

## ***Occlusion***

The term occlusion as used in dentistry usually means the contact relationship of the teeth in function & parafunction. However, the term refers not only to contact of the arches at an occlusal interface but also to all those factors concerned with the development & stability of the masticatory system & with the use of the teeth in function & parafunction of the mouth & associated structures.

## ***Jaw relations***

The maxillae are firmly & immovably attached at suture lines to each other & to the other bones of the facial skeleton. The mandible articulates with the skull at the craniomandibular joints (temporomandibular joints), it moves & changes its position in relation to the maxillae & cranium.

Jaw relation refers to the position of the mandible relative to the maxillae & should be thought of as a bone- to-bone relationship, as well as a tooth-to-tooth relationship.

# Horizontal relations

## ❖ Centric relation

It is the most posterior position of the mandible relative to maxillae at a given vertical dimension. It is any position with the jaw maximally returned.

## ❖ Centric occlusion

It is the maximum intercuspation or contact attained between maxillary & mandibular posterior teeth. (Other names for this are: most occlusal position, intercuspal position, acquired or habitual occlusion, & natural bite).

## ❖ Protrusive relation

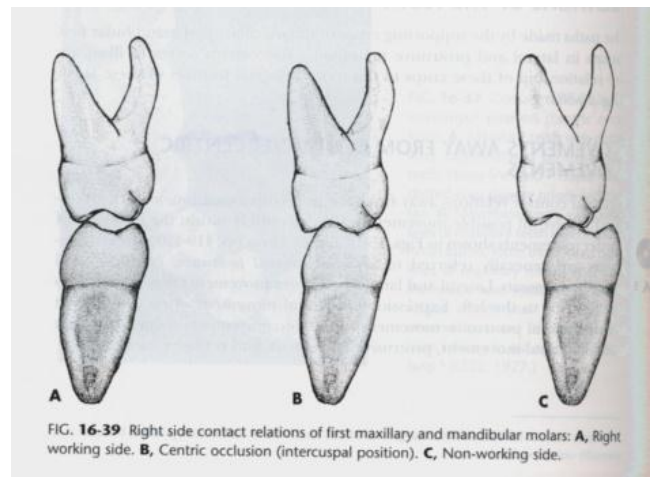
Is that position with the mandible moved anteriorly & downward (as when incising food). As the mandible moves forward, the incisal edges of the mandibular anterior teeth glide against the lingual fossae of the maxillary anterior teeth. When the mandible is fully protruded, the incisal edges of the mandibular incisors are in front of the maxillary anterior teeth.

## ❖ Lateral relation

In lateral relation, the mandible is moved to the right or left side & slightly downward (as when masticating food).

## ➤ Working side

Is the side toward which the mandible moves. Usually the posterior upper & lower teeth are aligned with the upper buccal cusps directly over the lower buccal cusps & with lower lingual cusps directly beneath the upper lingual cusps during working side tooth contacts (group function).



The working side contacts may be single when only the canines touch when the mandible moves to either side, without premolar & molar contacts (canine guided occlusion).

➤ **Balancing side**

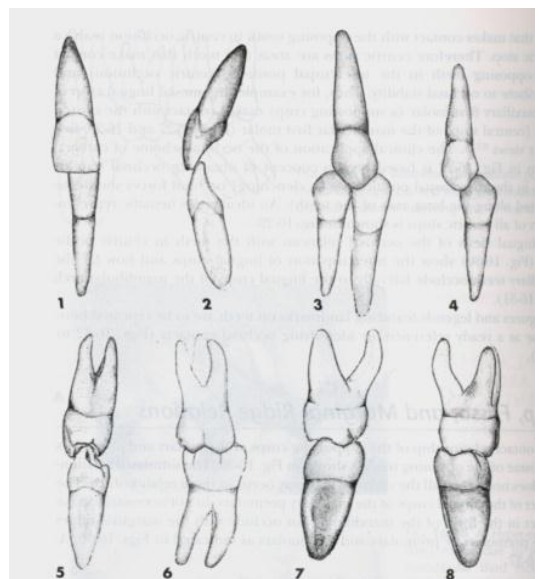
Is the side away from which the mandible moves. On the balancing side, the upper lingual cusps are aligned over the lower buccal cusps, but usually will not contact during the opposite side working tooth relation.

## **The occluding surfaces**

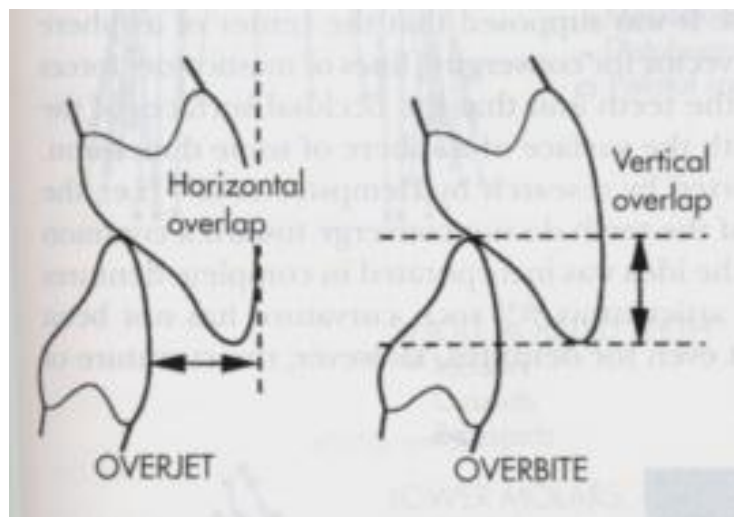
There are many ways by which the maxillary teeth occlude with the mandibular teeth, these are:

☒ **Surface contact:** these contacting surfaces are found at incisal portions of mandibular anterior teeth which become functional when they come into contact with lingual surfaces of maxillary anterior teeth.

☒ **Cusps & fossa contact:** this contact is very important because it facilitates chewing & it is effective as stabilizer of alignment of teeth because of the way the cusps “key into” the fossae. An example is the mesiolingual cusp of maxillary first molar that occludes with the central fossa of mandibular first molar.



- ⊗ **Cusp & embrasure contact:** some cusp tips are usually opposed to embrasure spaces. Others are in partial contact with the marginal & cusp ridges that form the embrasure.
- ⊗ **Ridge & sulcus contact:** this contact is seen when the triangular ridges of the buccal cusps of maxillary molars are accommodated into buccal grooves with their sulci in mandibular molars. This contact is very important in lateral occlusal movements & in centric relation.
- **Horizontal overlap (overjet):** is that characteristic of teeth in which the incisal ridges or buccal cusps ridges of the maxillary teeth extend labially or buccally to the incisal ridges or buccal cusp ridges of the mandibular teeth, when the teeth are in centric occlusal relation.
- **Vertical overlap (overbite):** is that characteristic of teeth in which the incisal ridges of the maxillary anterior teeth extend below the incisal ridges of the mandibular anterior teeth, when the teeth are in centric occlusal relation.



**END**