

HORIZONTAL JAW RELATION FOR COMPLETE DENTURE CONSTRUCTION

The horizontal jaw relation are the relationship of the mandible to the maxilla in antero-posterior and side to side direction , which include :-

1-centric jaw relation

2-eccentric jaw relation which include:-

a-protruded or forward relation

b-left or right lateral relation

CENTRIC JAW RELATION

Is the most retruded physiologic relation of the mandible to the maxilla to and from the individual can make a lateral movements. This movement can exist at various degrees of jaw separation , it occurs around the terminal hinge axis.

Also it can define as the most retruded relation of the mandible to the maxilla when condyles are in the most posterior unstrained position in the glenoid fossa from which lateral movements can be made at given degree of jaw separation ,(bone –to- bone relation).

CENTRIC OCCLUSION : The occlusion of opposing teeth when the mandible is in centric relation .This may or may not coincide with the maximum inter-cuspation , tooth –to-tooth relation

Eccentric occlusion: any occlusion other than centric occlusion.

In many people centric occlusion of the natural teeth does not coincide with centric relation of the jaws ,but in construction of

complete denture the centric occlusion must be coincide with centric relation .

The significance of centric jaw relation

- 1-it is a 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 involuntary.
- 3-it is the start point for developing occlusion.
- 4-functional movement like chewing and swallowing are performed in this position , because it is the most unstrained position.

Factors that affect centric relation records

- 1-the resiliency of the supporting tissues.
- 2-the stability of the record bases.
- 3-the TMJ and associated neuromuscular mechanisms.
- 4-the character of the pressure applied in making the recording
- 5-the skill of the dentist.
- 6-the health and cooperation of the patient.

METHODS(techniques) OF RECORDING CENTRIC RELATION

A-FUNCTIONAL METHOD-

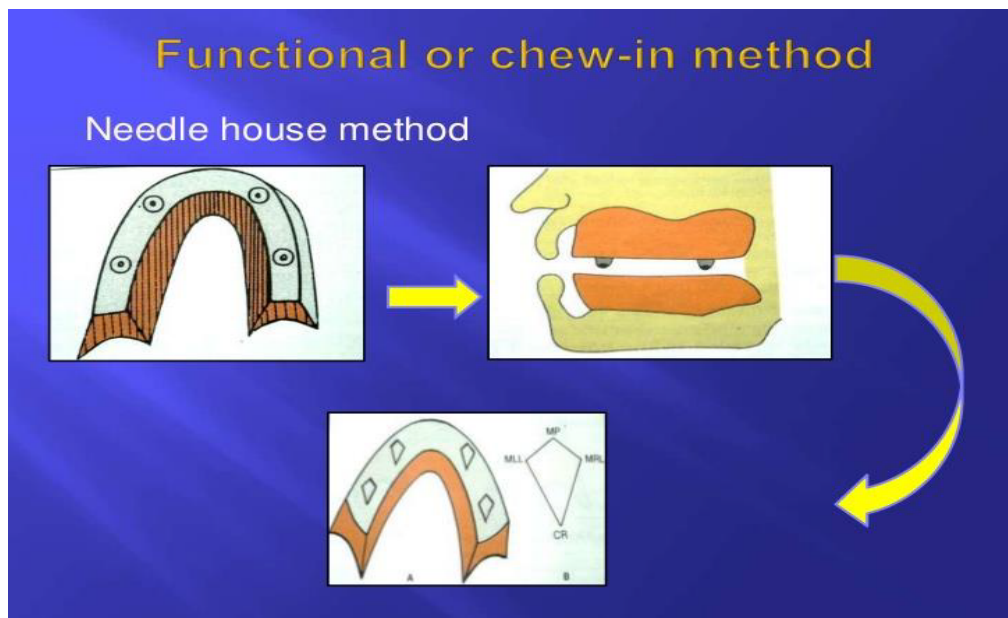
B-GRAPHIC METHODS

C-Tactile -INTEROCCLUSAL METHOD(PHYSIOLOGIC)

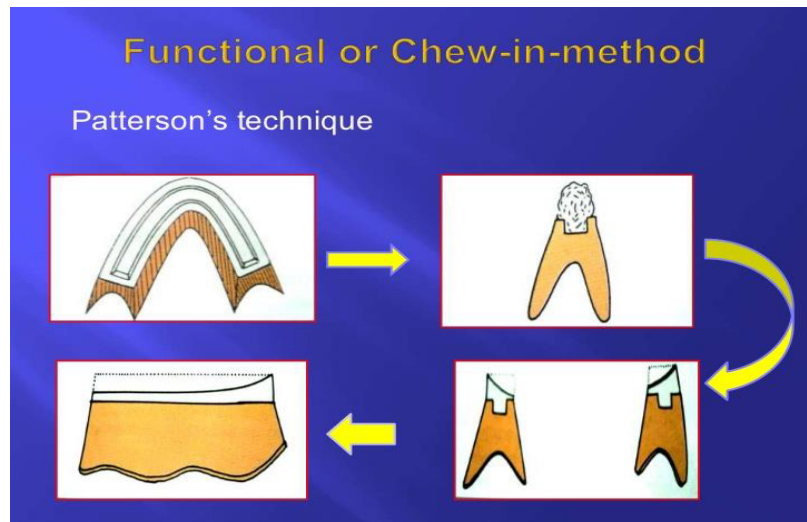
1-functional technique

Or called chew –in ,examples on this are Patterson and Needle-house techniques .The patient produces of mandibular movements by moving the mandible to protrusion, retrusion and right and left lateral movement.

A- Needles – House technique: uses compound occlusion rims with four metal styli placed in the maxillary rim. When the mandible moves with the styli contacting the mandibular rim, the styli cut four diamond shaped tracings. The tracings incorporate the movements in three planes, and the records are placed on a suitable articulator.

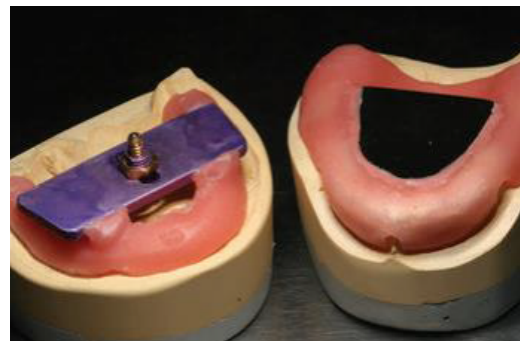


B- Patterson Method uses wax occlusion rims. A trench is made along the length of mandibular rim. A 1:1 mixture of pumice and dental plaster is loaded into the trench. When the patient moves his mandible, compensating curves on the mixture will produced, and the height of the mixture is also reduced. The patient is asked to continue these movements till a predetermined vertical dimension is obtained. Finally, the patient is asked to retruded his jaw and the occlusal rims are fixed in this position with metal staples.



2-GRAPHIC METHOD

These methods are called so because they use graphs or tracing to record the centric relation. The general concept of this technique is that a pen-like pointer is attached to one occlusal rim and a recording plate is placed on the other rim, the plate coated with carbon or wax on which the needle point can make the tracing, when the mandible moves in horizontal plane, the pointer draws characteristic patterns on the recording plate.



INTEROCCLUSAL METHODS FOR CENTRIC RELATION RECORD

The tactile or inter occlusal check record method is referred to as a physiologic method. The normal functioning of the patients and the tactile sense is essential in the making of an accurate record.

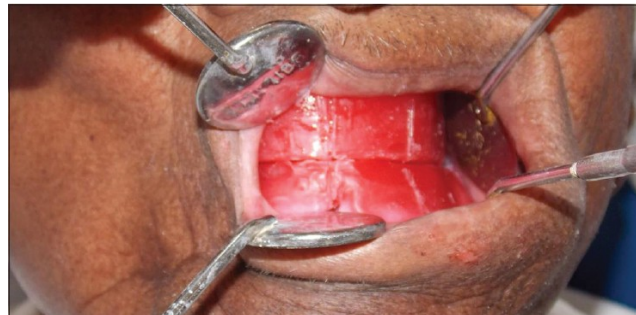
The records are made using a recording medium (impression plaster, zinc oxide eugenol, impression compound and wax) between the occlusion rims or the trial denture bases. The patient closes into the recording medium with the lower jaw in its most retruded position and stops the closure at a predetermined vertical relation.

PROCEDURE

1-This procedure is done after establishing the V.D. of the jaws ,and mounting of the face bow transfer.

2-seat the patient comfortably with head upright

Place 3 widely separated lines between the rims in the centric position (mid line & canine eminences).



Check that record base heels (rims do not touch)



3-make two sharp "V" shaped notches in the molar /premolar area of each sided wax depth 3-4mm in the upper bite rim wax



4-reduce the mandibular occlusal rim from the premolar area to the end to allow for excess inter-occlusal distance

5-making role of soft wax , place wax into a 1-2mm slot in mandibular rim ,ensure wax is soft.

6-stabilize mandibular record base using index fingers on the flange and thumbs under the symphysis.

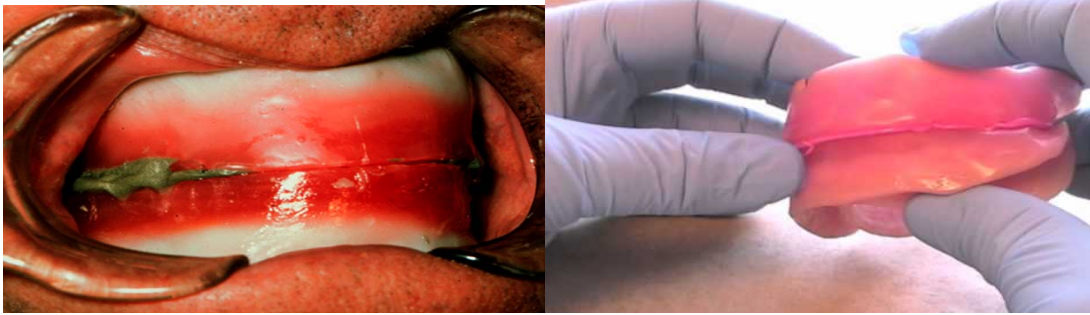
7-making a tentative centric record by having the patient retrude and close the jaw until he feels the closure to be at a tentative vertical dimension of jaw separation .

-patient slowly closes

-patient closes until rims are almost touching (1mm separation)

-ask patient to stop as soon as this position has been reached.

-hold position until set 1-2min



-remove both rim together

8-mount on a suitable articulator

NOTE: IF the retention of the record bases is not adequate, apply a fine dusting of denture adhesive to the wet tissue surface.