Immediate denture

When many of teeth are loose or painful, they may be beyond saving. This condition is usually caused by advanced periodontal disease or by decay. Periodontal disease causes bone to be lost; if it's not caught in time, there's so little support for the teeth that they have to be removed. Removing teeth &replacing them with a denture may be the best way to eliminate the infection &restore the health of patient's mouth. When the entire procedure is completed in one day, it's called an immediate denture.

Immediate denture is "any removable dental prosthesis fabricated for placement immediately following the removal of natural tooth.

Immediate denture are more challenging to make than routine complete denture for both the dentist and the patient because the try –in is not possible beforehand ,the patient may not be completely comfortable with the resulting appearance and fit on the day of immediate denture is inserted . Immediate dentures may be either single immediate dentures or upper and lower immediate dentures in the same patient. The latter should be made together to ensure optimal esthetics and occlusal relationships.

PATIENT SELECTION:INDICATION

1. Hopeless remaining teeth(caries, periodontal disease or malocclusion).
2. Educated patient with daily social .
3. patient with stable health condition(the patient for immediate denture is the philosophical type, their motivation for denture is the maintenance of health &appearance).
4. patient don't mind some additional visits or cost.

CONTRAINDICATIONS

1. patients who are in poor general health or who are poor surgical risks (e.g., post irradiation of the head and neck regions & cardiac or endocrine gland disturbances).
2. patients who are identified as uncooperative because they cannot understand and appreciate the scope, demands, and limitations to the course of immediate denture treatment.
3. patients is not willing to accept the treatment mentally &psychologically.
4. patient at risk from bacteremia.
5. patient with recurrent history of post extraction hemorrhage.
6. the presence of oral sepsis, acute periapical or periodontal diseases, extensive bone loss.
7. patient don't mind being edentulous for a period of time till complete healing.

Types of immediate dentures: According to treatment plan:

1**. Conventional (or classic) immediate denture (CID):** After this ID is placed and after healing is completed, the denture is refitted or relined to serve as the long-term prosthesis.

2. Interim (or transitional or nontraditional) immediate denture (IID): After this ID is made and after healing is completed, a secondnew CD is fabricated as the long-term prosthesis. The interim prosthesis designed to enhance esthetics, stabilization and/or function for a limited period of time, after which it is replace.

Comparison between these types of ID:

Conventional Immediate Denture (CID)	**Interim Immediate Denture(IID**)

1. Intended as definitive or long-term prosthesis 2. After healing is complete, it is relined. 3. Esthetics of the CID cannot be changed. 4. At the end of the treatment, the patient has one denture. 5. If all posterior teeth are initially removed, the OVD is not preserved, opposing premolar can be maintained for this purpose. 6. Indicated when two extraction visits are feasible.	1. Transitional or short-term prosthes 2. After healing, a second denture is mad 3. The second denture procedure after t IID allows an alteration of esthetics a any other factors if indicated . 4. At the end of the treatment, the patie has a spare denture to use in case extenuating circumstances. 5. Because posterior teeth need not removed before fabrication of the IID, t vertical dimension of occlusion may preserved. 6. Indicated when only one surgical visit preferable to maximize insurance benefits

Advantages for all types of IDs :

A. Related to the patient:

1. The primary advantage of an immediate denture is the maintenance of a patient's appearance because there is no edentulous period.
2. Circumoral support, muscle tone, OVD, jaw relationship, and face height can be maintained. The tongue will not spread out as a result of tooth loss.
3. Less postoperative pain &bleeding is likely to be encountered because the extraction sites are protected.
4. The patient is likely to adapt more easily to dentures.
5. Speech and mastication are rarely compromised, and nutrition can be maintained.

6. Overall, the patient's psychological and social well-being is preserved.

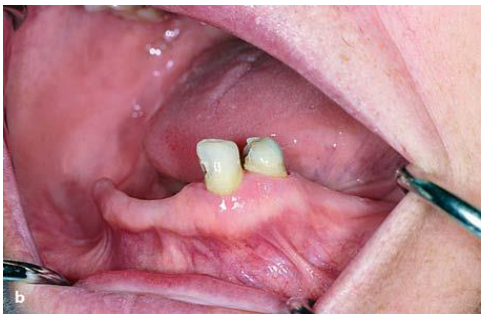
B. Related to the dentist:

1. It is easier to duplicate (if desired) the natural tooth shape and position, plus arch form and width. If desired, the horizontal and vertical positions of the anterior teeth can be more accurately replicated.
2. Achieving good appearance.
3. Hemostasis, when ID are inserted, they act as a bandage &help to reduce bleeding.

DISADVANTAGES FOR ALL TYPES OF IDs

It is important for the dentist to fully explain to the patient the limitation of ID :

1. The anterior ridge undercut (often severe) that is caused by the presence of the remaining teeth may interfere with the impression procedures and therefore preclude also accurately capturing a posteriorly located undercut, which is important for retention.
2. The presence of different numbers of remaining teeth in various locations (anteriorly, posteriorly, or both) frequently leads to recording incorrectly the centric relation position or planning improperly the appropriate vertical dimension of occlusion.
3. The inability to accomplish a denture tooth try-in in advance on extractions precludes knowing what the denture will actually look like on the day of insertion. Careful planning, operator experience, attention to details of the technique, and explanation to the patient best address this inherent problem.
4. Because this is a more difficult and demanding procedure, more chair time, additional appointments, and



therefore increased costs are unavoidable.

5. Increased maintenance &more clinical visits.
6. Functional activities as speech or mastication are likely to be impaired, however this a temporary convenience.

DIAGNOSTIC STEPS MUST INCLUDE:

- **Good oral hygiene**is essential before starting any prosthodontics treatment.
- **Patient's systemic condition** is very important to check the general health of the patient because multiple extraction may not be tolerated by all patients. Patient under medical control &do not interfere with the steps of denture construction including several teeth extraction can be included, medical consultation is advisable.
- **Full dental history** must be recorded in the case sheet.
- **Periodontal condition** of the remaining teeth must be assess, this must include teeth mobility, measurement of the pockets; because this might affect surgical step of treatment course. Severe cases of periodontal disease may suggest some surgical correction after extraction to have well contoured residual ridge covered with firmly attached mucosal tissue.
- **Radiographic examination** is essential for immediate denture patients. Periapical radiograph may be useful for localized area; OPG view give general view for both jaws in single image.
- **Teeth mold &shade** must be recorded, proper communication with the patient about his teeth shade &form is essential furthermore teeth alignment &any individual variations as diastema, spacing, rotation of the teeth if the patient like to preserve same appearance or improvement could be suggested by you for better appearance.
- **Occlusal plane adjustment** is necessary because the factors that necessitate tooth extraction are often associated with occlusal

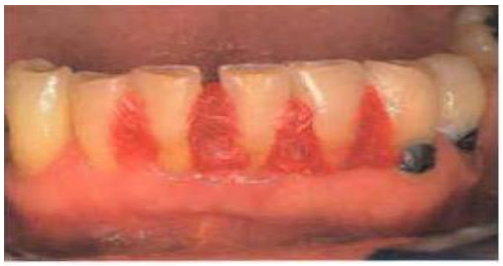
discrepancies. These also interfere with the centric relation record as well as with the proper determination of occlusal vertical relation. Proper location of the low &high lip lines must be determined to determine the required changes in teeth position or angulations.

- **Presence of any infection or inflammation** in the soft &hard tissues. Periapical abscess, granuloma &cysts may make the estimated tissue changes at the time of extraction &healing &remodeling process unpredictable, this may increase of the risk of unfitted.
- **Previous prosthesis:** if present must be checked as an additive reference for the jaw relations or teeth selection. It also may help the dentist to explain some of treatment or correct some errors.
- **Diagnostic cast**is essential, that could serve a lot in the treatment plan &communication with the patient, also can be used as pre-extraction record.
- All ID patients must have good oral prophylaxis, proper scaling &good oral hygiene, this will reduce post-operative edema &infection. Other treatment as restoration crown &bridges or even RPD all must be one coincidence with ID planning.
- In the diagnosis step; with all the collected information you have to decide type of surgical procedure, ID can be constructed with one of the surgical procedure:-

1. Extraction of teeth only.
2. Extraction of teeth with alveoloplasty. In some cases simple correction may be needed at the sight of extracted teeth to improve the shape of the alveolar process in order to facilitate &improve denture objectives, in this cases surgical splint construction important.

TOOTH MODIFICATION

Many immediate dentures will require modification of opposing teeth to correct the occlusal plane or to eliminate prematuritites in centric relation.



Occlusal plane adjustment is necessary because the factors that necessitate tooth extraction often are associated with occlusal discrepancies.

- ***In case of hyper mobile anterior teeth***impression materials can act as instrument of extraction ,so avoiding of the problem can done by:

1.applying a lubricant medium to the teeth .

2. in case of adjacent teeth to each other's applying molding soft wax into sub-contact point spaces and around the necks of teeth so that impression material is prevented from locking into the undercuts .

3.in case of solitary tooth placing a loose fitting cupper band over the tooth before taking impression .

4.placing holes in the tray and using an amalgam condenser to release the tray over the loose tooth .

Impression:

Primary impressions:

- Use dentate or partially edentulous stock trays
- *Ideal impression material* is accurate, minimal tissue displacement, not complicated, not requiring many equipment, and not time consuming.

-Select perforated stock tray, contour the tray by using wax or compound, mix alginate and load in the tray, pour an impression and construct diagnostic cast.

- There are many types of special trays and impression techniques .

- There are two basic ways to fabricate the final impression tray ,depending on the location of the remaining teeth and operator preference ,both are successful:

Type one: single full arch custom tray

Type two: two trays or sectional impression tray.

Type one: single full arch custom tray

This technique can be used for conventional ID &the only tray used for interim ID, also:it is the used when the patient have anterior teeth only or ant.&post. remaining teeth.

- The 1ry cast outline the tray extension to be shorter than the vestibular depth by 2mm.

- The remaining teeth must be covered with single layer of sheet wax; then second layer is used to cover all the area needed to be recorded by the impression &covered with the denture; this technique usually used in conventional ID while in interim ID all teeth &denture foundation area are blocked using 2layers of wax.

- A stops effect is provided by making 4-5 regular holes through the wax, symmetrically distributed anteriorly &posteriorly.

- Special tray is fabricated and covering the denture bearing area and remaining teeth, by using the cold cure acrylic resin, &the handle is attached in the anterior region.
- Make three tissue stoppers one in the incisal edge and two in posterior.
- Check special tray in the patient mouth.
- Border molding of the edentulous area.
- Take impression by alginate for the edentulous area and remaining teeth.
- Pour impression and construct the master cast.

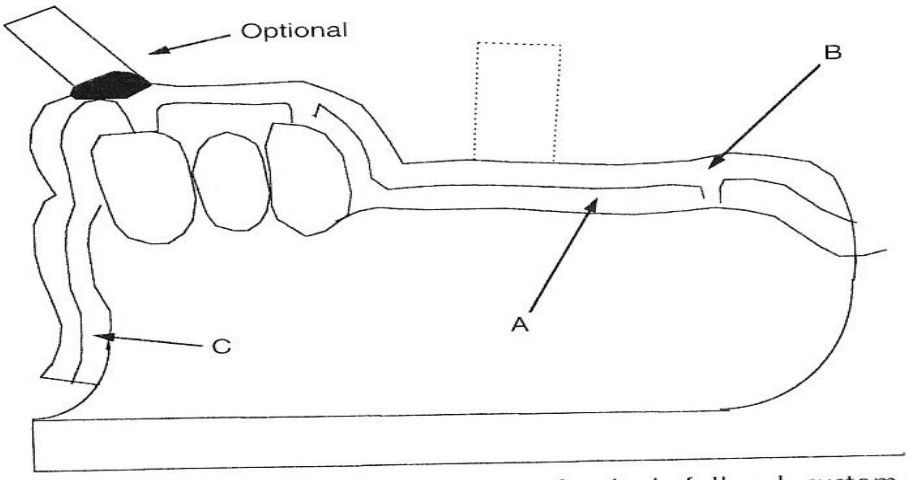
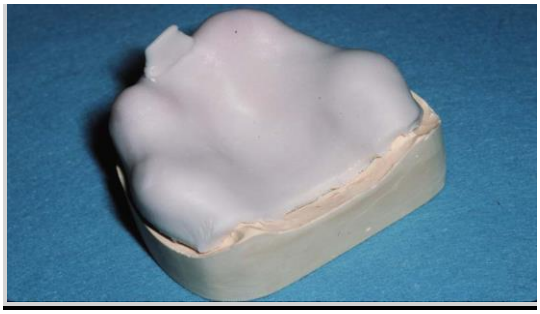


Figure 9-8 Sketch of outline and wax block-out of a single full arch custom impression tray for a conventional immediate denture (CID). **A,** Wax for spacer. **B,** Stop. **C,** Wax block-out.

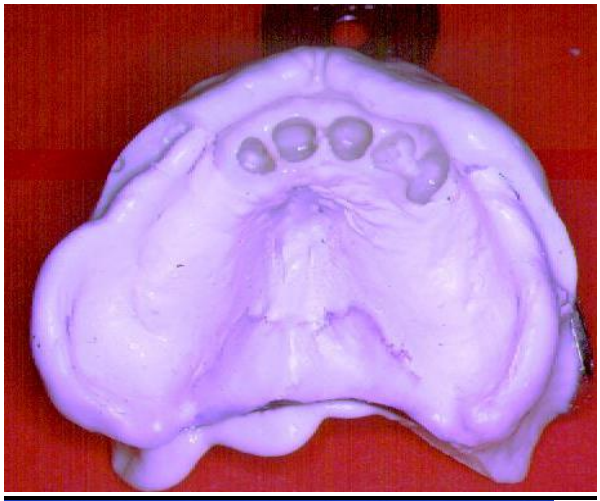


Two trays or sectional impression tray (Split impression technique

This method used only when the posterior teeth are not present .It involve fabricating two trays on the same cast ,one in the posterior which is made like in complete denture (close fitted).Fabricate special tray for edentulous area only, &the handle can be placed on the palatal surface. Border molding, make impression for edentulous area by ZOE, silicon or rubber base, remove impression after setting and remove excess material, replace the impression in the patient mouth, select proper stock tray and

make an overall impression. Remove the impression as one unit& pour the impression and fabricate master cast. The most important thing in sectional tray technique is the accuracy &proper seating of the trays &reassembling both, care must be taken not to be distorted this assembly during tray removal from the mouth or during pouring therefore it's advisable to beed&box the impression before pouring.

Impression of the edentulous area with zinc oxide eugenol



Second impression with alginate (double tray)

Beeding&boxing:

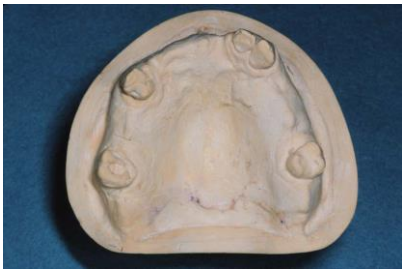
All the impression must be beeded before pouring. Wax may not stick to the alginate impression materials, therefore care must be taken to insure proper beeding. Once you fix beeding wax, boxing wax sheets can be easily stick to the impression. In the sectional impression, be careful to seat the sections properly on the indices. Pour the impression &remove the tray as in the conventional manner.

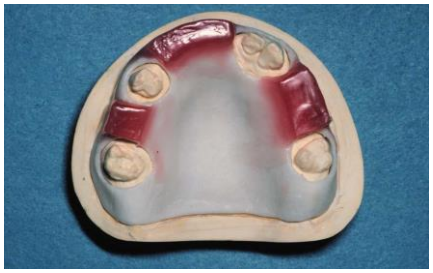
Record base and occlusion rim:

If the patient have enough number of remaining ant. &post. teeth no need for record base or bite rim as in most of interim ID while if there isn't

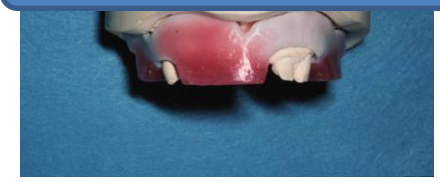
enough number of remaining teeth as in all of conventional ID &some of the interim ID cases; bite rim must be constructed.

After record base &occlusal rim are constructed, leveling of the wax must depend on some anatomical landmarks as the retromolar area &you may use the remaining teeth but not always. Record base extension &occlusal rim height must be evaluated clinically. Lip lines: high &low must be determined &marked on the cast, in this way any correction or modifications can be done or marked on the cast to be considered in the teeth setting.





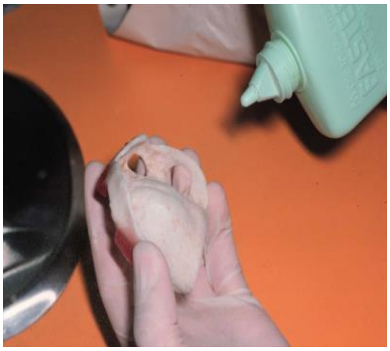
Jaw relation

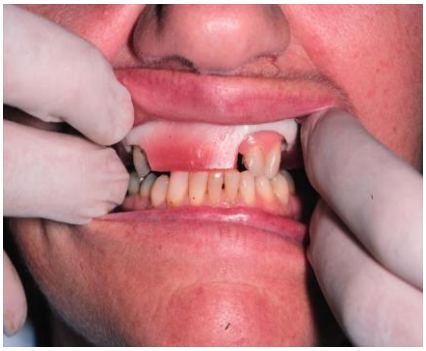


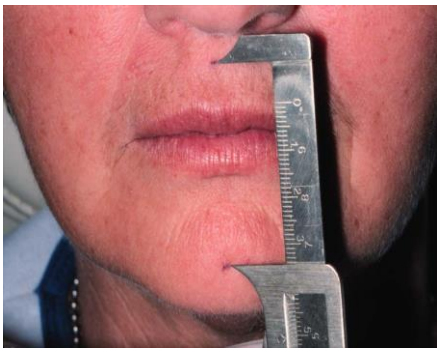
- If we have vertical stops between two opposing posterior teeth, these relation are maintained unless further corrections are needed to improve esthetic or function. Evaluation of the existed OVD must be accomplished &dentist must decide if this going to be restored or modified.

- If the ID complete; leave first premolars bilaterally to maintain vertical &horizontal relations &facilitate recording of the jaw relations.

- Doing that by using record bases and occlusion bite rims , and the vertical dimension recorded , centric relation is recoded also and transferring to articulator in the normal procedure used with complete or partial denture. Setting the posterior teeth, verifying jaw relation ,and try-in of posterior teeth appointment.







Try-in stage

- A try-in procedure is not always possible (when all teeth or number of posterior teeth are present). But the mounting casts should still be confirmed at patient visit.

1.Set the posterior teeth .

2.the denture base and posterior teeth are try-in the mouth :

-verifying vertical dimension of occlusion

-centric relation as with complete denture

3.record land marks on the cast to confirm the patient's esthetic

A : midline or newly selected midline is recorded on the base area of the master cast.

B :the anterior plane of occlusion

C :ala-tragus plane should be located and noted .

D :high lip line should be determined on the cast.

4.anterior teeth selection is confirmed with pati