Partial Denture

The ideal component of the chrome-cobalt removable partial denture

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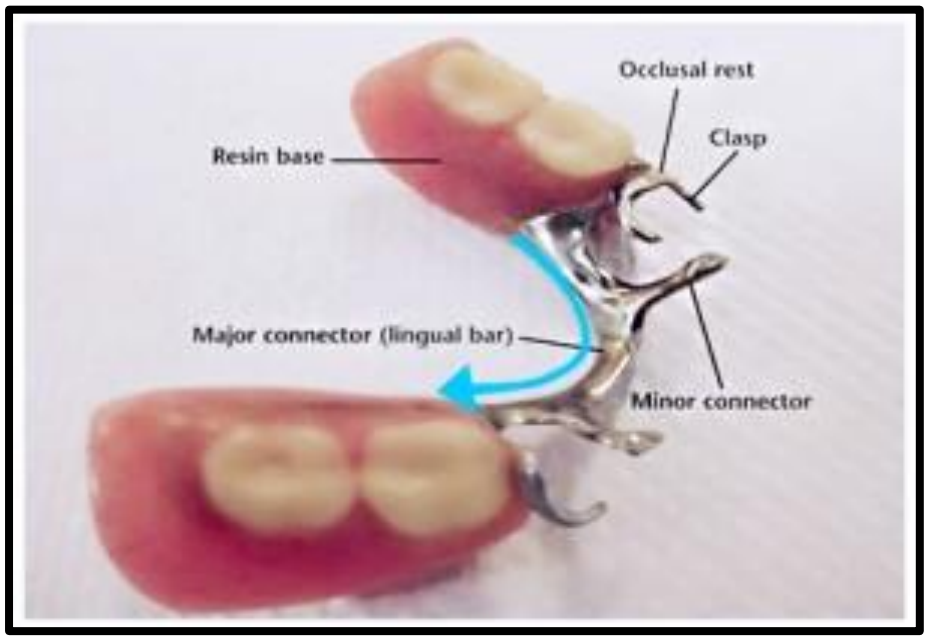
Lecture 1

The ideal component of the chrome-cobalt removable partial denture

1. Major connectors
2. Minor connectors
3. Rests
4. Direct retainers
5. Indirect retainers
6. Denture base
7. Artificial teeth



Major connectors

A major connector is the component of the partial denture that connects the parts of the prosthesis located on one side of the arch with those on the opposite side. It is that unit of the partial denture to which all other parts are directly or indirectly attached. This component also provides the cross-arch stability to help resist displacement by functional stresses.

The prosthesis must extend to both sides of the arch. This enables transfer of functional forces of occlusion from the denture base to all supporting teeth and tissues within an arch for optimum stability.

A properly designed rigid major connector effectively distributes forces throughout the arch and acts to reduce the load to any one area while effectively controlling prosthesis movement.

THE MAIN FUNCTIONS OF A MAJOR CONNECTOR INCLUDE

1. Unification

A major connector units all other components of a partial denture so that the partial denture acts as one unit.

2. Stress Distribution

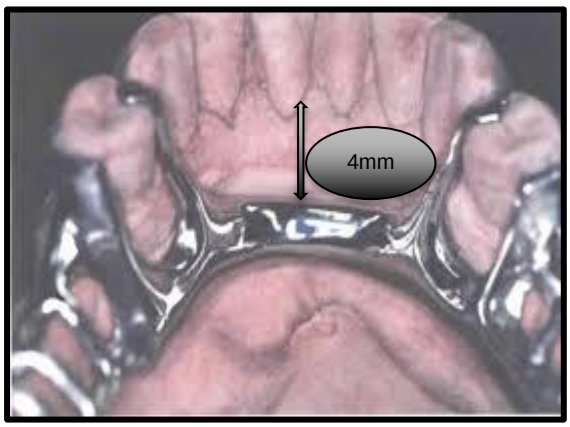
By unifying all elements of a partial denture the major connector can distribute functional loads to all abutment teeth, so that no one abutment is subjected to extreme loading. Unification of the direct retainers with the denture bases aids in distributing forces between both the teeth and the mucosa. This is particularly important in Class I and II partial dentures. In some maxillary cases a major connector

with broad palatal contact is selected, in these situations the broad base offers additional support, distributing stress over a larger area.

3. Cross-Arch Stabilization (Counter leverage)
By uniting one side of the arch to the other bracing elements on one side of the arch can aid in providing stability to the other. This can aid in dissipating twisting and torquing forces.

Following guidelines in mind

1- Major connectors should be free of movable tissue.
2- Impingement of gingival tissue should be avoided.
3- Bony and soft tissue prominences should be avoided during placement and removal.
4- Relief should be provided beneath a major connector to prevent its settling into areas of possible interference, such as inoperable tori or elevated median palatal sutures.
5- Major connectors should be located and/or relieved to prevent impingement of tissue because the distal extension denture rotates in function.
6- Relief from gingival margin should be provided. For maxillary major connector (6-8 mm) and for mandibular major connector (3-4 mm).



Characteristics (requirements) of major connector contributing to health and well-being:

1- Made form an alloy compatible with oral tissue.

2- Is rigid and provides cross-arch stability through the principle of broad distribution of stress.

3- Does not interfere with and is not irritating to the tongue.

4- Does not substantially alter the natural contour of the lingual surface of the mandibular alveolar ridge or of the palatal vault.

5- Does not impinge on oral tissue when the restoration is placed, removed, or rotated in function.

6- Covers no more tissue than is absolutely necessary.

7- Does not contribute to the retention or trapping of food particles.

8- Has support from other elements of the framework to minimize rotation tendencies in function.

9- Contributes to the support of the prosthesis

10-Unobtrusive:The margins of the major connector should have a smooth transition from connector to tissue so as to minimize the obtrusiveness. All line angles and edges should be smooth and rounded.

Borders should not be placed in locations where they might interfere with speech. Bulk should be reduced enough so as not to interfere with speech or appearance, yet thick enough to ensure rigidity.