



## Lucitone Digital Print Denture Reference Denture Clinical Workflow

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## Introduction

A "Reference Denture" utilizes the patient's existing, worn denture as a template for constructing a new prosthesis and eliminates the preliminary impression step. Complete the Clinical Assessment, evaluating the patient and the existing prosthesis, to determine the workflow feasibility for the case. If the criteria is not met, reference the *Lucitone Digital Print Denture - New Denture Clinical Workflow Illustrated Technique Guide* for step-by-step new denture technique instructions.

## Workflow Overview

### Appointment One

- Evaluate the patient and the existing prosthesis
- Border mold using VPS material
- Wash impression using VPS material
- Capture the plane of occlusion, lip support, vertical, and central incisor length
- Record measurement - "width on curve" or distance from distal-distal of canines and the midline
- Capture the bite registration
- Scan the bite registration and impression surfaces

### Appointment Two

- Insert and evaluate the printed try-in
- Evaluate the vertical, occlusion, midline, tooth length and record adjustments as needed
- Evaluate the fit - take a wash impression if necessary
- Capture the try-in bite registration
- Scan the bite registration (and the impression if taken)
- Notate criteria for re-printing the try-in denture or printing the final denture:
  - If changes exceed 4mm reprint the try-in with the new adjustments
  - If changes are 4mm or less, print the final denture

### Appointment Three

- Insert and evaluate the final denture
- Verify the fit, vertical, occlusion, midline, and tooth length

## Chairside Materials



Caulk®  
Tray Adhesive



Aquasil® Ultra+  
Smart Wetting®  
Impression Material  
RIGID Fast Set



Aquasil® Ultra+  
Smart Wetting®  
Impression Material  
LV Fast Set



Aquasil® Ultra+  
Smart Wetting®  
Impression Material  
XLV Fast Set



Regisil® 2x™  
Vinyl Polysiloxane  
Bite Registration Paste

### Laboratory Step One

Design and print  
the try-in denture

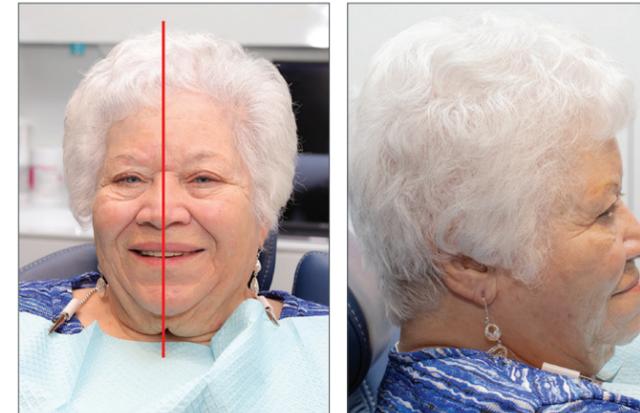
### Laboratory Step Two

Design and fabricate the  
final digital denture

## 1.0 Appointment One - Clinical Assessment, Impressions & Records

### Clinical Assessment

If the following reference denture criteria is met, including patient and reference denture requirements, complete the steps for impressing and records. Prior to starting the assessments, remove and clean any denture adhesive that may be on the patient or the prosthesis.



#### Patient Assessment

- Midline of the reference denture is true (or several mm close to true) to the midline of the face.
- Incisal length is adequate.
- Occlusion is worn and there is a reduction in the upper lip fullness, but the denture is adequate for reference denture use.



#### Maxillary Denture Assessment

- Occlusion is worn but still adequate to obtain an accurate bite registration. (Avoid using an excessively worn prosthesis.)
- Base and teeth are intact - no broken, chipped, or missing teeth.
- Borders are well-extended and not excessively short (>5mm).
- Base covers the tuberosities.
- Base is stable with no extensive rocking.

If reference denture criteria is met, clean the denture in preparation for impressing.

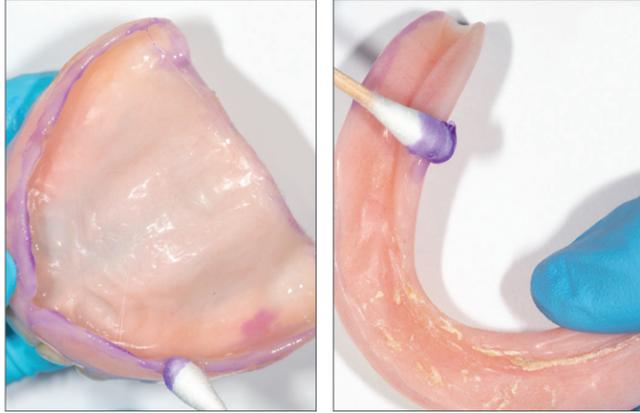


#### Mandibular Denture Assessment

- Occlusion is worn but still adequate to obtain an accurate bite registration. (Avoid using an excessively worn prosthesis.)
- Base and teeth are intact - no broken, chipped, or missing teeth.
- Borders are well-extended and not excessively short (>5mm).
- Base covers the retromolar pads.

If reference denture criteria is met, clean the denture in preparation for impressing.

## Impressions

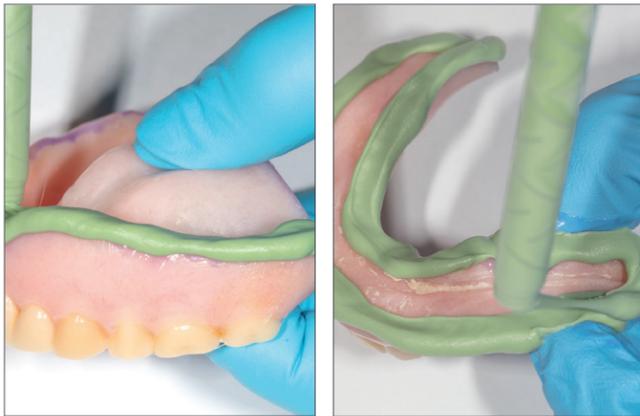


### Apply Tray Adhesive

Apply a thin layer of Caulk Tray Adhesive to the maxillary/mandibular denture border(s) using a disposable applicator - extend the tray adhesive to the cameo surface(s). The tray adhesive should be in a thin, even layer, free from pooling.

Use a gentle application of compressed air to help evaporate the solvent, as necessary.

**Apply Aquasil Ultra+ Smart Wetting Impression Material within 30 minutes of tray adhesive application.**



### Border Mold

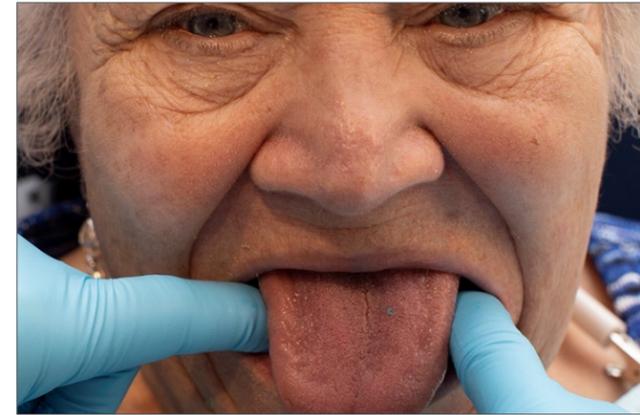
Apply a bead of Aquasil Ultra+ Smart Wetting Impression Material RIGID Fast Set to the maxillary/mandibular denture border(s) covering all borders excluding the posterior. The posterior seal will follow in a subsequent step.

- **Aquasil Ultra+ has a bench working time of 60 seconds.**
- **Total set time is 2 minutes 30 seconds (2:30).**
- **Use a timer for time adherence.**

Seat the maxillary/mandibular denture(s).

### Provide patient instruction to complete the following steps:

- Have the patient pucker their lips and hold for a few moments to capture the motion of the orbicularis oris.



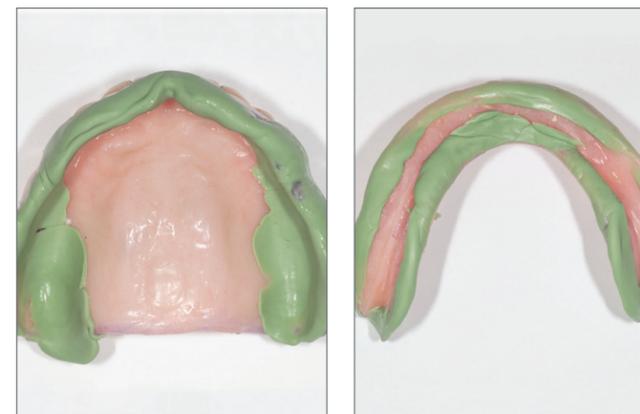
- Have the patient lick their lips, then move the tongue from side to side.
- Have the patient stick their tongue straight out.



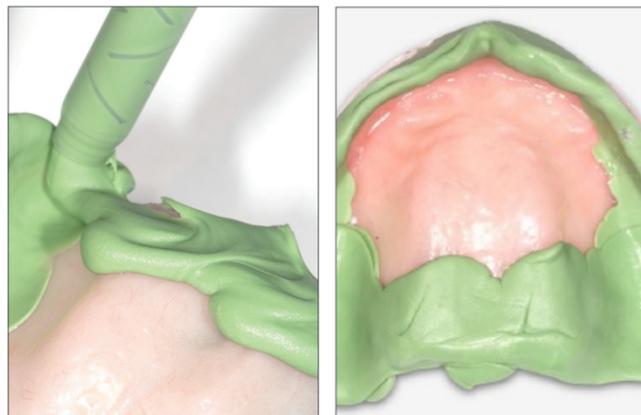
- Pull down the left and right cheeks to record the border rolls.
- Pull up the lip to record the anterior border.



- Keep the denture(s) firmly seated on the alveolus until fully set: **2 minutes 30 seconds** from the start of the mix. Remove the denture(s) once fully set.



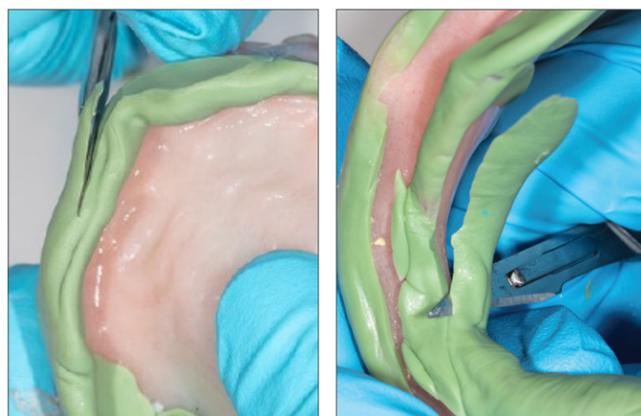
Completion of the first border molding step is shown. Minor show-through of the base is acceptable when using a reference denture.



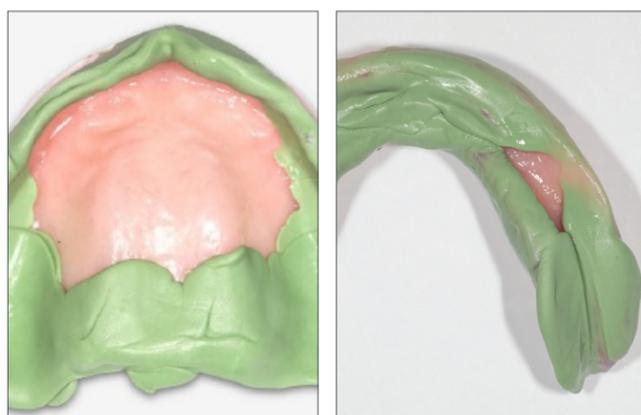
### Posterior Border Mold

Apply a bead of Aquasil Ultra+ Smart Wetting Impression Material RIGID Fast Set to the posterior of the maxillary/mandibular denture(s) and re-seat until set to capture the posterior border. Complete posterior seal shown in the image to the right.

- Aquasil Ultra+ has a bench working time of 60 seconds.
- Total set time is 2 minutes 30 seconds (2:30).
- Use a timer for time adherence.



Trim excess material from the cameo surface(s) maintaining the border roll.

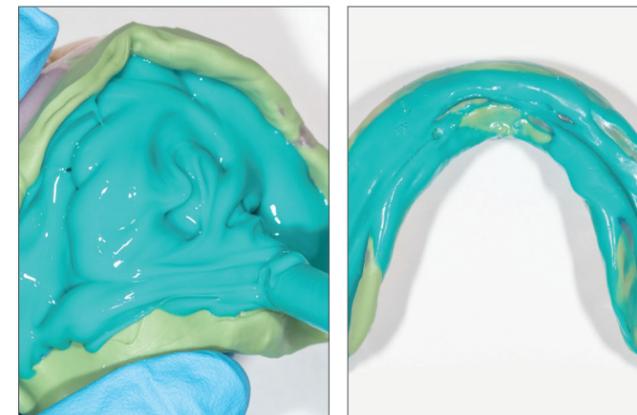


Final border molding shown.



### Low Viscosity Impression

Apply tray adhesive to the exposed acrylic.

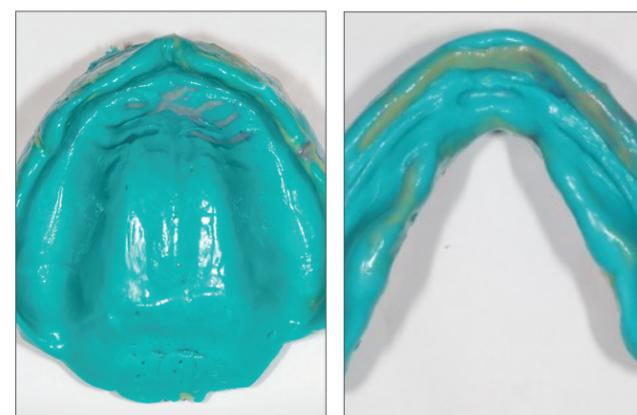


Apply Aquasil Ultra+ Smart Wetting Impression Material LV Fast Set to the intaglio surface(s) of the maxillary/mandibular denture(s).

- Aquasil Ultra+ has a bench working time of 60 seconds.
- Total set time is 2 minutes 30 seconds (2:30).
- Use a timer for time adherence.

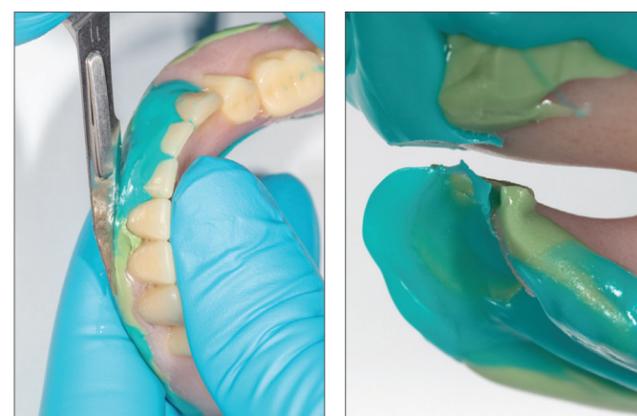


Firmly re-seat the maxillary/mandibular denture(s) and repeat the border molding movements. Maintain denture seating until the material sets.



A final maxillary and mandibular impression is shown. Note the well-formed borders and complete capture of the anatomical landmarks.

Note: Never modify a patient's existing denture.



### Bite Registration Preparation

Use a sharp knife to remove excess wash material from the cameo surface(s). Ensure the complete removal of impression material from the tooth surfaces.

Trim excess material from the cameo surface of the maxillary tuberosity area and the heel area of the mandibular denture. Preparation is critical to ensure adequate scanning of the cameo surface(s).



**Bite Registration Record**

Work with the patient to establish a repeatable centric closure. A patient with a worn, existing occlusion may need several tries before establishing a repeatable closure. Apply Regisil 2x Vinyl Polysiloxane Bite Registration Paste to the occlusal surfaces of the mandibular teeth.

Close the patient into the practiced centric closure. Verify proper closure and allow the material to set: **1 minute 30 seconds from the start of the mix.**



**Bite Registration Verification**

Check for complete posterior clearance and complete seating of teeth into the record on both sides.



Prior to scanning, trim excess registration material to visualize the interocclusal registration and teeth. Follow proper disinfection protocols and send the impression(s) to the lab.



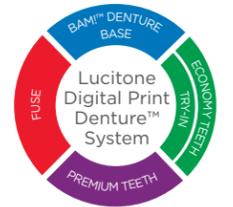
The Lab designs and prints the try-in denture arch(es). The Lucitone Digital Print Denture System utilizes a printed, monolithic try-in for the clinical evaluation of fit, function and esthetics.



**Lab Material**

Utilize the *Rx Order Form* for the Lucitone Digital Try-In product selection - See 4.0 Resources.

- Lucitone Digital Value™ 3D Economy Tooth & Trial Placement



## 2.0 Appointment Two - Try-In Evaluation

Utilize the *Try-In Clinical Checklist* (See 4.0 Resources)



Disinfect the try-in denture arch(es) prior to placement in the patient's mouth. Seat the try-in arch(es) in the patient's mouth. Assess the fit, function and esthetics with the patient.



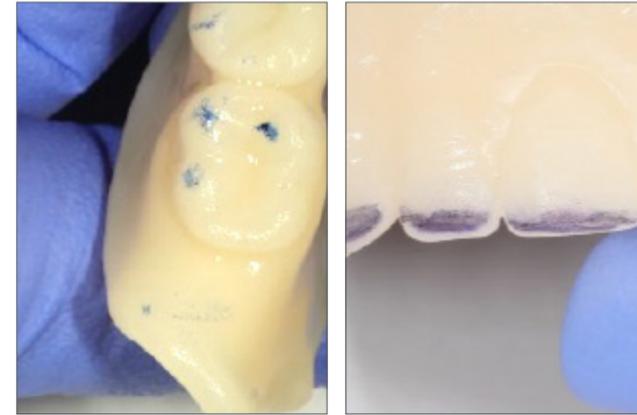
**Evaluate and Document Adjustments**  
First, use articulating paper to identify any high spots on the posterior teeth.



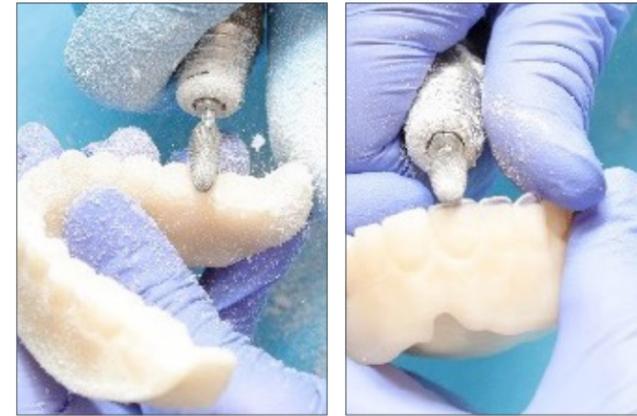
Next, evaluate the following:

- Midline
- Incisal-edge position
- High smile line
- Determine if a cant exists

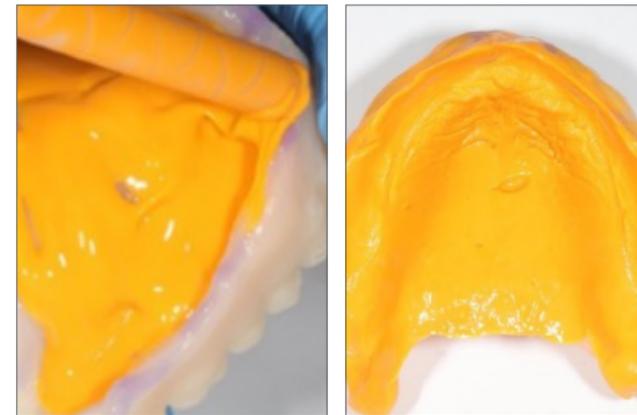
Remove the arch(es) from the patient's mouth. Use a marker or a bur to notate changes directly on the try-in arch(es).



Ensure the adjustment areas are clearly marked on the try-in arch(es).



Use a carbide bur to adjust the try-in arch(es) and then clean the arch(es) to remove the debris. Reinsert the try-in arch(es) to check for proper occlusion. Repeat the adjustment steps as necessary to achieve proper occlusion.



If the fit of the try-in is not secure, use Aquasil Ultra+ Smart Wetting Impression Material XLV Fast Set to complete a wash impression, as shown.

If the fit is secure, move to the bite registration step.



To record bite adjustments take a new bite registration - see page 12 for step-by-step details.

Follow proper disinfection protocols and send the try-in arch(es) to the Lab for final denture fabrication.



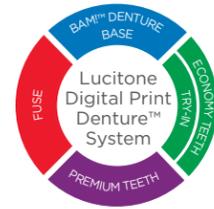
The lab designs, fabricates, and assembles the final denture arch(es).



### Lab Materials

Utilize the *Rx Order Form* for the applicable digital material selections for the final denture - See 4.0 Resources.

- Lucitone Digital Print™ 3D Denture Base
- Lucitone Digital IPN™ 3D Premium Tooth
- IPN 3D™ Digital Denture Teeth
- Lucitone Digital Value™ 3D Economy Tooth & Trial Placement
- Lucitone Digital Fit™ Denture Disc
- DS Multilayer PMMA Disc



Disinfect the denture arch(es) prior to placement in the patient's mouth.



Seat the denture arch(es) and evaluate the fit, function and esthetics.



Make spot adjustments to the occlusion, as necessary.  
Reseat the denture arch(es) and verify the adjustments.  
Confirm patient acceptance.

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DP-0000514 Rev. 4 (07/2022)

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