

Repair of complete denture

Complete dentures are fabricated from acrylic resin, which has low impact strength.

Causes of fracture:

1. Dropping the denture either onto the floor or into a sink while cleaning the prosthesis.
2. Excessive thinning of the palate of the upper denture during fabrication.
3. Excessively accentuated frenum notches resulting in crack initiation and subsequent propagation.
4. Excessive loads typically arise when a complete denture is opposed by natural teeth.

Types of repair:

- 1-maxillary denture base fracture without missing any part.
- 2-mandibular denture base fracture without missing ant part.
- 3-Denture fracture with missing part (labial or lingual border).
- 4-Broken or missing tooth or teeth.

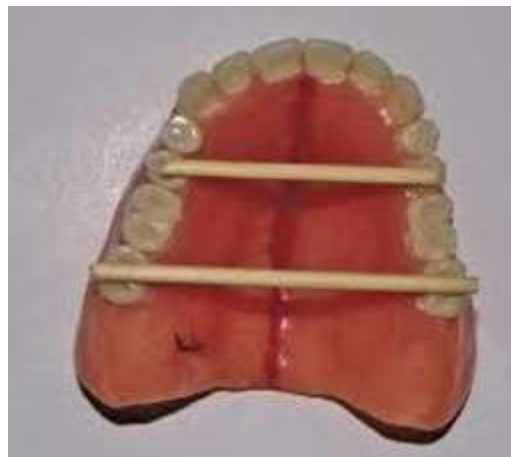


Procedure of axillary denture base fracture with all of the parts are available:

- Assemble the broken pieces of denture carefully.



- It may be necessary to strengthen the joint by using a bar across the teeth and fix it with sticky wax.



- On the fitting tissue surface, block out with wax any large undercuts that do not involve the fracture site to enable easy removal of the model later.



- Placing separating medium on the tissue side of the denture.
- Plaster mixed and covered the fitting surface of the denture to produce cast or model.
- When set, remove the denture from the new model, and then remove the wax from the denture.



- Reduce the broken ends of the fracture line slightly to expose clean acrylic resin (create a definite gap between the two parts of the denture).



- Paint the model with separating medium, put the denture on the model and secure with sticky wax.

- Mix the acrylic and fill the gap, leaving a slight excess.



- Place in a water bath to complete set the heat cure acrylic resin



- After curing, removal of the denture from the model perfecting the surface of denture by finishing and polishing procedure

Procedure of missing labial or lingual border:

- An impression is made with the denture placed in patient mouth.



- Pouring the impression to produce the cast

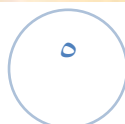


- Either self cure is applied to replace the missing part, or wax is added and carved to replace the broken denture part followed by flasking, packing, curing, finishing and polishing.



Procedure of Replacement missing tooth:

- Using a carbide or stone bur to remove the remaining part of the tooth from the denture(if present).



- Enlarge the tooth socket to allow enough room for new acrylic.
- Position the new tooth in place using wax.



- Mix a small amount of plaster and placed around the tooth and allowed to set in order to fabricate a plaster key (guide or index). Alternatively, can use silicone putty instead of plaster.



- Boil off (remove) the wax from the denture and plaster key.



Assemble the parts and secure with sticky wax.

- Mix a small amount of self-curing acrylic and fill the position of the tooth. Place in a water pressure bath and cure for 15 minutes.



- Remove the plaster key and trim the denture to its original contour then polish the repaired tooth.



Notes 1:

- ✚ On repair a denture base we need a gypsum cast, if there is no missing part of the denture we produce the cast by pouring a gypsum on the denture tissue surface, if there is a missing piece we have to take an impression after placement the denture inside the oral cavity then remove the impression and the denture together from the oral cavity, then poured this impression by gypsum.

Notes 2:

- ✚ If the entire tooth separated from the denture, this is usually due to poor bonding with the acrylic resin (usually caused by separating medium left on the tooth during flasking).

Notes 3:

- ✚ If the tooth partially fractured and a part of the tooth left bonded to the denture base, there may be a problem with the occlusion and this should be checked and corrected after placing the new tooth.

