
بسم الله الرحمن الرحيم

Occlusion in complete denture

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Occlusion is a concept that is relevant to all dental patients whether they have their own teeth or not.

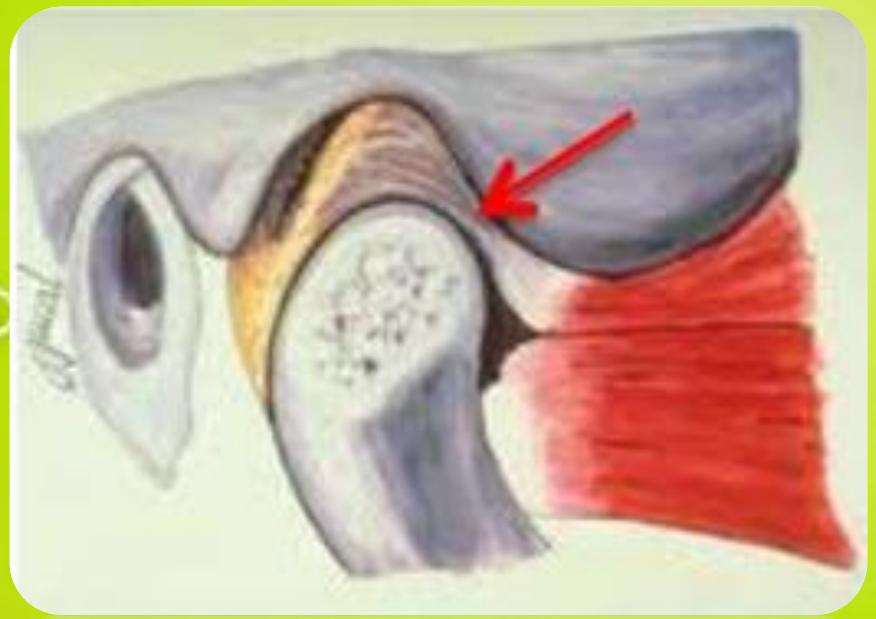
Occlusion describe the contact relationship between the upper and lower teeth.

When the teeth contact, they exert forces that are either distributed via the periodontal membrane, for those with natural teeth, or through the supporting mucosa for those with removable type prosthesis.

occlusion is bringing the mandibular teeth up into contact with the maxillary teeth.

This is a static position when the jaws are centrically or eccentrically related.

Centric jaw relation: the maxillo-mandibular relationship in which the condyle articulate with the thinnest avascular portion of their respective disc with the complex in the anterior-superior position against the slopes of the articular eminencies. This position is independent of tooth contact.



Centric occlusion: is the occlusion of opposing teeth when the mandible is in centric relation. This may or may not coincide with the maximal intercuspal position.

Goals of complete denture occlusion

1-Minimize trauma to the supporting structures.

2-Preserve remaining structures.

3-Enhense stability of the denture.

4-facilitate esthetic and speech.

5-Restore masticatory efficiency to a reasonable level.

Types of complete denture occlusion

1-Bilateral balance occlusion.

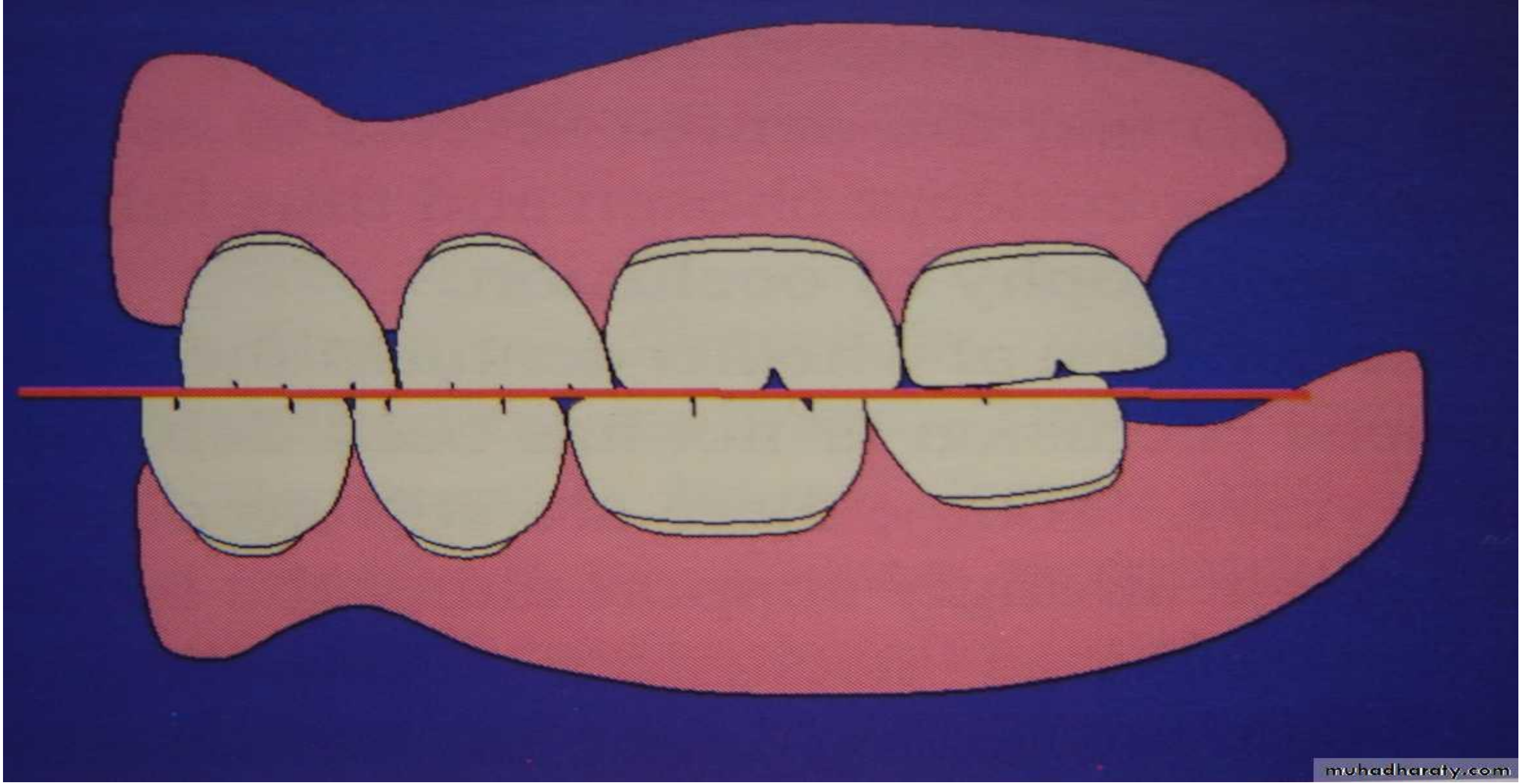
2-Monoplane occlusion.

3-Lingualized occlusion.

Bilateral Balanced Denture Occlusion with Anatomic Posterior Denture Teeth

- Bilateral Posterior Centric Contact
- Centralized Forces
- "Balanced" Occlusion to minimize tipping

Lingualized Occlusion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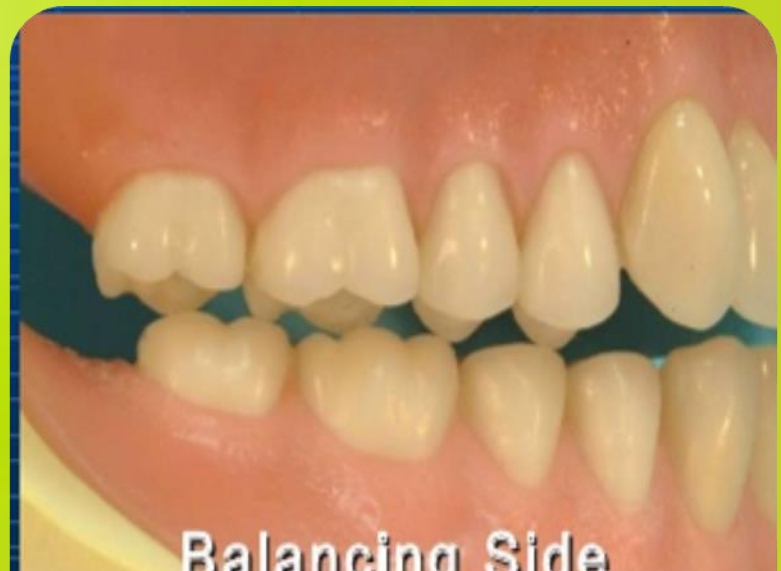
Teeth should be arranging tightly in ***centric occlusion*** that the facial cusps of the mandibular teeth contact the central fossae of the maxillary teeth while the lingual cusps of maxillary teeth fit into the central fossa of the mandibular teeth, this facial overlap prevents check biting when the dentures are completed

Bilateral balance occlusion concept

- Means the simultaneous contacting of the upper and lower teeth on the right and left sides and in the anterior and posterior occlusal surfaces in centric and eccentric positions.

Bilateral balance occlusion concept

- Working or functional occlusion occurs when the facial cusps of the maxillary teeth meet the facial cusps of the mandibular teeth; the lingual cusps of maxillary teeth meet also the lingual cusps of mandibular teeth. Non-working (balanced occlusion) occurs simultaneous in the opposite side from working occlusion. In balanced occlusion the lingual cusps of maxillary teeth contact the facial cusps of the mandibular teeth



Protrusive relation: is the relation acquired by the mandible when moves in a protrusive direction. The protrusive direction is downward and forward.

The importance of balance occlusion in complete denture

1-It avoids displacement of denture during functional movements.

2-It assist in earlier repositioning of denture which become displaced during mastication.

3-During swallowing of saliva, teeth come in contact and this contact demand equal pressure with satisfactory position of the cusp in the opposing fossae.

Factors of occlusion

1-Horizontal Condylar guidance

2-Incisal guidance

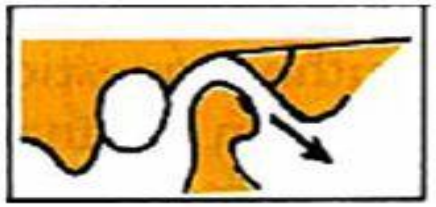
3-Orientation of occlusion plane

4-Cuspal inclination

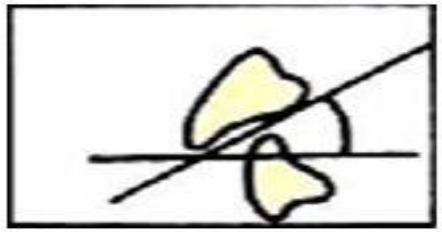
5-Prominance of compensating curve

Factors of occlusion.

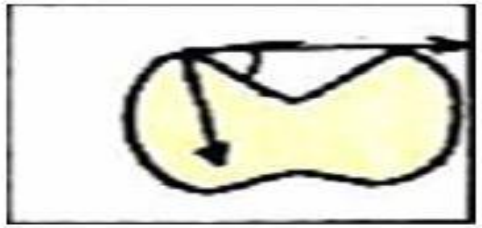
1 – Condylar Guidance.



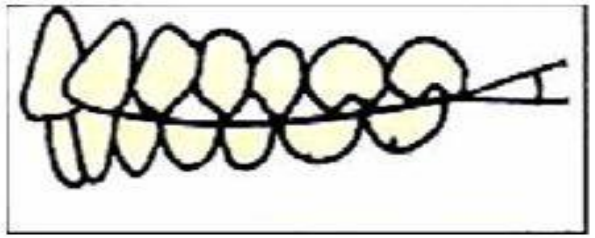
2 – Incisal Guidance



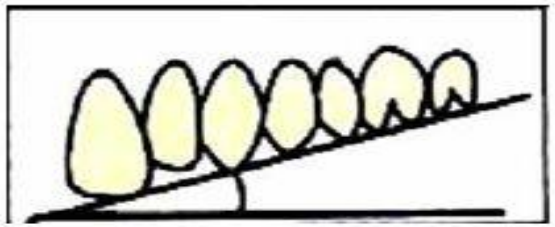
3 – Cusp height



4 – Compansating curve



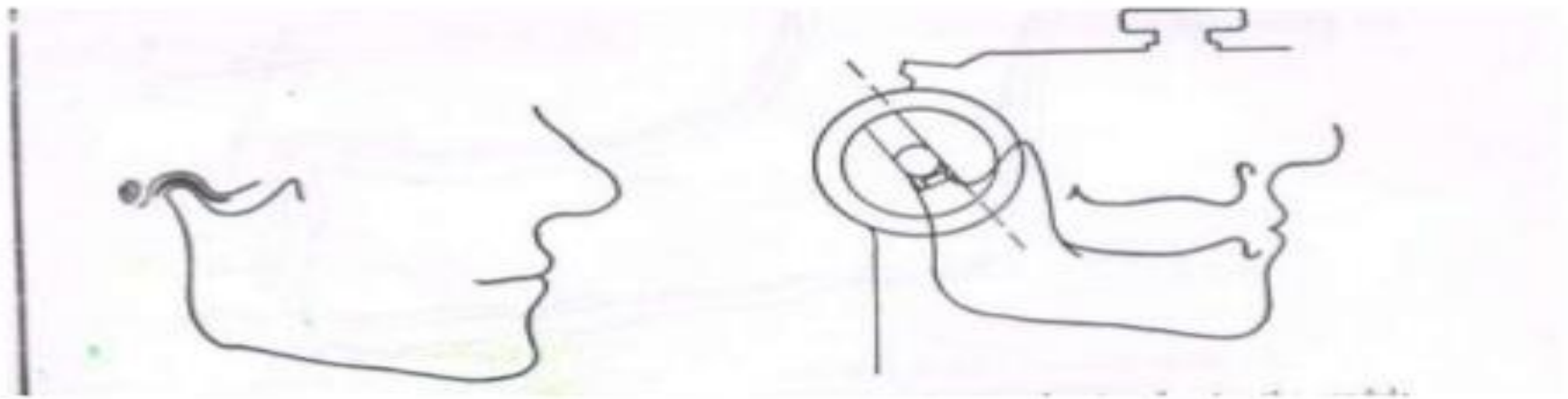
5 – orination of occlusal plane



1. CONDYLAR GUIDANCE

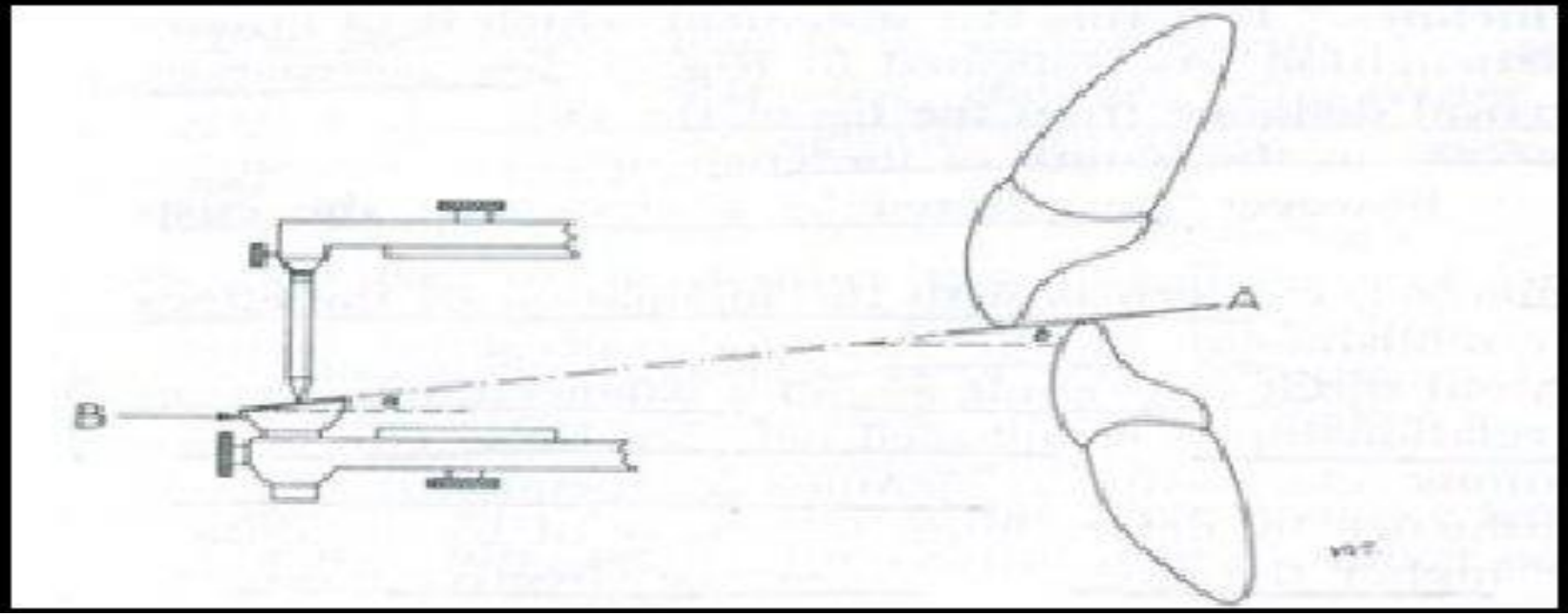
- Mandibular guidance generated by condyle and articular disc traversing contour of glenoid fossa

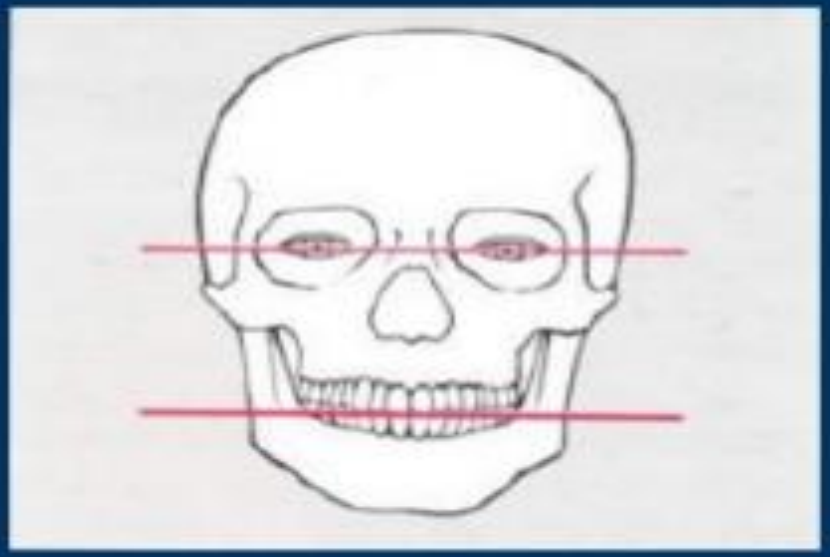
- Condylar guidance is due to path followed by condyle in temporomandibular joint
- Obtained by protrusive registration record



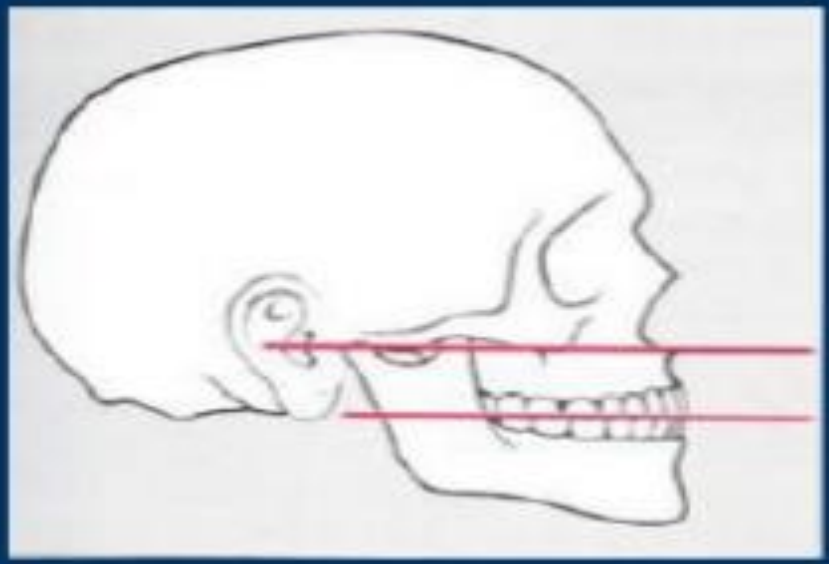
2.INCISAL GUIDANCE

- Influence of contacting surface of guide pin and guide table on articulator movement





Anteriorly : Occlusal plane parallel to interpupillary line

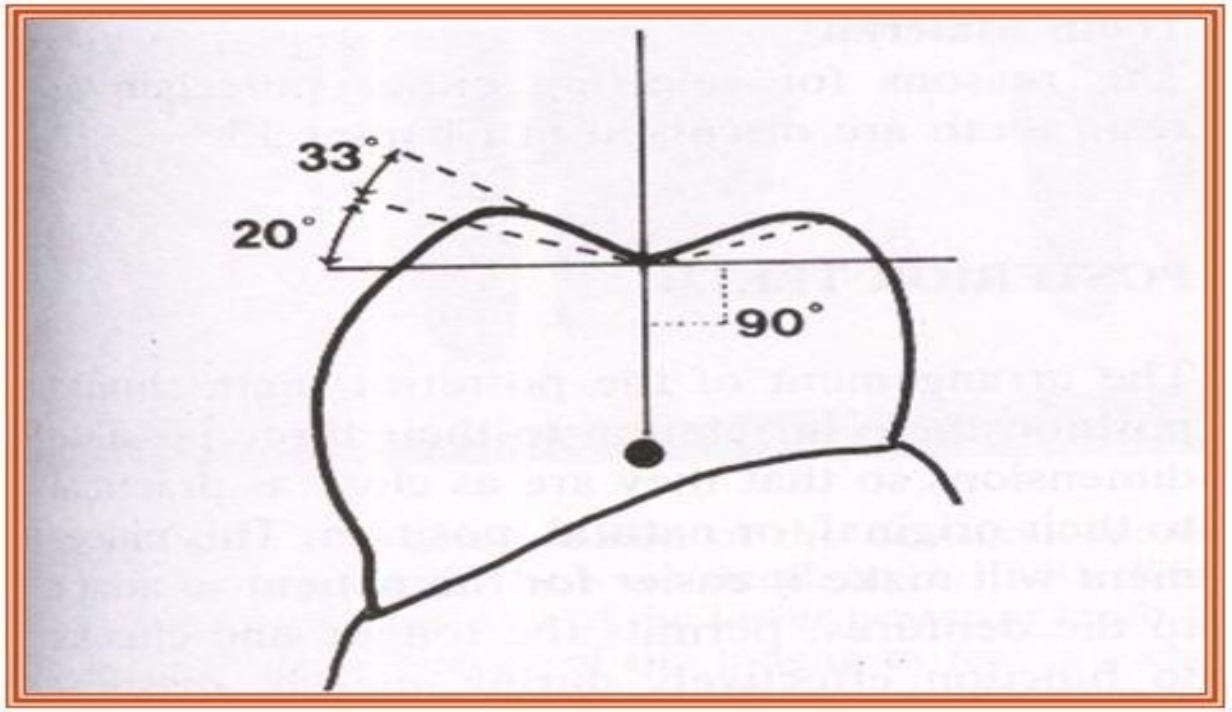


Posteriorly : Occlusal plane parallel to ala-tragus line (Camper's line) runs from inferior border of ala of nose to superior border of tragus of the ear

Cuspal Inclination

- Defined as the angle between the palatal incline of the mesiobuccal cusp & the horizontal

- Classified:
  - Nonanatomic
  - Anatomic



COMPENSATING CURVES

CURVE OF SPEE:{ANTERIOPOSTERIOR CURVE}:

DEFINED AS,ANATOMIC CURVATURE OF THE OCCLUSAL ALIGNMENT OF TEETH BEGINNING AT THE TIP OF THE LOWER CANINE AND FOLLOWING THE BUCCAL CUSPS OF THE NATURAL PREMOLARS AND MOLARS,CONTINUING TO THE ANTERIOR BORDER OF THE RAMUS AS DESCRIBED BY GRAF VON SPEE.

CURVE OF MONSON:

IS DEFINED AS THE CURVE OF OCCLUSION IN WHICH EACH CUSP AND INCISAL EDGE TOUCHES OR CONFORMS TO A SEGMENT OF A SPHERE OF 8 INCHES IN DIAMETER WITH ITS CENTER IN THE REGION OF GLABELLA.

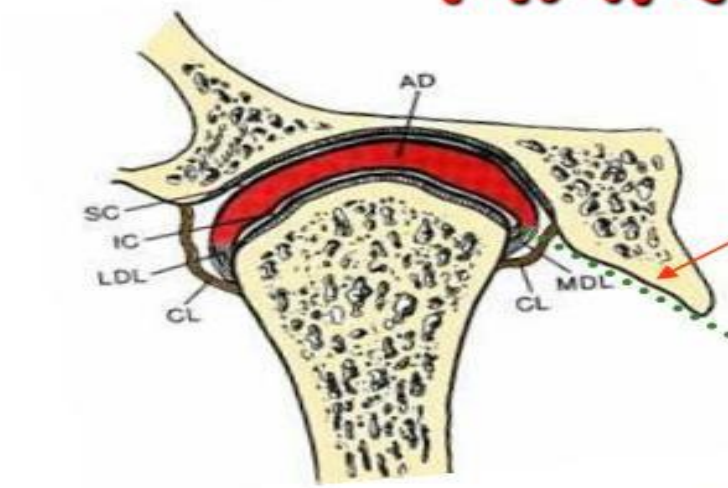
CURVE OF WILSON{MEDIOLATERAL CURVE}:

THE THEORY THAT OCCLUSION SHOULD BE SPHERICAL,THE CURVATURE OF THE CUSPS AS PROJECTED ON THE FRONTAL PLANE EXPRESSED IN BOTH ARCHES.THE CURVE IN LOWER ARCH BEING CONVEX THE CURVATURE IN THE LOWER ARCH IS AFFECTED BY AN EQUAL LINGUAL INCLINATION OF THE RIGHT AND LEFT MOLARS SO THAT THE TIP POINTS OF THE CORRESPONDING CROSS-ALIGNED CUSPS CAN BE PLACED INTO CIRCUMFERENCES OF A CIRCLE.THE TRANSVERSE CUSPAL CURVATURE OF THE UPPER TEETH IS AFFECTED BY THE EQUAL BUCCAL INCLINAATIONS OF THE LONG AXIS.

$$C = \frac{\text{Condylar Inclination} \times \text{Incisal Guidance}}{\text{OccPlane} \times \text{Cuspal Inclination} \times \text{CompCurve}}$$

- When Incisal Guidance is increased . . .

HANAU'S QUINT



Condylar Inclination

Compensating Curve

Cuspal Inclination

Incisal Guidance –
Not in dentures.

Occlusal Plane
Inclination

Cuspal inclination
+ Occlusal Plane Inclination
Condylar inclination &
Compensating Curve

CG + IG EFFECT OP, CC, CH


thank
you