Design of Cr/ CO RPD

What is the type of support of your case !!!

- Tooth Supported (CL III, CL IV)
- Tooth Tissue Supported (CL I, CLII)

CL III

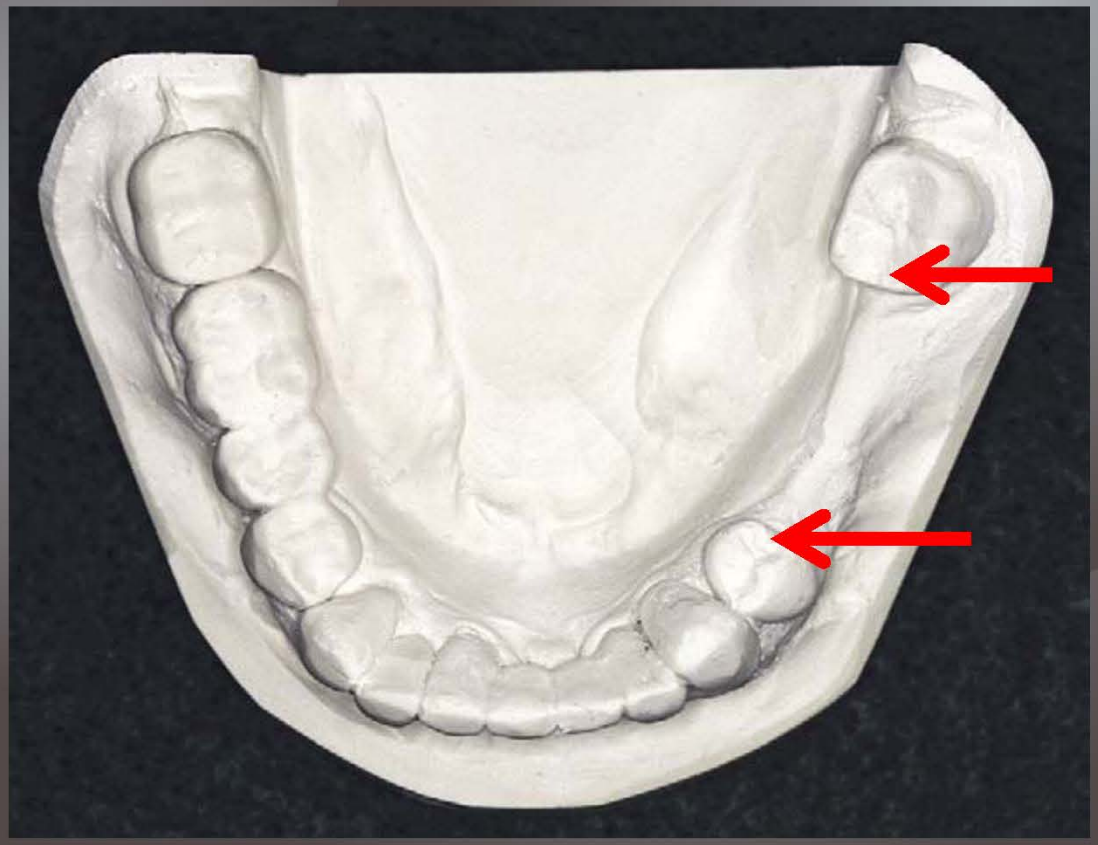
CL I

Design Sequence

1. Rests
2. Major Connector
3. Minor Connectors
   - Embrasure Minor Connectors
   - Gridwork Minor Connector
   - Proximal Plate Minor Connector
4. Direct Retainers & Stabilizing Components
5. Indirect Retainers
6. Denture Base

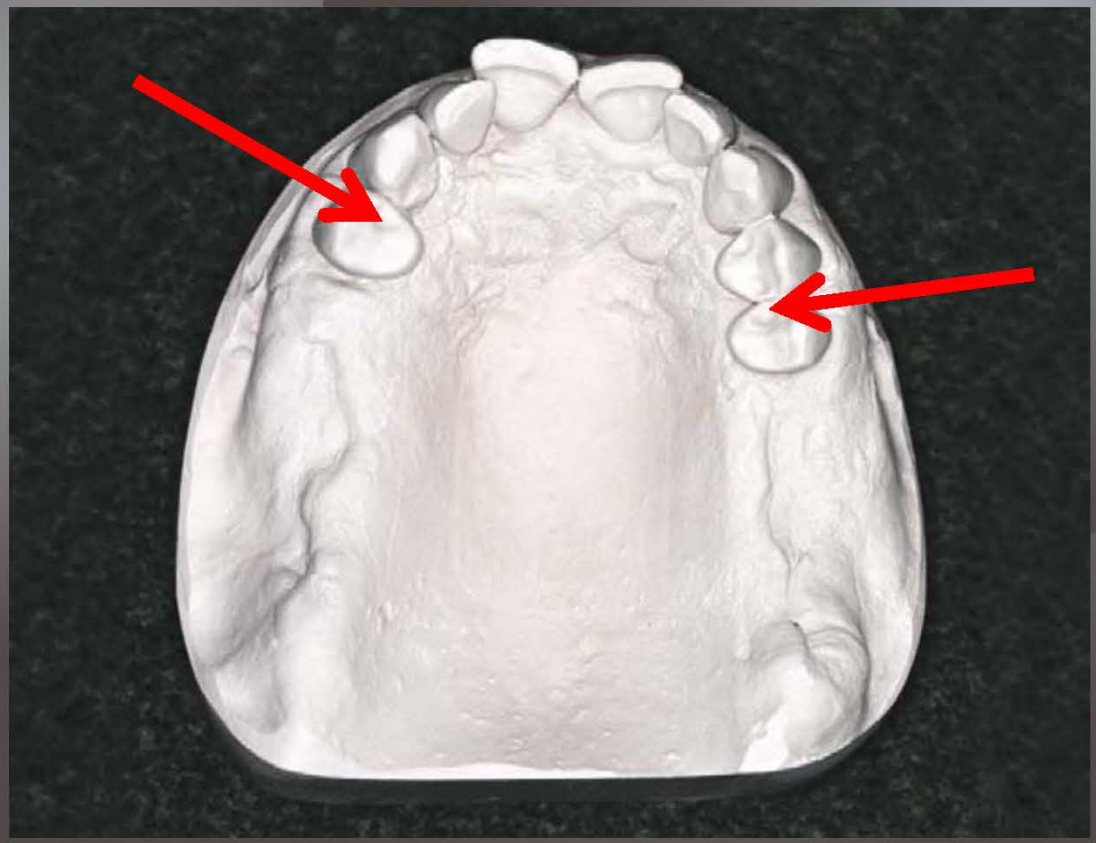
1. Rests

- Tooth Borne RPD: place rests adjacent to edentulous space (both ends)



1. Rests

- Tissue/Tooth Borne RPD: mesial rest are preferred, but distal rest may be used when there is a large restoration on the mesial side.



1. Rests

- If the tooth is severely weakened periodontally than move the rest to the next tooth.

Tooth severely weakened periodontally

1. Rests

- Avoid placing rest on amalgam restorations. It is better to redesign the partial denture to avoid these restorations.

Types of Rest

A. **Occlusal rest:** placed on molars and premolars. This rest is the most preferred and should always be used if possible.

B. Cingulum rest: placed on anterior teeth. A canine is preferred over an incisor and when a canine is not present, multiple rests over several incisor teeth are placed.

C. Incisal rest: placed on incisal edge of anterior teeth. The incisal rest is rarely used.

2. Major Connector

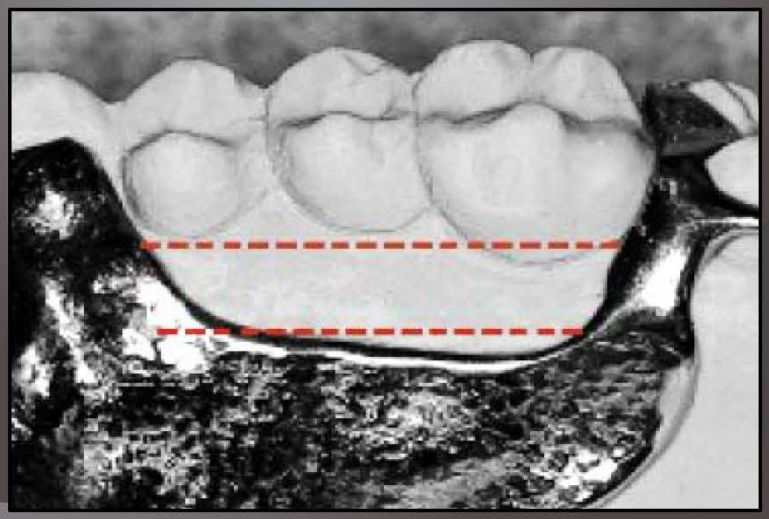
a. Assess tori (maxillary & mandibular), height of floor of mouth, and frenal attachments. These will affect the type of major connector selected.

2. Major Connector

b. Major connectors should have smooth continuous contours that flow into other elements of the partial denture.

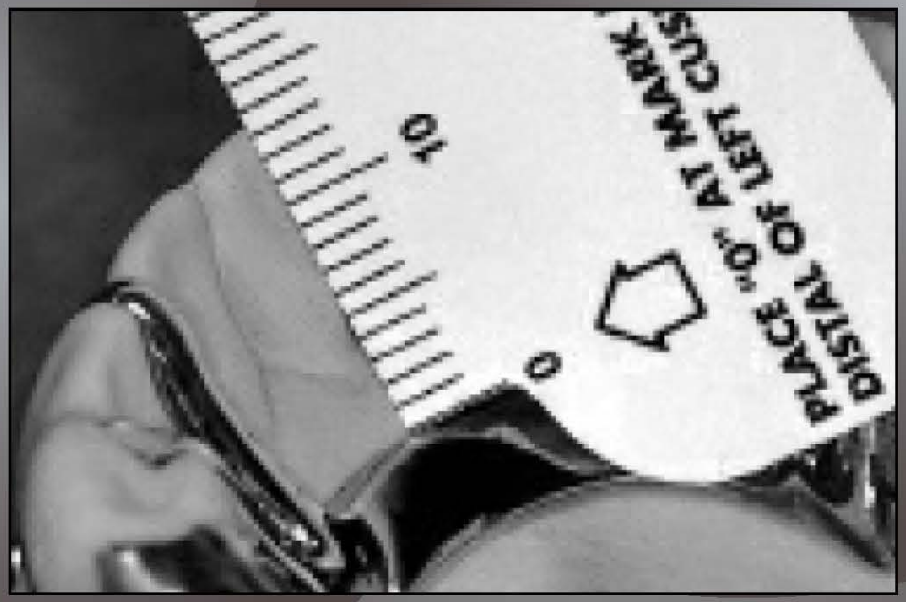
2. Major Connector

C. The borders of the maxillary major connector should be placed a minimum of ***6 mm away*** from and ***parallel*** to the gingival margins.



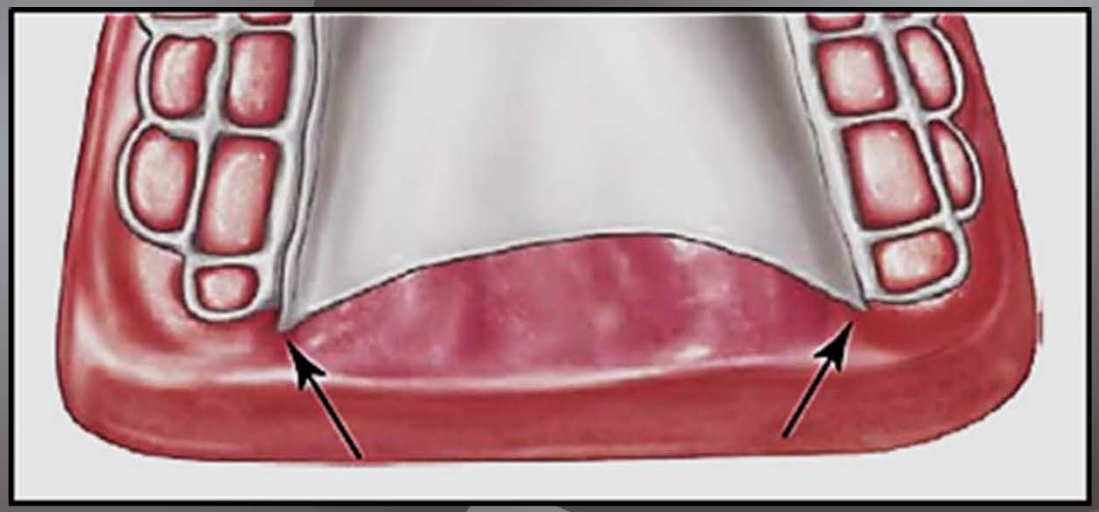
2. Major Connector

C. The borders of the mandibular major connector, should be a minimum of ***4 mm below*** the gingival margin.



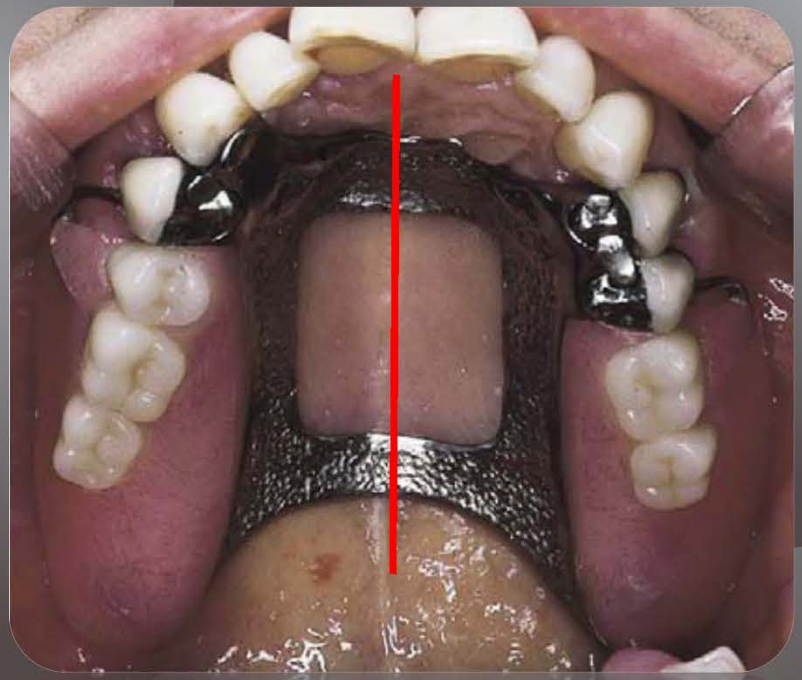
2. Major Connector

d. The posterior extensions of a maxillary distal extension framework should point to the hamular notches



2. Major Connector

e. All maxillary major connectors should cross the midline at a ***right angle*** rather than on a diagonal and anterior border follows the valleys between rugae



Mandibular Major Connectors types:

- Lingual Bar: Whenever possible.
- Lingual Plate:
  - High floor of the mouth
  - Presence of tori
  - High frenum

Lingual Bar

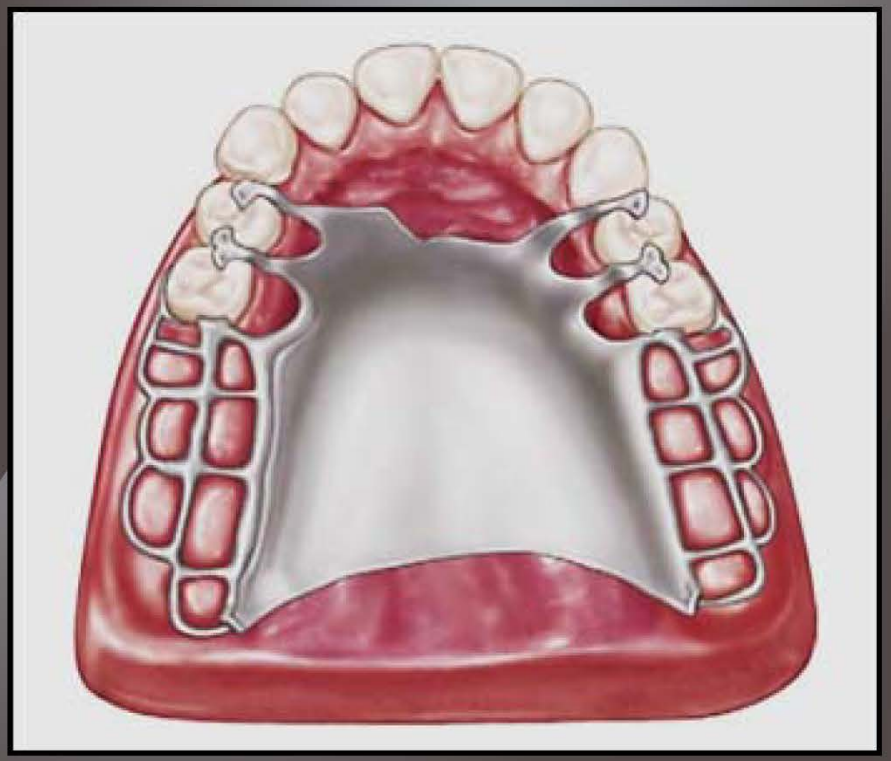
Lingual Plate

Maxillary Major Connectors types:

- **Combination anterior and posterior palatal strap** may be used with any Kennedy classification, but most frequently in Classes II and IV.

Maxillary Major Connectors types:

- **Palatal plate** is used most frequently in Class I situations in which only some or all anterior teeth remain.



Maxillary Major Connectors types:

- **Single palatal strap** is mostly used for bilateral edentulous spaces of short span in a tooth-supported restoration as in Class III situations.

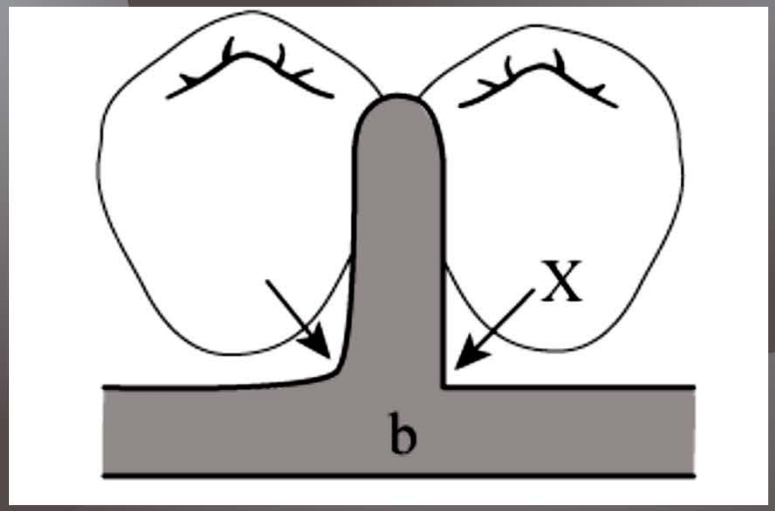
Maxillary Major Connectors types:

- **U-shaped** use indicated when a large inoperable palatal torus that extends posteriorly.

3. Minor Connectors

A. Embrasure Minor Connectors:

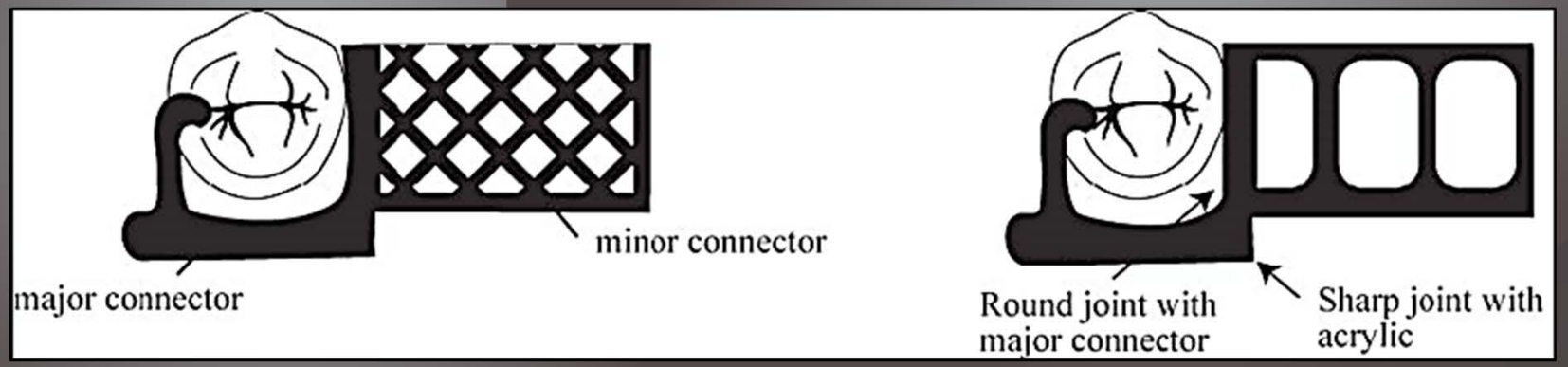
Minor connectors should join the major connector at a right angle and cover as small an area of tissue as possible.



3. Minor Connectors

B. Gridwork Minor Connector:

- **Form:** This can be in the form of a mesh or lattice. The lattice is preferred more.

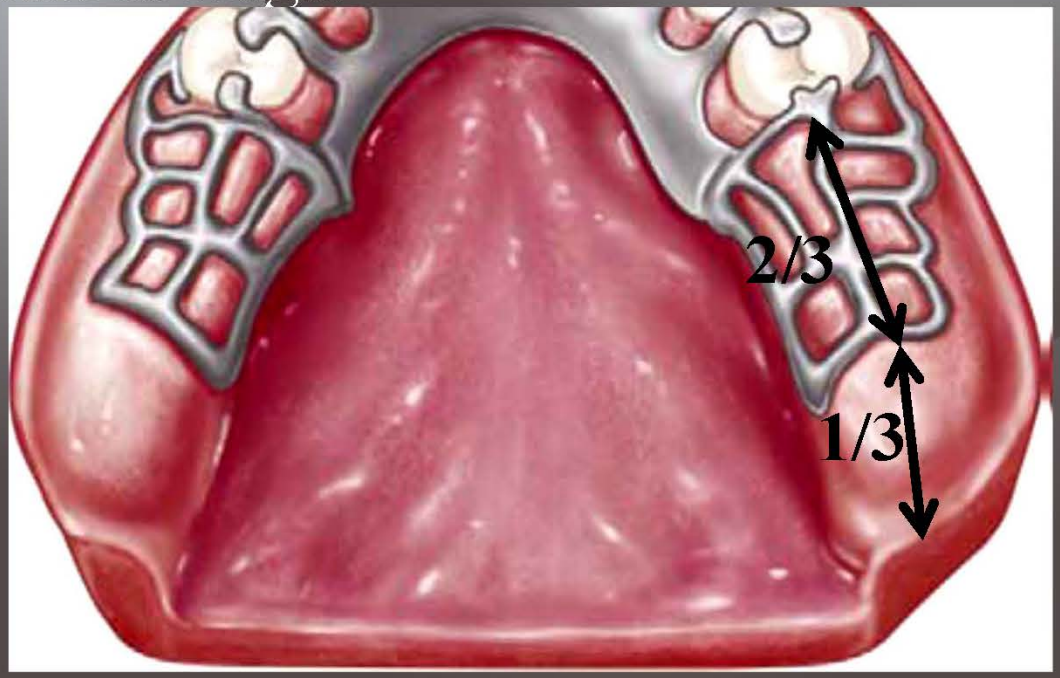


Mesh Gridwork **Lattice (ladder) Gridwork**

3. Minor Connectors

B. Gridwork Minor Connector:

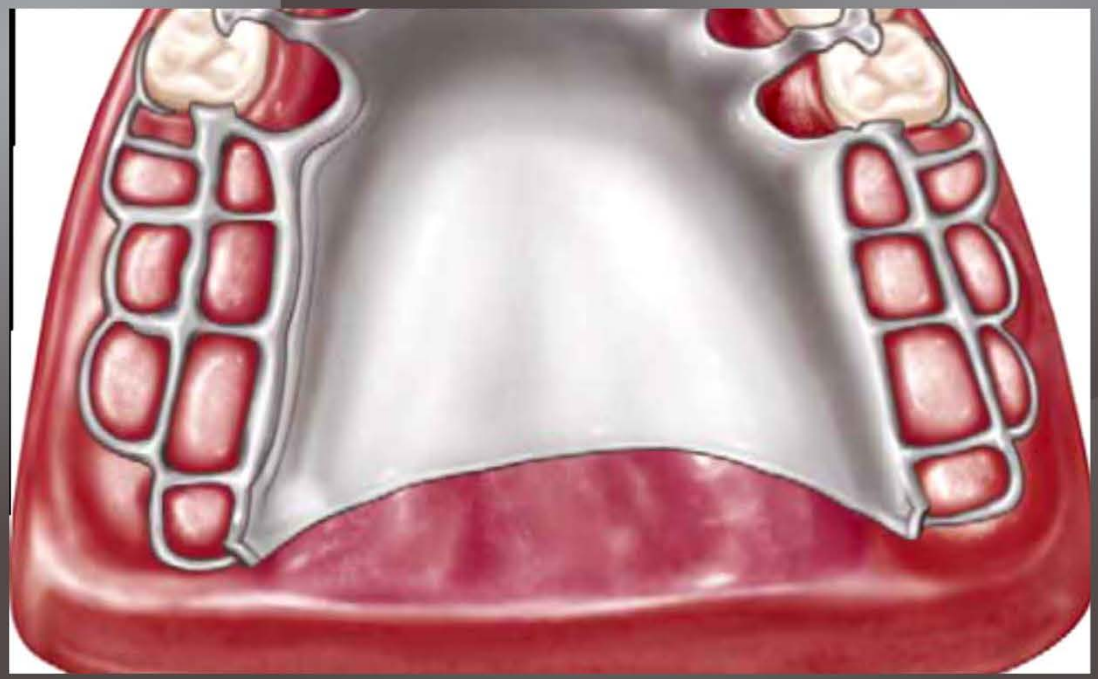
- **Extension in CL I & II cases:**
- For the mandibular distal extension base, it should extend posteriorly about two-thirds the length of the edentulous ridge.



3. Minor Connectors

B. Gridwork Minor Connector:

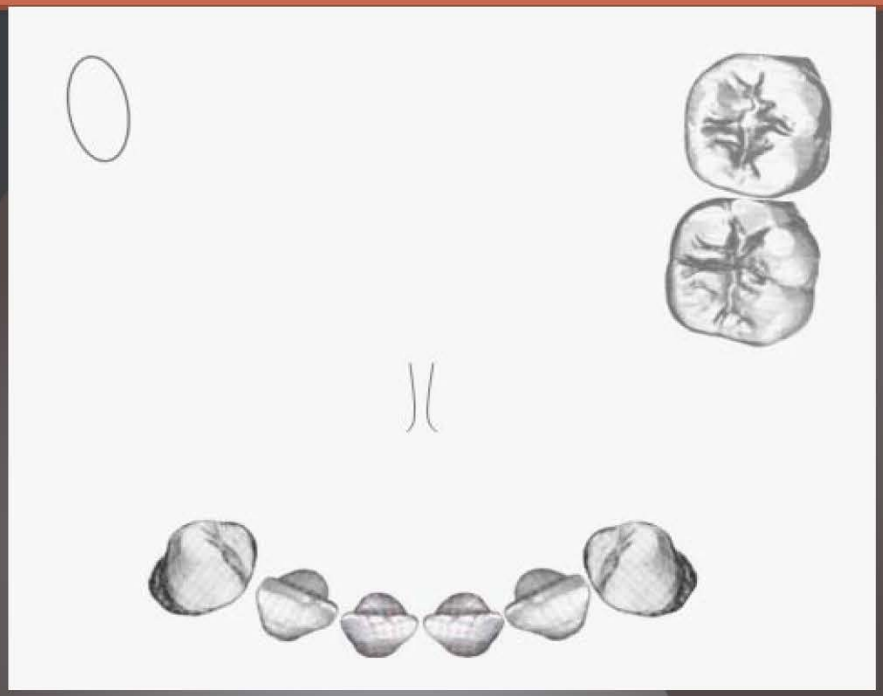
- **Extension in CL I & II cases:**
- For the maxillary distal extension base, it should extend the entire length of the edentulous ridge.



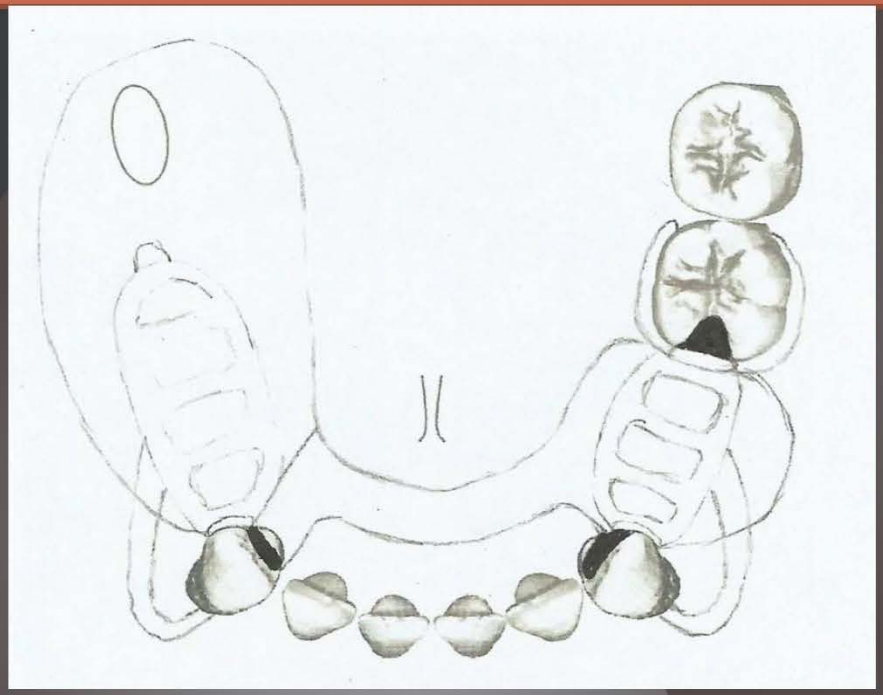
Co/Cr RPD Design

Examples

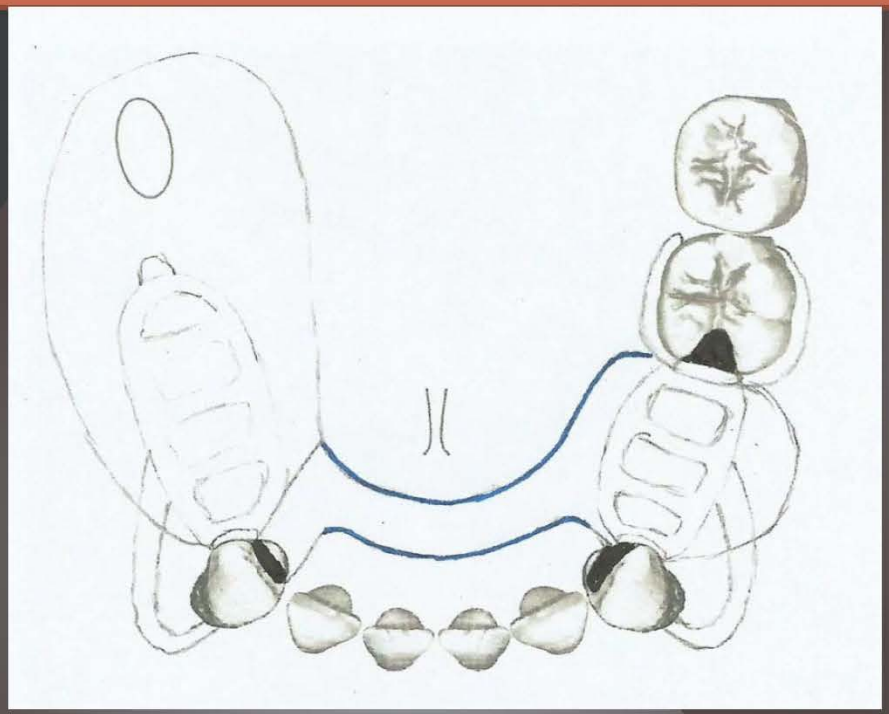
Case A



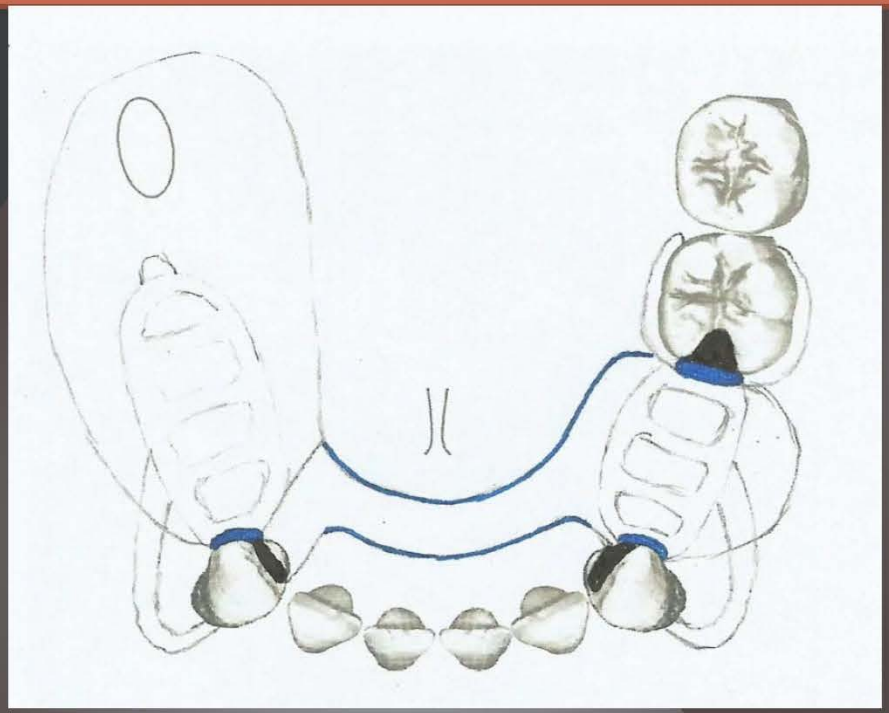
Case A



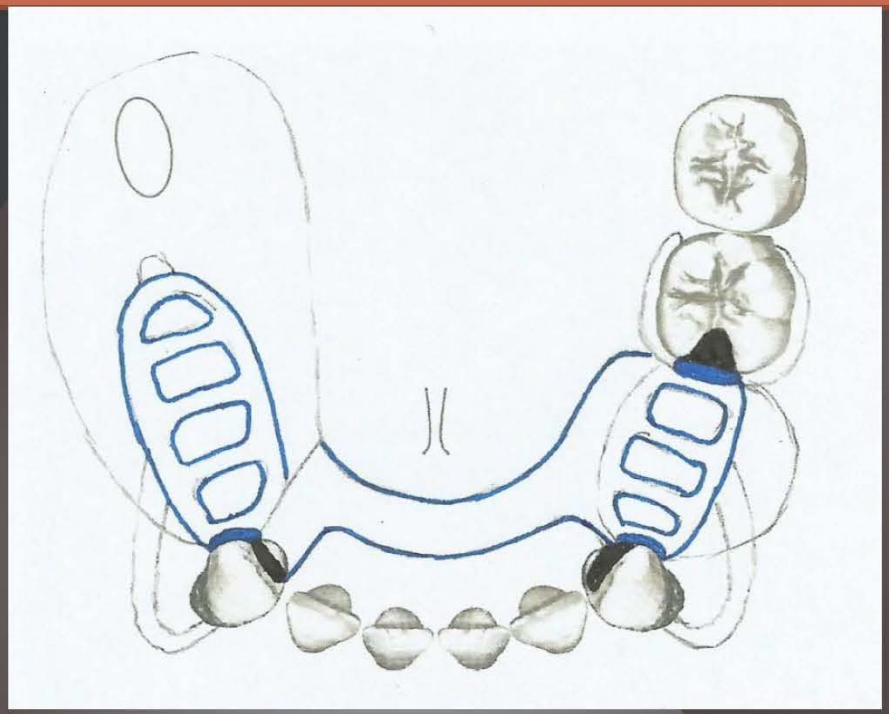
Case A



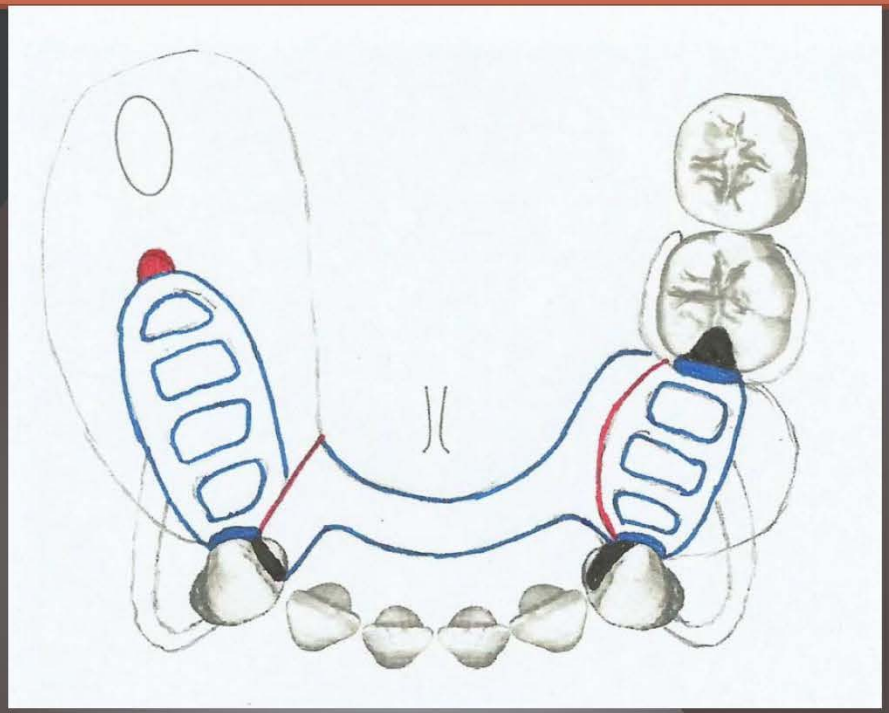
Case A



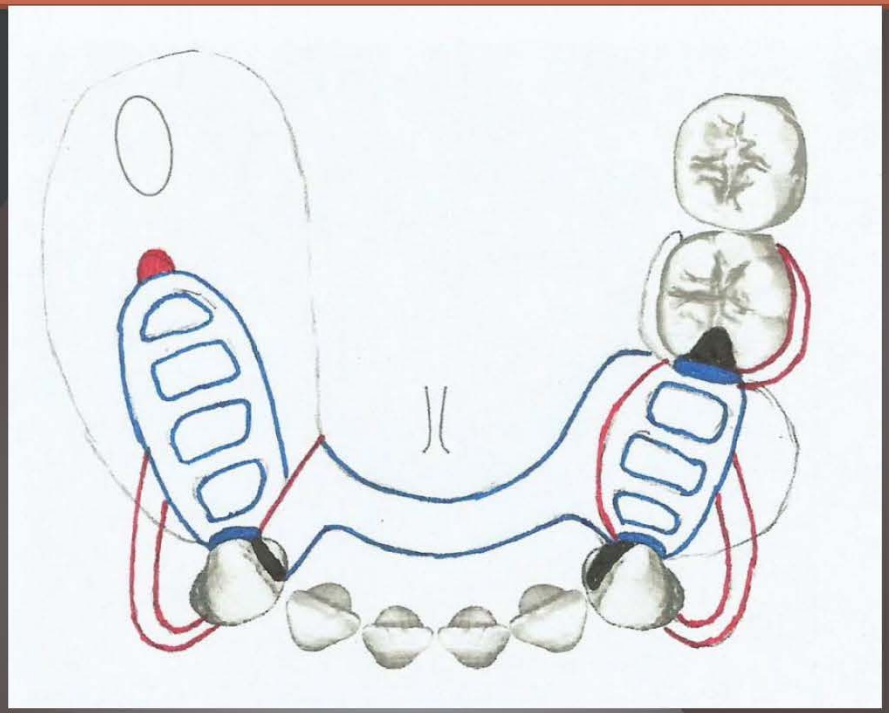
Case A



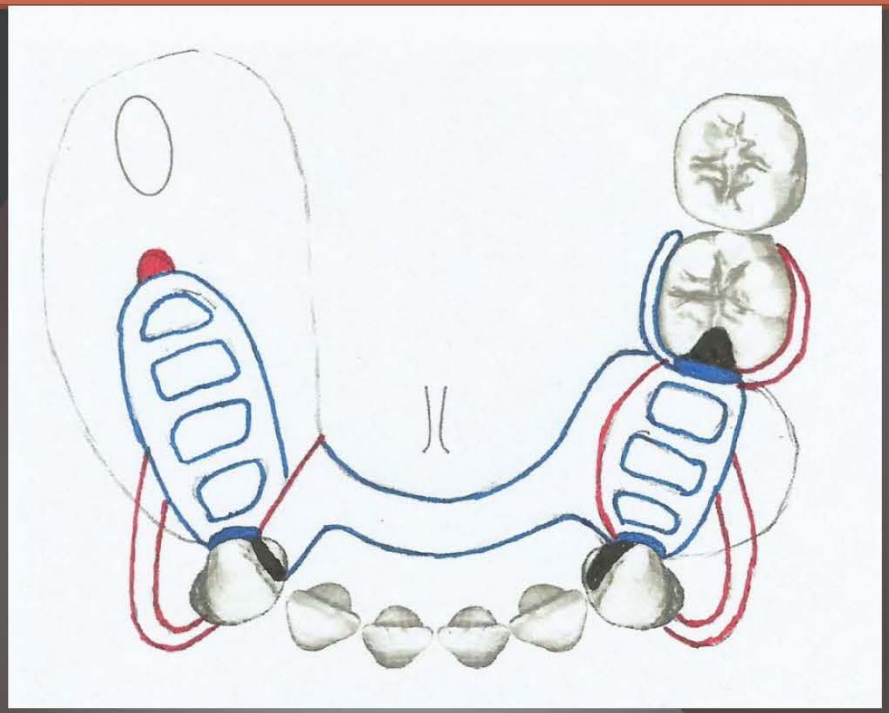
Case A



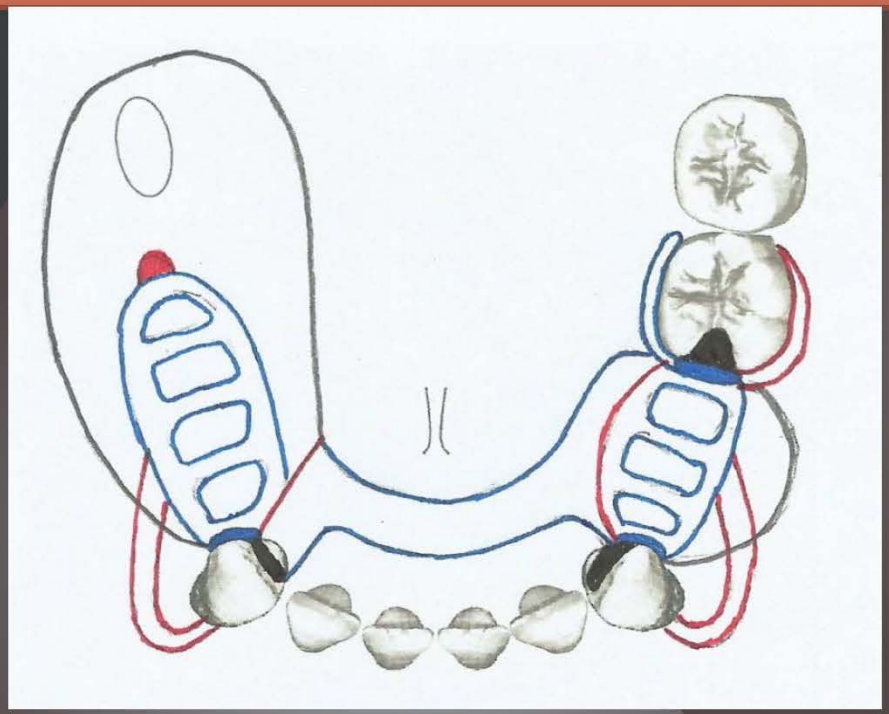
Case A



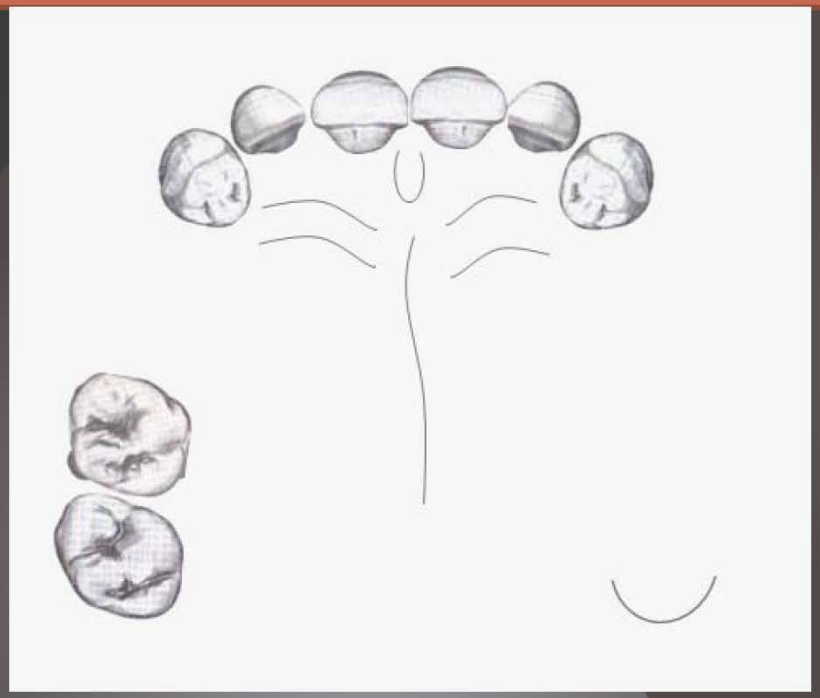
Case A



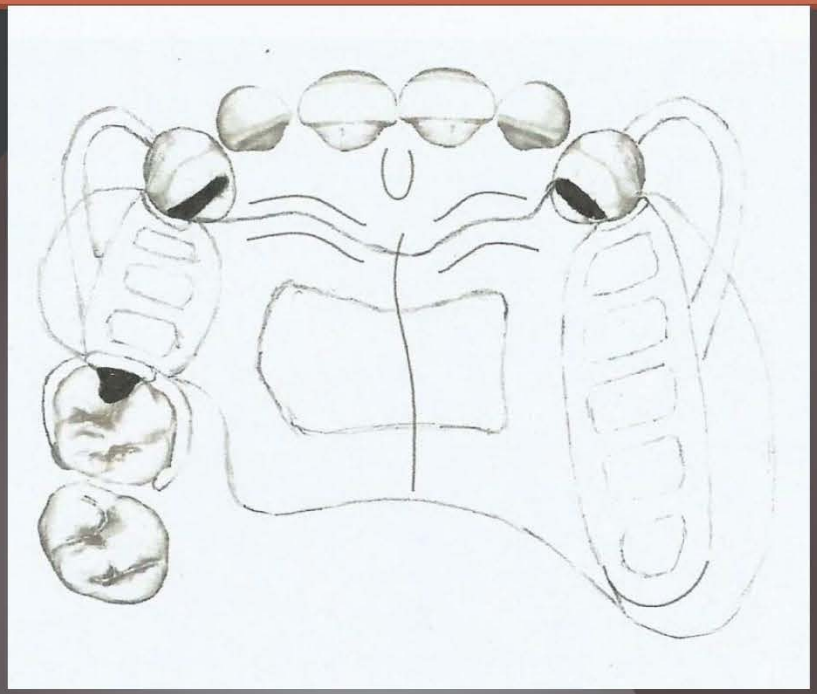
Case A



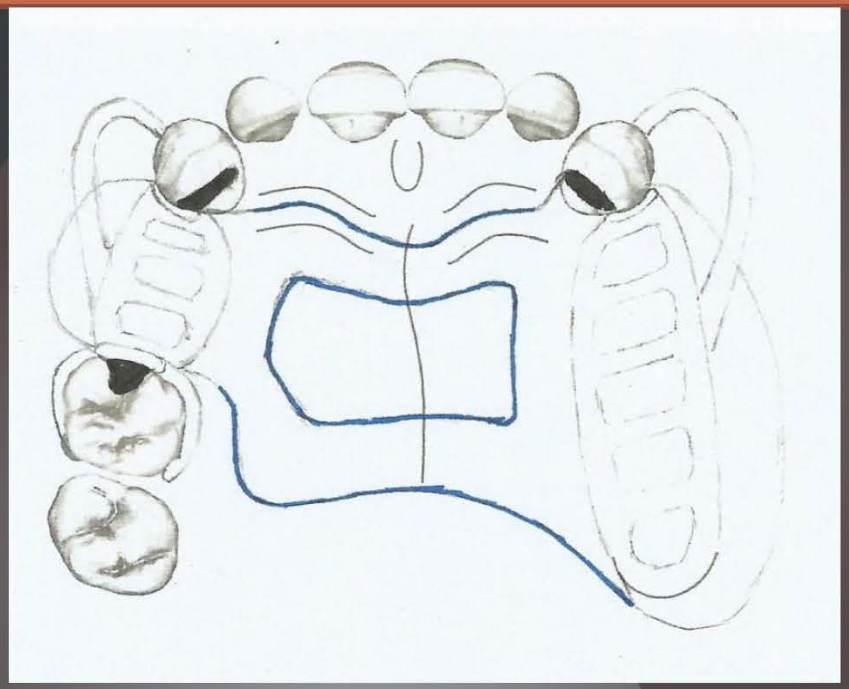
Case B



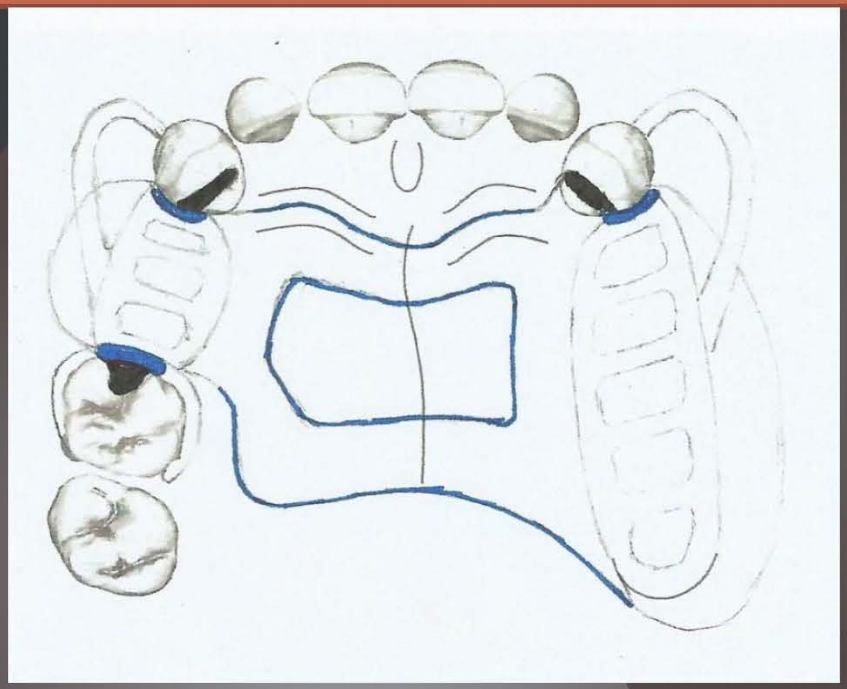
Case B



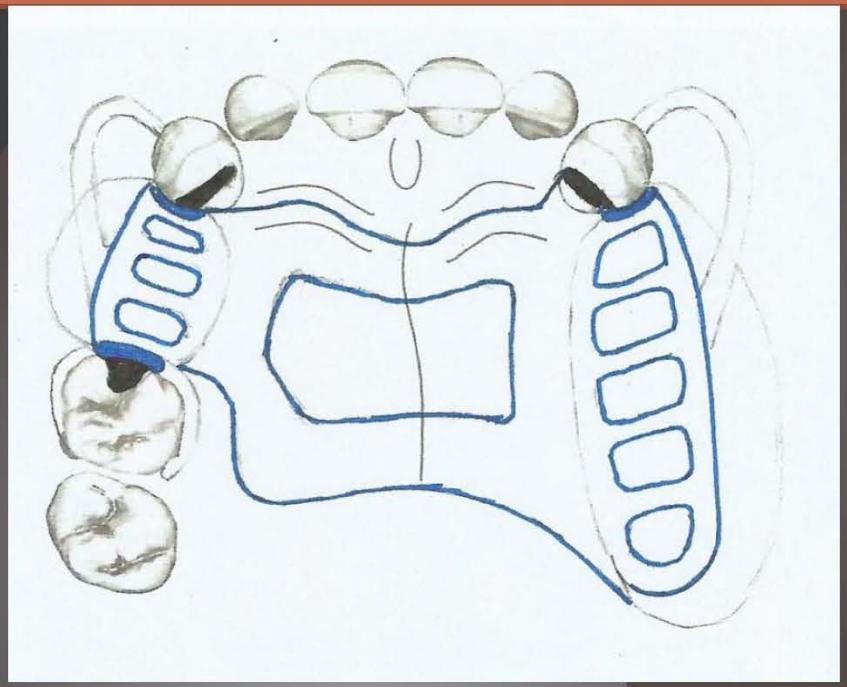
Case B



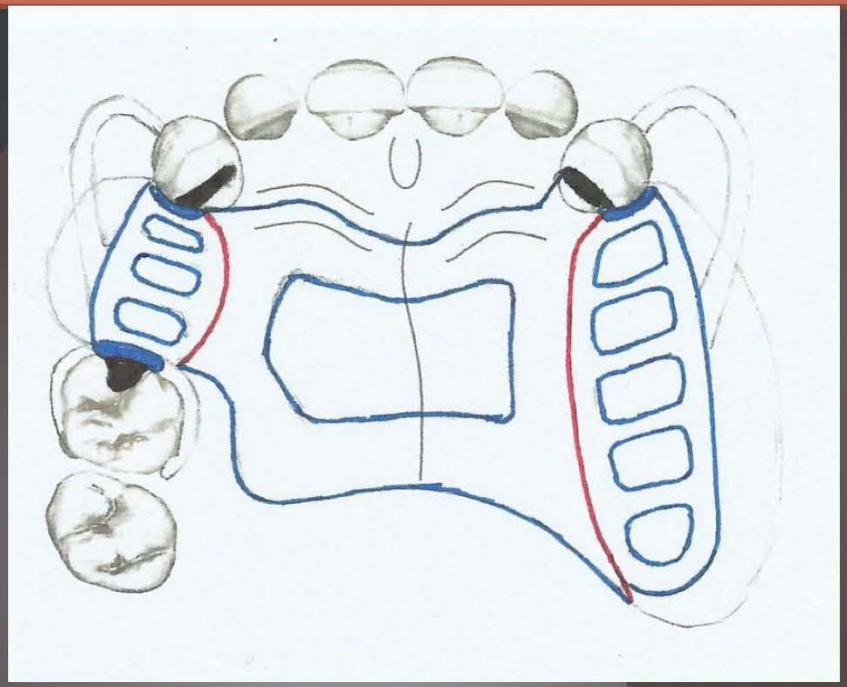
Case B



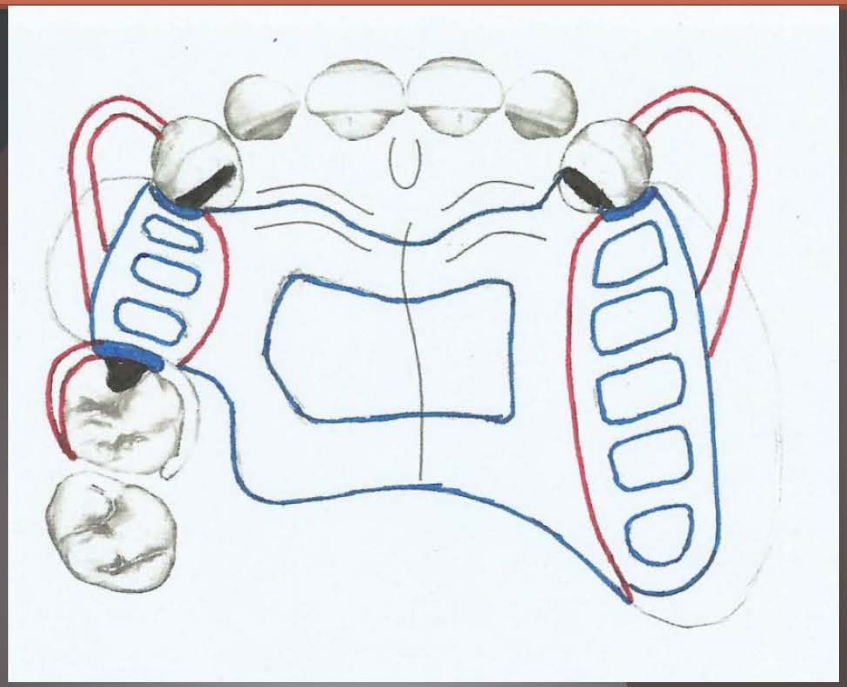
Case B



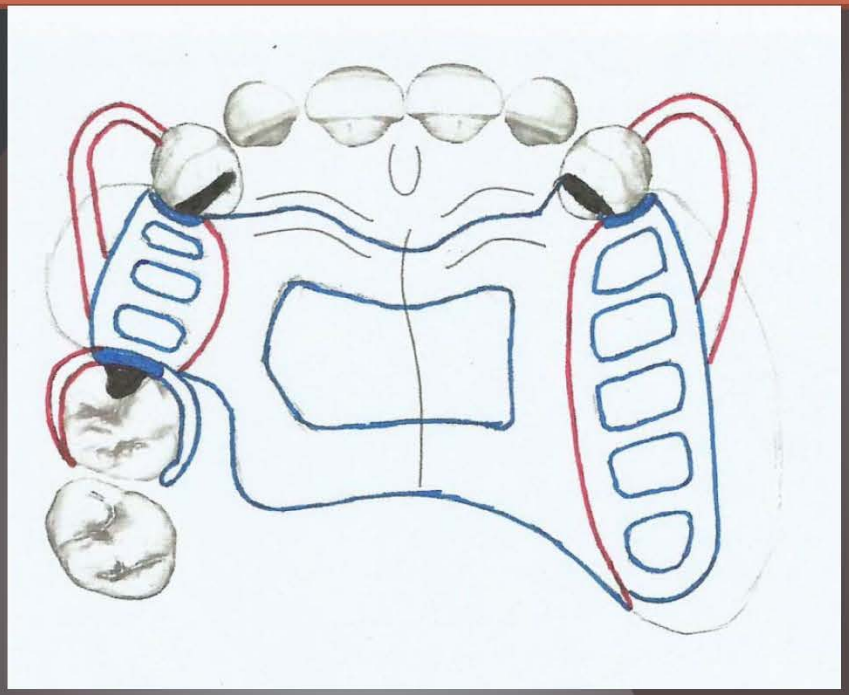
Case B



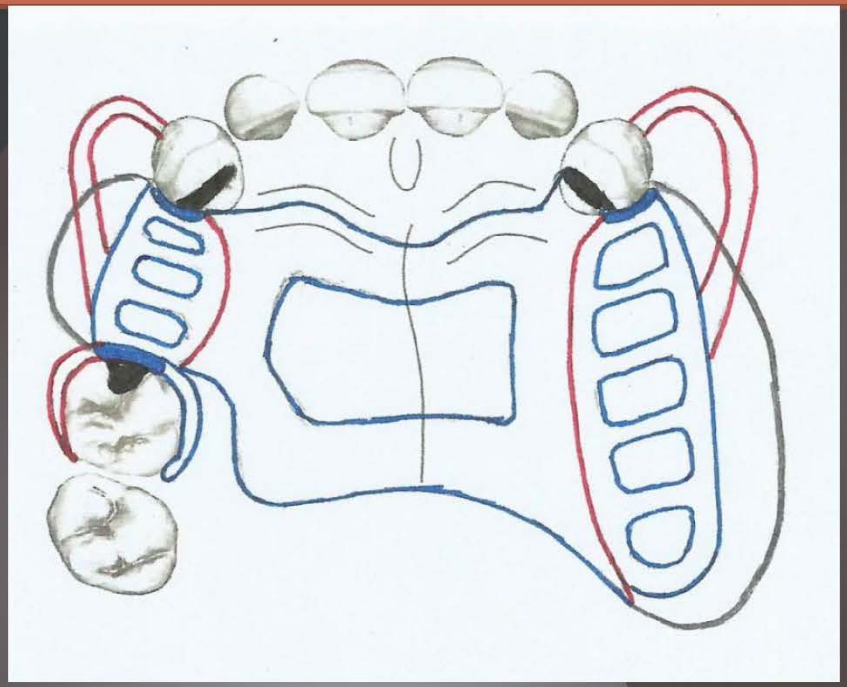
Case B



Case B



Case B



THANK YOU