

Immediate Dentures

Immediate dentures (summary)

Definition: An interim acrylic resin denture that is placed at the same appointment of extraction to restore aesthetic and function **immediately after the extraction of natural teeth.**

-Esthetics comes first then function

-similar steps of fabricating a complete denture: Primary impression, secondary impression, jaw relation, posterior teeth try in (CID)

- Posterior teeth should be extracted and the areas of extraction allowed to heal before the immediate denture begun, unless they help in maintaining the OVD. Usually only the anterior teeth will have been retained.

● Indications	● Contraindications
<ul style="list-style-type: none">a. Patient is socially activeb. Wishes to retain their natural appearance - esp. with minimal bone lossc. Good healthd. Available time and can afford multiple visits	<ul style="list-style-type: none">a. Patient is unavailable for appointmentb. Patient is debilitatedc. Systemic conditions preclude multiple extractionsd. Emotionally disturbed or diminished mental capacitye. Indifferent patients

● Advantages	● Disadvantages
<ul style="list-style-type: none">1. Promotes better healing- protect surgical sites and serve as templates for healing2. Promotes better ridge form-3. Prevents collapse of facial musculature4. fastens patient adaptation to dentures5. Prevents patient embarrassment6. Provides a guide for optimal individualized patient aesthetics7. Provides a guide for OVD	<ul style="list-style-type: none">1. Patients in poor health and uncooperative patients are subject to infection or edema following extraction of teeth2. The additional expense of relining immediate dentures three to six months after insertion creates problems for some patients.3. Additional treatment time is required for the dentist and patient because of the number of necessary post-insertion adjustments4. The immediate denture cannot be assessed fully until it is placed into the mouth

I. Types of immediate dentures according to treatment plan:

Conventional (or classic) immediate denture (CID). Better for complete immediate denture and when we have loose teeth.	Interim (or transitional) immediate denture. (IID)
<ol style="list-style-type: none">1. Definitive or long term prosthesis.2. After healing is complete, it is relined.3. At the patient's initial presentation, only ant. Teeth (plus possibly premolars) are remaining. It means when we will start fabricating denture process the posteriors are already extracted4. Has good retention and stability *at placement, which is possible to maintain during healing * posterior area already registered in a good way (border molded)5. Cost is less than IID.6. Treatment process takes longer than the IID because there is delay 3-4 weeks for post. Teeth extraction areas to heal partially before making final imp.7. Indicated when patient can function without post. Teeth for approximately 3 months.8. At placement, only ant. Teeth are extracted (possibly one premolar on each side that had been retained to preserve the vertical dimension of occlusion.)9. Esthetic cannot be changed.10. At the end of the treatment ,the patient has one denture	<ol style="list-style-type: none">1. Transitional or short-term prosthesis.2. After healing, a second denture is made.3. At initial patient's presentation, usually both ant. And post. Teeth are remaining.4. Has only fair retention and stability at insertion, which must be improved by provisional relines (tissue conditioner) during healing.5. Cost is greater.6. Treatment process takes less time than CID as denture fabrication procedure can begin right away.7. Indicated when the patient cannot go without post. Teeth or an existing partial denture because of esthetic or functional concerns.8. At placement, both ant. And post. Teeth are extracted9. The second denture after the IID allows an alteration of esthetic and any other factors if indicated.10. At the end of the treatment, the patient has a spare denture to use.

Clinical and Laboratory Procedures:

1. To extract posterior teeth; (keep teeth which maintain vertical dimension, if necessary). Allow tissues to heal prior to preliminary impressions.(CID)
2. Make primary impressions in alginate and stock trays
3. Working cast duplicated to provide a reference during subsequent procedures.
4. make special trays and secondary impressions
5. Take jaw relationship (bite registration for edentate and occlusal rims for edentulous) before mounting.
6. Master casts should be mounted and posterior teeth setup in centric occlusion.
7. Wax try in (for CID posterior teeth only)
8. Pencil lines drawn on master cast to provide guidelines

Cast trimming guidelines: Preserve the incisal edge position and tooth angulation information prior to removal of stone teeth.

- i. Use a sharp pencil to mark the gingival outline buccally and palatally (black line) of the teeth to be extracted
- ii. Mark another line 1 mm below the first line buccally and lingually as well (red line)
- iii. To preserve incisal edge position: Use a divider /gauge to mark a horizontal line which is 15 mm apical to the incisal edge of each tooth
- iv. Then mark the long axis of each tooth
- v. Remove teeth with saw/ bur/sharp knife)- (normal periodontal condition rule of thirds –refer to the lecture)
- vi. Follow Alternating Tooth Setup Technique .
- vii. Trimmed areas convex and sanded smooth – no socketing
- viii. Avoid removing incisive papilla

Setting up Teeth

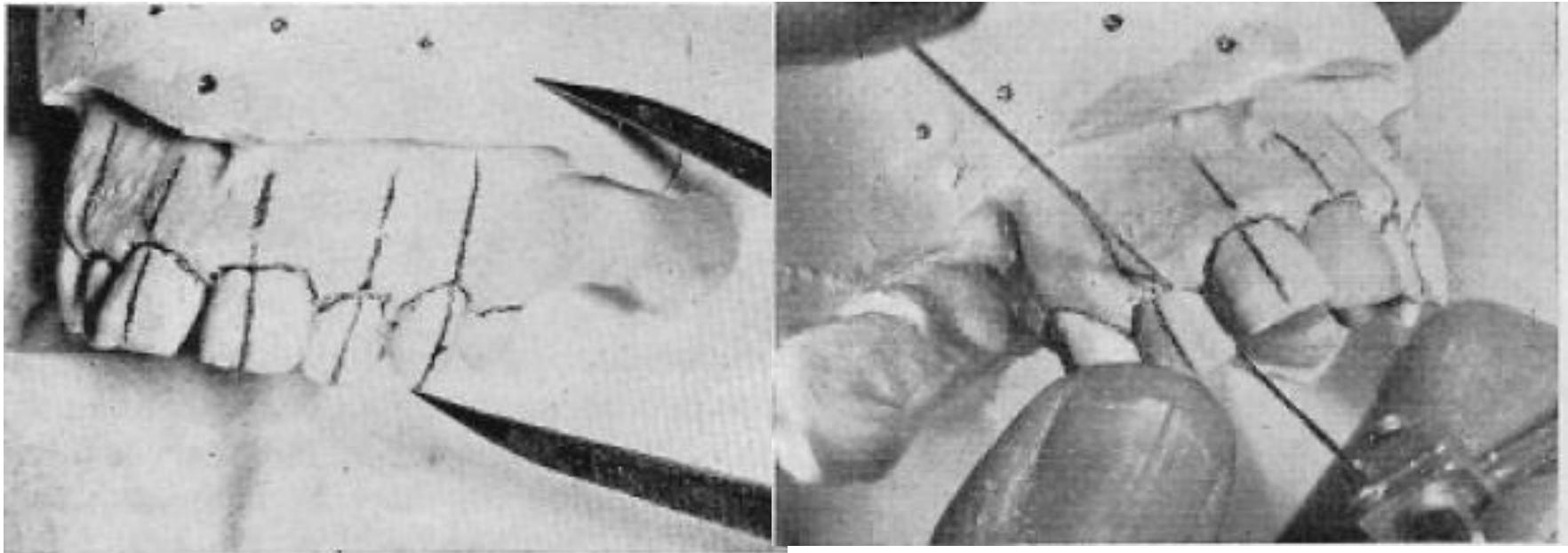
1. Working cast duplicated to provide a reference during subsequent procedures.
2. Master casts should be mounted and posterior teeth setup in centric occlusion (take jaw relationship before mounting)
3. Cast trimming. Initial step is to mark the upper and lower casts in pencil to produce guide lines:
 4. Draw a line around each tooth at the level of the gingival margin
 5. Draw a line on the long axis of the tooth
 6. Measure the length of the teeth with dividers and scribe these lines on the cast
 7. Teeth on casts removed



All maxillary anterior teeth to be extracted to make upper complete denture

Impression and master cast



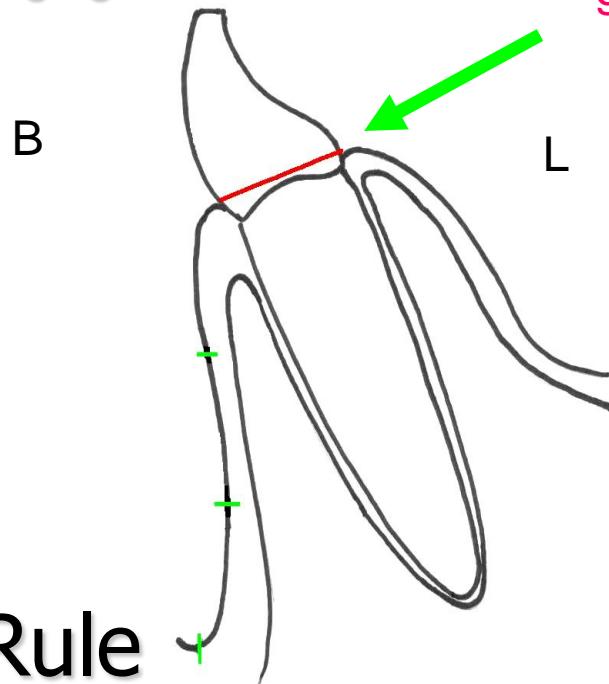


1. Mount master casts (following jaw relationship stage)
2. Set up posterior teeth first, and call patient for try in of posterior teeth and verify jaw relationship
3. Then set up teeth for the immediate replacement of the anterior teeth
4. Pencil lines drawn on master cast to provide guidelines
5. Remove teeth with saw/ bur/sharp knife)

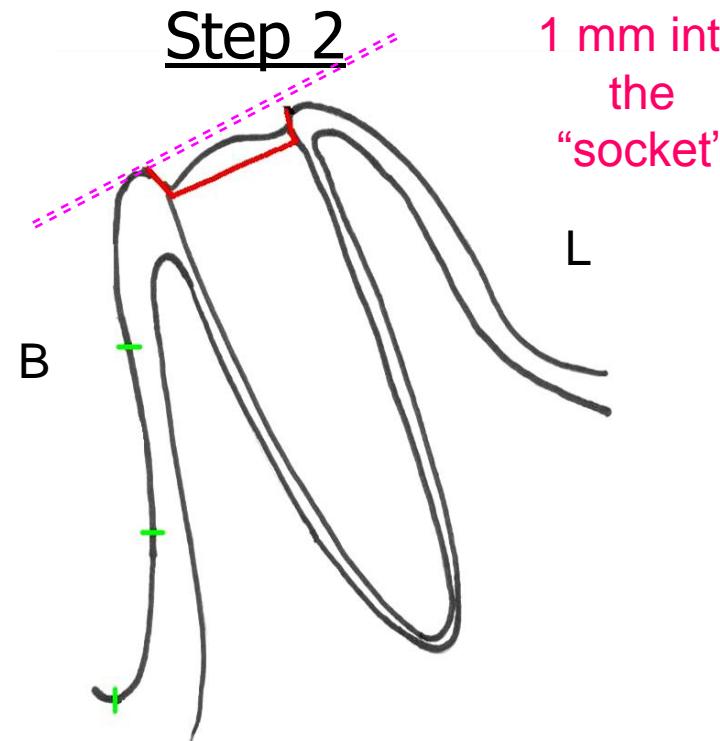
- Cast trimming guidelines
(Subjective, observational not absolute rule, no scientific basis-based on observations of authors)
- How best to produce a convex bone structure)
 - “Normal” periodontal condition
 - “Rule” of Thirds
 - Advanced periodontal deterioration
 - X-ray & probing measurement

Rule of Thirds – Cast Trim

Cut anterior teeth off cast
at gingival level



1. Cut at
gingival
level



2. Cut back
1 mm into
the
“socket”

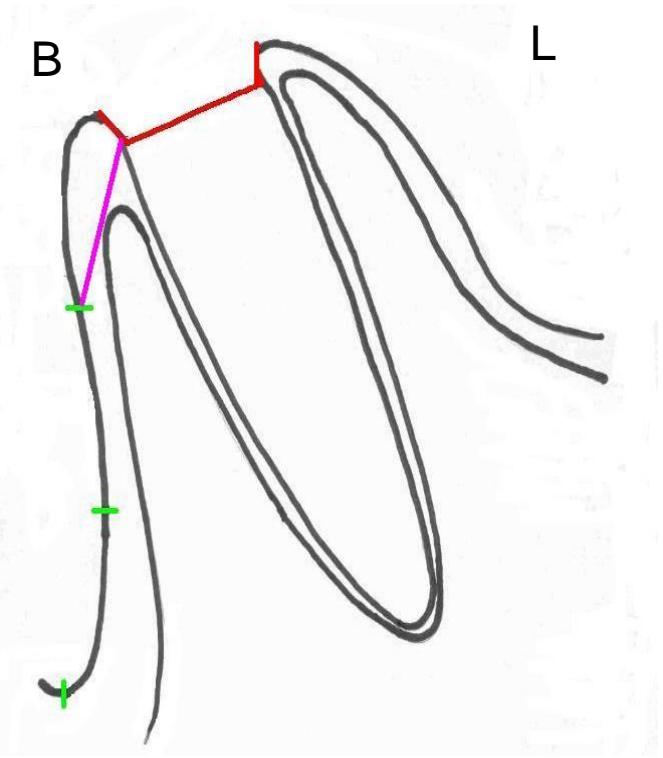
■ Rule

■ Normal gingival/bone relationship

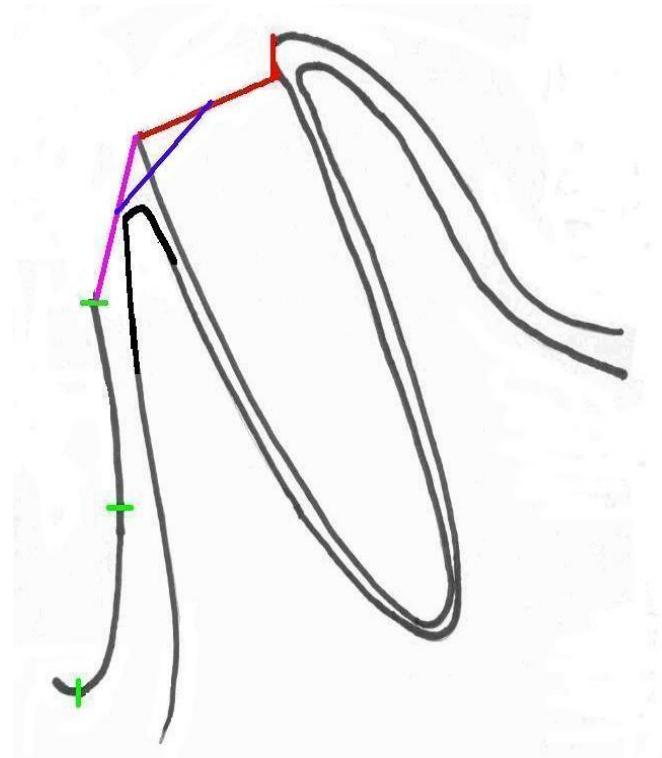
Remove tooth at
gingival level

Recess Socket 1 mm

Step 3



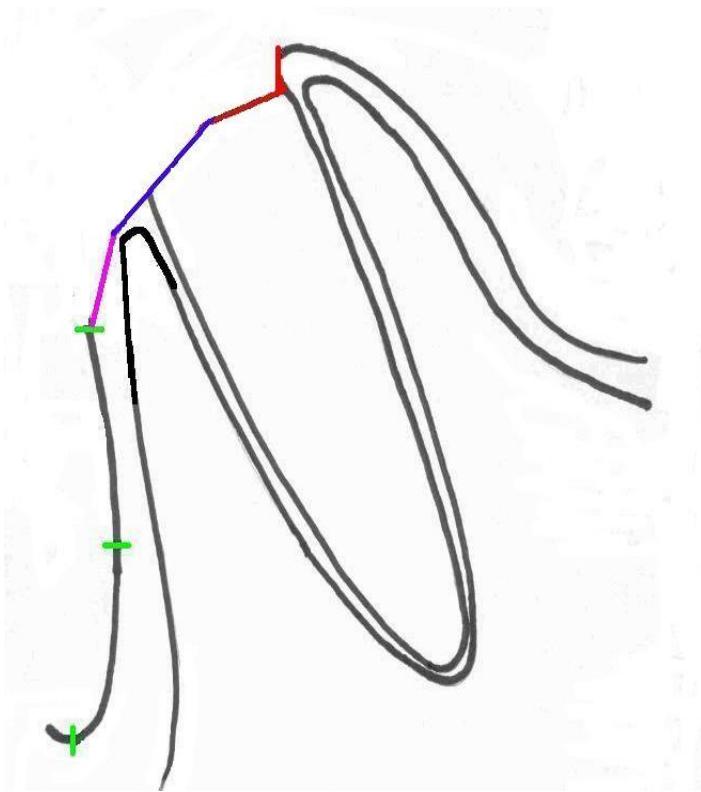
Step 4



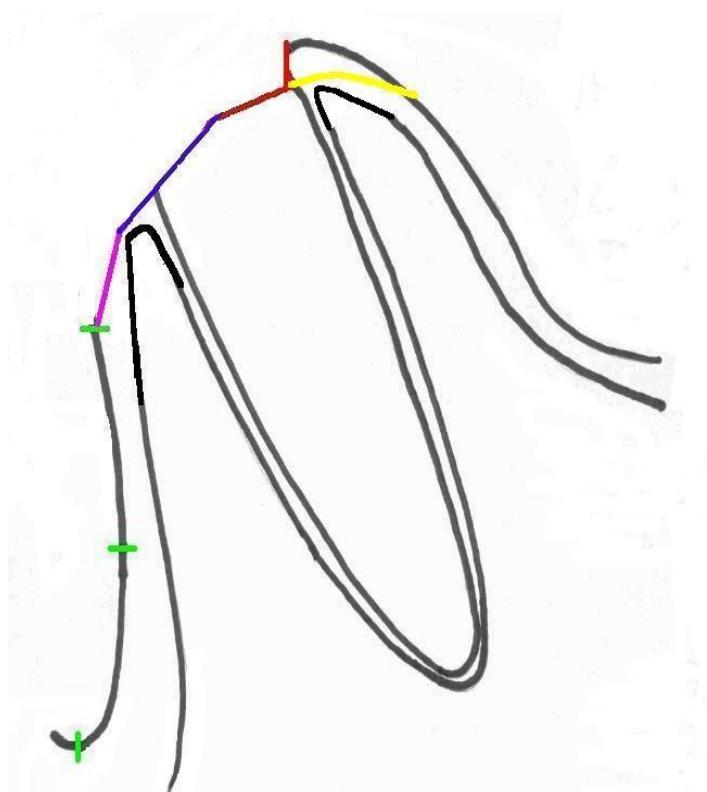
Labial edge recess to incisal
third mark

Mid-point recess to mid-
width labial cut

Step 5

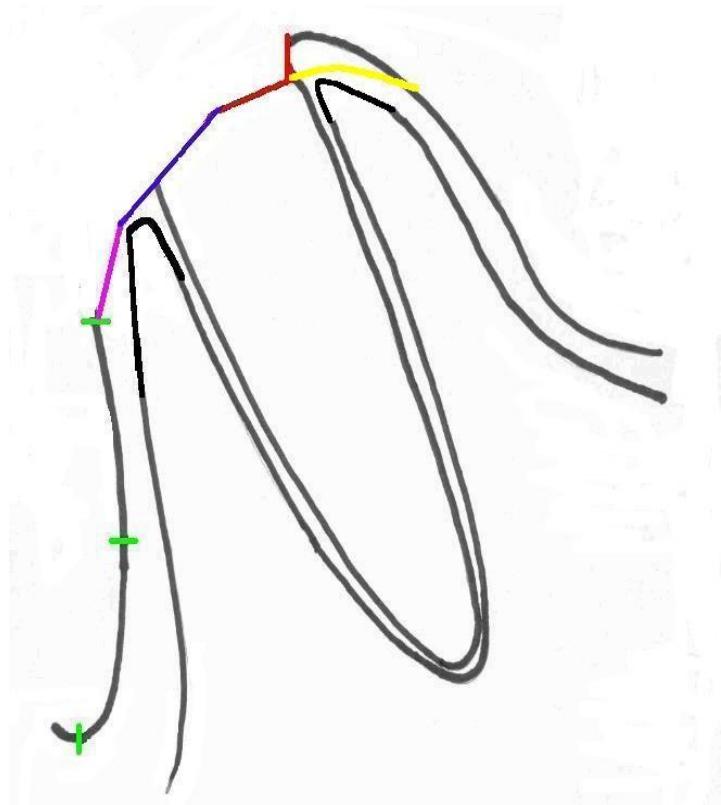


Step 5

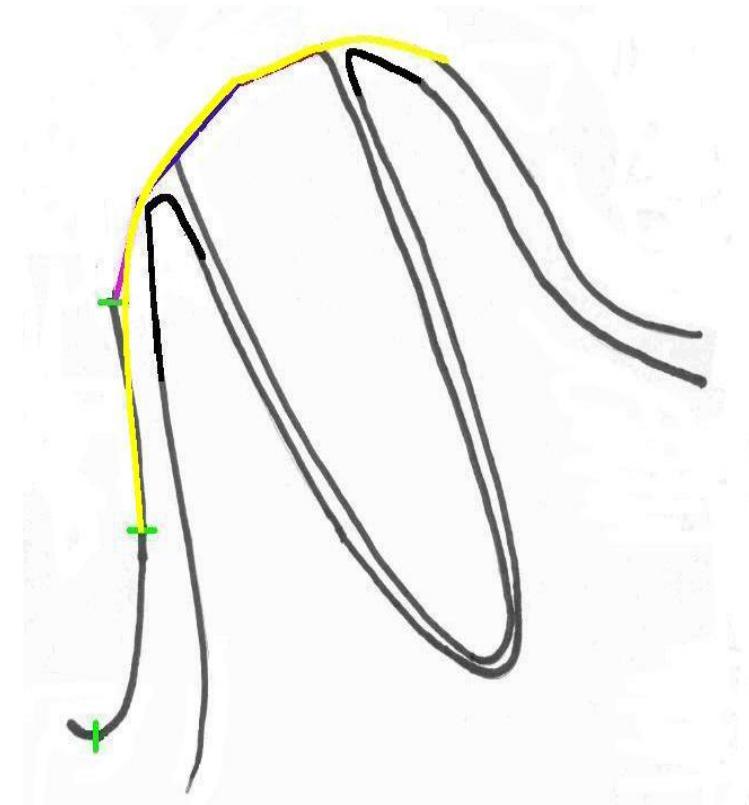


Round over lingual aspect of socket

Step 5



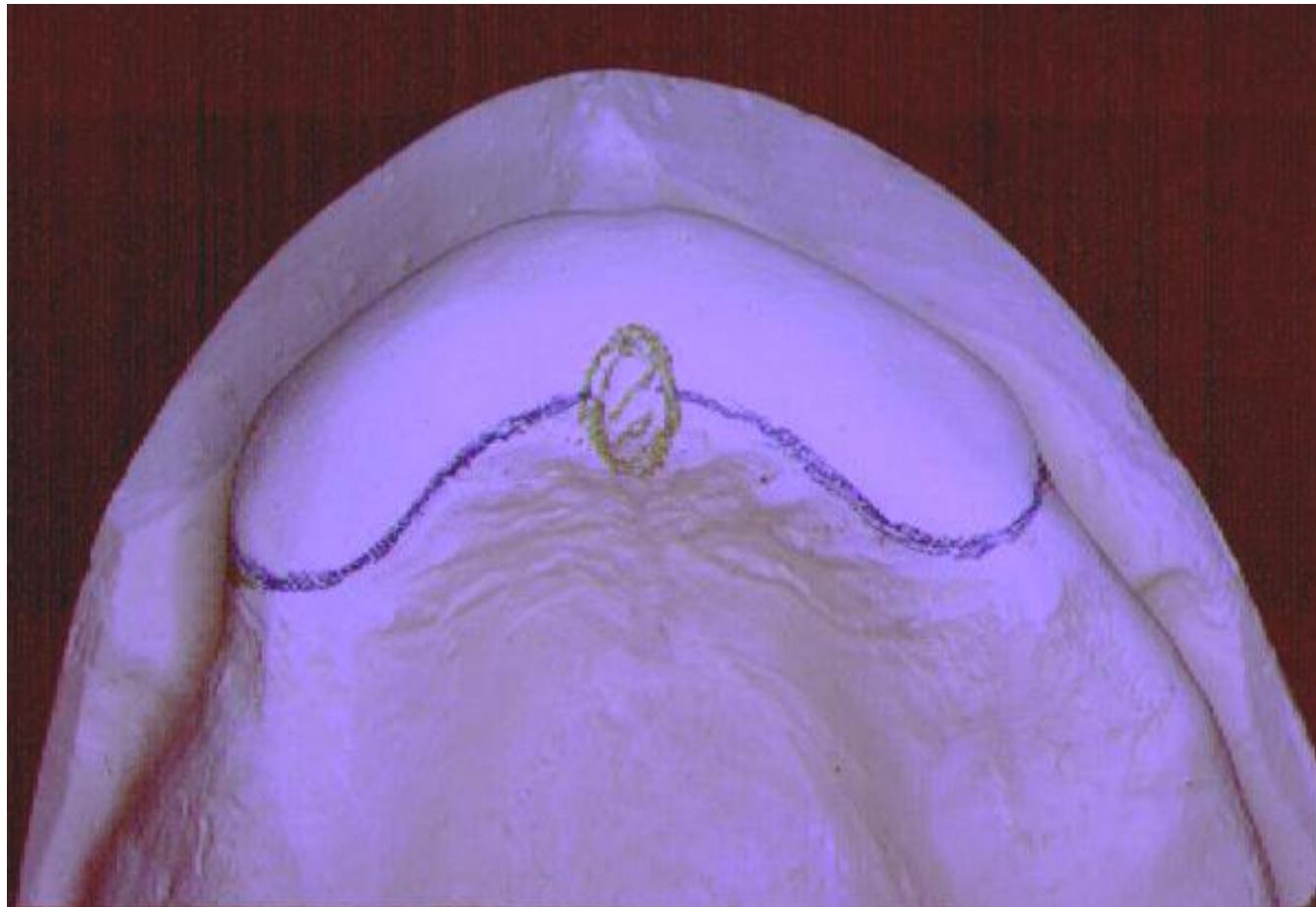
Step 6



Round off labial to middle
third, smooth with sand paper

ID Master Cast Trim

- Trimmed areas convex and sanded smooth – no socketing
- Avoid removing incisive papilla



(If aesthetics of natural dentition is desired to be duplicated onto the immediate denture):

1. Preserve the incisal edge position and tooth angulation information prior to removal of stone teeth.
2. Develop gentle convex shape of stone extraction site
3. Control of the setup: Remove one stone tooth and set one denture tooth at a time.
4. Wax tooth set-up

Diagnosis:

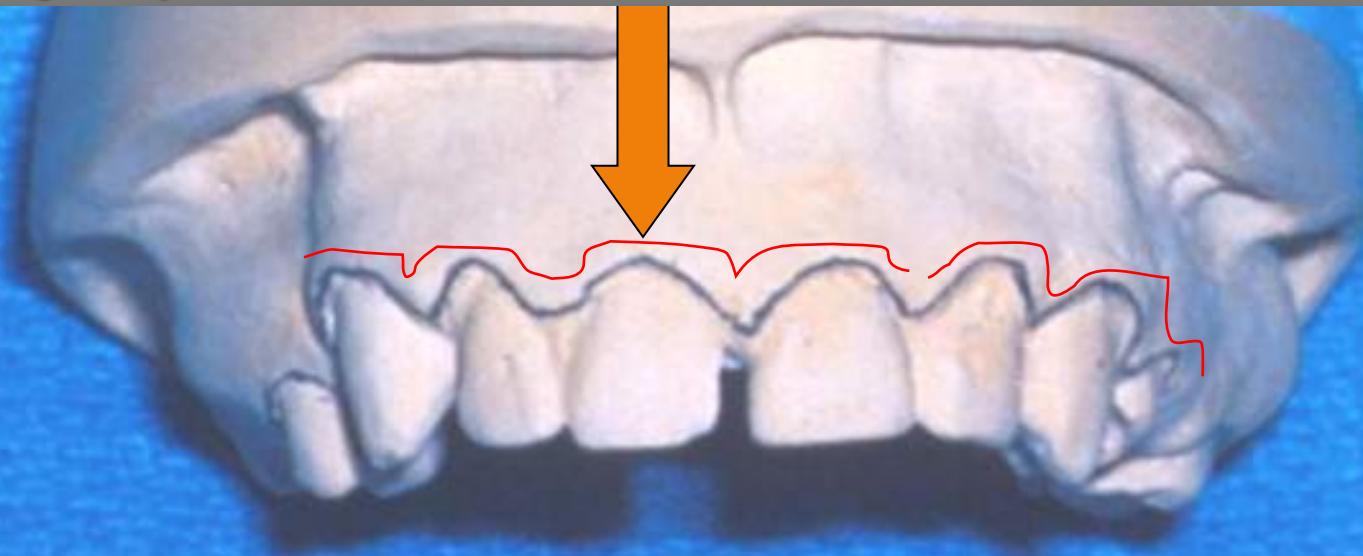
Explanation to the patient concerning immediate denture:

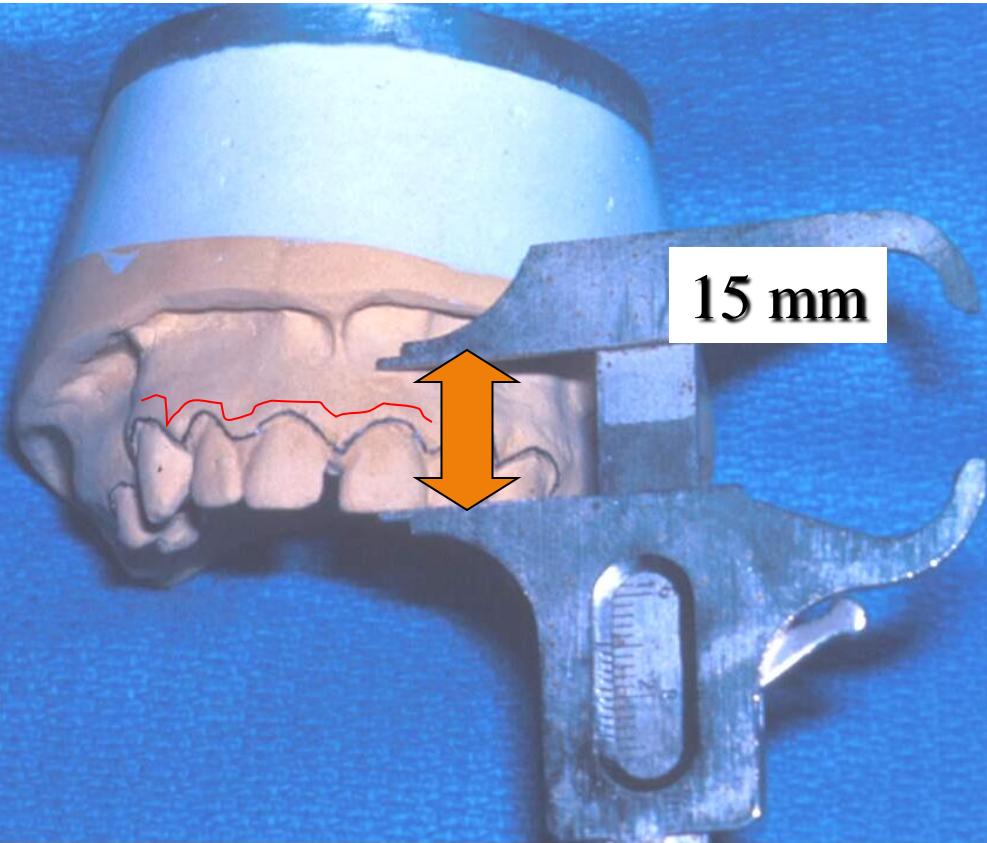
1. They do not fit as well as complete denture.
2. They will cause discomfort. The pain of extraction, in addition to the sore spot caused by immediate denture.
3. The esthetics may be unpredictable. Since there is no anterior try in
4. Immediate denture must be worn for the first 24 hours without being removed by the patient. In case of complete, If we removed it we might not be able to insert it again because ridge will expand because of the trauma. second day the patient can remove it and we can do needed adjustment .for partial we can remove it at night .
5. Because supporting tissue changes are unpredictable , immediate dentures may be loosen up during the first 1 to 2 years. This is not the final either we do reline or rebase.

Laboratory procedure

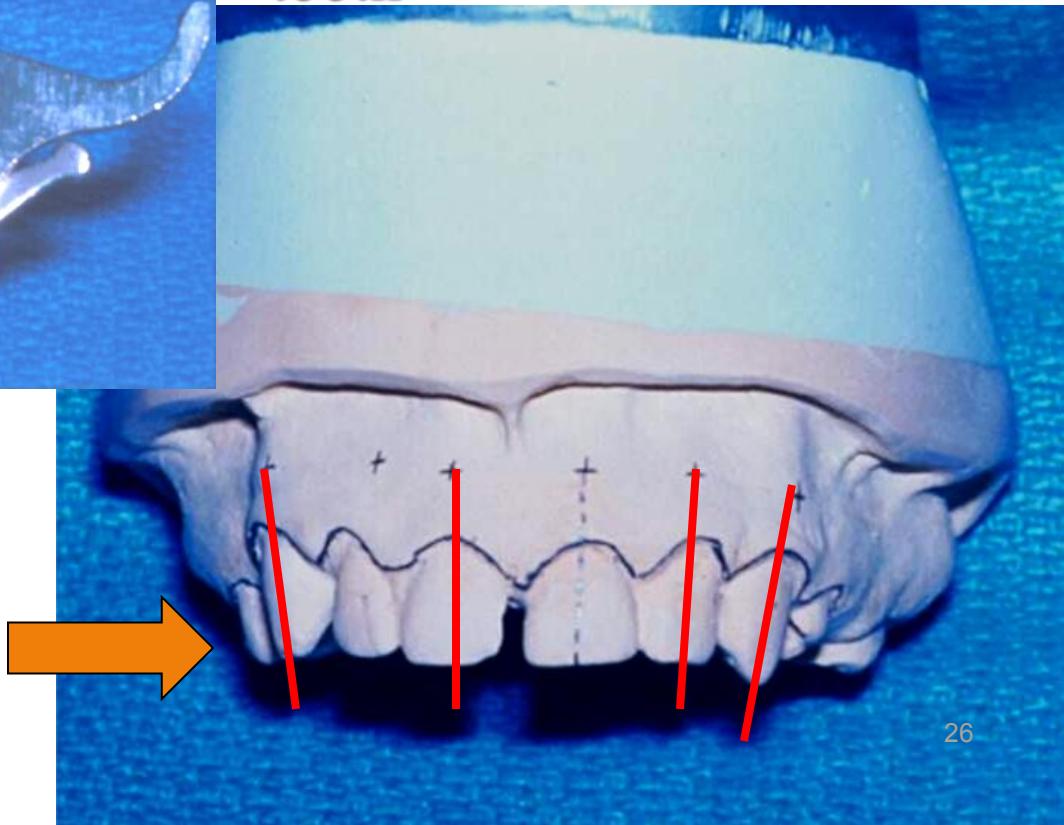
Preserve the incisal edge position and tooth angulation information prior to removal of stone teeth.

1. Use a sharp pencil to mark the gingival outline **buccally** and **palatally (black line)** of the teeth to be extracted
2. Mark another line 1 mm below the first line **buccally** and **lingually as well (red line)**





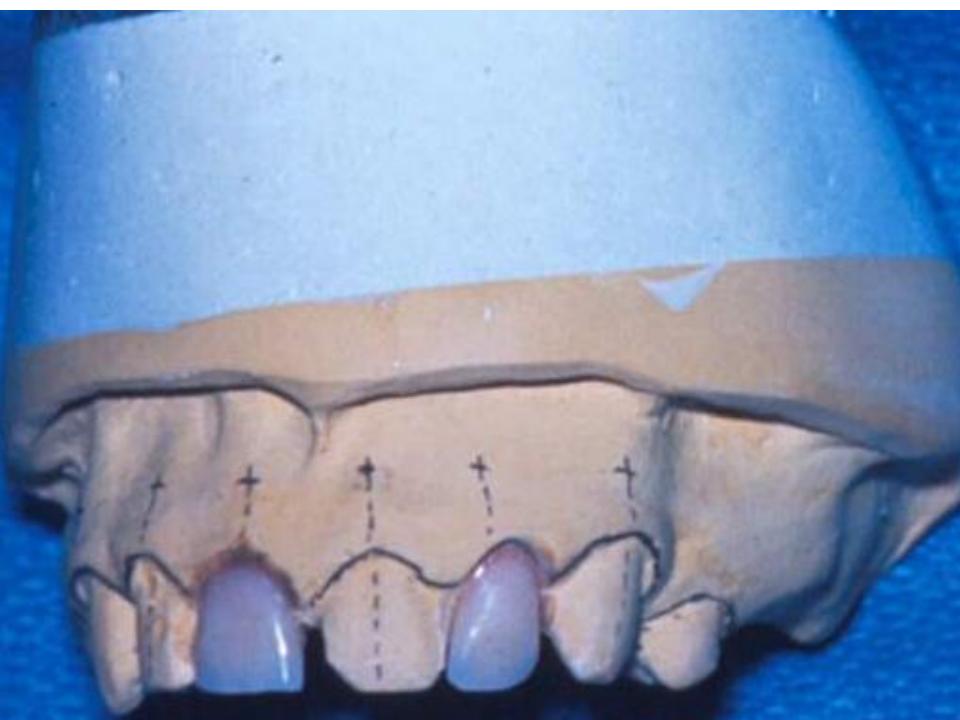
To preserve incisal edge position: Use a divider /gauge to mark a horizontal line which is 15 mm apical to the incisal edge of each tooth

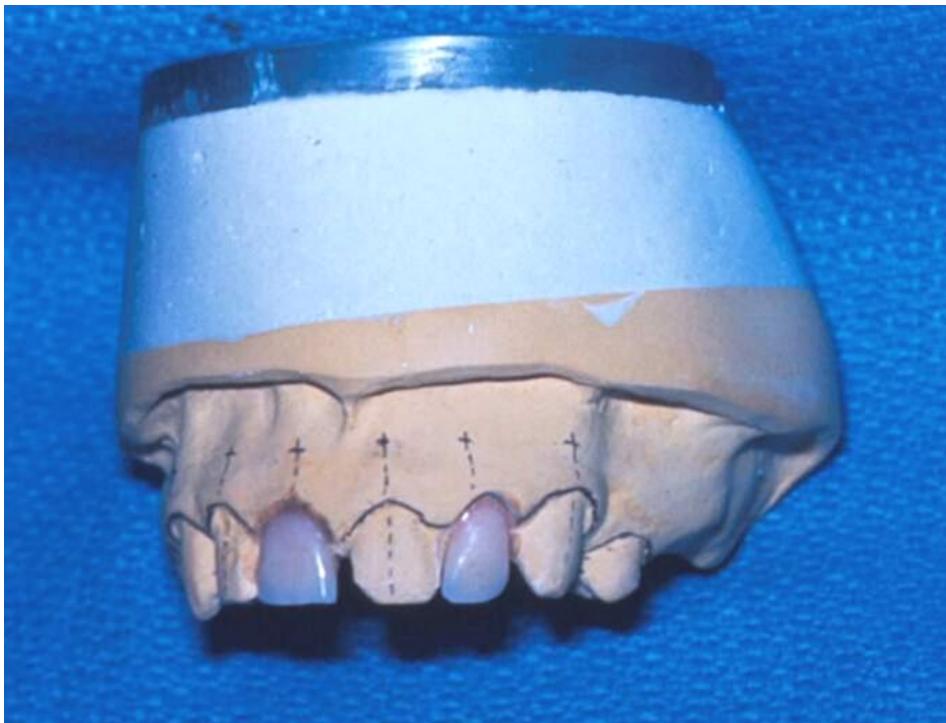


Then mark the long axis of each tooth

The Alternating Tooth Setup Technique

- Trim and set only one anterior tooth at a time
- Alternate from side to side to keep natural neighboring tooth as guide to angulation, length, and contour orientation of artificial tooth

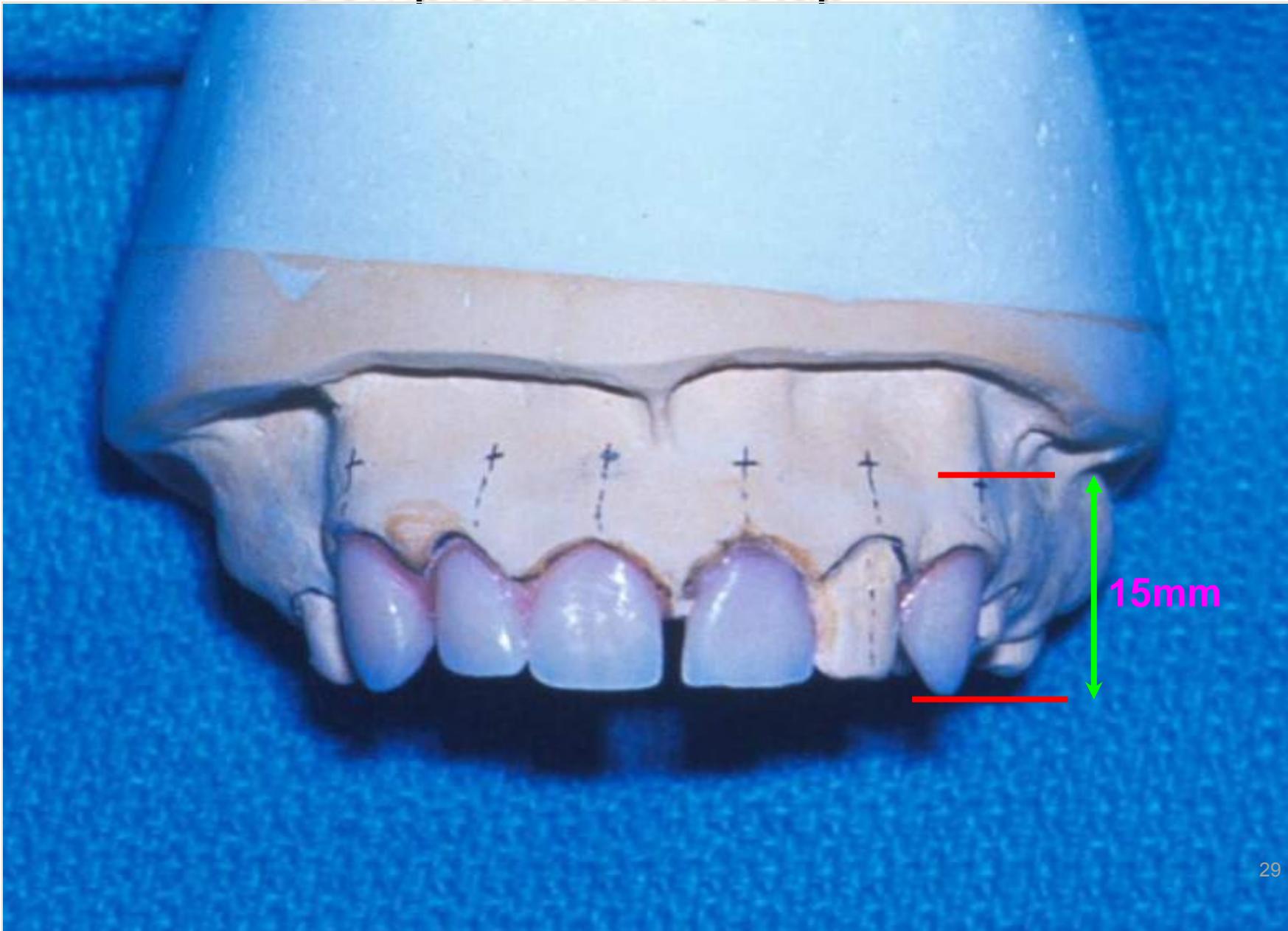




Alternating Tooth Setup Technique

Reshape the cervical ridge laps of the denture teeth to set them back to the original incisal edges, angulations, & contours

Complete teeth setup



Immediate Dentures – Boucher Chapter 26



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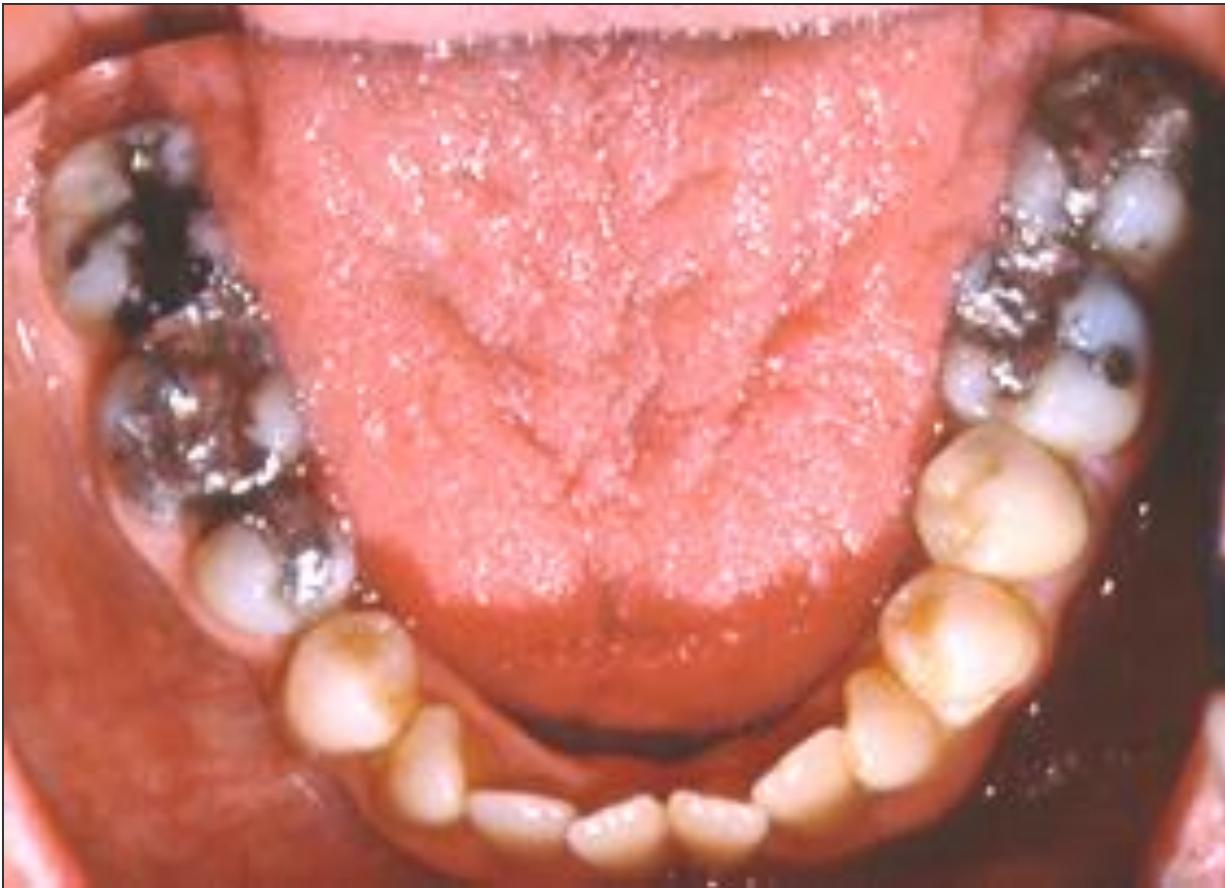


To here.....

Clinical Procedures:



Patient is a healthy 55 year old male with a history of recurrent decay and periodontal disease. He wishes to reduce his open-bite for esthetic reasons. After discussion of treatment options, he has elected to have a maxillary complete immediate denture fabricated.



Other than routine restorative treatment, the mandibular did not require much treatment.





Posteriors are extracted first and the ridges are allowed to heal for several weeks. The posterior ridge will now be comfortable and relatively accurate



Occlusion after extraction of posteriors – no more open bite

Clinical Procedures: Impressions

- Modification of a stock tray is needed by using an impression compound and placing it at the edentulous area (depend on the case) because we have deep ridge that is not stable and the alginate won't be enough to flow to the sulcus to get better impression.
- Primary denture is the key step to successful denture.
- If we don't have adhesive scratch using heated wax knife to get a rough surface.

Two Methods of making the Immediate CD impression

- **Single Tray Method** (For IID)

Wax spacer (One thickness of wax is placed over the teeth). A second layer of wax is placed over both the teeth and the edentulous ridge. Cuts for tissue stops can be made over the teeth to provide an even thickness of the impression material. Adapt a single piece of tray material over the wax shim. When anterior teeth remain, as in this example, a tray handle is usually unnecessary. Heat and place individual segments of compound over the borders of the tray and adapt this to fit the surrounding tissues by pulling the lips over the tray and massaging the cheeks. After the border-molding is completed, the wax shim is removed. The border-molded flanges and palatal seal area should maintain the thickness needed for the impression material. Impression will be taken with medium body. There is no perforations in the try so it has an effective seal. (2 layers anteriorly and 1 layer posteriorly)

- **Two Tray Method** (Best when doing the CID or when very loose teeth are present).

- Edentulous ridges (1st tray for the edentulous area (posterior))
- Remaining teeth are loose
- Trays are indexed to fit together precisely.
- First tray is border-molded in peripheral area and palatal seal area. Take impression with ZnOE-because it is not flexible to extent to the teeth/ remains in the tray area.

To make the second tray:

- Adjust the second tray 2mm short of the vestibule.
- Cut out the ends of the mounds of the second tray.
- Check the fit of the two trays on the cast.

2nd impression of the anterior area (teeth) taken by alginate, while the 1st tray w/impression material inside the mouth .the 2nd tray has surface that fits the elevated areas of the first.

The 1st tray is up to the depth of the sulcus (after border molding), the 2nd tray is 2mm shorter than the 1st, only anterior extended to the sulcus and take alginate impression.

Sometimes we can use stock tray for the ant.part with special tray for the posteriors, in such case there is no elevations/handle on the 1st tray .so once we are done impression has anterior alginate and posterior ZnOE.

-Avoid medium body for posterior cause it can extend as it has increases flexibility and if you try to cut it will tear

-If anterior teeth are very mobile use only alginate as a final impression material.

-If we don't have loose teeth medium body can be used.

Post Extraction Instructions

- Do not remove denture for the first day
- Keep head elevated
- Small amounts of blood in saliva is normal
- Diet: soft and warm, not hot
- Avoid: ° Strenuous activity ° Alcohol, smoking
- Recall next day
- Remove denture
- Apply topical anesthetic to traumatized mucosa, if necessary
- Locate over extensions and pressure
- areas and adjust
- Recall 1 week

-Healing, shrinkage, resorption

Post insertion management:

-Relines

°Interim – within first 12 months

°Definitive – 12 months +

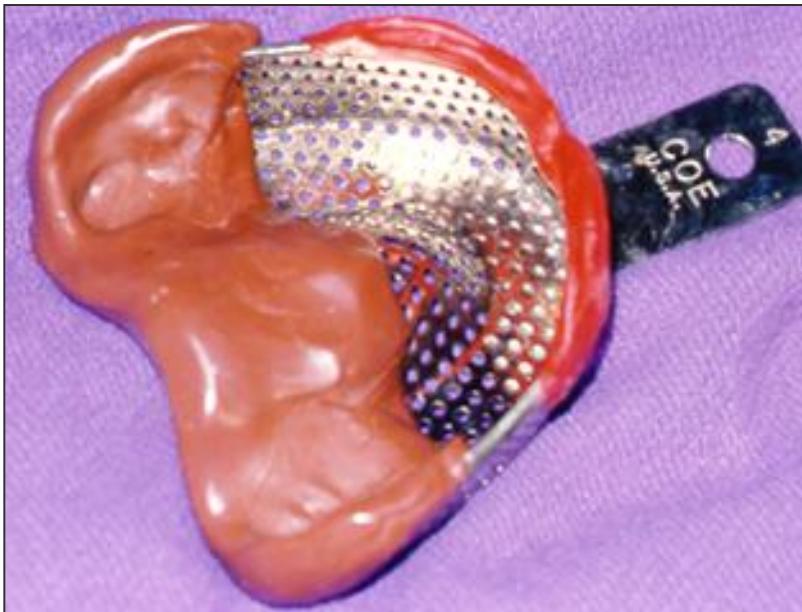
° Short term – tissue conditioners **lasts up to 2 weeks, after that loses its properties**

° Mid-term – intermediate direct liners **approximately month/month**

‡E.g. Koo liner™ (direct reline in the mouth)

° Long-term – standard reline protocol (lab) **when we want to reline and flanges aren't fitting well.**

Clinical Procedures: Impressions



A metal stock tray is modified to fit more accurately.

Clinical Procedures: Impressions



Alginate is used for this case. Adhesive is applied and allowed to dry.

Clinical Procedures: Impressions



The tray is inserted.



The final impression

Two Methods of making the Immediate CD impression

- Single Tray Method (For IID)
- Two Tray Method (Best when doing the CID or when very loose teeth are present).

Custom Impression Tray

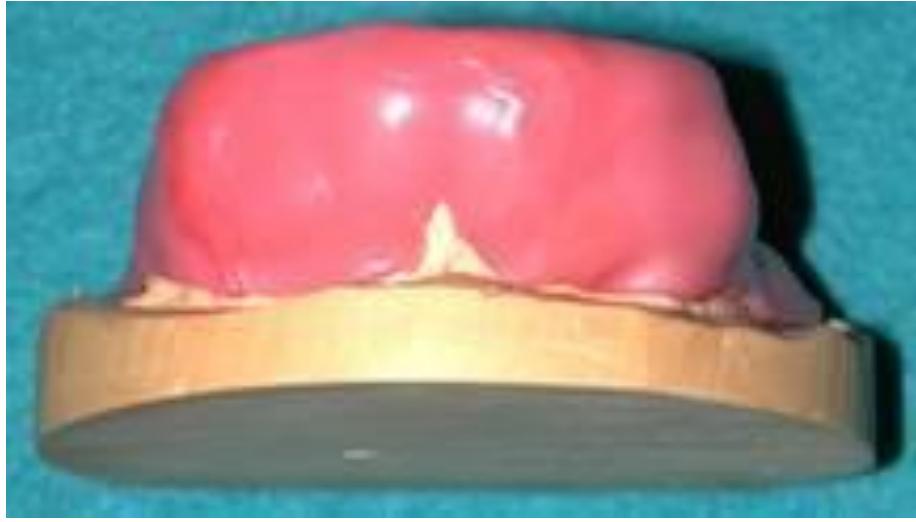
(*Single Tray*)



- ❖ Single custom tray
- ❖ Wax spacer
(One thickness of wax is placed over the teeth).

Custom Impression Tray

(Single Tray)



A second layer of wax is placed over both the teeth and the edentulous ridge. Cuts for tissue stops can be made over the teeth to provide an even thickness of the impression material.

Custom Impression Tray

(Single Tray)



Adapt a single piece of tray material over the wax shim. When anterior teeth remain, as in this example, a tray handle is usually unnecessary.

Custom Impression Tray

(Single Tray Technique)



Heat and place individual segments of compound over the borders of the tray and adapt this to fit the surrounding tissues by pulling the lips over the tray and massaging the cheeks.

Custom Impression Tray

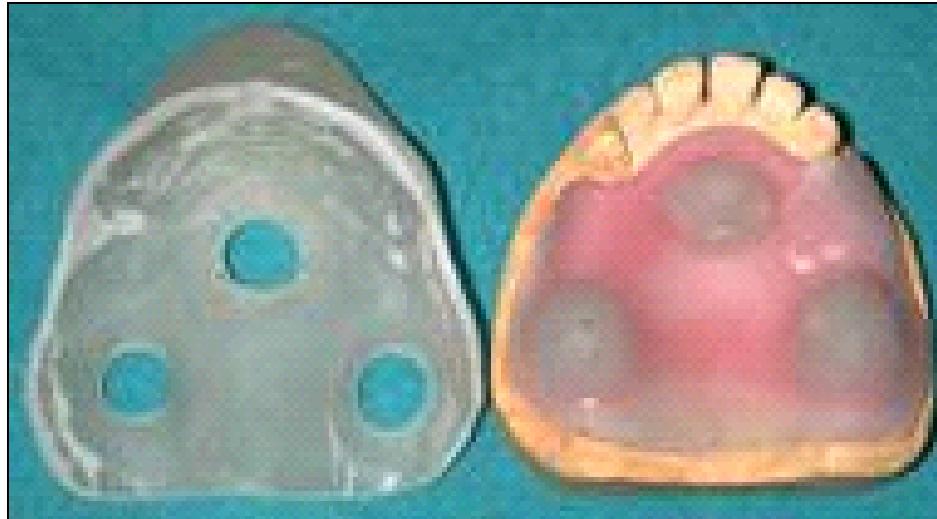
(Single Tray Technique)



After the border-molding is completed, the wax shim is removed. The border-molded flanges and palatal seal area should maintain the thickness needed for the impression material.

The Double-Impression Method

Combination Impression Tray



- ❖ Two impressions
 - Edentulous ridges
 - Remaining teeth are loose
 - Trays are indexed to fit together precisely.
 - First tray is border-molded in peripheral area and palatal seal area.

The Double-Impression Method

Combination Impression Tray

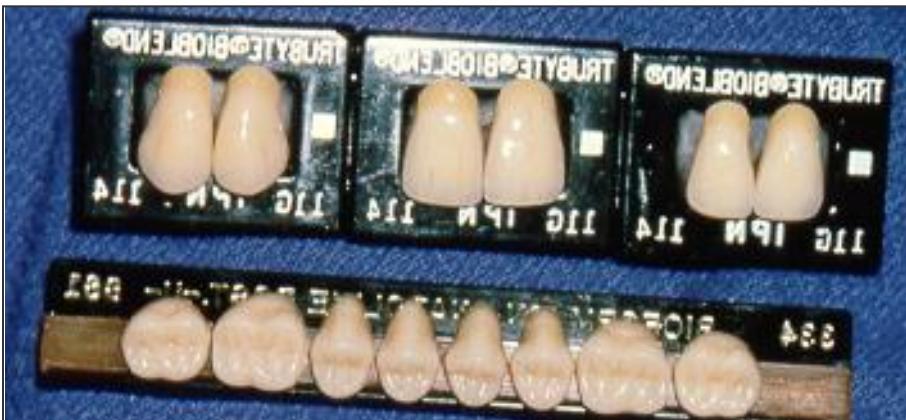


- ❖ To make the second tray:
 - Adjust the second tray 2mm short of the vestibule.
 - Cut out the ends of the mounds of the second tray.
 - Check the fit of the two trays on the cast.

Laboratory procedure: Pouring of master casts



Clinical Procedures: Tooth Selection



Shade selection for patient. It is important to pick a shade and mold that harmonizes with the patients existing dentition.

Next Clinical Procedure: Jaw Relations



Occlusion rims fabricated and jaw relationship recorded to mount master casts on the articulator.

Laboratory Procedure

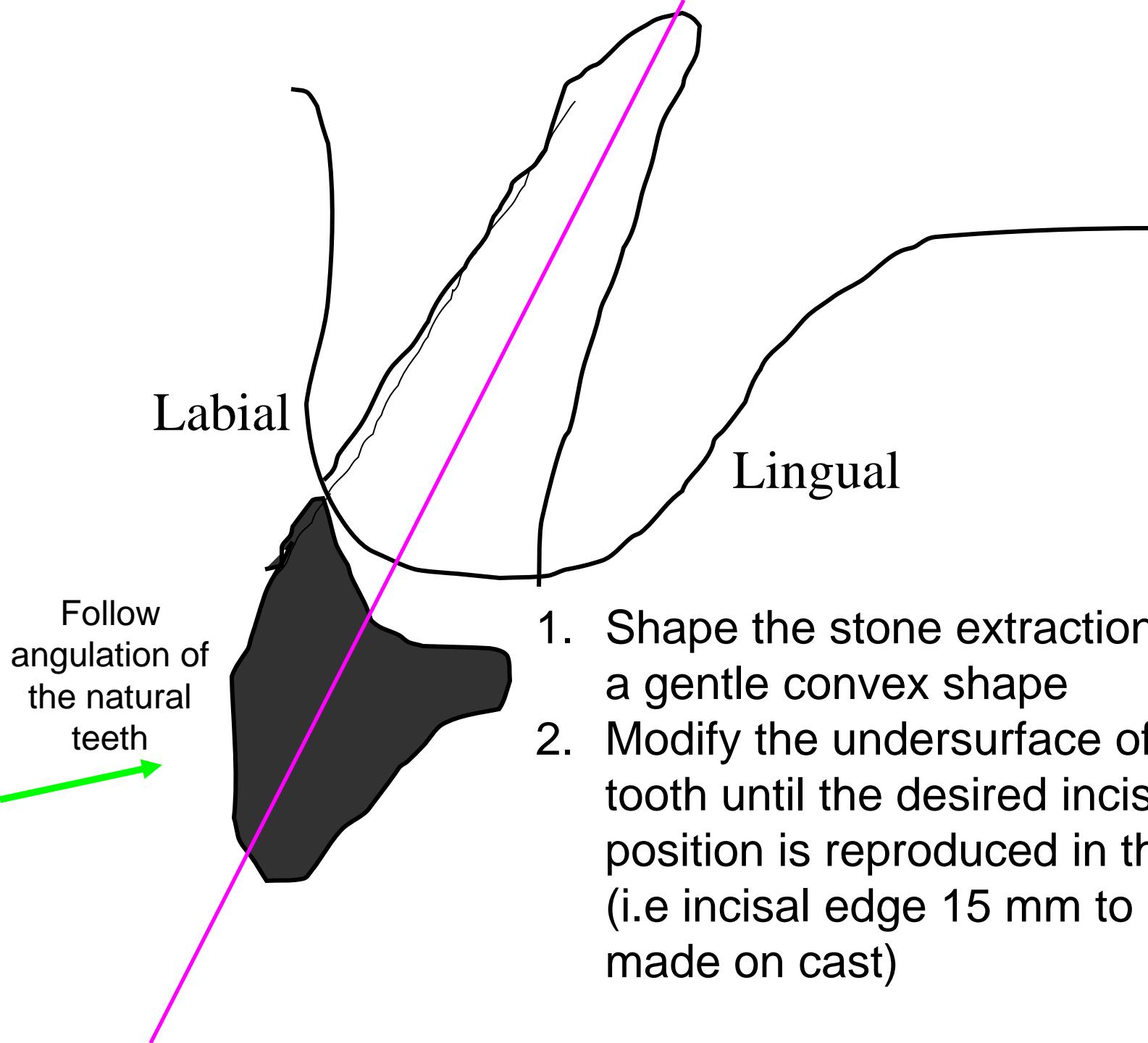


Remove teeth on cast individually
with a sharp knife.

Do alternate side for same teeth

Do not remove

all of them at once !



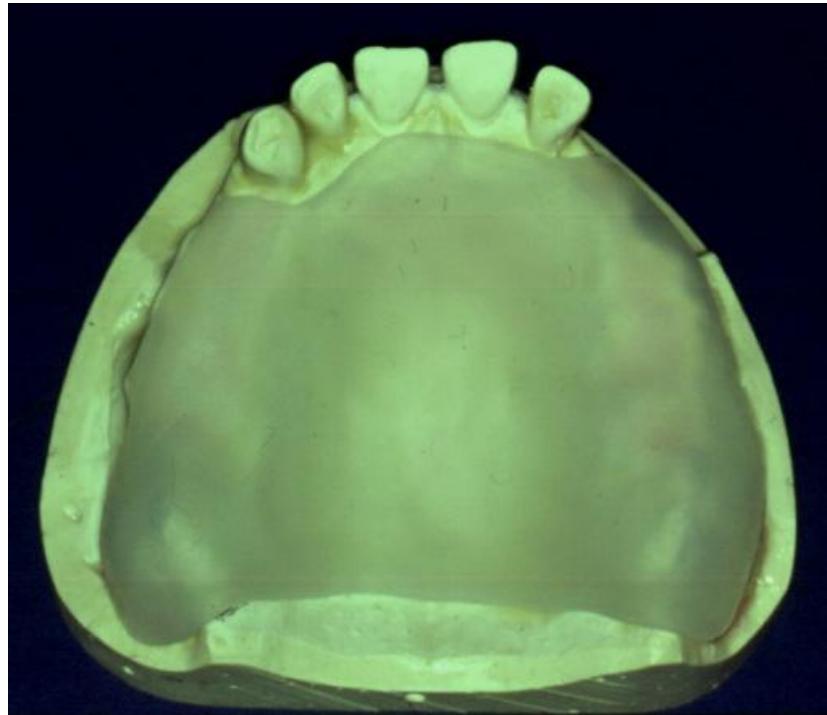
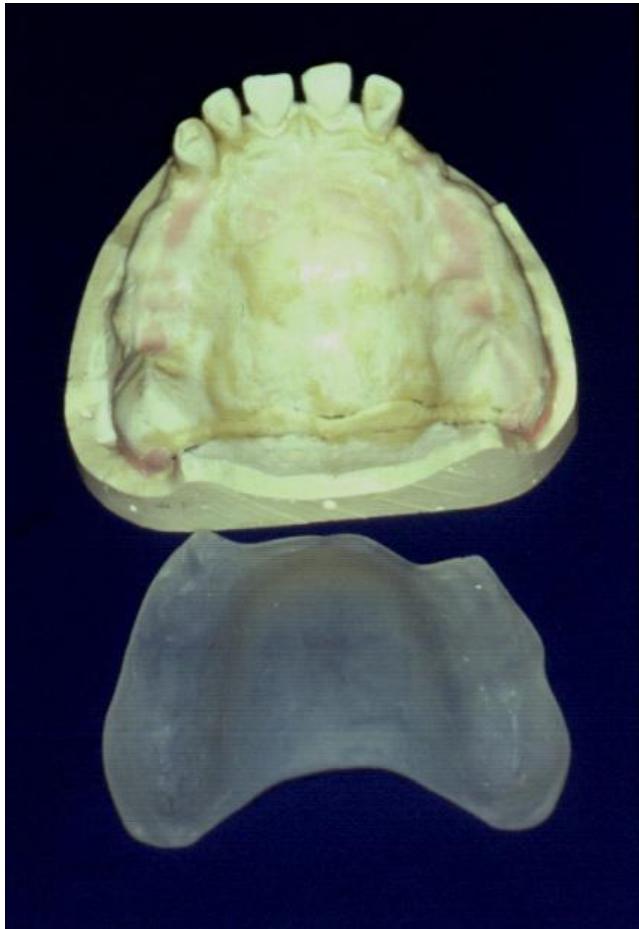
1. Shape the stone extraction site into a gentle convex shape
2. Modify the undersurface of denture tooth until the desired incisal edge position is reproduced in the setup (i.e incisal edge 15 mm to point made on cast)

Laboratory Procedures:

Tooth Set-up for complete immediate denture –
posterior edentulous area present and upper
anterior teeth to be removed and restored as
immediate complete denture

Normally:

1. Make impressions
2. Jaw relationships,
3. Set up posterior teeth
4. Try in posterior teeth and check centric relationship
5. Then trim anterior teeth on cast
6. No further try in – process dentures



Fabricate a record base on the master cast to secure jaw relationship records.



Leaving first or second bicuspid teeth may provide a reference for occlusal vertical dimension.

Try-In of posterior teeth



- Posterior tooth try in:
 - Confirmation of horizontal and vertical relationships
 - Tooth shade



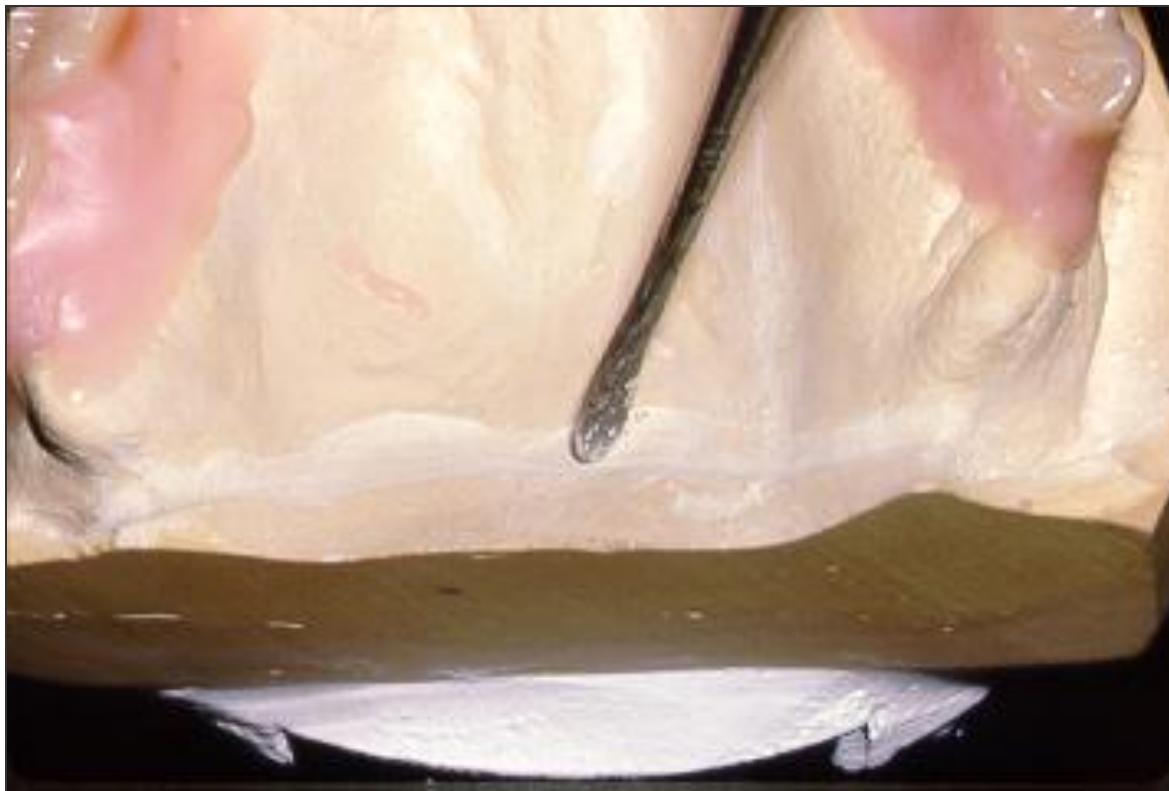
Place teeth directly on the cast with wax. Alternate placement to retain orientation. It is often necessary to grind the teeth substantially to get them to fit into the available space

Laboratory Procedures: Tooth Set-up



Anteriors set-up – as immediate dentures
To make a complete maxillary set up

Laboratory Procedures: Posterior Palatal Seal



Posterior palatal seal is scraped into the cast.

It will vary in depth according to the patient's anatomy.

Laboratory Procedures: Tooth Set-up

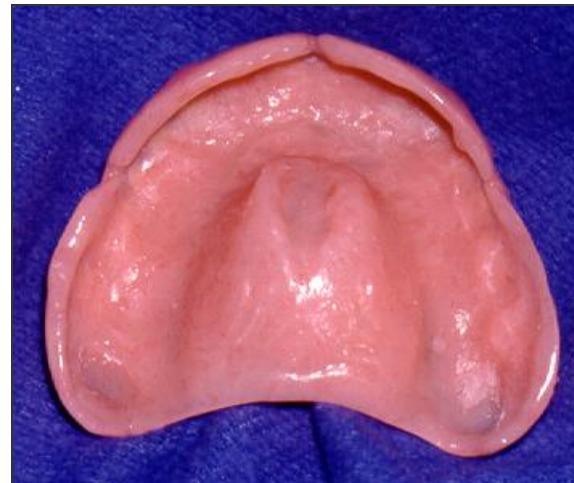


Wax-up complete.

The cast should be smoothed in the areas where the anterior teeth have been cut off.

9/13/2012

Laboratory Procedures: Processing



Completed Denture: Note that the flanges are very thin (due to very little resorption).

Clinical Procedures: Delivery Appointment



Atraumatic extraction
of remaining anteriors



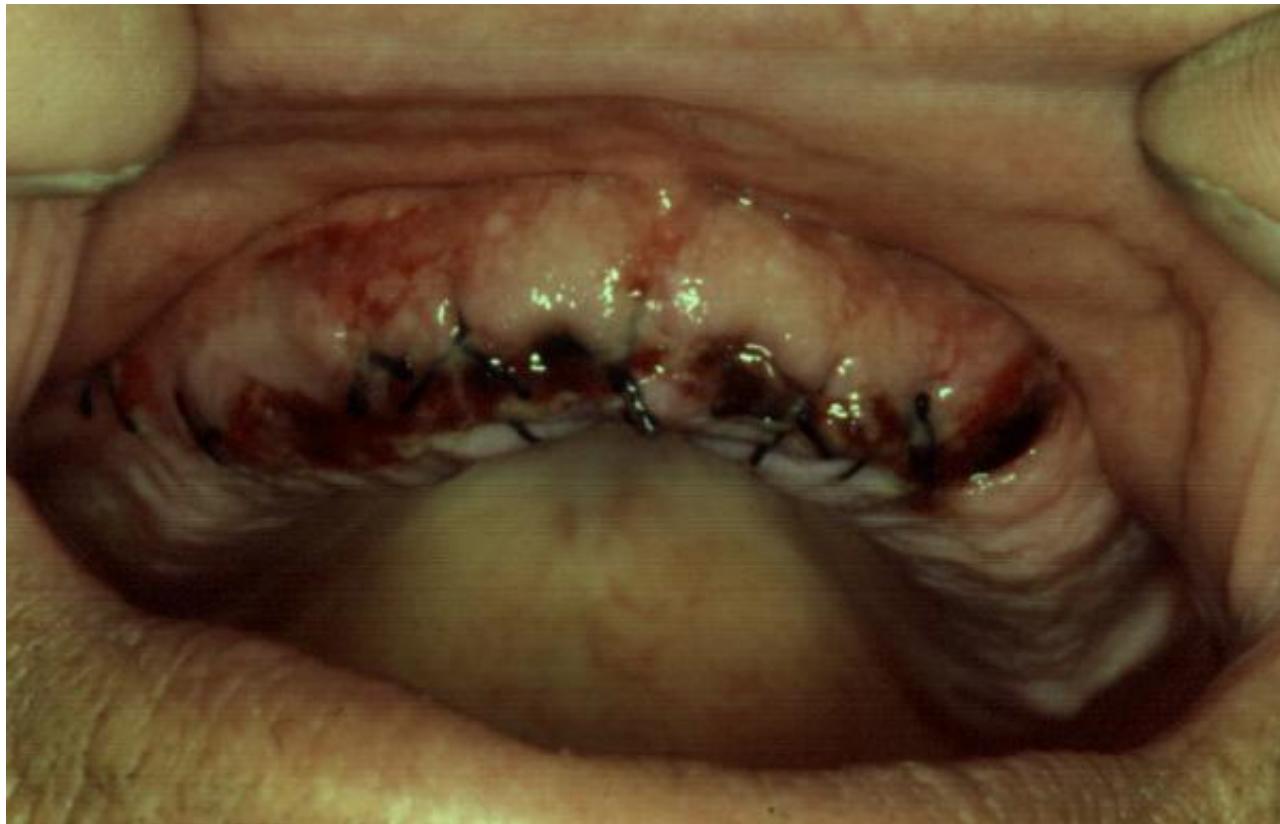
Insertion of denture.
Adjustments are minimal
at this time.

Clinical Procedures: Post-op



24 hours after extractions
More adjustments may be
made at this time.

Three months after extractions.
A reline will be necessary soon



After the teeth have been extracted, this is the appearance of the maxillary arch ready to receive the immediate denture.



At the 24 hour recall, you may see "pressure spots" such as these. The denture must be relieved internally in the areas causing the irritation or ulceration of the tissues.

Clinical Procedures: Recall

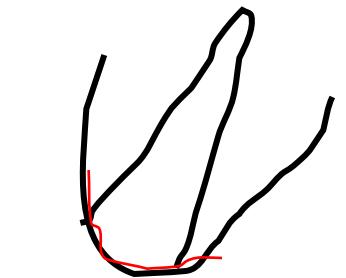
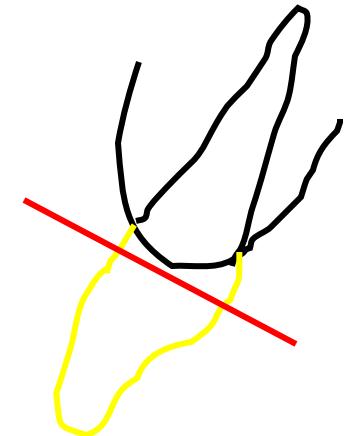


Occlusal adjustments will be necessary as the ridge heals and shrinks. Tissue conditioners can be used as temporary relines until a more permanent one is done.



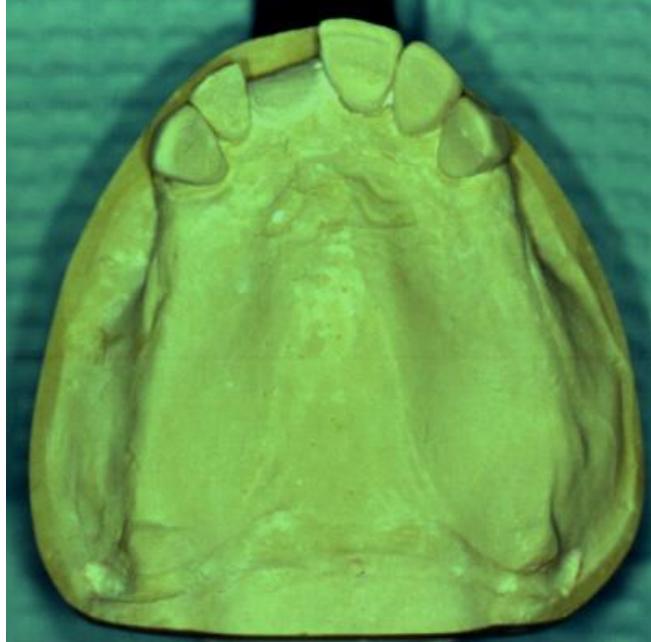
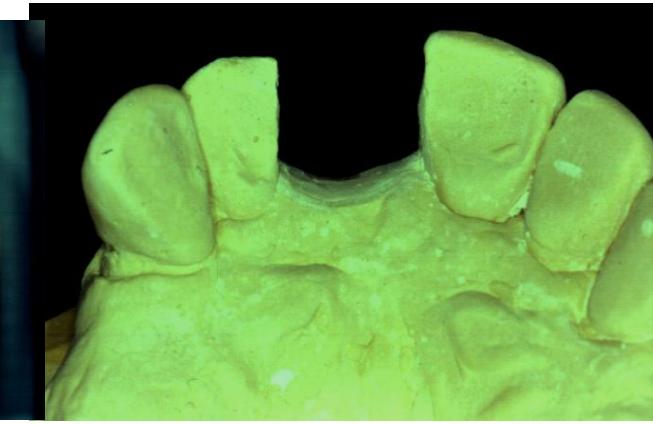
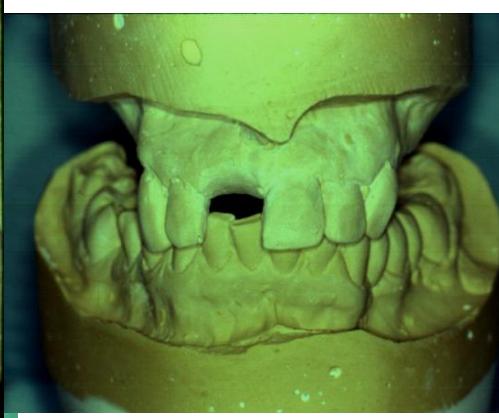
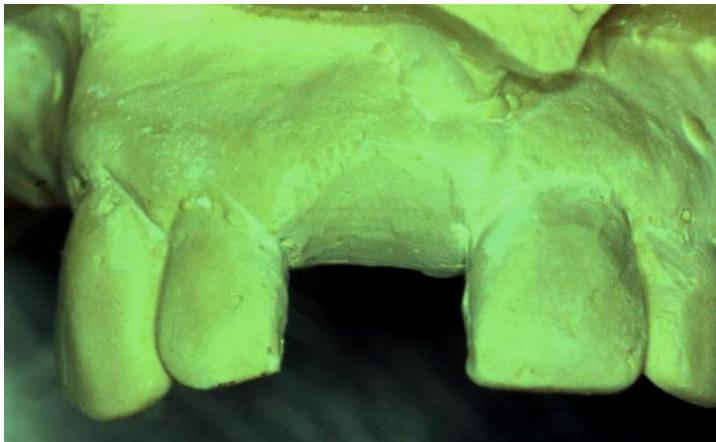
If to remove one tooth only

Remove
21

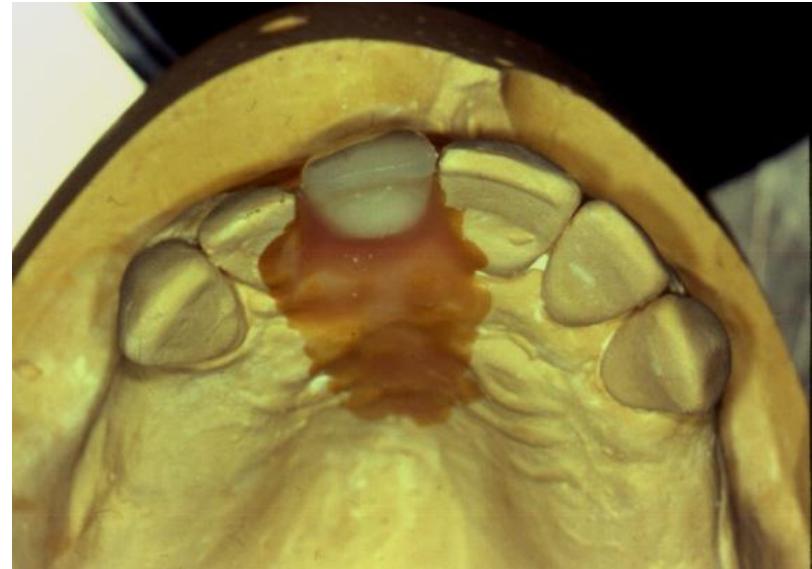
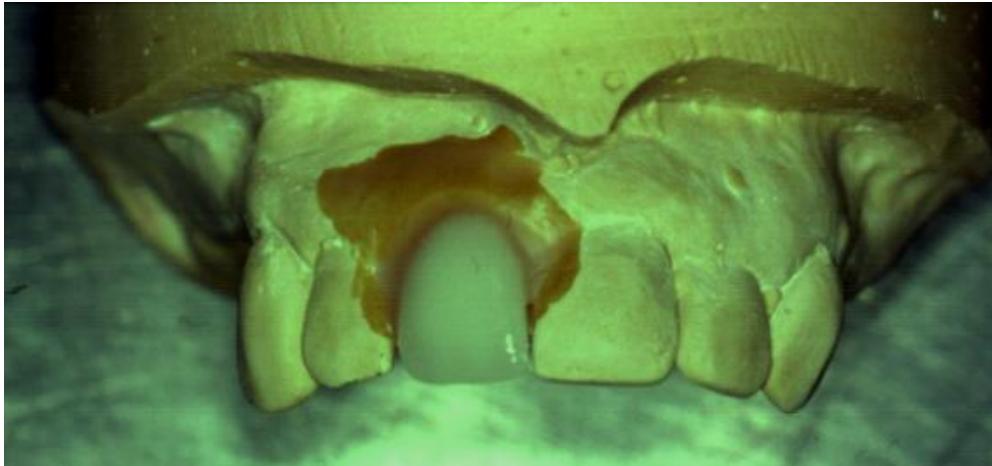


Shape into
gentle
convex
shape until
the second
line marked

Remove tooth 21 without obliterating the gingival outline mark and shape into a gentle convex shape. Then trim cast gently to the second line scribed on the cast)⁶⁹



For this patient an anterior tooth has been cut off to make space for the denture tooth in the same space maintaining a consistent orientation for the denture tooth. The recontouring of the cast has been minimal.



1. The replacement denture tooth is waxed in the space created by removal of the plaster tooth on the master cast. The adjacent teeth are used as guides for the orientation of the replacement tooth as seen in these images.
2. No need to make a baseplate - just set the teeth in wax, as there is no try in