

Curing, Finishing, and Polishing Procedure

Packing

It is a process of filling the mold with a denture base material within the flask.

Procedure: -

1-Make sure that the hand and all mixing equipment are clean, acrylic resin can become contaminated easily by foreign bodies that may change the color of the material and its physical properties.

2-Mixing the acrylic resin: -

- A. Measure and mix the polymer and monomer according to the manufacturer's direction usually 3:1 (powder: Liquid by volume).
- B. First pour the monomer into a clean porcelain jar then add the polymer.



- C. Stir with a clean spatula till the monomer and polymer are thoroughly combined.
- D. Place the lid on the jar and allow the mixture to stand till it reaches the dough stage indicated by which the mix can cleanly be separated from the side of the jar.

3-Pack the material in the upper half of the flask being sure to press it well around the teeth.

4-Use enough material to ensure overpacking on the first closure.

5-Put the lower half of the flask in position and press the flask together using hand pressure.

6-Place the flask in a bench press and close it very slowly to give the acrylic resin time to flow.

7-Remove the flask from the press and trim off the excess acrylic with a sharp knife.

8-Place the flask in the clamp assembly.



Curing

It is the processing or polymerization of acrylic resin when the mixture is subjected to heat.

**Procedure: -*

1-The device used for curing is a water bath.

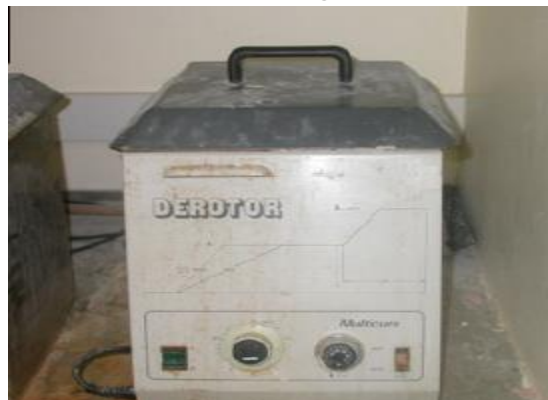
2-There are two methods of processing in a water bath: -

a-Slow processing (long cycle): - placing the flask in a water bath at room temperature 50-73 c for 7-9 hours then temperature raised to 100°c for 1-1.5 hours.

b-Fast processing (short cycle): - by placing the flask in a water bath at 73°c for one hour then temperature raised to 100°c for 1.5 hour. This processing may induce dimensional changes in the denture base than the slow processing.

**After processing the flask should be allowed to cool to room temperature.*

**Rapid cooling may induce dimensional change in the denture base.*



****Deflasking procedure: -***

- 1-The flask is removed using a plaster knife.
- 2-The flask is opened from the two parts of the flask by a plaster knife.
- 3-The gypsum mold removed from the cured denture and their casts.
- 4-The cured denture and their casts will be remounted on the articulator to remove the occlusal errors caused by the dimensional change of material during flasking and curing.



Finishing and polishing

Finishing: -It is a process of removing the excess restoration material from the margins and contour of restoration.



Finishing of the denture: -It consists of perfecting the final form of the denture by removing any excess acrylic resin at the denture border any excess resin and stone remaining around the teeth and any nodule of resin on the surface of the denture.



***Instrument used in finishing :-**

- 1-Acrylic bur.
- 2-Stone bur.
- 3-Fissure bur.
- 4-Round bur.
- 5-Manderal bur.



***Factors affecting finishing:-**

The finishing process is affected by the physical and mechanical properties of the material being abraded. It is affected also by:-

- 1-The size and hardness of the abrasive particles.
- 2-The pressure applied by the abrasive during the procedure.
- 3-The speed within the application of abrasive.
- 4-The time of abrasive application.
- 5-The direction should be in one direction.

***Procedure for finishing:-**

- 1-After taking the partial denture from the cast remove any stone that adheres to the denture.
- 2-Finish the frenum notches by using the fissure bur but do not make the frenum notch too deep for proper retention of denture.
- 3-With a chisel (instrument with a sharp triangular edge), carefully remove the stone adhering to the gingival margin.
- 4-Remove gross excess resin on the border using large acrylic burs not changing the form of the denture.
- 5-Remove the acrylic resin nodules between teeth by using the fissure bur
- 6-Finger is used to check for nodules or sharp edges on the tissue surface, nodules are removed by using the small round acrylic bur.

****Polishing:***-It is the process of making the denture smooth and glossy usually by friction to give luster.



****Material used in polishing:-***

Pumice with a large bristle brush then use a proper wet paste or soap with clothe to give the shiny surface of the denture.

***Lathe polishing device:** This device is used to polish the prosthesis to achieve a shiny surface of the polishing acrylic denture base.

****Factors affecting on polishing:-***

- 1-The speed of brush.
- 2-The direction of polishing should be multi-direction.
- 3-The pressure applied by the brush should be intermittent.
- 4-Cooling system.

THANK YOU