

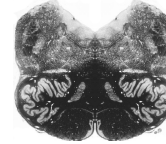
Neuroanatomy: Brainstem Cross sections

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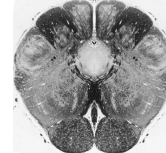
Dr. Craig Goodmurphy
Anatomy Guy

Medulla

Rostral



Caudal

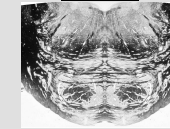


Pons

Middle

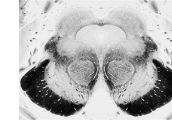


Caudal

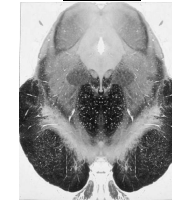


Midbrain

Rostral



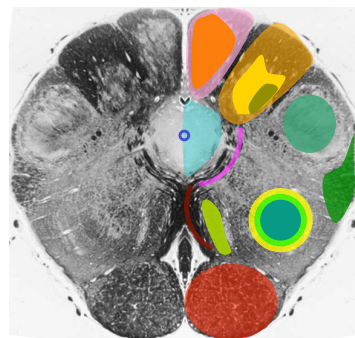
Caudal



Review

- Corticospinal tract
- Decussation of pyramids
- Internal arcuate fibers
- Gracile fasciculus
- Nucleus gracilis
- Cuneate fasciculus
- Nucleus cuneatus
- Accessory cuneate nucleus
- Medial lemniscus
- Spinothalamic tract (ALQ)
- Spinocerebellar tract
- Spinal trigeminal tract and nucleus (STT/n)
- Depressor area
- Anterior respiratory group
- Pericentral grey
- Central canal

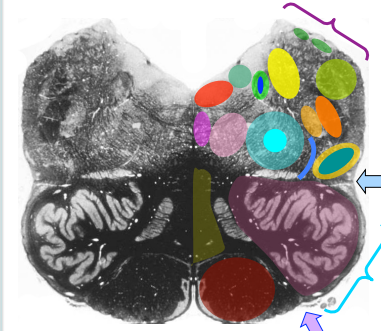
Caudal Medulla



Review

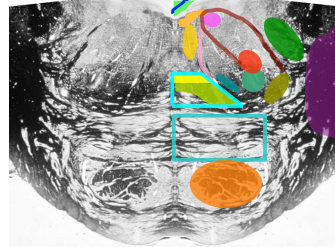
- CN XII nucleus
- Corticospinal tract
- Medial longitudinal fasciculus (MLF)
- Medullary motor area (MMA)
- Spinal trigeminal tract
- Spinal trigeminal nucleus
- Spinothalamic tract (ALQ)
- Medial lemniscus
- Spinocuneocerebellar fibers
- Vestibular complex
- Dorsal & ventral cochlear nerves
- Dorsal vagal nerve
- Solitary tract & nucleus
- Ambiguous nucleus
- Descending ANS control
- Pressor area
- Post. Respiratory group
- Lateral aperture
- Olivocerebellar fibers
- Inferior olivary nucleus
- Olive
- Post-olivary fissure
- Pre-olivary fissure

Rostral Medulla

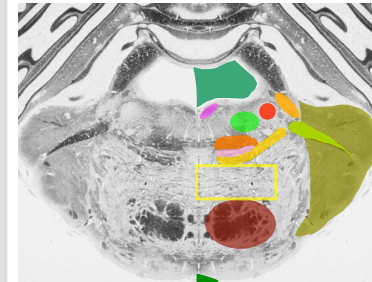


Review

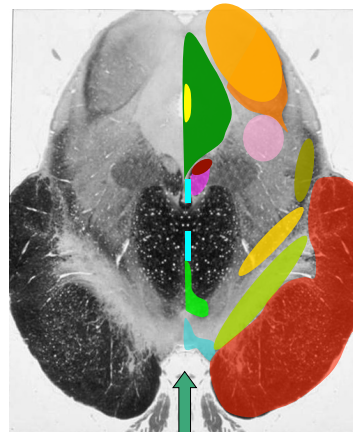
- CN VII motor nucleus
- CN VII axons
- CN VI nucleus
- CN VI axons
- Pyramidal system (corticospinal)
- MLF & PPRF (lateral gaze center)
- Pontine motor area (PMA) & median pontine reticular formation (MPRF)
- Spinothalamic tract (ALQ)
- Medial lemniscus
- Trigeminal lemniscus
- Spinal trigeminal T/n
- Superior Olivary nucleus
- 4th Ventricle
- Ponto-cerebellar fibers
- Trapezoid body
- Central tegmental tract
- Facial colliculus
- Middle cerebellar peduncle

Caudal Pons**Review**

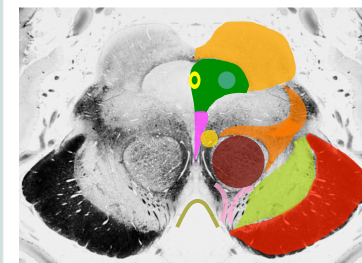
- CN V motor nucleus
- Pyramid (Corticospinal)
- Medial longitudinal fasciculus (MLF)
- Medial lemniscus
- Trigeminal lemniscus
- CN V principal sensory nucleus
- Spinothalamic tract (ALQ)
- Middle cerebellar peduncle
- CN V axons
- Pontocerebellar fibers
- Basilar groove
- 4th ventricle
- Central tegmental tract

Mid Pons**Review**

- Crus cerebri
- CN IV nucleus
- Medial longitudinal fasciculus
- Mesencephalic motor area aka: PPTN
- Lateral lemniscus
- Inferior colliculus
- Medial & trigeminal lemnisci
- Spinothalamic tract (ALQ)
- Substantia nigra
- Cerebral aqueduct
- Peri-aqueductal grey
- Inter-peduncular fossa
- Decussation of superior cerebellar peduncle
- Ventral tegmental area
- Dorsal & median raphe

Caudal Midbrain**Review**

- Crus cerebri
- Red nucleus
- CN III nucleus
- CN III axons
- Spinothalamic tract, medial and lateral lemnisci
- Superior colliculus
- Vertical gaze center and overlapping medial longitudinal fasciculus (MLF)
- Inter-peduncular fossa
- Substantia nigra
- Cerebral aqueduct
- Peri-aqueductal grey
- Enkephalin neurons

Rostral Midbrain

Pearls & Problems

- Don't ✓ Try to learn everything at once, break it down into manageable pieces.
- Do ✓ Build each section up in a way that works for you, either by modality: motor, sensory, etc., or in another manner that works for you.
- Don't ✓ FREAK OUT...you'll get it all down
- Do ✓ Start out easily, e.g. with structures alone, then start integrating a given structures function.