

Accu-Dent® impression system

# System I™

Procedural guide

CE

**System I™**  
Complete dentures

# Accu-Dent® System I™ Edentulous

Congratulations on selecting this fine impression system. With the help of this manual and the DVD, you are well on your way to a new level of efficiency and quality care for your edentulous patients. Since 1970, thousands of **System I** users have proven that the Multi-Colloid™ concept eliminates the custom tray in most cases, and provides significantly superior preliminary models in cases where custom trays are indicated.



## The complete System I includes:

- 15 Autoclavable Accu-Trays (5 uppers & 10 lowers)
- One plastic tray box
- One box (24 packets) Syringe Accu-Gel Edentulous
- One box (24 packets) Tray Accu-Gel Edentulous
- One 35cc catheter-tip syringe (autoclavable)
- One 52cc measuring vial
- One thermometer
- One procedural videotape
- One set of calipers for tray selection
- System I Procedural guide
- Finger grip extender
- Tray holder

## Accu-Gel specialty impression materials

The major secret of Accu-Dent impressions is the unique formulation of the two interfacing Accu-Gel impression materials.



Both the Syringe and Tray Accu-Gels are irreversible hydrocolloids; they are hydrophilic and extremely accurate, inexpensive, convenient, and pleasant for the patient. The two materials are specifically compounded for many distinct functions in a Multi-Colloid impression. The System I Accu-Gels come in pre-measured, pre-weighed hermetically sealed packets, 24 packets to the box. (See page 2 for more details.)

## System I autoclavable Accu-Trays

The anatomical design of the Accu-Trays is the other reason for the outstanding results obtainable with System I.

The maxillary trays have much shorter flanges than traditional impression trays. This is to allow the Accu-Gels to take the impression without the hard flange of the tray influencing the way in which the tissues drape.

The mandibular trays have long lingual flanges that keep the sublingual glands confined by the medial surfaces of the flanges, while helping to guide the Tray Accu-Gel all the way down the lingual surface of the mandible in the first impression. Also the high distal

rise guarantees complete undistorted coverage of the retromolar pad even in patients with extremely resorbed alveolar ridges.



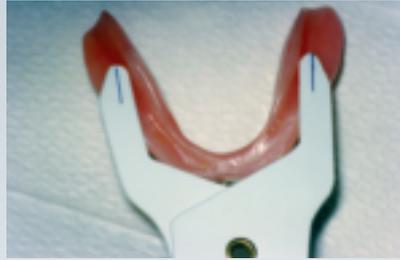
*The autoclavable Accu-Trays can be safely sterilized in autoclaves, chemclaves, or dry heat sterilizers.*

# Tips for tray selection

In selecting an upper Accu-Tray, it is important to choose a tray that is 4-6mm wider than the maxillary tuberosities. With the denture inside the size tray, you will clearly see the tray all the way around, as shown below. When in doubt, use the larger tray. Also, you should try the tray in the mouth to make sure there is sufficient clearance.



Lower Accu-Tray selection is accomplished in two steps, 1) tray type and 2) tray size. First, determine if the patient has a good or poor ridge. Good to fair ridges will usually require the use of a tray from the series 25-29, whereas poor to negative ridges usually require a tray from the series 20-24, as explained in the section below.



Use the supplied calipers to measure the width of the residual ridge in the first molar region. This can be done on the existing denture, as shown below, or in the patient's mouth. Use this measurement to select the correct size lower tray. The caliper measurement should line up with the large holes in the first molar region of the lower tray, as shown below right. When in doubt, select a smaller tray.



## The lower System I Accu-Tray®

The design of the upper System I Accu-Trays is described on page one. The mandibular tray, however, is a truly unique design and has several features not found in stock trays.

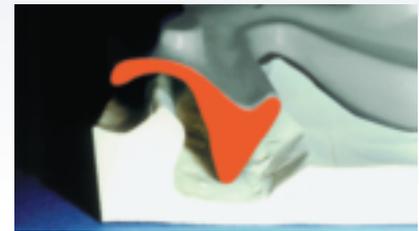
### The Lingual Flange

The long lingual flanges on the lower tray confine the sublingual glands to the interior part of the tray, where it is out of the way. They also move the mylohyoid

muscle downward, and help guide the high-resistance Tray Gel all the way down the lingual surface of the mandible for a complete first impression.



As shown in the cross-section below, the lingual flange guides the Tray Gel down the lingual surface of the mandible to facilitate an accurate impression of the mylohyoid ridge.



### The Distal Rise

The other major design feature of the



mandibular Accu-Trays is the distal rise. If the patient has a fair to good residual



ridge, the retromolar pad is not very high in relationship to the top of the ridge, and an Accu-Tray from the series 25-29, with a lower distal rise, should be selected (Fig. A). If the patient has a poor, flat or negative ridge, the retromolar pad is always higher, and the ridge rises at a steeper angle. A tray from the series 20-24 with an exaggerated distal rise should be used (Fig. B).

# Mixing sequence

The Syringe Gel has 30 seconds more working time than the Tray Gel, and is mixed first. This was done so that an individual operator could easily take a System I impression working alone. Whether working alone or with an assistant, it is important to prep both the Syringe Gel and Tray Gel prior to going into the mouth. Warmer water will decrease working time, colder water will increase it.



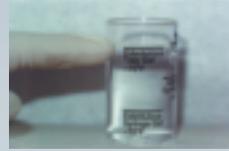
Mix the Syringe Gel with 13cc of 70°F water. The lower line on the measuring vial equals 13cc.



Spatulate the Syringe Gel for 15-20 seconds, until smooth.



Backload the syringe and replace the plunger. Set the syringe within easy reach of the operator.



Mix the Tray Gel with 41cc of 70°F water. The third line on the measuring vial equals 41cc.



Spatulate for 15-20 seconds or until smooth. The Tray Gel is much thicker than alginate. *Do not add more water.* Load the tray.

## \* Total working time:

Syringe = 2:30 minutes  
Tray = 2:00 minutes

## \* Total setting time:

Syringe = 3:30 minutes  
Tray = 3:00 minutes

# How to fill System I Accu-Trays and apply the “wash”

The “uniform pressure” characteristic of the Tray Accu-Gel is enhanced by how the trays are loaded, effectively directing its flow over the tissue. It is important to load the trays correctly for optimum results.

## Maxillary Tray



Make sure a small amount of Tray Gel is pushed through the large holes in the tray for retention.



Load the tray from the back. The proper shape is: most of the material in front sloping to very little in the back.



Pat out the creases. **The shape of the Tray Gel in the Tray is very important, and special care must be taken.**



The surface wash is produced by holding the loaded tray under cold running water, and rubbing the surface with the fingers.

## Benefits of the surface wash:

The surface wash produces a 1/2 mm layer of a very thin impression material on top of the Tray Gel. While the bulk of the Tray Gel is forming a “custom tray” in the patient’s mouth, the thin surface wash is assuring excellent tissue adaptation.

The surface wash also ensures that the Syringe Gel and the Tray Gel combine smoothly at their interface.

# Maxillary impression procedure

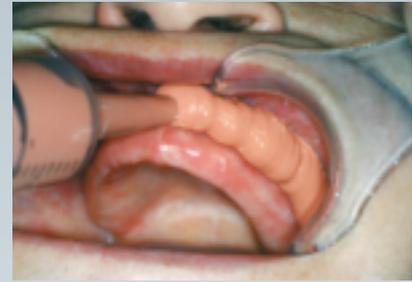
Mix the Syringe Gel first and load the syringe. Then mix the Tray Gel, load the tray, and give the Tray Gel its surface wash under cold running water. Remind the patient to relax the upper lip throughout the procedure. *Cheek retractors are not recommended. They are used only for photographic purposes.*



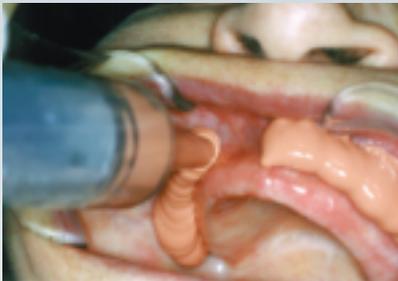
**1** Wipe dry the vestibules and palate with a gauze 2x2.



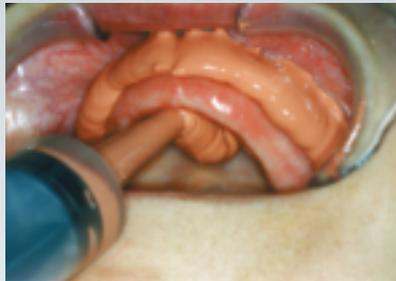
**2** Express a line of the Syringe Gel into the mucobuccal fold from the hamular notch...



**3** ... forward to the midline...



**4** ... on both sides. Do not go all the way around in a single pass.



**5** Place a small amount of Syringe Gel in the anterior vault of the palate.



**6** Bring the loaded tray to the mouth. Merge the two materials together (*do not overseat the tray*) in the front first...



**7** ... then rotate the tray upward in back just until a small amount of Tray Gel appears at the distal edge of the tray. **STOP.**



**8** **BORDER MOLDING** Begin by pulling straight down once on the filtrum at the vermilion border...



**9** ... massage the cheeks very lightly downward with the fingers as shown above...



**10** ... on both sides.



**11** Finally have the patient open wide to border mold the retro-malar spaces.



**12** When set, break the impression loose at the distal buccal periphery and remove. Do not use the handle.

## After removal:

Rinse, disinfect the impression with a 1:10 bleach/water solution, and wrap in a wet paper towel. After both impressions have been taken, rinse again and pour the impressions in lab stone (first taken-first poured) within 10 minutes for optimum results. Do not send wet impressions to the lab for later pouring.

# Mandibular Tray



Make sure that some Tray Gel is pushed through the holes of the tray for retention.



Load the tray by placing 1/2 the Tray Gel on one side and 1/2 on the other side.



And move a little forward with your fingers. Pat out the creases and shape the Gel before wetting it.



This is the correct shape. Most of the Tray Gel is toward the back of the tray.

## IMPORTANT

- Load Maxillary Tray with most of the Tray Gel toward the front, very little in back.
- Load the Mandibular Tray with most of the Tray Gel in the posterior saddles.



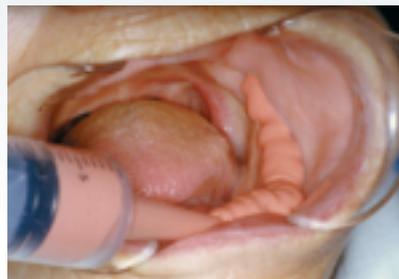
Give the Tray Gel a surface wash under cold water.

## Mandibular impression procedure

Mix the Syringe Gel first and load the syringe. Mix the Tray Gel, load the tray, pat out the creases in the Gel and give it a surface wash under cold running water. Wipe dry the mucobuccal and mucolabial vestibules. *The use of cheek retractors is not recommended. They are used here for photographic purposes only.*



**1** Express a line of syringe Gel into the vestibules from the retromolar pad...



**2** ... forward to the midline...



**3** ... on both sides. It is not necessary to place Syringe Gel into the lingual vestibules.



**4** Bring the loaded tray to the mouth. Merge the Tray Gel down against the Syringe Gel *in front*. Do not Overseat.

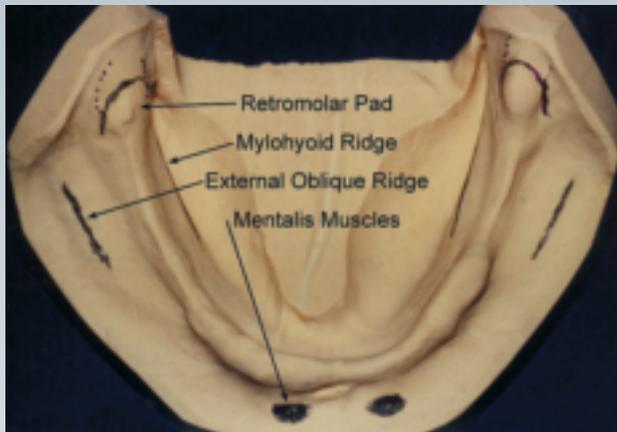


**5** Have patient push the tongue forward as you rotate the tray backward. When Tray Gel rises up in the distal, **Stop**.



**6** When set, loosen the impression at the distal buccal periphery, and remove carefully. Don't use the handle to remove.

# Extended coverage mandibular casts



System I does not produce what is typically referred to as a border molded mandibular impression. Instead, this system provides the operator with an Extended Coverage Impression in which all of the pertinent anatomical landmarks are clearly and completely captured (left).

The resultant cast presents the operator with several choices. At the very least, the complete anatomical extensions of the Accu-Dent cast will make the fabrication of a superior custom tray possible.

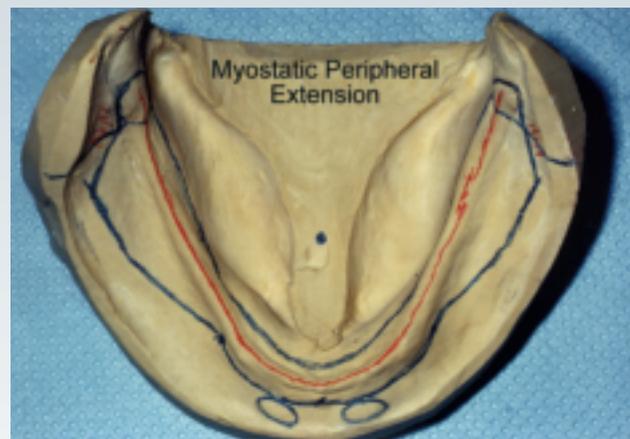
However, since all of the pertinent landmarks are easy to read, it is quite possible to design an effective denture extension on this "preliminary" cast (below).

## The Myostatic Peripheral Extension of the Lower Denture Border

The concept behind a Myostatic Extension is that by building a denture only over oral tissue that does not move with functional movements of the mouth, the denture will not be constantly kicked up, and it will prevent the denture from floating.

The diagram of the Myostatic Extension looks underextended at first, but it is based on a sound analysis of the mobile vs. stable tissues in the mouth and has been in use for many years.

For more information see Accu-Dent's Extended Clinical Information Files #3.



Shown (right) are the:

### 1) External Oblique Ridges

The buccinator muscles attach at the crest of the ridges.

### 2) Mylohyoid Ridges

The mylohyoid muscles attach at the crest of the ridges.

### 3) Retromolar Pads

Only the anterior 1/2 of the pad (the fibrous papilla) is used.

### 4) Mentalis Muscle Attachments

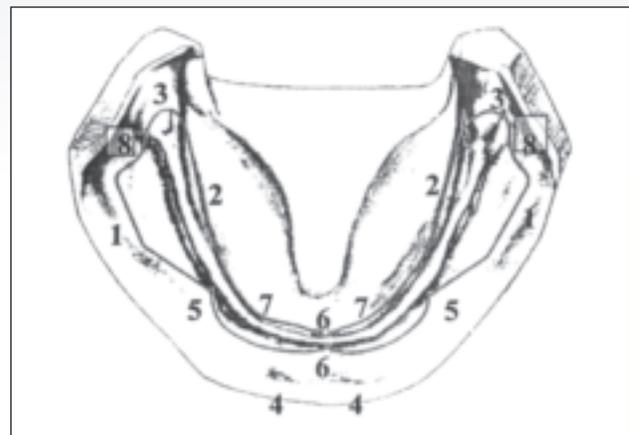
### 5) Buccal Frena

### 6) Labial and Lingual Frena

### 7) Lingual Infra-Alveolar Groove

### 8) Masseter Muscle Attachments

This area is actively mobile, and is avoided by the myostatic extension.



Also available:

## Accu-Dent® System2 for partials and immediate denture impressions



### System2 complete kit contains:

- 12 sterilizable Accu-Trays (6 maxillary and 6 mandibular)
- 1 box (18 packages) Syringe Accu-Gel
- 1 box (18 packages) Tray Accu-Gel
- 4 Prè-Sure Tips (soft and medium)
- 2 35cc catheter tip syringes
- 1 52cc water measuring vial
- 1 thermometer
- 1 plastic tray storage box
- 1 tray holder
- 1 finger grip extender
- 1 System2 complete procedural documentation

Accu-Dent is part of the BPS® Brand Removable Prosthetic System. BPS premium dentures incorporate the highest quality components and fabrication techniques available. For more information contact Ivoclar at the number below.



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GUARANTEED!

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