

## Clasp assembly

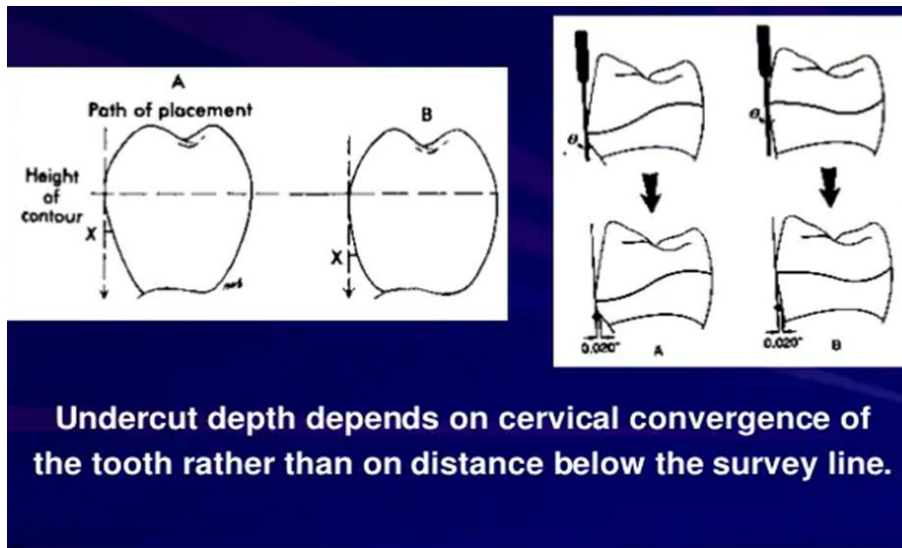
Clasp assembly: It is part of a removable partial denture that acts as a direct retainer and or stabilizer for a prosthesis by partially contacting on abutment tooth.

\*A clasp should be located at the undercut area in relation to the determined path of the insertion and removal of the prosthesis.



### **Factors that should be considered in proper clasp design:-**

1-Size of the angle of cervical convergence (depth of the undercut).



2-How far into the angle of cervical convergence, the clasp terminal is placed.



3-Flexibility of clasp arm which is produced by:-

- \*Its length measured from its point of origin to its terminal end
- \*Its relative diameter regardless of its cross-section form.
- \*The material of which the clasp is made.



4-Position of the survey line.



### **\*Components parts of acrylic R.P.D clasp assembly :-**

1-Retentive arm: The flexible segment of RPD which engages an undercut and is designed to retain the denture.



2-Reciprocal arm: -It is located on the side of the tooth opposite the retentive arm, placed above the height of the contour, and must be rigid to resist the rocking of the denture base.



3-Tag:-connect clasp assembly with record base and retain the clasp in acrylic resin, it must have 0.5 mm space between tag and cast.



### **\*\*General function of the retentive arm :-**

**It is to retain the partial denture in the patient's mouth.**

### **The components of the retentive arm are:-**

- 1- retentive tip.
- 2- bracing part.

The retentive tip of the retentive arm of the clasp is located at the undercut area (desirable undercut area)

### **Requirement of retentive tip:-**

- 1- must be below the survey line.
- 2- parallel with gingival margin.
- 3- away from interdental papilla.
- 4- intimate contact with the tooth surface.

**Requirement of bracing part: -**

- 1- with the survey line or above it.
- 2-below the occlusal surface.
- 3- intimate contact with the tooth surface

**\*\*General function of the reciprocal arm:-**

- a-Provide stability and reciprocation against the retentive arm.
- b-The denture is stabilized against horizontal movement.
- c-Prevent rocking of the denture.

**\*\*Principles of clasp design:-**

- 1-The basic principle of clasp design is the encirclement of the tooth.
- 2- Each retentive arm should be opposed by a reciprocal arm.
- 3-Balanced retention should be present.
- 4-It is preferable to place the reciprocal elements at the height of the contour and the retentive element below the height of the contour.



## **\*\*Functions of the clasp:-**

**1-Retention:** -That is the quality of RPD which resists the force of gravity, the adhesiveness of foods, and the force associated with opening the jaws.

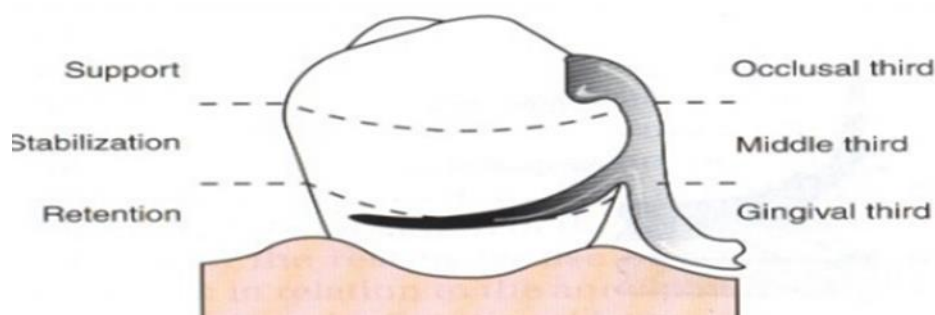
\*The term retention refers to resistance to dislodgement of the prosthesis in an occlusal direction.

**2-Stability:** -The quality of a denture to be firm and constant to resist lateral displacement by functional stresses.

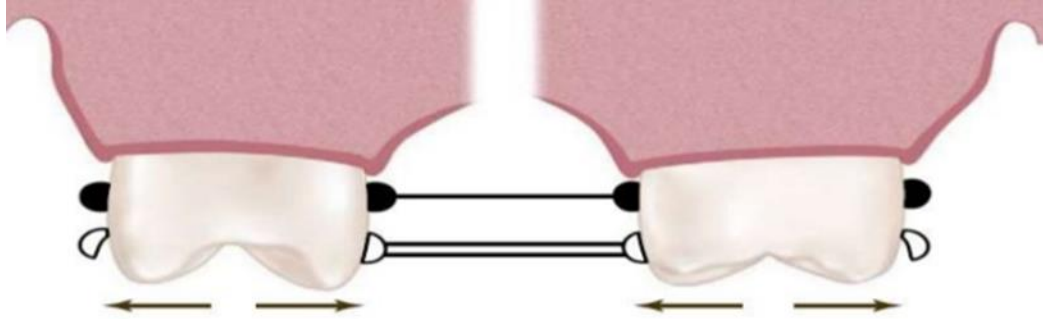
\*All components of the clasp except the retentive arm provide stability.



**3-Support:** It holds up resistance to movement of the denture in a gingival direction, it is provided by rests.



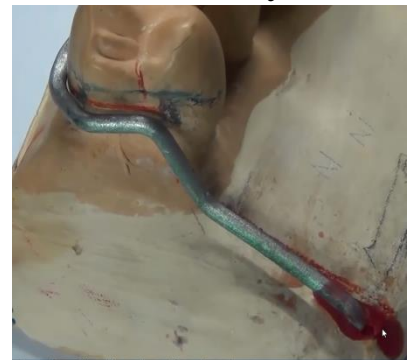
**4-Reciprocation:** -Each force exerted on the tooth by the clasp arm (retentive arm ) must be opposed by equal balancing force normally.



Note: -If the clasp is not seated properly, the retentive force continuously acts on the tooth, leading to pain and tenderness.

**Requirement of tag:-**

- 1- It should be not in intimate contact with the cast, it must have 0,5-1 mm space between them.
- 2- Its end must be at a right angle (90) in order not to rotate in acrylic.



**THANK YOU**