

محاضرة التشريح الشعاعي - المرحلة الثانية

كلية المامون الجامعة

الفصل الأول

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## **RADIOLOGICAL FEATURES OF THE SKULL (Cranial bones)**

**What is radiography of the skull?**

**A skull X-ray works by allowing doctor to see the bones of the skull and other tissues or foreign objects inside the head.**

**Each part of the body absorbs different amounts of radiation.**

**Parts of the body that are more solid, like the bones, look white on a radiograph**

### **Skull radiography**

**is the radiological investigation of the skull vault and associated bony structures.**

***plain radiography of the skull***

***computed tomography (CT)***

## Indications

What is a common indication for a skull xray?

X-rays of the skull may be done to diagnose:

- Fractures of the bones of the skull.
- Birth defects.
- Infection.
- Foreign bodies.
- Certain metabolic and endocrine disorders that cause skull defects.
- Tumors.
- Problems in the nasal sinuses.
- Calcified areas in the brain.

## Projections

### Standard projections

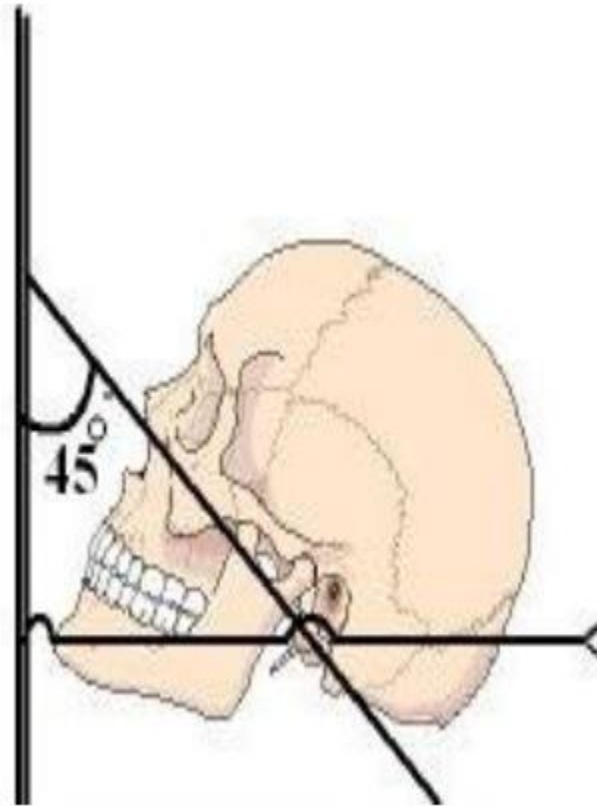
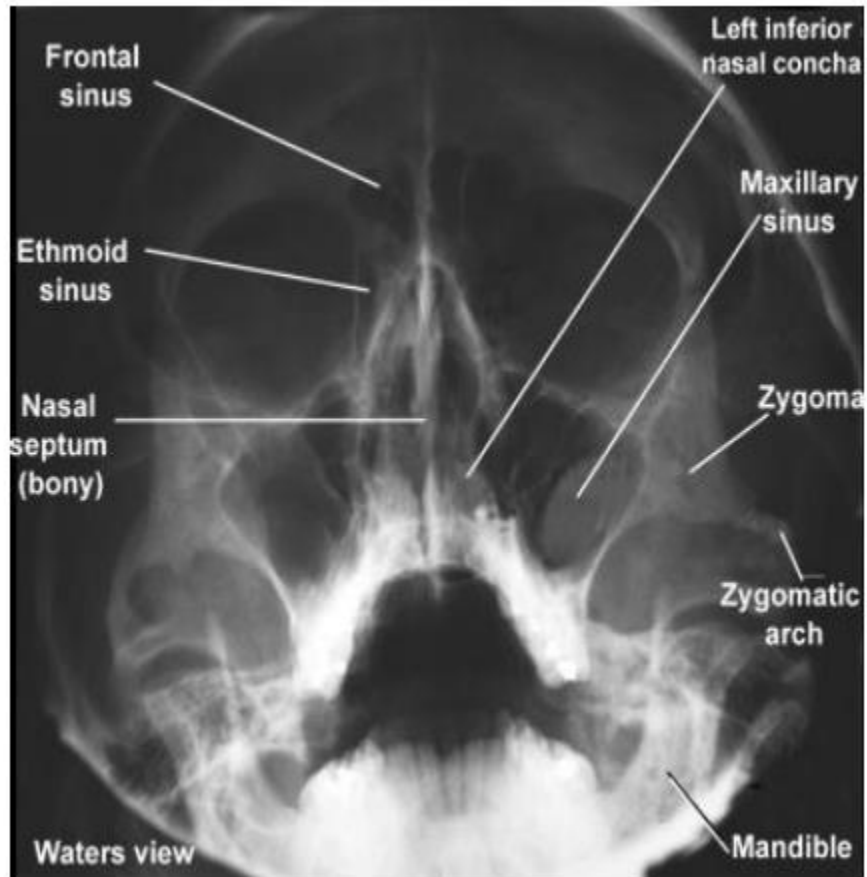
- AP or PA
- lateral

- **Towne** (This projection is used to evaluate for medial and lateral displacements of skull fractures, and radiopaque foreign bodies)
- **Caldwell**
- **Waters** (for facial bones)
  
- **Additional/alternative projections**
- 
- **reverse Waters**
- **SMV** *submento vertex*

***AP and LATERAL VIEW***



Waters view



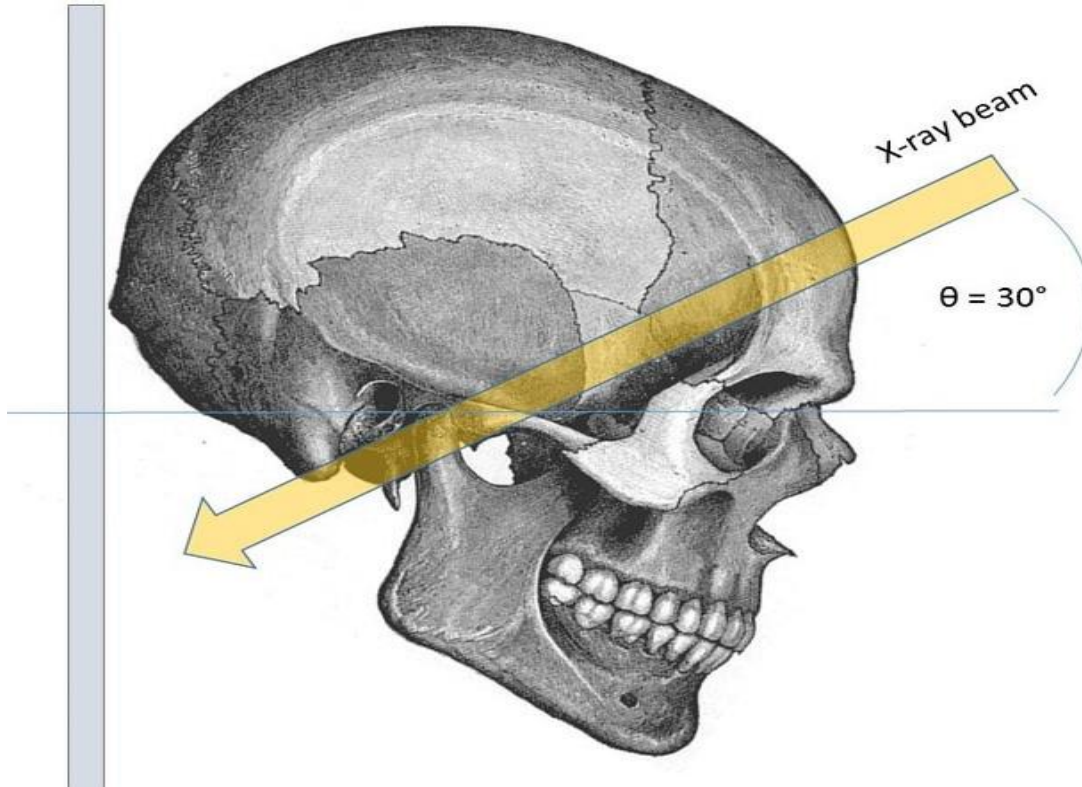
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- **Towne view**

X-ray detector

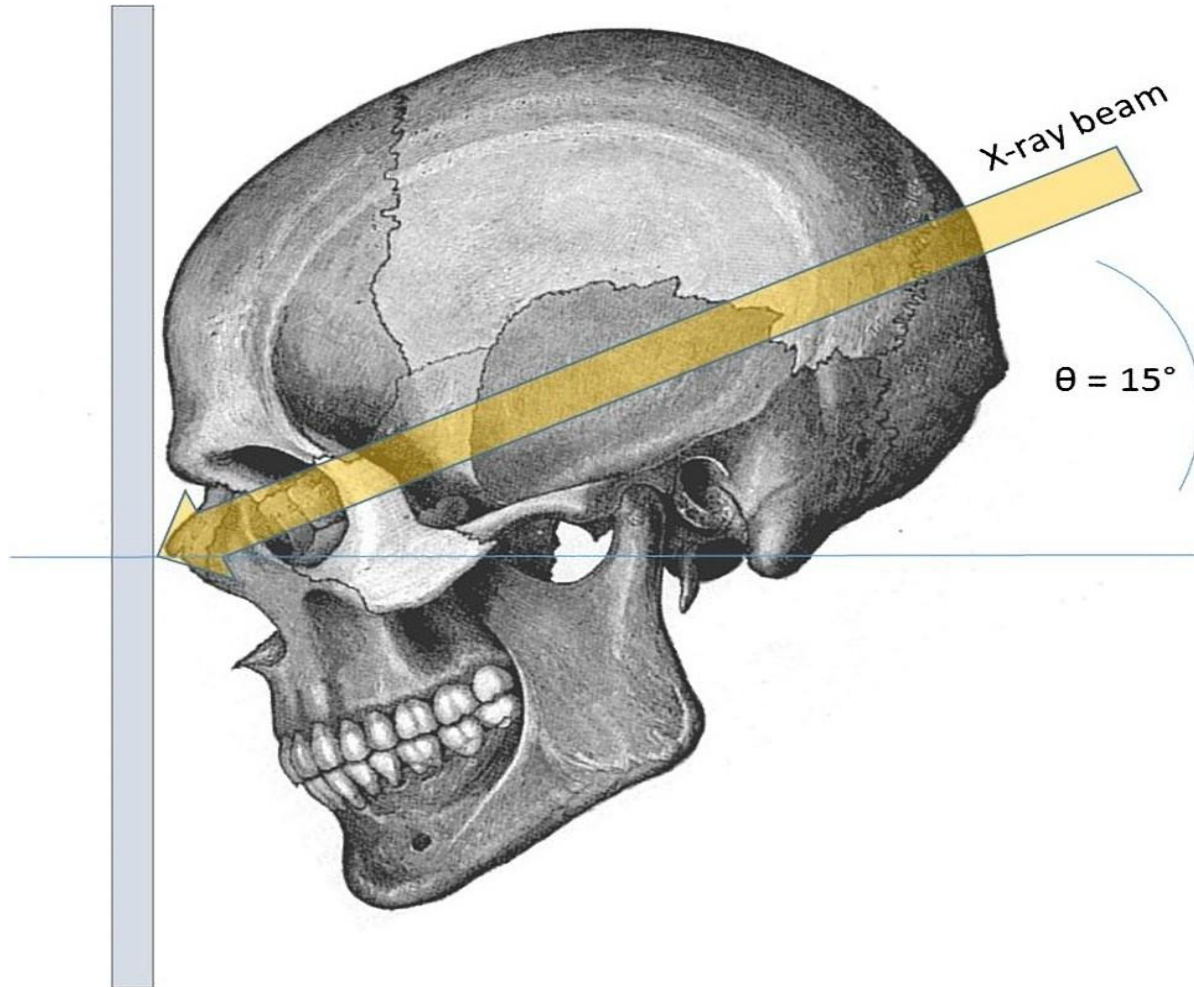






Caldwells view

X-ray detector



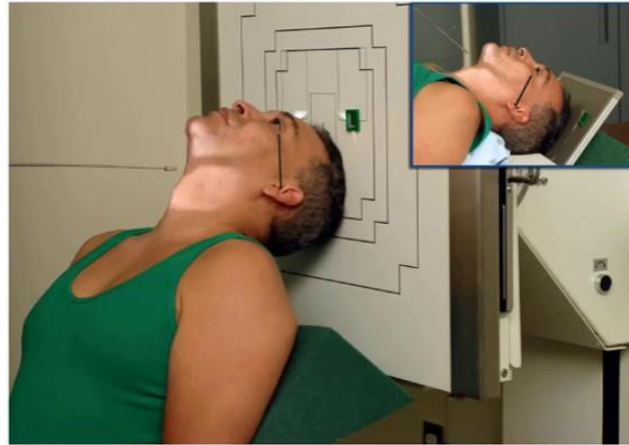


**SMV VIEW**



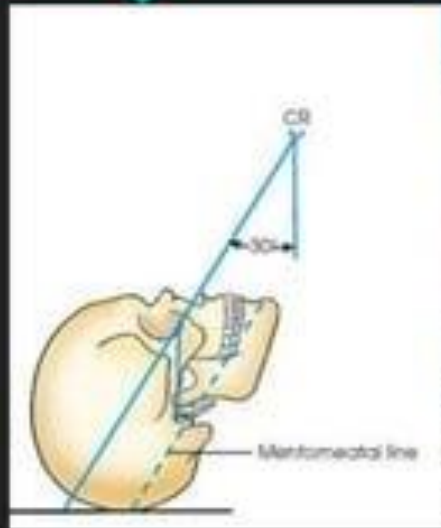
# Submentovertical Zygomatic Arches

- Patient position
  - Seated upright or supine
  - If supine, elevate thorax
- Part position
  - Hyperextend neck to place IOML parallel with IR plane
  - Rest head on vertex
  - MSP perpendicular to IR plane



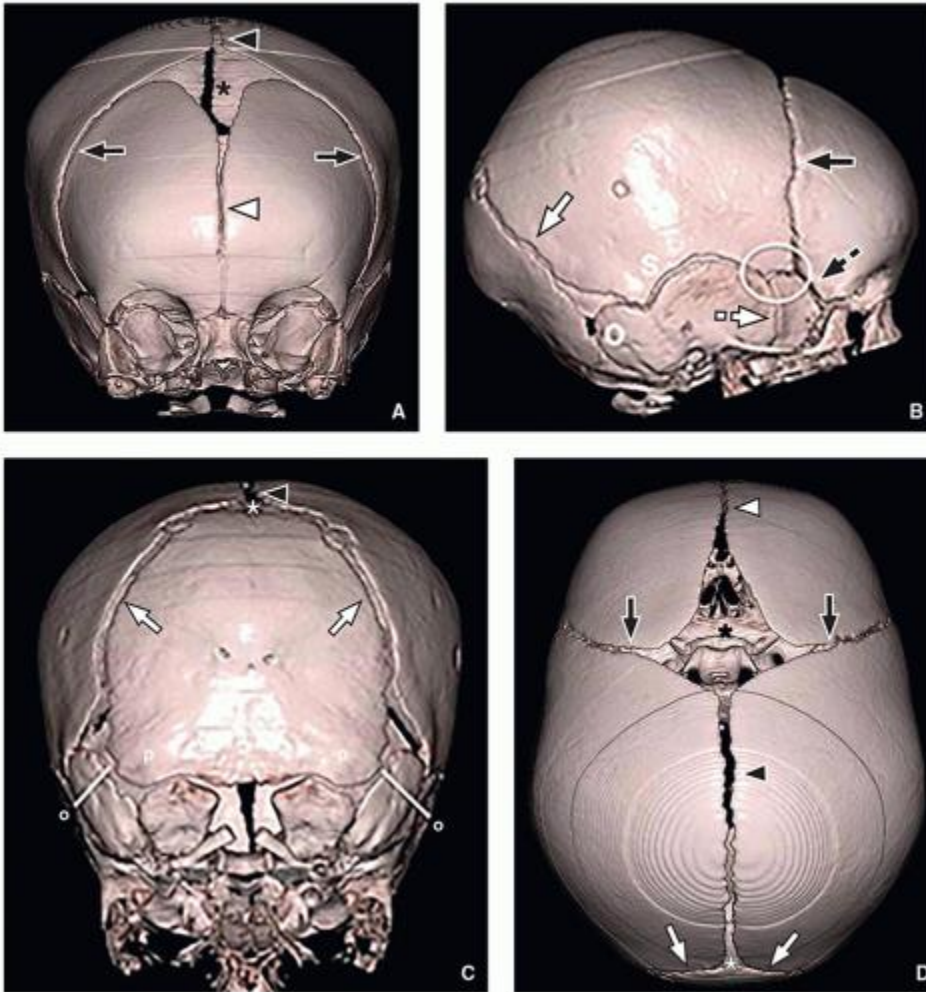
**Reverse waters**

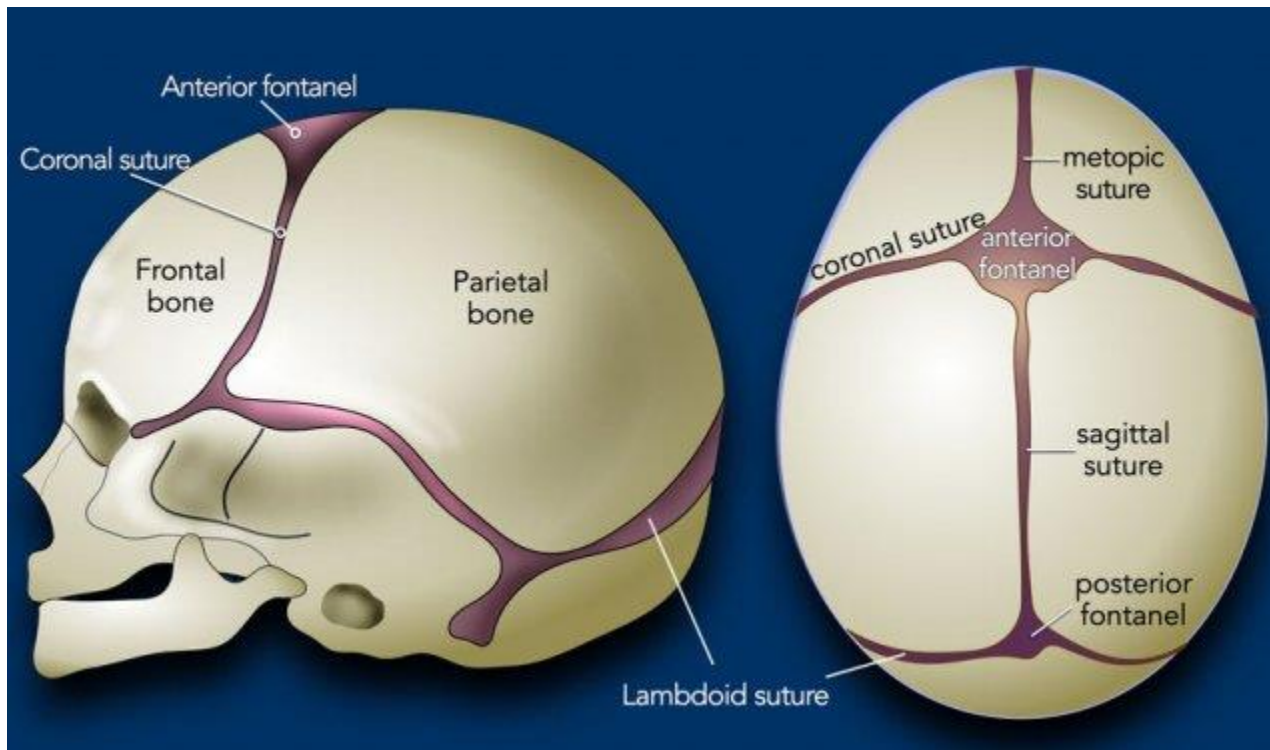
## Reverse waters view



## What are the features of the fetal skull?

At birth, the newborn's skull consists of five major bones (two frontal, two parietal, and one occipital) that are separated by connective tissue junctions known as cranial sutures





**Sutures primarily visible from the side include:**

- **Coronal suture:** Located between the frontal and parietal bones.
- **Lambdoid suture:** Located between the parietal, temporal and occipital bones.
- **Occipitomastoid suture.**
- **Parietomastoid suture.**

- **Sphenofrontal suture.**
- **Sphenoparietal suture.**
- **Sphenosquamosal suture.**
- **Sphenozygomatic suture.**
- **Squamosal suture: Located between the parietal and the temporal bone.**
- **Zygomaticotemporal suture.**
- **Zygomaticofrontal suture.**

**Sutures primarily visible from front or above include:**

- **Frontal suture or metopic suture: Located between the two frontal bones, prior to the fusion of the two into a single bone.**
- **Sagittal suture: Located along the midline, between the parietal bones.**

**Sutures primarily visible from below or inside include:**

- **Frontoethmoidal suture.**
- **Petrosquamous suture.**
- **Sphenoethmoidal suture.**
- **Sphenopetrosal suture.**





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