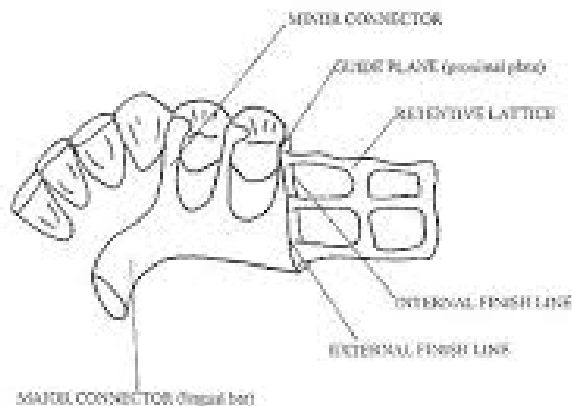


Prosthetic Dentistry

PARTIAL DENTURE : 7. MINOR CONNECTOR

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Is that part of the RPD that serve as a connecting link between the major connector or base of a removable partial denture and the other components of the prosthesis such as the clasp assembly, indirect retainer, occlusal rest, or cingulum rest.



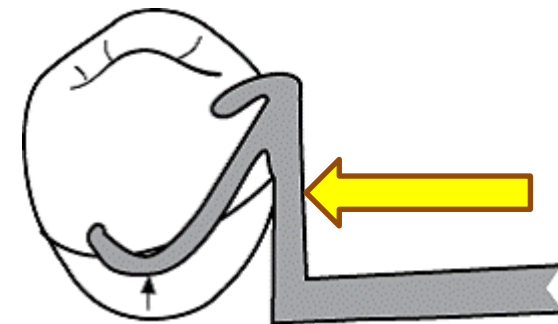
Functions:

1. Transfer functional stress to the abutment teeth.
2. Transfer the effect of the retainers, rests, and the stabilizing component throughout the prosthesis.
3. May aid in retention and stability.

4. May aid in path of insertion and removal maintenance.

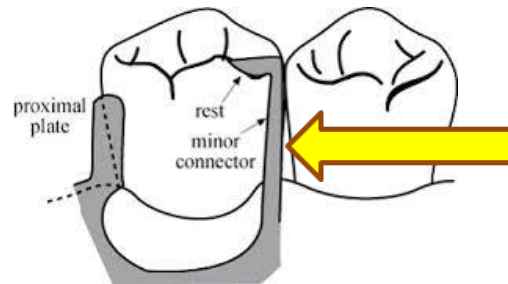
Types of minor connectors

1. Proximal minor connector: contacting an abutment tooth adjacent to an edentulous space. Proximal minor connectors are usually term proximal plates or guiding plates.



2. Embrasure minor connector: located between two teeth. Serving the purposes of :
 - a. Connect components of R.P.D. to the major connector like rests and clasp arms.
 - b. Contact the interproximal guiding planes thus helping the determination of path of insertion .
 - c. Provide frictional retention by contact with the guiding planes of the teeth.
 - d. Help reciprocate the force of the direct retainer.

- e. Unite the dental arch by substituting for lost proximal tooth contacts.
- f. Distribute forces (bracing).



- 3. Surface minor connector: located on the lingual surface of incisors and canines. Connecting lingual rests to the major connector. It's junction to the major connector is rounded right angle, taper incisal ward with the lateral borders extending into the interproximal spaces to hide from the tongue.



- 4. Denture base retention mechanism: the means by which the plastic denture base is mechanically attached to the framework. There are several types of denture base retention minor connectors:
 - a. Retentive mesh.
 - b. Retentive lattice.
 - c. Retentive loops.
 - d. Retentive bead.
 - e. Retentive posts.



Lattice form

mesh form

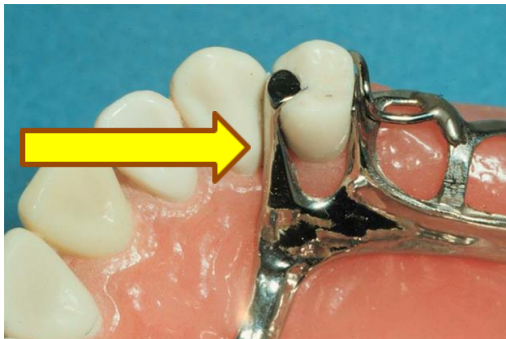
Forms, location and properties of the minor connector

- 1- Must have sufficient (but not objectionable) bulk to be rigid; otherwise the transfer of the functional stresses to the supporting teeth and the tissue will not be effective.

2- Minor connector contacting the axial surface of the abutment tooth should be located in an embrasure (where it will be less noticeable to the tongue) not on the convex surface.

3- It should follow the interdental embrasure, passing vertically from the major connector (since the vertical joint is the best to transfer the stress from one plane to another) so that gingival crossing is abrupt and covers as little of the gingival tissue as possible.

4- All gingival crossing should be relieved on master cast to prevent impingement of the gingival tissue.



Embrasure minor connector

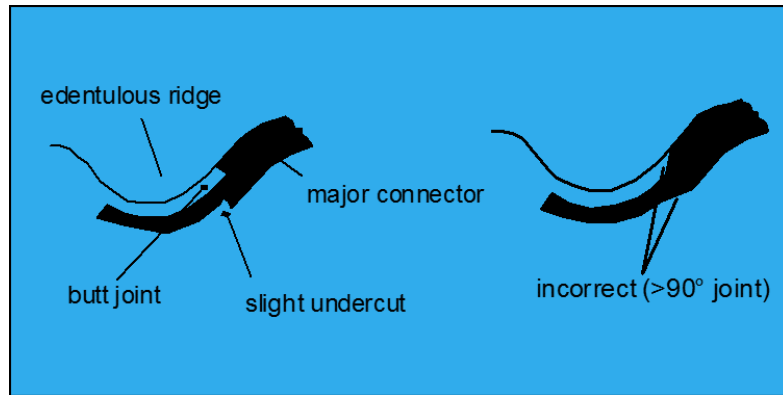
5- Embrasure minor connector should be thickest toward the lingual surface, tapering toward the contact area.

6- The deepest part of the interdental embrasure should be blocked to avoid interference during placement and removal, and to avoid any wedging effect on the contacted teeth.

7- The minor connector should be parallel to the long axis of the tooth.

8- When an artificial tooth will be placed against a proximal minor connector, the minor connector's greatest bulk should be toward the lingual aspect of the abutment tooth. (to ensure sufficient bulk with least interference to the placement of the artificial tooth).

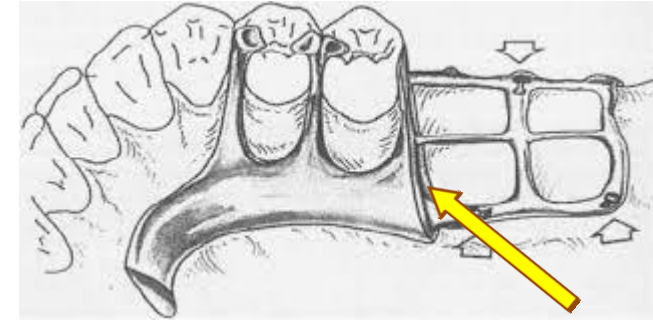
9- Denture framework portion by which acrylic resin denture bases attached is minor connector. It should be designed so that it will be completely embedded within the denture base. Several forms are existing; retentive lattice, ladder, loops, beads, and posts. An open latticework or ladder type of design is preferable.



10- The junction of the mandibular minor connector with the major connector should be strong butt type joint but without bulk.

11- The minor connector for the mandibular distal extension base should extend posteriorly about two thirds the length of the edentulous ridge and have element on both buccal and lingual surfaces. This extension provides added strength to the denture base and will also minimize distortion of cured acrylic base due to inherent strains caused by processing.

Finishing lines



- It's somewhat an undercut area at the junction of major and minor connector in the ladder area that will form an angle not greater than 90 degrees, it's done to prevent chipping away of acrylic resin that supporting artificial teeth by forming a step.

Types

1- vertical finishing lines

- It's the finishing line at the junction of the ladder area and major connector in free end extension cases (CLI and CLII) in mandibular arch only and in CLIV mandibular arch with labial bar major connector. It represents the area where the acrylic resin that supporting artificial teeth ending.

2. horizontal finishing line

- It's the junction of the major connector and the ladder area and it extend horizontally forming an undercut area that support acrylic resin that carrying

artificial teeth. This type of finishing line is detected in all maxillary partial denture cases.

Functions

1- a finish line creates a definite limit to the plastic denture base. In this way the plastic ends in a bulk of material. Thin areas of the plastic are weak and subjected to fracture.

2- Provide mechanical retention for the plastic denture base.

3- Provide smooth transition from the plastic base to the metal framework.

Much attention should be given to the location of the finishing line. If the finishing line for example is located too far medially, the natural contour of the palate will be altered by the thickness of the junction and the acrylic resin supporting the artificial teeth. On the hand if the finishing line is located too far buccally, it will be most difficult to

create natural contour of the acrylic resin on the lingual surface of the artificial teeth.