

Removable partial dentures

Feb, 4, 2015

McCracken's Removable Partial
Prosthodontics, Twelfth Edition
Carr, Alan B

REMOVABLE PARTIAL DENTURE (RPD)

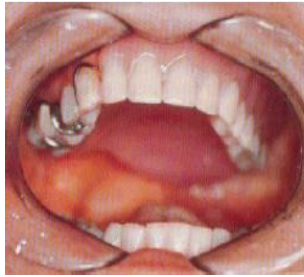
Prosthesis that replaces the missing teeth and associated supporting structures in a partially dentate arch. It can be removed from the mouth and replaced as well.





Treatment strategies:

1. **Fixed partial dentures (Bridges).**
2. **Removable partial denture.**
 - a) **Acrylic RPD. (hard or soft)**
 - b) **Metallic RPD (Co-Cr RPD).**



Indications for RPD

1. Long edentulous span (Implant?).
2. Free-end saddle (Implant?).
3. When the patient's oral hygiene is satisfactory.
4. When there is need to restore to both soft and hard tissues due to bone defect,
5. Age → young.
6. Patient's desire → cost.

Acrylic RPD

- 1) Esthetics.
- 2) Space maintainer.
- 3) To reestablish occlusal relationships.
- 4) Interim restoration during treatment.
- 5) To condition the patient for wearing a denture.

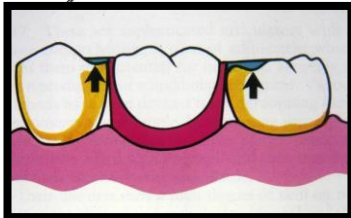
Classification of partially edentulous arches

Several methods have been proposed in dental literature. Therefore, these variations have led to some confusion and disagreement regarding which method should be followed.

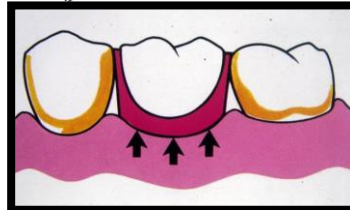
Classifications in current use are of two types, to simplify the recording of case history and to help on positive communications between the clinicians and the dental technicians.

Classification regarding support:

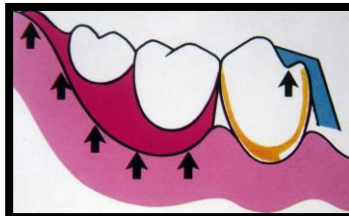
a) Teeth-borne RPD.



b) Mucosa-borne RPD



c) Teeth and Mucosa borne RPD.



Requirements of an Acceptable Method of Classification

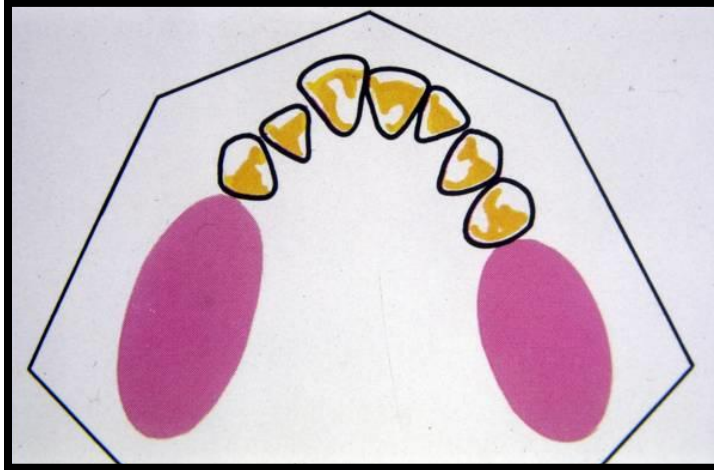
1. It should permit immediate visualization of the type of partially edentulous arch that is being considered.
2. It should permit immediate differentiation between the tooth-supported and the tooth- and tissue-supported removable partial denture.
3. It should be universally acceptable.

The most popular classification is Kennedy's classification

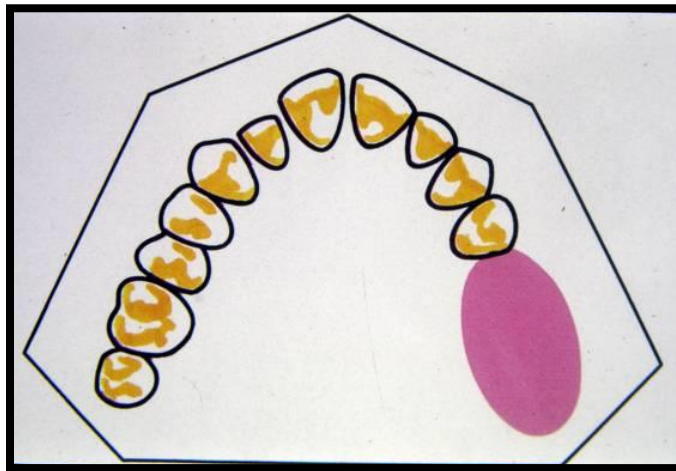
It attempts to classify the partially edentulous arch in a manner that suggests certain principles of design for a given situation

Class I:

Bilateral edentulous areas located posterior to the natural standing teeth “Bilateral free-end saddle”.

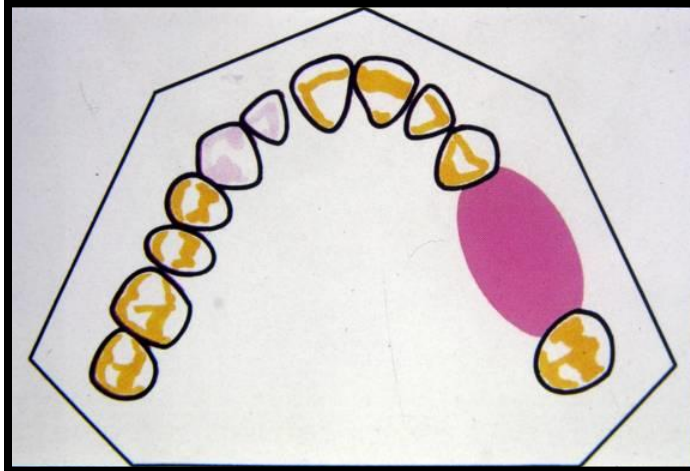
**Class II:**

A unilateral edentulous areas located posterior to the natural standing teeth “unilateral free-end saddle”.

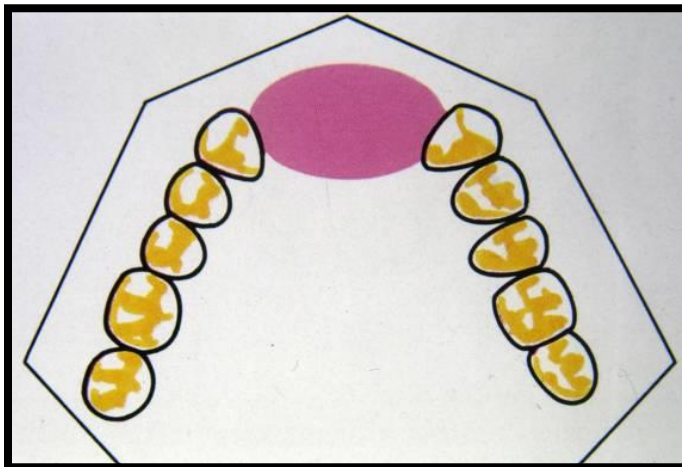


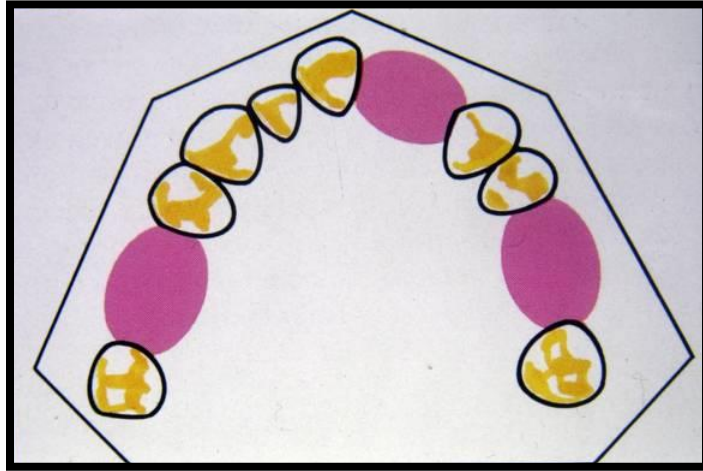
Class III:

A unilateral edentulous area with natural teeth standing anterior or posterior to it.

**Class IV:**

Single, but bilateral “Crossing the middle line” edentulous area located anterior to the remaining natural teeth.





Applegate's Rules for Applying the Kennedy Classification

The Kennedy classification would be difficult to apply in every situation without certain rules for application. Applegate provided eight rules that govern application of the Kennedy method

Applegate's Rules

Rule 1

Classification should follow rather than precede any extractions of teeth that might alter the original classification.

Rule 2

If a third molar is missing and is not to be replaced, it is not considered in the classification.

Rule 3

If a third molar is present and is to be used as an abutment, it is considered in the classification.

Rule 4

If a second molar is missing and is not to be replaced, it is not considered in the classification (e.g., if the opposing second molar is likewise missing and is not to be replaced).

Rule 5

The most posterior edentulous area (or areas) always determines the classification.

Rule 6

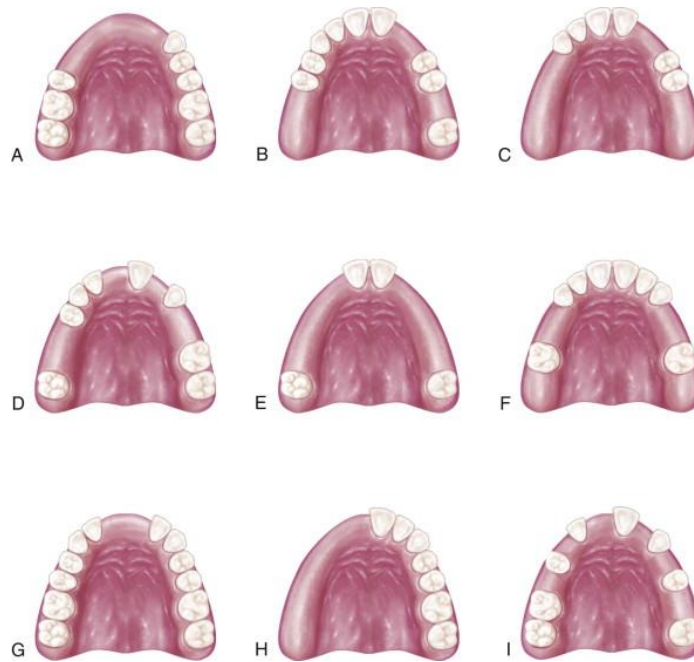
Edentulous areas other than those that determine the classification are referred to as *modifications* and are designated by their number.

Rule 7

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

Rule 8

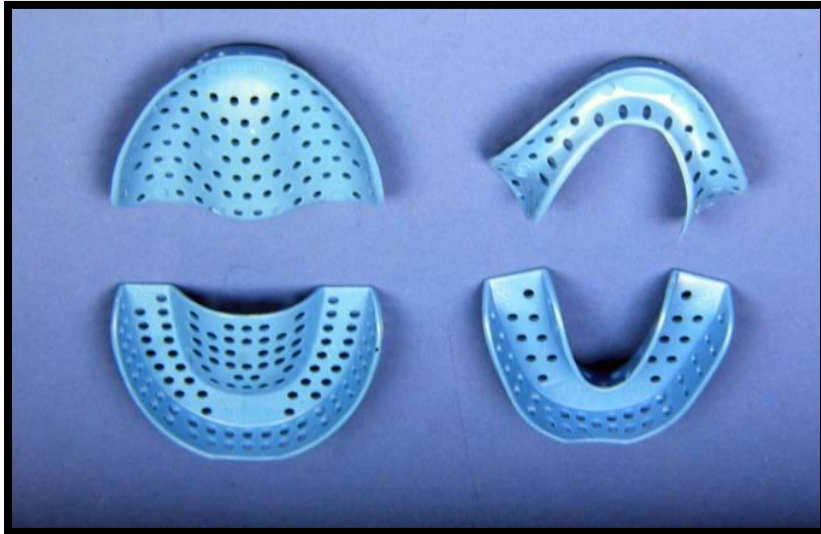
No modification areas can be included in Class IV arches. (Other edentulous areas that lie posterior to the single bilateral areas crossing the midline would instead determine the classification; see Rule 5.)

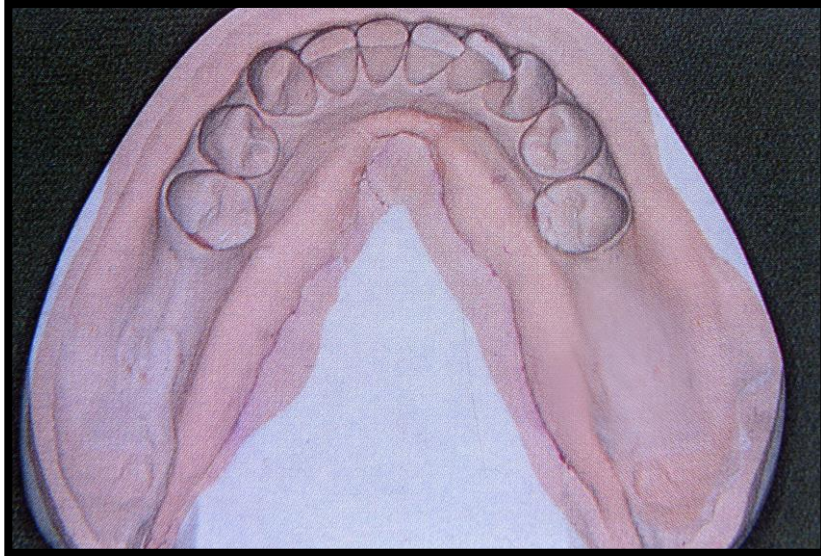


Study or Diagnostic cast:

Usually taken be alginate for both upper and lower arches and it help in:

1. They are useful in patient's education.
Permanent dental record for the patient before treatment to avoid any conflict during treatment stages or later on.
2. For initial surveying
3. It helps to determine the treatment plan
4. It helps in work authorization order to dental technician
5. To construct special tray.

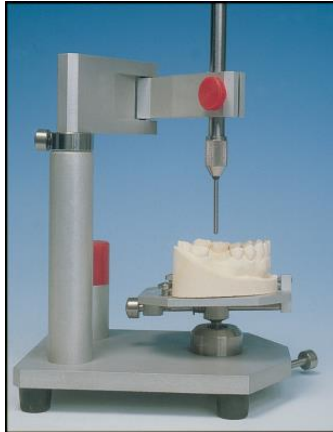




- ***Dental Surveyor:*** It is a mechanical device used to determine the relative parallelism of the teeth surfaces and the undercuts areas in relation to the common path of insertion and removal of the denture. *Dr Fortunati, 1918.*

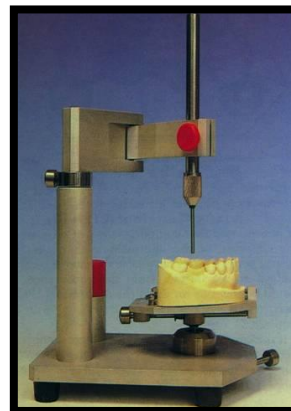


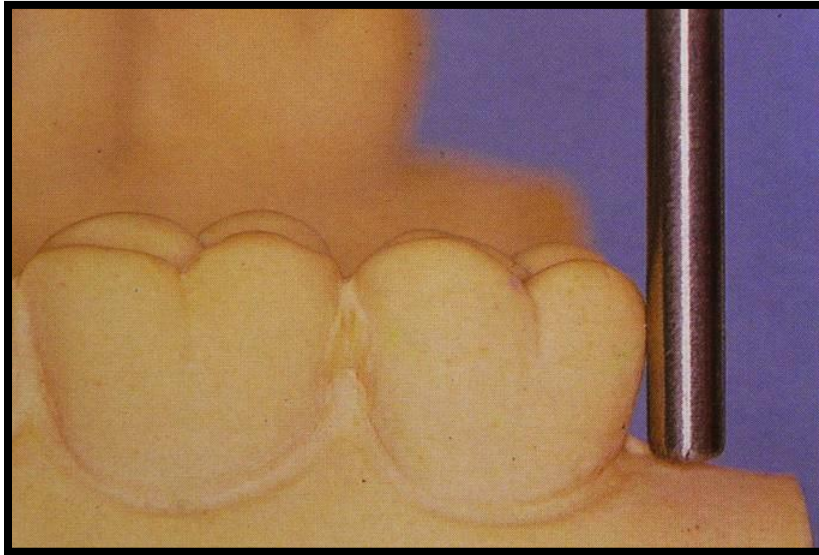
- **Surveying:** The procedure of analyzing and delineating the contours of the abutment teeth (Hard tissues) and associated structures (soft tissues) before designing a RPD.



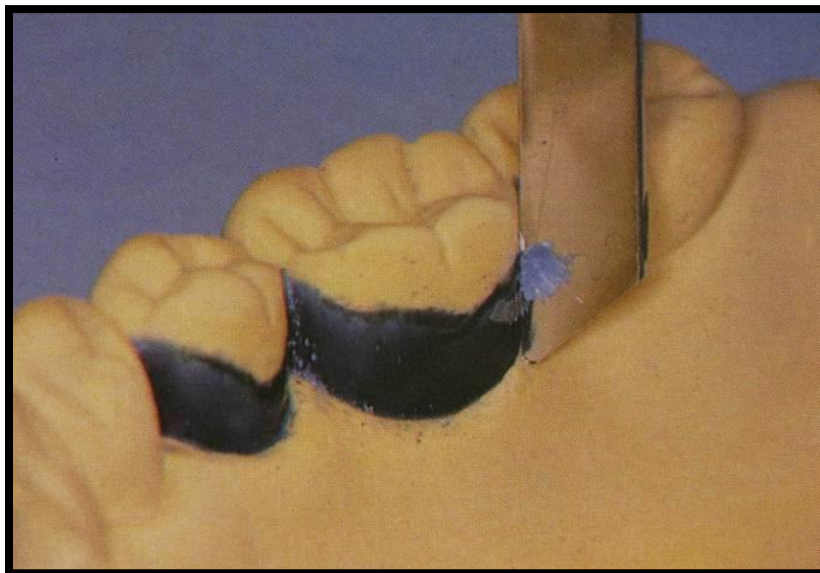
Components of a dental surveyor:

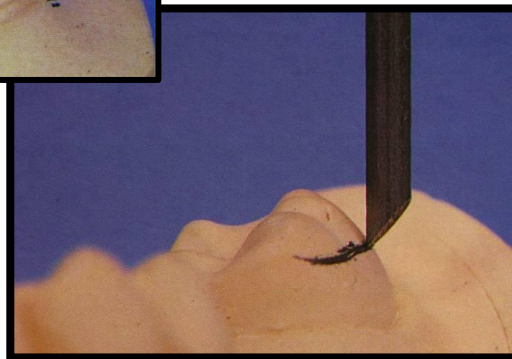
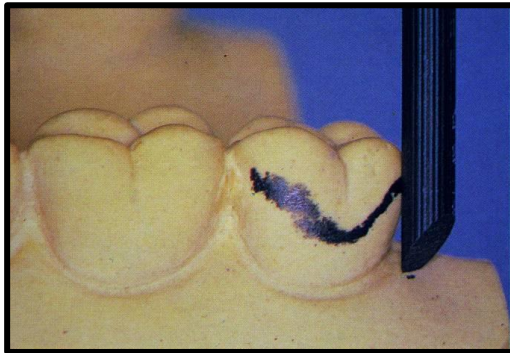
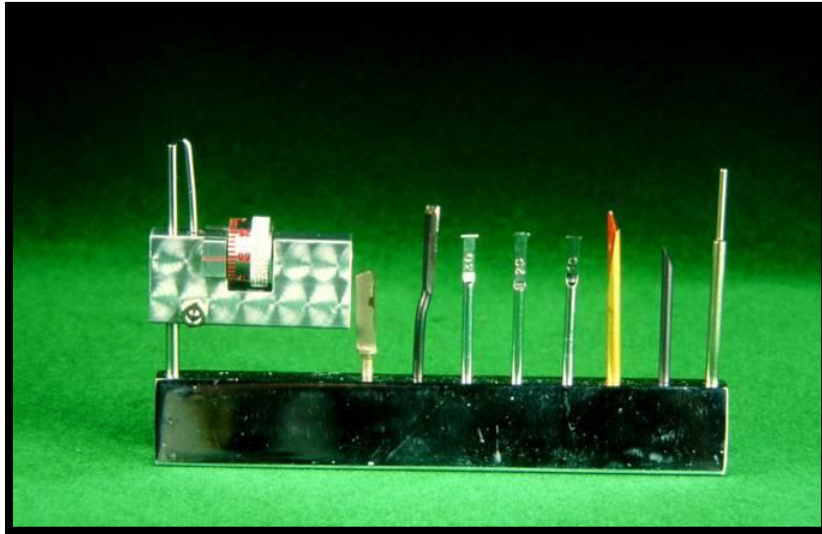
- Base
- Vertical arm
- Horizontal arm
- Mandrel
- Adjustable table
- Accessories
 - Analyzing rod
 - Carbon or graphite marker
 - Wax trimmer
 - Undercut gauges
 - 0.25 mm or 0.010 inch
 - 0.50 mm or 0.020 inch
 - 0.75 mm or 0.030 inch









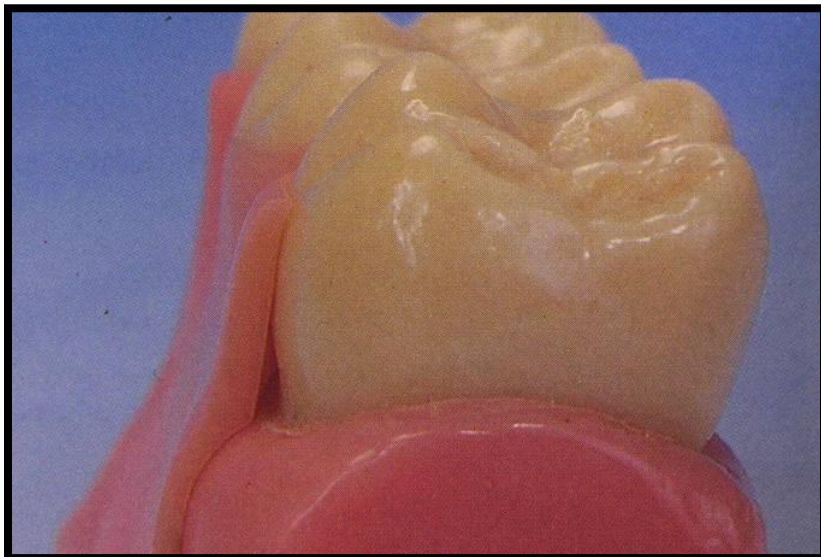
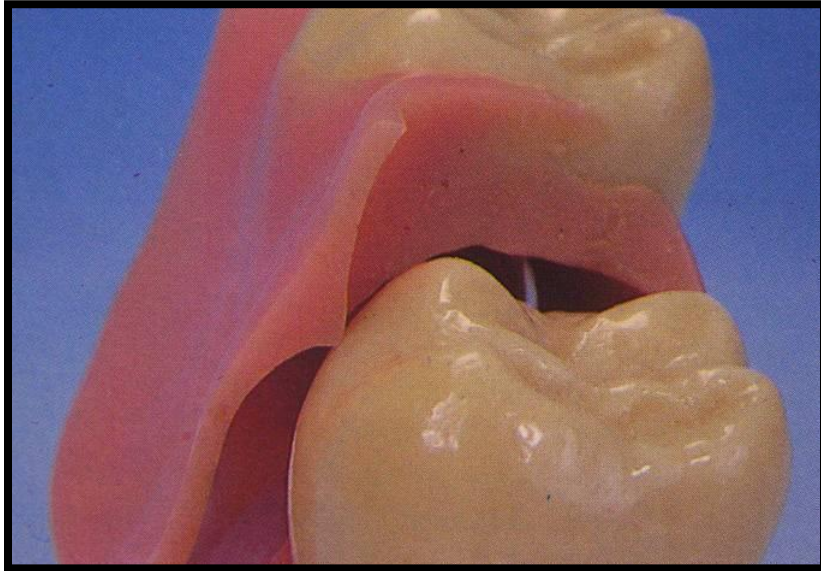


Types of surveying:

1. **Initial surveying on the primary or diagnostic cast.**
2. **Final surveying on the master cast.**

Objective of Surveying:

- **The main aim of surveying an RPD is to ensure that NO any rigid portion of the denture should lie in the undercut in relation to the common path of insertion and removal. While the flexible part of the RPD (Clasp) MUST engage the undercut in relation to all possible paths of insertion and displacement, since they are responsible for the retention of RPD.**



Objective of Surveying:

- 1. To mark the most bulbous parts of the teeth, where the terminal or the flexible part of the clasp should engage.**
- 2. To identify undercut areas on the teeth and alveolar ridge relative to any given path of insertion, removal and displacement of the RPD.**
- 3. To help in designing and locating the exact position of the clasp.**
- 4. To block out the unwanted undercuts on the cast before fabricating the duplicating cast.**

Objective of Surveying:

- 5. It help the clinicians to measure the depth of undercuts horizontally and in relation to the survey line, therefore, the dentist will decide which type of metal could be used regarding the clasps.**
- 6. To identify the proximal tooth surfaces that may serve as guiding planes "G.P are proximal tooth surfaces that should parallel to each other to determine the path of insertion, contribute in denture stability and to ensure positive clasp action" ..**
- 7. To identify soft tissue undercuts that would act as interference.**

Recording the degree of tilt

- 1. Recording the degree of tilt by marking the cast from three side**
- 2. Tripod method**

