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MOUTH PREPARATION FOR RPD

Dr Matsubara

Mouth Preparation



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- A series of procedures executed to repair, alter and/or protect the remaining teeth.
- To prevent or redirect adverse forces that may affect the supporting teeth, periodontal tissues and residual alveolar bone crest, obtaining retention and support for a removable prosthesis for the maximum period of time.
- Mouth preparation includes all operations which re-establish or maintain the health of the abutment teeth, supporting structures, and ridge tissues and which make possible a simpler design for the prosthesis.

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Two Stages:

- 1st stage - Clinical interventions to establish a healthy condition of remaining teeth and related tissues.

These include maneuvers to eliminate the factors that harm hard tissues (teeth and bones) and soft tissues (periodontium, mucosa, gingiva)

Two Stages:

- 1st stage - Clinical interventions to establish a healthy condition of remaining teeth and related tissues
 - **Emergency and Control Phase** – Eliminate pain, infection and inflammation
 - Periodontal treatment
 - Endodontic treatment
 - Restorative treatment*
 - Oral surgeries (pre-prosthetic surgeries)
 - Orthodontic treatment
 - Occlusal adjustments
 - **Holding phase** – Preserve residual dentition

Two Stages:

- 2nd stage - Interventions on the remaining teeth aiming at improving biomechanical conditions between supporting teeth and metal structure.
- **Reconstructive Phase** - Replace lost tissues, stabilize occlusion
 - Rest seat preparation
 - Tooth recontouring (height of contour, guiding planes)

After: **Maintenance Phase** – Prevention of further breakdown

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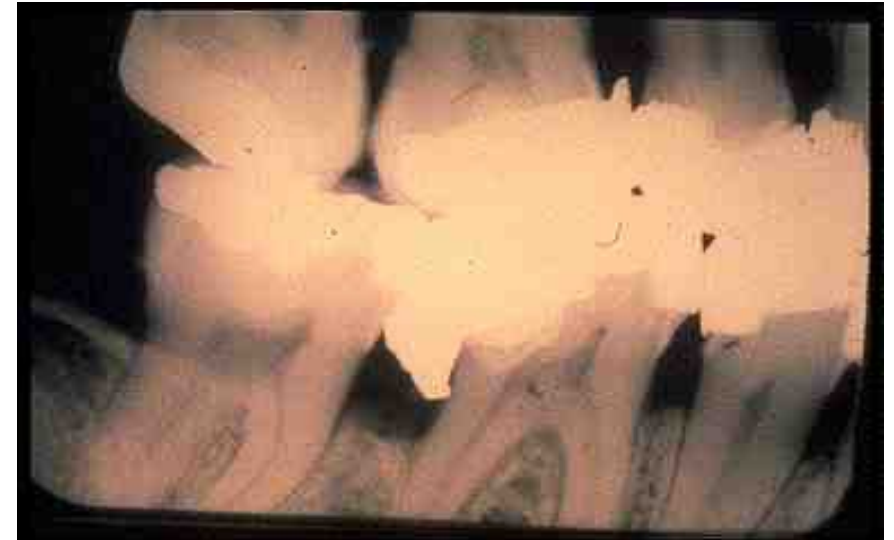
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1st stage

Periodontal Treatment

Aims:

- 1) Control microbiological factor: calculus removal, plaque control, oral hygiene orientation, control of iatrogenic factors
- 2) Provide comfort to the patient: pain and bleeding control, and improvement in gingival appearance



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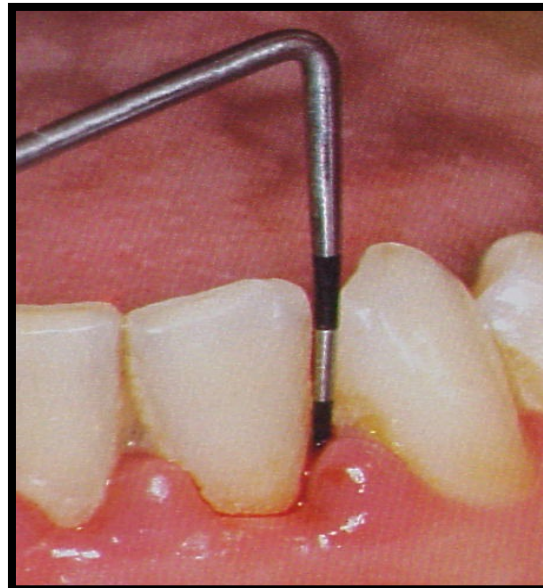


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1st stage

Periodontal Treatment

- Probe
- Supra and sub-gingival debridement



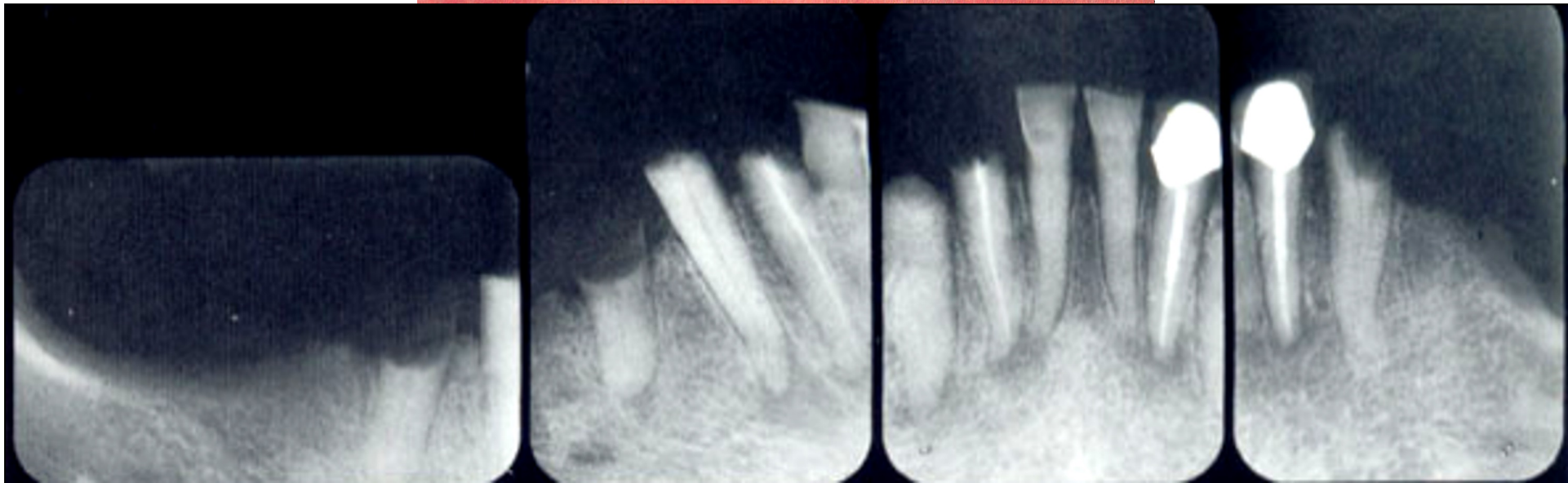
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Scaling and root planing, crown lengthening



Scaling and root planing, crown lengthening



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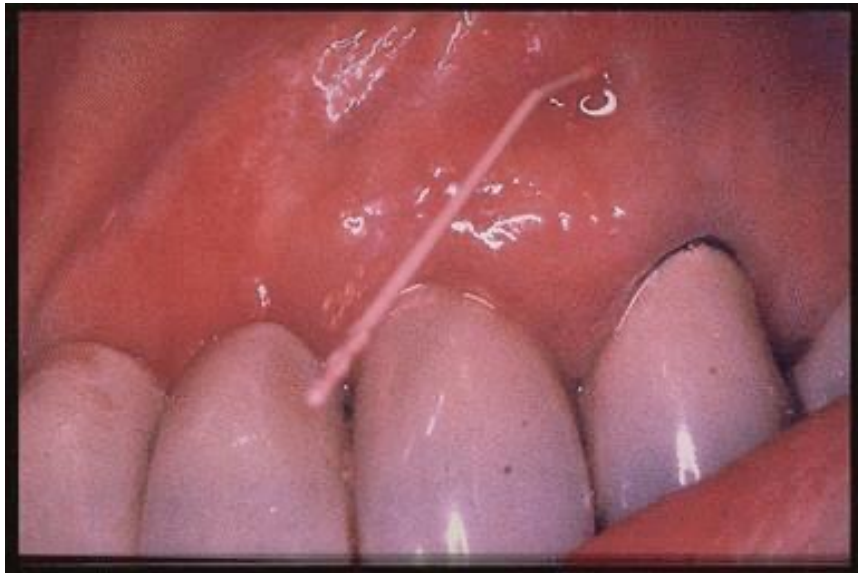


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1st stage

Endodontic Treatment

- Pulp necrosis
- Abscess (endodontic, periodontal or combination)



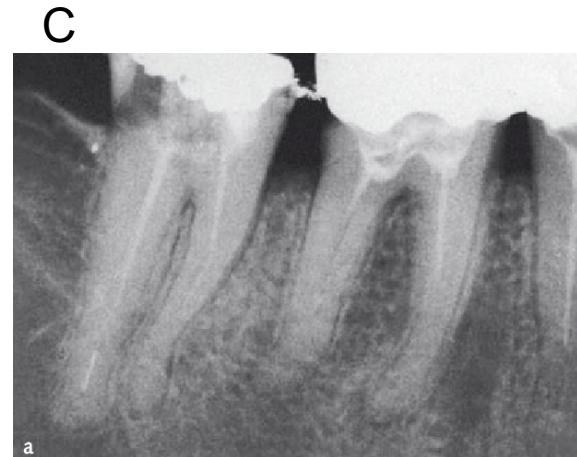
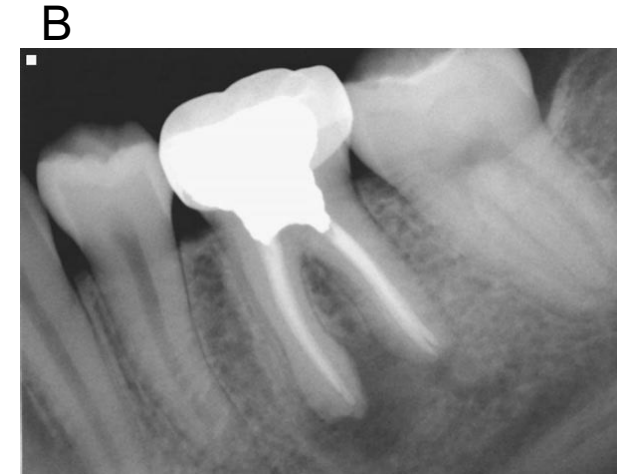
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1st stage

Endodontic Treatment

Tooth with root canal treatment:

- a) Completely filled canals, without radiographic signs of apical periodontitis
- b) Completely filled canals, but with radiographic signs of apical periodontitis
- c) Root canal partially filled, with no signs of apical periodontitis
- d) Root canal partially filled, with apical periodontitis



1st stage

Endodontic Treatment

Tooth with root canal treatment:

Completely filled canals, without radiographic signs of apical periodontitis

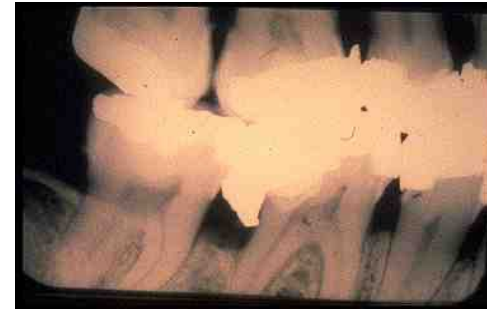
1. Asymptomatic on percussion or palpation
2. When the root canal treatment was performed
3. Quality of the obturation

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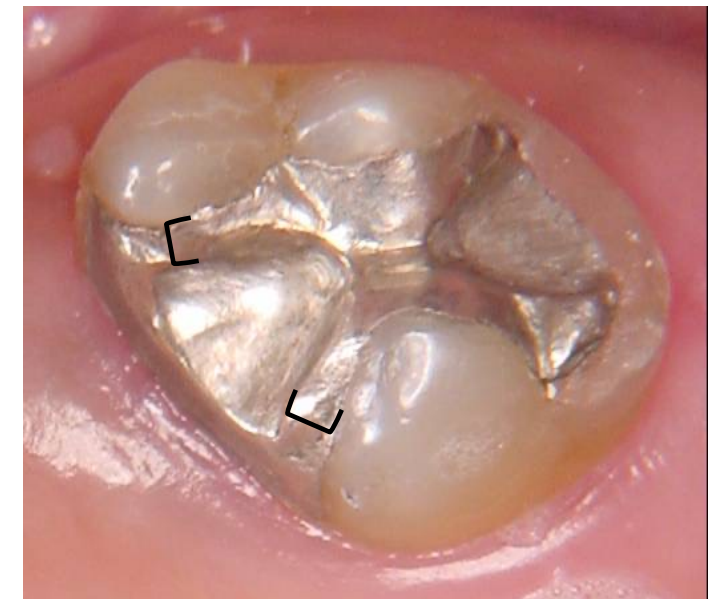
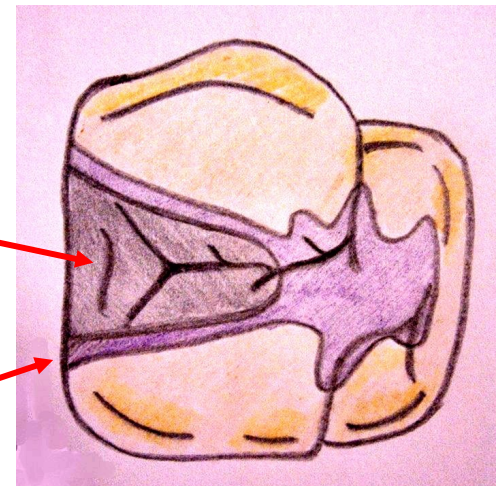
1st stage

Restorative Treatment

- Establish a healthy oral environment through the restoration of decayed tissues, replacement of restorations
- Supporting tooth: Adequate restorations that will receive rest seat – enough depth and width.



Rest seat
1 mm of amalgam



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1st stage

Restorative Treatment



1st stage

Oral surgeries

- Tooth extraction, periodontal and endodontic surgeries
- Pre-prosthetic surgery: Surgical procedure that modify the oral anatomy to facilitate retention and seating of dentures

Glossary of prosthodontic terms: surgical procedures designed to facilitate fabrication or to improve the prognosis of prosthodontic care

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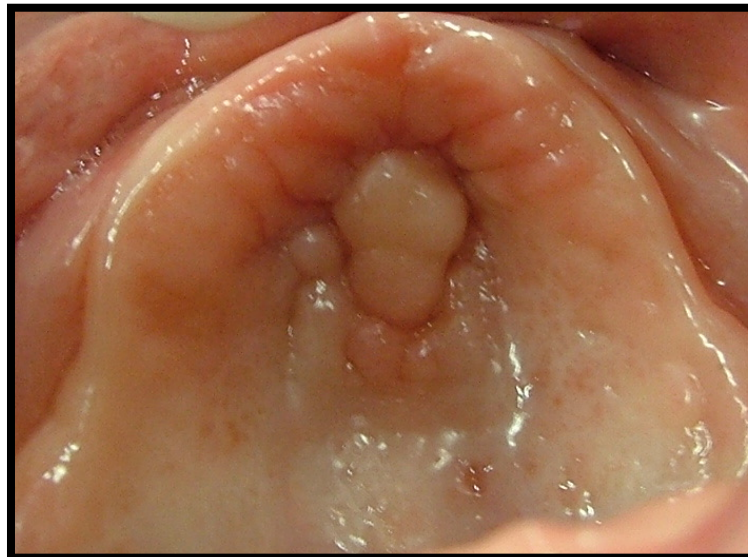
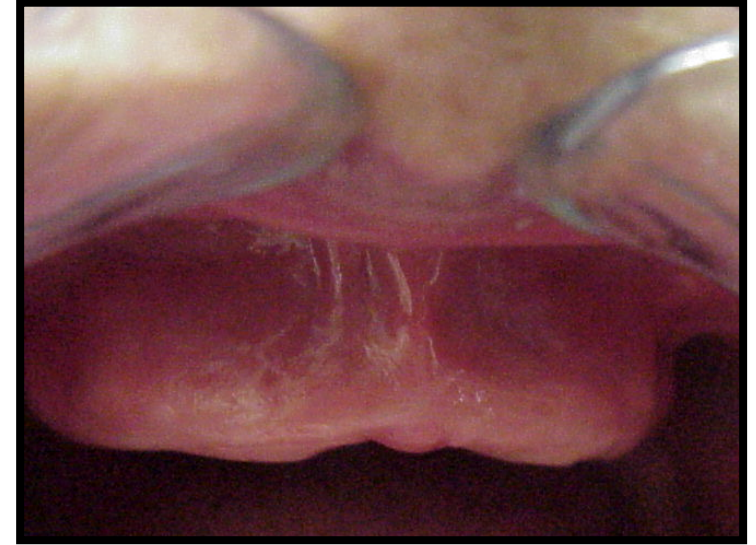


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- Extractions
- Removal of residual roots
- Removal of mandibular tori
- Removal of exostosis, hyperplastic tissue, high muscle attachments
- Round of sharp bony spines and knife-edge ridges
- Reduction of maxillary tuberosity volume



Mouth Preparation

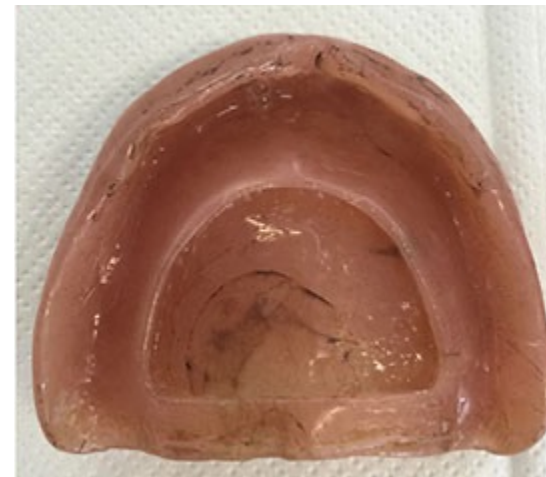


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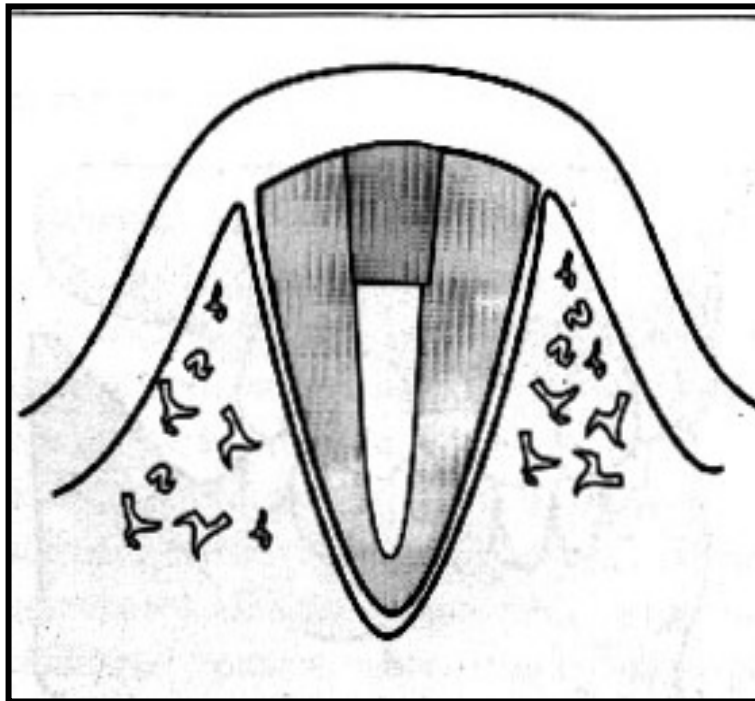
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Maintenance of non-vital residual root

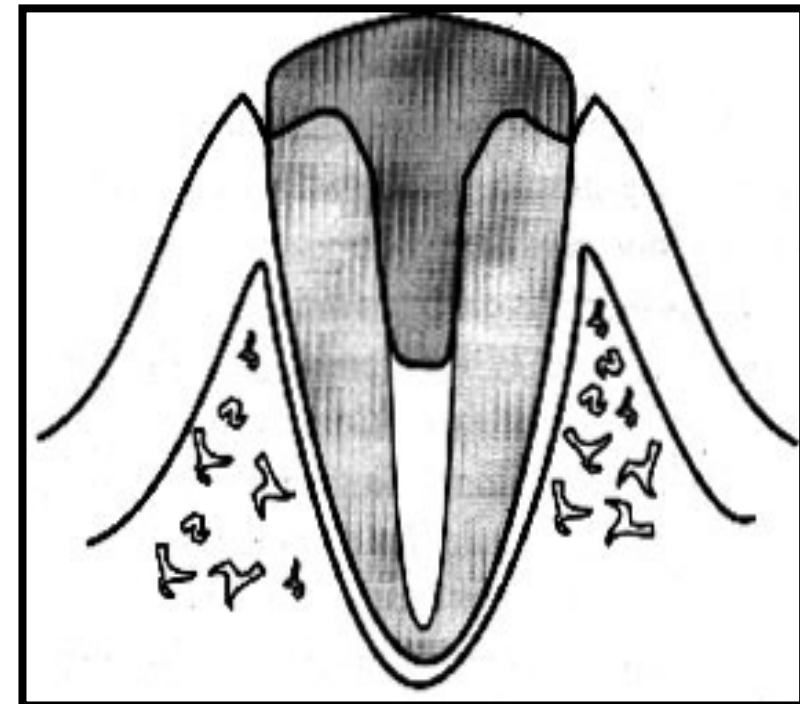


Alveolar ridge
preservation

Submerged



Non-submerged



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Orthodontic Treatment

Teeth position may prevent the ideal design of the RPD

Most frequent indication:

- Molar leaning towards the edentulous area
- Tooth rotation
- Labial migration of anterior teeth



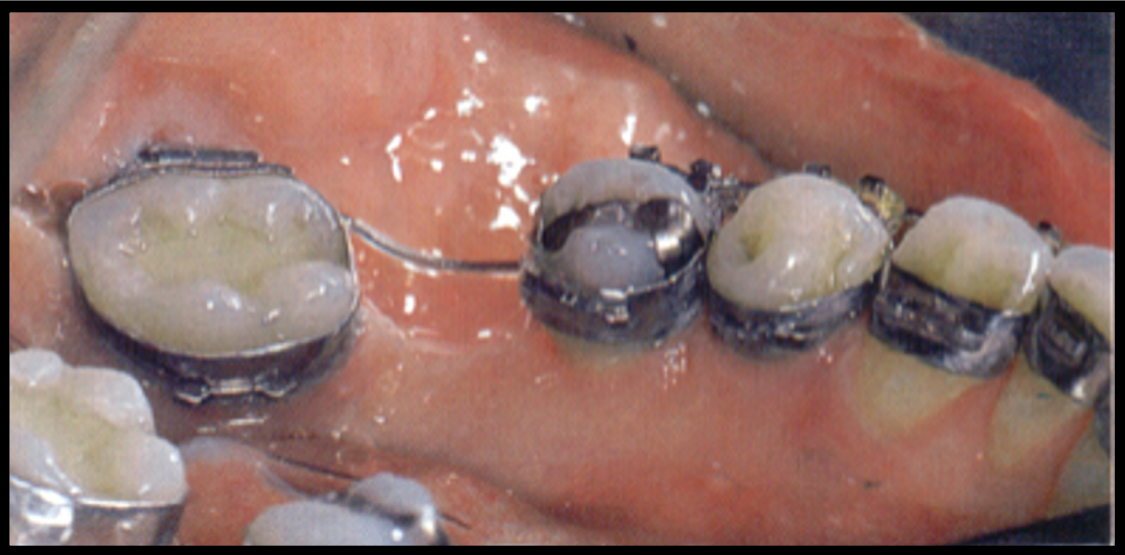
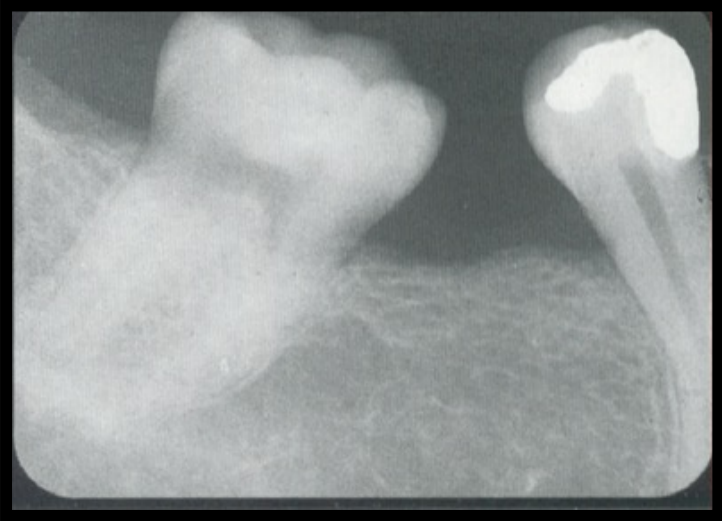
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1st stage

Occlusal Adjustment



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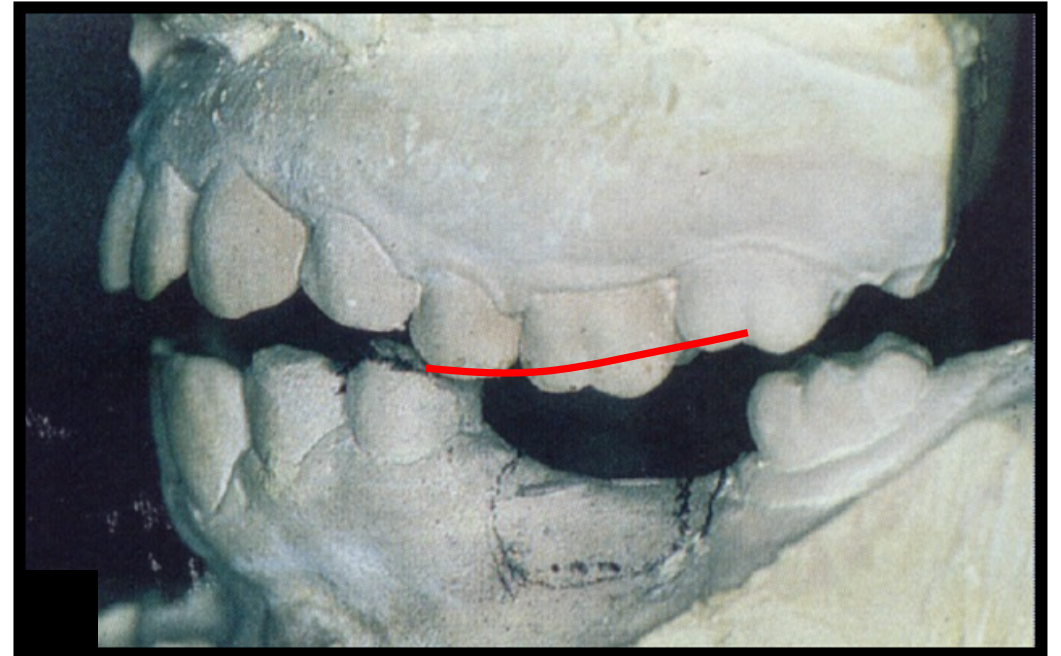
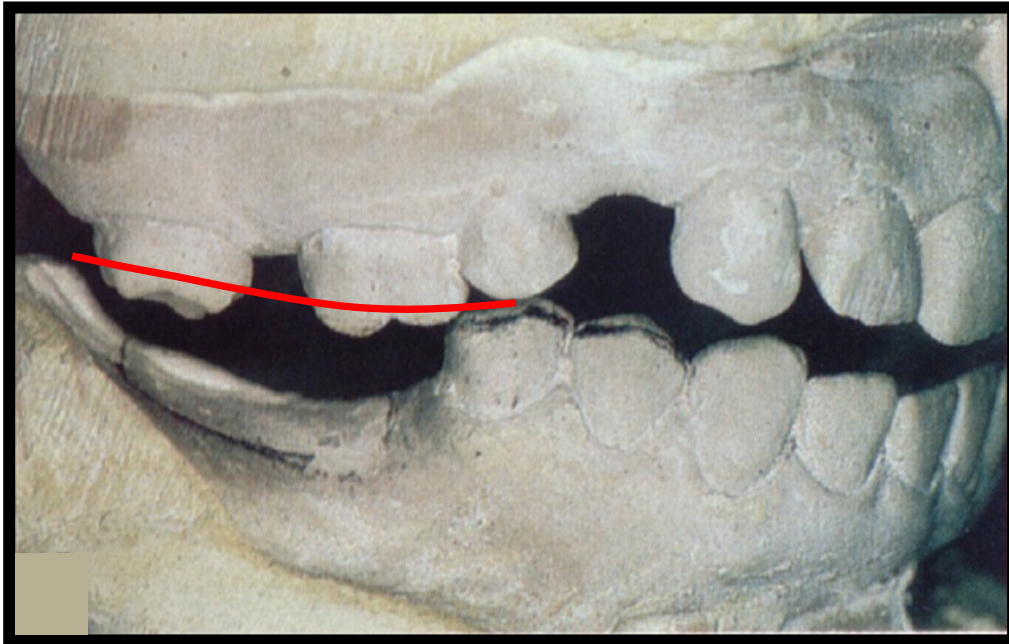
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Occlusal Adjustment



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Occlusal Adjustment



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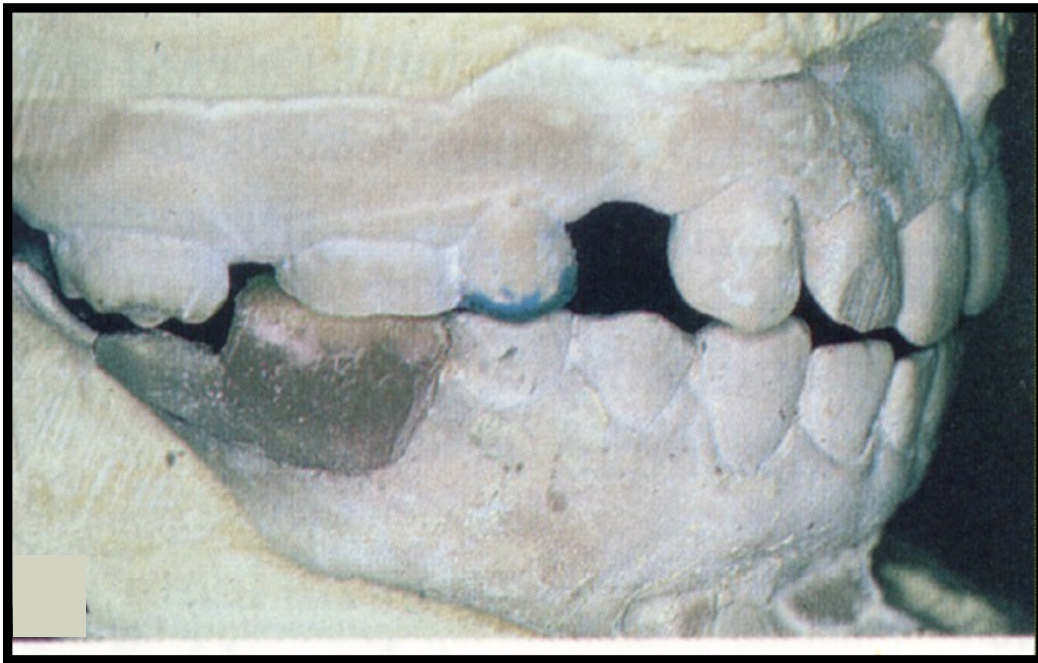
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1st stage

Occlusal Adjustment



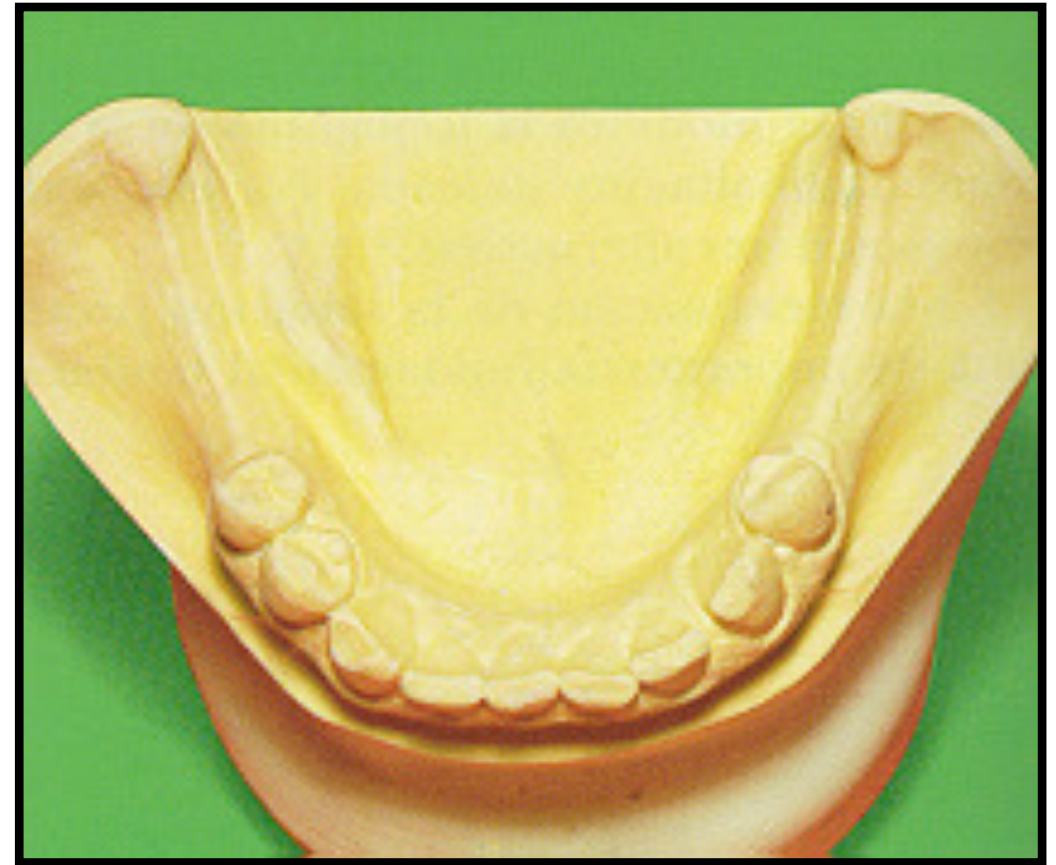
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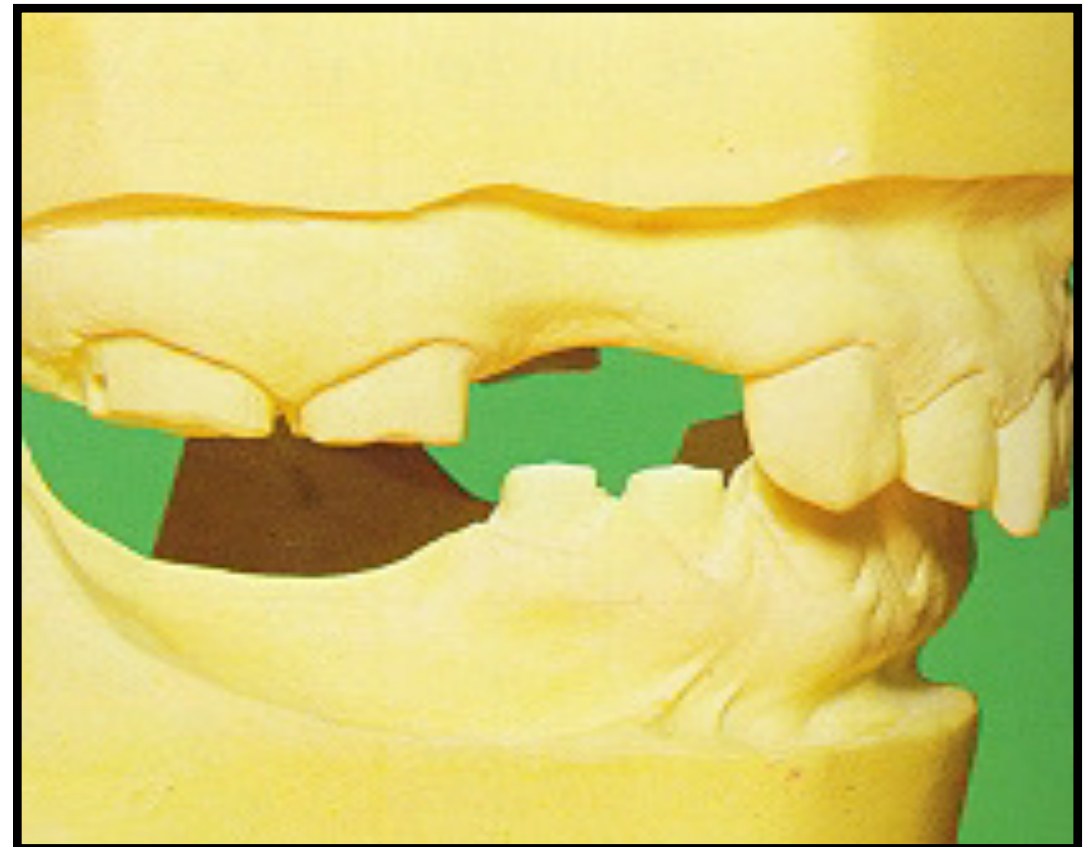
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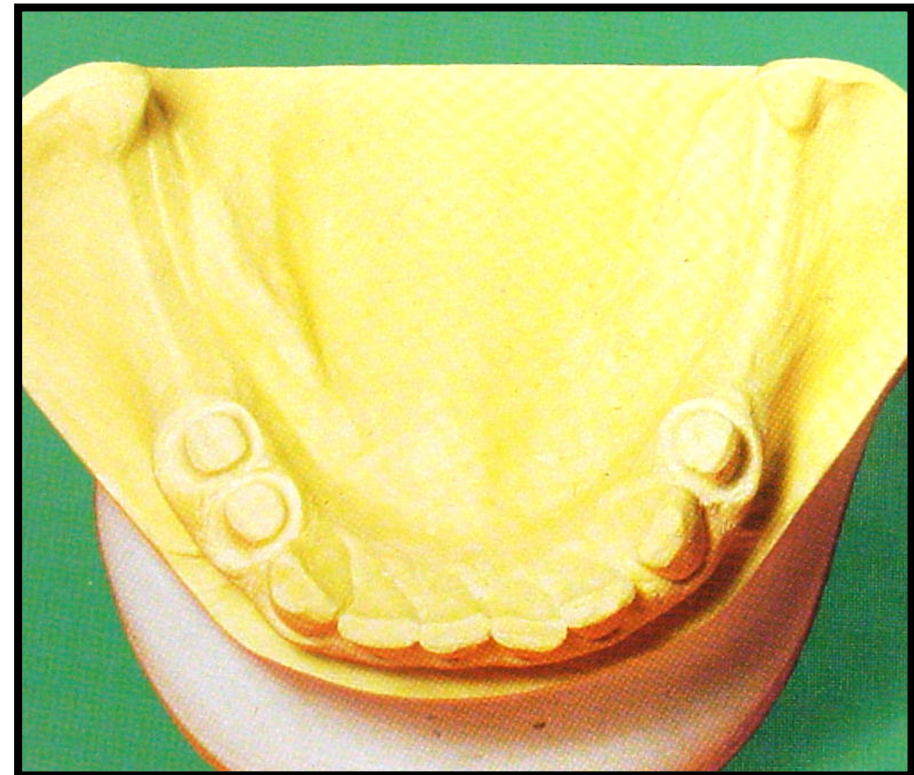
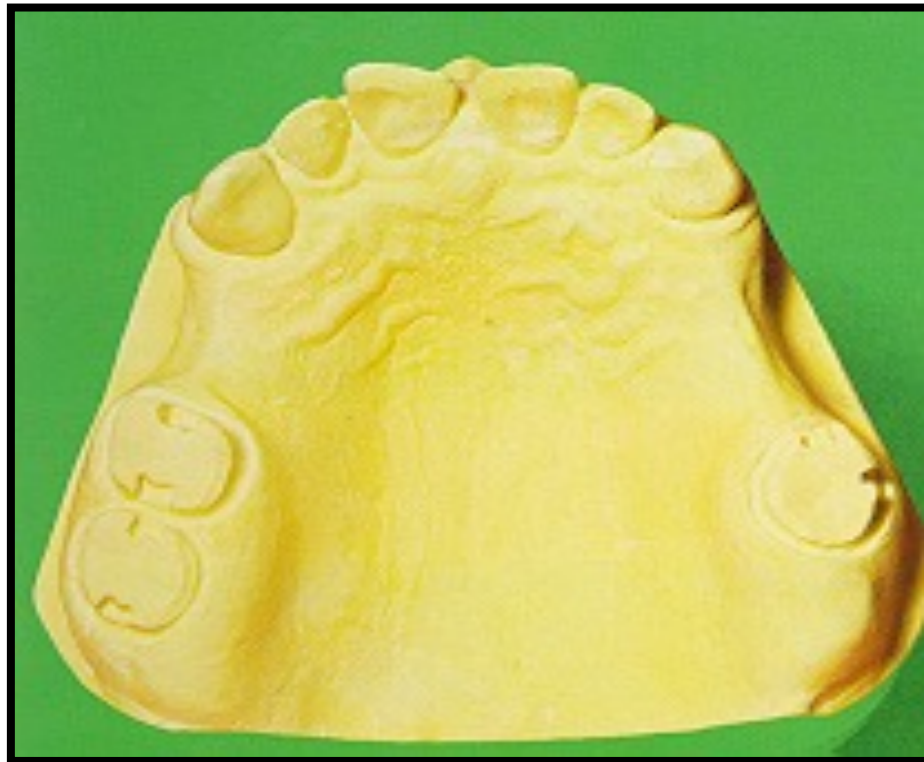
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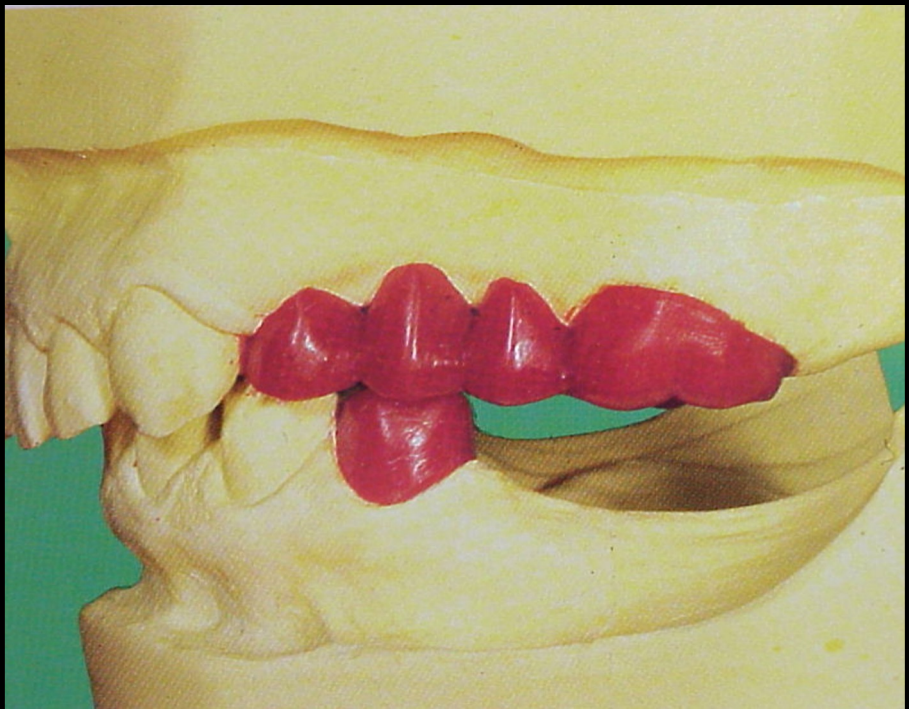
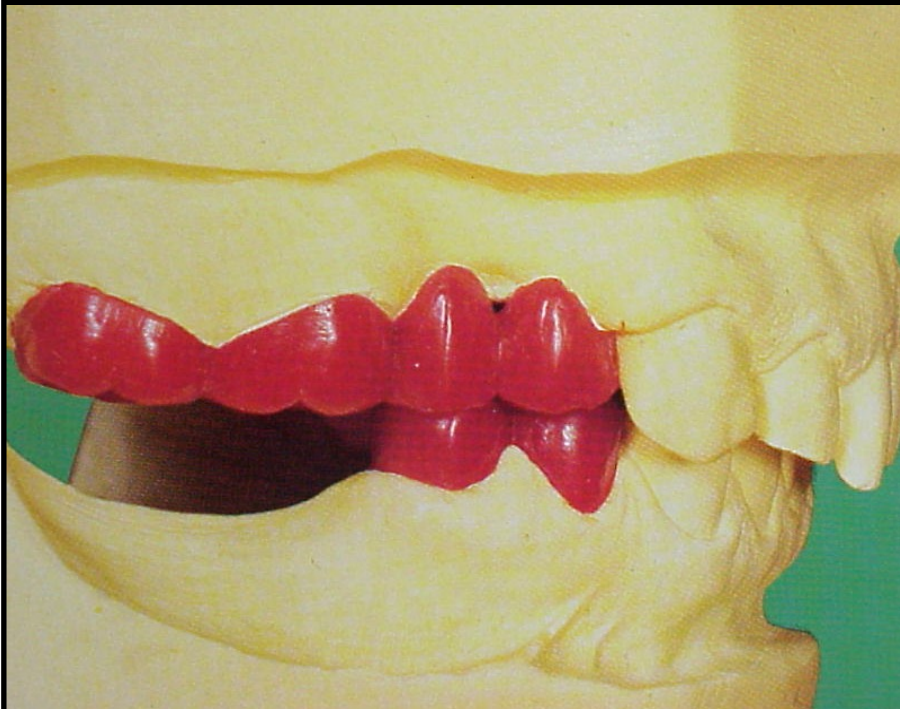
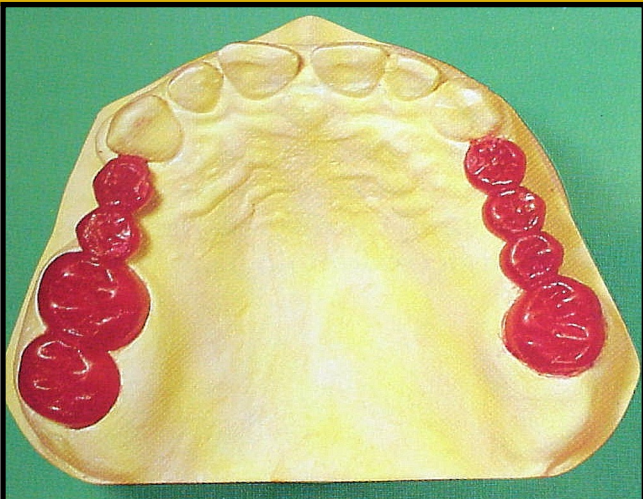
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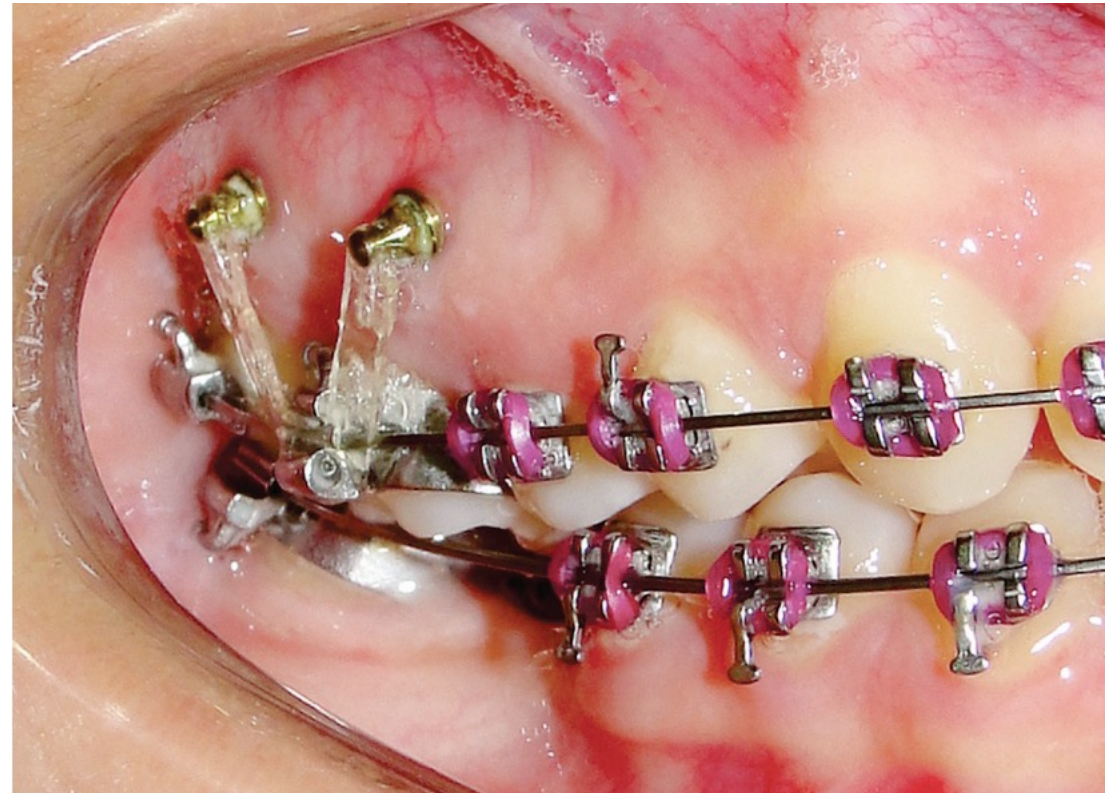


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Mouth Preparation

Mini implants



Mouth Preparation

2nd stage

Adjust and prepare the supporting teeth

- Rest seat preparation
- Tooth recontouring (height of contour, guiding planes)

Mouth Preparation



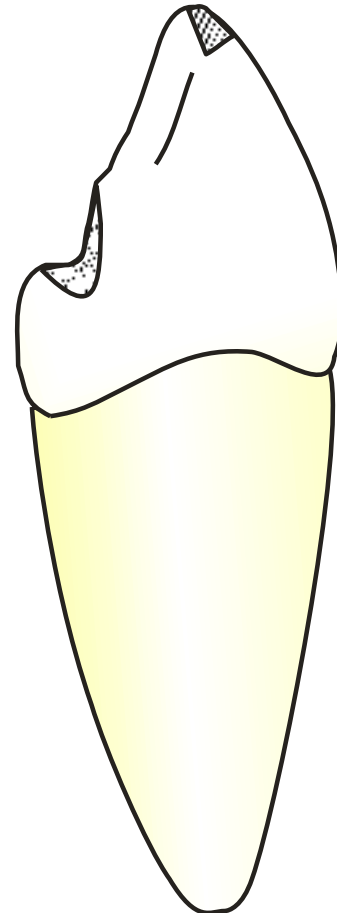
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2nd stage

Rest seat preparation



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2nd stage

Tooth recontouring

- height of contour
- guiding planes

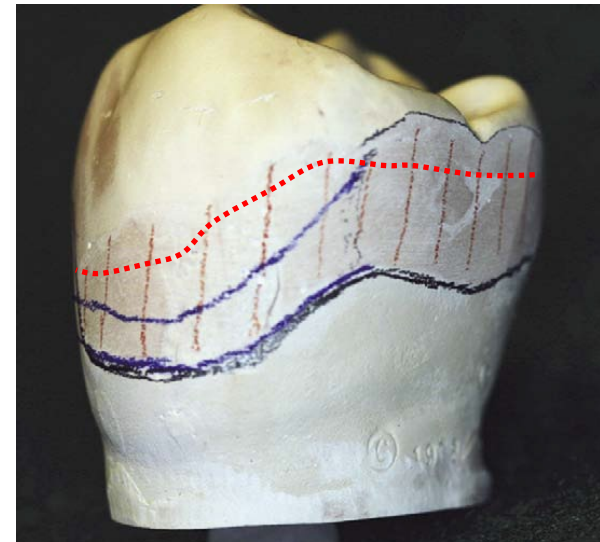
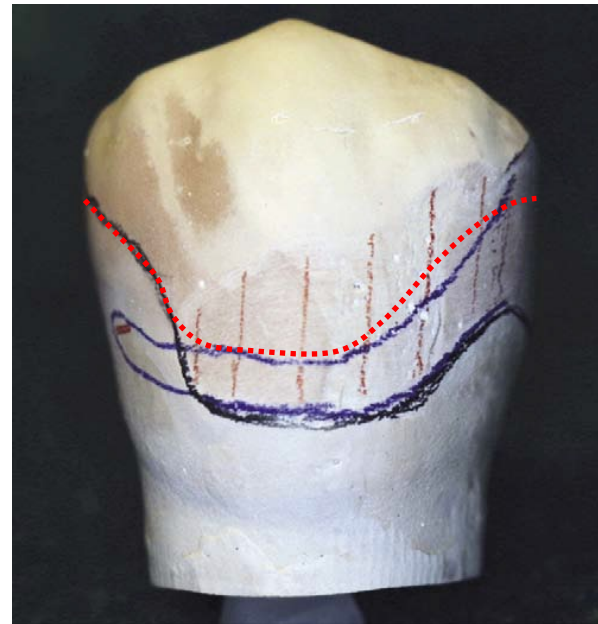
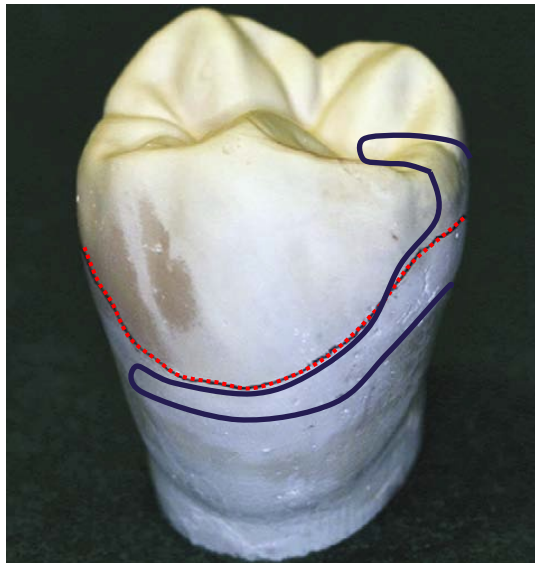


Mouth Preparation

2nd stage

Drop down the height of contour
Creating guiding planes

Cut tooth structure

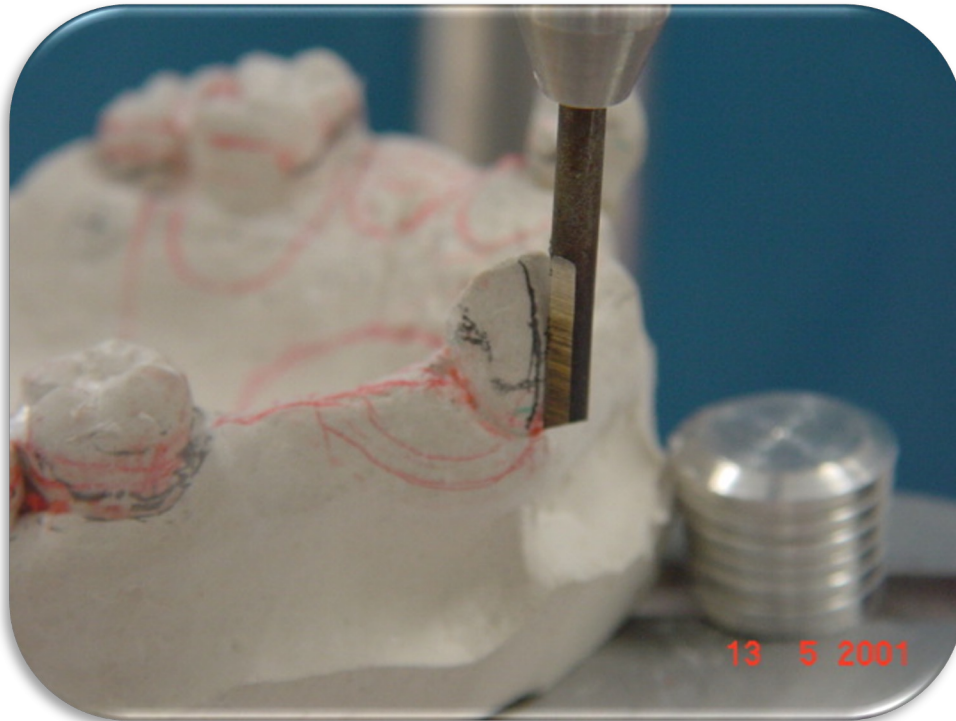


Mouth Preparation

2nd stage

Transfer tooth reduction from model to mouth

- Free hand



Mouth Preparation



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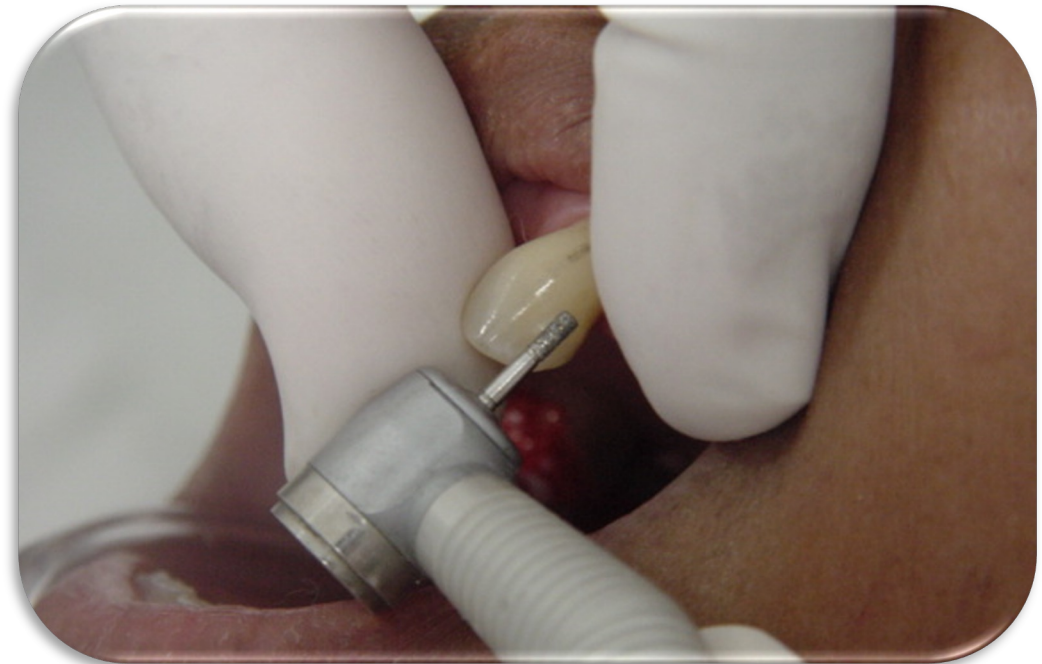


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2nd stage

Transfer tooth reduction from model to mouth

- Free hand



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2nd stage

Transfer tooth reduction from model to mouth

- Free hand



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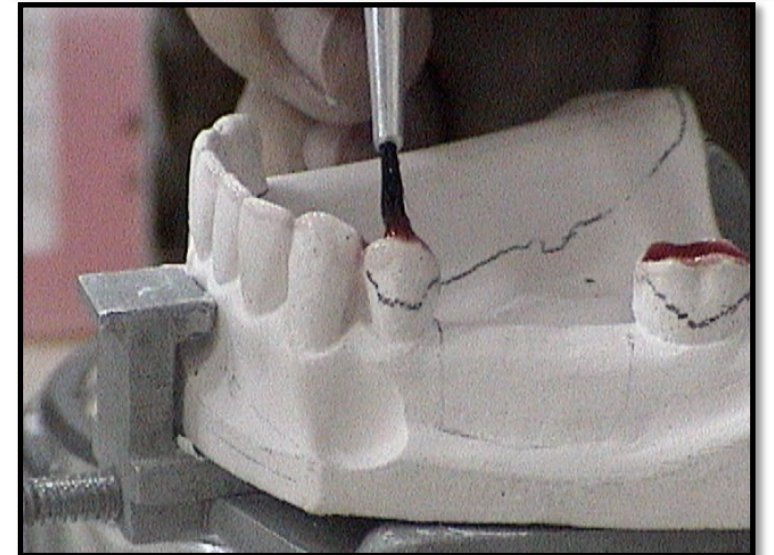
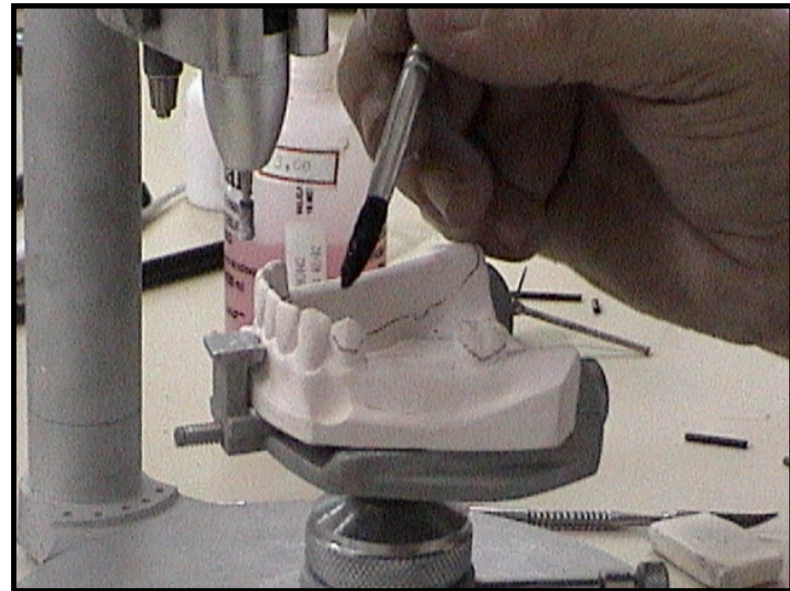


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2nd stage

Transfer tooth reduction from model to mouth

- Dura-lay guide

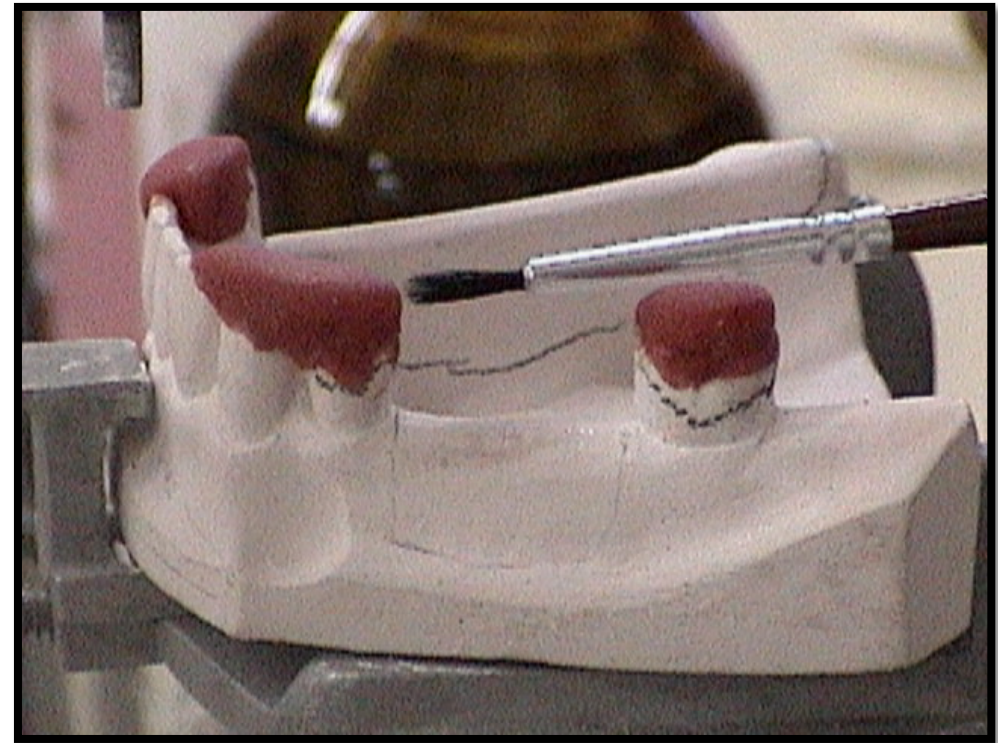
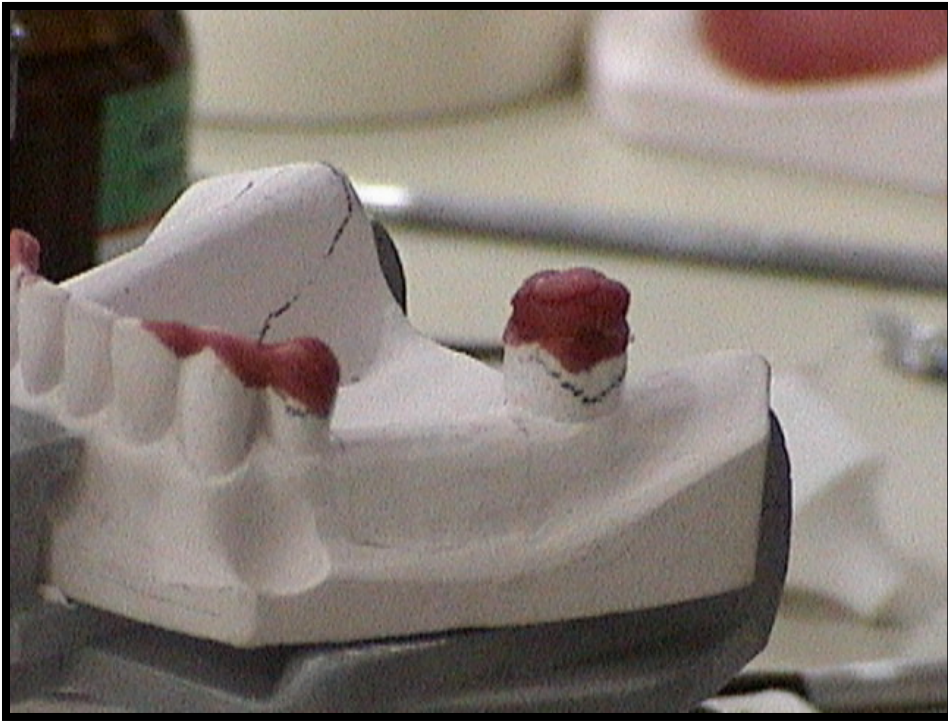


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2nd stage

Transfer tooth reduction from model to mouth

- Dura-lay guide

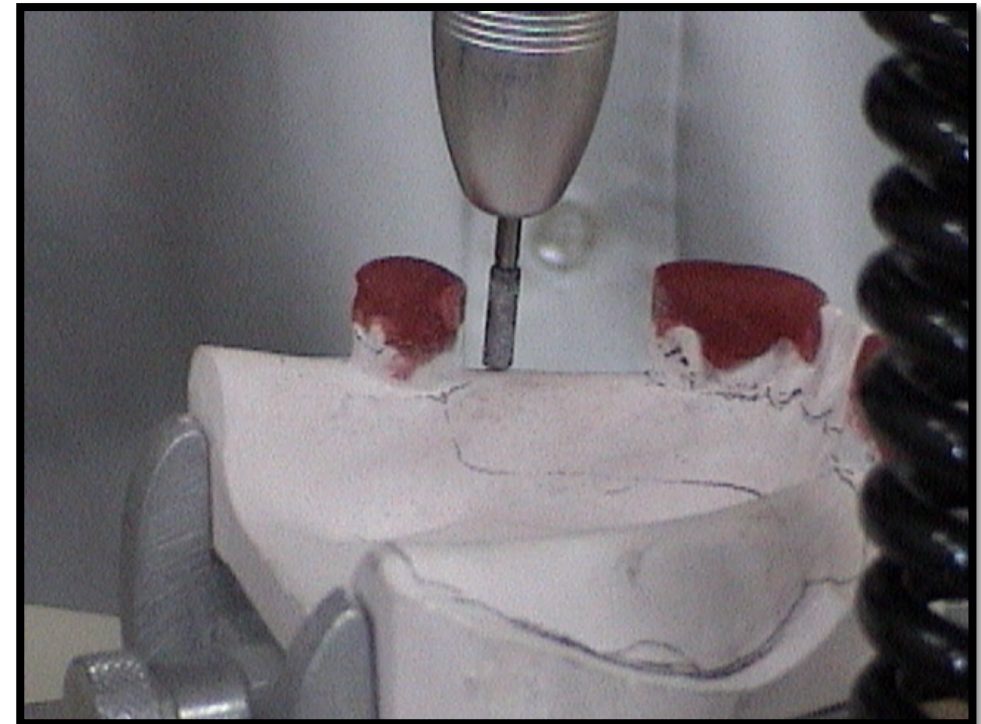
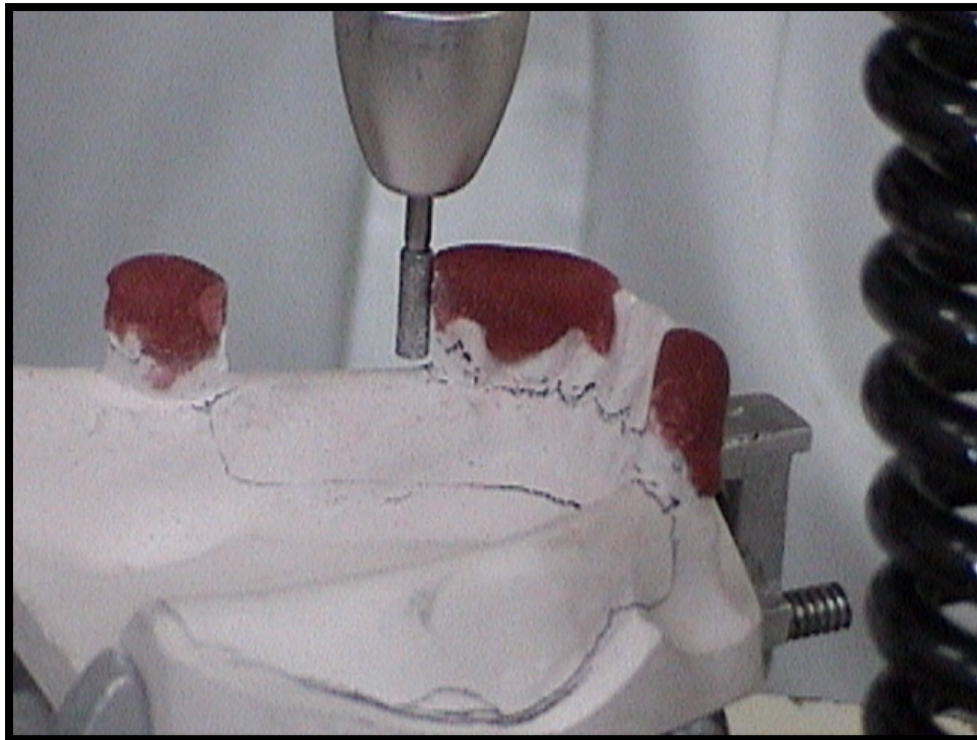


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2nd stage

Transfer tooth reduction from model to mouth

- Dura-lay guide



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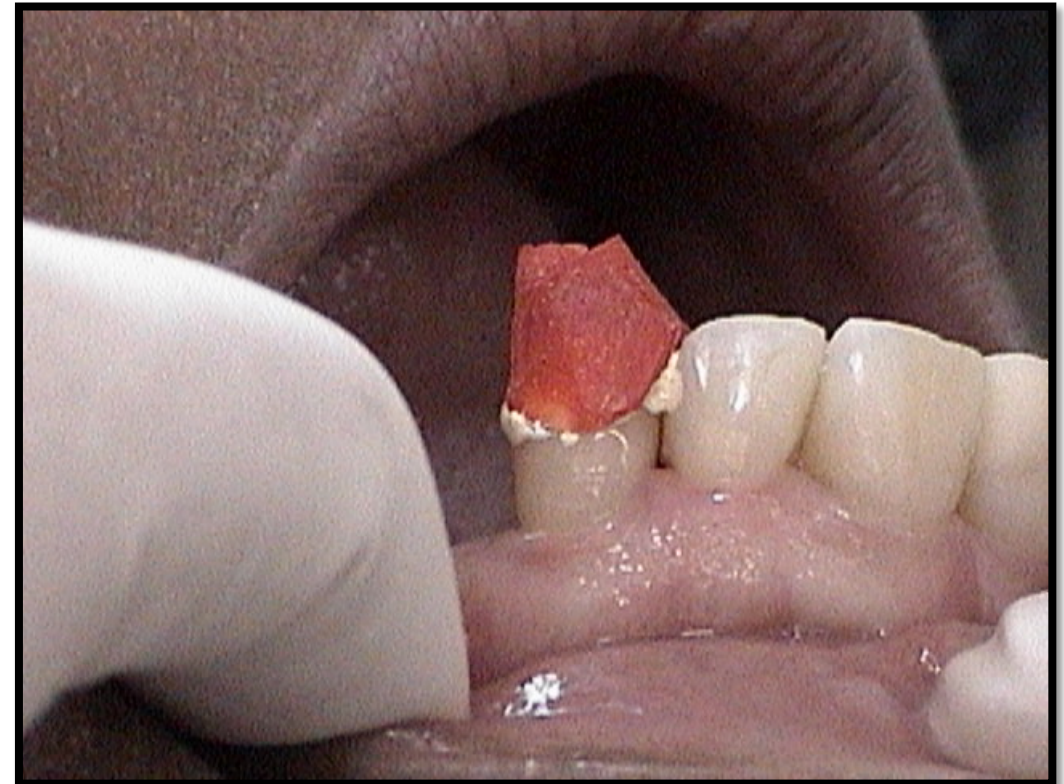
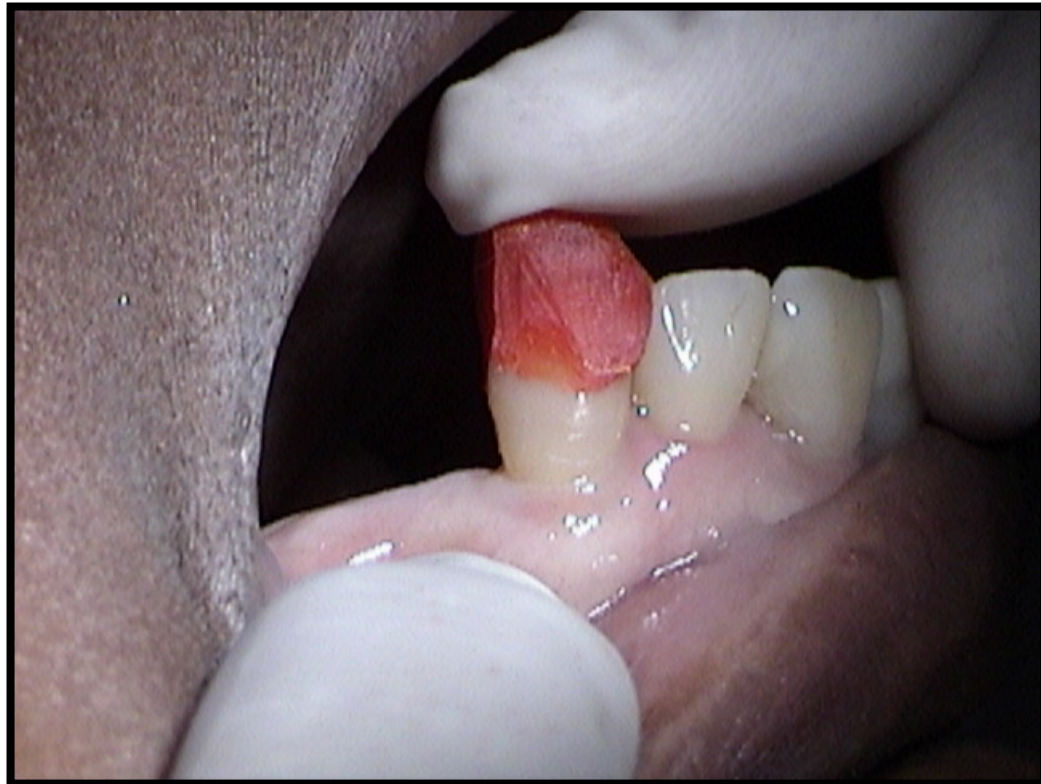


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2nd stage

Transfer tooth reduction from model to mouth

- Dura-lay guide



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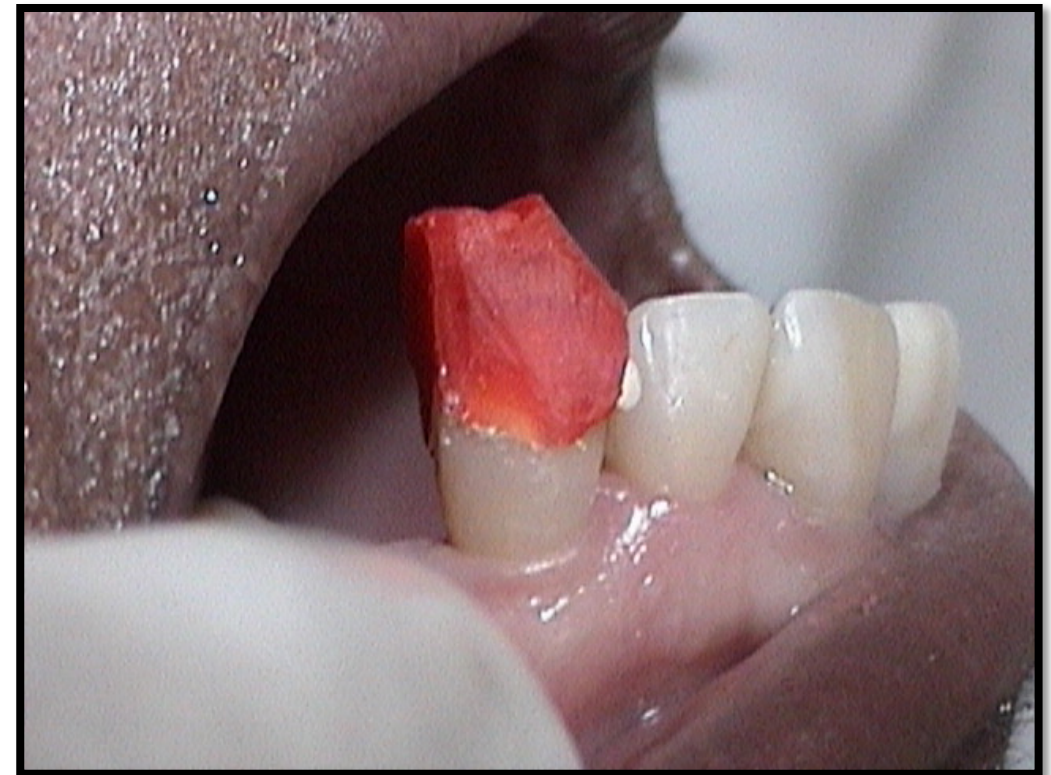
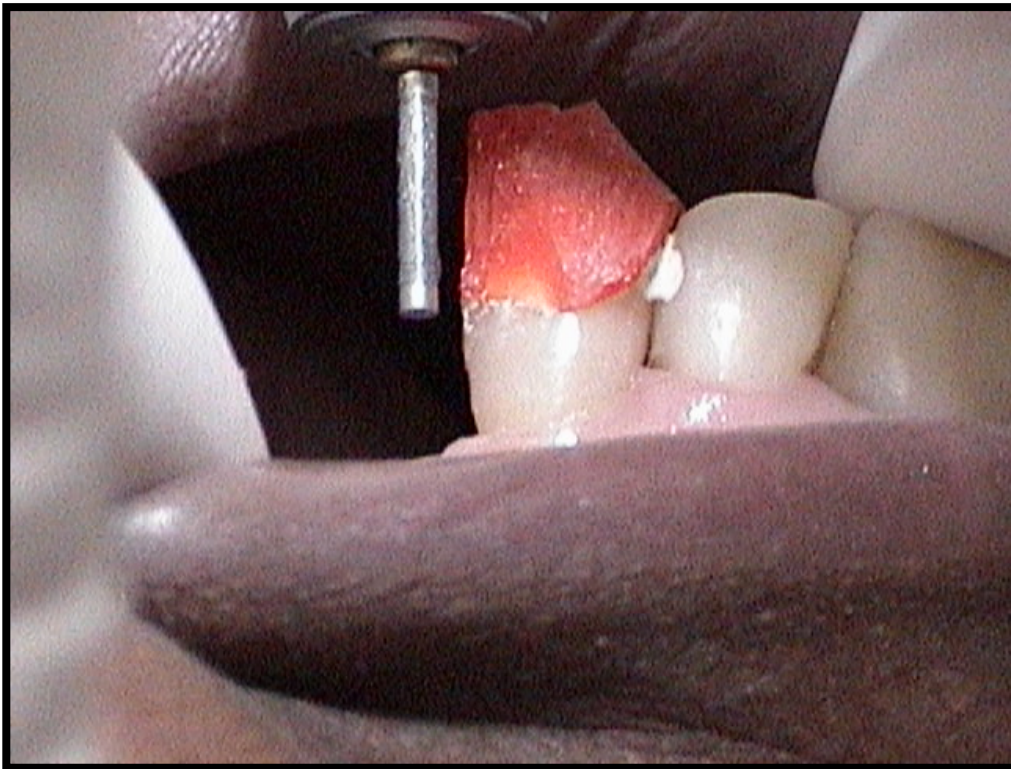


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2nd stage

Transfer tooth reduction from model to mouth

- Dura-lay guide



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Transfer tooth reduction from model to mouth

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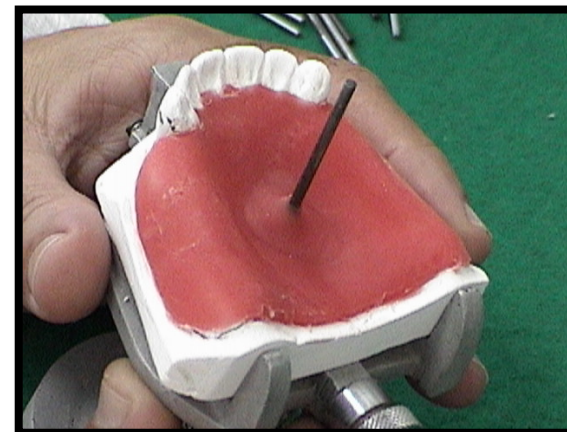
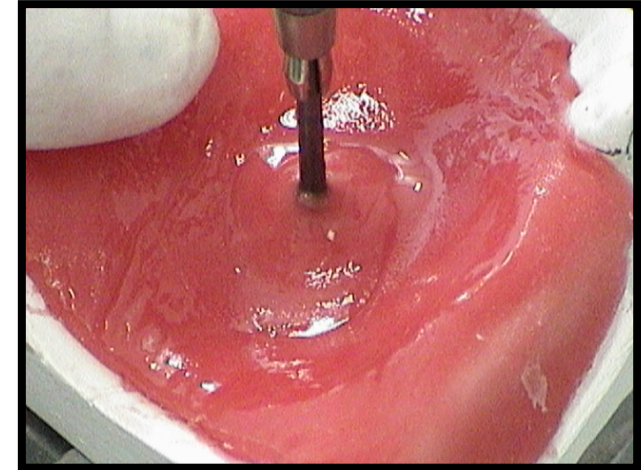
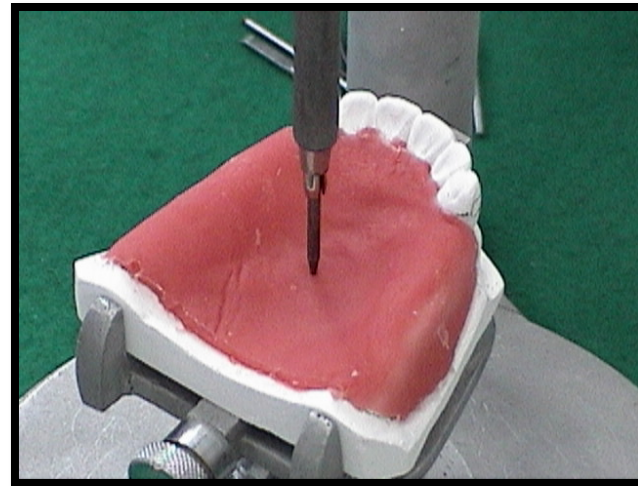
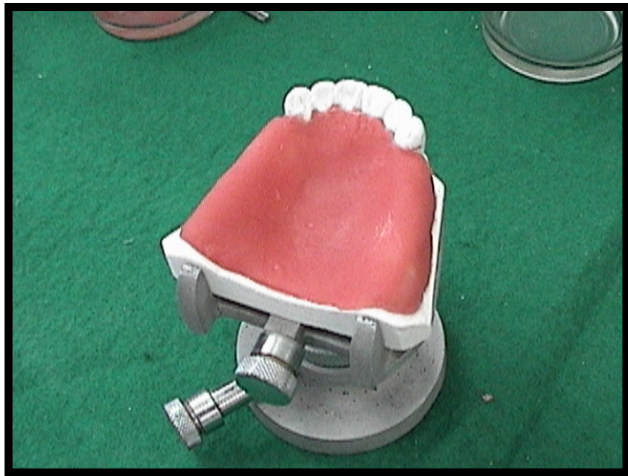


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2nd stage

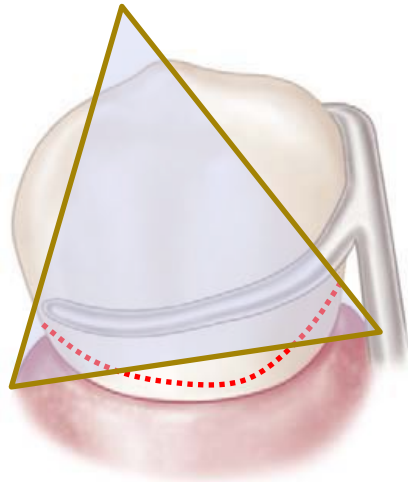
Transfer tooth reduction from model to mouth

- Base plate



2nd stage

No retentive area – low height of contour



Insufficient retention

The retentive arm has to be
at least 1 mm from gingiva

Raising Height of Contour

- Prepare an undercut using a bur
- Add composite to create undercut
- Surveyed crown

2nd stage

Raising Height of Contour

Preparing undercut

- Create a gentle depression where the tip of the retention arm will be placed
- Follow the shape and design of the selected retentive tip



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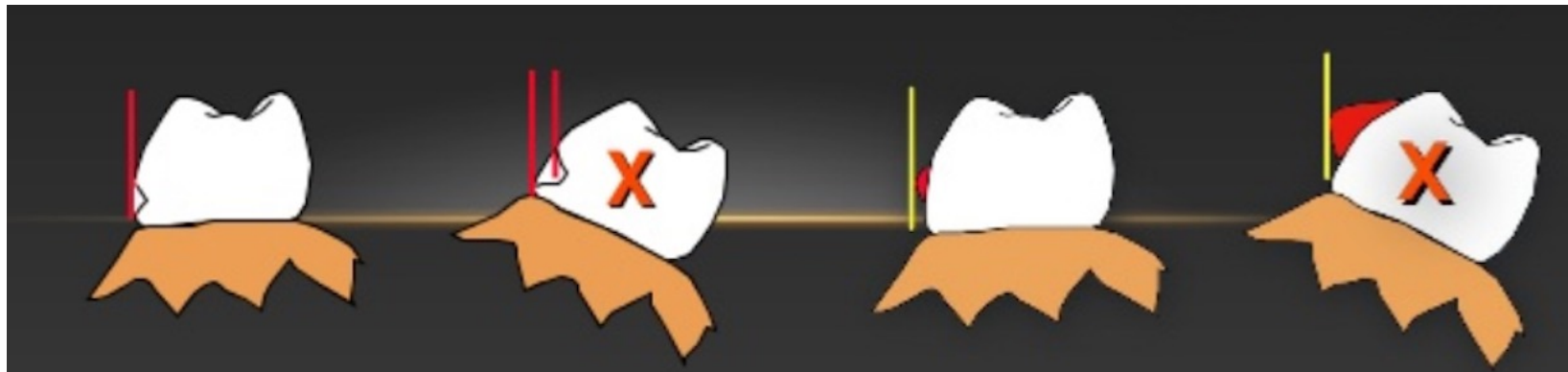
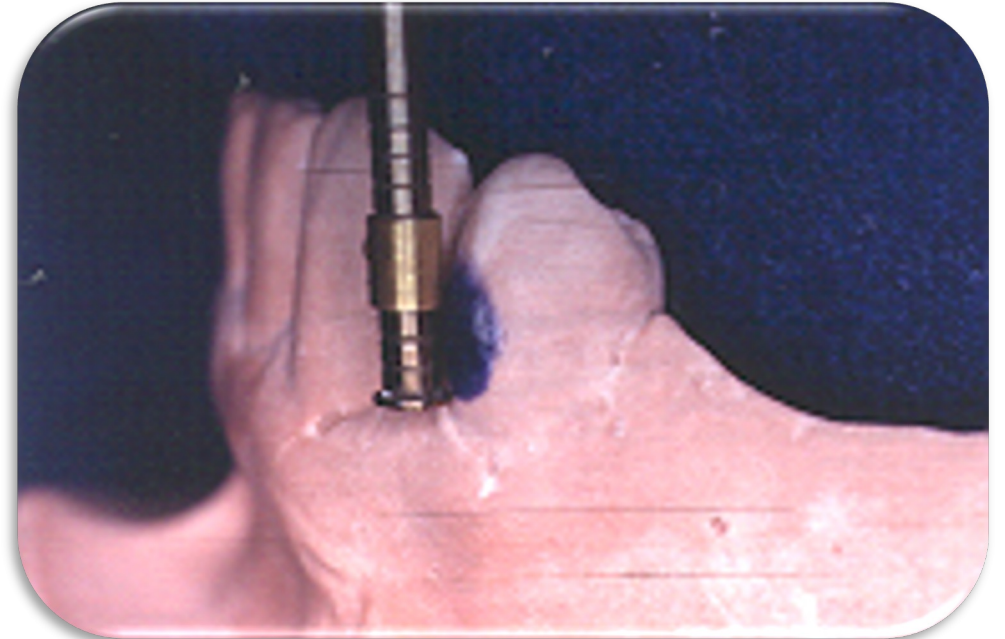
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2nd stage

Raising Height of Contour

Adding composite above the retentive area

Lingual and buccal surfaces of
tooth needs to be nearly vertical

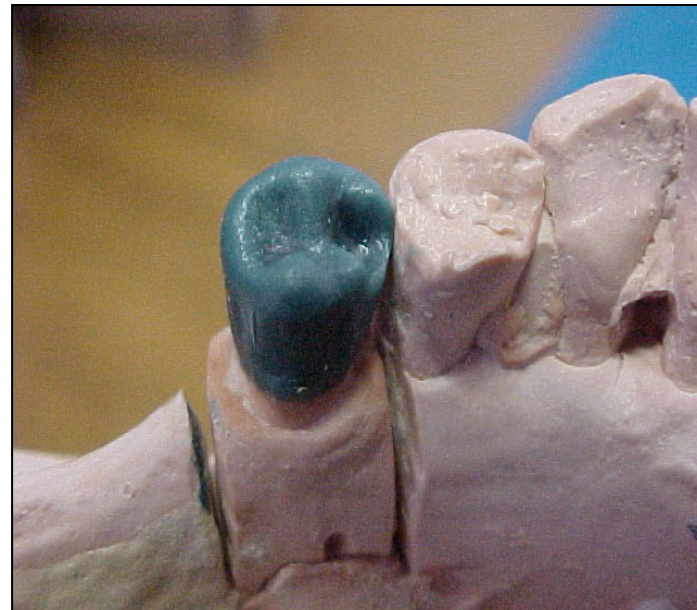
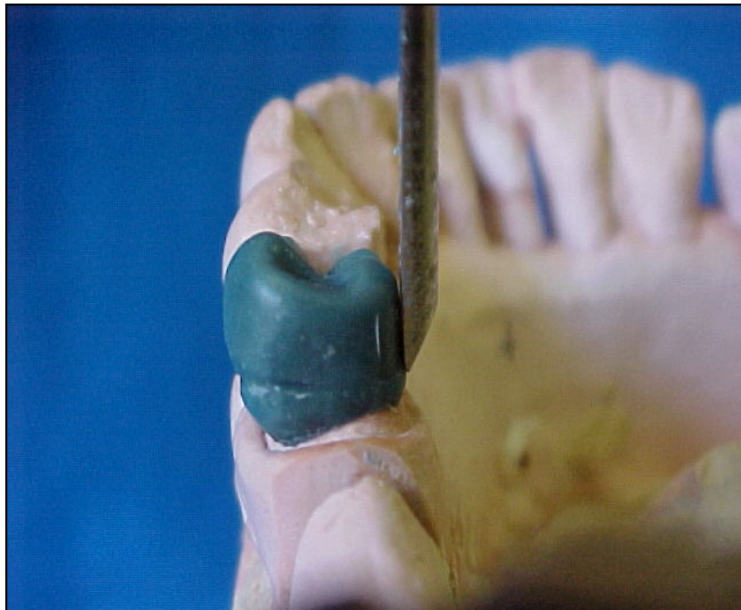


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Raising Height of Contour

Surveyed crowns: - guiding planes, give adequate contour, rest seats



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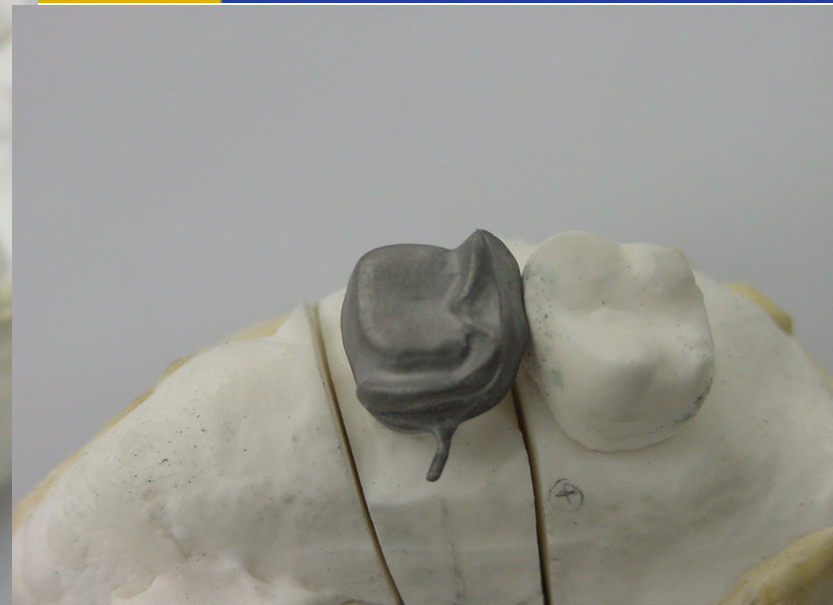
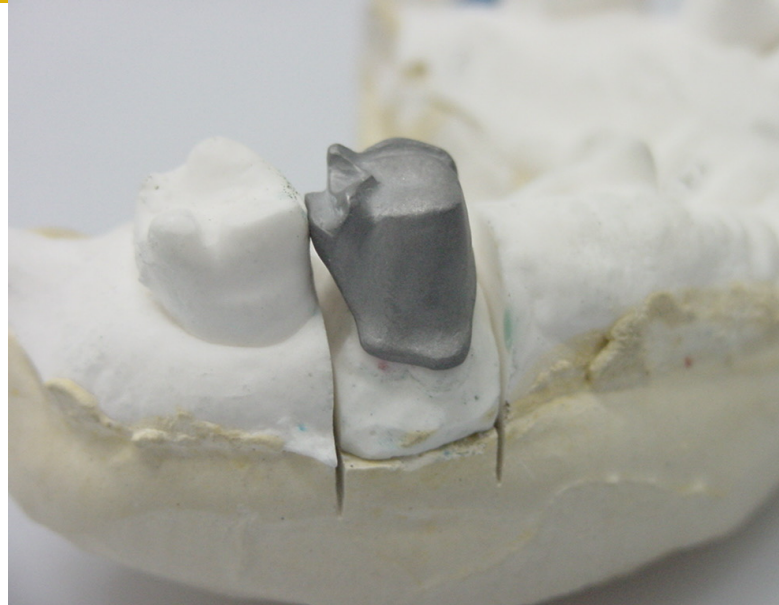
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2nd stage

Raising Height of Contour



Thank you!