Ashur University College
Crown and Bridge
2nd year Prosthodontics
Technology dept.
Lect 7

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Occlusion in crown and bridge

Occlusion:

1. the act or process of closure or of being closed or shut off.

2. the static relationship between the incising or masticating surfaces of the maxillary or mandibular teeth or tooth analogues.

Articulation: The static and dynamic contact relationship between the occlusal surfaces of the teeth during function.



Maximal intercuspal position: the complete intercuspation of the opposing teeth independent of condylar position, sometimes referred to as the best fit of the teeth regardless of the condylar Position.

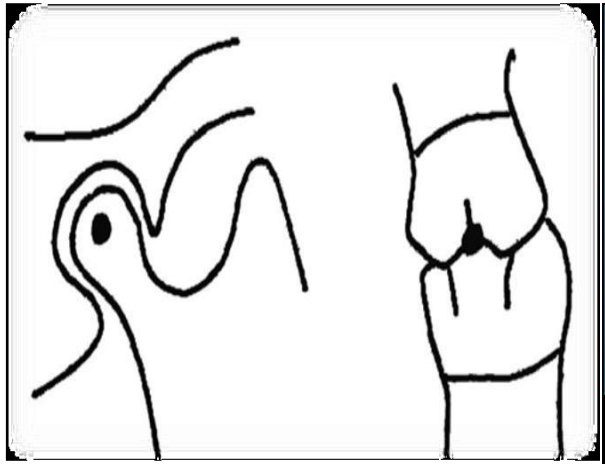
Centric occlusion :the occlusion of opposing teeth when the mandible is in centric relation; this may or may not coincide with the maximal intercuspal position.

The occlusion of teeth as the mandible closes in centric relation.

a. It's a tooth-to-tooth relation.

b. It is a reference point from which all other relations are eccentric.







Working side:

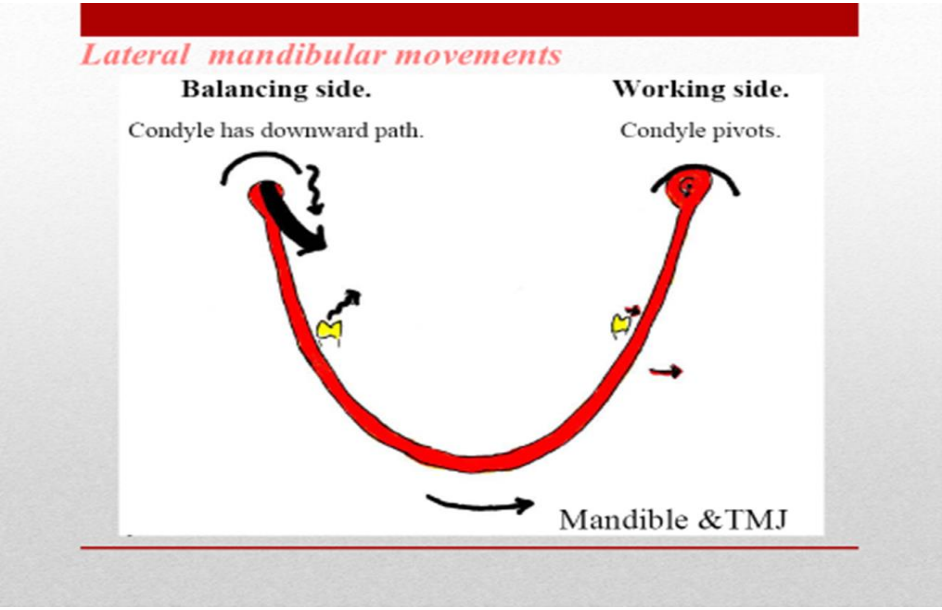
The side toward which the mandible move in a lateral excursion.

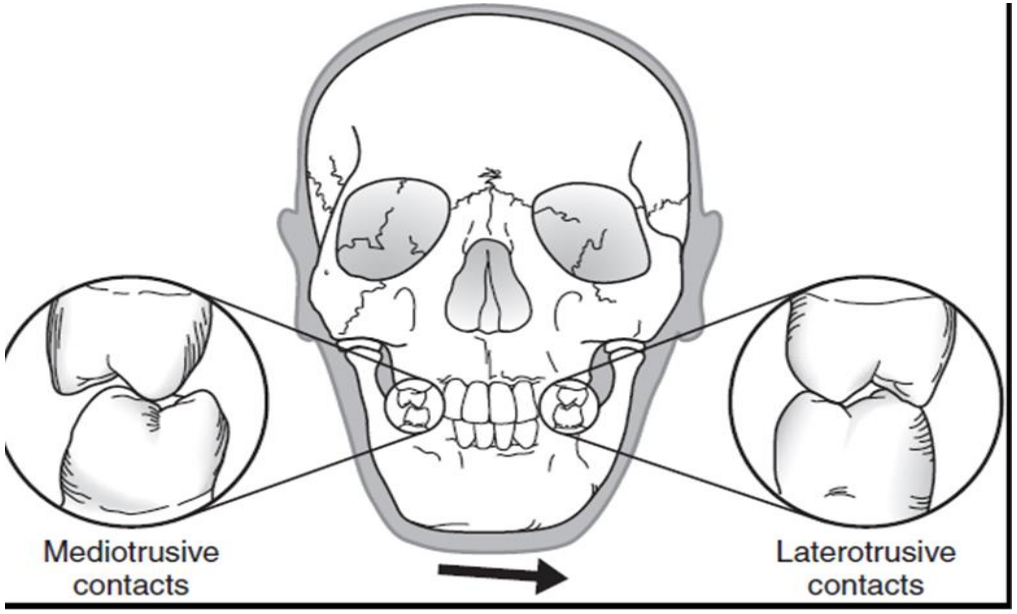
Balancing side (non-working side):

That side of the mandible that moves toward the median line in a lateral excursion (the side opposite the working side).

Working occlusion: the contact of teeth in working side called working contacts or laterotrusive contact.

Balancing occlusion: the contact of teeth in balancing side (non working) called balancing contact or mediotrusive contact.





Protrusive occlusion:

It is the relation acquired by the mandible when it moves in protrusive direction from centric position.

Eccentric Occlusion:

Occlusion other than centric occlusion refer to contact of teeth that occurs during movement of mandible.

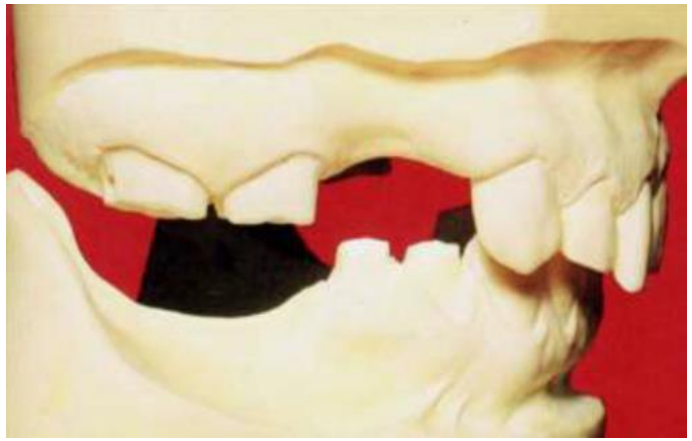
Eccentric occlusion include:

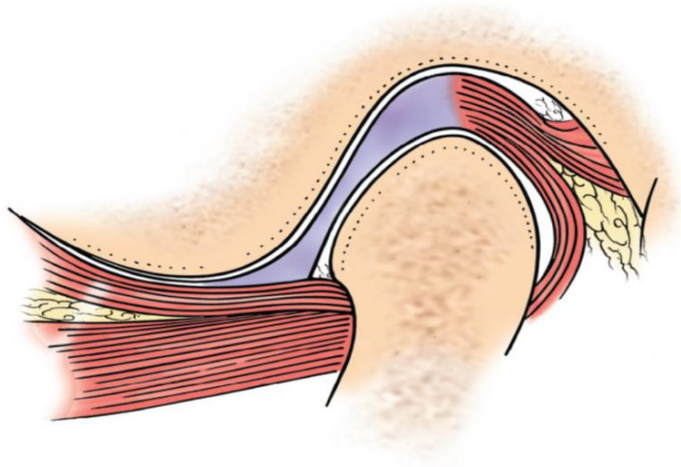
1. Working occlusion.
2. Balancing occlusion.
3. Protrusive occlusion.



Centric relation (CR): Maxillomandibular relationship, independent of tooth contact, in which the condyles articulate in the anterior-superior position against the posterior slopes of the articular eminences.

Centric relation is taken when no enough occlusal stops are left after teeth preparation especially in cases of full mouth rehabilitation of FPD, including distal terminal abutments (Unilateral or bilaterally).



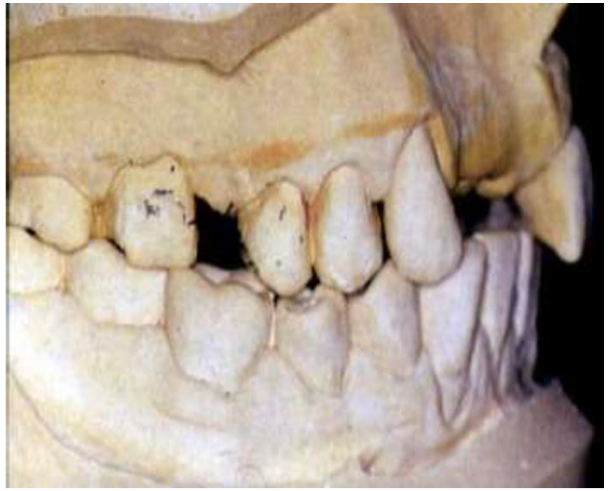


Centric occlusion can be taken when there are enough occlusal stops after preparation for a crown and bridge.

Interocclusal Record (Bite Registration)

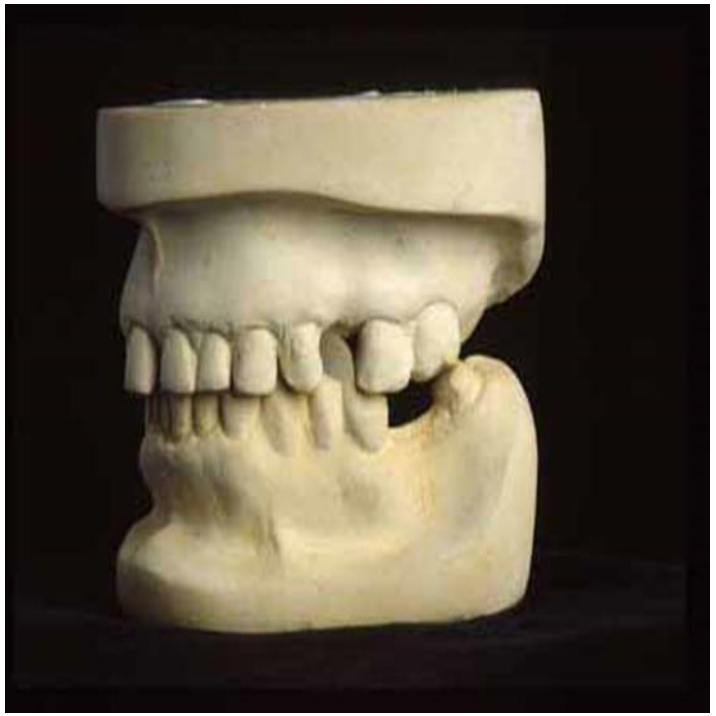
Objective of bite registration:

To transfer the relation between the upper and lower dental arches from the patient's mouth to the articulator we need bite registration. Proper interocclusal record is important to orient the die (s) of the same arch to the opposing arch.



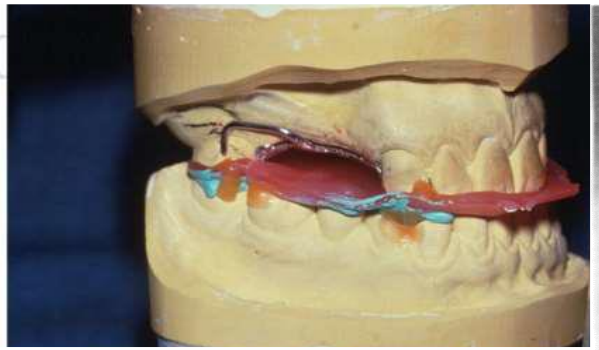
When enough teeth are present in both dental arches we can transfer the relation by hand articulation of the casts. i.e., no bite registration is needed in such cases, so we can occlude the opposing casts by hand, and then we mount them on the articulator.

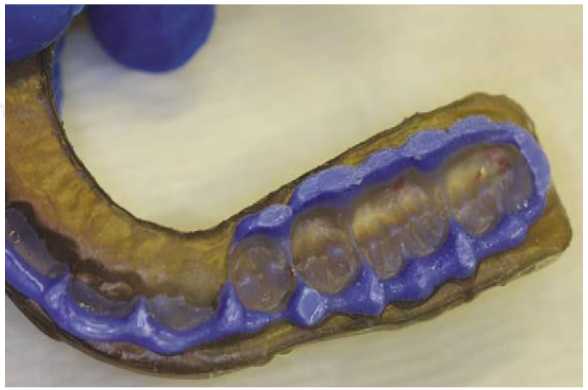




If the remaining teeth are insufficient to produce hand articulation of the casts, we have to record the bite by using either of the followings:

1. Pink base plate wax.
2. Bite registration paste.
3. Bite rim or occlusal rim.

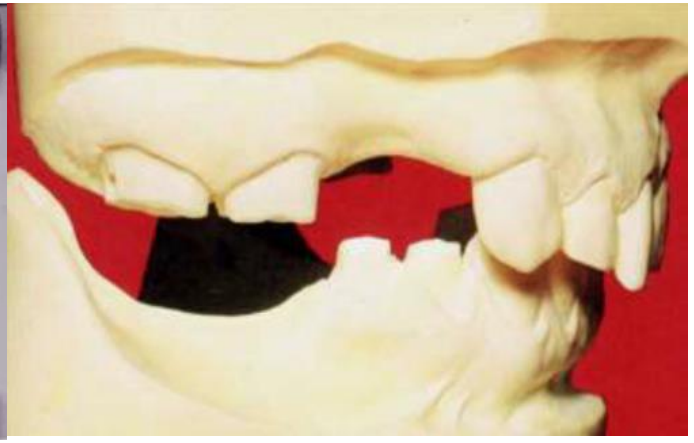
Occlusal relations using occlusion rims on record base:

Indications:-

1. When one or more distal extension areas are present.
2. When a tooth- supported edentulous space is large.
3. When opposing teeth do not meet.







Bite registrations for CAD/CAM procedures

Bite registration can be digitally recorded in the same way as that used for digital impression, both procedures are employed in conjunction with the computer-aided design/computer-aided manufacturing (CAD/CAM). Digital Bite registration are taken either:

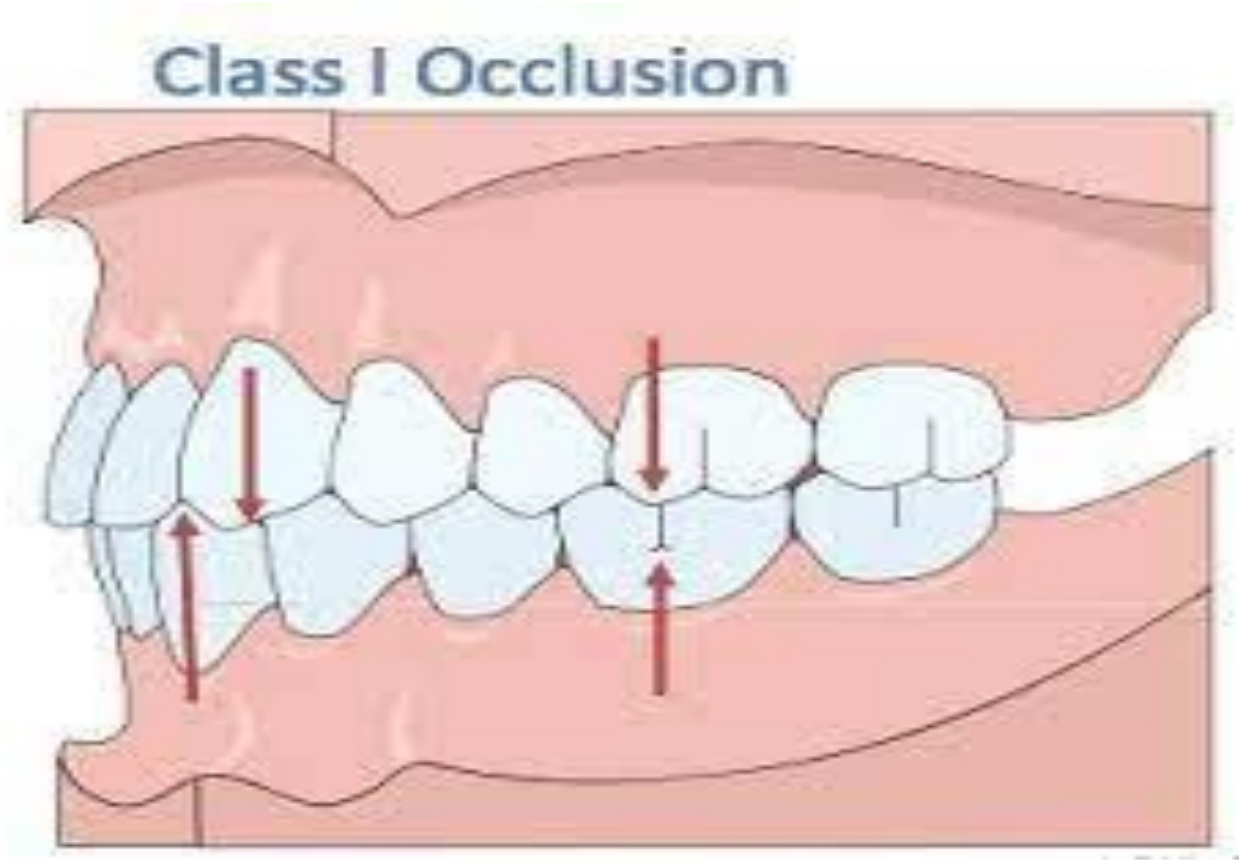
1. Indirectly using extra oral scanner (In lab).
2. Directly in the mouth at chairside using an intraoral digital camera (In office).



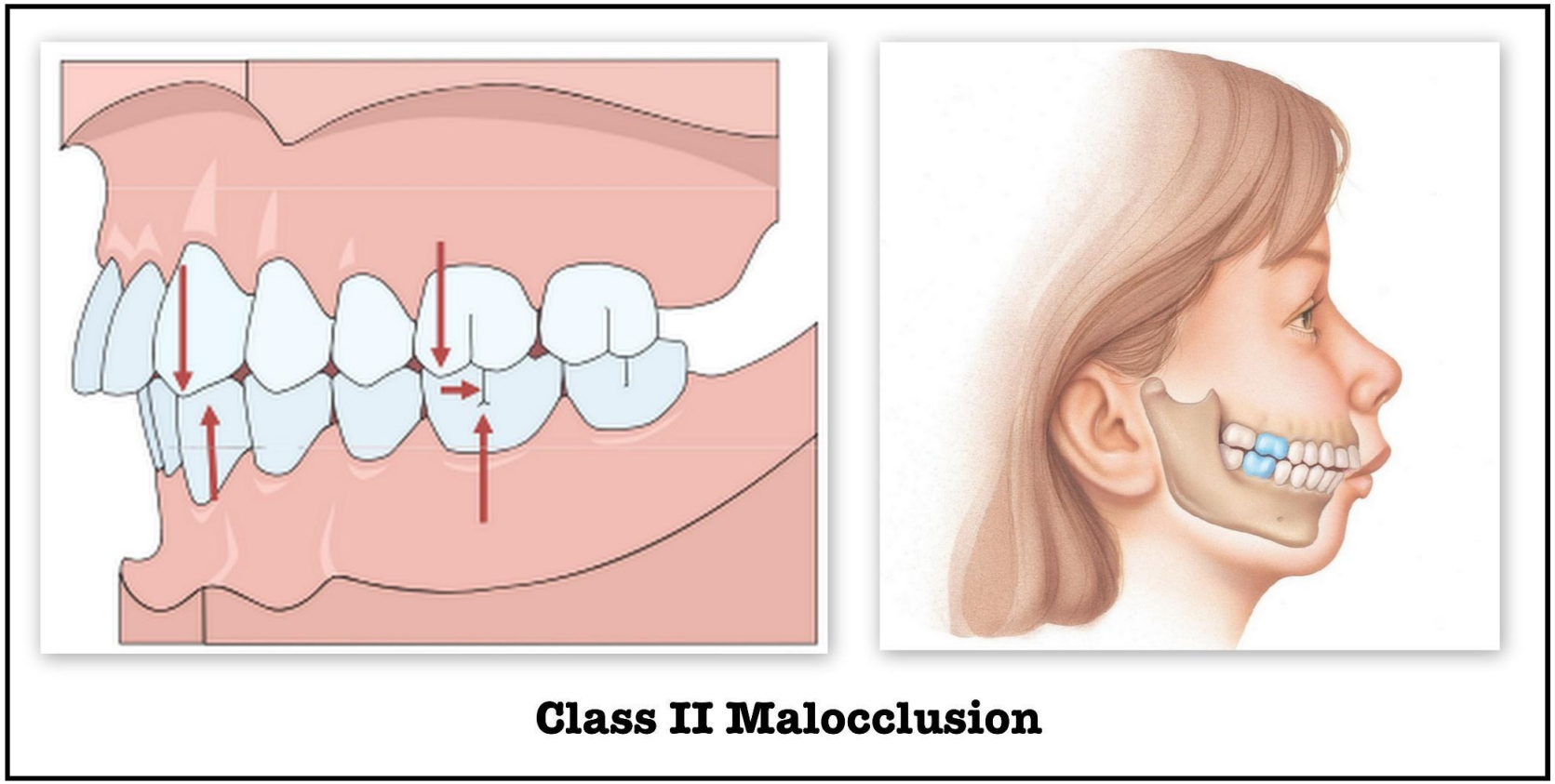




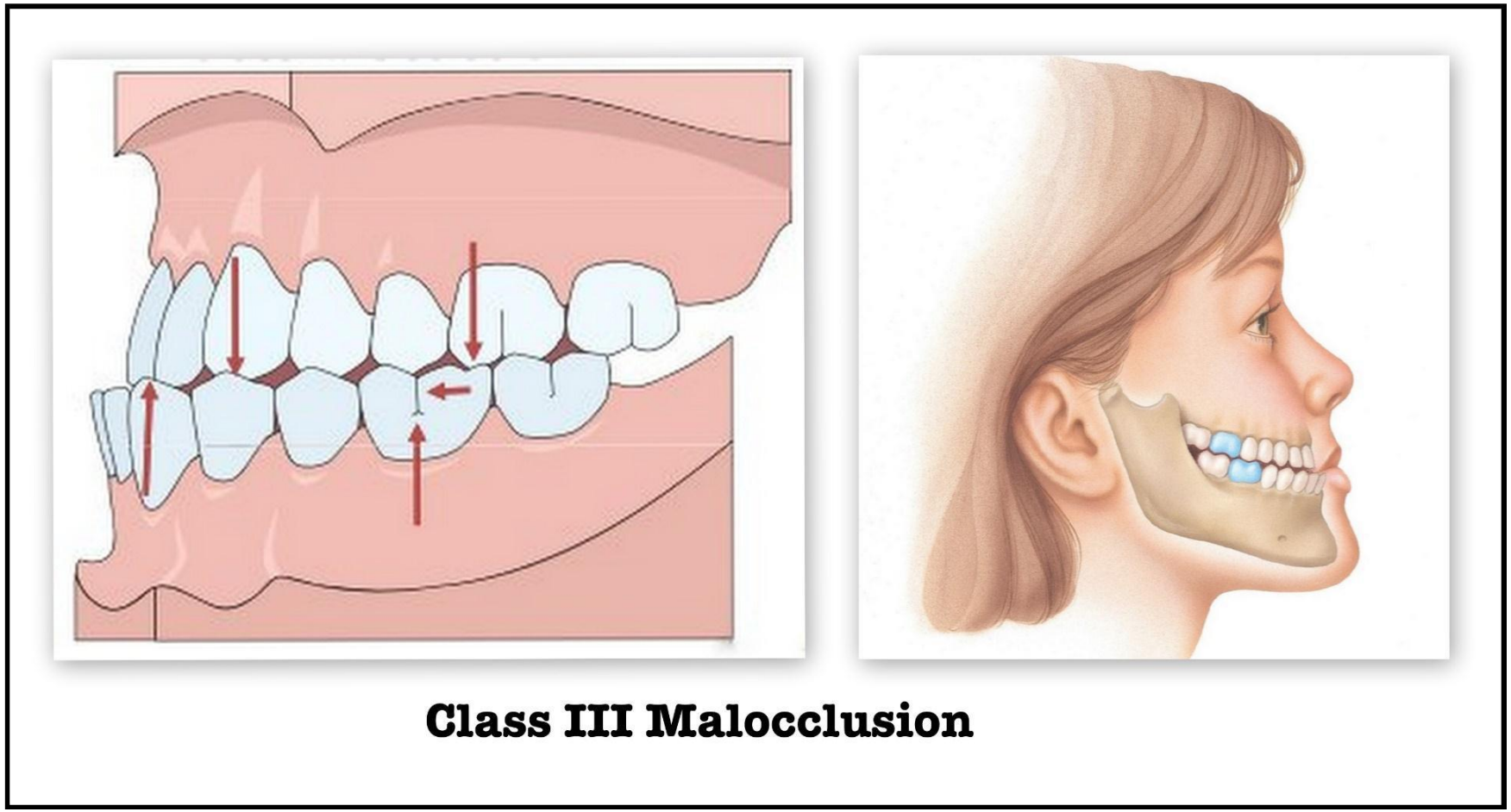
Class 1 occlusion : MB cusp of upper 6 occlude with buccal groove of lower 6



Class II occlusion: The Mesio buccal cusp of the upper 6 occludes anterior to the buccal groove of the lower 6.



Class III occlusion: The Mesio buccal cusp of the upper 6 occludes posterior to the buccal groove of the 6.



Over jet :it is the horizontal overlap of the maxillary central incisors over the mandibular central incisors.

- it is how much the upper front teeth protrude forward in relation to the lower front teeth.
- The amount of overjet is measured using the **probe horizontally**. The normal overjet is considered to be **2-3 mm.**



Overbite: it is the vertical overlap of the maxillary central incisors over the mandibular central incisors.

it is how much the upper front teeth cover the lower front teeth in a vertical dimension.

The amount of overbite is measured **using the probe vertically**. The normal overbite is considered to be **2-3 mm**, or approximately 20–30% of the height of the mandibular incisors.



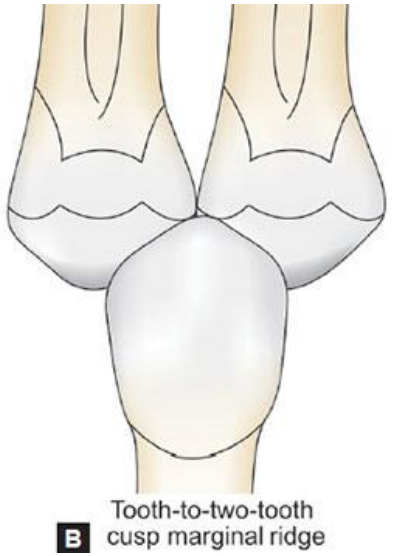
Occlusion types :

1. Cusp to fossa(tooth to tooth relation).
2. Cusp to marginal ridge(tooth to two teeth relation).





A Tooth-to-tooth cusp fossa



B Tooth-to-two-tooth cusp marginal ridge