## **Brain Stem & Cranial Nerves**

Anatomy Practical (Part 1)

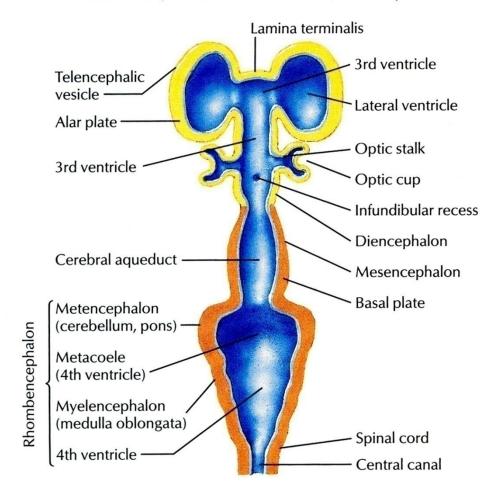
By Dr. Mohammed Alhefnawy
Anatomy Department
College of Medicine
King Saud University

## Development of Brain Stem

				Adult Derivatives	
		5 secondary vesicles		CNS	Ventricles
	3 primary vesicles - Forebrain - Midbrain - Hindbrain	Telencephalon		Cerebral hemispheres	Lateral ventricles
		Diencephalon —		Thalamus	Third ventricle
		- Mesencephalon —		Midbrain	Cerebral aqueduct
		Metencephalon —		Pons and cerebellum	Fourth
	− Spinal cord	`Myelencephalon —		Medulla	ventricle
	- Neural tube			Spinal cord	Central canal

#### Development of Brain Stem

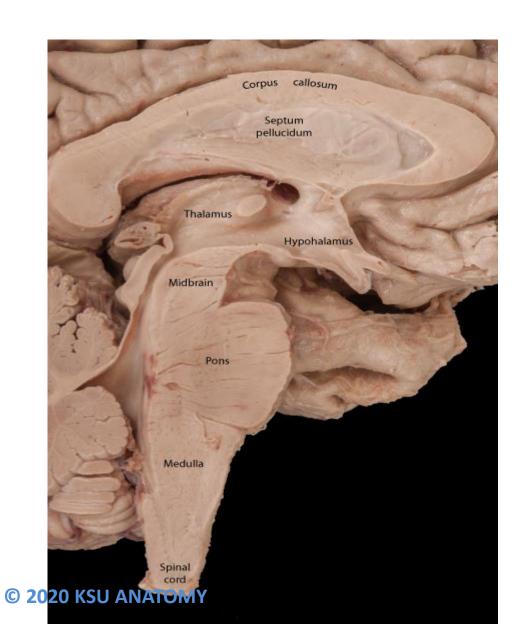
#### Frontal section (ventral to sulcus limitans) at 36 days



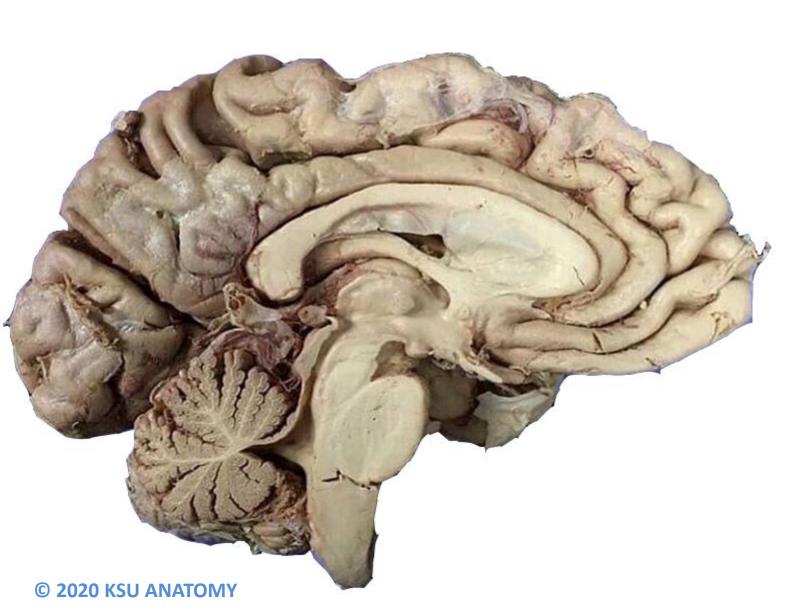
## **CNS** divisions Telencephalon Prosencephalon Mesencephalon Encephalon Pons\* ---Cerebellum (= Metencephalon) Rhombencephalon Medulia oblongata\* [Bulbus] (= Myelencephalon)

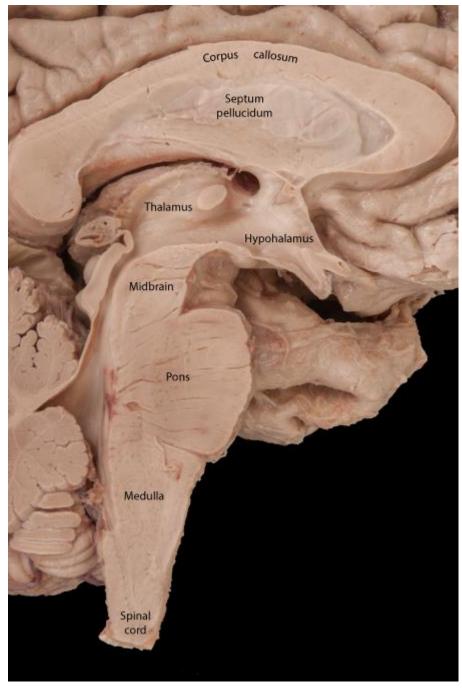
Medulia spinalis

#### **Brain Stem**

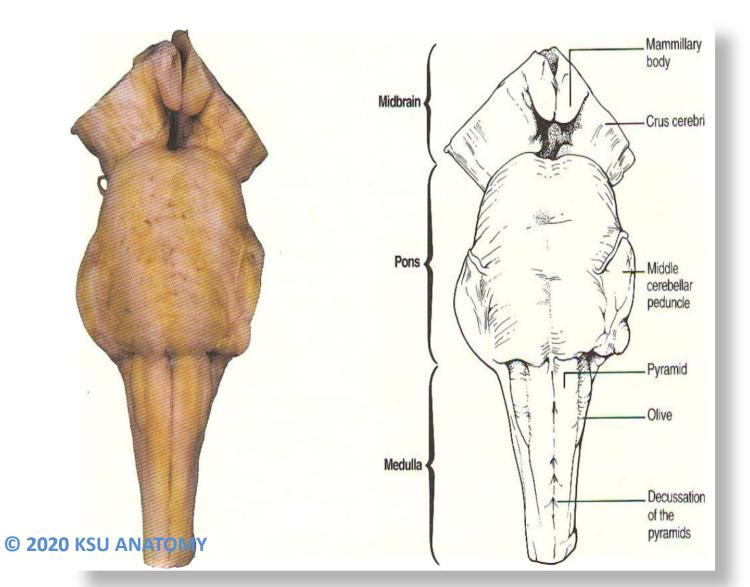


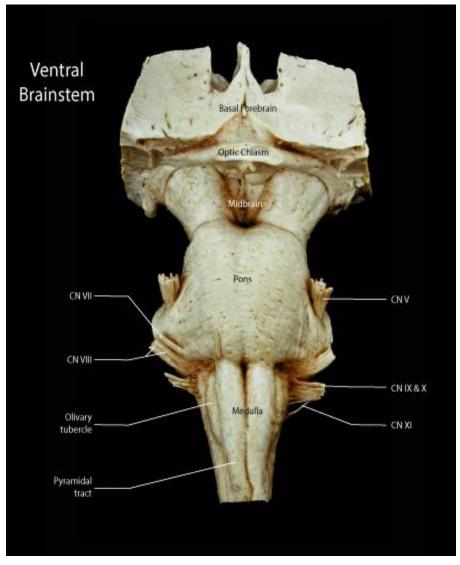




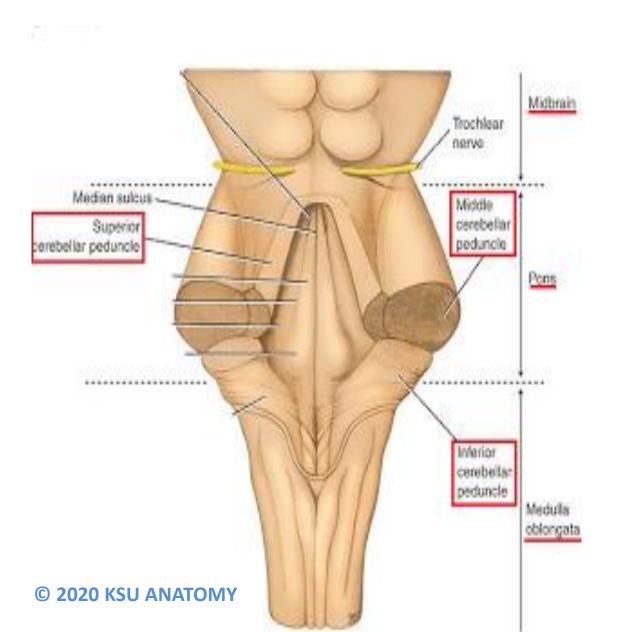


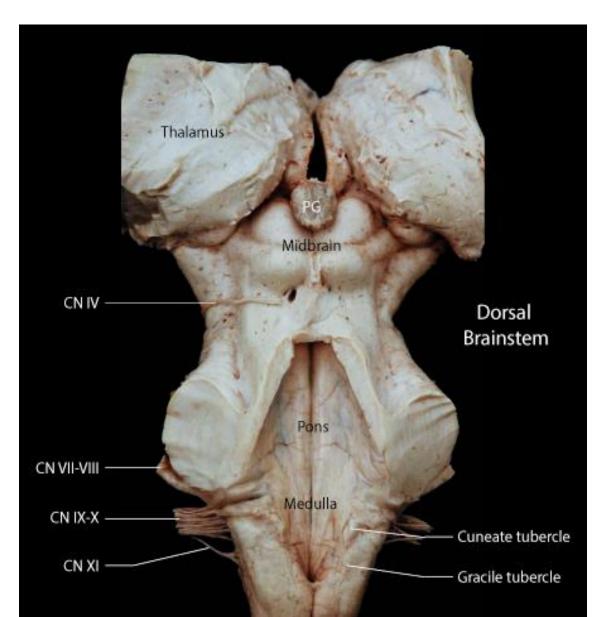
#### External Features of the Ventral Surface of the Brain Stem



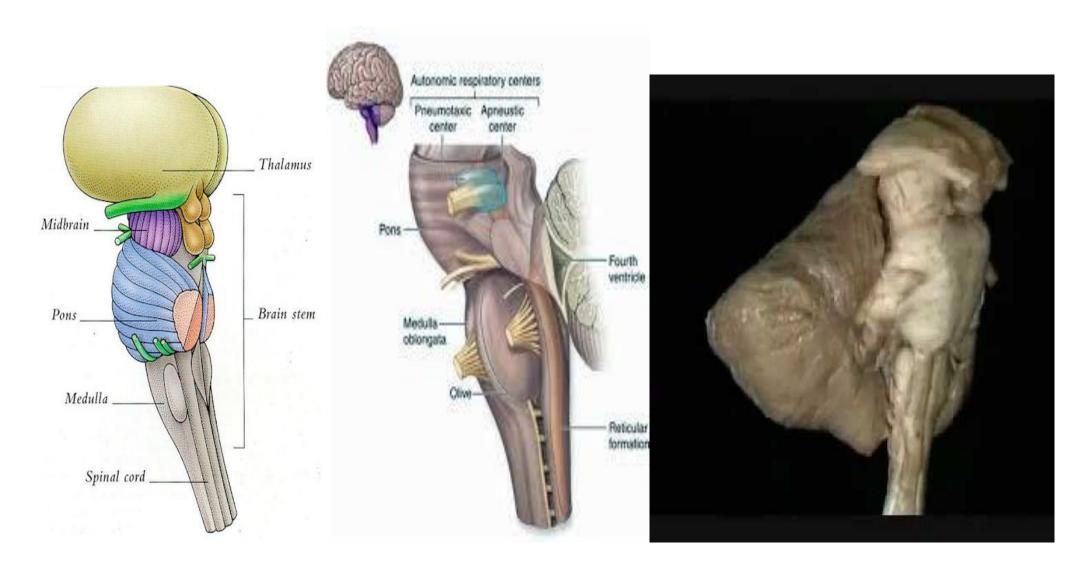


#### External Features of the Dorsal Surface of the Brain Stem

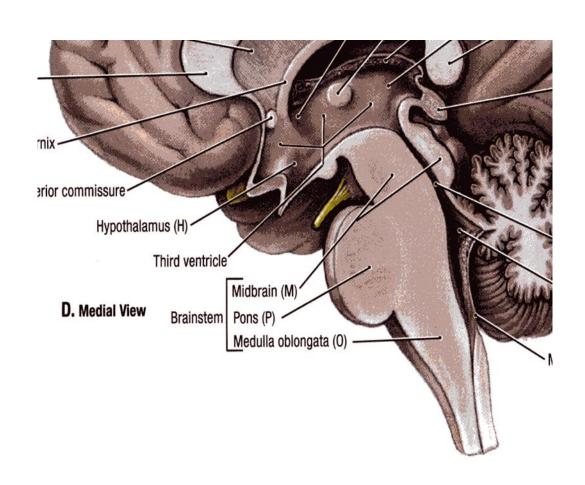


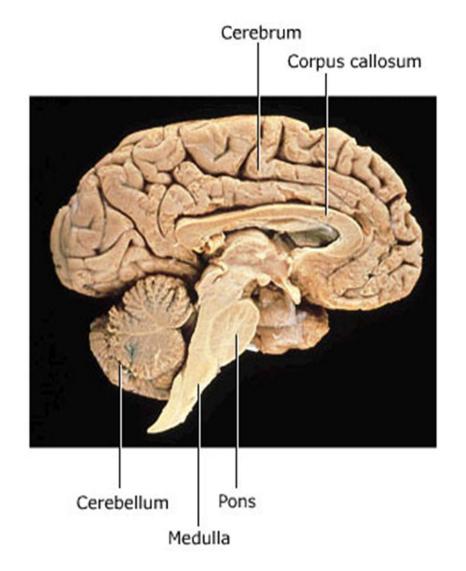


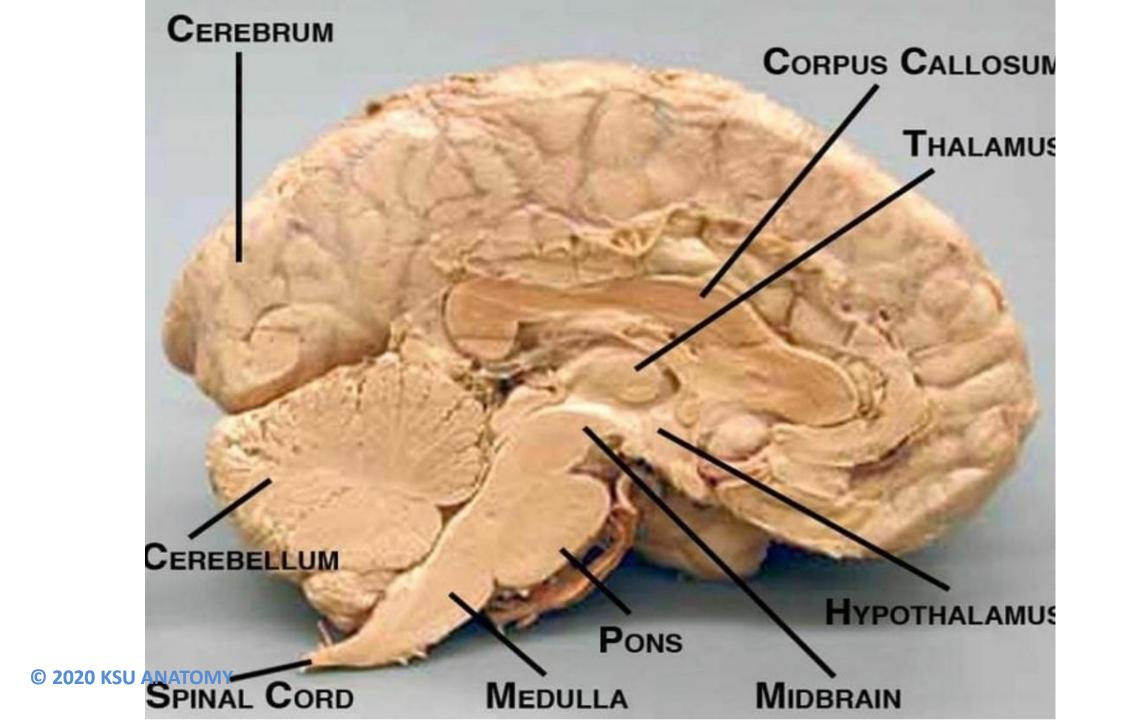
#### Lateral Surface of the Brain Stem

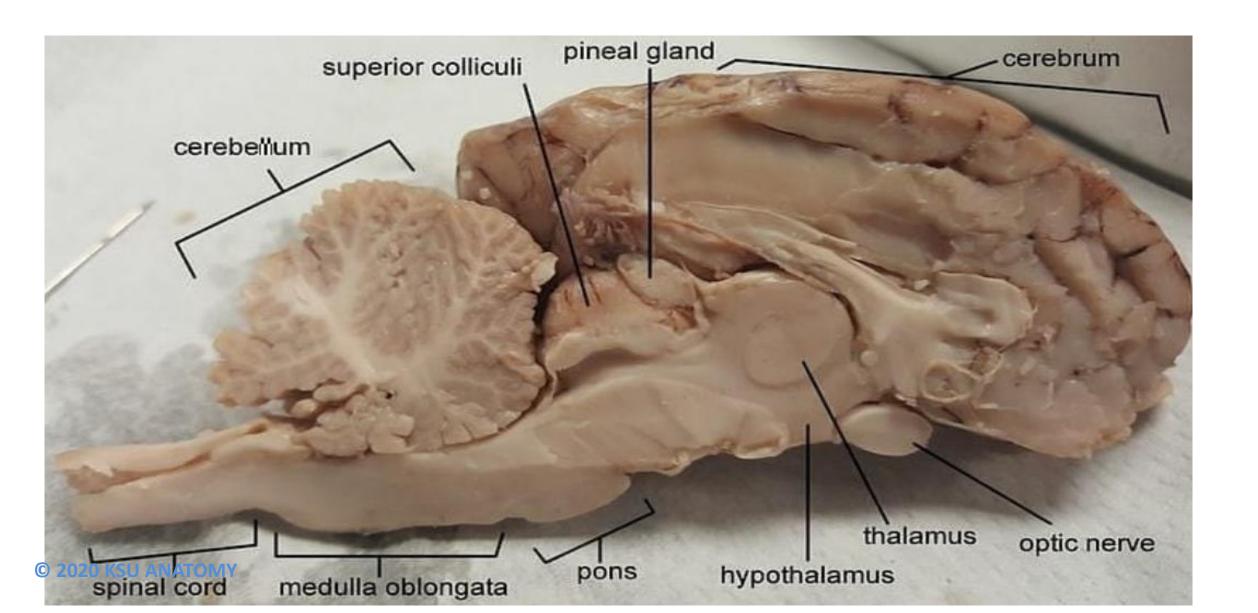


#### Sagittal Section of the Brain Stem

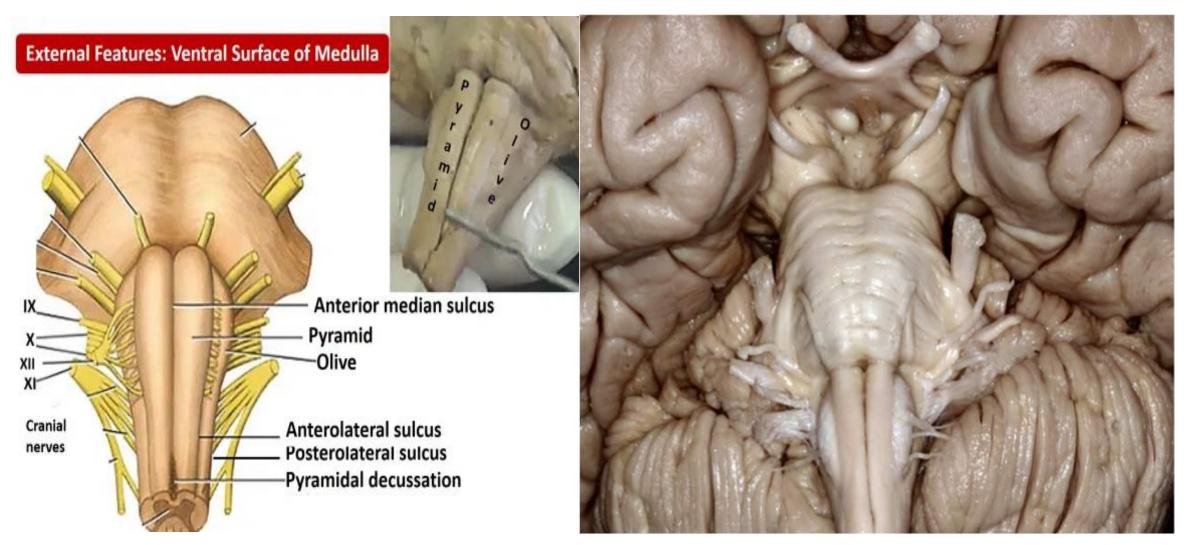




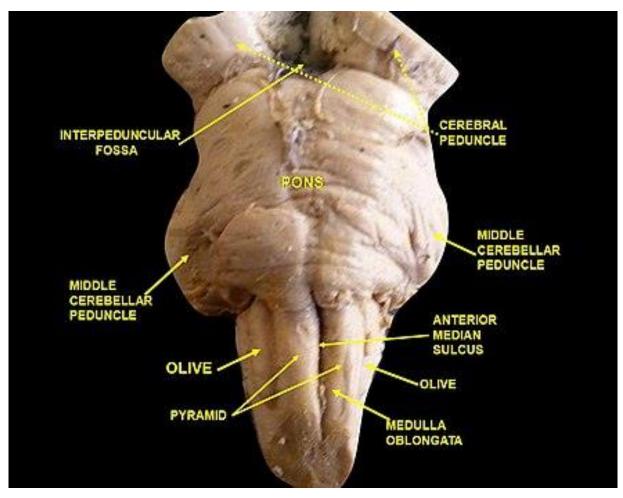


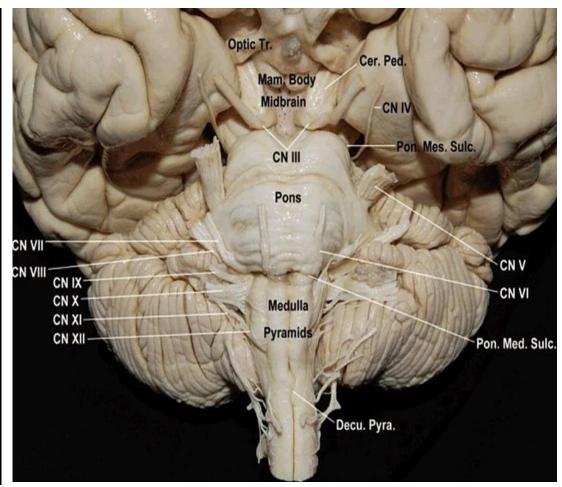


### External Features of the Ventral Surface the Medulla Oblongata

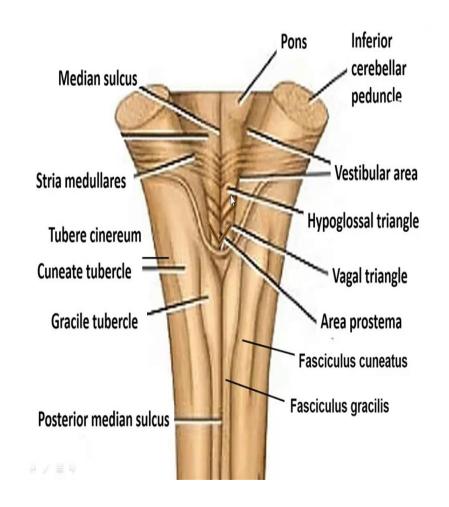


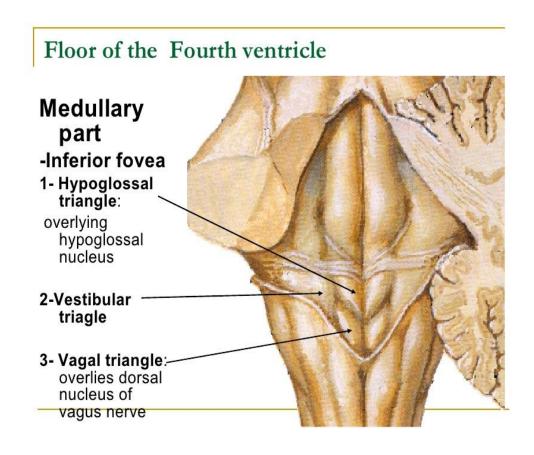
#### Medulla Oblongata





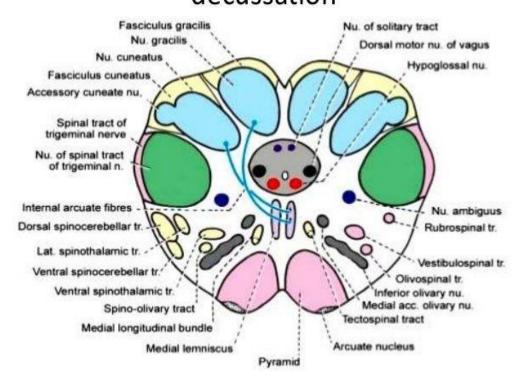
#### Medulla Oblongata Dorsal Surface

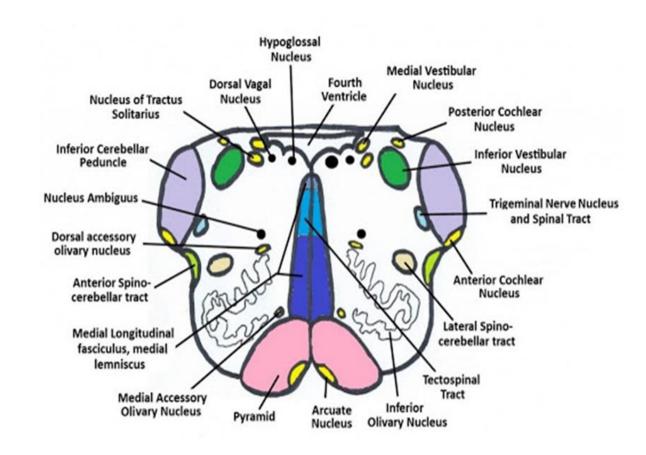




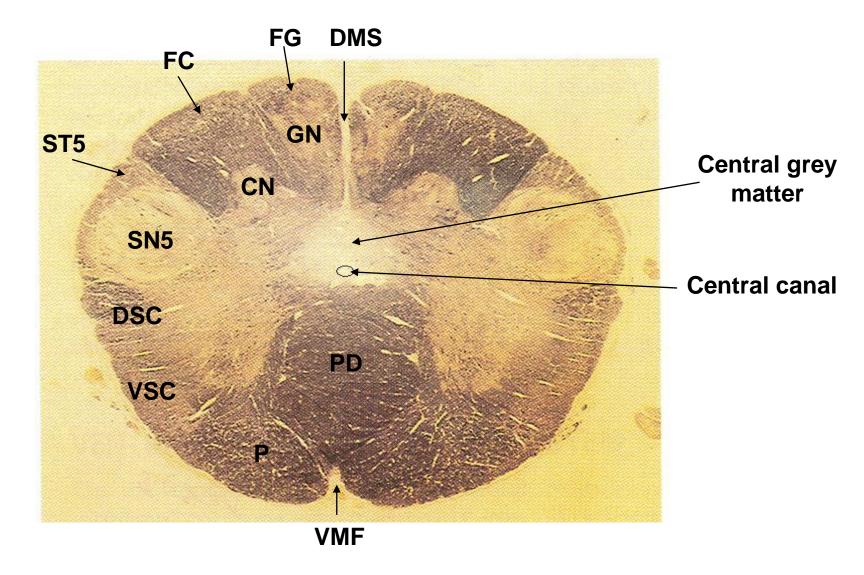
#### Medulla Oblongata Internal Structures

## Cross section at the level of Lemniscal decussation

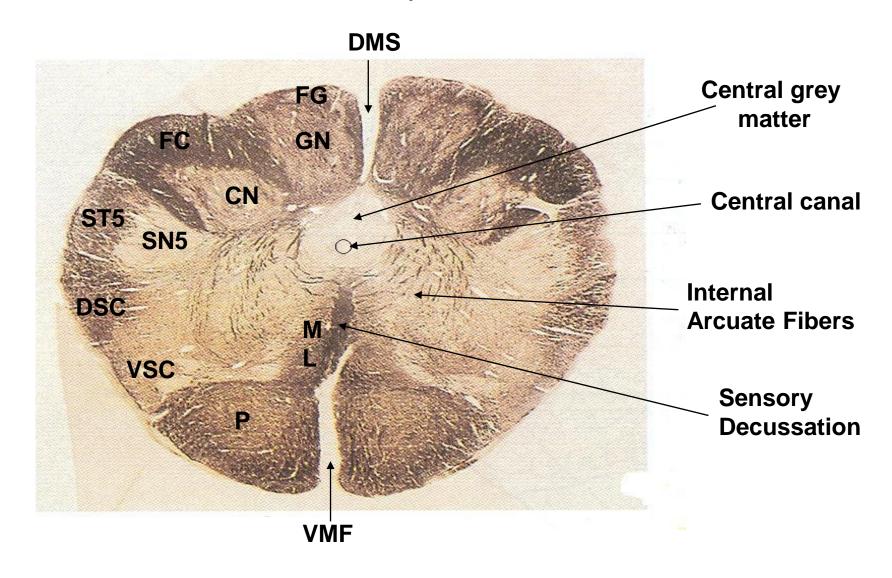




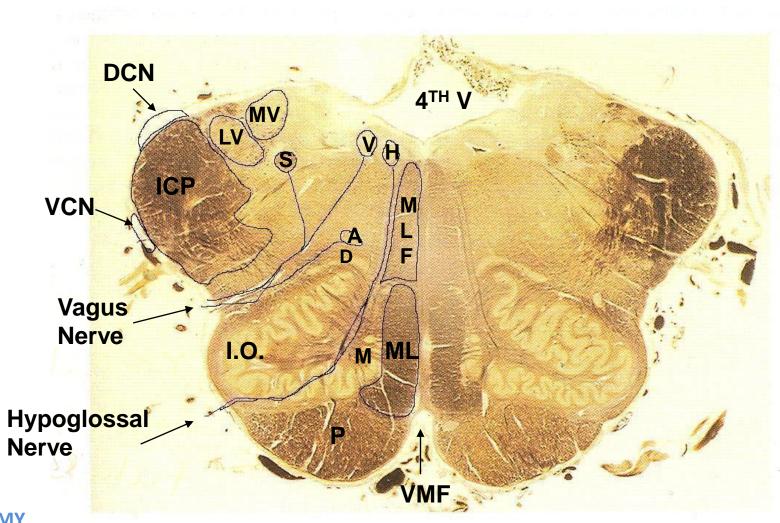
# Caudal Medulla (Level of Pyramidal Decussation)



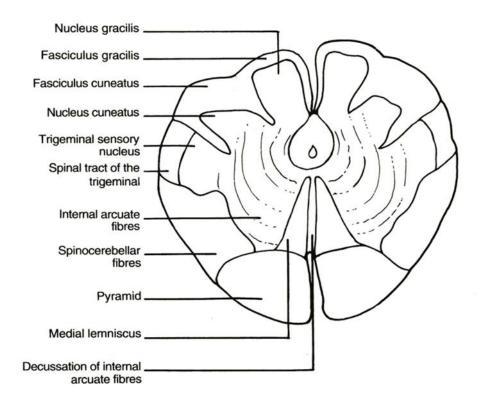
# Mid Medulla (Level of Sensory Decussation)

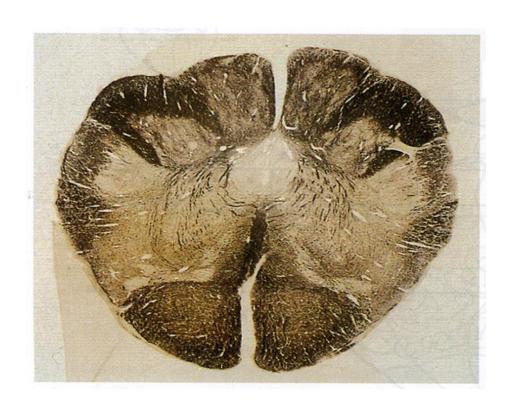


#### Rostral Medulla

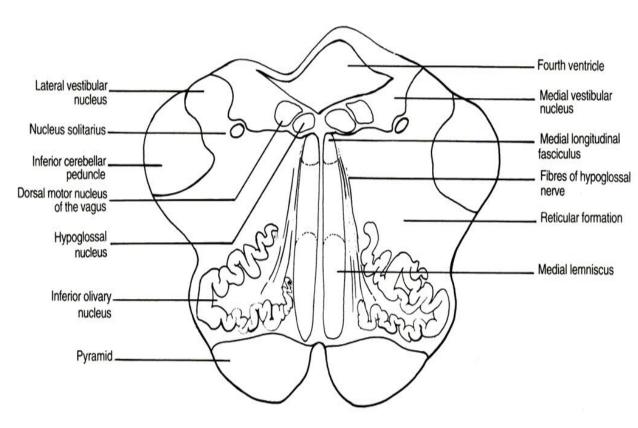


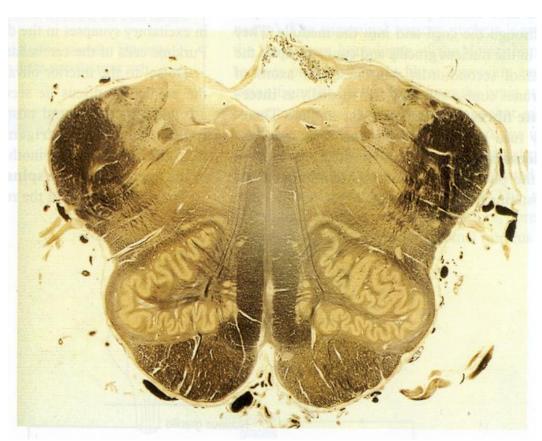
#### Internal Structures of Lower Level of M.O. (Closed)





#### Internal Structures of Upper Level of M.O. (Open)





### Level of the decussation of the pyramids



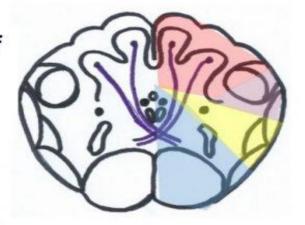
Anterior Spinal Artery

Vertebral Artery

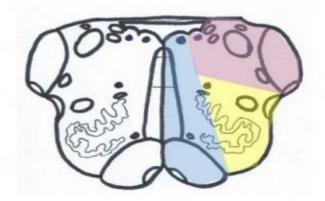
Posterior Spinal Artery

**Posterior Inferior Cerebellar** 

Level of the decussation of the medial lemniscus



Level of the olives



## **Thank You**

#### **Disclosure**

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Contact: anatomy@ksu.edu.sa