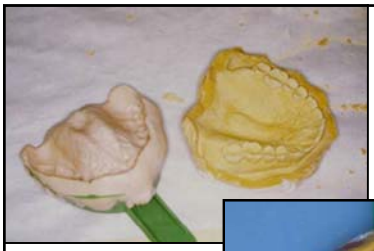
Bleaching Tray Fabrication: Traditional

Van Haywood 2009

Tray fabrication begins with a good alginate impression;

Wipe alginate on the occlusal surfaces and facial of the central incisors to avoid bubbles.



Wrap the alginate in a wet paper towel, the pour the alginate impression soon without bubbles to generate an undistorted cast.

PVS putty-wash as a one step technique makes a good impression that does not have to poured as quickly. Minimally wait one hour to pour.

To avoid damage to the teeth, trim the cast from the bottom rather than the side.

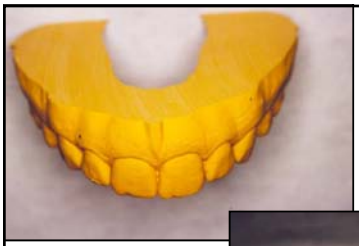
For adequate vacuum, there should be a hole in the center or horseshoe shape to the cast.

Align the cast in the model trimmer, and trim with a firm grasp but light pressure

The cast should be rinsed periodically to avoid slurry build-up on the stone.

The cast is ideally in a horseshoe shape. Care must be taken not to break it.

The vestibule is removed to insure good adaptation and avoid bridging of the material during formation.



An ideal cast with a flat base, horse-shoe shaped, and central incisors perpendicular to the base.

The angle of the central incisors avoids folds in the vacuum formed material later.

A soft, thin tray material is needed, along with a vacuum former.

Place the material in the machine in the sandwich holder.

Close the sandwich holder tightly, and raise the material to the top of the bar where the heater is located.

The cast is best adapted when dry and in the center.

Initially, the heater will take about 10 minutes to heat.

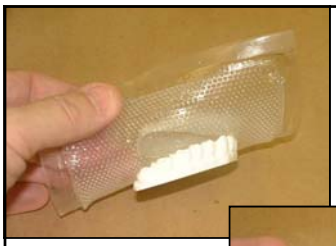
The material should sag 1 inch, and be smooth and clear.

Slowly close the material to the vacuum deck. Turn on machine if not automatic.

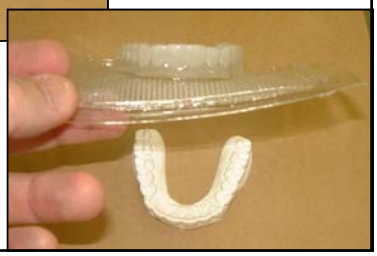
Remove by grasping a corner and peeling the material from the machine.

After about a minute of vacuum suction, the machine is turned off. Wait for the sheet to cool somewhat before removal

A well-adapted tray should be evident. Let bench cool completely prior to removal. If removal is needed immediately, cool under running water to avoid distortion of the cast.

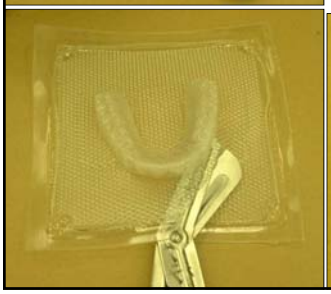


When cooled, invert the material to remove the cast.



Removing the cast intact allows the cast to be available for subsequent bleaching trays should the first one be lost.

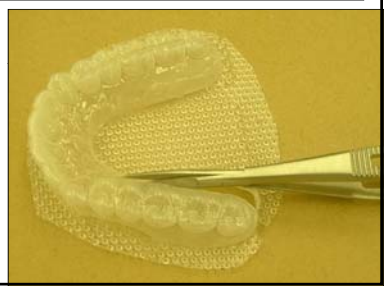
Bulk removal of the tray material may be accomplished with larger scissors.

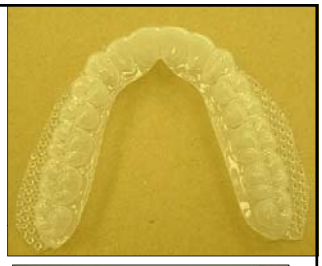


Sharp scissors with a "spring back" feature make trimming the tray easy.

Move in a smooth manner to avoid jagged edges.

No further adjustment is generally needed for the tray when trimmed smoothly.



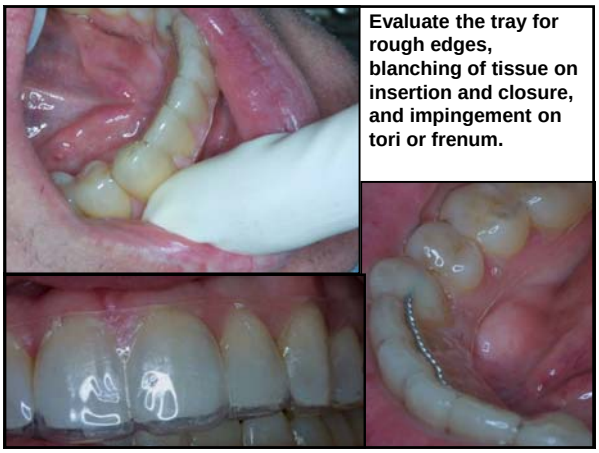


Trim around the incisive papillae in a v-shape, and about 1 mm beyond the neck of the tooth in a smooth continuous line.

With proper scissors and a smooth motion, the final tray has smooth edges not requiring any further treatment.

It is helpful to have a cast and tray available to use as a patient demonstration on a dentiform cast.

Avoid contacting the frenum or incisive papilla, or extending beyond 1-2 mm, especially over the canine eminences

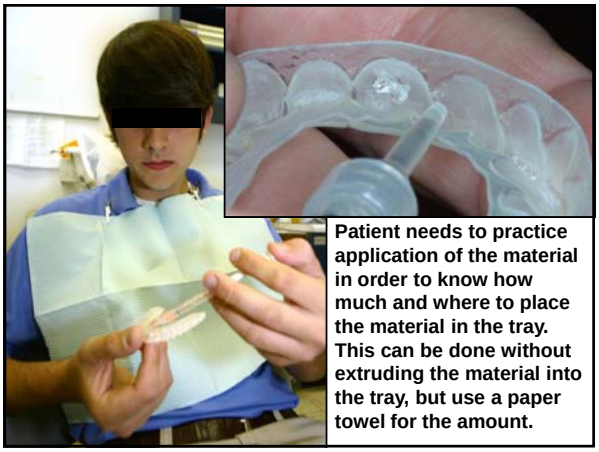


Evaluate the tray for rough edges, blanching of tissue on insertion and closure, and impingement on tori or frenum.

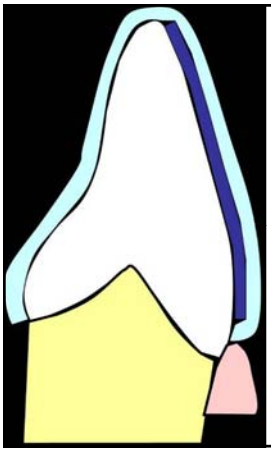
The carrying cast should fit the tray.

Removal from the mouth is accomplished by grabbing the tray on one side and "peeling" it out of the mouth.

The tray should be rinsed under cool water, and stored dry in a cool area, away from pets.



Patient needs to practice application of the material in order to know how much and where to place the material in the tray. This can be done without extruding the material into the tray, but use a paper towel for the amount.



Reservoir

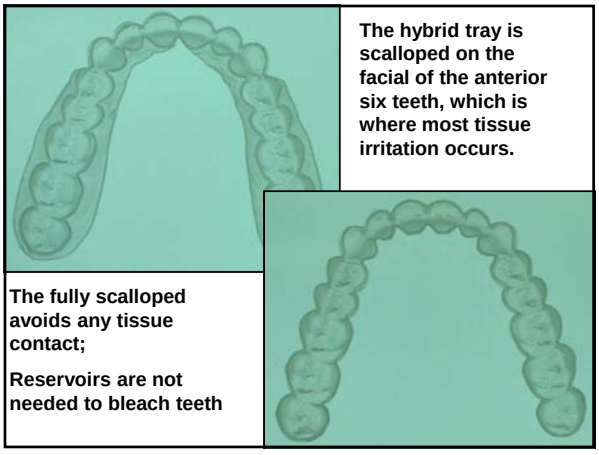
A spacer on the facial of the tooth over which the tray is fabricated

Extends from incisal edge to 1 mm away from the gingiva

Tray still touches the tooth at the gingival margin to allow for a seal

Scalloped

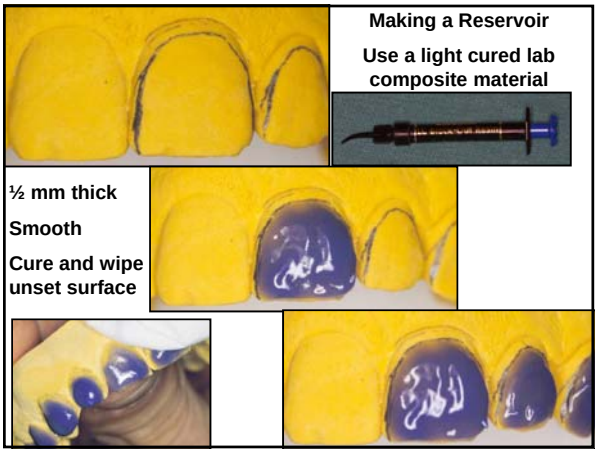
The tray is trimmed to follow the gingival line.



The hybrid tray is scalloped on the facial of the anterior six teeth, which is where most tissue irritation occurs.

The fully scalloped avoids any tissue contact;

Reservoirs are not needed to bleach teeth



Making a Reservoir

Use a light cured lab composite material

½ mm thick

Smooth

Cure and wipe unset surface

Block out material is useful for areas in the mouth that are not captured in the impression.

Also, bubbles and voids in the cast can be filled in with block out material.

Undercuts do not allow tray seating, and should be blocked out prior to tray fabrication.

Conventional tray design for a single dark tooth. Use a permanent marker to identify to the patient in which tooth mold to place the material. All teeth are bleached with this tray.

If only a single dark tooth is to be bleached, and the other teeth remain the same, remove the tooth mold from each side of the dark tooth. It is preferrable to determine how well this tooth will bleach prior to bleaching the others.

Single tooth bleaching tray

Now the patient places the material in the single tooth alone.

END

VBH2009

Summary of Tray Options

- Traditional custom tray
  - Non-scalloped, no reservoir
  - Scalloped, Reservoir
  - Hybrid (anterior scalloped only)\
  - TMD
  - Single Tooth
- Thermoplastic Single Tray
  - Bleaching or Mouthguard
  - Caries Control or Sensitivity
  - Orthodontics
- Thermoplastic Dual Tray
  - Bleaching or Diagnostic Bruxism
- Disposable Pre-loaded Tray