Definitive impression making of the dentate, partially dentate, crown and bridge, implants and/or edentulous patient with implants present, can be easily performed with the DenPlant Tray. These trays are for one-time use only. They are designed optimally for use with impression materials with viscoelastic properties such as the Polyvinyl Siloxane (PVS) or the Polyether materials:

The purpose of the Low Temperature tray is to be able to customize the proper fit in a patient’s mouth without being uncomfortable to the heated tray. This is accomplished by utilizing a controlled temperature hot water bath apparatus set at 165 degrees Fahrenheit. Caution: Do not over-heat trays. Maximum heating times: <40 seconds small trays and <60 seconds large trays. Do not place in patient's mouth if the water bath temperature exceeds 165°F (74°C).

Only the body of the tray should be completely immersed in the hot water bath, held by the handle slightly outside the heated water. The tray body should be immersed in the water bath at 165 degrees Fahrenheit for ten to thirty seconds or until the tray becomes rubbery. The smaller trays will require less heating time compared to the larger trays. Quickly place the tray in the mouth using cheek retractors for accessing a quick insertion into the oral cavity. The check retractors are removed and then the patient and/or operator move the facial muscles to shape the tray to conform to the optimal configuration. The tray begins to stiffen very quickly, usually within 10 seconds of removal from the water bath. Time is critical to gain the desired results of a well-fitting tray. Only if necessary, small modifications can be made outside the mouth in certain cases by flaming specific areas of the tray to further shape and then chilling the tray in cold water to re-harden. It is important to remember not to overheat or burn the tray if you decide to use a flame. The heat-molded tray is now ready to start the impression process. These trays are intended for one time use.

If contaminated, Cold sterilization can be used to disinfect the trays prior to use. These trays are not autoclavable and are not sterile from the delivered container.

The appropriate sized, properly adjusted tray should leave ample room for impression material around all surfaces to be impressed. The borders of the tray should not impinge on any adjacent soft tissue areas.

I. Impressioning Of The Fully Dentate Maxillary Arch:

A. Size and adapt the tray as detailed above.

B. Establish occlusal / incisal stops:
   1. Place a ribbon of rigid bodied polyvinyl siloxane impression material in the recess of the tray as well as in the palatal vault area.
   2. Seat the tray in the patient's mouth, taking care to center the teeth within the tray.
   3. Allow the material to set according to manufacturer’s recommendations.
   4. Remove, evaluate, and trim any excess material. There should be a tissue stop on the palatal portion of the tray. There should also be stops formed by the occlusal/incisal surfaces of the teeth. The impression material should be trimmed until there are only occlusal/incisal stops (no impression of the axial surfaces).

Note: The resultant stops provide:
   i. Adequate space for subsequent layers of impression material,
   ii. A path of re-insertion for the operator,
   iii. Positioning of the tray in the most centered position,
   iv. A tactile sense of position for the operator.
C. **Border Molding Procedure**  
*Note: All bordering molding movements should be completed during the first one half of the PVS material set time. Continued functional movement after this time may result in distortion of the impression.*

1. Apply PVS adhesive to the tray borders. Place a rigid viscosity PVS on the peripheral tray borders and generously along the post-palatal tray area.
2. Seat the tray in the patient's mouth. The stops placed in the previous step will provide the proper tray orientation.
3. Border mold as follows:
   a. Grasp the filtrum close to the lip line and pull downward. This identifies the anterior frenum.
   b. Have the patient pout the lips outward with a sucking action, and then smile. This will form the anterior vestibular sulcus.
   c. Using the forefinger and thumb, grasp the corner of the mouth and pull downward and forward. Repeat the procedure for the opposite side. This forms the buccal frenum and buccal vestibular sulcus.
   d. Have the patient drop the mandible downward by opening wide. This will delineate the post-zygomatic vestibular sulcus and hamular frenum.
   e. Occlude the patient's nostrils, and have the patient forcefully cough. This will cause the soft palate to migrate to its functional position, thereby forming an ideal post-palatal zone.
4. Remove the impression and evaluate and trim as indicated. Any areas in which the tray rubbed through the impression material should be trimmed 1 - 2 mm. to approximate the adjacent impression material. Any undercuts in the impression material should also be trimmed away. A slight amount of material (approximately 1 mm) should be trimmed from all border extensions to allow for venting of the wash material.

D. **Final Wash Procedure**

1. Apply PVS adhesive to the impression material along all borders. Place a medium or light bodied impression material generously along all borders and in the central trough, and intra-orally directly on the teeth.
2. Seat the tray in the patient's mouth.
3. Repeat all of the border molding steps previously outlined. Stabilize the tray during the last one half of PVS setting time.
4. Remove the tray, and evaluate the final impression.

II. **Impressioning Of The Fully Dentate Mandibular Arch**

A. **Select and modify the appropriate mandibular tray, as previously described.**

B. **Establish occlusal / incisal stops:**

1. Place a ribbon of rigid bodied polyvinyl siloxane impression material in the recess of the tray.
2. Seat the tray in the patient's mouth, taking care to center the teeth within the tray.
3. Allow the material to set according to manufacturer's recommendations.
4. Remove, evaluate, and trim excess material. There should be stops formed by the occlusal/ incisal surface tips of the teeth only and not engaging any axial surfaces. As with the maxillary impression, the resultant stops provide:
   a. Adequate space for subsequent layers of impression material,
   b. A path of re-insertion for the operator,
   c. Positioning of the tray in the most centered position, and a tactile sense of position for the operator.
C. Border-Molding Procedure

Note: All bordering molding movements should be completed during the first one half of the PVS material set time. Continued functional movement after this time may result in distortion of the impression.

1. Apply PVS adhesive to the tray borders. Place a rigid viscosity PVS on all of the peripheral tray borders.
2. Seat the tray in the patient's mouth. The stops placed in the previous step will provide the proper tray orientation.
3. Border mold as follows:
   a. Have the patient extend the tip of the tongue straight out and forward, then side to side, and then back as if touching the roof of the mouth. This will eliminate an over-extension on the lingual border, thereby creating the mylohyoid and retromylohyoid zone.
   b. Grasp the lower lip at the mid line and pull upward. This delineates the anterior frenum and vestibular sulcus.
   c. Using two fingers on the tray's finger supports and the thumb on the patient's chin to stabilize the impression in the mouth, have the patient pooch out and suck, and then smile. This produces the anterior and buccal vestibular sulcus.
   d. Grasp the corner of the mouth with the thumb and index finger of one hand, while securing the tray with the fingers of the other hand, and pull upward and forward. Perform this action on both sides of the mouth in succession. This forms the buccal frenum and the external oblique vestibular sulcus.
   e. Secure the impression until set and then remove.
   f. Analyze the impression for detail. If the tray rubs through the impression material along the peripheral borders, adjust by reducing the tray border approximately one to two millimeters before the final wash impression is made. Any undercuts in the impression material should also be trimmed away. A slight amount of material (approximately 1 mm) should be trimmed from all flange extensions to allow for venting of the wash material.

D. Final Wash Procedure

1. Apply PVS adhesive to the impression material along all borders. Place a medium or light bodied impression material generously along all borders and in the central trough, and intra-orally directly onto the teeth.
2. Seat the tray in the patient's mouth.
3. Repeat all of the border molding steps previously outlined. Stabilize the tray during the last one half of PVS setting time.
4. Remove the tray, and evaluate the final impression.

III. Partially Dentate Arches

The Impression Technique for Partially Dentate Patients, both on the Maxillary and Mandibular Arches, is the same as for the dentate patient, with the following modifications:

A. During stop placement, a mound of rigid-bodied PVS material is placed in the portion of the tray that will impress the edentulous areas, in a sufficient amount to record tissue stops. This allows for tray stability and tactile sense in the areas where no teeth are present.

B. When the final wash is performed, the edentulous areas and the dentate areas can be impressed with a light-bodied PVS material.

C. Arches With Implant Impression Copings:

In cases where implants are a consideration, either in an otherwise edentulous or partially dentate arch, the following modifications to the technique are required:

   a. For stop placement, the implant impression copings are treated as teeth, with a ribbon of rigid PVS material being used to record stops.
   b. During stop placement, a mound of rigid-bodied PVS material is placed in the portion of the tray that will impress the edentulous areas and the implant impression copings. This allows for tray stability and tactile sense in the areas where no teeth are present.
   c. During the final wash, a rigid viscosity PVS material should be used in the tray trough opposite the implant copings and a medium or light viscosity should be syringed on to the implant copings in the mouth. This material provides adequate detail, while also having enough rigidity to prevent movement of the copings within the final impression.