

OVERDENTURES



DEFINITION

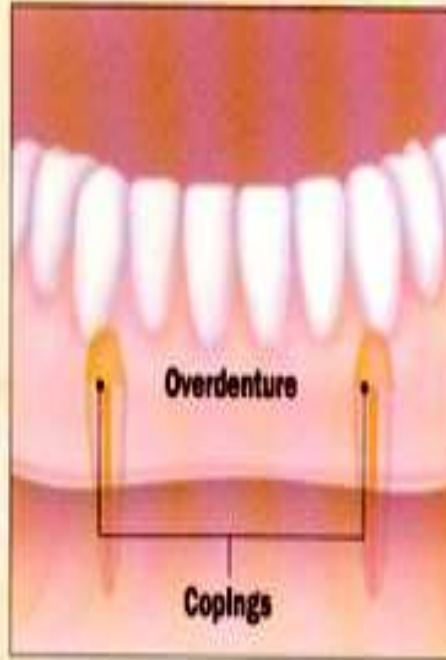
A removable partial or a complete denture that covers and rests on one or more remaining natural teeth, Roots and /or dental implants.

A dental prosthesis that replaces the lost or missing natural dentition and associated structure of the maxilla and /or mandible and receives partial support & stability from one or more modified natural teeth.



Overdenture

Overdenture fitted over copings of endodontically



Overdenture

Overdenture fitted over retained natural teeth



Implants with Overdenture

Overdenture fitted over endosseous implants

SYNONYMS

1. OVERLAY DENTURES
2. ONLAY DENTURES
3. TELESCOPED DENTURES
4. HYBRID DENTURES
5. BIOLOGIC DENTURES
6. COPING PROSTHESIS
7. SUPERIMPOSED DENTURE

Terminology

***Overlay Denture**

***Hybrid Prosthesis (European)**

***Telescoping Denture**

***Tooth Supported Denture**

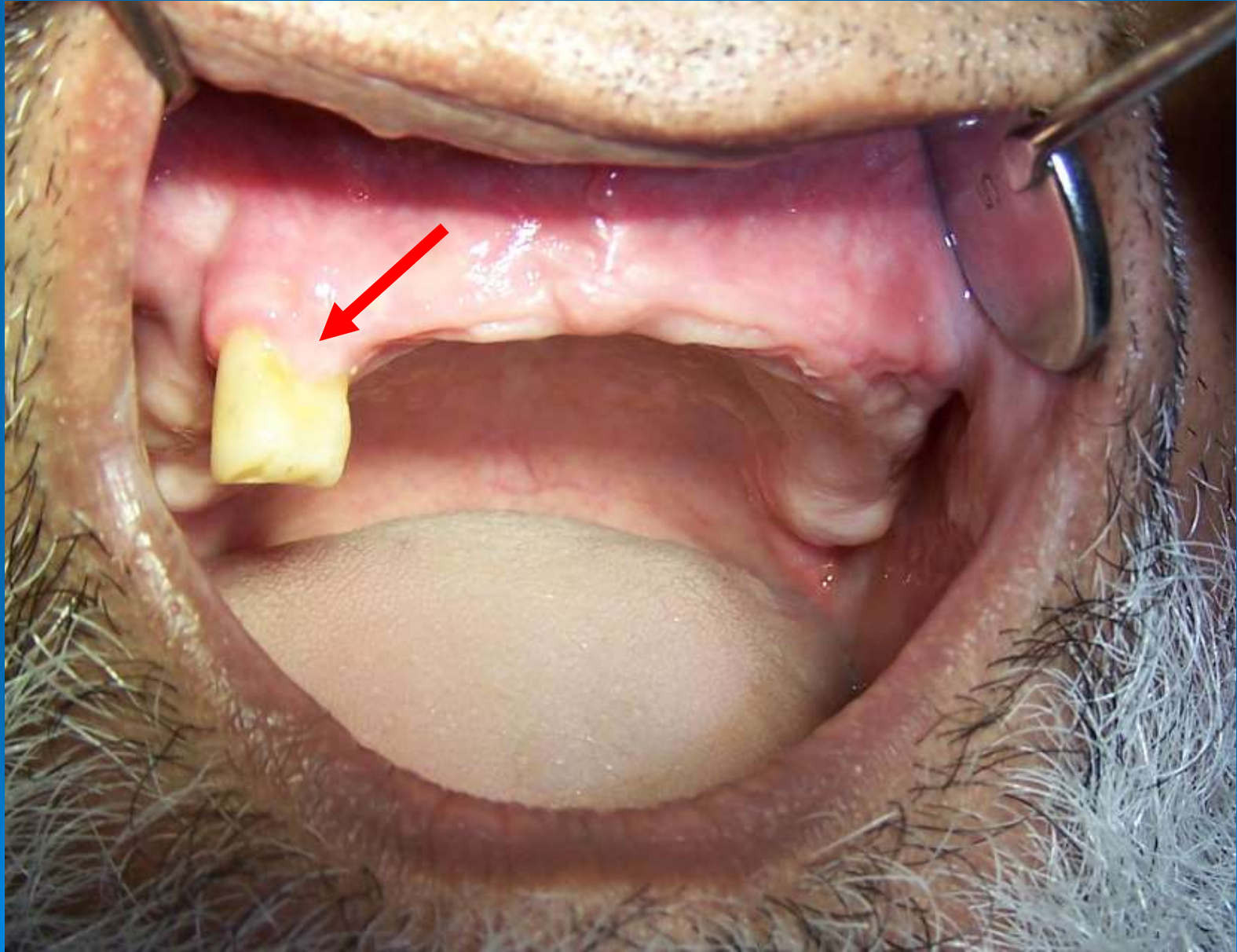
***Overdenture**





This Is The Type Of Patient Who May Benefit From Overdenture Treatment

Source: Jeff Shotwell, University of Michigan, 2008



FAQs

Q Why not extract all the remaining teeth and plan a complete denture?

- Teeth and alveolar bone are closely interlinked.
- Natural teeth if absent → **Resorption.**
- Preservation of alveolar bone.
- Better function & control over denture due to presence of nerve receptor. (**Proprioception**).

**Q Why not leave the
remaining tooth and make
the R.P.D??????**





RPD takes support from natural teeth.

If RPD is large with few remaining natural teeth present for support & retention, it results in



Excess stress



Mobility.



(PDL breakdown)

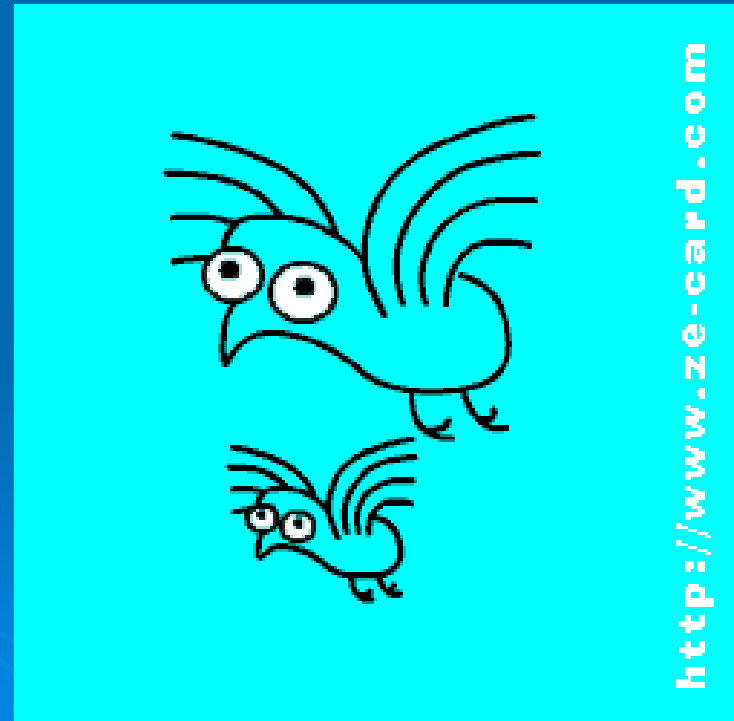
Failure of abutment

GOALS

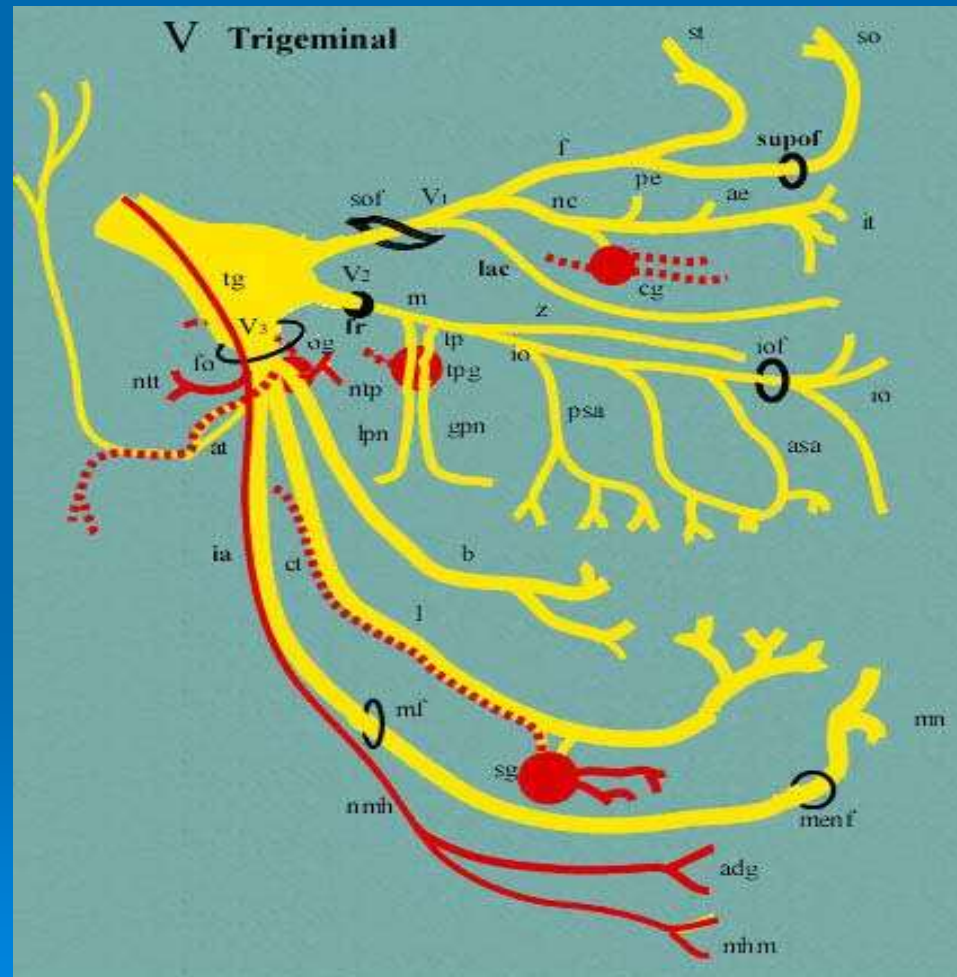
1. Maintain teeth as a part of residual ridge



Support & retention



Patient manipulative skills by preserving proprioceptive impulses

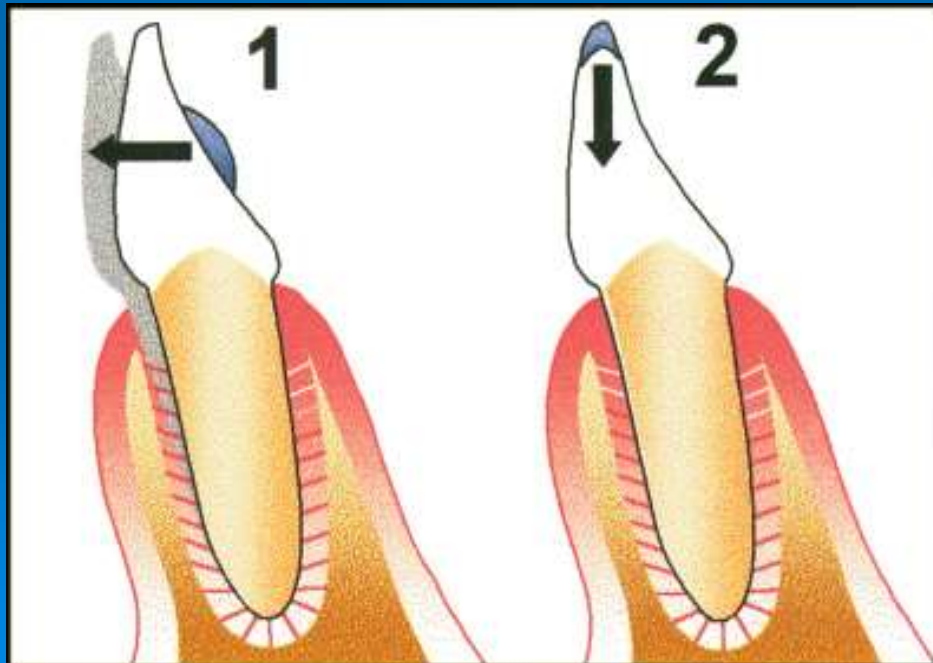
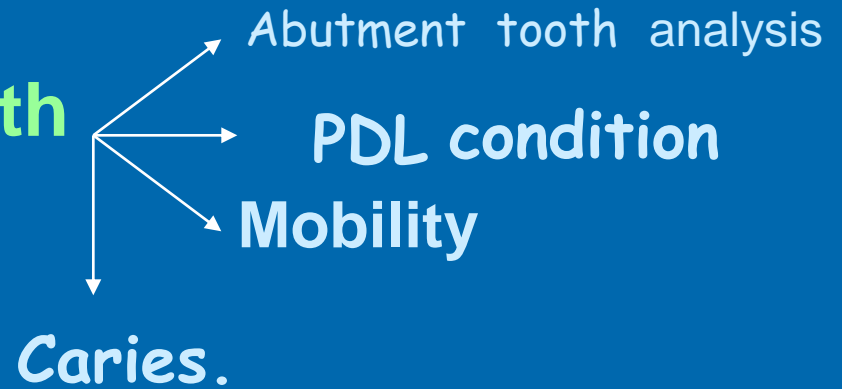


DECREASE Rate of resorption.



REQUIREMENTS OF OVERDENTURE

1. Maintenance of health



2 ↓ C/R ratio

3. Basal seat tissue

4. Simplicity of construction.

5. Ease of manipulation.

A decorative graphic consisting of several sets of concentric circles, resembling ripples in water, located in the bottom right corner of the slide.

INDICATIONS

- ➔ **Few natural teeth.**
- ➔ **Poor prognosis for routine complete denture.**
- ➔ **Very young patient facing total extraction.**

▪

➡ **Patient with congenital or acquired intraoral defect.**

➡ **Severe attrition.**



➡ **Good oral hygiene and perio condition**

CONTRAINDICATIONS.

- ➔ High caries index.
- ➔ Poor oral hygiene.
- ➔ Abutment with doubtful prognosis.

Endo Rx not possible



Eastman Dental Institute for Oral Health Care Sciences

Even after
Perio therapy +

↓ C / R ratio

↓
Perio health unimproved

➔ **Uncooperative, terminally ill or senile patient.**

➔ **Class III mobility.**



ADVANTAGES



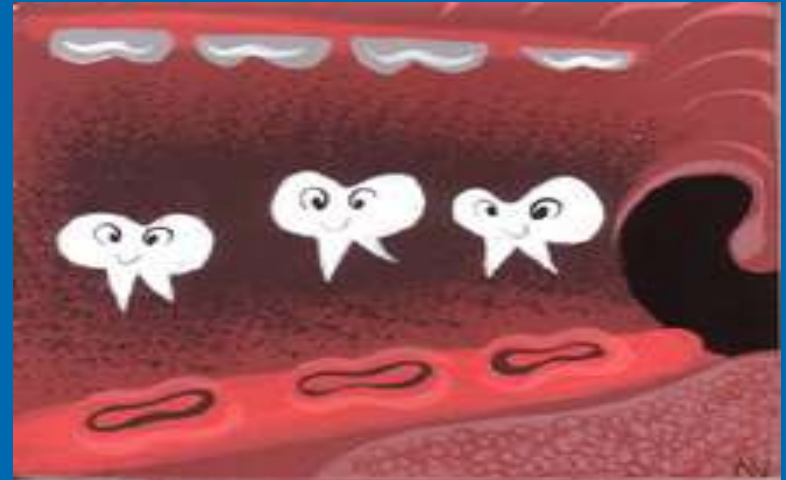
- ➔ **Preservation of alveolar bone.**
- ➔ **Preservation of proprioceptive response.**
- ➔ **Support** —————→ **Denture stability**
- ➔ **Retention.**
- ➔ **If abutment fails** —————→ **COMPLETE DENTURE**

Advantages of Overdentures

- *Support And Stability
- *Ridge Preservation
- *Increased Biting Force For Patient
- *Proprioception
- *Retention
- *Psychological Advantages For Patient

DISADVANTAGES

1. Caries susceptibility
2. Perio problem
3. High cost
4. Over contour
5. Tooth arrangement difficult



Physiologic Basis For Overdenture

- *Sensory Input From Periodontal Receptors

- *Alveolar Bone Preservation

- *Occlusal Forces Substantially Increased


- *Masticatory Performance

- *Tooth Mobility Greatly Reduced

Psychological Advantages For The Overdenture Patient

“I still have some of my own teeth.”

If the teeth are lost later due to caries, the transition and adaptation to complete dentures has been made more gradually.

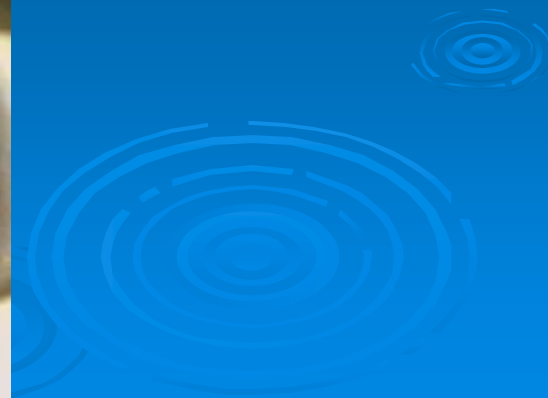


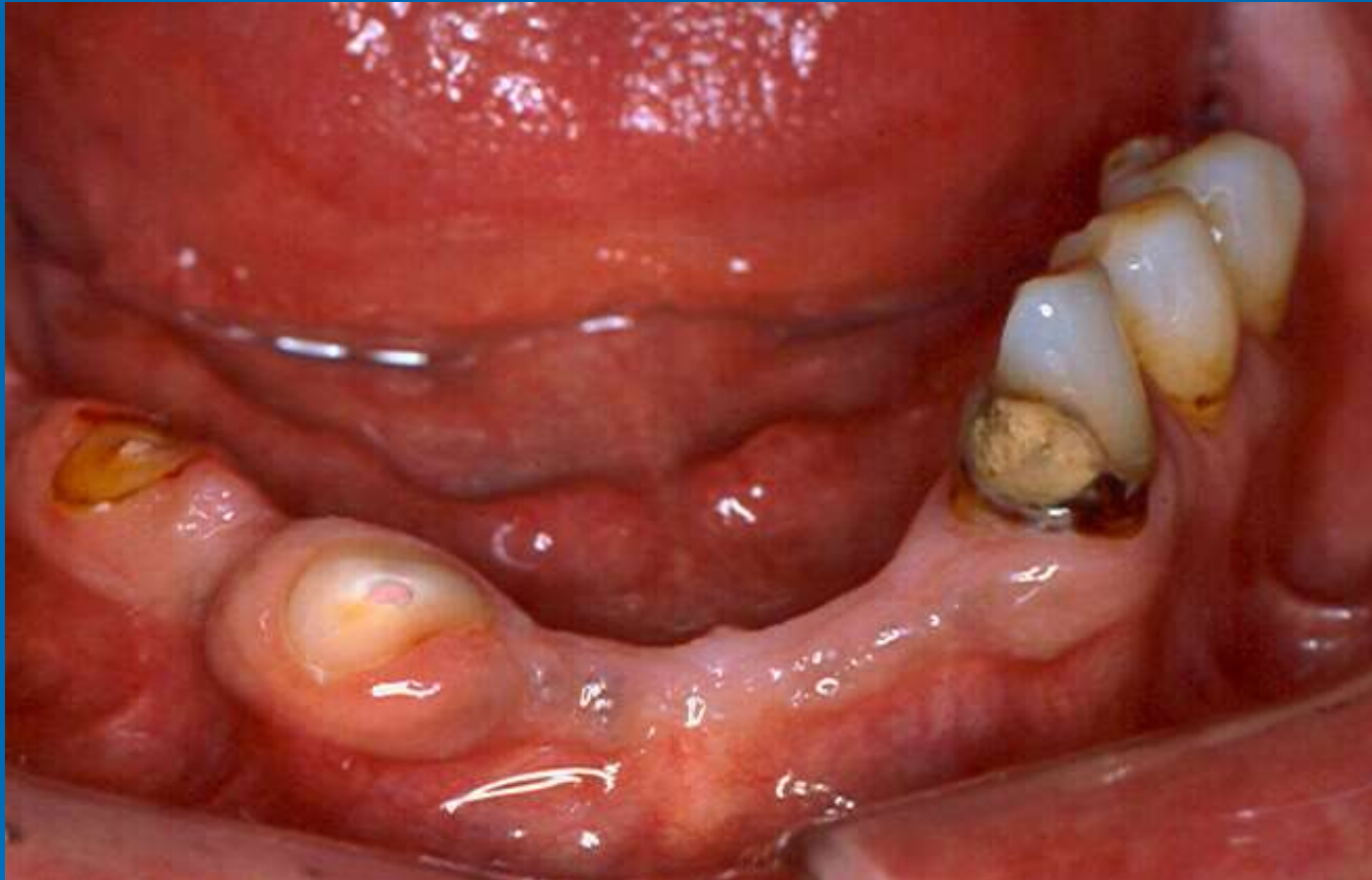


Source: Jeff Shotwell,
University of Michigan,
2008



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University of Michigan,
2008





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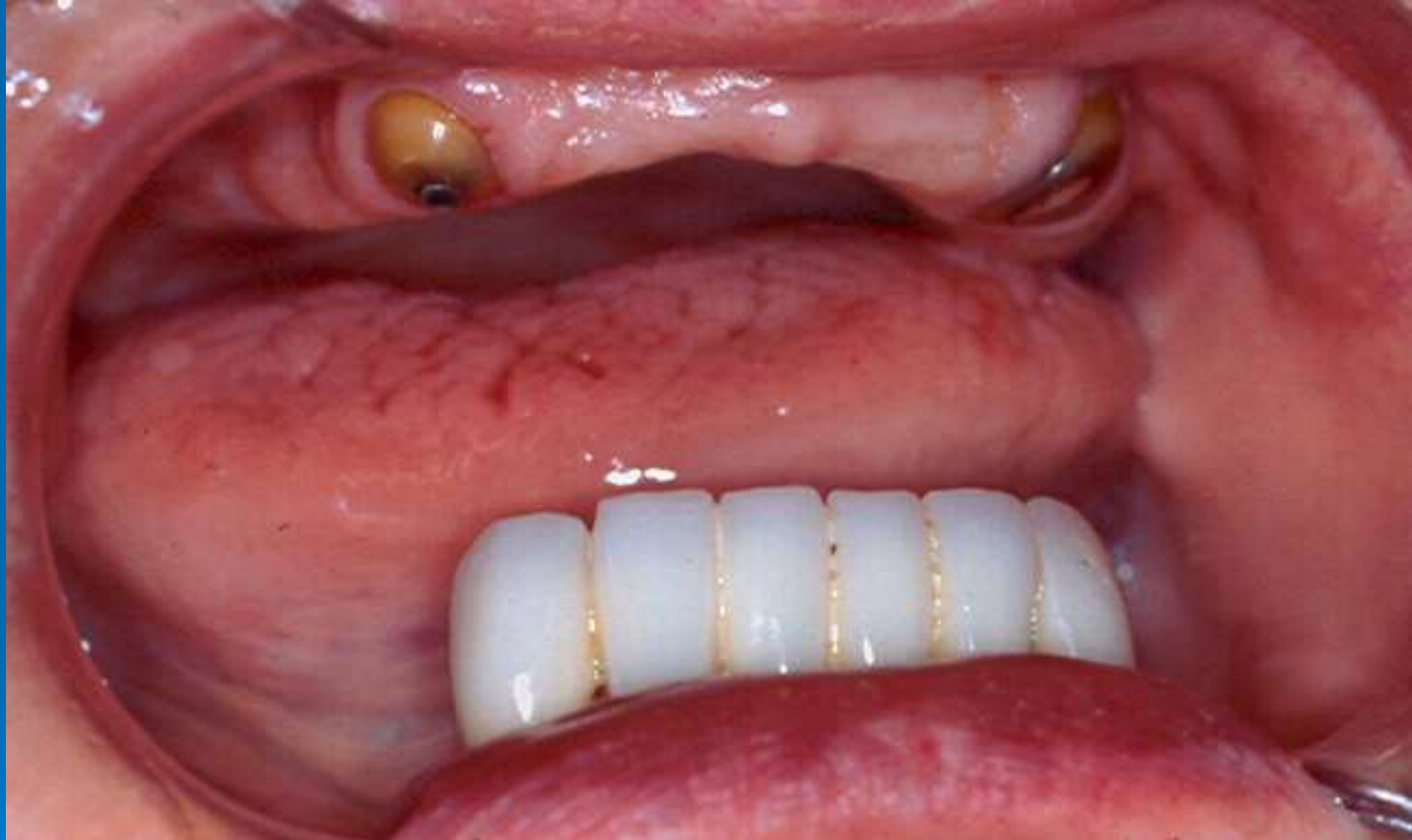




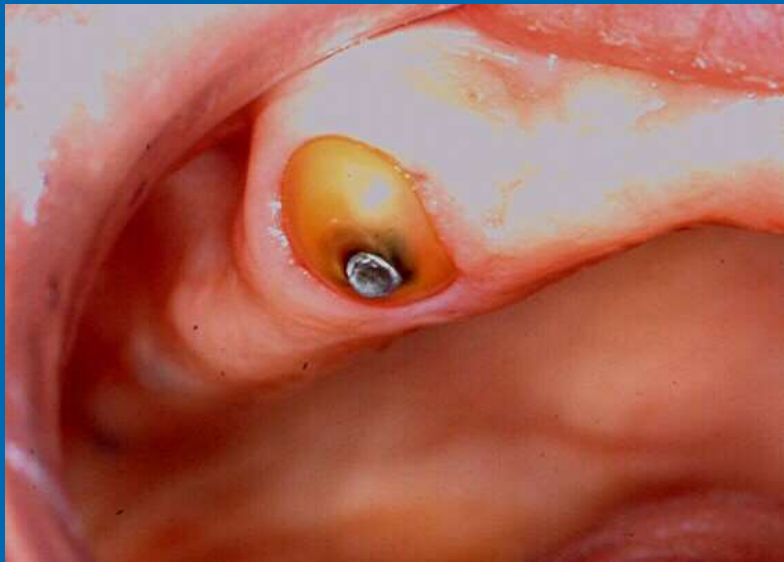
Source: Jeff Shotwell,
University of Michigan,
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Maxillary Overdentures To Prevent Combination Case



Source: Jeff Shotwell, University of Michigan, 2008



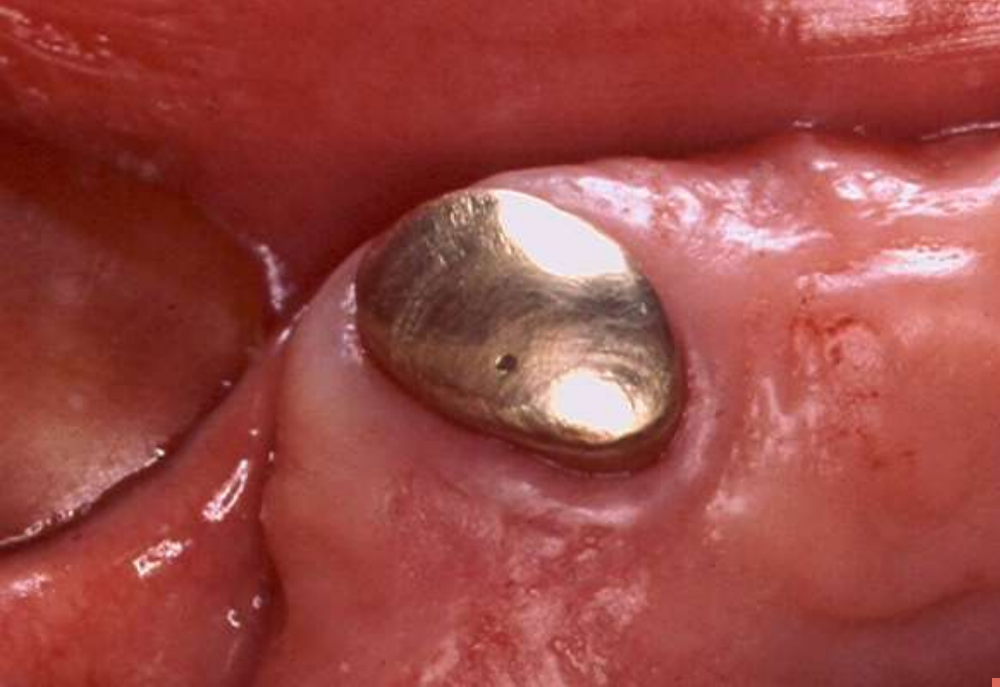
Source: Jeff Shotwell, University of Michigan, 2008





Patient with heavy occlusal function unlike the previous patient

Source: Jeff Shotwell, University of Michigan, 2008

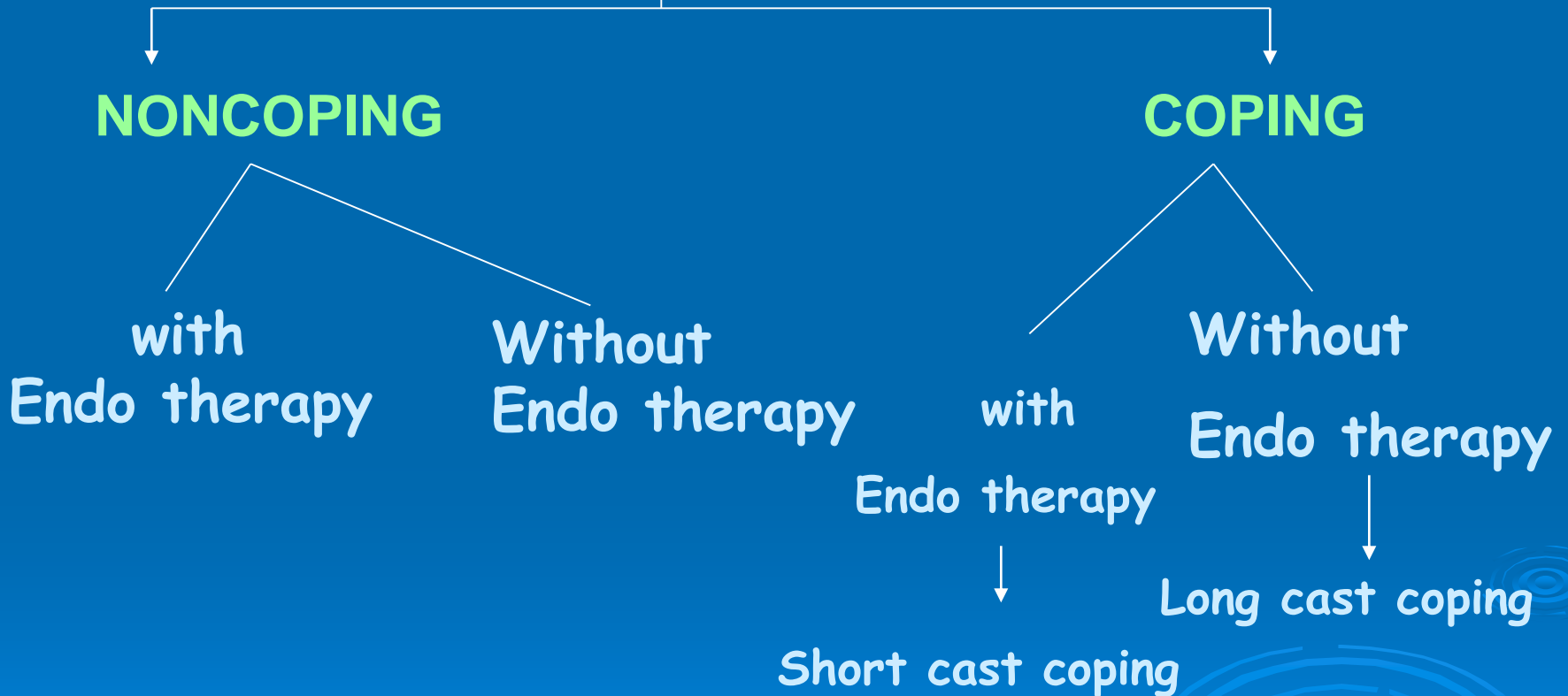


Source: Jeff Shotwell, University of Michigan,
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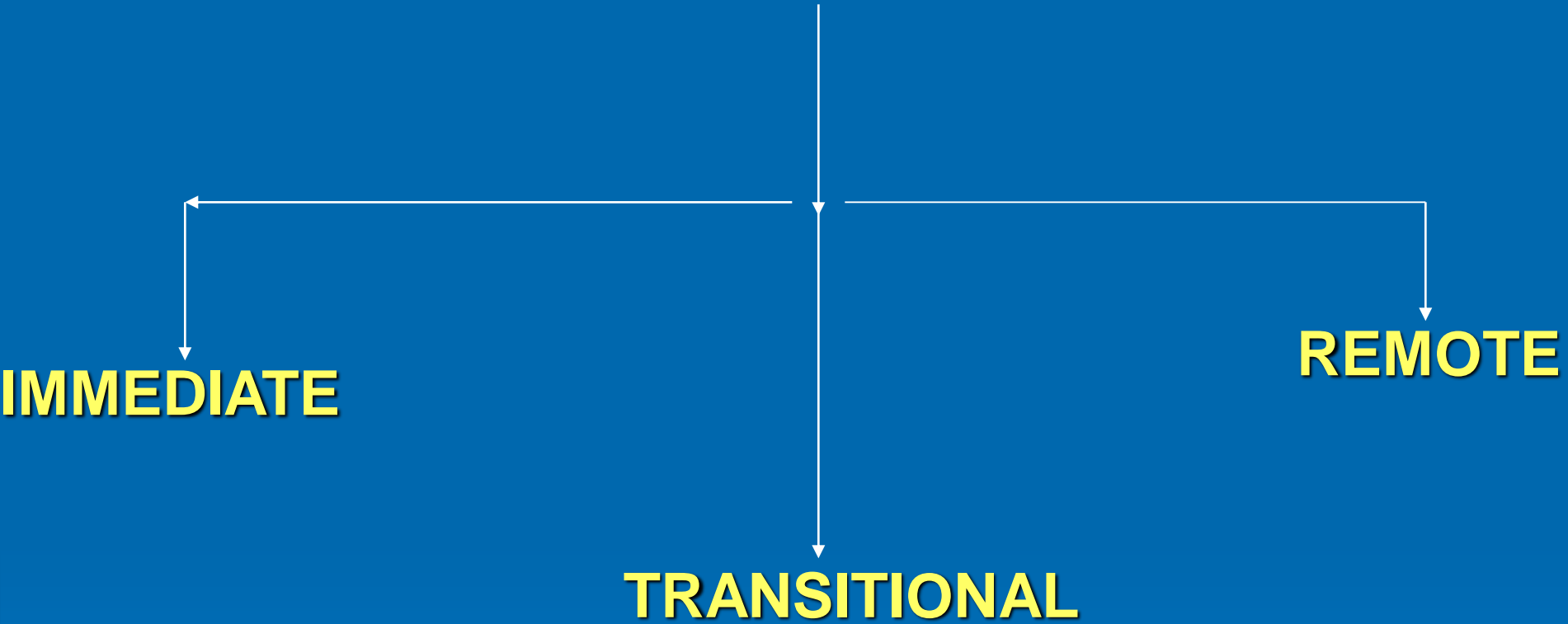


→ CLASSIFICATION

OVERDENTURE



BASED ON TYPE OF OVERDENTURE





NON COPING WITH ENDODONTIC THERAPY

- ➔ **BECAUSE OF LACK OF INTEROCCLUSAL SPACE**
- ➔ **REDUCED CORONAL HIGHT 2 TO 3mm**
- ➔ **Contoured to a convex or dome shaped**
- ➔ **RCT RESTORED WITH AMALGUM OR COMPOSITE OR GUTTA PURCHA**

NON COPING WITHOUT ENDO THERAPY

➔ **IF interocclusal space present**

➔ **Non sensitive**

COPING



THIN COVERING ON ABUDMENT TOOTH



FOR PROTECTION AGAINST CARIES



DOME SHAPED



SHORT COPING

➔ **2-3mm LONG TOOTH ONLY**

➔ **ENDO TREATMENT REQUIRED BCZ OF PULP EXPOSURE**

➔ **FILLED WITH GUTTA PURCHA**

LONG COPING

➔ **5-8mm LONG TOOTH**

➔ **AVOID ENDO Rx**

B
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➔ **BONE SUPPORT REQUIRED**

TREATMENT SEQUENCE

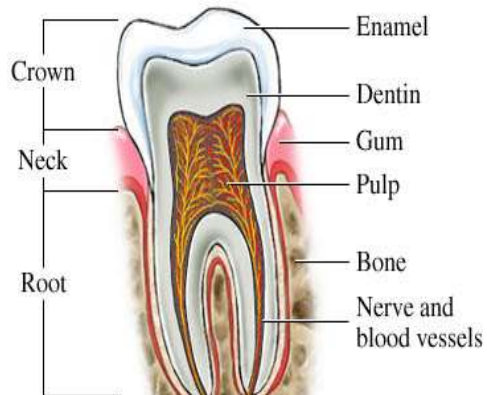
1. EXAMINATION, DIAGNOSIS, Rx PLANNING

ORAL HYGIENE

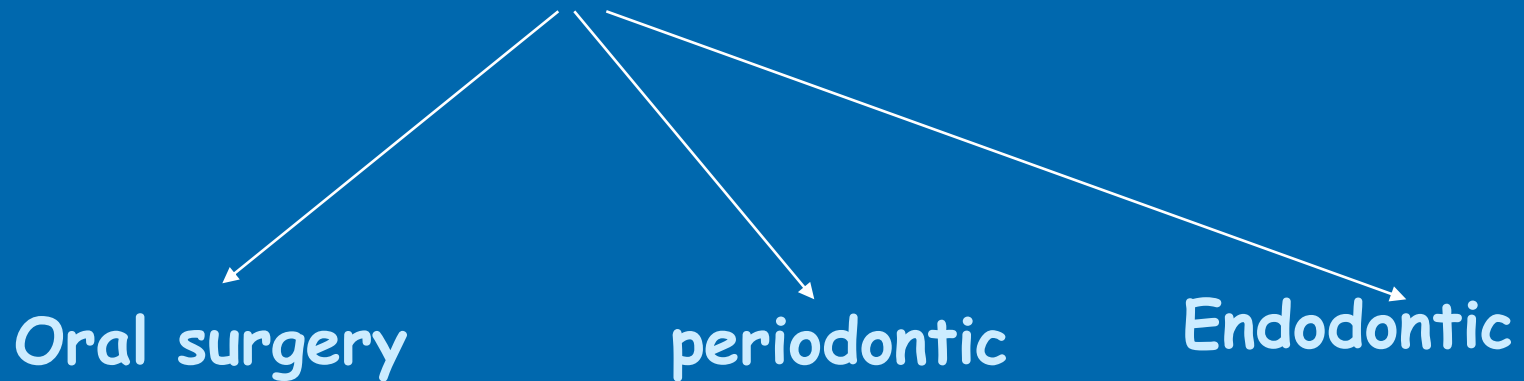
PDL ASSESMENT

ABUDMENT TOOTH SELECTION

PATIENT EDUCATION AND
MOTIVATION



2. COMPLETE PRE REQUISITE Rx



3 PREPARED ABUDMENT. TOOTH

4. FLUORIDE APPLICATION

5. FABRICATION OF COPING



6.TAKE IMPRESSION

7.CONSTUCTION OF OVERDENTURE











RETENTION

If more retention is req. & ridge is well formed, then

Overdenture is constructed with some retentive device.



RETENTION



PRECISION

INDICATIONS :-

1. Decrease caries index.
2. Improved PDL health.
3. Good oral hygiene.
4. Greater bone support.

1. PRECISION

Stud attachment

Bar & clip mechanism

Non resilient

Resilient

Bar joint

Bar unit

Rigidly attached
Female part to male part.

Permits rotational
movt

Rigid

DISADVANTAGES

1. More expensive.
2. Increased time to construct.
3. Difficulty to correct in case of failure.

STUD ATTACHMENT

2 Parts mainly:

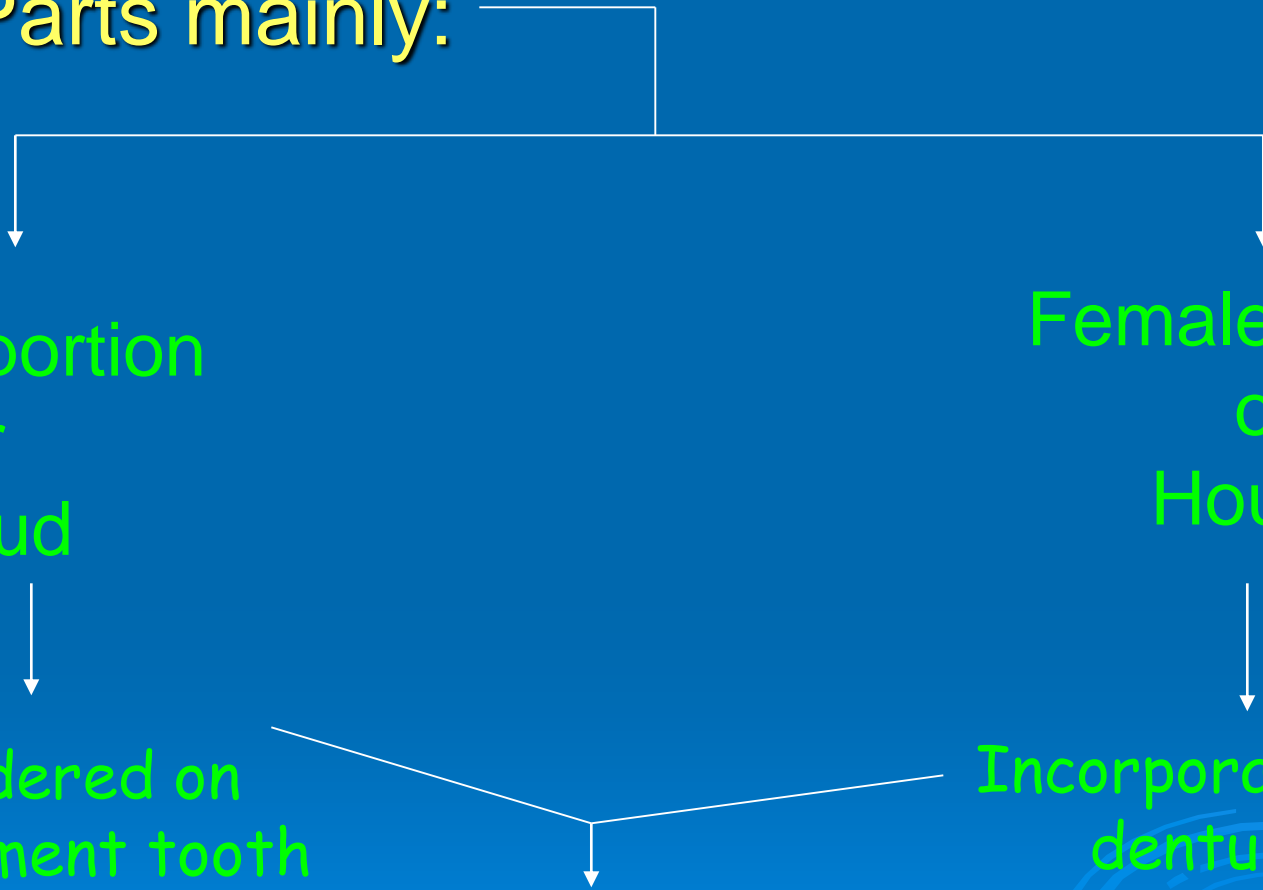
Male portion
or
Stud

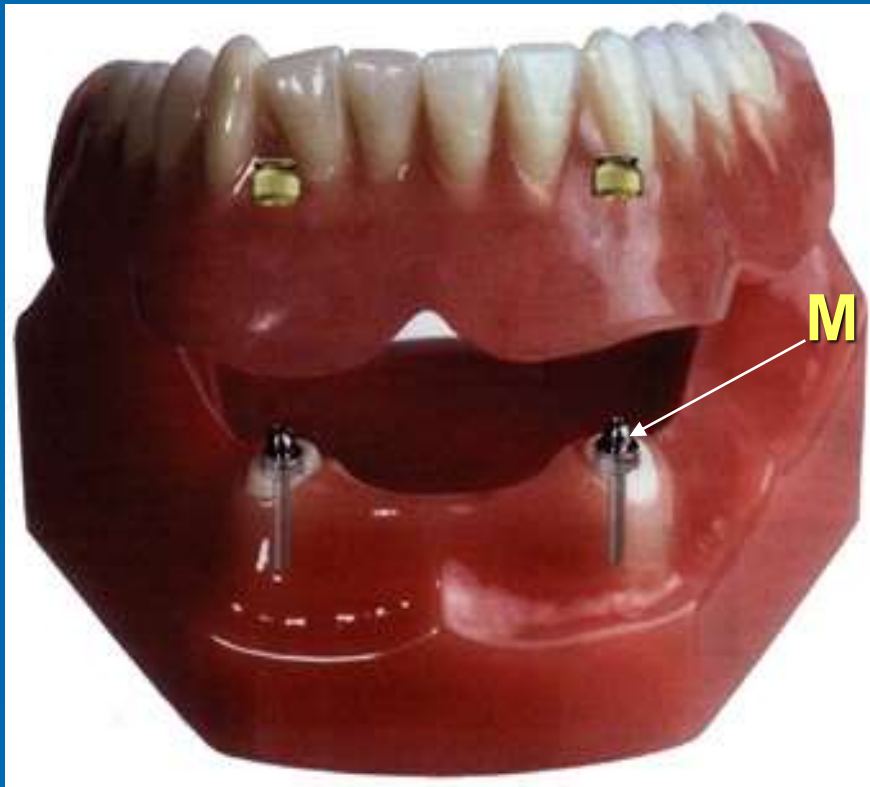
Female portion
or
Housing

Soldered on
abutment tooth

Incorporated into
denture.

Retention





SOME EXAMPLES OF STUD ATTACHMENTS

Quinlivan

Zest anchor



QUINLIVAN



```
graph TD; A[QUINLIVAN] --> B[MALE PART]; A --> C[FEMALE PART]; B --> D[Ball head attached to abutment tooth]; C --> E[Incorporated into denture];
```

MALE PART



Ball head attached
to abutment tooth

FEMALE PART



Incorporated into
denture

ZEST ANCHOR

MALE

FEMALE

Ball head attached
to overdenture

cemented in root
of abutment



ADVANTAGE

1. Overcome space problem.
2. The leverage on the abutment tooth is negligible because it lies below alveolar bone level.



BAR AND CLIP ATTACHMENT

- Bar connects 2 or more abutments. Eg: Bar joining or connecting 2 canines.
- Metal or Plastic clip fixed on the tissue side of the denture.
- Bar are attached to abutment coping by soldering

Eg : Baker clip , Ackerman clip,

CM clip

Hader & Dolder bar



FUNCTION

1. Splinting of the abutments.
2. Provide more support and retentive fxn.
3. Allows rotational movt.



MAGNETS

- ✓ Special magnets are attached to overdenture abutment.
- ✓ Magnet attract small metal plates embedded in the overdenture.
- ✓ Generates some force of attraction sufficient to provide retention.

A scenic landscape featuring a calm lake in the foreground, surrounded by lush green grass and a dense forest of tall evergreen trees. In the background, majestic mountains with rocky peaks and patches of snow rise against a clear blue sky. The overall scene is peaceful and natural.

Thank You