

وسهلا



أهلا

يُمنع أخذ السلايدات بدون  
إذن المحرر واي اجراء  
يخالف ذلك يقع تحت طائلة  
المسؤولية القانونية  
جميع المعلومات للاستخدام  
التعليمي فقط

# الأستاذ الدكتور يوسف حسين

أستاذ التشريح وعلم الأجنة - كلية الطب - جامعة الزقازيق - مصر

رئيس قسم التشريح والأنسجة والأجنة - كلية الطب - جامعة مؤتة - الأردن

دكتورة من جامعة كولونيا المانيا

جروب الفيس د. يوسف حسين (استاذ التشريح)

اليوتيوب د. يوسف حسين

Prof. Dr. Youssef Hussein Anatomy - YouTube

[https://www.youtube.com/channel/UCVSNqbibj9UWYaJdd\\_cn0PQ](https://www.youtube.com/channel/UCVSNqbibj9UWYaJdd_cn0PQ)

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# Development of skill

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Prof. Dr. Youssef Hussein

**Metopic suture**  
**Frontal suture**

**Bregma**

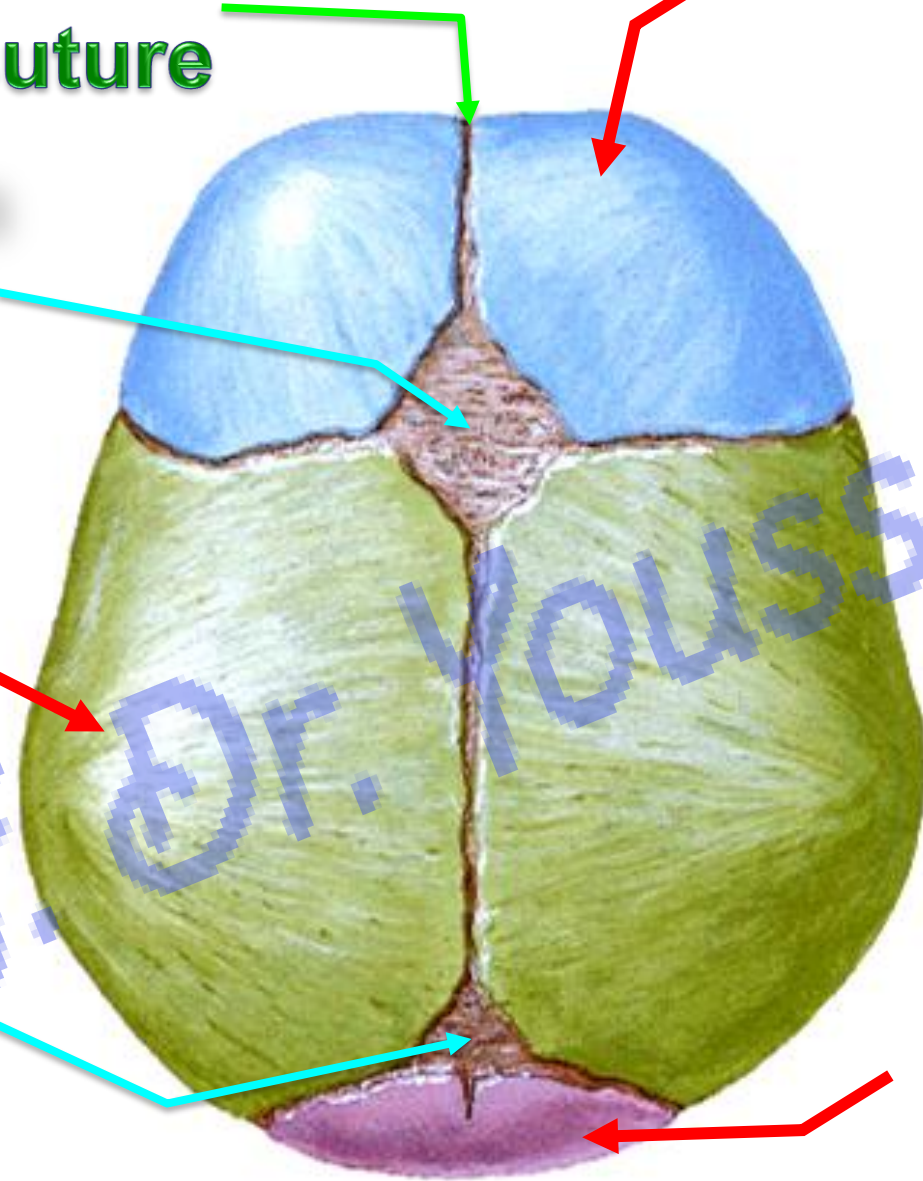
**Anterior fontanelle**

**Parietal bone**

**Lambda**

**Posterior fontanelle**

**Frontal bone**



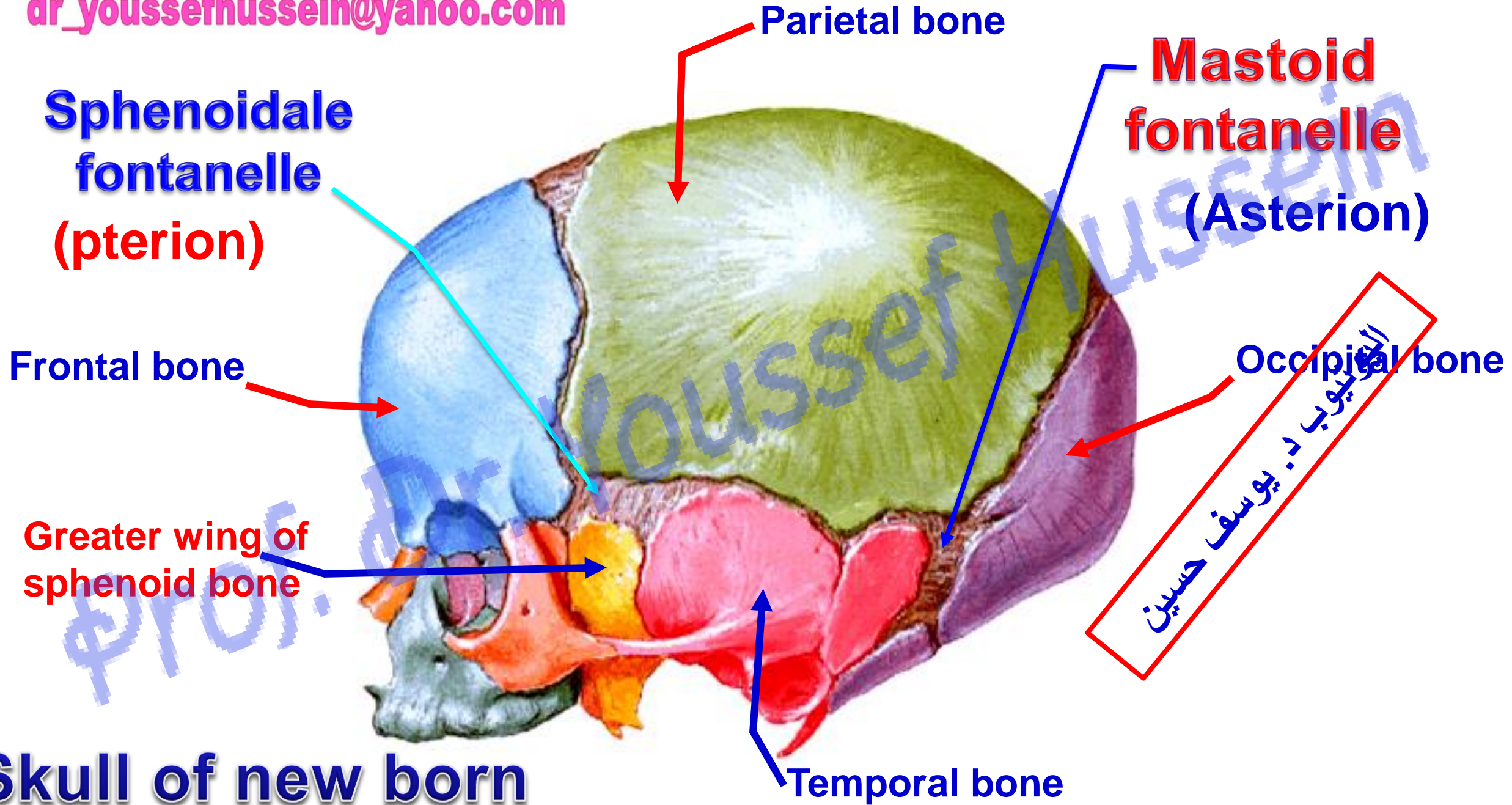
- **Vault of skull (Flat bones)**
  - **(Neurocranium)**

- It develops from the **mesoderm** around the developing brain.
- These bones included the frontal, parietal, and occipital
- These bones ossified in membranes.

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**Occipital bone**

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## **\*\* The newborn skull**

- The bones of the newborn skulls are separated from each other by sutures.
- At The meeting of more than 2 bones there is membranous parts called the **fontanelle**. They include: [dr\\_youssefhussein@yahoo.com](mailto:dr_youssefhussein@yahoo.com)

**1- Anterior fontanelle:** between the frontal and 2 parietal bones. It is closed about 18 months (**Bregma at adult**).

**2- Posterior fontanelle:** between the occipital and 2 parietal bones. It is closed about 6 months (**Lambda at adult**).

**3- Sphenoid fontanelle:** between the frontal, sphenoid, temporal and parietal bones. It is closed about 3 months (**pterion at adult**).

**4- Mastoid fontanelle:** between the occipital, parietal and mastoid part of temporal bones. It is closed about 3 months (**asterion at adult**).

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**Norma basalis interna**

Cribriform plate of ethmoid bone

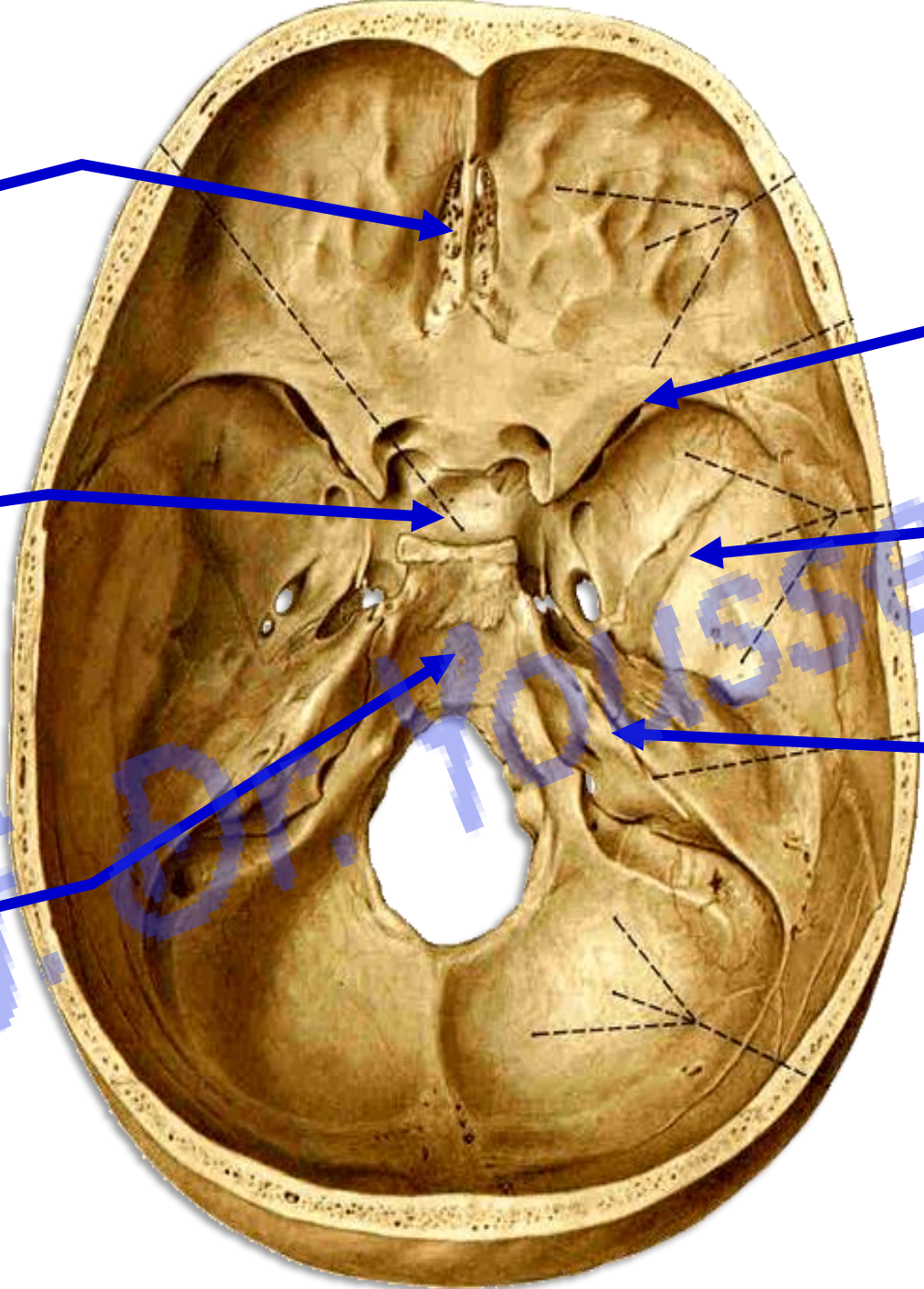
Lesser wing of sphenoid

Body of sphenoid

Greater wing of sphenoid

Basilar part of occipital bone

Petrous part of temporal cone



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**Base of skull**

**3 Median mesodermal masses**

**3 Lateral mesodermal masses**

**Trabecula cranii cartilage:**  
form the cribriform plate of ethmoid bone

**Hypophyseal cartilage:**  
form the body of sphenoid

**Pituitary gland**

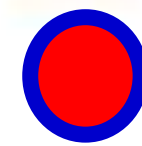
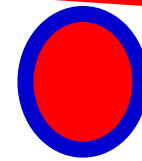
**Parachordal (Basal) cartilage:** It forms the basilar part of occipital bone

**Notochord**

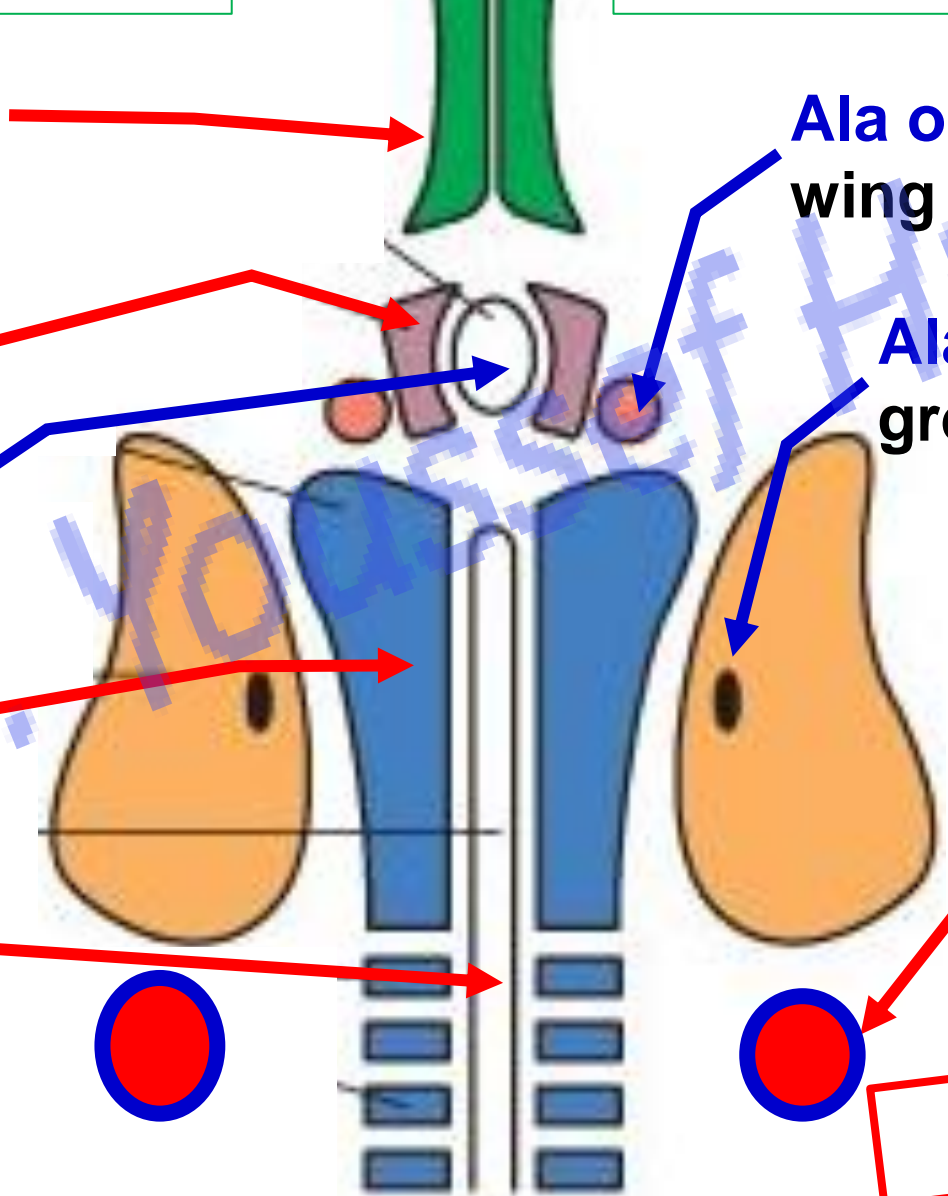
**Ala orbitalis:** forms lesser wing of sphenoid bone

**Ala temporalis:** forms greater wing of sphenoid

**Periotic capsules:** form petrous and mastoid parts of the temporal bone



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# Congenital anomalies of skull

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- **Microcephaly** small skull and cerebral hemisphere

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- **Hydrocephalus**  
excessive accumulation of C.S.F. in the ventricular system due to closure in the CSF circulation



- **Anencephaly:**

failure of development of greater part of the brain and vault of the skull due to failure of cephalic part of the neural tube to close

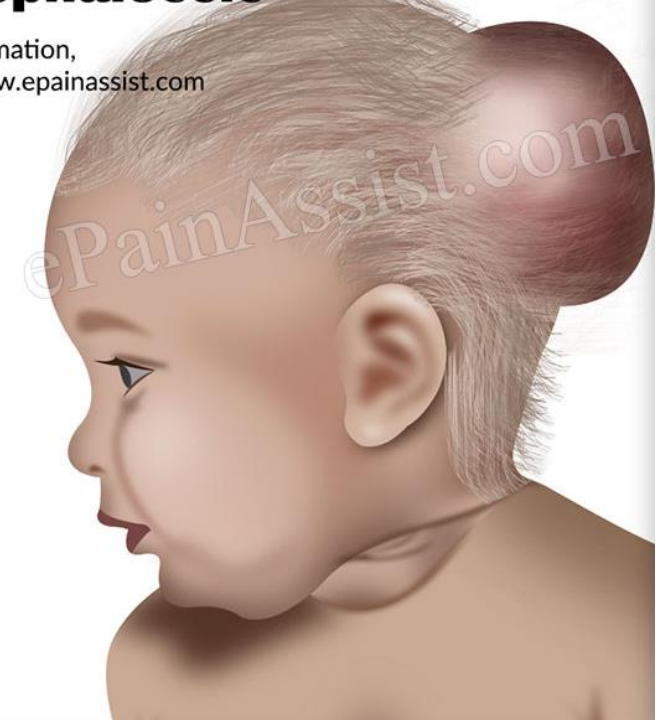
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## Meningocele

herniation of a part of the meninges



For Information,  
Visit: [www.epainassist.com](http://www.epainassist.com)



- **Meningoencephalocele** herniation of a part of the brain and its covering meninges.
- **Meningohydroencephalocele**: herniation of the meninges and part of the brain and its ventricle containing CSF

## Meningoencephalocele



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**Scaphocephaly**: the skull is elongated anteroposterior due to early closure of the **sagittal suture**



**Acrocephaly:** high skull due to early closure of the **coronal suture**

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**Plagiocephaly:** Asymmetrical shape due to early closure of the **coronal and lambdoid sutures**



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# Development of limbs

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## • DEVELOPMENT OF THE LIMBS

- \* They develop as 4 buds (2 cranial and 2 caudal) at 4<sup>th</sup> week.
- \* Each limb bud is formed of a **mass of mesoderm**, its **central** part changes into **cartilage** then into **bone** while the **surrounding mesoderm** forms the **muscles**.
- \* The **upper limb** divides into arm, forearm and hand with 5 fingers.
- \* The **lower limb** divides into thigh, leg and foot with 5 toes.
- \* Each limb bud forms **right angle (90 degree) with the trunk** and has a **preaxial** border cranially (**radius, and thumb for the upper limb** and **tibia and big toe for the lower limb**) and a **postaxial** border caudally.



## \*\* Rotation of the limbs

- **Upper limb** rotates **laterally** so that the preaxial border (radius and thumb) becomes lateral and the flexor surface becomes anterior.
- \* **Lower limb** rotates **medially** so that the preaxial border (tibia and big toe) becomes medial and the flexor surface becomes posterior.



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# Congenital anomalies of limbs

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**Meromelia:** The limbs represented only by foot or hand attached to the trunk



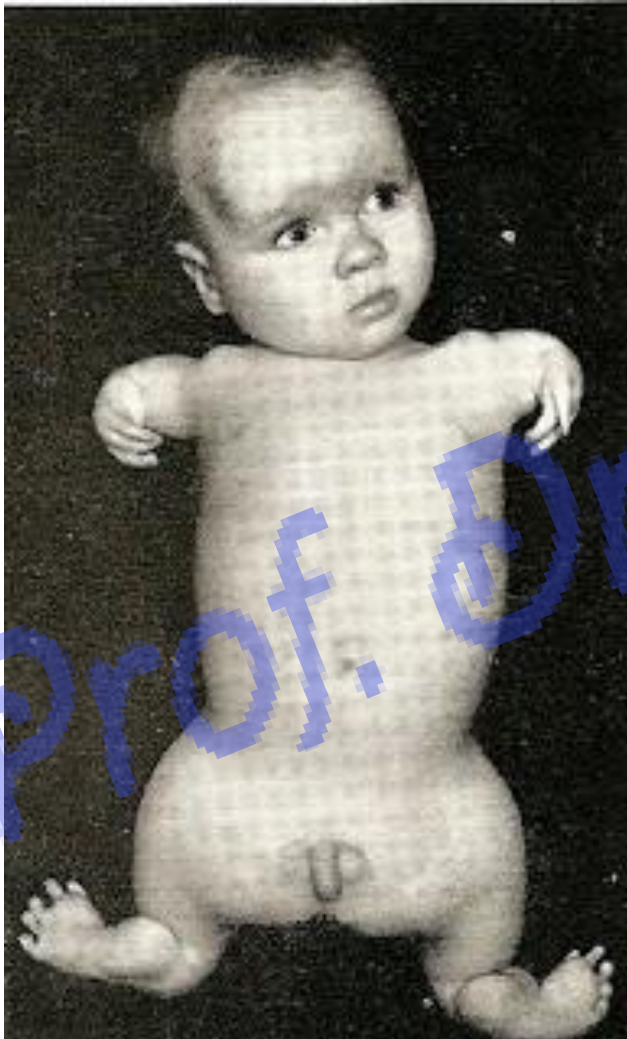
**Amelia:** Absence of one or more limbs



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**Micromelia:** short segments of the limb



**Lobster hand:** A central fissure or cleft divides the hand or foot into 2 parts



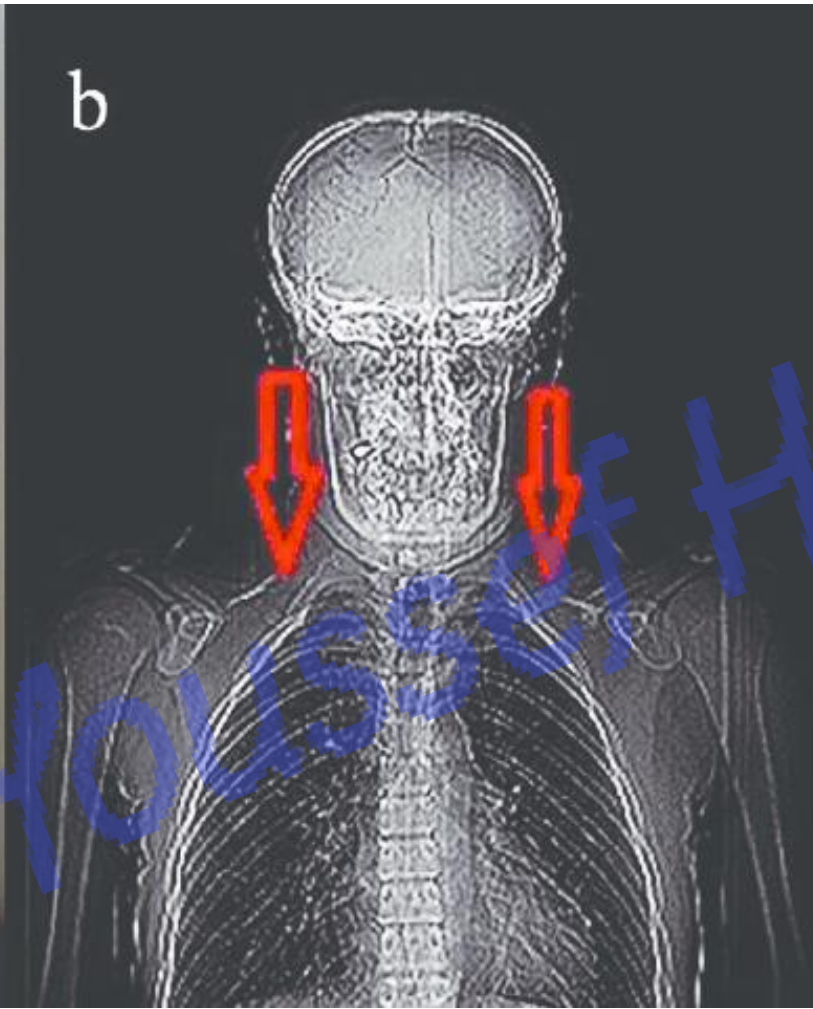
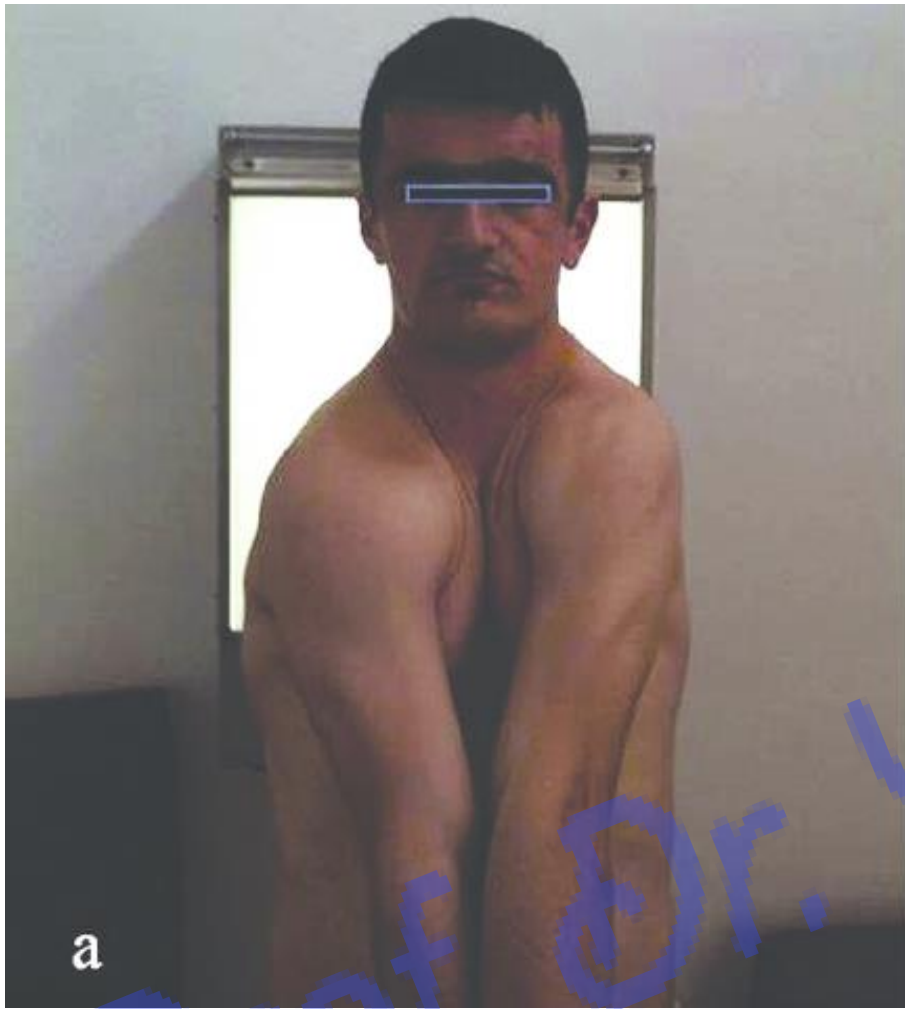
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**Polydactyl:** Extra number of the fingers or toes.

**Syndactyl:** Abnormal fusion of the fingers.

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Congenital absence of some bones as **clavicle**

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# Congenital anomalies of foets

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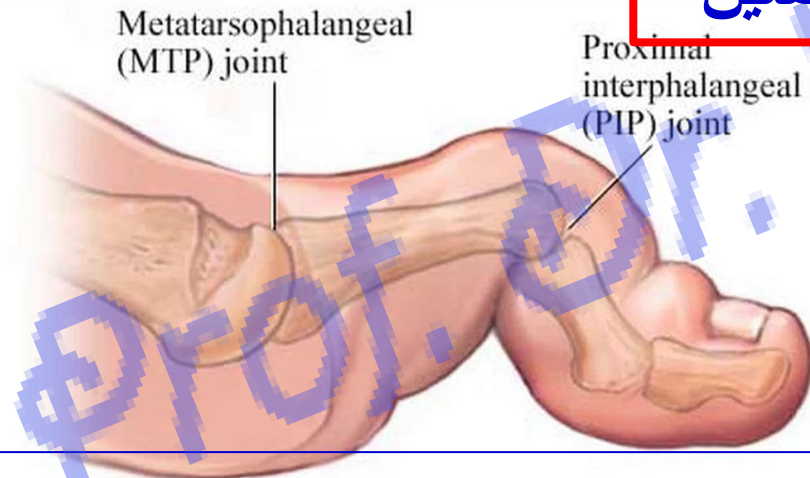


- **Flat Foot:** loss of the arch of the foot



- **Pes Cavus:** Arch of the foot is high

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- **Hammer Toe:** extension of metatarsophalangeal joint and flexion of proximal interphalangeal joint.



- **Hallux Valgus:** lateral deviation of the big toe at the metatarsophalangeal joint.

- **Talipes Equinus**, permanent plantar flexion, walking is done on toes without touching the heel to ground

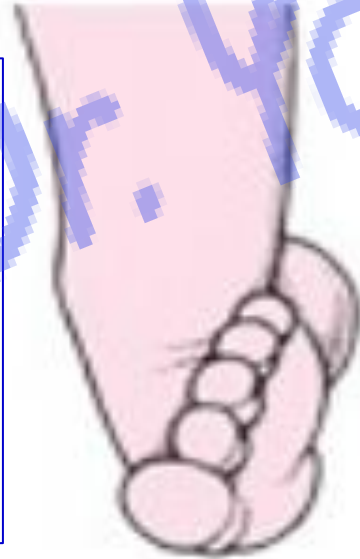


- **Talipes Calcaneus**, permanent dorsiflexion, the heel rests on the ground and the toes pointed upwards

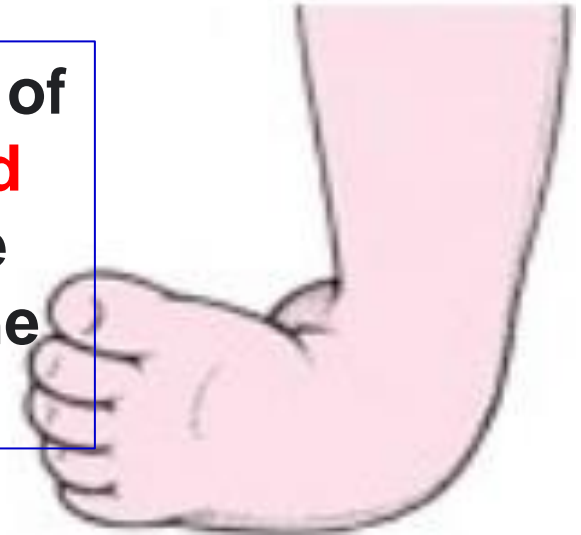


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**Talipes valgus:** the sole of the foot inclined **outward** so that walking is done on the **medial** side of the foot



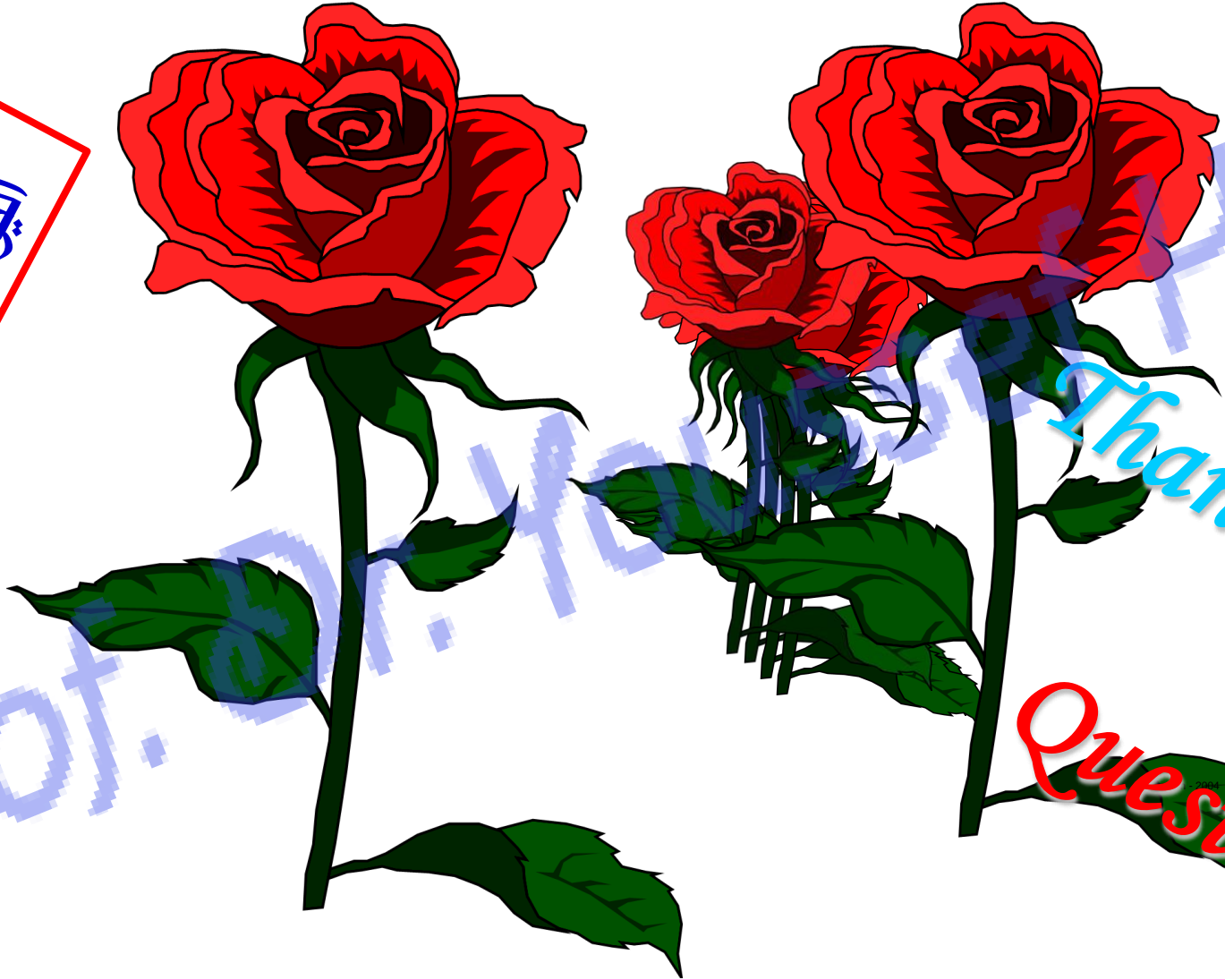
**Talipes varus:** the sole of the foot inclined **inward** so that walking is done on the **lateral** side of the foot



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Thank You

Questions

<https://www.youtube.com/@ProfDrYoussefHusseinAnatomy/playlists>