

The background of the slide features a stack of several dental models. Each model consists of a pinkish-red plastic base representing the jaw and a set of white, realistic-looking teeth. The models are arranged in a slightly overlapping, vertical stack, with the top one being the most prominent. The teeth are arranged in a full arch, showing incisors, canines, premolars, and molars. The models appear to be demonstrating different horizontal relationships between the upper and lower dental arches, which is the subject of the slide's title.

Horizontal jaw relations in complete denture

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LAST LECTURE.....

- ***Jaw relations***
- ***Vertical jaw relations***

Vertical jaw relations at rest position

Vertical jaw relations at occlusion

THIS LECTURE CONTAINS

Horizontal jaw relations

- **Types of Horizontal jaw relations**

 - 1-centric jaw relation

 - 2-eccentric jaw relation

 - a-Protruded or forward relation.

 - b-Lateral relation (Left or right).

- **Centric jaw relation**

 - Significance of centric jaw relation

 - Methods of recording centric jaw relation

- **Eccentric jaw relations**

 - Factors to be considered while making eccentric jaw relations

HORIZONTAL RELATIONS

- **Horizontal jaw relations:** The relationship of mandible to maxilla in a horizontal plane (in anteroposterior and side to side direction).

- HORIZONTAL JAW RELATIONS INCLUDE:

1-CENTRIC JAW RELATION.

2-ECCENTRIC JAW RELATION:

A-PROTRUDED OR FORWARD RELATION.

B-LATERAL RELATION (LEFT OR RIGHT).

Centric jaw relation

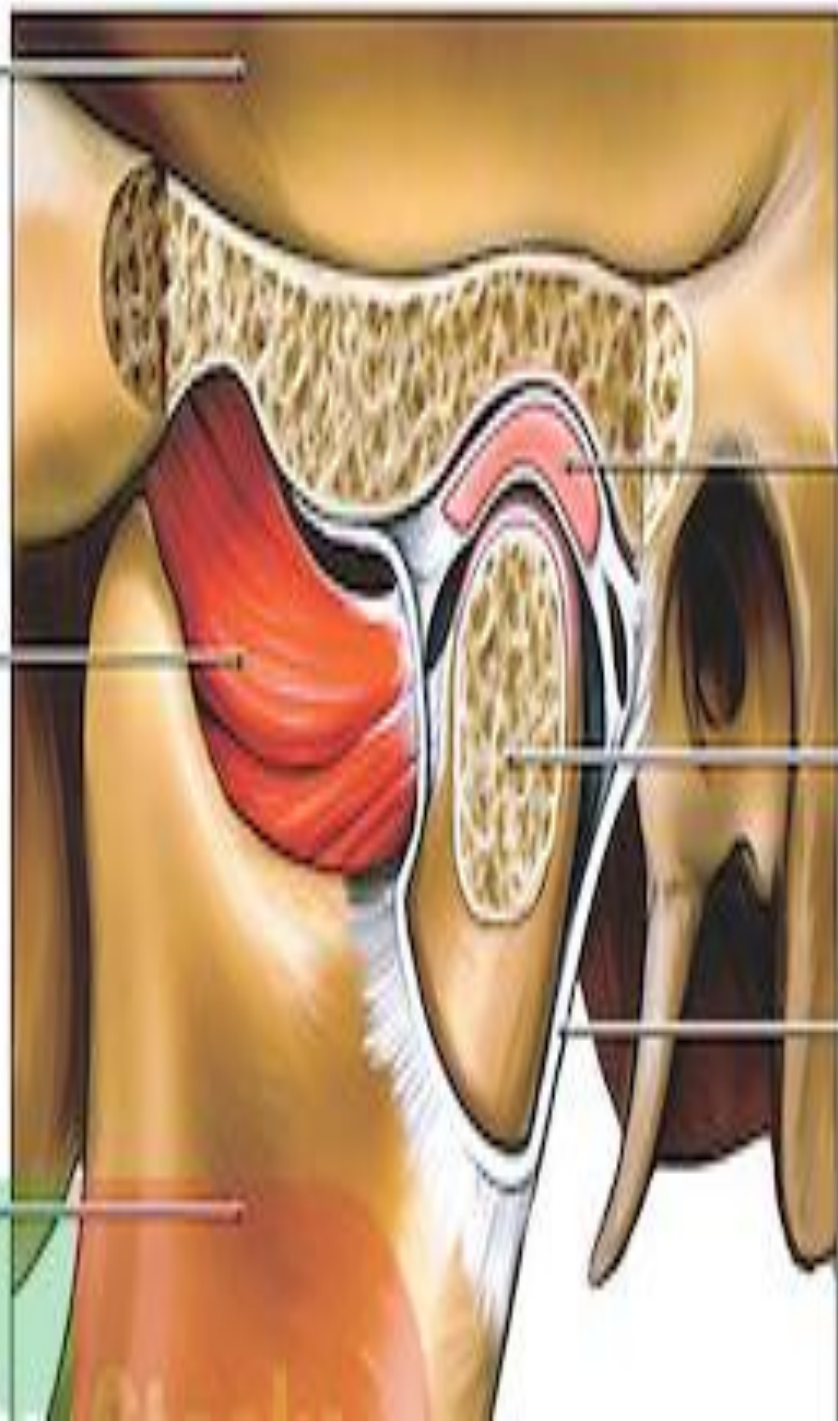
- It is the maxillomandibular relationship in which the both condyles articulate with the thinnest avascular portion of their respective disks with the complex in the anterior-superior position against the shapes of the articular eminencies.
- This position is independent of tooth contact.



Temporal bone

Pterygoid muscle

Mandible



Meniscus

Condyle

Joint capsule

Centric occlusion:

The occlusion of opposing teeth when the mandible is in centric relation. This may or may not coincide with the maximal intercuspatal position (it is tooth-to-tooth relationship dictated by bone to bone relationship).





IMPORTANCE OF CENTRIC JAW RELATION (SIGNIFICANCE)

- 1. It is learnable, repeatable, and recordable position which remains constant throughout life.**
- 2. It is a reference position from which the mandible can move to any eccentric position and return back involuntarily.**
- 3. It is the start point for developing occlusion.**

4-Functional movements like chewing and swallowing are performed in this position, because it is the most unstrained position.

5-It is a reliable jaw relation, because it is bone to bone relation.

METHODS OF RECORDING CENTRIC JAW RELATION IN COMPLETE DENTURE:-

1. FUNCTIONAL “CHEW –IN” METHODS.

- a. Needles-House technique.**
- b. Patterson technique.**

2- GRAPHIC METHODS.

- a. Intraoral method.**
- b. Extraoral method.**

3- PHYSIOLOGICAL METHOD.

- Tectile or interocclusal check record.**

4- OTHER METHODS

- Swallowing methods.**

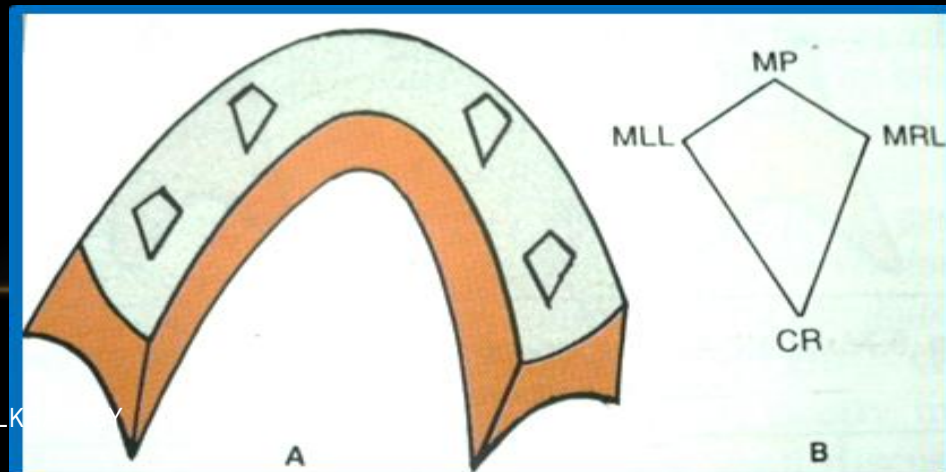
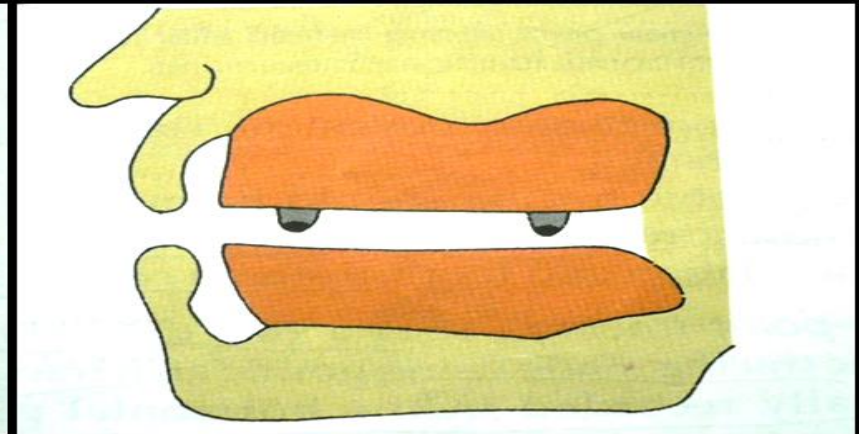
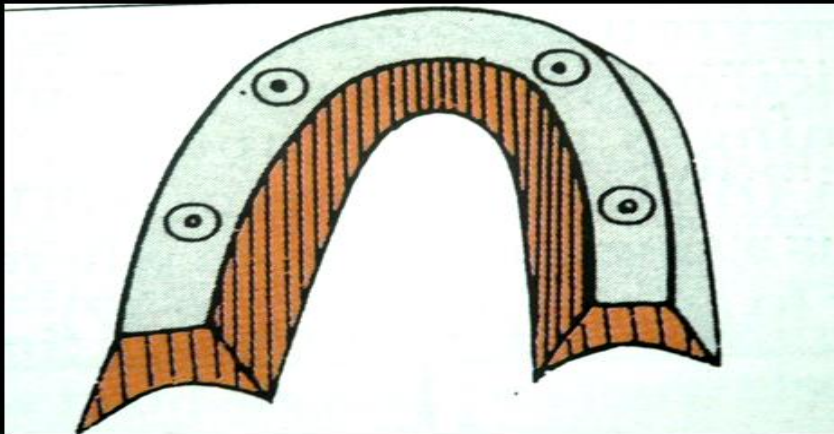
FUNCTIONAL "CHEW-IN" METHODS.

A- NEEDLES-HOUSE TECHNIQUE

Compound occlusion rims

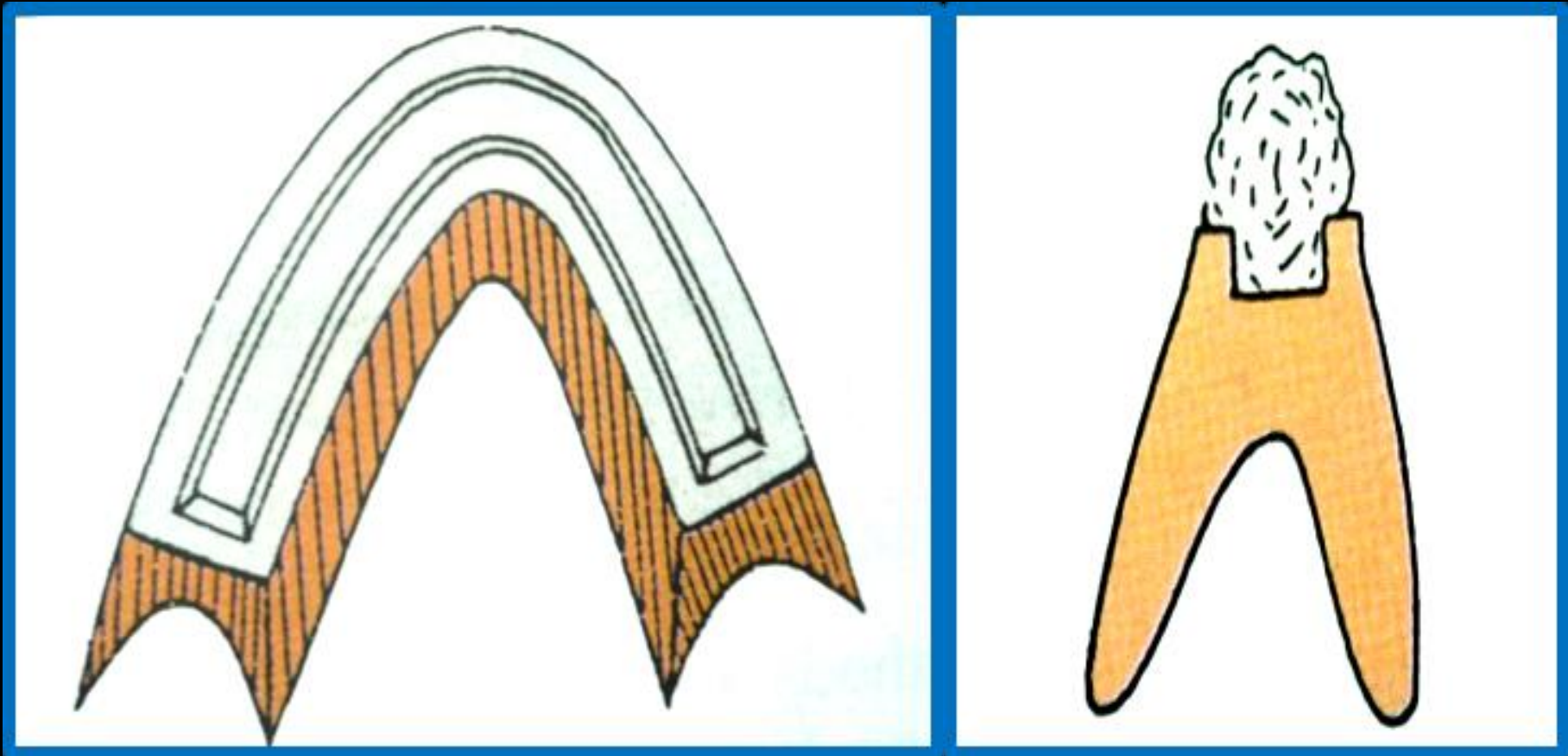
Four metal styli

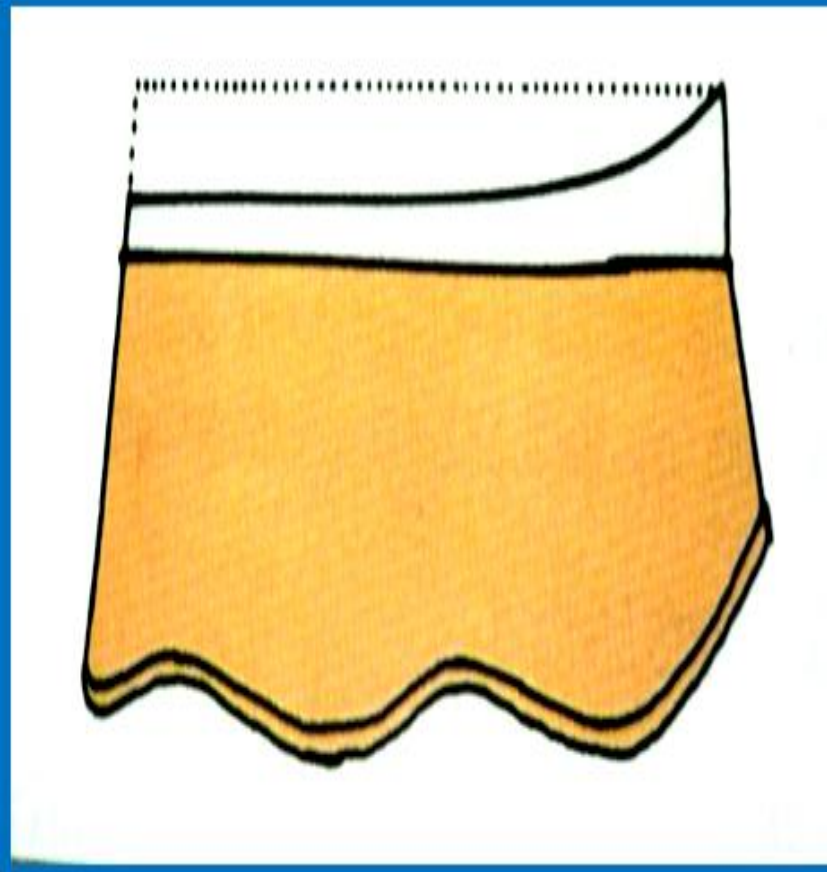
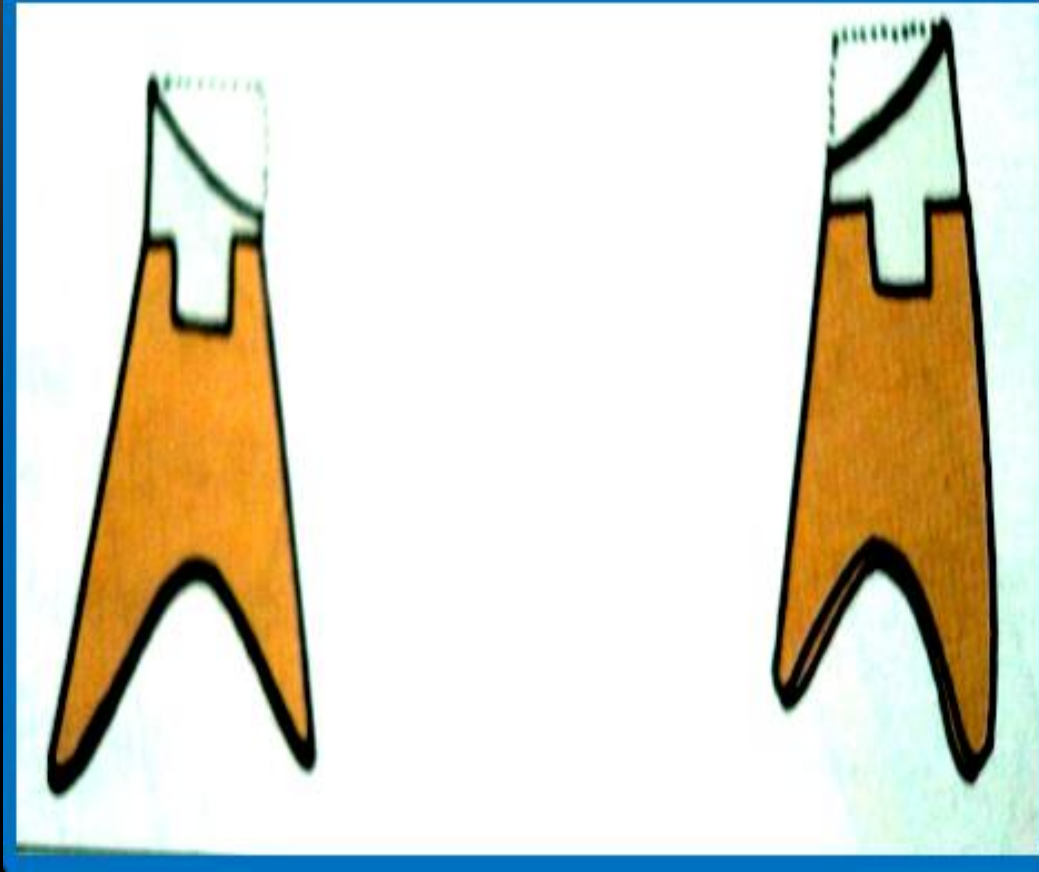
Diamond-shaped tracings



B-PATTERSON TECHNIQUE:

Mixture of half plaster and half pumice in the trench
Compensatory curve

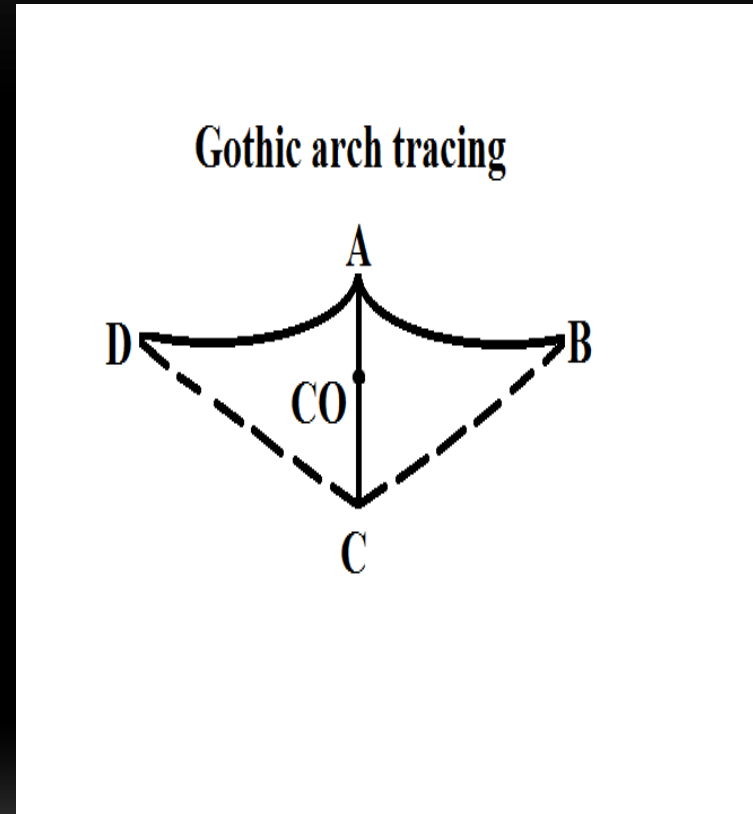




The disadvantages of functional methods involve lateral and anteroposterior displacement of the recording bases in relation to the supporting bone while the record is being made.

2) GRAPHIC METHODS (GOTHIC ARCH TRACING).

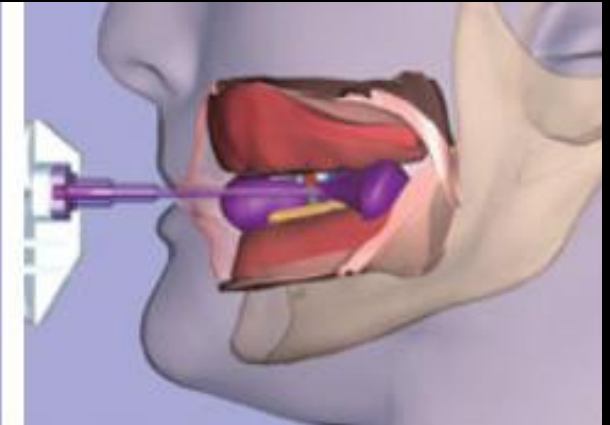
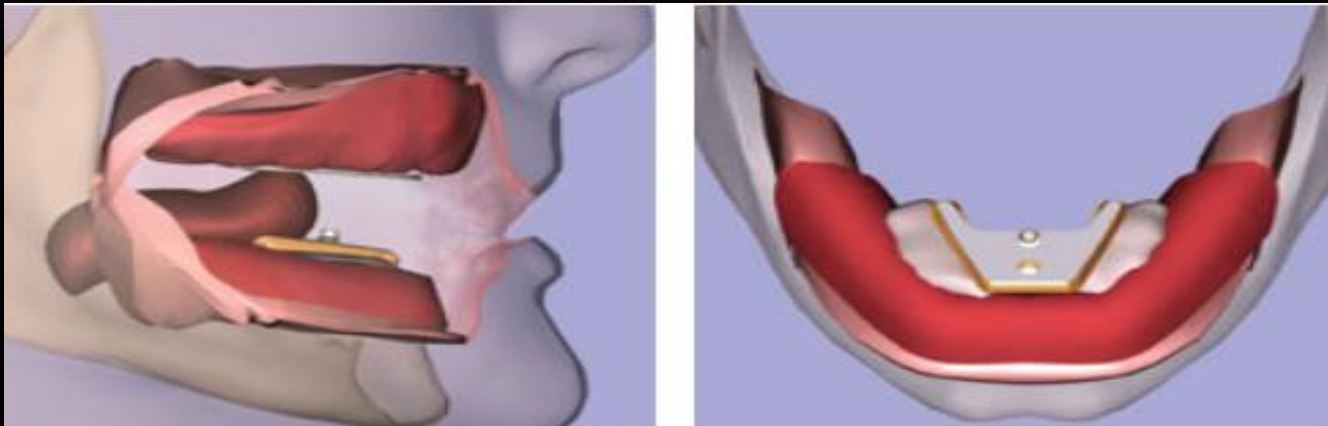
- Gothic arch tracing
- Arrow point tracing
- Tracing in one plane
- Apex - the most retracted position



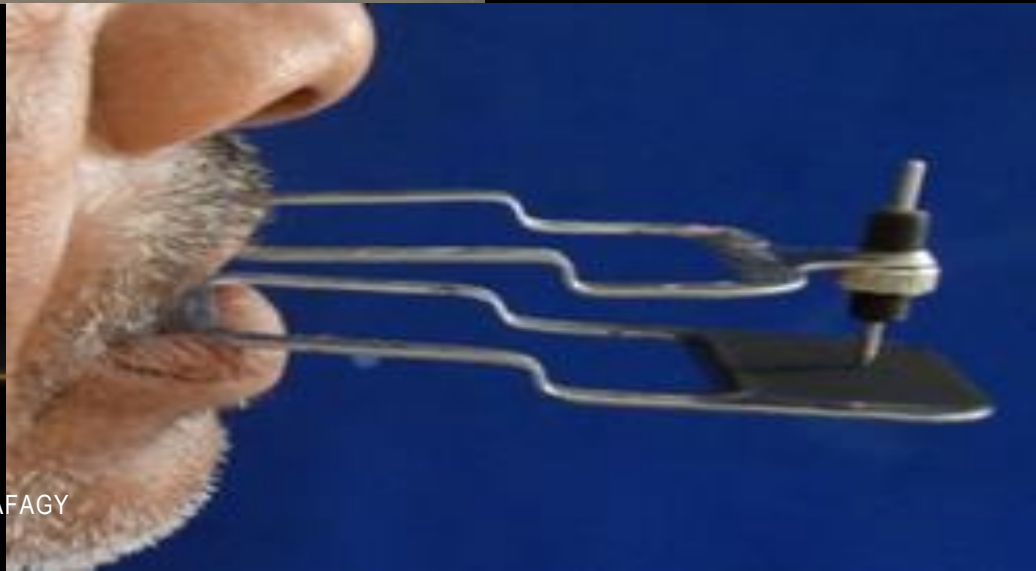
INTRAORAL TRACING



INTRAORAL TRACING



EXTRAORAL TRACING



3-PHYSIOLOGICAL METHOD.

-TACTILE OR INTEROCCLUSAL CHECK RECORD.

- **Indications:**
 - **abnormally related jaws**
 - **excessively displaceable supporting tissues**
 - **large tongue**
 - **abnormal mandibular movements**
 - **verify occlusion in existing dentures**

***Take a rest for 10 min.
only***

BITE REGISTRATION/RECORDING MATERIALS

- **Waxes**
- **Quick setting plaster**
- **Impression compound**
- **Bite registration paste (ZOE)**
- **Bite registration silicone**

Seat the patient with head upright

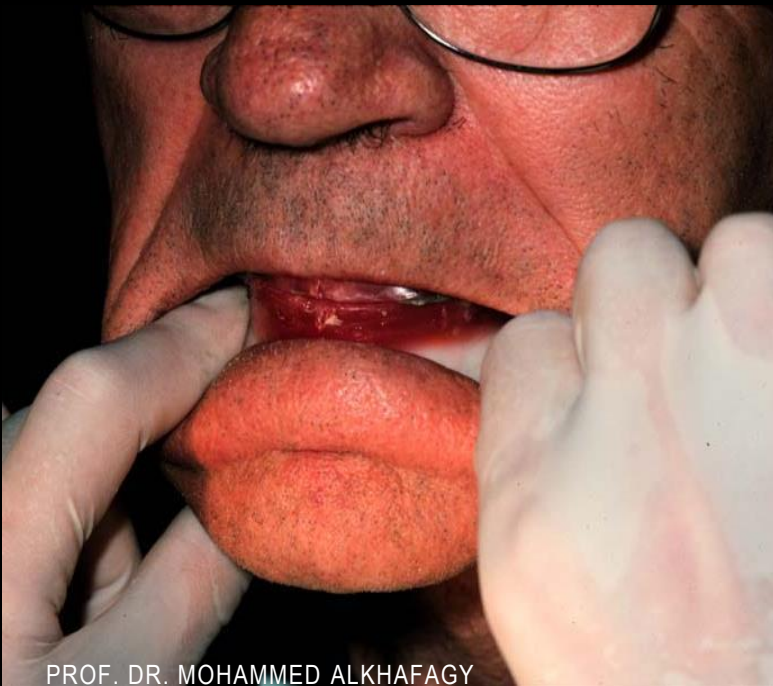


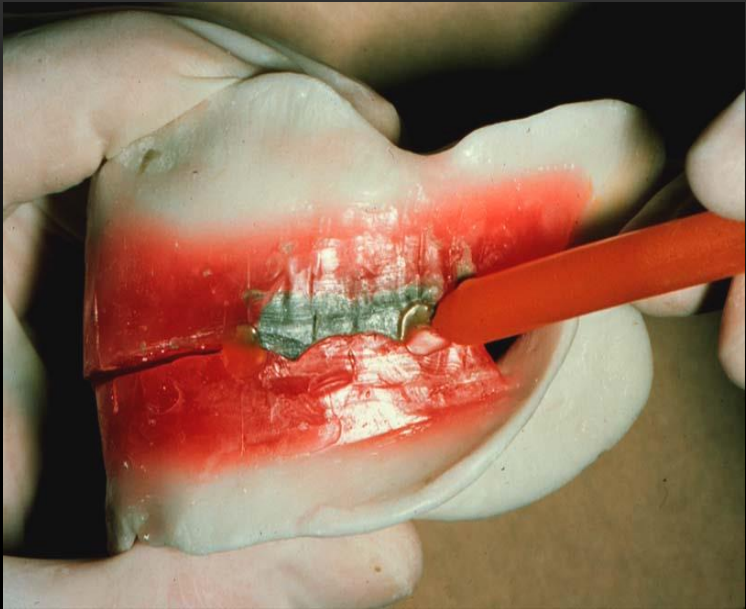
- Place **Alluwax** into a 1-2mm slot in maxillary rim
- Fill to slight excess
- Ensure wax is dead soft
- Hot water bath for softening (use care)



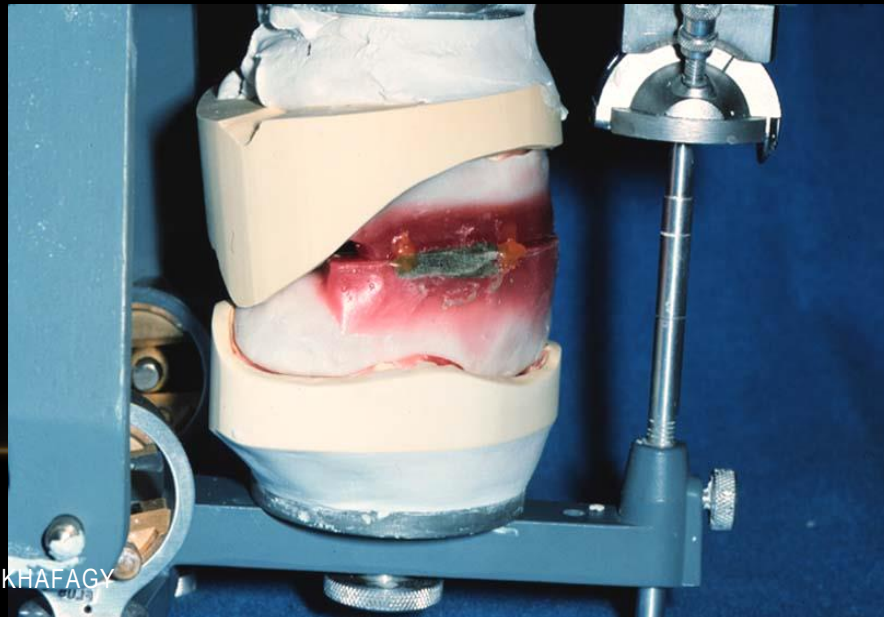
Stabilize mandibular record base using index fingers on the flange (or in a recess in the rim) and the thumbs under the symphysis

- Hold position until set **1-2 min**
- Remove both rims together
- Chill and separate





Mounting of the casts

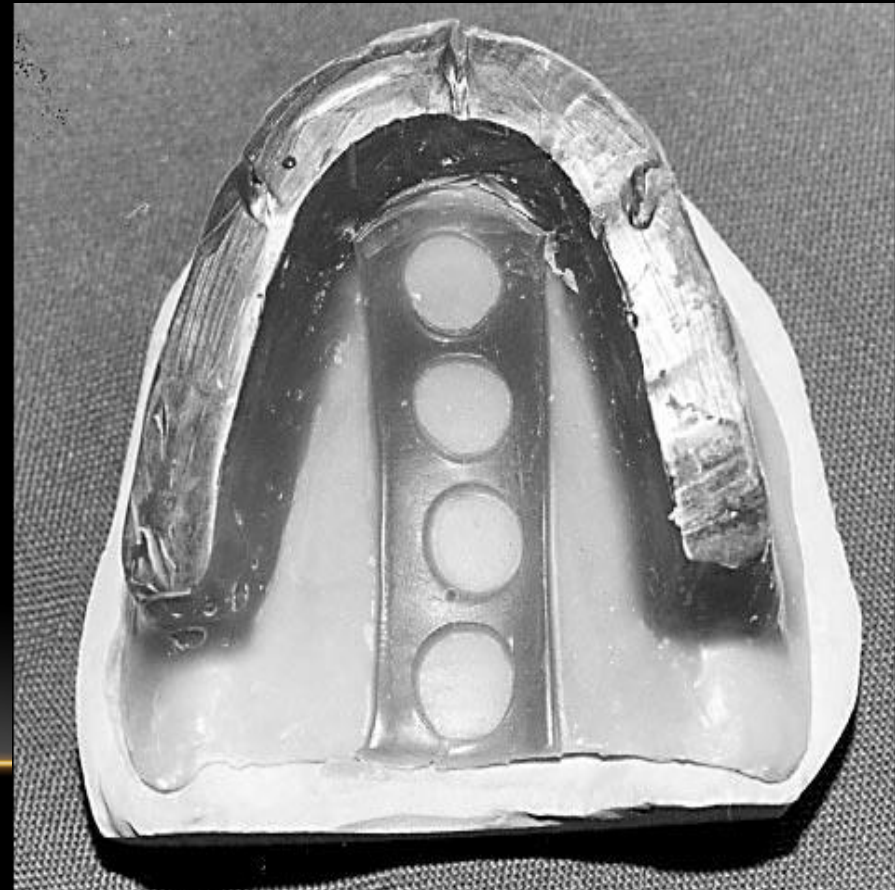
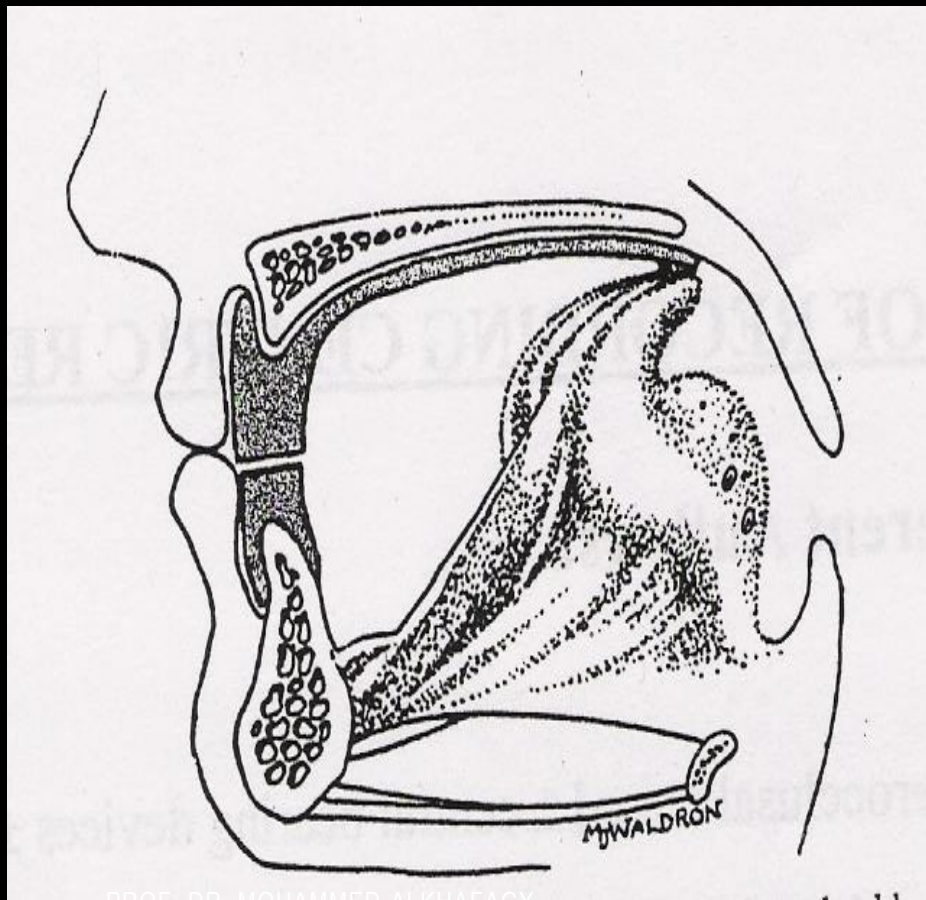


METHODS OF ASSISTING THE PATIENT TO RETRUDE THE MANDIBLE

- **Let the jaw relax, pull it back and close slowly on the posterior teeth**
- **Push the upper jaw out and close on the back teeth**
- **Protrude and retrude the mandible repeatedly**



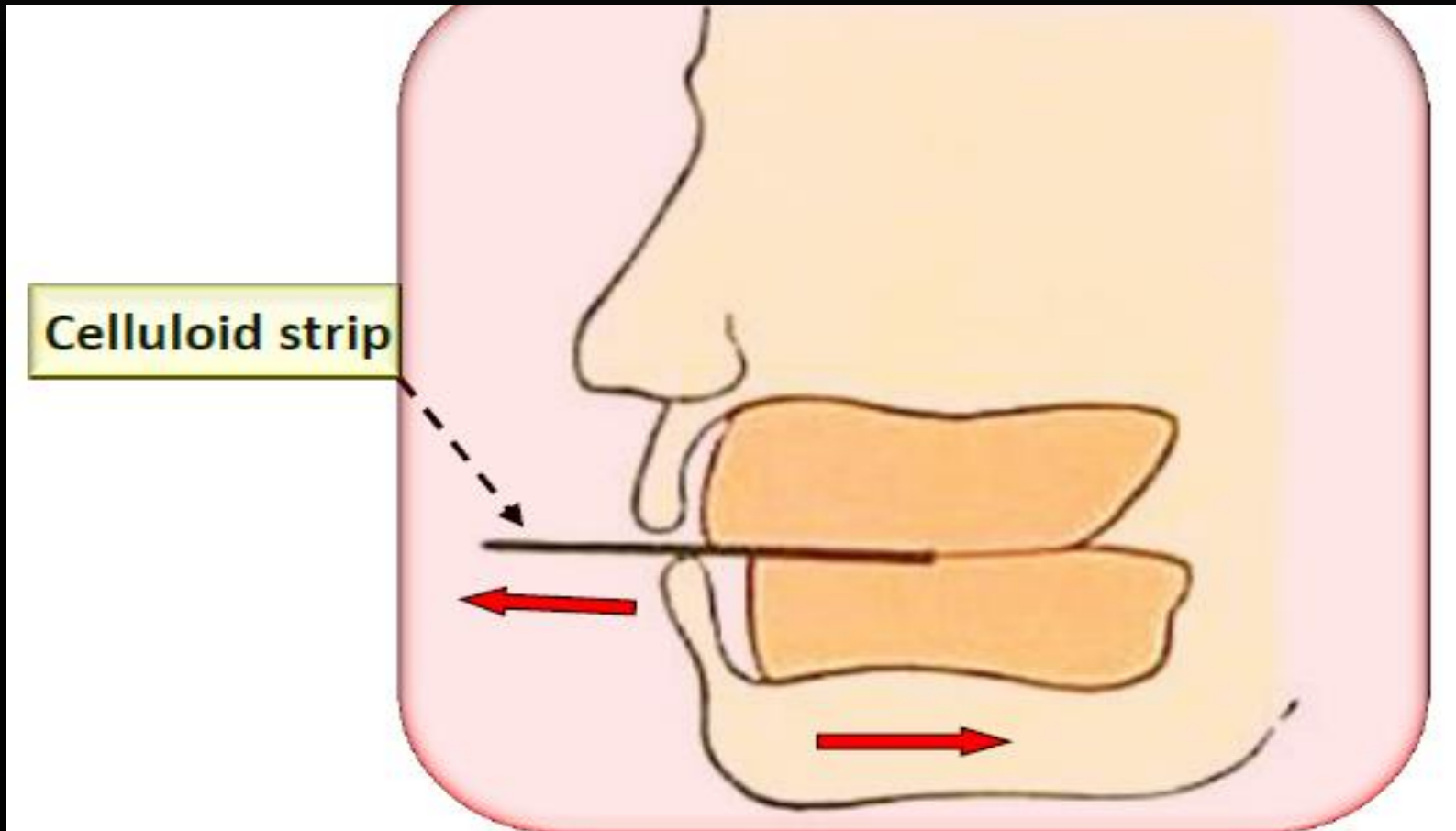
- Roll the tongue backwards towards the posterior border of upper denture and close the rims until they meet



- Boos stretch-relax exercises
- Tilting the head backwards
- Swallow and close



Pulling a strip of celluloid interposed between the occlusal rims will automatically retrude the mandible to centric relation



SWALLOWING METHOD:

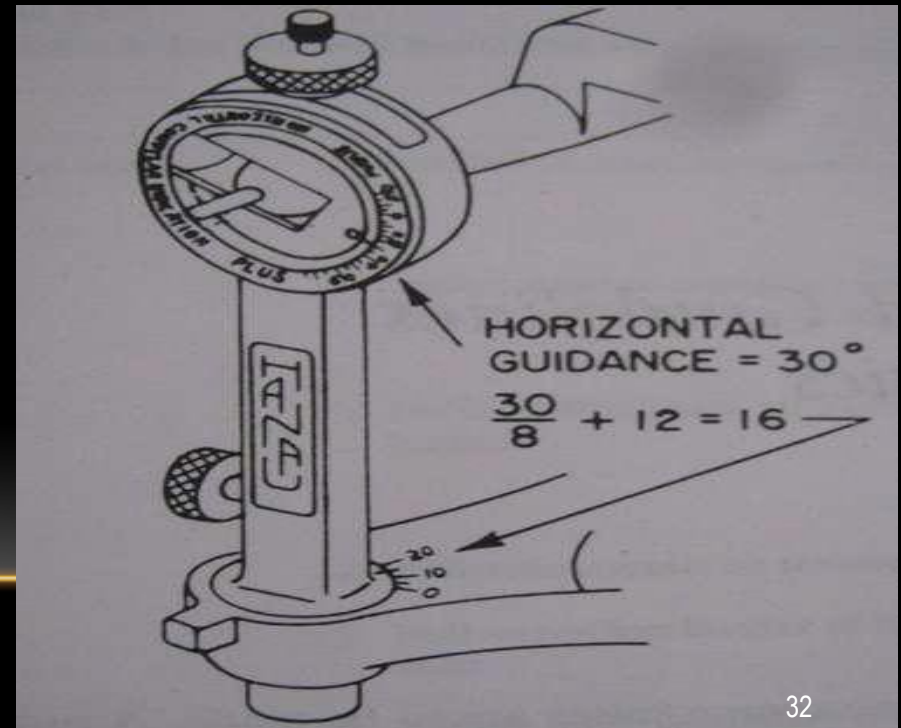


ECENTRIC RELATION RECORDS

- Protrusive relation
- Lateral relation
 - Left lateral
 - Right lateral

When the protrusive eccentric record is made on Hanau articulator, the following formula is used to obtain an acceptable lateral inclination.

$$L = \frac{H}{8} + 12$$



Factors to be considered while making eccentric jaw relations

- The condylar path of the patient cannot be altered.
- The condyles do not travel in straight lines during eccentric mandibular jaw movements.
- Semi-adjustable articulators in which the condyles travel on a flat path cannot be used to reproduced eccentric movements exactly.
- Fully-adjustable articulators, where the condylar and incisal guidance are fabricated individually with acrylic, can travel in the path of the condyle using pantographic tracing.



Bond
of
friendship

PROF. DR. MOHAMMED ALKHAFAGY

THANK U...