



RPD: Components and Classification



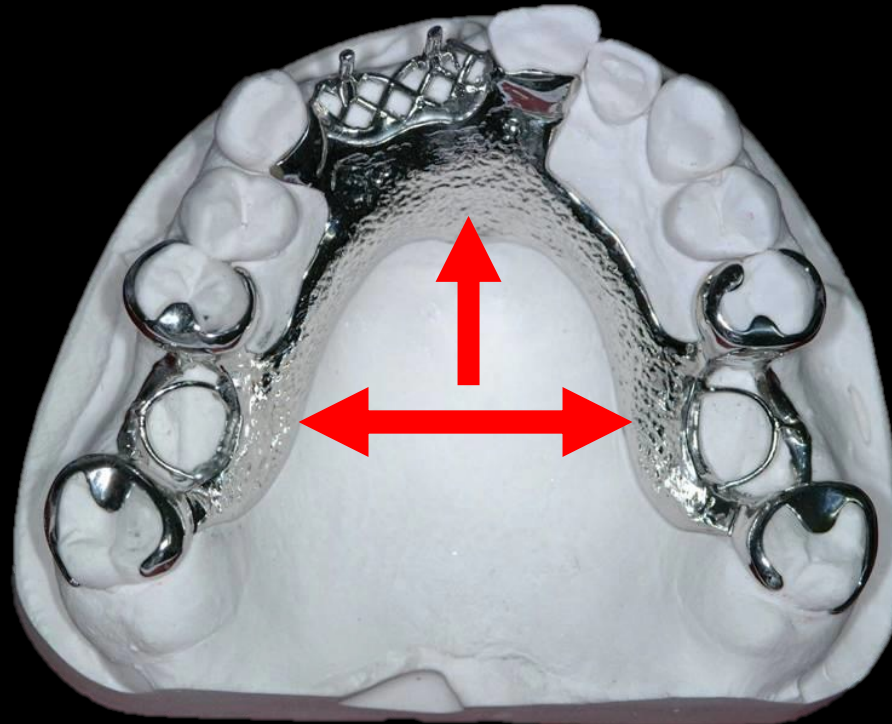
LEARNING OUTCOMES

- Identify components of an RPD
- Discuss the concept of direct and indirect retainer
- Classify partially edentulous arches (topography, physiology and biomechanics)



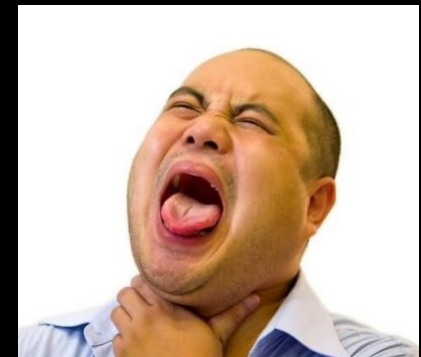
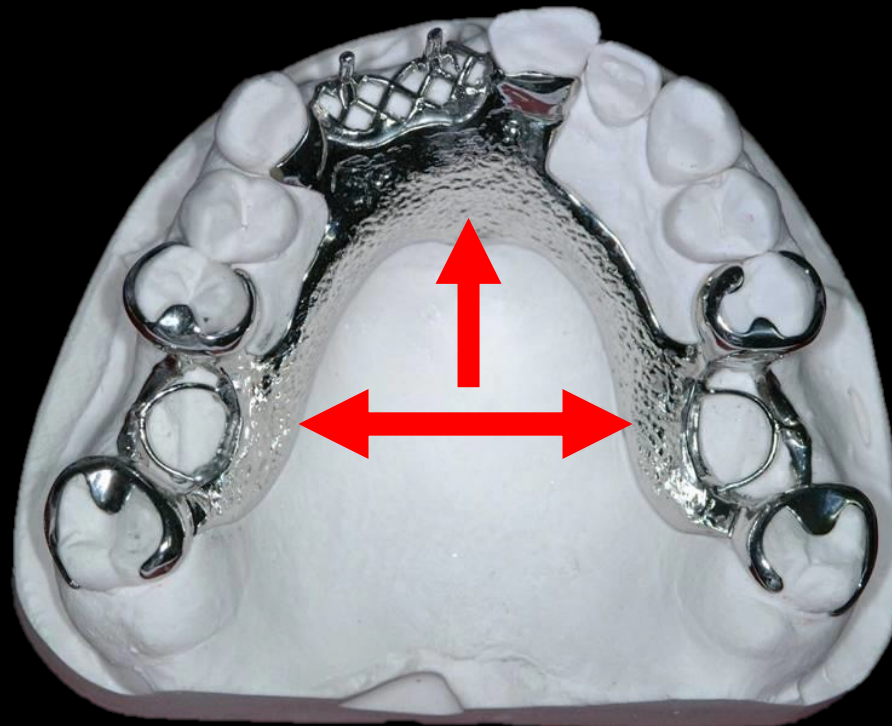


NEVER



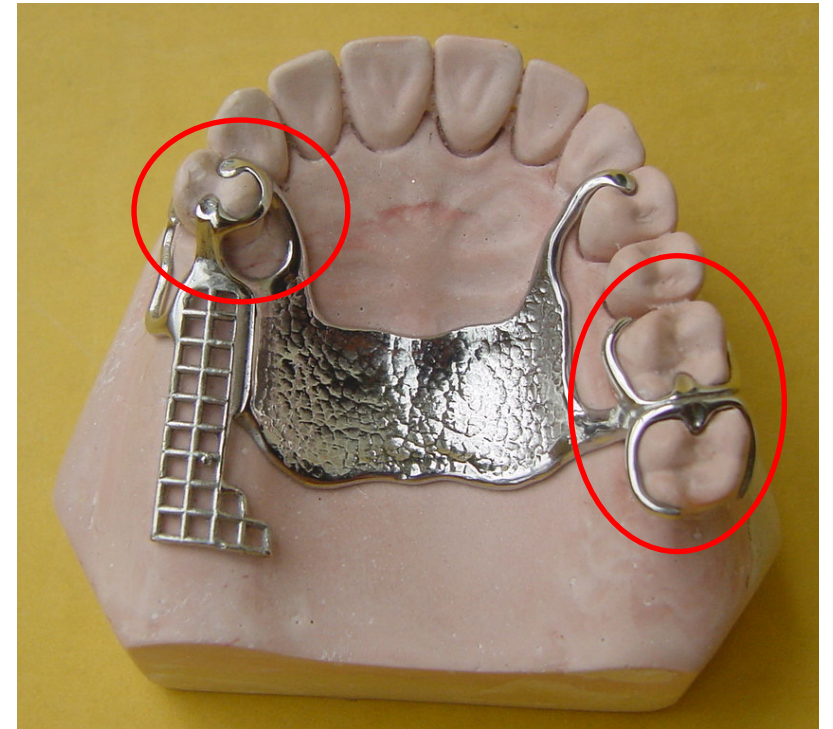
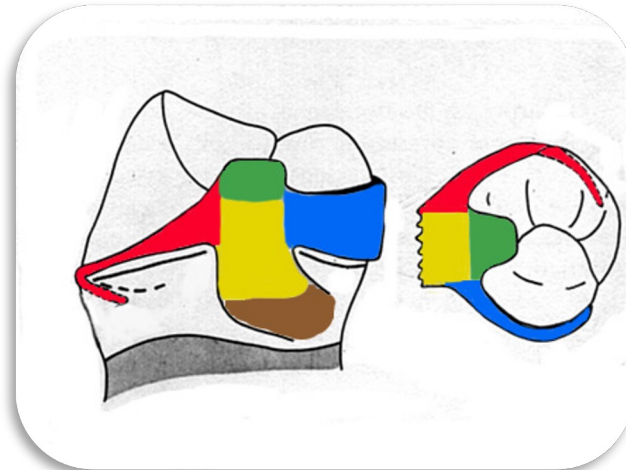


NEVER



COMPONENTS

1. Clasp: rest, retentive and reciprocal arms, proximal plate
2. Rest (alone)
3. Major connector
4. Minor connectors
5. Saddle
6. Artificial teeth



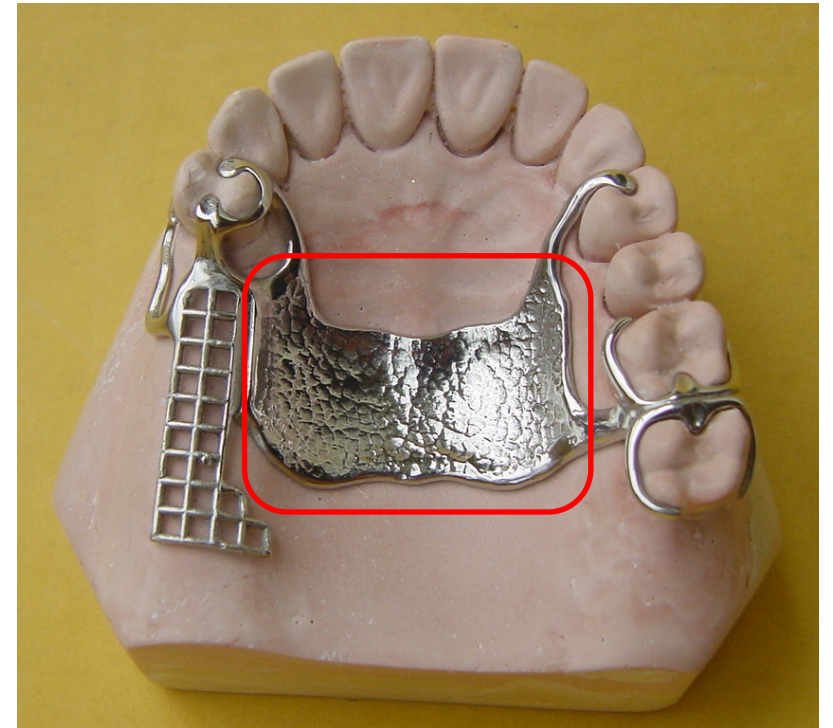
COMPONENTS

1. Clasp: rest, retentive and reciprocal arms, proximal plate
2. Rest (alone)
3. Major connector
4. Minor connectors
5. Saddle
6. Artificial teeth



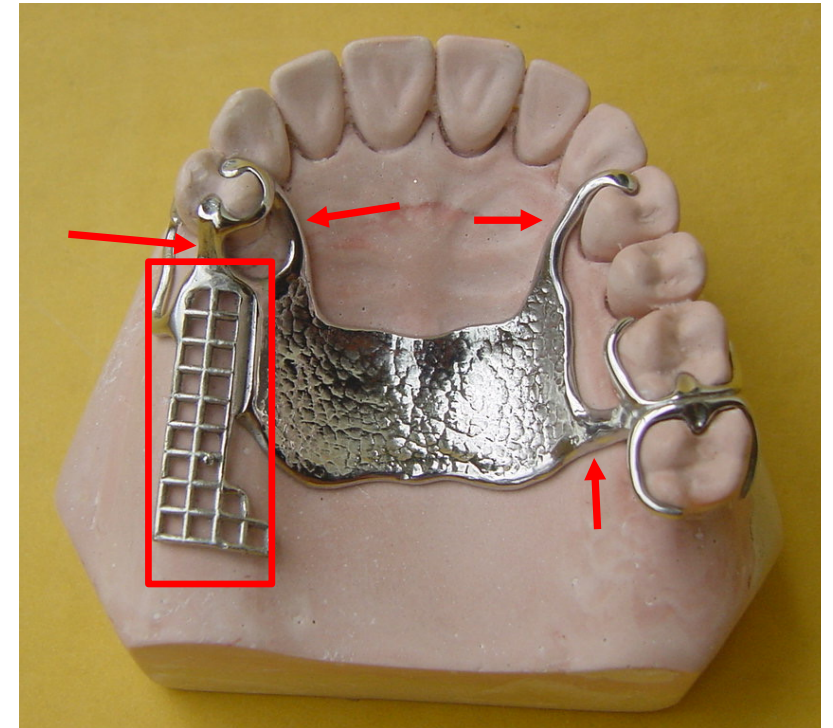
COMPONENTS

1. Clasp: rest, retentive and reciprocal arms, proximal plate
2. Rest (alone)
- 3. Major connector**
4. Minor connectors
5. Saddle
6. Artificial teeth



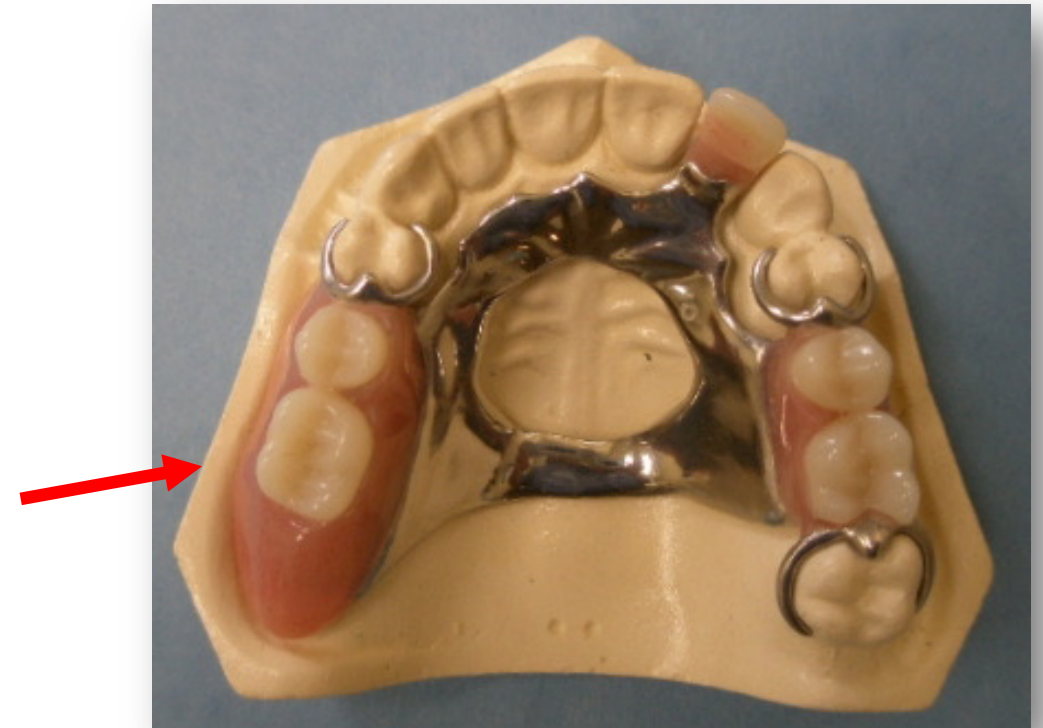
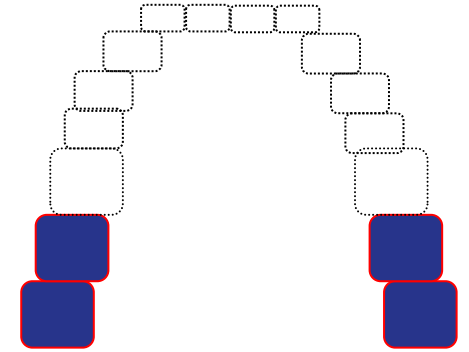
COMPONENTS

1. Clasp: rest, retentive and reciprocal arms, proximal plate
2. Rest (alone)
3. Major connector
- 4. Minor connectors**
5. Saddle
6. Artificial teeth



COMPONENTS

1. Clasp: rest, retentive and reciprocal arms, proximal plate
2. Rest (alone)
3. Major connector
4. Minor connectors
5. Saddle
6. Artificial teeth



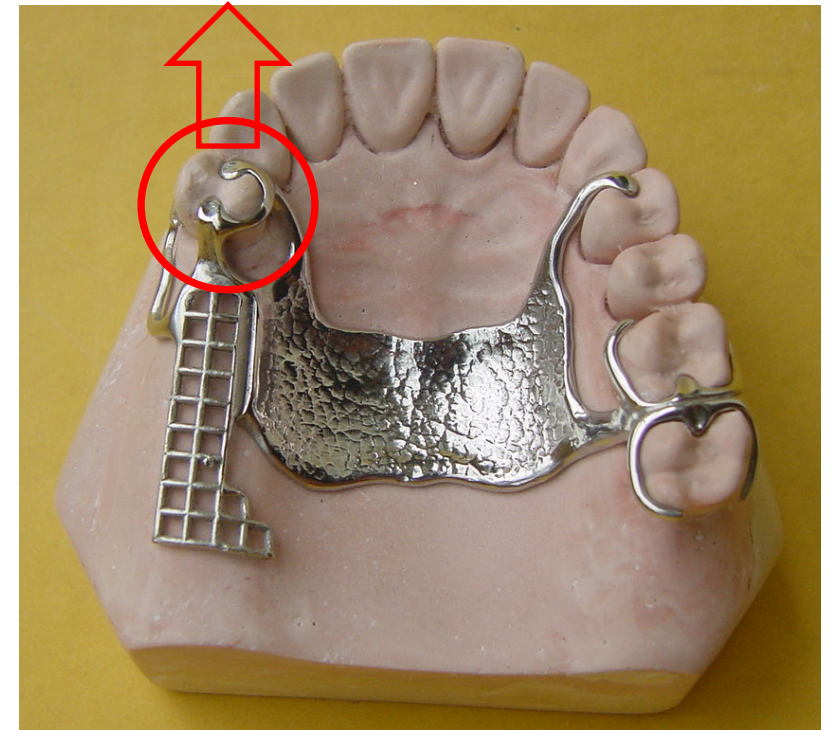
COMPONENTS

1. Clasp: rest, retentive and reciprocal arms, proximal plate
2. Rest (alone)
3. Major connector
4. Minor connectors
5. Saddle
6. Artificial teeth



COMPONENTS

1. Clasp: rest, retentive and reciprocal arms, proximal plate
2. Rest (alone)
3. Major connector
4. Minor connectors
5. Saddle
6. Artificial teeth



Direct retainer

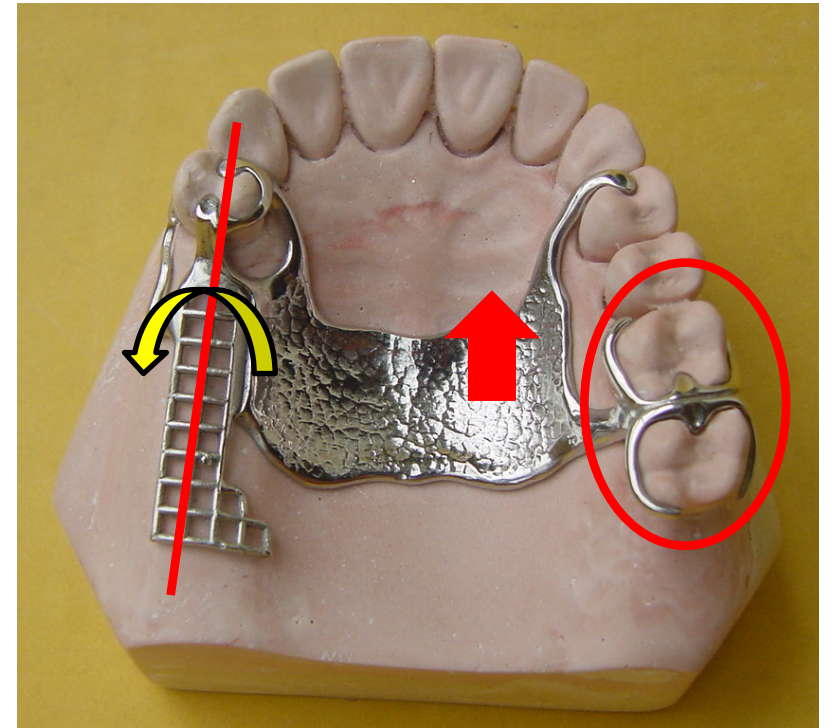
Indirect retainer

COMPONENTS

1. Clasp: rest, retentive and reciprocal arms, proximal plate
2. Rest (alone)
3. Major connector
4. Minor connectors
5. Saddle
6. Artificial teeth

Direct retainer

Indirect retainer

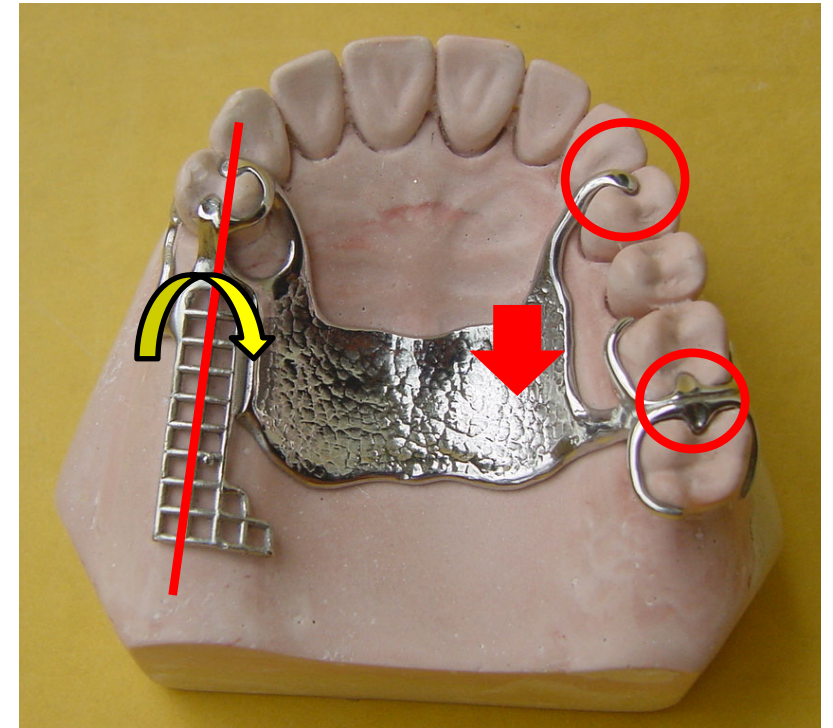


COMPONENTS

1. Clasp: rest, retentive and reciprocal arms, proximal plate
2. Rest (alone)
3. Major connector
4. Minor connectors
5. Saddle
6. Artificial teeth

Direct retainer

Indirect retainer

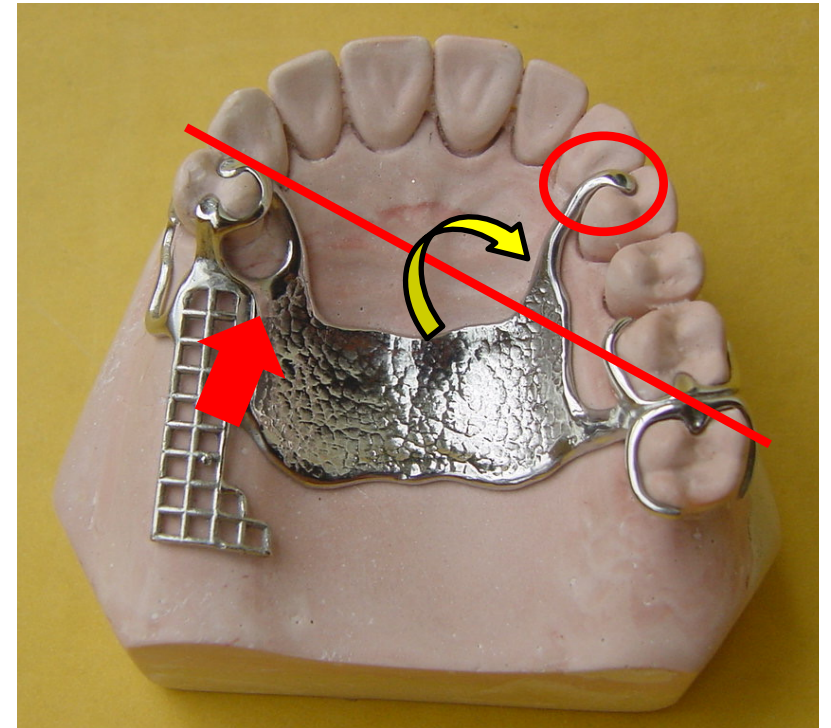


COMPONENTS

1. Clasp: rest, retentive and reciprocal arms, proximal plate
2. Rest (alone)
3. Major connector
4. Minor connectors
5. Saddle
6. Artificial teeth

Direct retainer

Indirect retainer



CLASSIFICATION OF PARTIALLY EDENTUOUS ARCHES

Importance:

- Communication between professionals
- Didactic
- Standardization of treatment planning
- Visualize the difficulty of each case

CLASSIFICATION OF PARTIALLY EDENTULOUS ARCHES

Classification should:

- Allow the visualization of edentulous areas
- Give information about the type of support
- Characterize where the alveolar bone will receive occlusal forces
- Universally accepted

CLASSIFICATION

Basis for Classification

- Topographic
 - Quantity and location of edentulous spaces
- Physiological
 - How the bone will receive the masticatory load
- Biomechanics
 - Position of direct retainers and the need for indirect retainers

CLASSIFICATION OF RPD

- Cummer (1920) devised the first classification based on position and number of direct retainer and position of indirect retainer
- **Edward Kennedy (1925)**
- Bailyn (1928)
- Neurohr's Classification (1939) - based on the support derived.
- Godfrey (1951) – based on the location and size of edentulous spaces
- Beckett (1953)
- Friedman (1953) – ABC classification - A: Anterior, B: Bounded posterior, C: Cantilever
- **Applegate-Kennedy (1954) – modification of Kennedy's system**
- Skinner (1959) – influenced by Cummer's classification
- Swenson (1963)

CLASSIFICATION

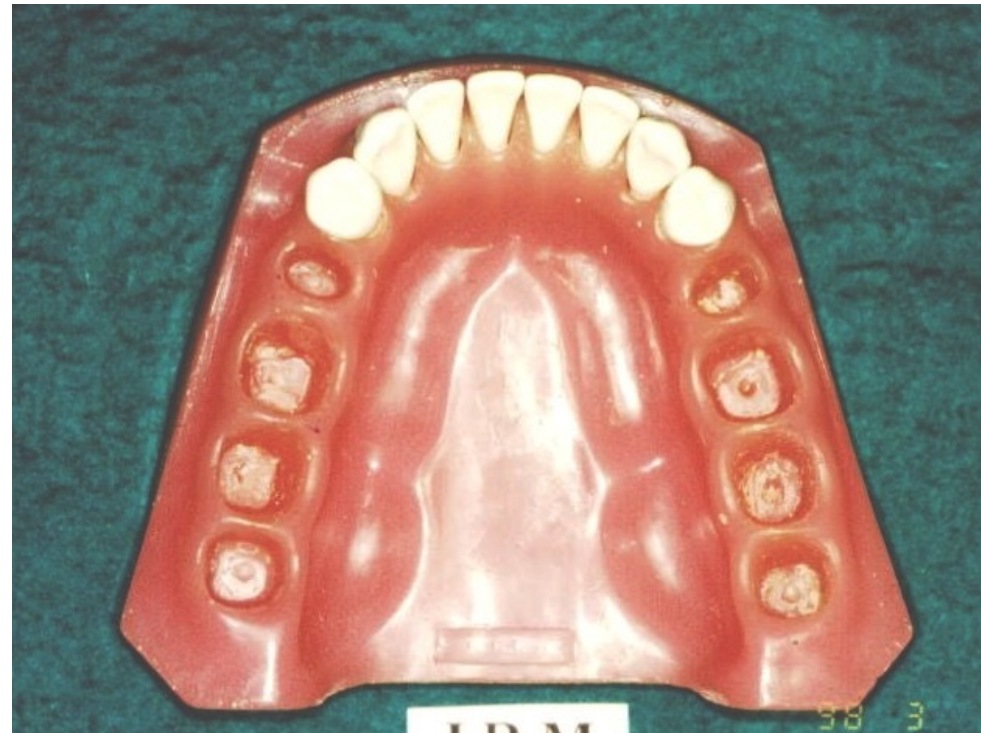
Kennedy classification

- Relates the edentulous area and the remaining teeth
- Does not take into account the number of missing teeth
- 4 groups:
 - Class I
 - Class II
 - Class III
 - Class IV

CLASSIFICATION

Kennedy classification

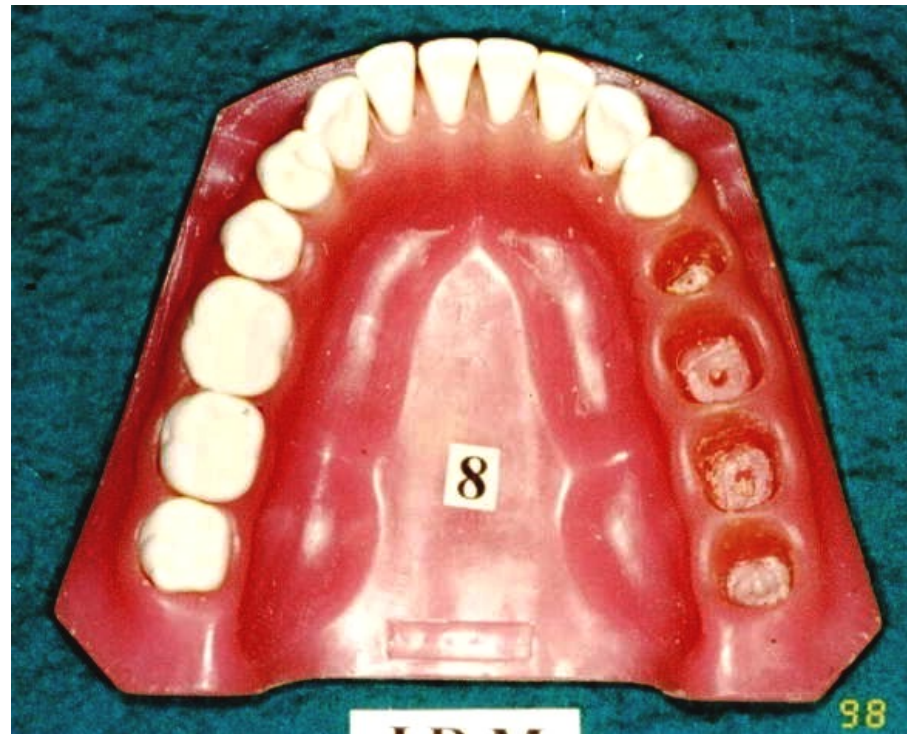
Class I: Bilateral distal edentulous areas



CLASSIFICATION

Kennedy classification

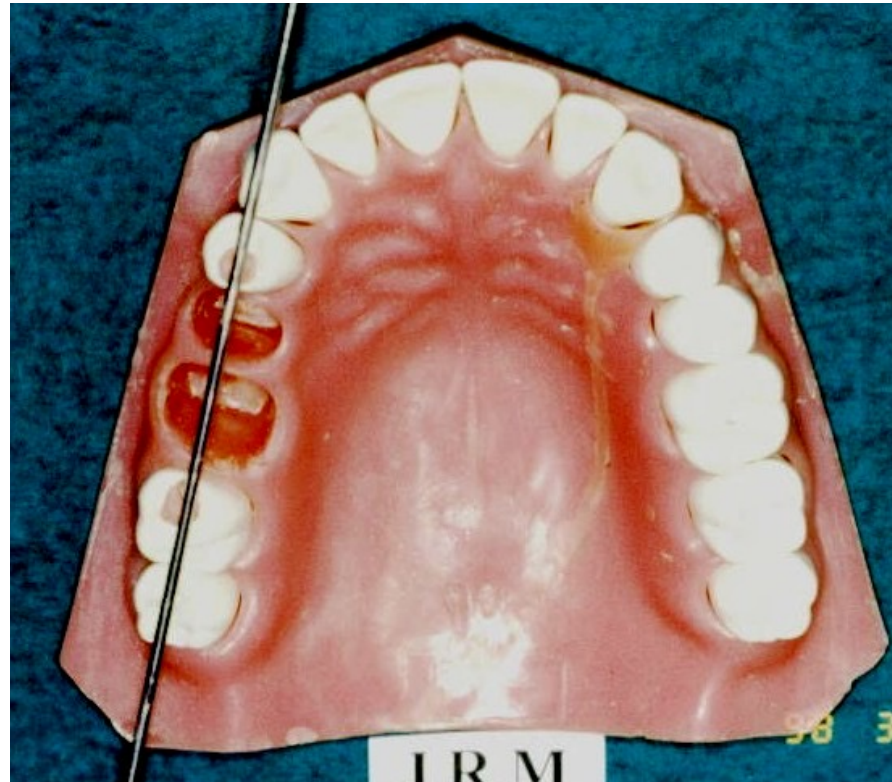
Class II: Unilateral distal edentulous areas



CLASSIFICATION

Kennedy classification

Class III: Unilateral edentulous area with teeth anterior and posterior to the edentulous area



CLASSIFICATION

Kennedy classification

Class IV: Anterior edentulous area crossing the midline



CLASSIFICATION

Kennedy classification

MODIFICATIONS



- Each additional edentulous area (not each missing teeth) is referred as a modification space.
- Include the number number of modification areas in the classification

CLASSIFICATION

Kennedy classification

MODIFICATIONS



Class II, Modification 2

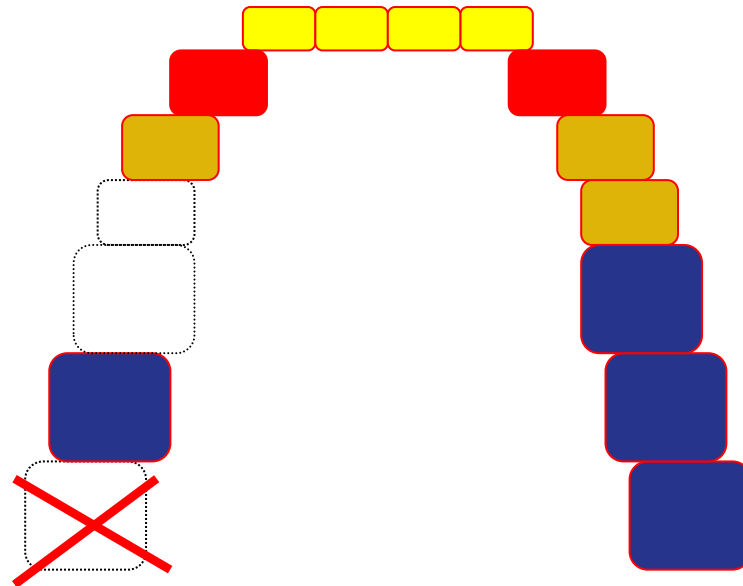


Class II, Modification 1

CLASSIFICATION

Kennedy classification APPLEGATE'S RULES

1. The classification should be determined after all extractions (if applicable)
2. If the third molar is missing and is not to be replaced, it is not considered in the classification

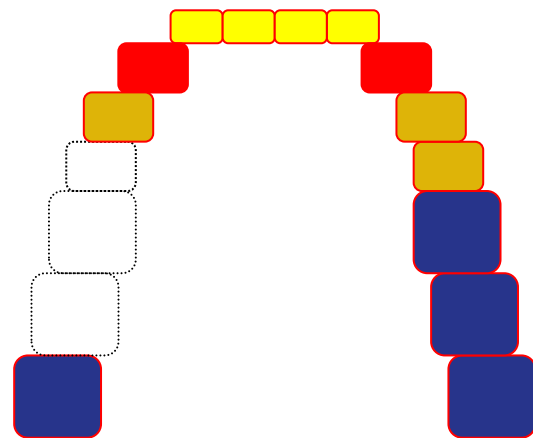


Class III

CLASSIFICATION

Kennedy classification APPLEGATE'S RULES

1. The classification should be determined after all extractions (if applicable)
2. If the third molar is missing and is not to be replaced, it is not considered in the classification
3. If the third molar is present and is an abutment, it is considered in the classification

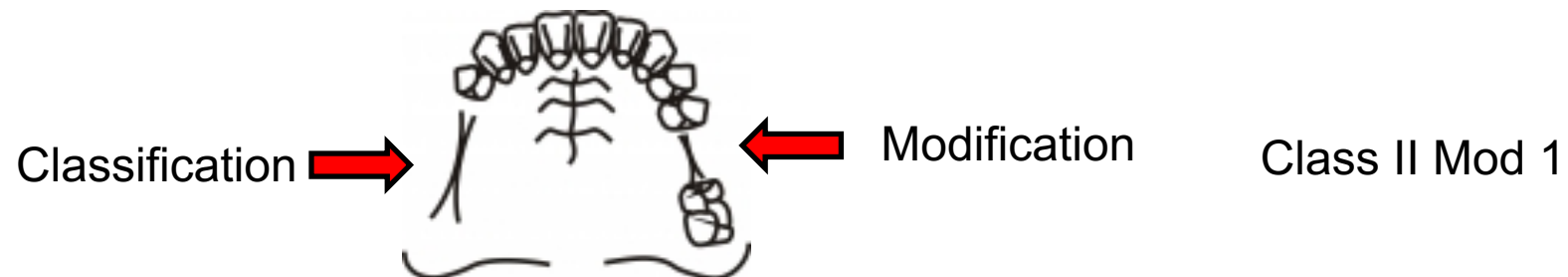


Class III

CLASSIFICATION

Kennedy classification APPLEGATE'S RULES

1. The classification should be determined after all extractions (if applicable)
2. If the third molar is missing and is not to be replaced, it is not considered in the classification
3. If the third molar is present and is an abutment, it is considered in the classification
4. If the second molar is missing and is not to be replaced, it is not considered in the classification
5. The most posterior edentulous area(s) always determines the classification



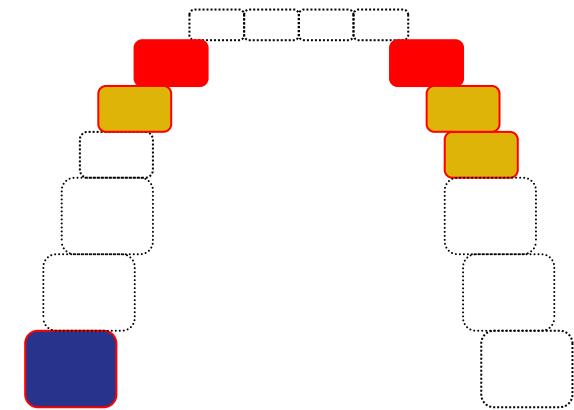
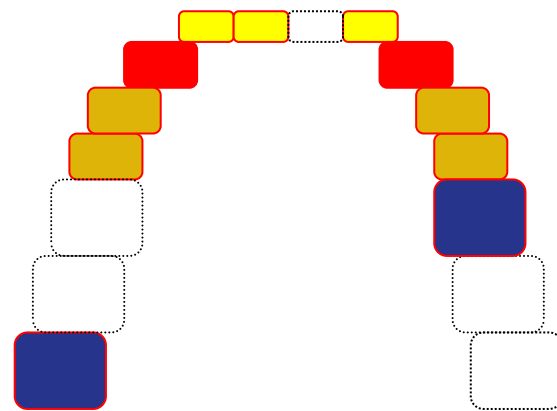
CLASSIFICATION

Kennedy classification APPLEGATE'S RULES

6. Edentulous areas other than those determining the classification are referred as "modification" and are designated by their number

7. The extent of the mod is not considered, only the number of additional edentulous areas

8. There is no modification in Class IV



Class II, Modification 2

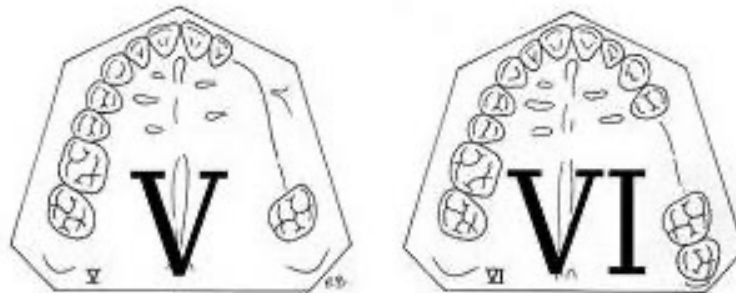
CLASSIFICATION

Kennedy classification APPLEGATE'S MODIFICATION

Suggested two additional classifications – Classes V and VI

- These are a variation of Kennedy's original Class III, because three completely different clinical situations could exist, each requiring a different design consideration

Similar to class III but large edentulous space, anterior tooth is weak and unable to support a clasp assembly, e.g. lateral incisor



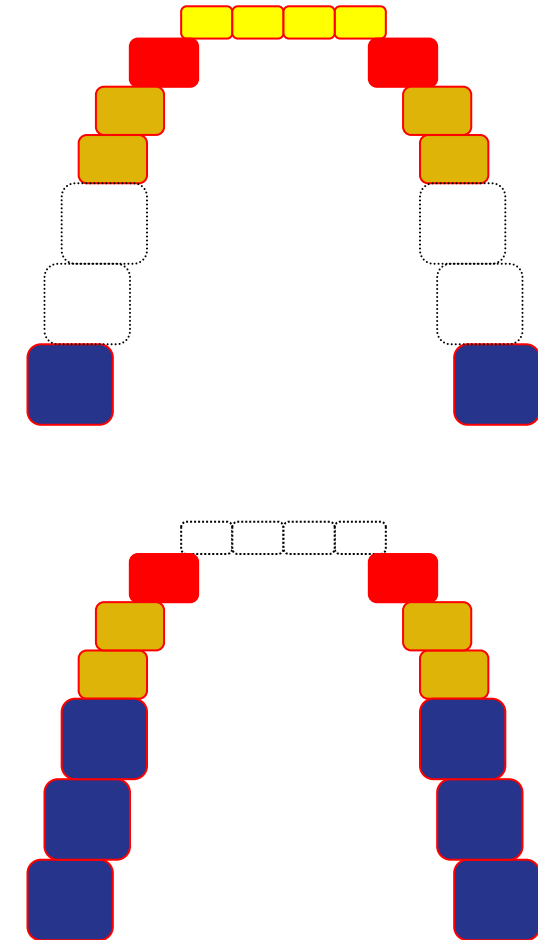
Similar to class III but abutment teeth much stronger, short edentulous area – this class can possibly be treated with a fixed prosthesis

CLASSIFICATION

Classification according to type of support

1) Tooth supported (Tooth-borne RPD)

- Load transmitted to the remaining teeth (Periodontium)
- Traction stimuli
- No occlusal load on the alveolar ridge mucosa



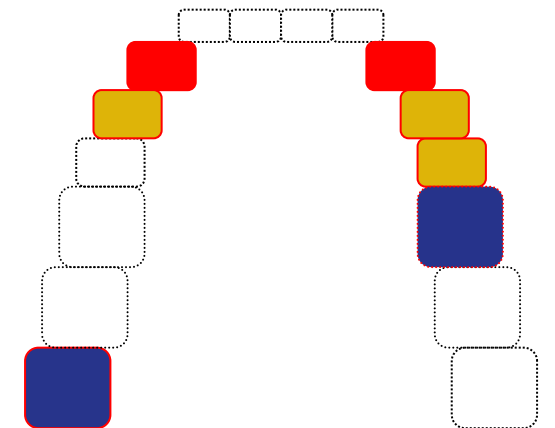
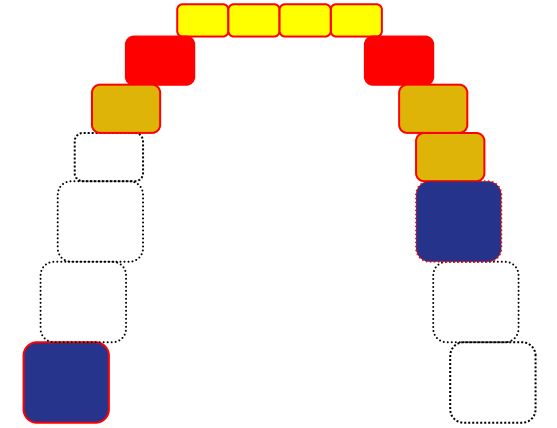
CLASSIFICATION

Classification according to type of support

2) Tooth and tissue supported (Tooth and tissue-borne RPD)

A)

- Load transmitted to the remaining teeth and mucosa
- Greater transmission through the teeth



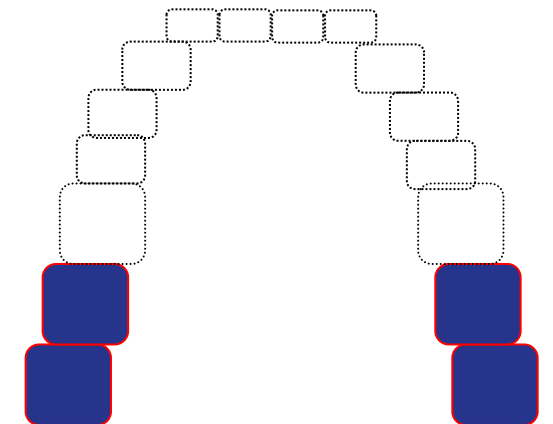
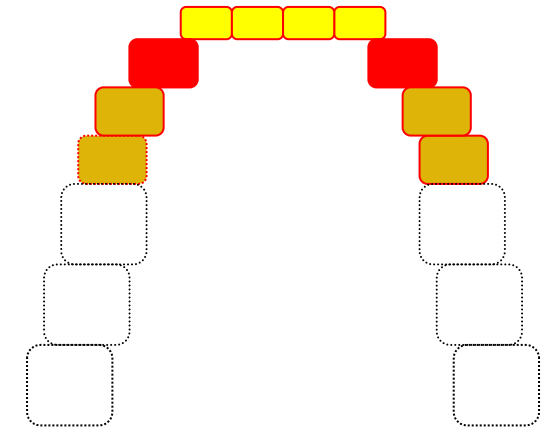
CLASSIFICATION

Classification according to type of support

2) Tooth and tissue supported (Tooth and tissue borne RPD)

B)

- Loading transmitted mainly to the mucosa

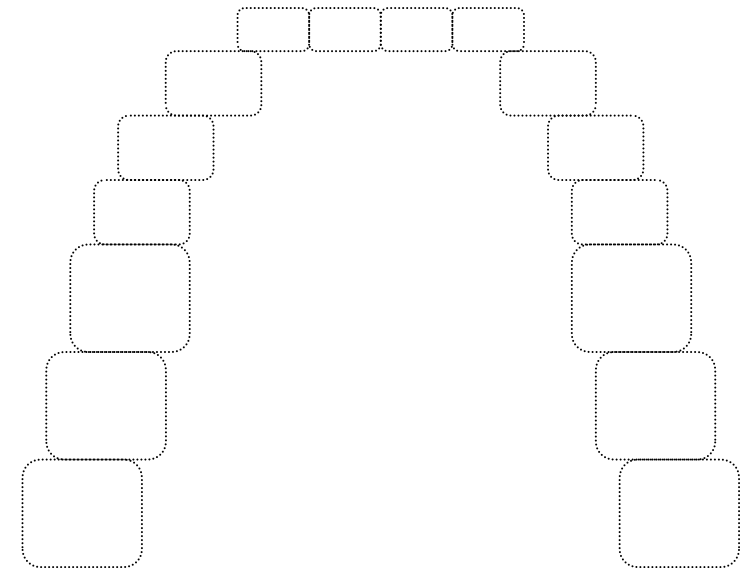


CLASSIFICATION

Classification according to type of support

3) Tissue supported (Tissue borne complete denture)

- Loading transmitted to the mucosa



CLASSIFICATION

Biomechanics

- Possible movements of the RPD
- Presence of lever arms

INTERCALATED

LEVERED

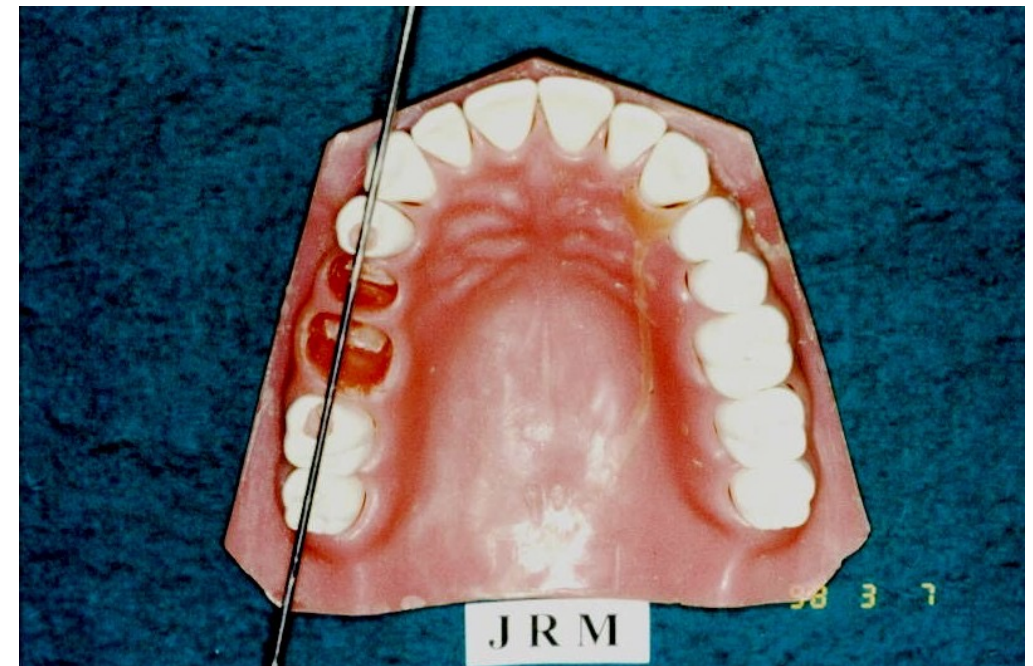
COMBINED

CLASSIFICATION

Biomechanics

INTERCALATED

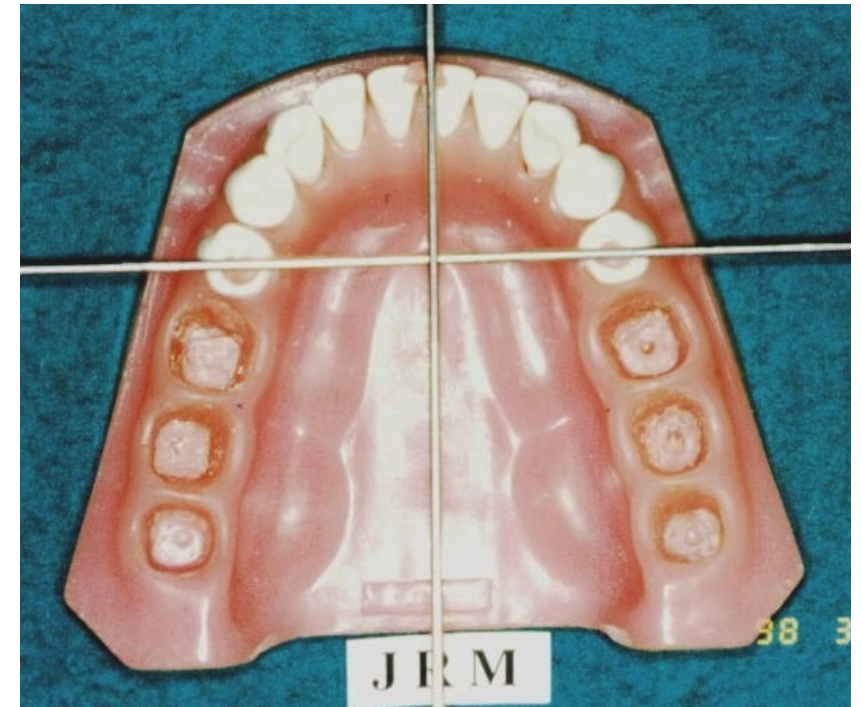
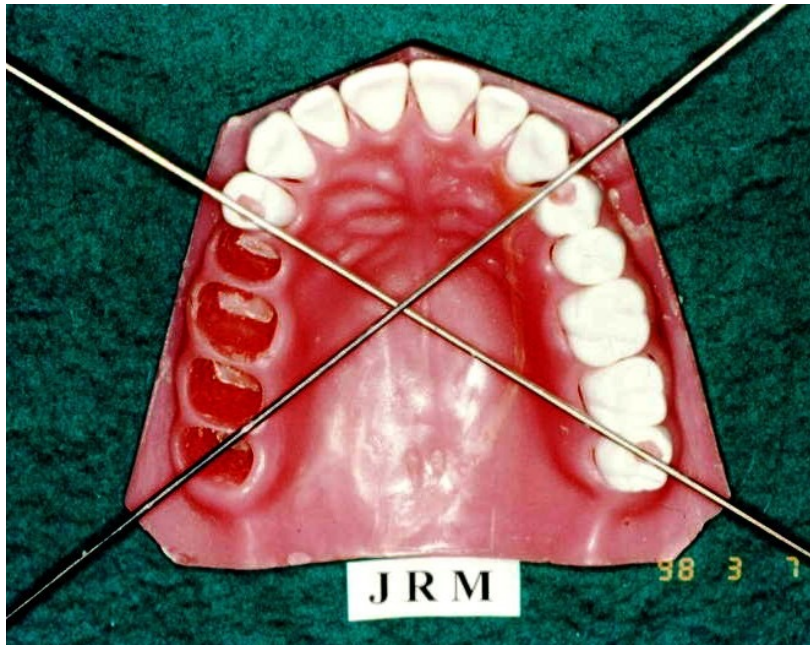
- Edentulous area limited by teeth
- No free end saddles



CLASSIFICATION

Biomechanics

LEVERED • Free end edentulous area



CLASSIFICATION

Biomechanics

COMBINED

- Intercalated and free end edentulous area





THE UNIVERSITY OF
**WESTERN
AUSTRALIA**



Oral Health Centre
of Western Australia
