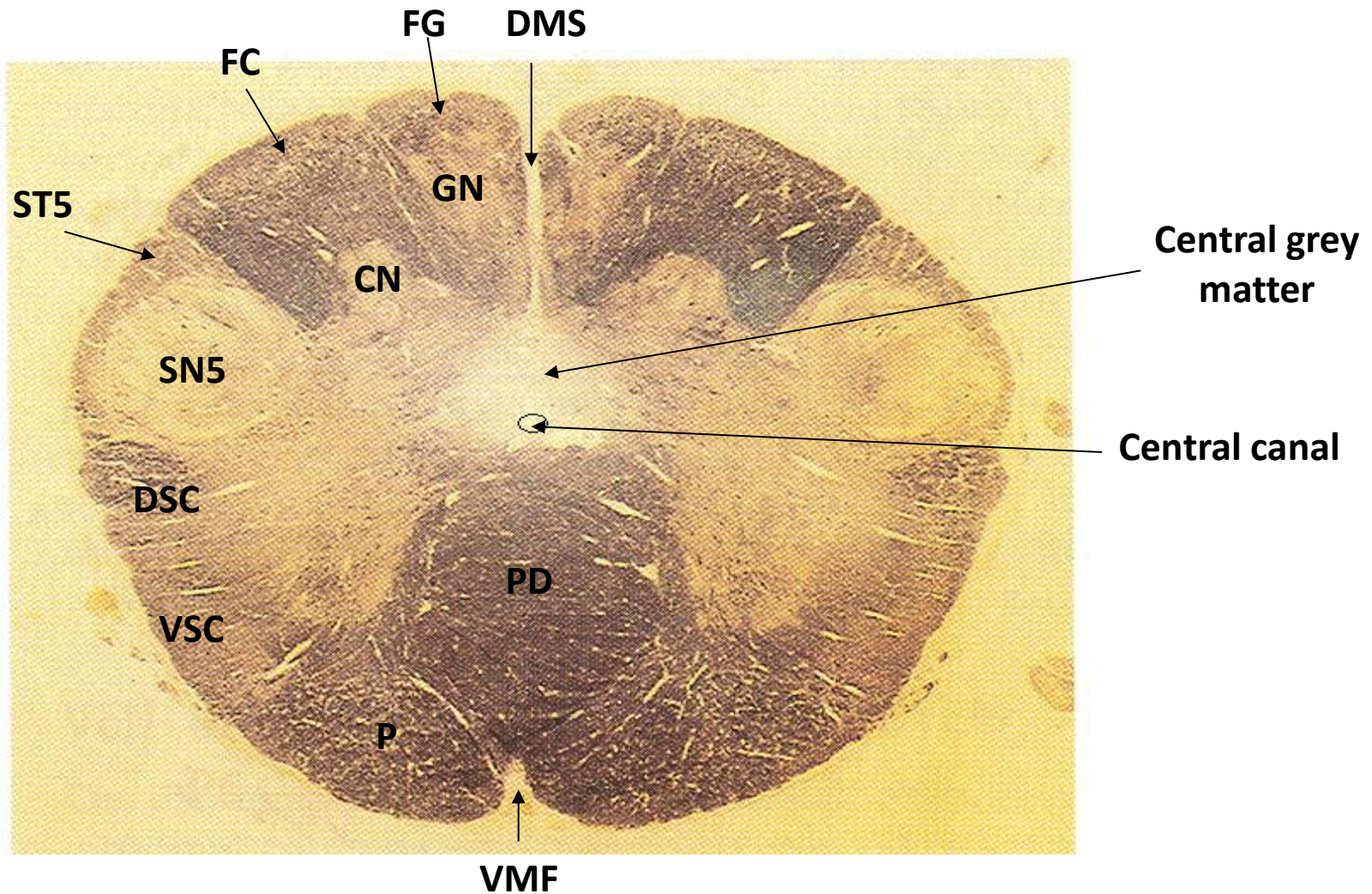
- **Nucleus Solitarius:** sensory fibers from **pharynx & tonsils** and taste fibers from **posterior 1/3 of tongue**
- **Inferior salivatory Nucleus:** secretory fibers to **parotid gland**
- **Nucleus Ambiguus:** motor fibers to muscles derived from **3rd arch: stylopharyngeus**

□ VAGUS

- **Nucleus Solitarius:** sensory fibers from **thoracic & abdominal viscera**
- **Dorsal Motor Nucleus:** motor fibers to **thoracic & abdominal viscera**
- **Nucleus Ambiguus:** motor fibers to muscles derived from **4th & 6th arches: laryngeal + pharyngeal muscles EXCEPT stylopharyngeus + Palatine muscles EXCEPT Tensor palati**

CAUDAL MEDULLA

(LEVEL OF PYRAMIDAL DECUSATION)



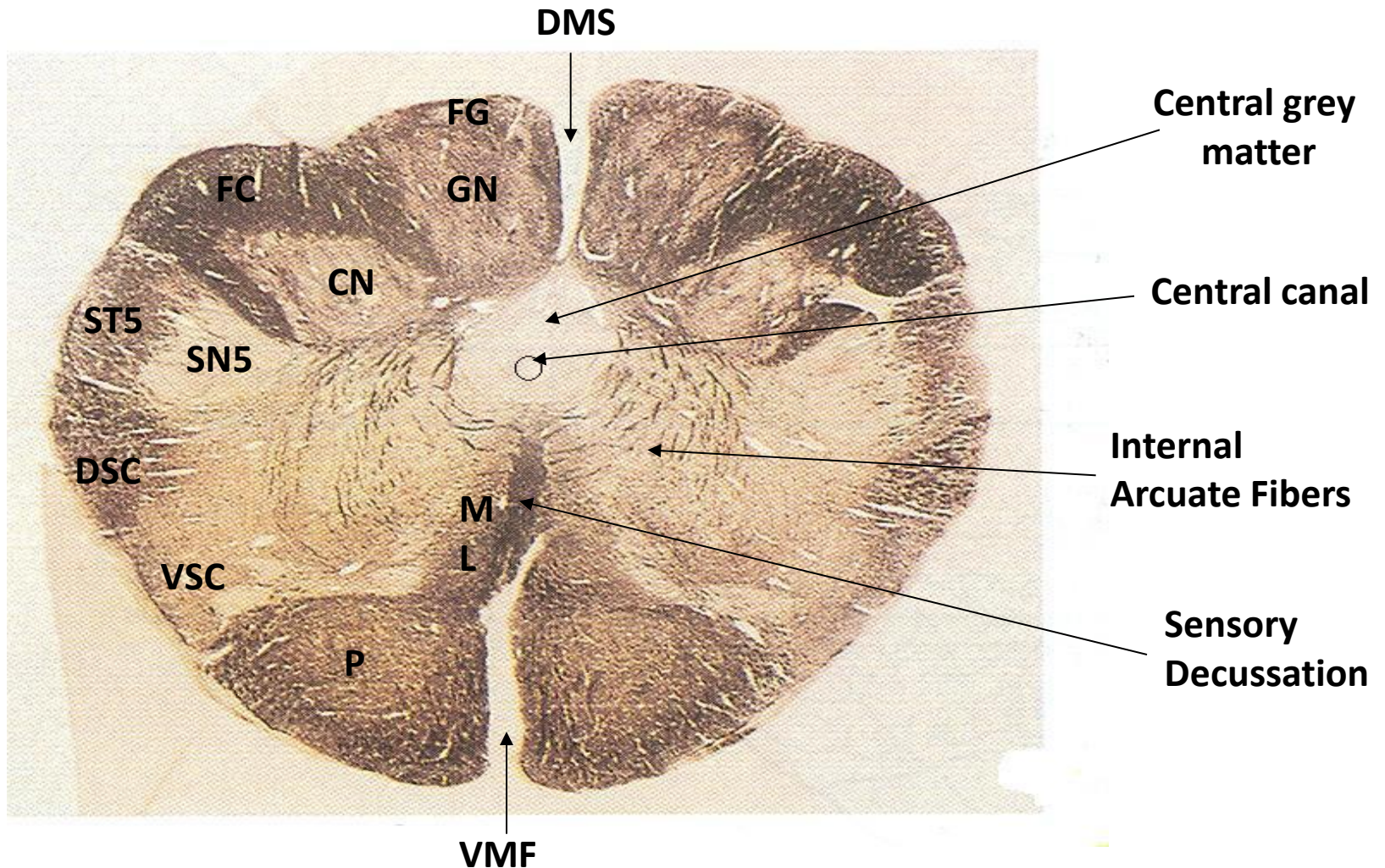
CAUDAL MEDULLA

(LEVEL OF PYRAMIDAL DECUSATION)

- **DMS: Dorsal median sulcus**
- **FG: fasciculus gracilis**
- **GN: Gracile nucleus**
- **FC: Fasciculus cuneatus**
- **CN: Cuneate nucleus**
- **SN5: Spinal nucleus of trigeminal nerve**
- **ST5: Spinal tract of trigeminal nerve**
- **P: Pyramid**
- **PD: Pyramidal decussation**
- **DSC: Dorsal spinocerebellar tract**
- **VSC: Ventral spinocerebellar tract**
- **VMF: Ventral median fissure**

MID MEDULLA

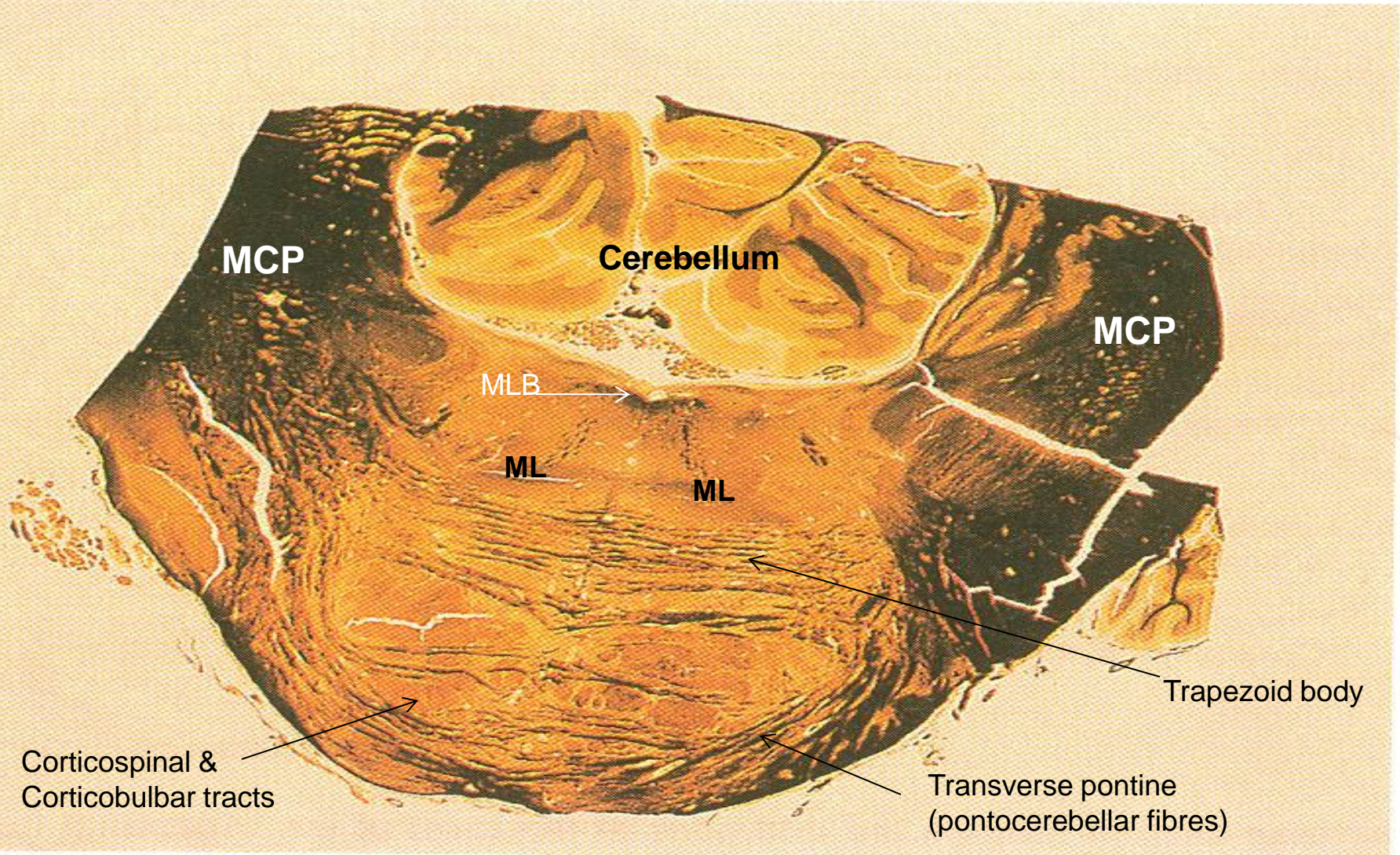
(LEVEL OF SENSORY DECUSSATION)



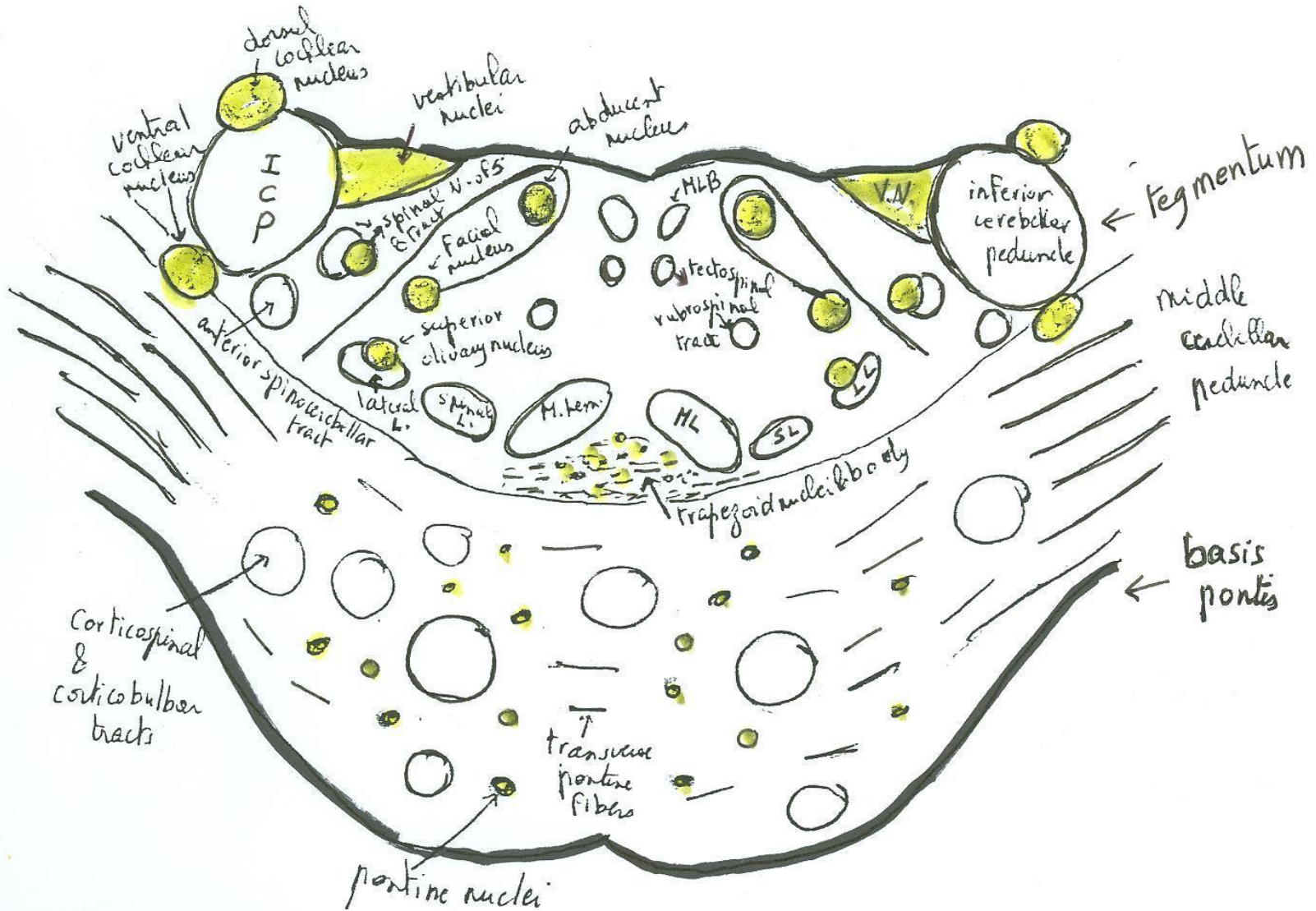
ROSTRAL MEDULLA

- **H: Hypoglossal nucleus**
- **V: Dorsal vagal nucleus**
- **S: Nucleus solitarius**
- **A: nucleus ambiguus**
- **MV: Medial vestibular nucleus**
- **LV: Lateral vestibular nucleus**
- **DCN: Dorsal cochlear nucleus**
- **VCN: Ventral cochlear nucleus**
- **ICP: Inferior cerebellar peduncle**
- **I.O.: Inferior olive**
- **D: Dorsal accessory olive**
- **M: Medial accessory olive**
- **MLF: Medial longitudinal fasciculus**
- **ML: Medial lemniscus**
- **P: Pyramid**
- **VMF: Ventral median fissure**

CAUDAL PONS LEVEL OF FACIAL COLLICULUS

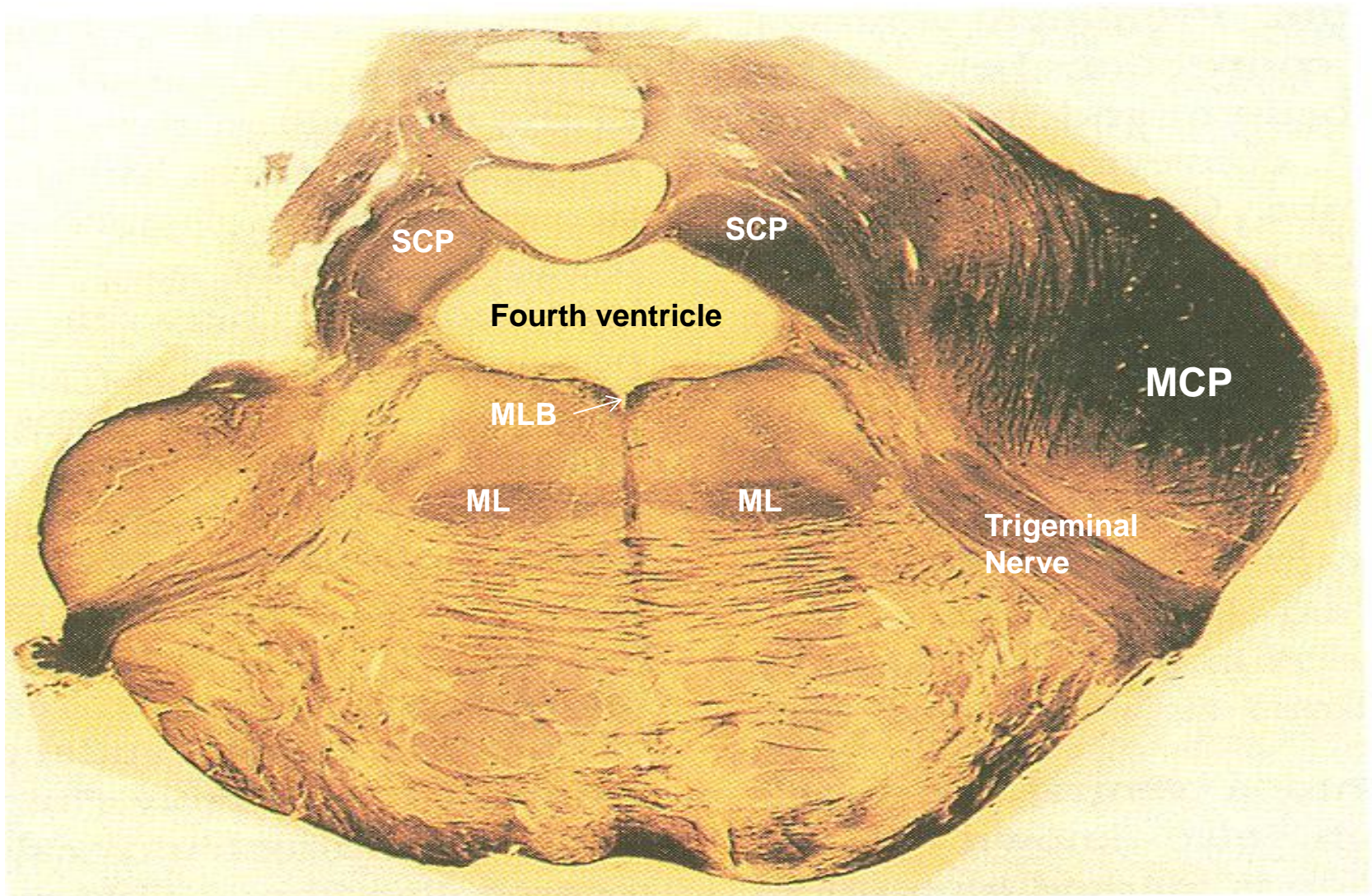


CAUDAL PONS: LEVEL OF FACIAL COLLICULUS

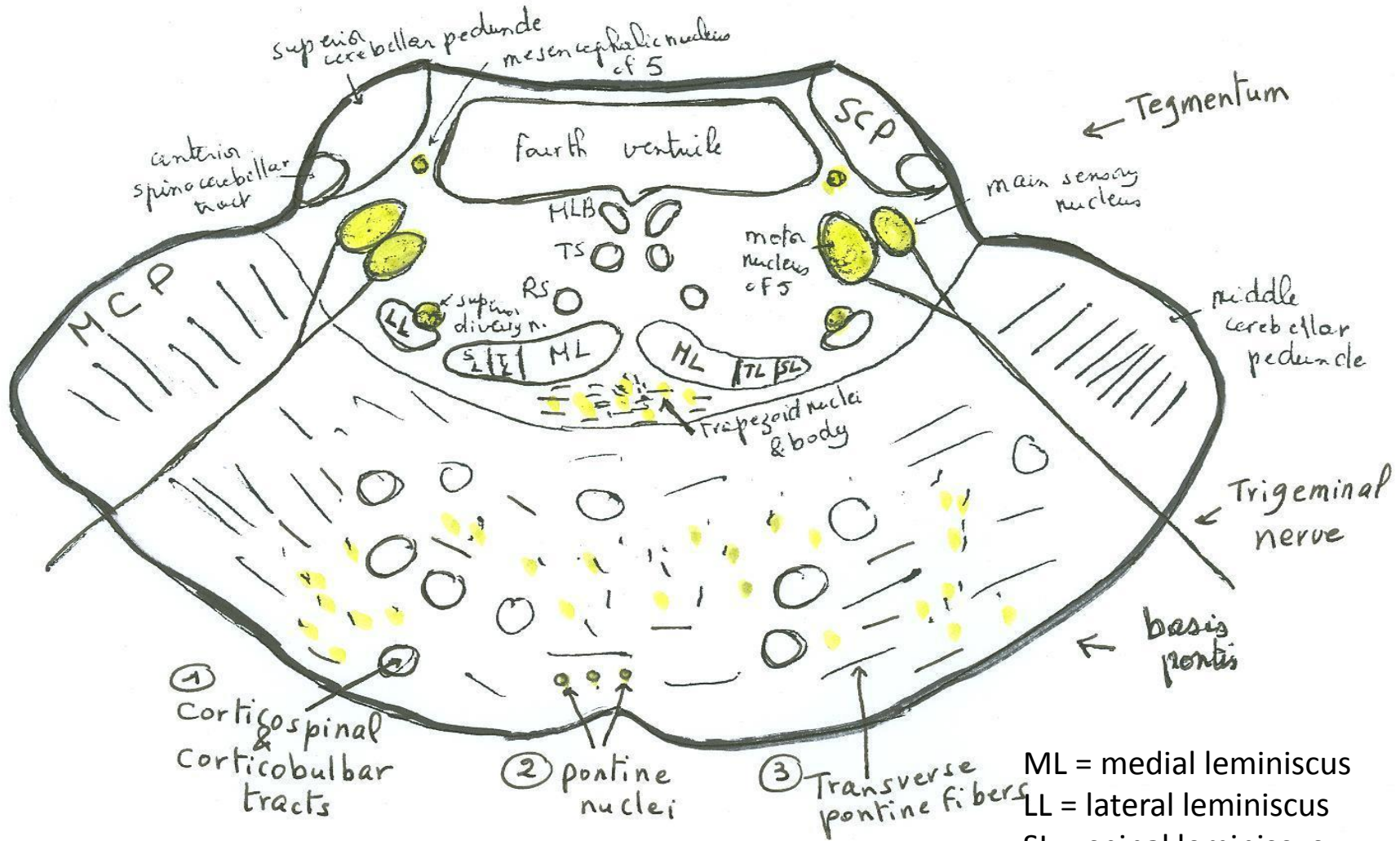


MIDPONS

LEVEL OF TRIGEMINAL NUCLEI

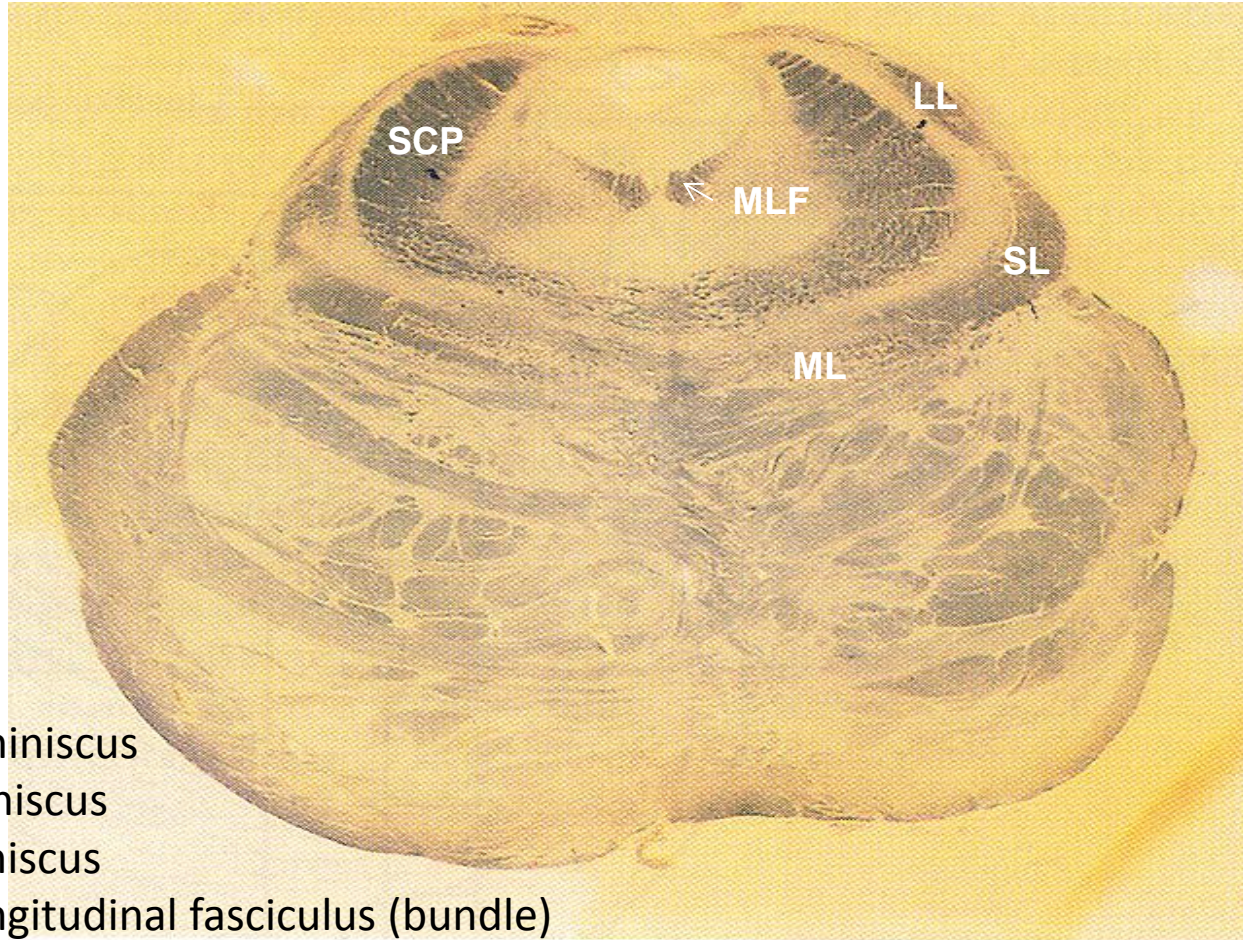


MIDPONS: LEVEL OF TRIGEMINAL NUCLEI



ML = medial lemniscus
 LL = lateral lemniscus
 SL = spinal lemniscus
 MLB: medial longitudinal bundle
 TS = tectospinal. Rs = rubrospinal

ROSTRAL PONS



ML = medial lemniscus

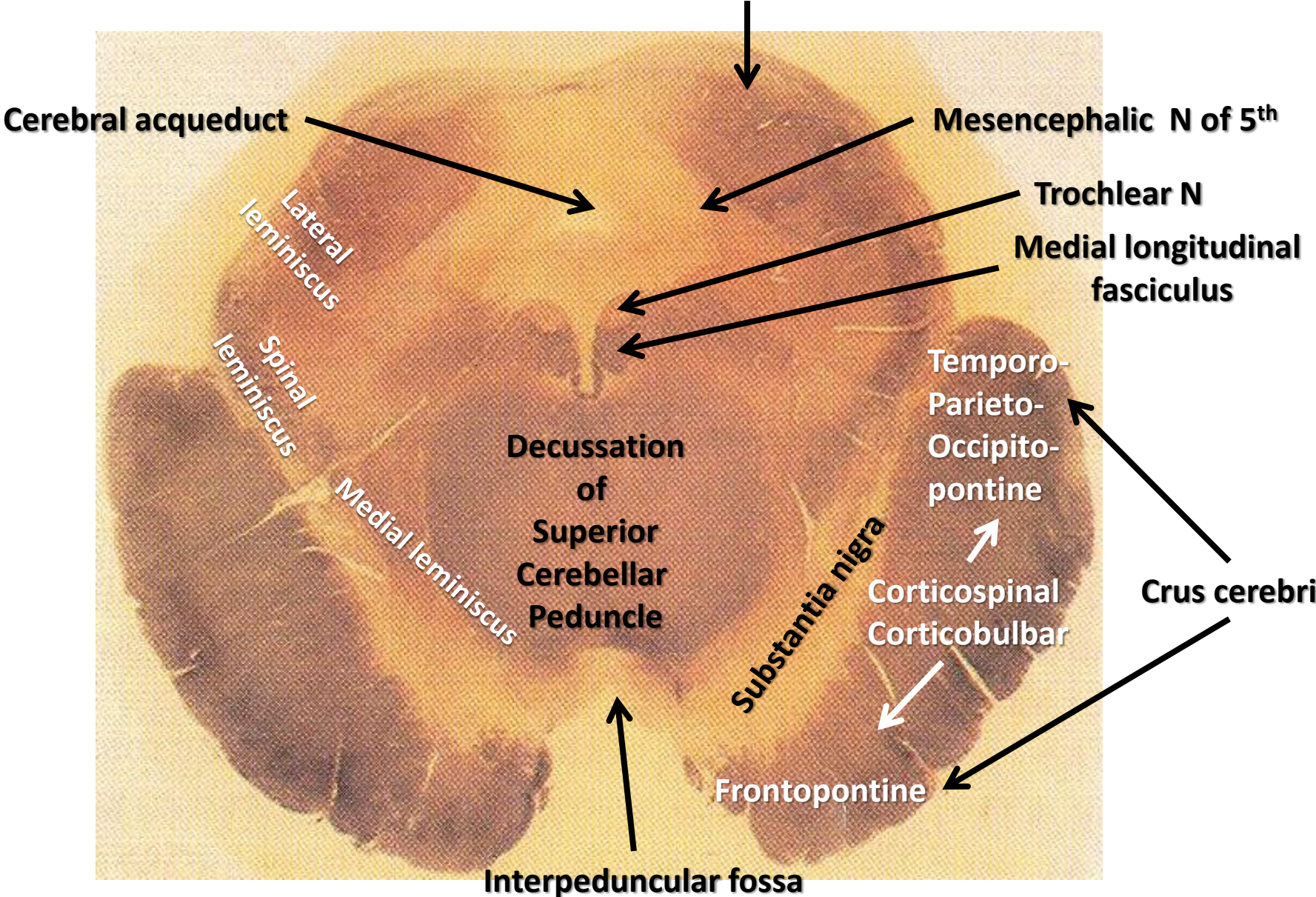
LL = lateral lemniscus

SL = spinal lemniscus

MLF= medial longitudinal fasciculus (bundle)

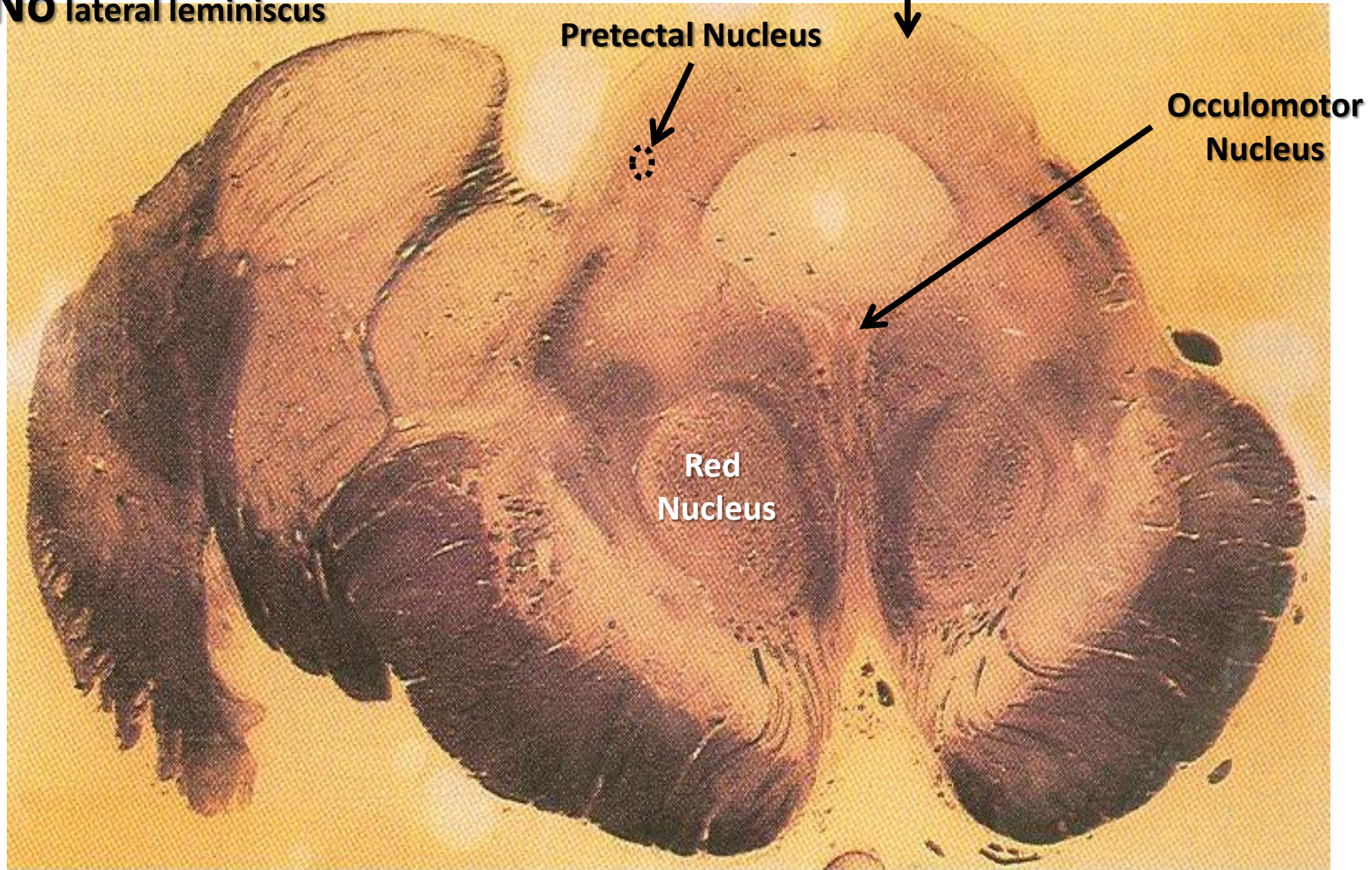
SCP = superior cerebellar peduncle

MIDBRAIN – LEVEL OF INFERIOR COLLICULUS



MIDBRAIN – LEVEL OF SUPERIOR COLLICULUS

No lateral lemniscus



TRACTS

□ LOCATION IN SPINAL CORD:

- **All Ascending tracts lie in lateral white column
EXCEPT:**
 1. **Dorsal column (gracile & cuneate) in dorsal (posterior) white column**
 2. **Ventral (anterior) spinothalamic in ventral (anterior) white column**
- **All Descending tracts lie in anterior white column
EXCEPT:**
 - Lateral corticospinal & rubrospinal in lateral white column**

TRACTS

□ NEURONS:

- In all ascending tracts: 1st order neurons are the same: cells of dorsal root ganglia
- In dorsal column & spinothalamic tracts: 3rd order neurons are also the same: cells PVLNT
- In all ascending tracts: 2nd order neurons are present in the spinal cord EXCEPT in case of gracile & cuneate tracts (in medulla).
- In all descending tracts: the termination is the same: cells of anterior horn of spinal cord.

NERVES

- Origin
- Important parts in the course
- Supply
- Lesions

GOOD LUCK