



RADIOGRAPHIC TECHNIQUE-2

TEMPOROMANDIBULAR JOINTS, SELLA TURCICA

Sawa University

College of health and medical techniques

Department of Radiology Tech.

3rd Academic year

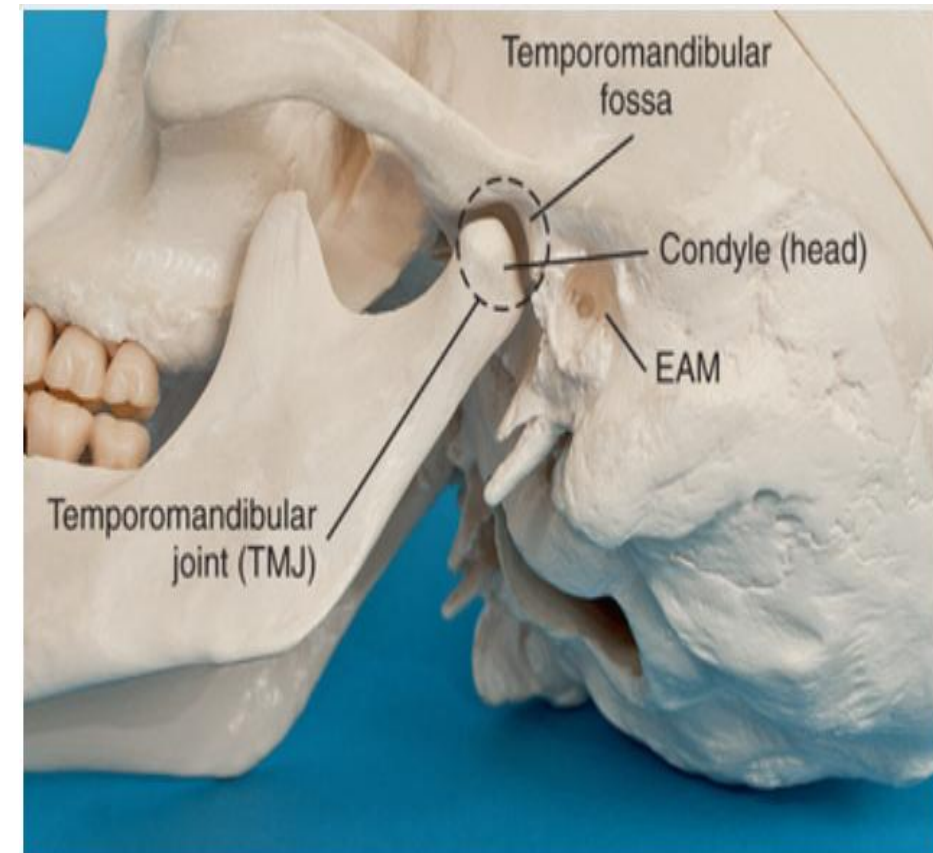
LEC.6

THEORETICAL

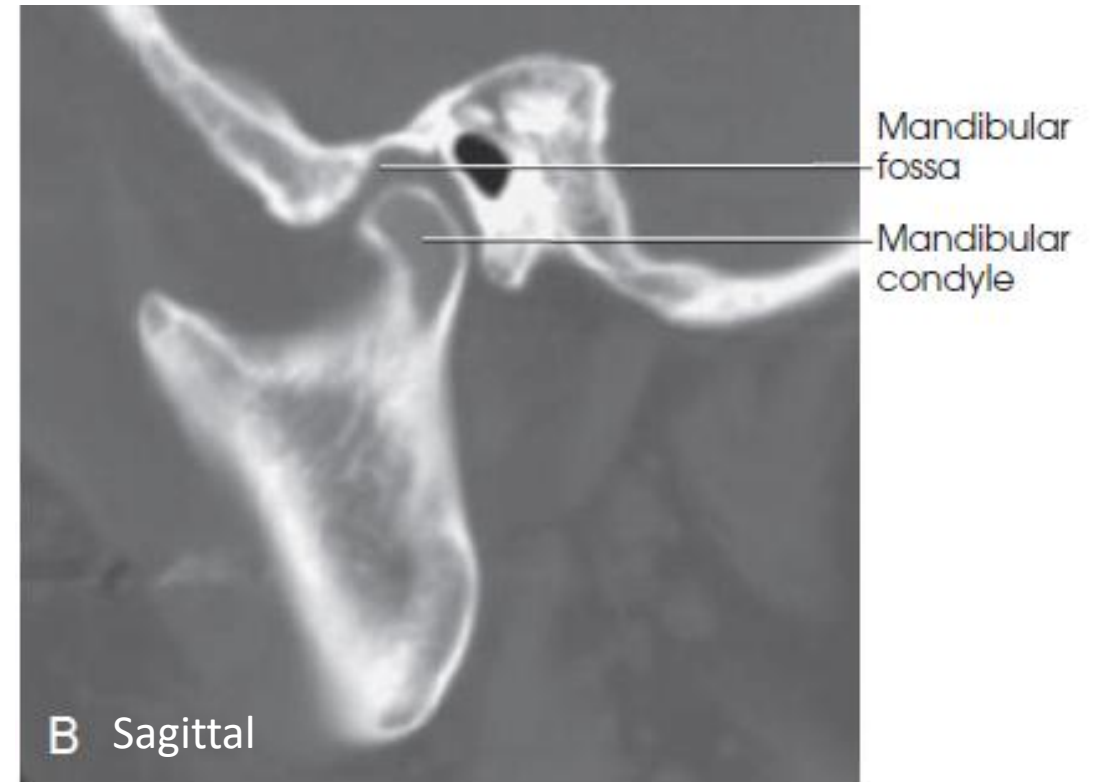
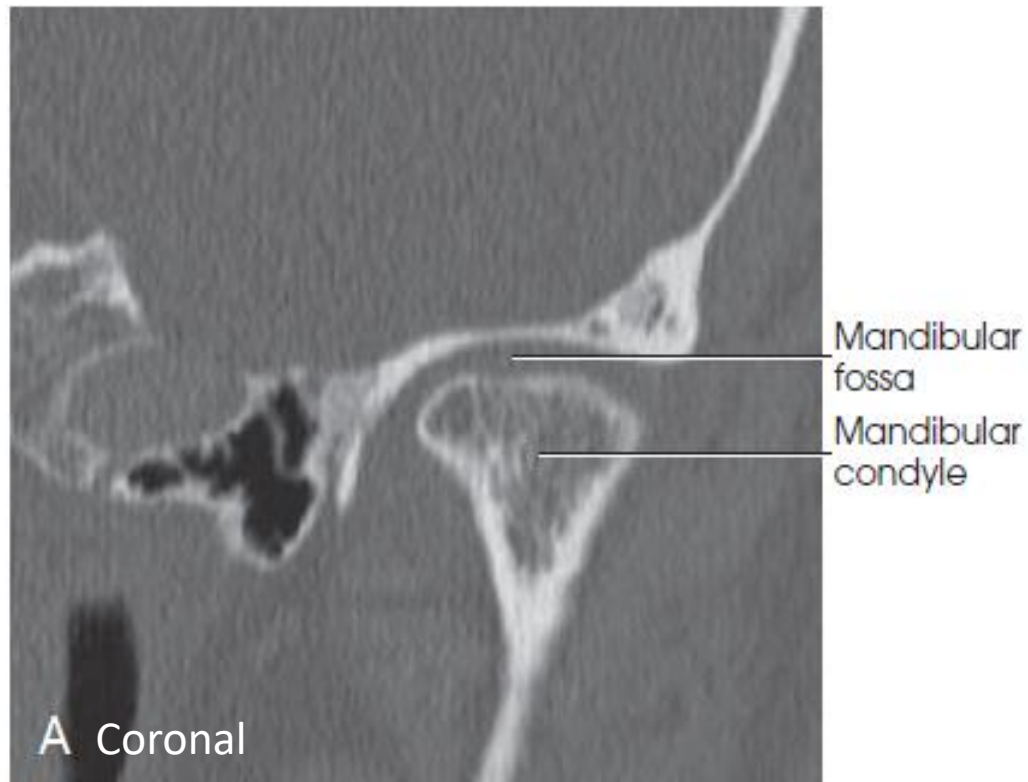
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TEMPOROMANDIBULAR JOINTS (TMJ)

- **Temporomandibular Joint:** TMJ, the only movable joint in the skull. The TMJ is located just anterior and slightly superior to the EAM.
- **TMJ Motion** When the mouth is opened widely, the condyle moves forward to the front edge of the fossa. If the condyle slips too far anteriorly, the joint may dislocate. If the TMJ dislocates, either by force or by jaw motion, it may be difficult or impossible to close the mouth, which returns the condyle to its normal position.



TEMPOROMANDIBULAR JOINTS (TMJ)



CT scan of mandibular condyle situated in mandibular fossa.

TEMPOROMANDIBULAR JOINTS (TMJ)

Routine

- **AP axial (modified Towne method)**
(modified Law method)

Special

- Axiolateral 15° oblique
- **Axiolateral (Schuller)**
- Orthopantomography

WARNING: Opening the mouth should not be attempted with a possible fracture.

Clinical Indications:

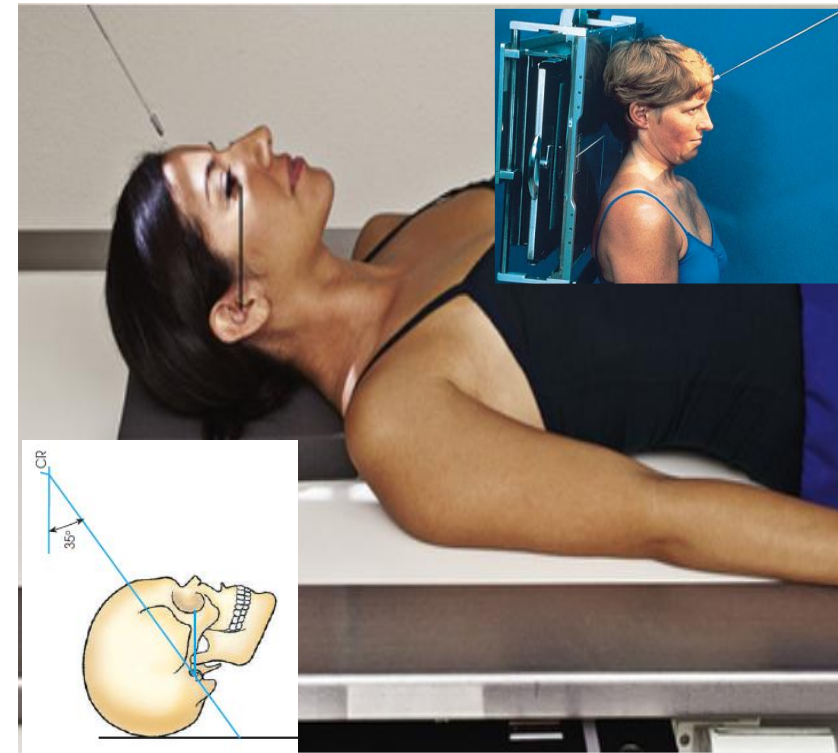
Fractures and abnormal relationship or range of motion between condyle and TM fossa.

I. AP AXIAL (MODIFIED TOWNE METHOD)

Patient Position

- Position patient erect or supine. Rest patient's posterior skull against IR
- Flex chin, bringing OML perpendicular to IR.
- Adjust the MSP perpendicular to the plane of the IR.
- Expose one image with the mouth closed; when not contraindicated, expose one image with the mouth open.

CR: Angle CR 35° caudaly. Direct CR 7.5 cm superior to the nasion. Center IR to projected CR.



I. AP AXIAL (MODIFIED TOWNE METHOD)

Collimation: Collimate on four sides to anatomy of interest.

Technical Factors

SID: 102 cm

Grid: Yes

IR size: (8 × 10 inches) L.W

kV: 70

mAs: 20

Respiration: Suspended

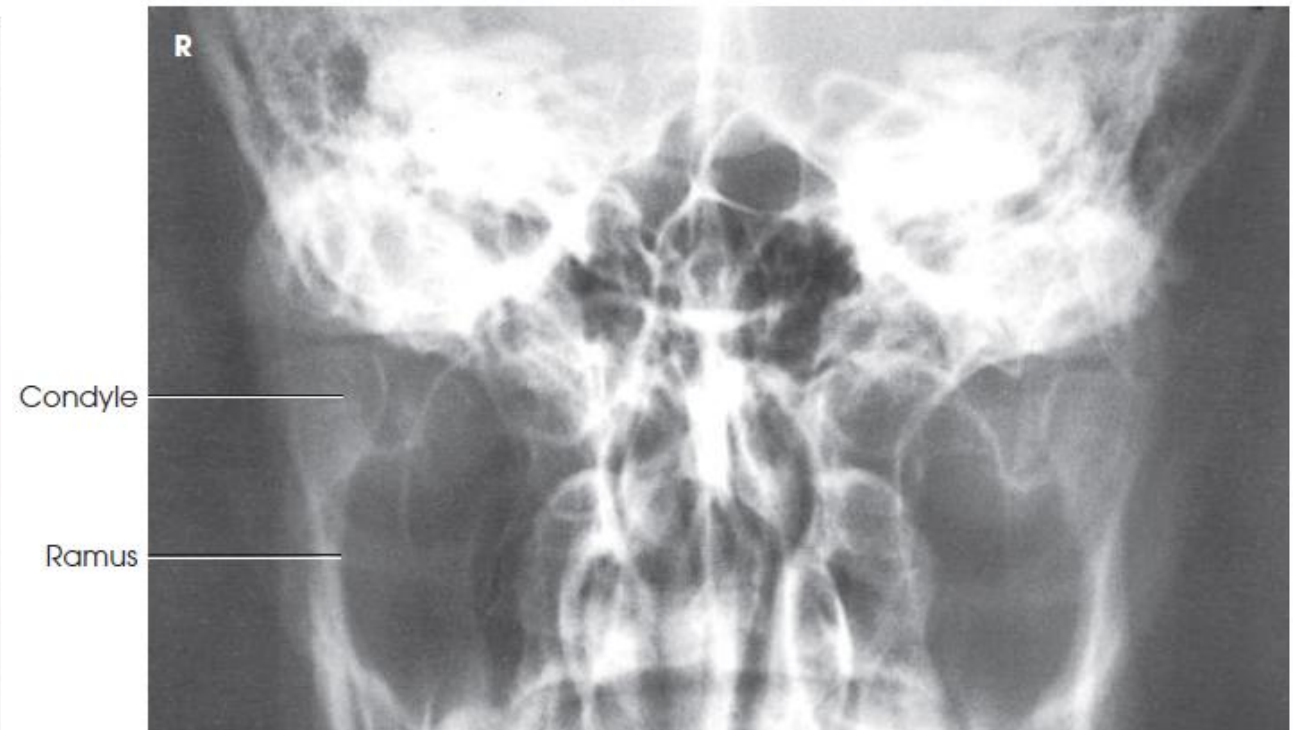
Evaluation Criteria:

- Condylod processes of mandible and TM fossae are demonstrated.
- Contrast and density (brightness) are sufficient to visualize condylod process and TM fossa.
- Sharp bony structures indicate no motion.

I. AP AXIAL (MODIFIED TOWNE METHOD)



AP axial TMJs: mouth closed



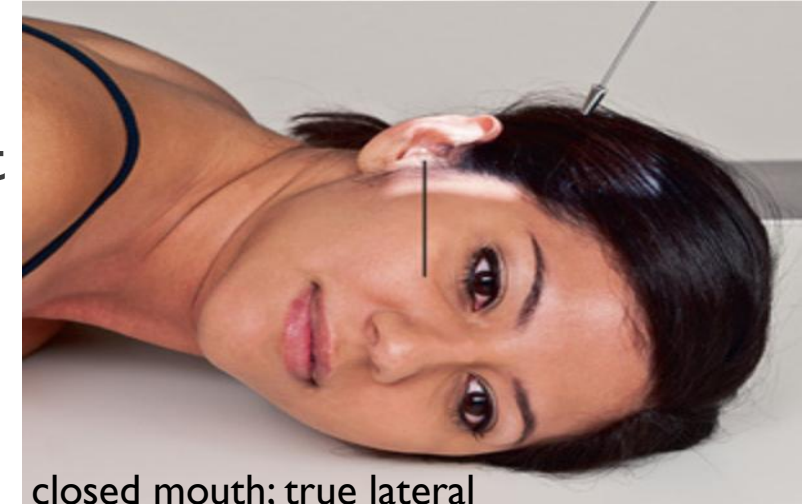
AP axial TMJs: mouth open

2. AXIOLATERAL PROJECTION (SCHULLER METHOD)

Patient Position

- Place the head in a true lateral position, with side of interest nearest IR and move patient's body in an oblique direction, as needed for patient's comfort.
- Align IPL perpendicular to IR, align MSP parallel with IR.
- Position IOML perpendicular to front edge of IR.
- Closed- and open-mouth projections are often taken to demonstrate range of motion of the TMJ.

CR: Angle CR 25° to 30° caudad, centered to (1.3 cm) anterior and (5 cm) superior to upside EAM. Center IR to projected TMJ.



closed mouth; true lateral



open mouth; true lateral

2. AXIOLATERAL PROJECTION (SCHULLER METHOD)

Collimation: Collimate on four sides to anatomy of interest.

Technical Factors

SID: 102 cm

Grid: Yes

IR size: (8 × 10 inches) C.W

kV: 70

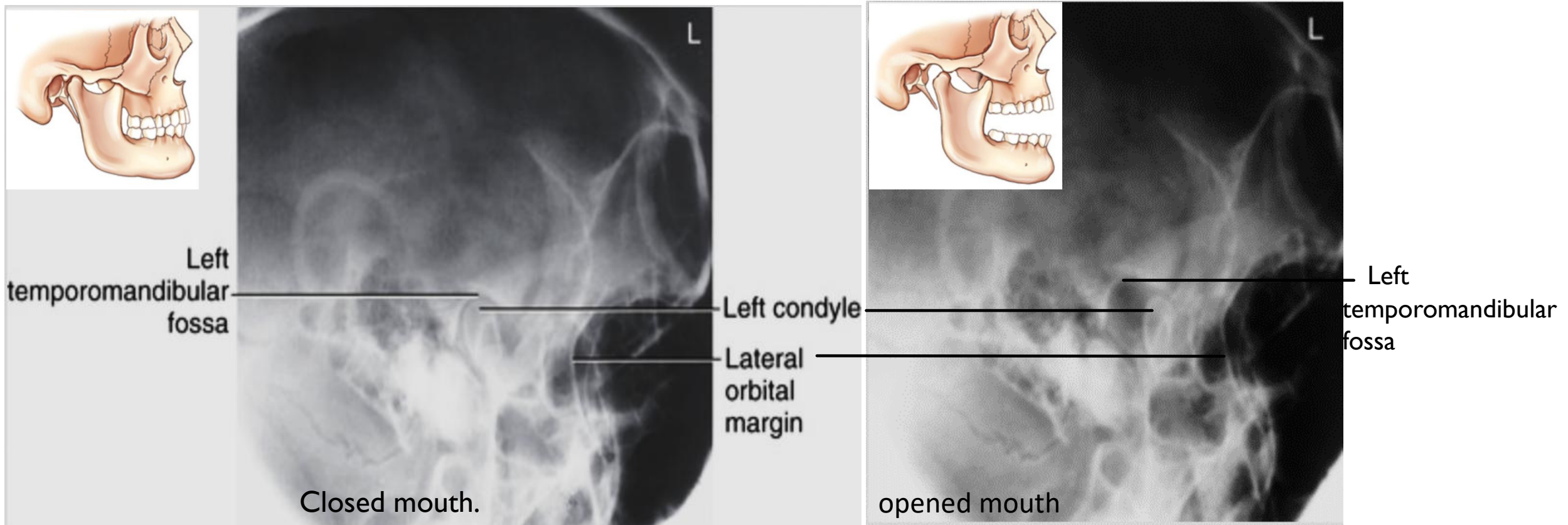
mAs: 20

Respiration: Suspended

Evaluation Criteria

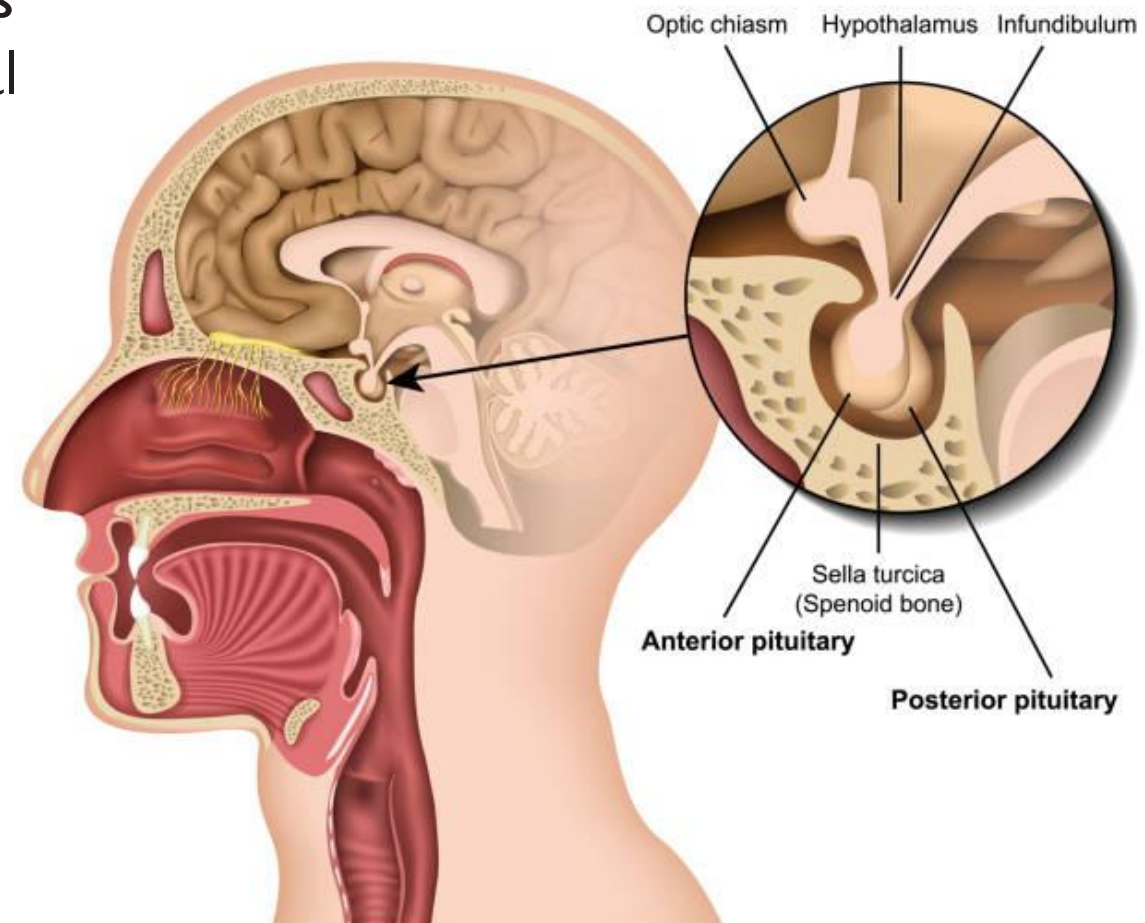
- **Closed-mouth** image demonstrates the condyle within the mandibular fossa.
- **Open-mouth** position the condyle moves to the anterior margin (articular tubercle) of fossa

2. AXIOLATERAL PROJECTION (SCHULLER METHOD)



SELLA TURCICA – LATERAL

- This examination is increasingly uncommon, as in the presence of good clinical or biochemical evidence of a pituitary tumor.
- MRI or CT examinations along with other diagnostic tests will be undertaken. If these modalities are unavailable, evidence of sella expansion by a large lesion may be demonstrated by this projection.



SELLA TURCICA – LATERAL

Patient Position

- Place patient's head in a true lateral position; position patient's body oblique.
- Align interpupillary line perpendicular to IR. Align midsagittal plane parallel to IR. Place IOML perpendicular to front edge of IR.

CR: Align CR perpendicular to IR. CR is centered to a point 2.5 cm anterosuperior from the EAM. Center image receptor to CR.

Collimation: Collimate on four sides to the anatomy of interest.



SELLA TURCICA – LATERAL

Technical Factors

SID: 102 cm

Grid: Yes

IR size: (8 × 10 inches) C.W

kV: 82

mAs: 27

Respiration: Suspended

Evaluation Criteria

- The sella turcica is visualized without rotation or tilt.
- The anterior and posterior clinoids are superimposed.

SELLA TURCICA – LATERAL

