Requirements for Impressions

- **Complete Denture**
  - Maxillary Impression
  - Mandibular Impression
  - Vertical Dimension
  - Centric Relations Record
  - Bite Registration
  - Upper Stone

- **Single Arch Maxillary Denture**
  - Maxillary Impression
  - Vertical Dimension
  - Centric Relations Record
  - Bite Registration
  - Lower Stone

- **Single Arch Mandibular Denture**
  - Mandibular Impression
  - Vertical Dimension
  - Centric Relations Record
  - Bite Registration
  - Upper Stone

* Need a stone cast model in order to process a single arch case.
Requirements for All Impressions

Included in Starter Kit

- Jaw Gauge x 1
- Single Arch Plates x 8 (2 of each size/orientation)
- Lip Ruler x 1
- Pala Trays x 8 (2 of each size/upper and lower)
- Pala Tracer x 8
- S, M, L, XL x 2

Supplies Required by Doctor

- Tray Adhesive
- Impression Gun
- Flexitime Correct Flow
- Flexitime Heavy Tray
- Flexitime Bite
- Permanent Marker or Pen
- Stone (For Single Arch Denture Only)
- Surgical Blade
- Drill
- Bur
- Mixing Tips

*Apply tray adhesive to hold impression on material. Be careful not to apply directly over the detachable area that you’ll be cutting. Flexitime and/or Flexitime Fast & Scan is the recommended impression material.

* All starter kits can be purchased through an authorized Pala Digital Denture Lab or an Authorized Dealer.
Components

Tray Selection

1. Anterior Part of Maxillary Tray
2. Posterior Part of Maxillary Tray
3. Anterior Part of Mandibular Tray
4. Posterior Parts of Mandibular Tray
5. Center Pin and Plate

Select the correct tray size (Small, Medium, Large, X-Large) that best fits the patient's mouth. Compare tray sizes against the patient's existing dentures or directly in the patient's mouth.

Prior to Impression Evaluate Existing VDO

- Place Jaw Gauge under the chin and nose
- Instruct the patient to say the letter "M"
- The lips are at rest immediately after
- Measure & Record data point
- Record data point with arrow facing down

1. Maxillary Impression

A. Apply a thick layer of fast-setting heavy body PVS to create a custom impression tray.

BORDER MOLDING

Pull, stretch and tug the patient's cheeks and mouth muscles forcefully to ensure proper border molding. **DO NOT SKIP OR NEGLECT THIS PROCEDURE.**

B. Adjust any exposed tray areas with a bur.

C. Apply a second wash layer, using a thin layer of fast-setting light body PVS, on top of the entire heavy body impression.

D. If there are any tray parts still exposed, adjust with a bur and go back to Step C, then repeat the border molding steps.

If there are any tray parts still exposed, adjust with a bur and go back to Step C, then repeat the border molding steps.

II. Have the patient move jaw side by side.

III. Pull the patient's right cheek out and down. Then pull the patient's left cheek out and down.

IV. Pull the upper lip down.

Repeat this complete sequence four times to ensure proper border molding. Additional border molding tips in back of manual.

Tip:

Seat firmly for 5 seconds using finger spots on bottom of tray.
**2. Mandibular Impression**

**A** Apply a thick layer of fast-setting heavy body PVS to create a custom impression tray.

**BORDER MOLDING**
Pull, stretch and tug the patient’s cheeks and mouth muscles forcefully to ensure proper border molding. **DO NOT SKIP OR NEGLECT THIS PROCEDURE.**

**B** Adjust any exposed tray areas with a bur.

**C** Apply a second wash layer, using a thin layer of fast-setting light body PVS, on top of the entire heavy body impression.

**D** If there are any tray parts still exposed, adjust with a bur and go back to Step C, then repeat the border molding steps.

**Tip:** Seat firmly for 5 seconds using finger spots on bottom of tray.

**3. Vertical Dimension of Occlusion (VDO)**

**A** Separate the tray posteriors to avoid interference when measuring VDO.

**B** Remove impression overflow on cameo side.

**C** Attach center pin to mandibular tray.

**D** **VDO** Rotate the center pin clockwise to adjust it, using your fingers or tweezers to reach VDO. Remove and adjust extraorally if needed.

You must find the correct VDO before recording Centric Relation (CR).

- **A** Separate the tray posteriors to avoid interference when measuring VDO.
  - **B** Remove impression overflow on cameo side.
  - **C** Attach center pin to mandibular tray.
  - **D** **VDO** Rotate the center pin clockwise to adjust it, using your fingers or tweezers to reach VDO. Remove and adjust extraorally if needed.

*Vertical Dimension*
4. Centric Relations (CR)

Accurate CR recording is essential to accurate denture setup.

Please select one of the three CR recording methods:
1. Gothic Arch Tracing  2. Simplified Tracing  3. Direct Check Bite

For All Methods
Prepare for CR recording: Attach PALA Tracer to maxillary tray.

If the PALA Tracer is not available, apply tracing material or magic marker on the maxillary tray bottom for CR tracing.

Seat trays back in patient’s mouth with center pin attached to the mandibular tray.

Recommended Option
1. Gothic Arch Tracing

A | Have patient move their mandible from the most anterior to the most posterior position.
   - Position your finger where the patient should move their jaw. Instruct the patient to move their jaw to that position.
   - If this is challenging, guide the jaw with your hand to follow the CR capture movements.

B | Guide mandible from the most posterior center position laterally to the right.
   Guide mandible back to the posterior center position.

C | Guide mandible from the most posterior center position laterally to the left.
   Guide mandible back to the posterior center position.

D | Repeat steps A to C several times to trace a precise arrow that points to the posterior center position on the upper tray.

E | The apex of the arrow traced is the CR using Gothic Arch Tracing.
   Record the CR position by drilling a small dimple at this point.
   The dimple should be large enough for the center pin knob to snap into during bite registration.

Option
2. Simplified Tracing

A | Have patient move their mandible from the most anterior to the most posterior position.
   - Position your finger where the patient should move their jaw. Instruct the patient to move their jaw to that position.
   - If this is challenging, guide the jaw with your hand to follow the CR capture movements.
   - Repeat step A multiple times to trace a line segment between the most anterior and posterior point on the maxillary tray.

B | The most posterior point of the line segment is the CR position.
   Record the CR position by drilling a small dimple at this point.
   The dimple should be large enough for the center pin knob to snap into during bite registration.
The most posterior point where the highest concentration of points are gathered is the CR using direct check bite. Hold the patient’s mandible in the most posterior position and have them bite down numerous times. Take the trays out of the mouth to examine the direct check bite points.

- Stand behind the patient to hold their jaw in the most posterior position while they bite down multiple times.
- The center pin should mark a series of points at the posterior of the EZ-Tracer as the patient bites down.
- Repeat step A multiple times to find the CR point.

The most posterior point where the highest concentration of points are gathered is the CR using direct check bite. Record the CR position by drilling a small dimple at this point, for the center pin knob to snap into during bite registration.

CR Summary - Choose any of these three methods:

1. Simplified Tracing  
2. Gothic Arch Tracing  
3. Direct Check Bite

5. Bite Registration

VERY IMPORTANT: Hold the lower attachment plate firmly in place while recording bite registration to prevent slipping or tilting.

1. Seat trays back in the mouth. Make sure the center pin locks into the CR point dimple.
2. Inject bite registration material between the trays to record.
3. Once the bite registration material hardens, remove the trays from the patient’s mouth.

4. Using the lip ruler, measure the upper lip length from the incisive papilla to upper lip line.

Very Important

View the lip ruler straight on for correct measurement. Viewing the ruler from an upward or downward angle will show an inaccurate measurement. Wet the ruler so that it easily slides in position.

Finished! You’re all done with the impression visit.
Single Arch

Maxillary and Mandibular Denture

Components

1. Upper Attachment Plate
2. Center Pin
3. Lower Attachment Plate

Tray Selection

**Small and Medium**
- Use S/M sized attachment plate with tray sizes S or M.

**Large and X-Large**
- Use L/XL sized attachment plate with tray sizes L or XL.

Select the correct PALA tray size (Small, Medium, Large, X-Large) that best fits the patient’s mouth. Compare tray sizes against the patient’s existing dentures or directly in the patient’s mouth.

Prior to Impression Evaluate Existing VDO

- Place Jaw Gauge under the chin and nose
- Instruct the patient to say the letter “M”
- The lips are at rest immediately after
- Measure & Record data point
- Record data point with arrow facing down

*Please note when doing a single arch impression you must also take a lower/upper impression in order to create a stone cast model for the opposing.*
1. Maxillary Impression

A. Apply a thick layer of fast-setting heavy body PVS to create a custom impression tray.

BORDER MOLDING
Pull, stretch and tug the patient’s cheeks and mouth muscles forcefully to ensure proper border molding. **DO NOT SKIP OR NEGLECT THIS PROCEDURE.**

B. Adjust any exposed tray areas with a bur.

C. Apply a second wash layer, using a thin layer of fast-setting light body PVS, on top of the entire heavy body impression.

D. If there are any tray parts still exposed, adjust with a bur and go back to Step C, then repeat the border molding steps.

**Tip:**
Seat firmly for 5 seconds using finger spots on bottom of tray.

Repeat this complete sequence four times to ensure proper border molding. Additional border molding tips in back of manual.
2. Vertical Dimension of Occlusion (VDO)

You must find the correct VDO before recording Centric Relation (CR).

A. Cut through and detach the posterior part of the maxillary tray and impression to avoid interference when measuring VDO.

B. Remove impression overflow on cameo side.

C. Attach center pin to Lower Attachment Plate. Attach Lower Attachment Plate to existing lower dentition with bite registration material. If necessary, detach posterior portions of lower plate to avoid interference during VDO adjustment.

D. VDO. Rotate the center pin clockwise to adjust it, using your fingers or tweezer to reach VDO. Remove and adjust extraorally if needed.

Lips should be barely touching at rest.

3. Centric Relations (CR)

Accurate CR recording is essential to accurate denture setup. Choose one of three CR recording methods:

1. Gothic Arch Tracing
2. Simplified Tracing
3. Direct Check Bite

For All Methods
Prepare for CR recording: Attach PALA Tracer to maxillary tray. If the PALA Tracer is not available, apply tracing material or magic marker on the maxillary tray bottom for CR tracing.

Seat Maxillary Tray back in the patient's mouth. Insert center pin to Lower Attachment Plate pinhole. Then attach Lower Attachment Plate to existing lower dentition with bite registration material.

Recommended Option
1. Gothic Arch Tracing

A. Have patient move their mandible from the most anterior to the most posterior position. Guide mandible from the most anterior center position laterally to the right. Guide mandible back to the posterior center position.

B. Guide mandible from the most anterior center position laterally to the left. Guide mandible back to the posterior center position.

C. Position your finger where the patient should move their jaw. Instruct the patient to move their jaw to that position. If this is challenging, guide the jaw with your hand to follow the CR capture movements.

D. If VDO is minimal and the trays touch each other, adjust those tray areas with a bur before finalizing VDO measurement.

Lips should be barely touching at rest.
Recommended Option

1. Gothic Arch Tracing (Cont’d)

D | Repeat steps A to C several times to trace a precise arrow that points to the posterior center position on the upper tray.

E | The apex of the arrow traced is the CR using Gothic Arch Tracing. Record the CR position by drilling a small dimple at this point. The dimple should be large enough for the center pin knob to snap into during bite registration.

Best | Acceptable

Option

2. Simplified Tracing

A | Have patient move their mandible from the most anterior to the most posterior position.

• Position your finger where the patient should move their jaw. Instruct the patient to move their jaw to that position.
• If this is challenging, guide the jaw with your hand to follow the CR capture movements.
• Repeat step A multiple times to trace a line segment between the most anterior and posterior point on the maxillary tray.

B | The most posterior point of the line segment is the CR position. Record the CR position by drilling a small dimple at this point. The dimple should be large enough for the center pin knob to snap into during bite registration.

Correct | Incorrect (Record Again)

Option

3. Direct Check Bite

A | Hold the patient’s mandible in the most posterior position and have them bite down numerous times. Take the trays out of the mouth to examine the direct check bite points.

• Stand behind the patient to hold their jaw in the most posterior position while they bite down multiple times.
• The center pin should mark a series of points at the posterior of the EZ-Tracer as the patient bites down.
• Repeat step A multiple times to find the CR point.

B | The most posterior point where the highest concentration of points are gathered is the CR using direct check bite. Record the CR position by drilling a small dimple at this point, for the center pin knob to snap into during bite registration.

Correct | Incorrect (Record Again)

CR Summary - Choose any of these three methods:
1. Simplified Tracing 2. Gothic Arch Tracing 3. Direct Check Bite
4. Bite Registration

**VERY IMPORTANT:**
Hold the lower attachment plate firmly in place while recording bite registration to prevent slipping or tilting.

1. Seat trays back in the mouth. Make sure the center pin locks into the CR point dimple.
2. Inject bite registration material between the mandibular tray and upper attachment plate to record.
3. Once the bite registration material hardens, remove the trays from the patient's mouth.

4. Using the lip ruler, measure the upper lip length from the incisive papilla to upper lip line.

*Very Important*

View the lip ruler straight on for correct measurement. Viewing the ruler from an upward or downward angle will show an inaccurate measurement. Wet the ruler so that it easily slides in position.

**Verifying VDO**

- Place Jaw Gauge under the chin and nose
- Instruct the patient to say the letter “M”
- The lips are at rest immediately after
- Measure & Record data point
- Record data point with arrow facing down

DON’T FORGET the opposing stone model.
1. Mandibular Impression

A | Apply a thick layer of fast-setting heavy body PVS to create a custom impression tray.

**BORDER MOLDING**
Pull, stretch and tug the patient's cheeks and mouth muscles forcefully to ensure proper border molding. **DO NOT SKIP OR NEGLECT THIS PROCEDURE.**

B | Adjust any exposed tray areas with a bur.

C | Apply a second wash layer, using a thin layer of fast-setting light body PVS, on top of the entire heavy body impression.

D | If there are any tray parts still exposed, adjust with a bur and go back to Step C, then repeat the border molding steps.

Tip: Seat firmly for 5 seconds using finger spots on bottom of tray.

2. Vertical Dimension of Occlusion (VDO)

You must find the correct VDO before recording Centric Relation (CR).

A | Separate the tray posteriors to avoid interference when measuring VDO.

B | Remove impression overflow on cameo side.

C | Attach Upper Attachment Plate to existing upper dentition with bite registration. Attach center pin to Mandibular Tray.

D | VDO
Rotate the center pin clockwise to adjust it, using your fingers or tweezer to reach VDO. Remove and adjust extraorally if needed.

If VDO is minimal and the trays touch each other, adjust those tray areas with a bur before finalizing VDO measurement.

Lips should be barely touching at rest.
3. Centric Relations (CR)

Accurate CR recording is essential to accurate denture setup.

Choose one of three CR recording methods:
1. Gothic Arch Tracing  2. Simplified Tracing  3. Direct Check Bite

For All Methods
Prepare for CR recording: Attach PALA Tracer to upper attachment plate.

If the PALA Tracer is not available, apply tracing material or magic marker on the upper attachment plate bottom for CR tracing.

Attach Upper Attachment Plate to existing upper dentition with bite registration material. Seat mandibular tray back in patient’s mouth with center pin attached.

Recommended Option
1. Gothic Arch Tracing

A | Have patient move their mandible from the most anterior to the most posterior position.

- Position your finger where the patient should move their jaw. Instruct the patient to move their jaw to that position.
- If this is challenging, guide the jaw with your hand to follow the CR capture movements.

B | Guide mandible from the most posterior center position laterally to the right. Guide mandible back to the posterior center position.

C | Guide mandible from the most posterior center position laterally to the left. Guide mandible back to the posterior center position.

Recommended Option
1. Gothic Arch Tracing (Cont’d)

D | Repeat steps A to C several times to trace a precise arrow that points to the posterior center position on the upper tray.

E | The apex of the arrow traced is the CR using Gothic Arch Tracing. Record the CR position by drilling a small dimple at this point. The dimple should be large enough for the center pin knob to snap into during bite registration.

Option
2. Simplified Tracing

A | Have patient move their mandible from the most anterior to the most posterior position.

- Position your finger where the patient should move their jaw. Instruct the patient to move their jaw to that position.
- If this is challenging, guide the jaw with your hand to follow the CR capture movements.
- Repeat step A multiple times to trace a line segment between the most anterior and posterior point on the maxillary tray.

B | The most posterior point of the line segment is the CR position.
Record the CR position by drilling a small dimple at this point. The dimple should be large enough for the center pin knob to snap into during bite registration.
Hold the patient’s mandible in the most posterior position and have them bite down numerous times. Take the trays out of the mouth to examine the direct check bite points.

• Stand behind the patient to hold their jaw in the most posterior position.
• The center pin should mark a series of points near the posterior of the mouth as the patient bites down.
• Repeat step A multiple times to find the CR point.

The most posterior point where the highest concentration of points are gathered is the CR using direct check bite.

Record the CR position by drilling a small dimple at this point, the dimple should be large enough for the center pin knob to snap into during bite registration.

Note: if patient has a hard time moving their jaw, this option can be used.

CR Summary - Choose any of these three methods:

1. Simplified Tracing  2. Gothic Arch Tracing  3. Direct Check Bite

4. Bite Registration

VERY IMPORTANT:
Hold the lower attachment plate firmly in place while recording bite registration to prevent slipping or tilting.

1. Seat trays back in the mouth. Make sure the center pin locks into the CR point dimple.
2. Inject bite registration material between the mandibular tray and upper attachment plate to record.
3. Once the bite registration material hardens, remove the trays from the patient’s mouth.

View the lip ruler straight on for correct measurement. Viewing the ruler from an upward or downward angle will show an inaccurate measurement. Wet the ruler so that it easily slides in position.

DON’T FORGET the opposing stone model.

• Place Jaw Gauge under the chin and nose
• Instruct the patient to say the letter “M”
• The lips are at rest immediately after
• Measure & Record data point
• Record data point with arrow facing down
Impression Manual Summary

Impression

Separation

Vertical Dimension & Centric Relations

Bite Registration

Tips for Successful Pala Digital Denture Impressions

Ordering / Shipping

1. Place your denture order online at www.paladigitaldentures.com or with your PALA Digital Laboratory Partner.
2. Package, label and ship the impression parts (including detached posteriors) and the printed denture order form to your PALA Digital Laboratory.
Tips for Successful Pala Digital Denture Impressions

Selecting the Trays Tips:

- Most common mistake is choosing the wrong tray for the patient. This can be avoided by matching the borders of the tray to the borders of the denture. Do not attempt to put the denture inside a tray as it will result in a bigger tray size than needed. After taking the impression, if the borders look too thick the impression tray is too big, if on the contrary we get a lot of show through on the tray or if the tray shows an incomplete palatal area impression the tray is too small.
- Medium tray is chosen for 80% of cases.
- If the patient is between two sizes, select the smaller tray, as long as it is not pinching the patient. (Smaller tray is better than a larger tray.) Trays are thermoplastic and can be adjusted by using an open flame.
- Trays can be interchangeable. (Ex. Medium on the top, smaller tray in the bottom.) Don’t interchange the pin. Whatever lower tray is used, use the corresponding color pin and pin holder.
- The reason the tray does not have a handle is because when you seat the case, it can create an involuntary fulcrum point that can shift the impression. It is important to rest your fingers on the finger rest points in order to ensure proper seating.
- The posterior part of the trays are removed to allow for CR tracing.
- The reason the tray does not have a handle is because when you seat the case, it can create an involuntary fulcrum point that can shift the impression. It is important to rest your fingers on the finger rest points in order to ensure proper seating.

Note: Dr. Joseph Massaad, DDS has several impression taking tips available at youtube.com

Taking Impressions and Border Molding Tips:

- Cover the borders of the tray with material.
- It is important to repeat border molding steps four (4) times to ensure proper registrations.
- During border molding have patient practice smiling, kissing, sucking, licking, & coughing as these are real-life situations where dentures fall out.
- Add heavy body PVS on any borders that were ground down prior to doing a light body wash; and after grinding exposed tray areas between impressions.
- Make sure patient extends tongue as far out as possible when performing mandibular border molding.
- Impression material thickness should not exceed 8mm. If it does, Virtual dimension obtainment and CR tracing will be very difficult.
- Keep the pressure on the tray with two fingers.
- Use Fast set material.
- Always use Fast Set PVS. Polyethers are too hard to cut.
- Grind borders and cut off front notches if they are in the way of the lips (happens more often on lower).
- Impressions are easier to take at 12:00 o’clock position.
- It’s always helpful to pull and tug soft tissues a little forcefully, without hurting patients.

Cutting the Impression Tips:

- Relieve areas near the tray junctions to see more clearly prior to cutting the impression in the trays.
- It is helpful to mark a line where the impression needs to be cut in order to make the cutting easily.
- It is important to make one clean cut. Even if the cut is not accurate tray posteriors will be able to be separated.
- Do not attempt to reconnect the posteriors when sending orders.

Vertical Dimension Measuring & CR Tracing Tips:

- It’s always important to clean the surface where the Pala tracer will go, with alcohol, prior to attaching the sticker.
- Make sure the red part of the Pala tracer is attached further back than where the tray ends.
- Easier and most accurate Palatracing method for inexperienced dentists is Simplified tracing (just moving the jaw backwards and forward).
- If you want to confirm CR tracing, mark the dot where centric would go with a sharpie, clean the Pala tracer slate and retrace to see if you arrive to the same position.
- When CR tracing it’s always important to tell the patient not to bite too hard while tracing.
- When drilling the dimple it’s important to make sure the CR dot is at the center of the hole, and that it is deep enough and wide enough that the pin can easily find the hole but is hard to get out of. Do not pierce through the tray when creating the dimple.
- Every full turn of the pin, raises or lowers it about 1mm.
- Sometimes saliva gets in the way of the tracing, if it does this can cause the tracing to disappear, however keep in mind that the tracing will still be visible in the black part of the Pala tracer.
- Once the dimple is created, it is recommended to remove the clear part of the Pala tracer, but LEAVE the black part, as it provides with a nice color contrast around the dimple. Making it easier to determine if the pin is locked in when evaluating the bite.
- Practicing the movements with the patient before doing it really improves your chances for a successful CR tracing.

Bite Registration Tips:

- When recording a bite make sure to hold mandibular tray with two fingers.
- No wax bites are accepted.
- When taking the bite, make sure the pin is properly placed into the dimple and the trays are not touching. If they are first attempt to grind the trays down a bit, if after some grinding trays are still touching open up the pin by 1mm or 2mm and note by how much under special instructions in order to request the modeling team to close Vertical by same amount.
- When taking the bite it is important to tell the patient not to bite too strongly as this may bend the tray warping the bite.

Patient Tips:

- Patient should be at 45 degree angle vs. laying back flat in the chair (Exception is Direct Bite and then lay patient back to get mandible to fall, then take bite).
- When measuring the lip length with the lip ruler, make sure patient is fully seated.
- Patient’s ideal teeth shade can be obtained by matching the white of the eye, when no previous denture shade difference exists.
- Do not attempt to reconnect the posteriors when sending orders.

Other Tips:

- If doing a single arch it is always important to remember to provide a stone cast of the dentition.
- Always ask assistants not to throw away posterior attachments. They are essential to the scanning process.
Flexitime® Fast & Scan
The Perfect Scan. The Perfect Fit.

Digitize Your Traditional Impression Material

Flexitime Fast & Scan material supports CAD/CAM manufacturing of prosthetic restorations and offers optimal workflow integration for impressions and their digitalization. Impressions are scanned directly without the need for powder, providing greater accuracy, improved efficiency, and access to modern CAD/CAM restorations.