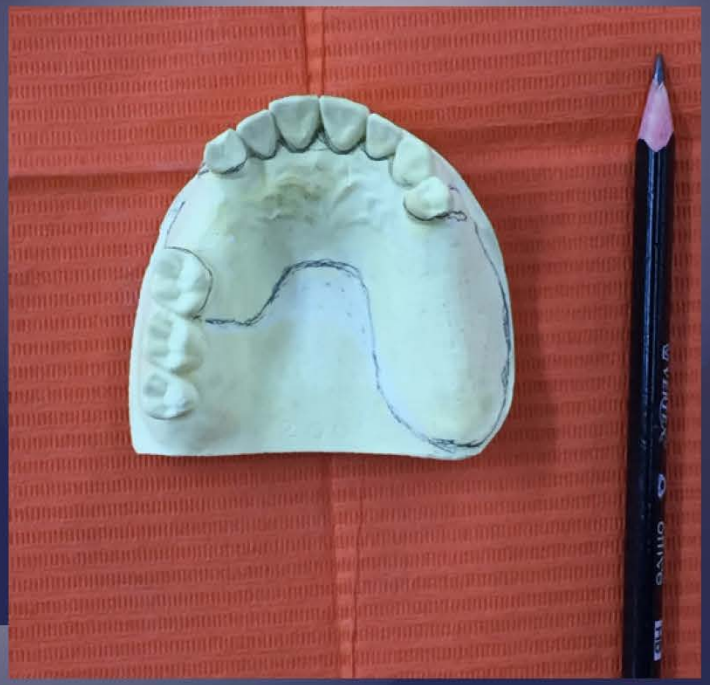
Flexible Removable Partial Dentures Design

Flexible Removable Partial Dentures(FRPD)

Flexible partial denture is a metal-free prosthesis made of a thermoplastic resin. It is practically indicated in *every* partially edentulous condition provided the patients are ready to keep a removable appliance in his/her mouth.

1. Surveying after obtaining the master cast

2. Design the flexible removable partial denture.



Design

The design of the flexible removable partial denture (FRPD) depends on the following:

First: Support

Second: Retention

Third: Reciprocation

Fourth: Connection

Finally: Outline of the edentulous areas

Design

First: Support

The type of support for thermoplastic polyamide (nylon) is primarily tissue supported because its flexibility makes it unsuitable for usage as occlusal rests or denture parts that need to be rigid. Thus, this type is tissue supported whether for bounded or in distal extension cases.

Design

Second: Retention

There is no metal/wire clasps used in FRPDs. The clasps are made up of flexible thermoplastic polyamide (nylon) with excellent esthetics. The clasps can be placed labially/buccally or lingually/palatally depending on the undercuts areas present.

Clasp Designs

There are many different clasp designs used and some of these designs are as follows:

1. Conventional Clasp
2. Circumferential Clasp
3. Continuous Circumferential Clasp
4. Combination Clasp
5. Roach Clasp
6. Anchor Clasp

Clasp Designs

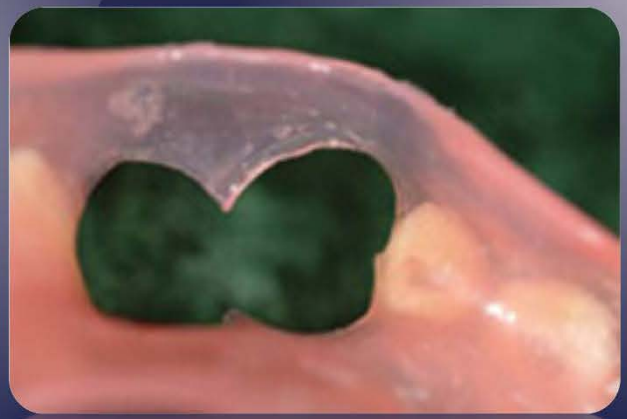
1. Conventional or "Standard" or "Main" Clasp or “Wrap-Around” Clasp.

Clasp Designs

2. Circumferential Clasp: It goes totally around the abutment tooth.

Clasp Designs

3. Continuous Circumferential Clasp: It can also engage all available surfaces of multiple teeth.

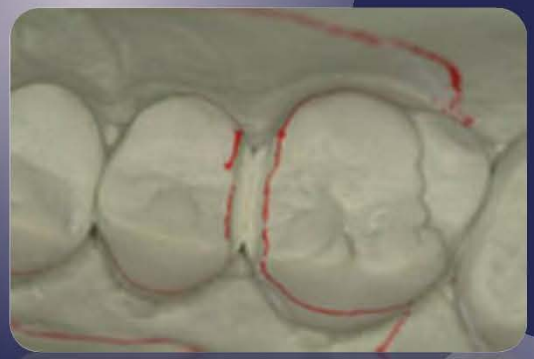


Clasp Designs

4. Combination Clasp: a combination of the circumferential clasp and the conventional main clasp.

Combination Clasp Design

It may provide stability and strength to the FRPD by linking the palatal (or lingual) components to the buccal. This can be accomplished through a prepared slot, or through a wide embrasure space that may be enlarged.



Clasp Designs

5. **Roach clasp** (Split Wrap-Around)

Clasp Design

6. Anchor (soft tissue undercuts)

The FRPD utilizes the undercuts in the ridge for retention, in addition to tooth undercuts.

Clasp Designs that should be Avoided

1. **Reach-around clasp**

It has to be thick for adequate strength, and as a result, it becomes bulky and uncomfortable.

Clasp Designs that should be Avoided

2. Separated Clasps

These clasps sacrificed all the strength of the continuous circumferential clasp and gained nothing in exchange.

Clasp Designs that should be Avoided

3. Two- Tooth Clasps

The unsupported end (the far end) will be forced away from the tooth surface when the denture is dislodged from its position. It will have absolutely no function, no retention, and be of no use.

Design

First: Support

Second: Retention

Third: Reciprocation

Fourth: Connection

Finally: Outline of the edentulous areas

Design

Third: Reciprocation

There should be reciprocation for the retentive clasp arm and this is achieved with the nylon plate that should come in contact with the palatal or lingual surface of the abutment tooth *on or above the survey line* to provide stability.

Design

Fourth: Connection

The main types of major connectors for the maxillary arch are:

- Full palatal plate
- U-shaped
- Single palatal strap

Note: the amount of the palatal coverage depends on the length of the longest edentulous span.

Design

Fourth: Connection

For the mandibular arch, the only major connector used is the lingual plate.

The borders of the major connectors should be placed adjacent to the palatal and lingual surfaces of the natural teeth

Design

Finally: Outline of the edentulous areas.

The outline of FRPD should be extended to

- Retromolar Pads Area
- Maxillary Tuberosity

References

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THANK YOU