



BRAIN STEM EXTERNAL FEATURES

ملاحظة:

هذا الملف للمراجعة وترتيب المعلومات فقط وليس مرجع للمذاكرة لانه ليست كل المعلومات متضمنة.



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Brain stem

The brain develops from the cranial part of neural tube.

The cranial part divides into 3 parts

FOREBRAIN

subdivides into:

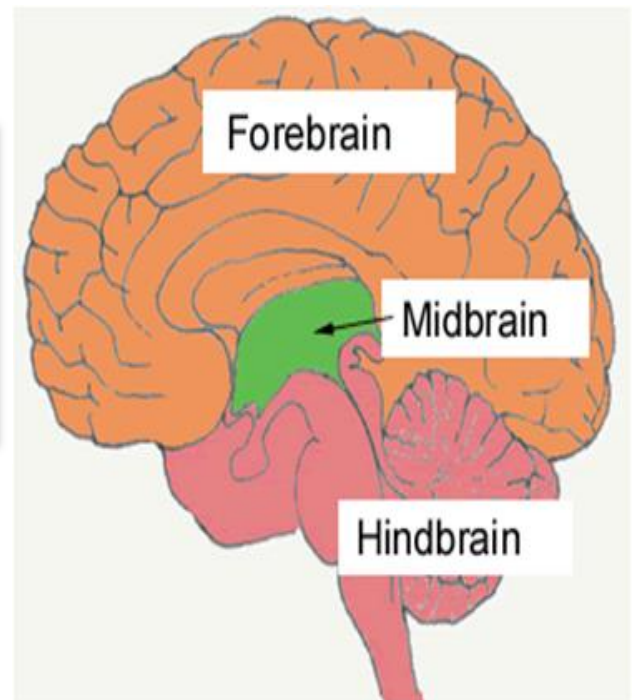
- 1-Two cerebral Hemispheres**
- 2-Diencephalon**

MIDBRAIN

HINDBRAIN

subdivides into:

- 1-Pons.**
- 2-Cerebellum.**
- 3- Medulla oblongata**



Each part of brain stem is connected to cerebellum by cerebellar peduncles (superior, middle & inferior).

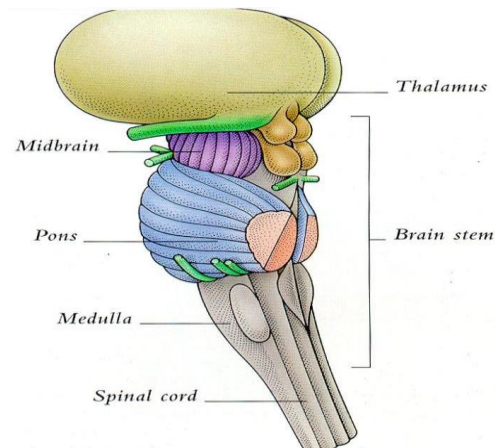
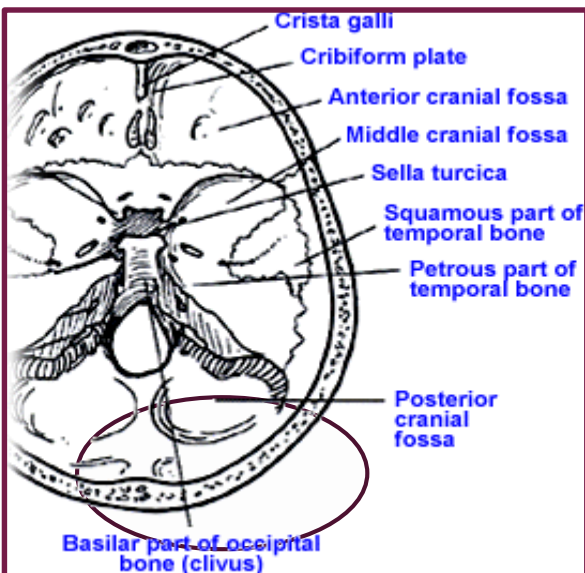
It lies on the basilar part of occipital bone (clivus).

BRAIN STEM

The brain stem connects the cerebrum with the spinal cord

Each part of brain stem is connected to cerebellum by cerebellar peduncles (superior, middle & inferior).

PARTS:
From above downwards:
Mid brain / **pons**
medulla oblongata



VENTRAL SURFACE OF BRAINSTEM

Mid brain	Pons	Medulla
<p>Crus cerebri (basis pedunculi)</p> <ul style="list-style-type: none"> - A large column of descending fibers on either side - separated by a depression called the interpeduncular fossa 	<p>Basilar sulcus</p> <ul style="list-style-type: none"> - Divides the pons into 2 halves by basilar artery <p>Pontocerebellar</p> <ul style="list-style-type: none"> - Transverse pontine fibers originate from pontine nuclei 	<p>ventral median fissure</p> <ul style="list-style-type: none"> - continuation of ventral median fissure of spinal cord - Divdes the medulla into 2 halves <p>Pyramid</p> <ul style="list-style-type: none"> - An elevation lies on either side of ventral median fissure produced by corticospinal tract <p>Olive</p> <ul style="list-style-type: none"> - An elevation lies lateral to the pyramid produced by inferior olivary nucleus

NERVE EMERGING

Mid brain	Pons	Medulla
<p>Occulomotor (3rd): from medial aspect of crus cerebri</p>	<p>Trigeminal (5th) from the <u>middle of ventrolateral aspect of pons</u>, as 2 roots:</p> <ul style="list-style-type: none"> - A small medial motor root - A large lateral sensory root. 	<p>•Hypoglossal (12th): from sulcus <u>between pyramid & olive</u></p>
<p>Trochlear (4th): •just caudal to <u>inferior colliculus</u> (The only cranial nerve emerging from <u>dorsal surface of brain stem</u>).</p>	<p>Abducent (6th): from <u>sulcus between pons & pyramid</u>.</p> <hr/> <p>Facial (7th) & vestibulocochlear (8th):</p> <ul style="list-style-type: none"> - From cerebellopontine angle. - as 2 roots, medial motor and lateral of (7th) sensory roots - As 2 roots, vestibular and cochlear roots of(8th) . 	<p>•Glossopharyngeal (9th), vagus (10th) & cranial part of accessory (11th): from <u>sulcus dorsolateral to olive (from above downwards)</u></p>

Dorsal Surface Of Brain Stem

Mid brain	Pons	Closed Medulla caudal part	Open Medulla cranial part
<p>Marked by 4 elevations:</p> <p>Two superior colliculi: concerned with visual</p> <p>Two inferior colliculi: forms part of auditory pathway</p>	<p>Separated from the medulla by an <u>imaginary line</u> passing <u>between the caudal margins of middle cerebellar peduncle.</u></p> <hr/> <p>-Separated into two parts by median sulcus (medial to lateral):</p> <ul style="list-style-type: none"> -Medial eminence & facial colliculus: overlies abducent nucleus. -Vestibular area: overlies vestibular nuclei. 	<p>Composed of:</p> <p>Dorsal median sulcus: divides into 2 halves</p> <ul style="list-style-type: none"> - Fasciculus gracilis <p>-Lateral to dorsal median sulcus.</p> <ul style="list-style-type: none"> -In its upper part, Gracile tubercle which produced by gracile nucleus - Fasciculus cuneatus <p>-Lateral to Fasciculus gracilis.</p> <ul style="list-style-type: none"> -In its upper part, Cuneate tubercle which produced by cuneate nucleus. 	<p>- Inverted V-shaped sulcus: divides it to three parts (medial to lateral):</p> <ol style="list-style-type: none"> 1) Hypoglossal triangle Overlies hypoglossal nucleus. 2) Vagal triangle. Overlies dorsal vagal nucleus. 3) Vestibular area. Overlies vestibular nuclei.

- Thalamus
 - Hypothalamus
 - Midbrain
 - Pons
 - Medulla oblongata
- Diencephalon
 Brain stem

