

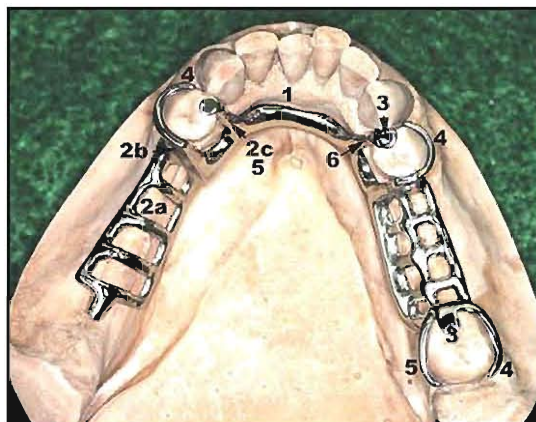
## Component Parts of a Removable Partial Denture

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The removable partial denture consists of seven main components (Fig. 1) and these are essential for the success of the treatment for the partially edentulous patient.

1. Major connectors
2. Minor connectors
3. Rests
4. Direct retainers
5. Reciprocal components (as parts of a clasp assembly)
6. Indirect retainers (if the prosthesis has distal extension bases)
7. One or more bases (each supporting one to several replacement teeth)

**Figure 1:** 1, lingual bar major connector; 2a, minor connector by which the resin denture base will be attached; 2b, minor connector, proximal plate, which is part of clasp assembly; 2c, minor connector used to connect rests to major connectors; 3, occlusal rests; 4, direct retainer arm, which is part of the total clasp assembly; 5, stabilizing or reciprocal components of clasp assembly



### 1. 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 (Fig. 1). It is that unit of the partial denture to which all other parts are directly or indirectly attached. There are several designs for the maxillary and mandibular major connector and each serves for certain purposes (Fig. 2 & 3)



**Figure 2:** Maxillary major connector



**Figure 3:** Mandibular major connector

## 2. Minor connectors

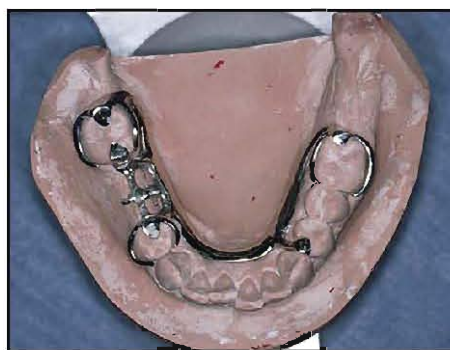
Minor connectors (Fig. 1) are those components that serve to connect the major connector or the base of a removable partial denture and the other components of the prosthesis, such as the clasp assembly, indirect retainers, rests ... etc.

## 3. Rests

The component of a partial denture on a tooth surface that provides vertical support is called a rest (Fig. 1). Rests should always be located on properly prepared tooth surfaces (Fig. 4 & 5) that are called rest seats. Rests are designated by the surface of the tooth prepared to receive them (occlusal rest, lingual rest, and incisal rest).



**Figure 4:** Occlusal rest seats prepared on molar and premolar teeth.



**Figure 5:** Framework for tooth-supported RPD with rests seated in its seats.

## 4. Direct retainers

The component part applied to resist movement away from the teeth and/or tissue and provides retention for the prosthesis is called the

direct retainer (Fig. 1). It is part of the clasp assembly (Fig. 8) which also consists of a reciprocal arm and a rest.

Two basic types of direct retainers are available, and these are the extra-coronal retainer (Fig. 6) and the intra-coronal retainer (Fig. 7).

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Figure 6: Extra-coronal retainer

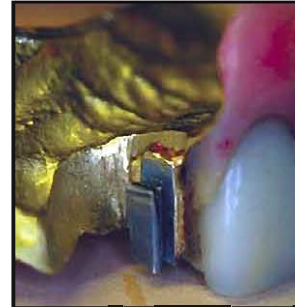
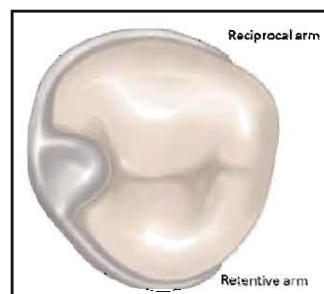


Figure 7: Intra-coronal retainer

### 5. Reciprocal components (as part of a clasp assembly)

Reciprocal arms (Fig. 1 & 8) are intended to resist tooth movement in response to deformation of the retainer arm as it engages a tooth height of contour. For this to occur, the reciprocal arm must be in contact during the time of retainer arm deformation.

Figure 8: The reciprocal arm is found opposite the retentive arm in the clasp assembly.

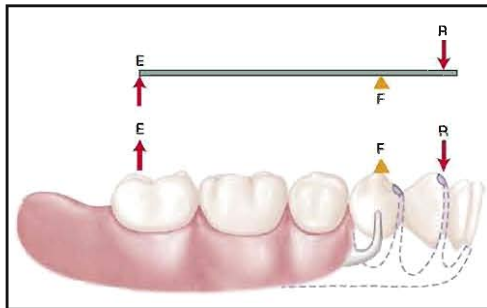


### 6. Indirect retainers (if the prosthesis has distal extension bases)

Tooth-supported partial dentures use teeth to prevent movement away from the tissues. Tooth-tissue supported partial dentures do not have this capability because one end of the prosthesis is free to move away from the tissue. This may occur because of the effects of gravity in the maxillary arch or adhesive foods in either arch.

A fulcrum line is considered the axis about which the denture will rotate when the bases move away from the residual ridge (Fig. 9). An indirect retainer consists of one or more rests and the supporting minor

connectors present on the opposite side of the fulcrum line away from the distal extension base that prevent this rotation.



**Figure 9:** Removable partial denture with distal extension base being lifted from the ridge & the indirect retainer providing stabilization against dislodgment. E: lifting force, F: fulcrum line, R: action of indirect retainer.

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## 7. One or more bases (each supporting one to several replacement teeth)

The denture base supports the artificial teeth and consequently receives the functional forces from occlusion and transfers functional forces to supporting oral structures (Fig. 10). It also replaces the resorbed parts of the alveolar ridge and may add to the cosmetic effect of the replacement, in addition to stimulation of the underlying tissues of the residual ridge.



**Figure 10:** The denture base of a maxillary removable partial denture viewed from the occlusal and tissue side.

## REFERNCES

- Carr, A.B., Brown, D.T. (2011) McCracken's Removable Partial Prosthodontics. 12th ed. St. Louis, Missouri: Mosby, Inc., Elsevier Inc.