

Reinforcement of facial prosthetic dental stone molds

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The most commonly used molds in the subspecialty of facial prosthetics are made of dental plaster and stone. The molds' material advantages are that they are economical, time efficient, and easy to fabricate. The disadvantages are wear with repeated use for prosthesis fabrication, they must be thoroughly dry before processing with moisture sensitive facial materials (polyurethane), and they fracture during processing. To help prevent fracture during processing, use ADA Class V Stone, ensure the mold section(s) are 25 to 30 mm thick, hydrate molds before the wax elimination process, and fabricate the geometry of the mold sides to have equal height to help distribute even compressive forces in the hydraulic press. Even with the above precautions, molds still fracture. Once the circumferential integrity of the mold is fractured, the choice is usually

to discard the mold. Some authors advocate buying a commercially available hose clamp to provide circumferential binding to maintain the integrity of the mold after fracture.¹ An alternative technique is to wrap an autopolymerizing acrylic resin around the fractured mold (Fig. 1).

If the potential for mold fracture is great, the following technique is recommended. Thoroughly dry the mold, which will enable the resin to intimately and cohesively adapt to the mold without the water, potentially acting as a separating medium. Mix the autopolymerizing acrylic resin in accordance with the manufacturers' directions (exclude soaking the cast in water). Wrap the resin around the mold. Press the resin onto the mold's sides to attain intimate fit. Let the material polymerize for 24 hours then continue processing the facial prosthesis (Fig. 2).

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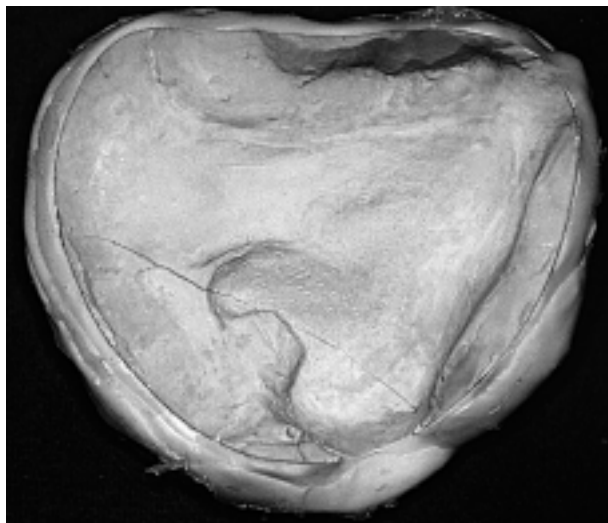


Fig. 1. Acrylic resin material wrapped around fractured mold.

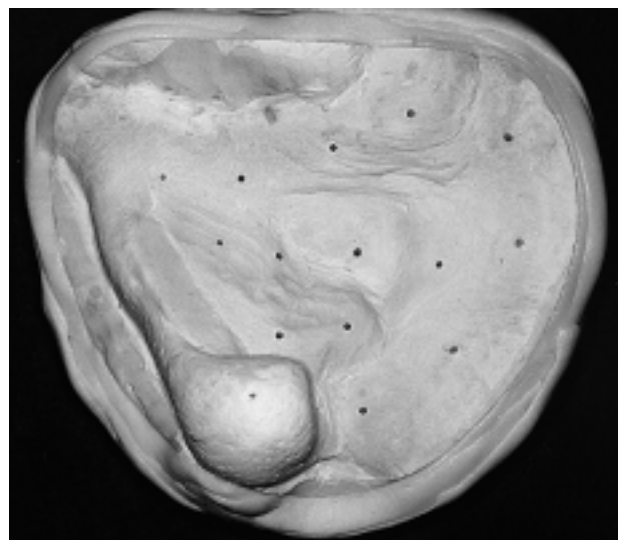


Fig. 2. Acrylic resin material wrapped around fractured mold.