



## Clinical/Product Line Knowledge Base



**DENTCA, INC.**

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# Clinical & Product Line Knowledge Base

## General aspects.

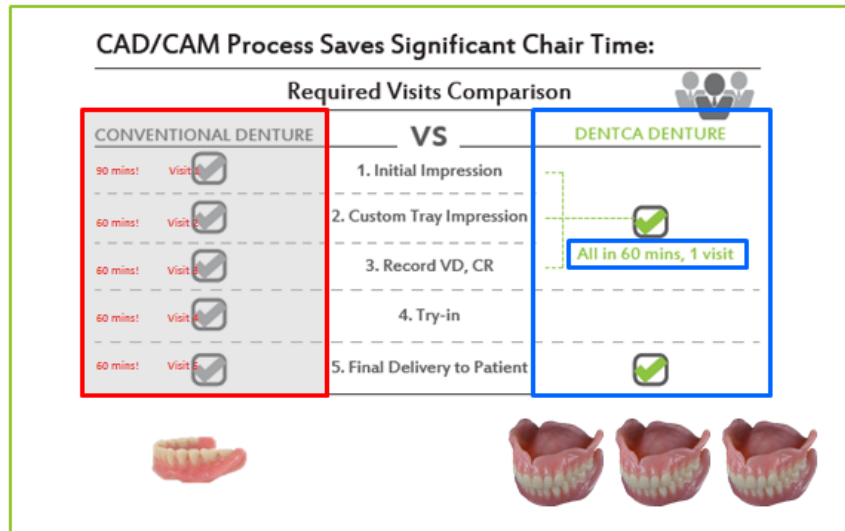
While it is not a laboratory technician's job to give clinical advise it is important for them to have a general knowledge base of how the DENTCA system works, the products available, and what supplies to use.

## Benefits of Dentca Dentures.

- Only 1 patient visit needed before Try-in denture processing.
- Total chair time: 90 mins. (Dentca) vs. 5+ hours (conventional).
- No initial Investment necessary. (Except for tray purchase).
- Deliver 100% accurate final dentures from just one impression.
- Provide replacements or re-orders with no additional chair time.
- Accurate design with CAD technology.
- Advanced manufacture process allows for less distortion.
- Comfortable to wear.

## How can they improve your doctor's practice?

Depending on patient conditions and familiarity with the impression procedure; Dentures can be finished and delivered in less number of appointments and reduced chair time than conventional dentures. Thus, opening more space for new appointments at the office, and allowing your practice to increase the profitability and effectiveness of chair time invested.



By reducing the number of appointments into as little as three, and total chair time to less than two hours; CAD/CAM dentures can increase revenue per hour and reduce the chair time cost, thus greatly increasing the margin profit not only by spending less but also opening new appointments to see other customers.

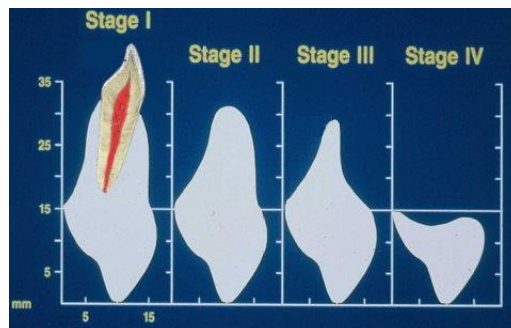
Productivity Comparison		
CONVENTIONAL DENTURE	VS	DENTCA DENTURE
≈ \$400/hr	Chair Time Productivity	≈ \$2,000/hr
≈ 5+ Hours	Total Chair Time	≈ 60 minutes
≈ 30 Days	Processing Time	3-5 Days
5 Visits	Patient Visits	2 Visits

DENTCA's patented tray system saves significant time by enabling VD and CR capture on the same tray as the impression, all in the first patient visit – usually all in 60 minutes or less.

### Helping select your doctor's first case.

While all cases are doable with the DENTCA system, it's recommended that your doctor starts with a simple case:

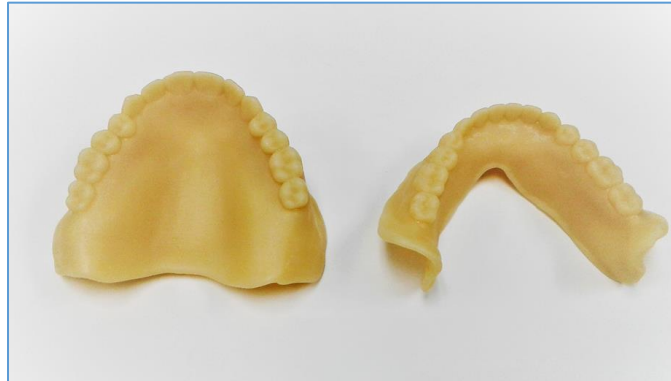
- Class I.
- Sufficient ridges.
- Not much flabby tissue.
- Coherent/Lucid patient.
- Able to follow instructions.
- Complete case.



### Main Product Line.

**3D Printed Conventional Denture:** Full CAD/CAM technology. Denture base and teeth are printed from a proprietary printing material; and glued before post-curing utilizing the same material used for printing.

**Try-in:** Full CAD/CAM technology. 3D printed prototype from DENTCA's proprietary photo curable 3D printable resin material.



### Supply Product Line.

**Lip ruler:** Used for measuring upper lip length, in order to establish the length of the incisor teeth.



**Jaw Gauge:** Used for obtaining Vertical Dimension.



**EZ-Tracer:** Used for CR tracing registration.



**Single Arch attachments:** Used for tracing on dentate side of single arch cases. Come in two sizes S/M & L/XL Upper and lower.



**Trays:** Used for impressions on edentulous arches. Come in Four sizes: S, M, L & XL.



**Included in Starter Kit**



**Available Product Customizations.**

**Desired Anterior Overjet:** Regular (Class I); Retrognathic (Class II); Prognathic (Class III).

**Tooth Shapes:** Ovoid, Square & Universal (Square Tapered)

**Tooth Shades:** A1, A2, A3, A3.5, B1, B2.

**Gum Shades:** Light Pink, Original Pink, Dark Pink.

## System specifics.

The system works in three appointments as described below:

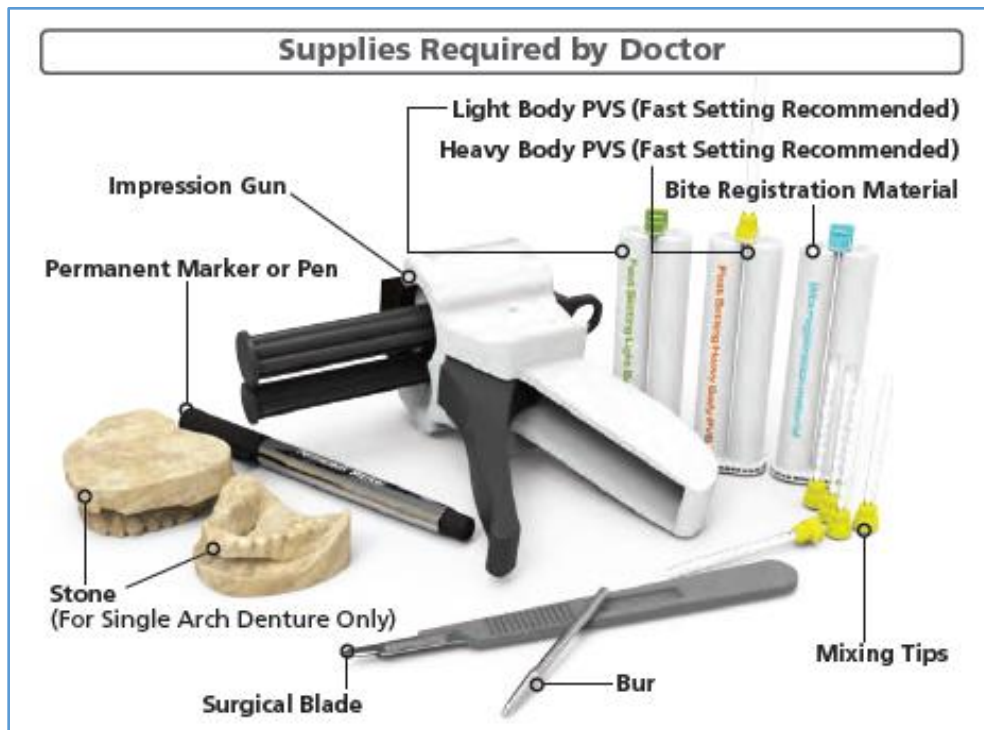
- Initial clinical appointment: In this appointment, the doctor obtains all the necessary information to create a denture.
- Try in appointment: The doctor tries out a prototype denture resembling the final product in the patient's mouth to ensure everything will work out properly. (Not included on Immediate Dentures).
- Final Delivery: The dentist delivers the final denture.

### Initial clinical appointment (Complete dentures):

The total average chair time for this appointment is 60 minutes.

This appointment contains the following steps:

- Tray Selection.
- Final impression taking.
- Capture Vertical Dimension (VD).
- Capture CR.
- Bite registration recording.
- Other measurements and values recorded.
- Enter the order online.
- Send the impressions and order form into dental laboratory for processing.



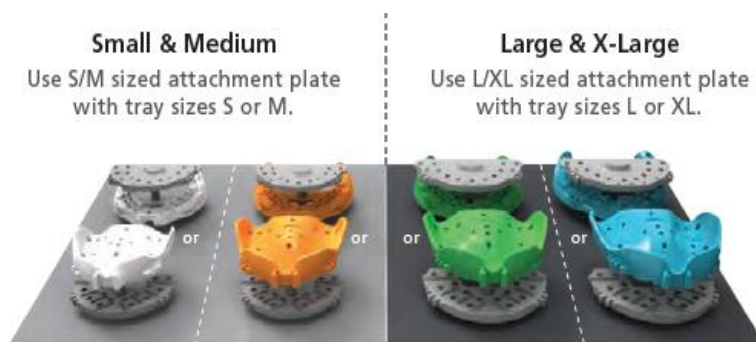
## Tray Selection.

Impression trays come in four different sizes and they can be mixed and matched between colors if necessary, in order to fit different oral anatomical needs. The Dentca trays are thermoplastic; which means they can be modified with an open flame.

The trays are color coded by size as follows:



Single arch trays are gray colored and come in two sizes, small and large.



Select proper tray size

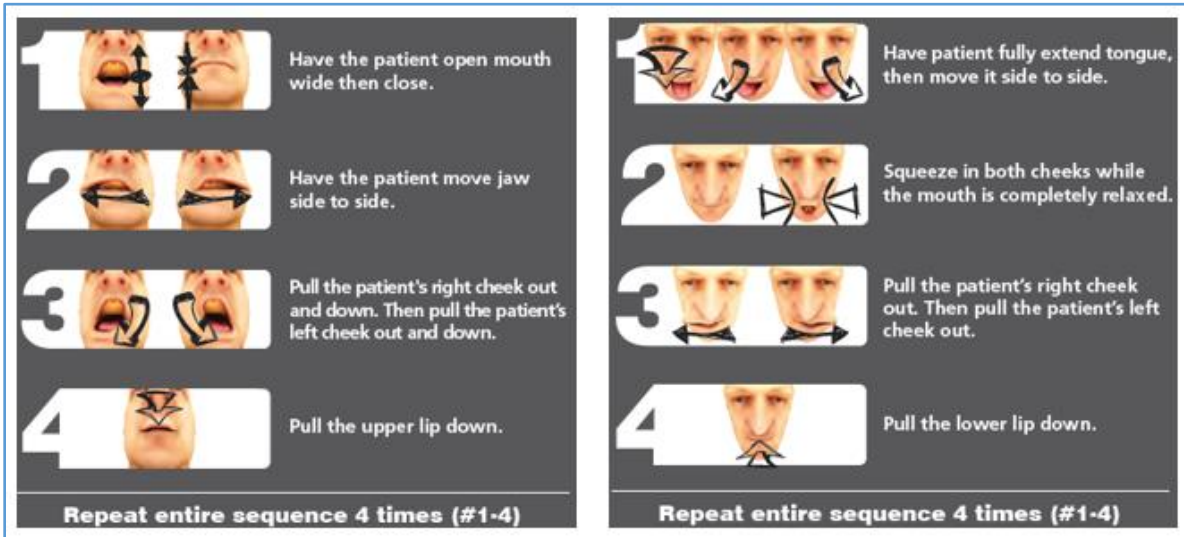
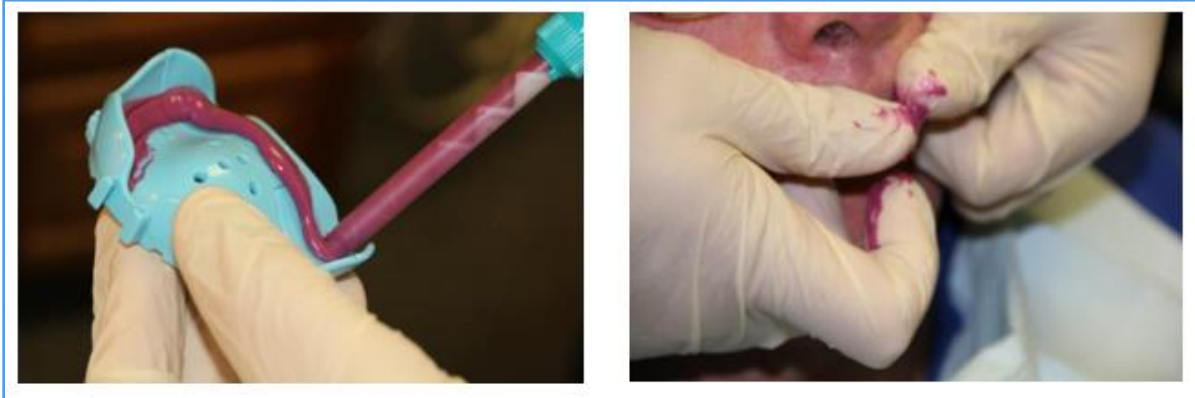
- Tray size can be determined by inserting trays directly into patient's mouth.
- Tray size can also be determined by matching the **borders** of the tray to the **borders** of an existing denture.
- If a patient is between tray sizes, **select the smaller of the two sizes.**



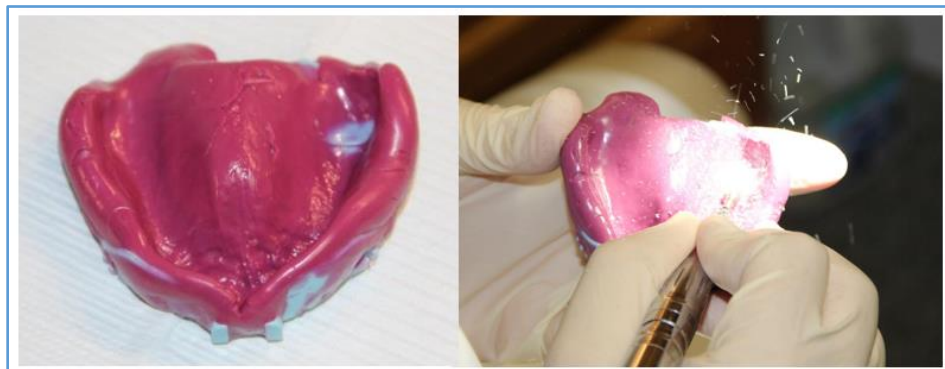


Final impression taking.

- Step 1: Use Fast-setting Heavy Body PVS
  - Apply PVS over entire tray area. (Not just borders).
  - Seat and border mold.



- Step 2: Tray Adjustment
  - Relieve exposed tray areas, in order to create your custom tray.





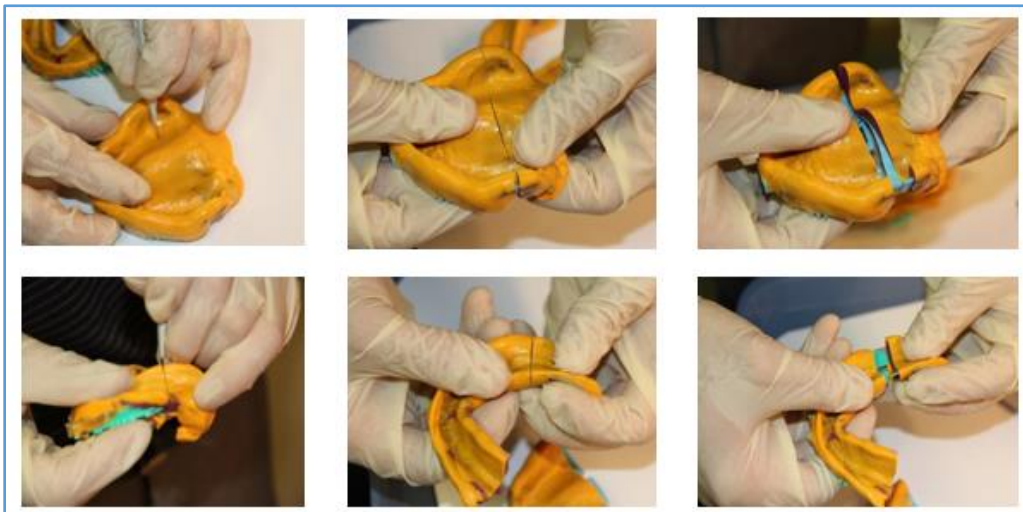
- Step 3: Apply Light Body PVS over heavy body impression.
  - Seat and border mold to capture anatomical landmarks.
  - Note: When applying light body only a small uniform layer is required.



- Step 4: Repeat the same with lower Impressions.

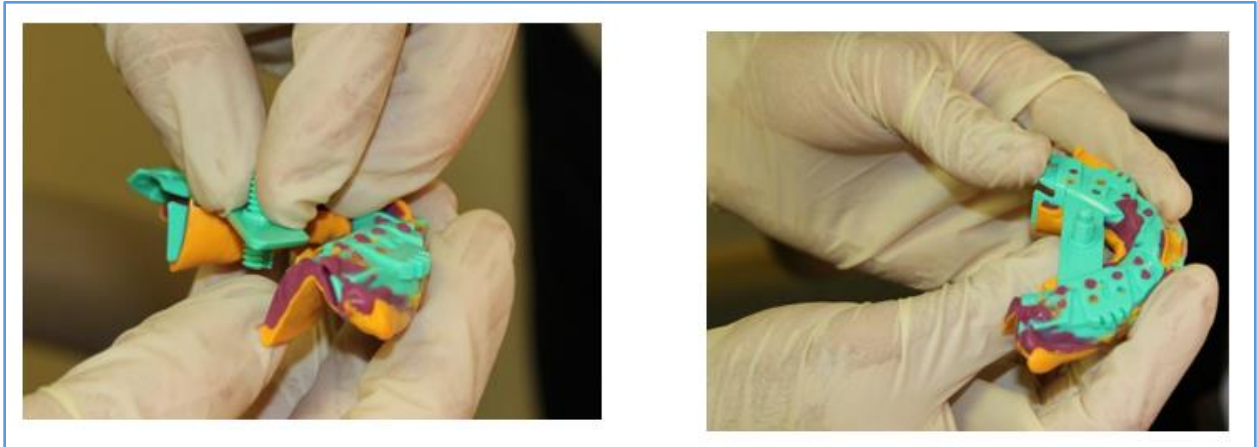


- Step 5: Removing Posterior Attachments.
  - Cut through posterior impressions by making one clean cut.
  - Wiggle and detach posteriors. **DO NOT THROW AWAY ATTACHMENTS!**



Capture Vertical Dimension.

- Step 1: Pin Placement.
  - Clean Lower impression releasing the lingual grooves.
  - Attach the tracing pin to the lower tray, until you feel it snap into place.




- Step 2: Pin Adjustment.
  - Method 1: Place trays in the mouth & adjust the pin until the patient's lips barely touch at rest.




- Method 2: Insert previous dentures and use the Jaw Gauge/Tongue depressor & marker to get a baseline VD. Then determine by how much the bite should be opened/closed. Insert impression trays and adjust pin to reach target VD.

▲ Ensure trays are not touching at any point. ▲  
If contact occurs:

- Raise center pin to create space then prescribe in the order to decrease VD by the amount the pin was raised, or
- Relieve the occlusal sides of the trays with a bur.





• If pin is interfering with anatomy or causing discomfort, break the pin at the break line.

## Capture CR.

- Step 1: Attach EZ tracer to upper tray.
  - Remove yellow portion of the EZ tracer and adhere it to the Upper tray.
  - Make sure the red line is not in contact with the tray.



- Step 2: CR Tracing.
  - Place both trays back in the patient's mouth.
  - Ask him not to bite too hard and proceed to do one of the three tracing methods.



**A** Instruct patient to slide his/her mandible back and forth from the most anterior to the most posterior position.



- Guide the jaw with your hand to capture CR position.

**B** Starting in most posterior position, instruct patient to slide mandible laterally to the right, then return to posterior position. Repeat.

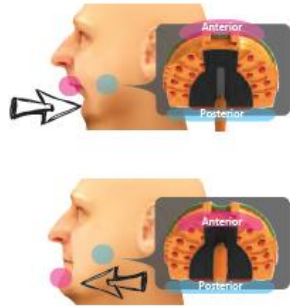


**C** Starting in most posterior position, instruct patient to slide mandible laterally to the left, then return to posterior position. Repeat.



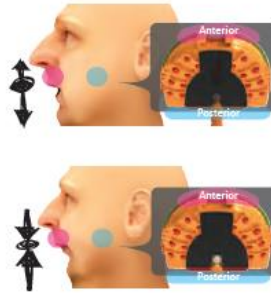


**A** | Instruct patient to slide his/her mandible back and forth from the most anterior to the most posterior position.



• Guide the jaw with your hand to capture CR position.

**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.

- Step 3: CR dimple creation.
  - Locate your desired CR point.
  - Create a dimple in which center will be the traced CR position.



### Bite Registration Recording.

- Step 1: Tray seating.
  - Seat trays into the mouth.
  - Make sure the pin locks into the dimple and that the trays are not touching in the posterior section.
  - Ask patient not to bite too hard.
- Step 2: Registration.
  - Stabilize lower tray with your fingers to prevent tilting.
  - Inject bite registration material between the trays.
  - Remove the trays out of the mouth in one piece.
  - Evaluate the impression making sure the pin is locked into the dimple.



### Other Measurements and Values Recorded.

- Step 1: Lip Ruler Measurement.
  - Place lip ruler into the mouth, resting on the incisive papilla.
  - Make sure patient is fully seated upright.
  - Make sure the upper lip is relaxed
  - Record upper lip measurement, by looking at the numbers from eye level.



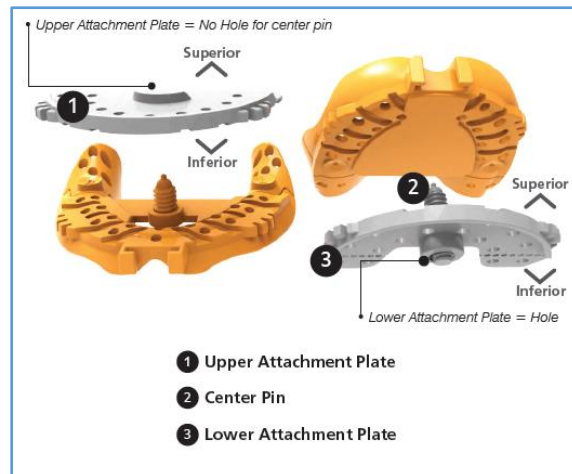
- Step 2: Teeth Shade selection.
  - Find out the desired shade by using a vita shade guide.
- Step 3: Gum Shade selection.
  - Find out the desired shade by using Whole You's shade guide.
- Step 4: Packaging.
  - Disinfect case and put in a box, making sure posterior attachments are included.
  - Include order sheet in the box and seal it tightly.
  - Attach shipping label to box and request a pickup.



### Initial clinical appointment (Single arch dentures):

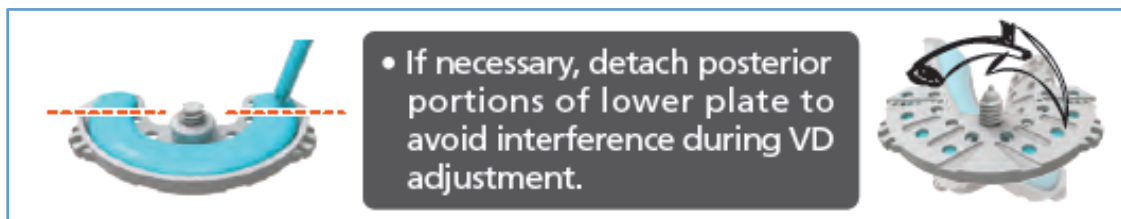
The total average chair time for this appointment is 40 minutes.

Procedure for single arches is almost the same except only one arch (edentulous) is impressed; the dentate arch will be using a single arch attachment so the tracing can be done.



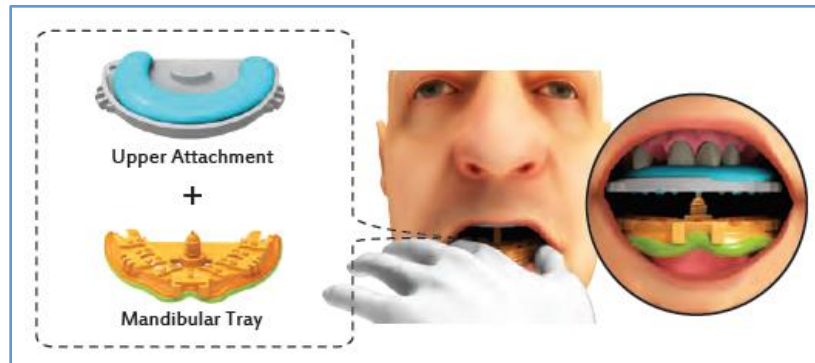
### Impression process.

- Step 1: Single arch attachment Imprint.
  - Place bite registration material on a Single Arch attachment.
  - Place on dentate arch in order to obtain a dentate side imprint.



- Step 2: Impression taking.
  - Take a final impression of the edentulous arch using the same steps already described in the previous section.
  - Cut posterior sections.
  - Proceed to do all steps like the previous section.





- Step 3: Dentate arch stone model.
  - Take an alginate impression of the dentate arch.
  - Pour the stone of the impression and obtain a stone cast.
- Step 4: Packaging.
  - Disinfect case and put in a box, making sure posterior attachments and opposing stone are included.
  - Make sure the stone is protected by bubble wrap.
  - Include order sheet in the box and seal it tightly.
  - Attach shipping label to box and request a pickup.



## PRESHIPPING EVALUATION CHECKLIST

### Dear Doctor:

The following checklist was made to help you identify possible errors, which could affect the outcome of your Try-in/Final Denture. Feel free to use as necessary, in order to ensure your impression follows all the recommended guidelines for successfully modeling/processing your case.

#### 1. Impression

- Both heavy body and light body PVS impression material were used for impression.
- Borders are of adequate thickness (2-3 mm).
- Borders and ~~frnum~~ are properly represented.
- No exposed tray areas appear in impression area.
- Hamular notches (maxillary) and/or Retromolar pads (Mandibular) are properly represented.
- Impression material looks even when looking at a cross cut of the impression.
- No steps or uneven material appears in the light body impression.
- Cutting of the impression was done in one clean movement.



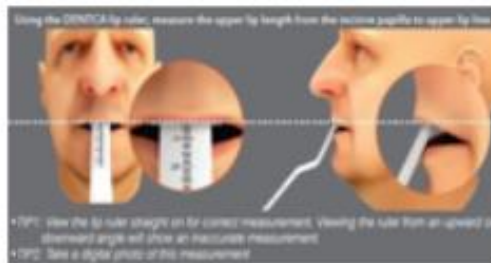
#### 2. CR Tracing/Bite Registration

- Pin was adjusted and verified to represent the patient's VD.
- PVS Bite registration material was used for the bite registration.
- Tracing Pin is locked into the dimple created when CR tracing.
- The trays are not touching.
- Patient didn't bite too hard.
- Tray was held in place when taking bite registration.



**3. Shipping Package**

- All the required components are included in the box:
  - Upper/ lower impression with all the posterior attachments.
  - Pin and pin plate.
  - Bite registration.
- Lip length was measured and recorded .
- Offline instruction forms are filled and included/online order was placed.



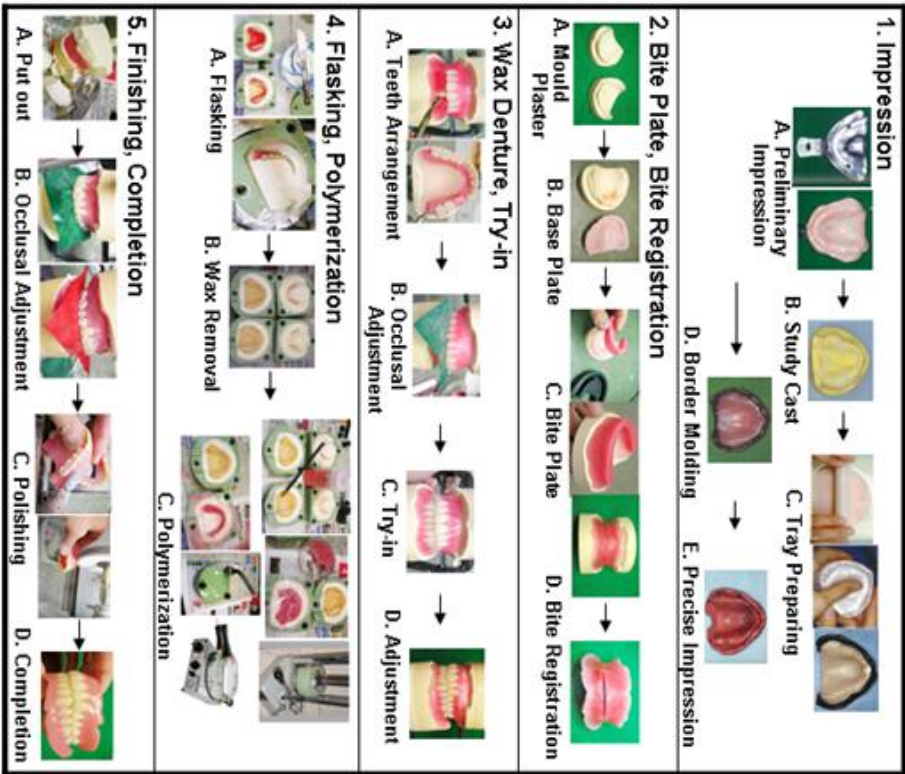
**4. Single Arch Impressions.**

- An opposing stone model was included in shipment.
- Bite registered in single arch attachment matches opposing stone.
- If the patient has an opposing partial removable denture, patient was wearing it when opposing impression and bite registration were taken.
- A single arch tray was used to do CR tracing, VDO measurements and bite registration.



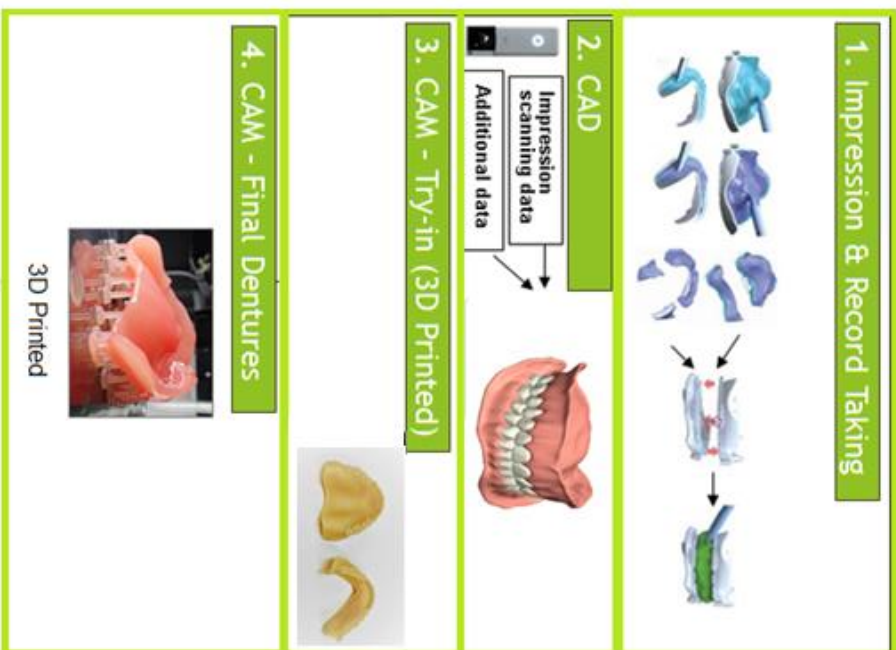
# Fabrication Comparison Overview

## Conventional



## DENTCA<sup>™</sup>

CAD/CAM DENTURE





## Impression QC

Impressions are scanned and raw images are sent to DENTCA for Design

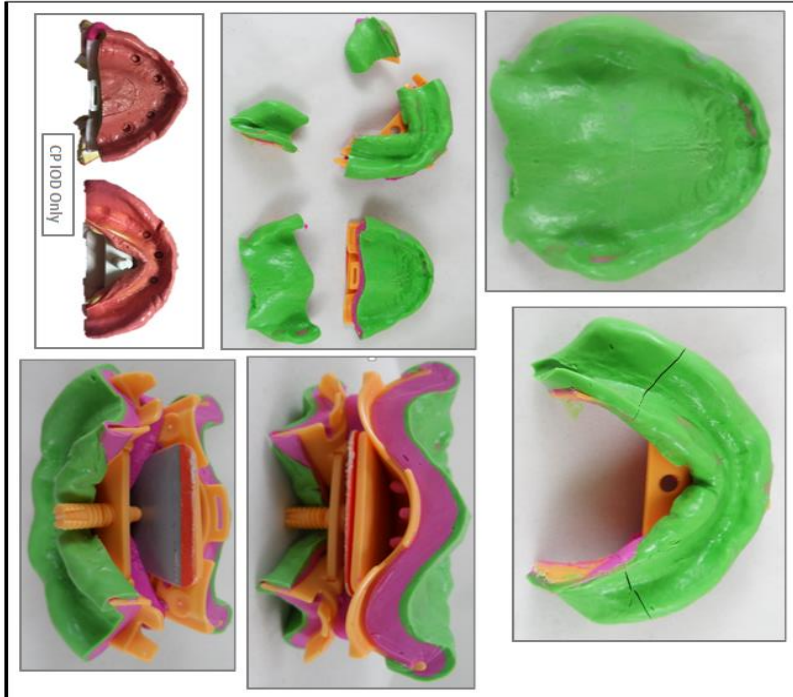
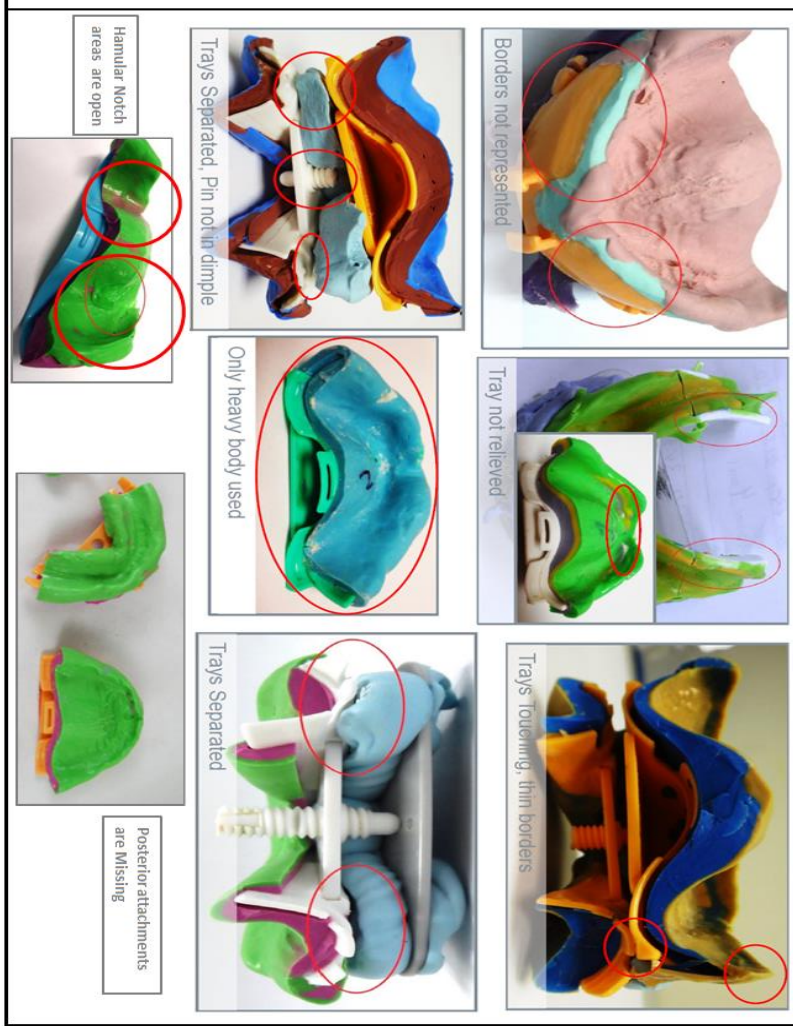
- ▶ Activity Location:
  - Dental Laboratory.
- ▶ Average Time Required:
  - 1 hour.

Disinfect (Cavicide) your impressions for 5-10 minutes and then evaluate them:

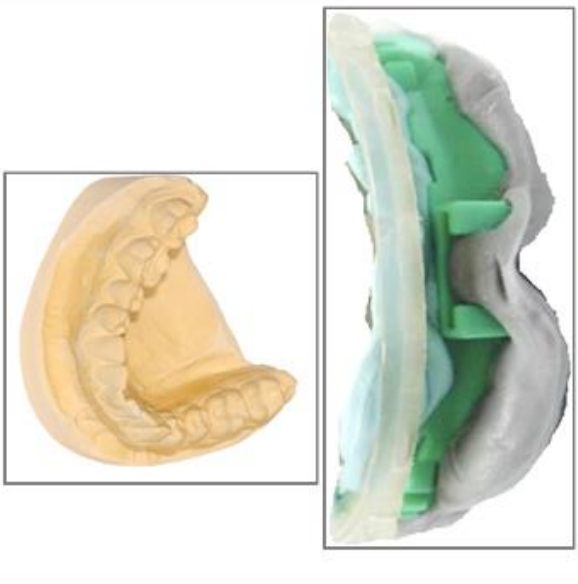
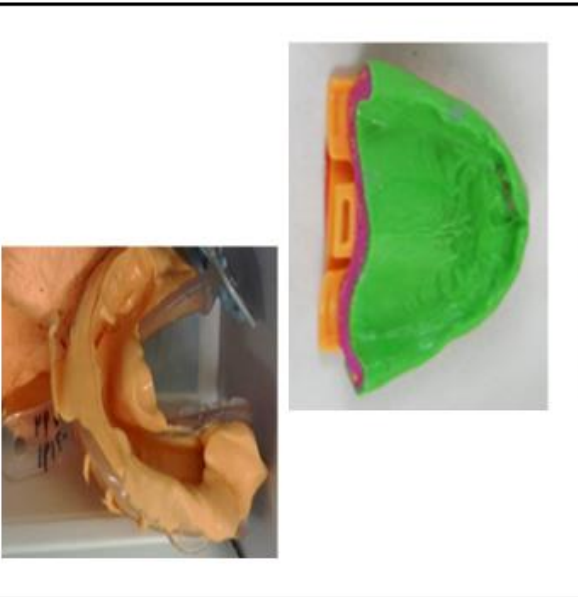
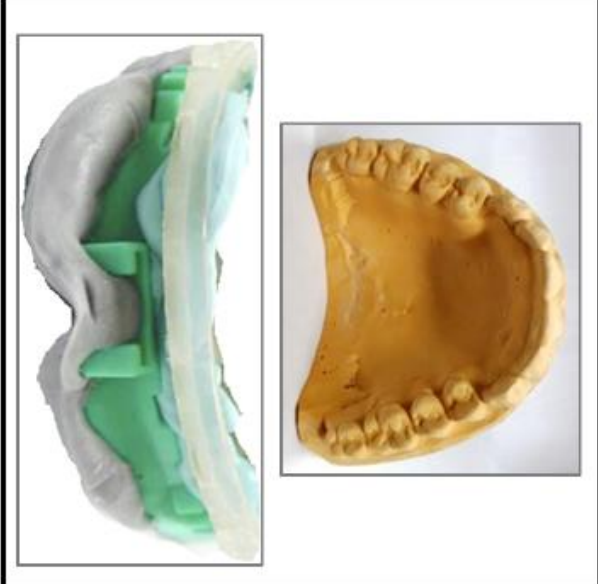

Look for areas of potential issues that deviate from ideal:

- Dental Laboratory → Sales Rep & Dentca.
- Once identified, it is recommended you make your doctor aware of the issue.
- Description of issue → Potential complication during Try in → Fix during try in stage → How to prevent it in the future.

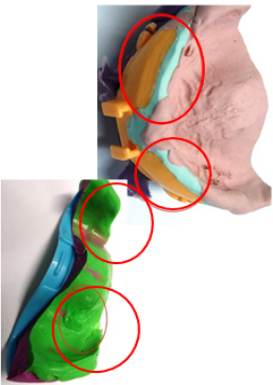
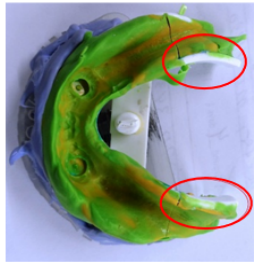
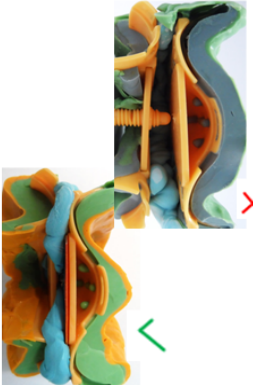
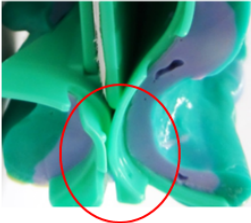


Acceptable	Complete Denture Impression Receiving	Non-Conformant
 <p>Acceptable</p> <p>CP IOD only</p>	 <p>Borders not represented</p> <p>Trays Separated, Pin not in dimple</p> <p>Only heavy body used</p> <p>Trays Separated</p> <p>Trays Touching, thin borders</p> <p>Hamular Notch areas are open</p> <p>Tray not relieved</p> <p>Posterior attachments are Missing</p>	








Single Arch Impression Receiving		
Type	Acceptable	Non Conformant
Single Arch Upper Denture		
Single Arch Lower Denture		

**Receiving an Impression**

Issue	Issue Description	Image	Is this issue critical?	Why is it important?	Does the case proceed?	Next action
Upper Impression: Hamular notches/Labial Border areas are not properly represented..	Borders are too thin/ Have steps in between Heavy/Light body and/or the tray is showing/Impression was taken with only Heavy body. Hamular Notches are open don't fully cover whole area.		Yes	It could cause a retention issue.	Yes	Fill gaps with putty prior to scanning and notify CS that the impression borders are not properly represented and could have a retention issue.
Lower Impression: Retromolar Pad Areas/Buccal Shelves/Lingual Frenum areas are not properly represented.	Borders are too thin/ Have steps in between Heavy/Light body and/or the tray is showing/Impression was taken with only Heavy body. Retromolar pad areas are not fully covered.		Yes	It could cause a retention issue.	Yes	Fill gaps with putty prior to scanning and notify CS that the impression borders are not properly represented and could have a retention issue.
Trays are not properly seated	When viewing trays from a posterior point of view, the lower tray is tilted to one side.		Yes	It could cause a lateral open bite.	Yes	Notify CS that the trays are not properly seated and the try in could have a lateral open bite/tilted occlusal plane.
Trays are touching in the back	When viewing trays from a posterior point of view, the upper and lower trays are contacting.		Yes	It could cause an open bite.	Yes	Notify CS that the trays are touching in the back and the try in could have an Anterior Open Bite.

Receiving an Impression

Issue	Issue Description	Image	Is this issue critical?	Why is it important?	Does the case proceed?	Next action
Bite material is distorted	There's a gap between the tray and the bite impression material/Bite material appears torn.		Yes	It could cause an Open Bite.	Yes	Notify CS that the bite material is torn/separated and the try in could have an Anterior Open Bite.
CR tracing is improperly done.	CR tracing was not done/ No dimple was created/The head of the pin is not in the dimple/Upper and lower tray don't look aligned.		Yes	It could cause an Open Bite/Cross Bite.	Yes	Notify CS that No CR tracing was done/head of the pin is not in the dimple/bite is shifted and the try in could have an Open Bite/Cross Bite.
Posterior Attachments were not included/missing			Yes	Denture cannot be modeled without it.	No	Notify CS that No posterior attachments were included. Case will be rejected and sent back to the doctor.
Other Impression Issues.	Bubbles are present in the impression/ A piece is missing when cutting the posterior attachments.	N/A	No		Yes	Fill gaps with putty prior to scanning.
For single arches: No Opposing dentition Issues.	No stone model of the opposing dentition/Opposing Impression was included.		Yes	Occlusion will not match the opposing dentition	No	Notify CS that we are missing an opposing dentition stone/Impression. Case will be put on hold and CS will contact the doctor for next steps.
For single arches: No opposing stone issues.	No stone model of the opposing dentition was included but doctor sent an opposing impression.		No	Occlusion will not match the opposing dentition. It could cause an Open	Yes	Notify CS that the doctor sent an opposing impression. Request to the corresponding operation team to pour the stone.
For single arches: Impropper bite taken.	No single arch attachment was used/bite was directly taken on impression tray	N/A	Yes		No	Notify CS that no single arch attachment was used. Case will be put on hold and CS will contact the doctor for next steps.
For IOD: Implant position is unclear in the Impression.	Implant impressions are oddly shaped, not clearly displayed.	N/A	Yes	Implant hole position might be off on the try in	Yes	Notify CS that the implant positions are not properly displayed on the Impression.

## Email Templates

Below you can find email template that can be used for client communications when issues are found on impressions:

### Issues with the impression. (Rejection)

Dear Dr. \_\_\_\_\_, I hope you are doing well.

Today/Yesterday we received a case for Patient \_\_\_\_\_, Order # \_\_\_\_\_; upon receiving the case, we encountered the following issues: (Select all that apply)

- The impressions were not taken using our trays. Please bear in mind without following our system technique we cannot process your case.
- No posterior attachments were included in the shipment. Please bear in mind that without the posterior attachments the impressions are incomplete.
- PVS material was not used for the impressions. Please bear in mind other materials like \_\_\_\_\_ distort easily.
- Case request is for an immediate denture, we apologize, but currently do not offer that service to the public.

Due to these reasons, we are afraid we have no choice but to reject the case until it meets the necessary criteria.

**The above email works only as a response for doctors inquiring an order status on a case on hold, for emails informing a case will be put on hold please use:**

Dear Dr. \_\_\_\_\_, I hope you are doing well.

Today/Yesterday we received a case for Patient \_\_\_\_\_, Order # \_\_\_\_\_; upon Receiving/Modeling the case we encountered the following issue: (Select all that apply)

- We did not receive a stone cast for the mandibular/maxillary arch. Please bear in mind we cannot model the denture, without having an opposing stone to articulate the occlusion with. Please send us the opposing stone at your earliest convenience.
- The enclosed stone model does not match the provided bite registration. Please provide us with a new stone that matches the bite.
- Adjustment requests were not entered online. Please bear in mind we cannot process the case without instructions on how to proceed.
- In the online adjustments, you requested \_\_\_\_\_ however; we cannot fully accommodate the request because \_\_\_\_\_, we propose instead to \_\_\_\_\_.  
**(used for lack of space or software limitations)**

Please keep in mind your case will be put on hold, until this matter is resolved/we receive further instructions.

**Issues with the impression. (Notification)**

Dear Dr. \_\_\_\_\_, I hope you are doing well.

Today/Yesterday we received a case for Patient \_\_\_\_\_, Order # \_\_\_\_\_; upon receiving the case, we noticed issues that could be of concern at the try in stage. Please see the noted issues below, and the potential issues you could be encountering at the try in stage: (Select all that apply)

- The Maxillary/Mandibular impression was taken only with Heavy Body PVS; this could cause a retention issue.
- Trays are touching on the back/front; this could cause an open bite.
- Borders are not properly represented; this could cause a retention issue.
- No CR tracing was done; this could cause bite and occlusal scheme to be off.
- The pin is not locked into the dimple; this could cause bite and occlusal scheme to be off.
- The impression material appears distorted, this could cause retention issues.
- The bite shifted during the record process, this could cause occlusal issues.
- In the order form, you requested for the VDO to be closed by \_\_\_ mm, however; we are afraid we cannot fully accommodate the request, due to a lack of space, we propose instead to close it by \_\_\_ mm.
- The impression is torn/ripped, this could cause a retention issue.
- Clear PVS was used to record a bite, this could cause bite and occlusal scheme to be off due to scanning errors.
- The Maxillary/Mandibular tray is tilted; this could alter the occlusal plane scheme.
- Mandibular tray is bent; thus, the bite is not stable. This can cause occlusal issues.
- In the order form you requested \_\_\_\_\_ however; we cannot fully accommodate the request because \_\_\_\_\_, we propose instead to \_\_\_\_\_.

We will be moving forward with the case, however we wanted to notify you ahead of time in order for your staff to be able to anticipate potential issues at the Try-In stage.

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- The enclosed stone model does not match the provided bite registration. Please provide us with a new stone that matches the bite.
- Adjustment requests are unclear/insufficient.
- In the online adjustments, you requested \_\_\_\_\_ however; we cannot fully accommodate the request because \_\_\_\_\_, we propose instead to \_\_\_\_\_.  
**(used for lack of VD space or software limitations)**

Please keep in mind your case will be put on hold, until this matter is resolved/we receive further instructions.

## Scanning

When scanning it is necessary to obtain 3 files:

- Bite.
- Maxillary/Maxillary Stone.
- Mandibular/Mandibular Stone.

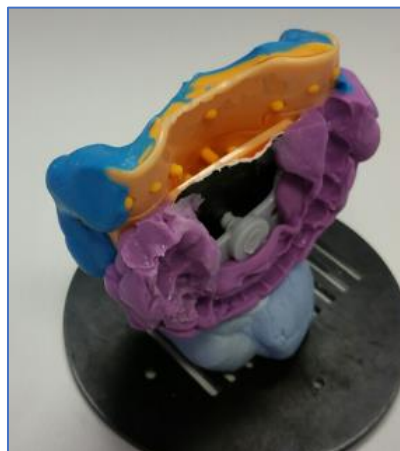
### Step 1: Impression Preparation.

- Remove center pin and make sure bite is stable. Clean bite area so trays can be read properly.
- Mount your bite impression on a 90° angle on the scan base with putty.
- If necessary, prep the impression with powder or fixing spray. Usually necessary when impression material is glossy. (Not needed on the stone).

For Complete cases the bite is scanned Upper and lower arch together.

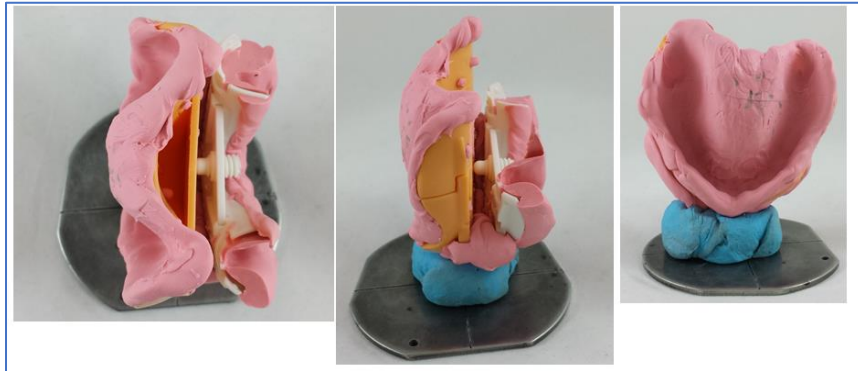


For single arches the bite will be scanned without the stone. (it must show visible occlusal surface areas of the bite so it can be matched to the stone).





Suggested impression scan positions: 90°



Step 2: Loading.

- Place inside scanner and launch your desktop application.

Step 3: Enter Patient information.

- Enter Order number or patient name in the Patient ID section of the New patient info window (ex. 923-1103) and click create.
- If Order number already exists Click on browse and search for order number (see next image)

A screenshot of a software window titled "New patient info". The window contains a form with the following fields: Patient id, Patient external id, SSN, First name, Last name, Address, City, Country, and Clinic. At the bottom of the window, there are three buttons: "Browse", "Cancel", and "Create".

Step 4: Enter scan information.

- Select the type of scan being made.

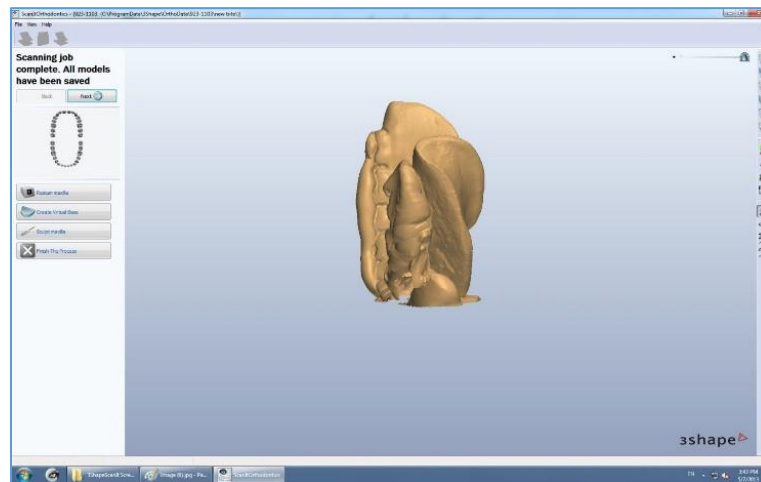
A screenshot of a software window titled "New patient model set info". The window contains a form with the following fields: Attach model (with a dropdown menu), Patient id (923-1103), Model set id (new bitel), Model set external id, Comment, Operator, Model set date (5/ 7/2013), Scan date (5/ 7/2013), and Scan time (3:32:14 PM). At the bottom of the window, there are two buttons: "Cancel" and "Create".

### Step 5: Scan.

- Initiate scan.

### Step 6: Scan review.

- Check scan progress on your window.
- Once scan is finalized check to make sure all areas appear properly filled.
- If scan is incorrect, rescan by clicking Rescan option panel.
- When done scanning, click next for the next scan.

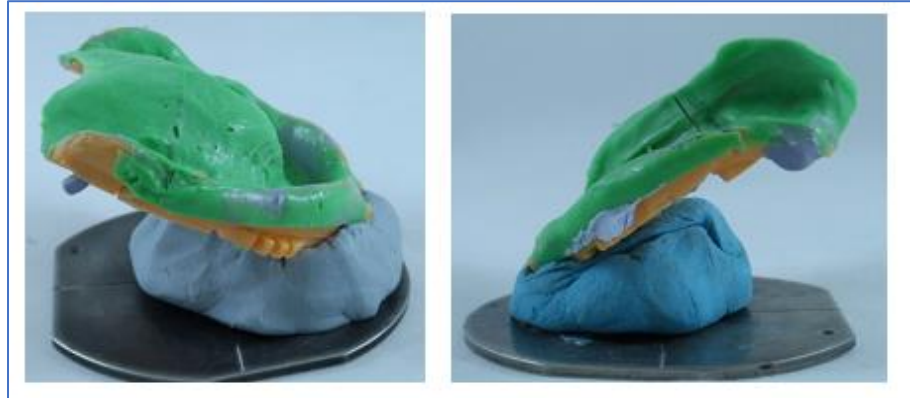


### Step 7: Intaglio scans.

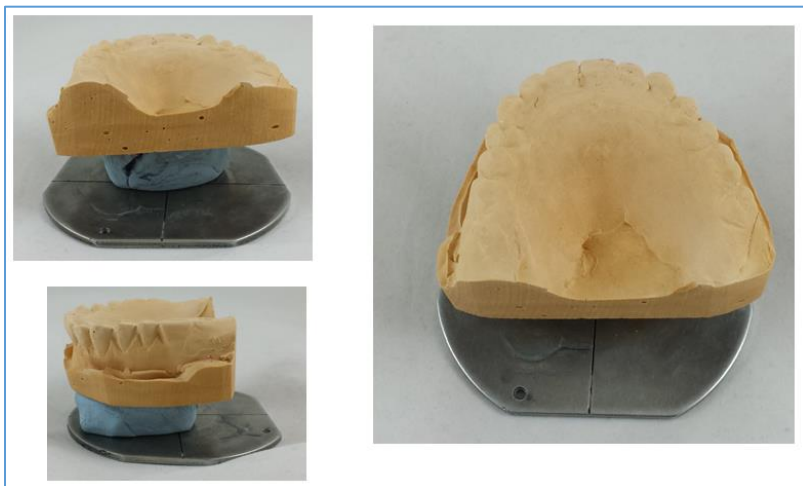
- Separate bite section to obtain individual trays and reattach the posterior attachments carefully. Fill all holes and bubbles with clay.
- It might be necessary to fix borders with superglue to ensure continuity of impression.



Suggested impression scan positions: 45°



Suggested stone scan positions: 0°



Step 8: Maxillary/Mandibular scans.

- Repeat steps 2-6 with other scans.

**Step 9: Ordering.**

- Log into [www.Dentca.com](http://www.Dentca.com)
- Place order and upload the files on prescription page.

### DENTCA Standard Complete Denture (Max + Mand.)

1. Superb fit – No human error involved. 2. Monomer-free Lucitone 199 acrylic available in a variety of shades 3. CAD/CAM designed for various arch shapes and sizes 4. Ideal balanced anatomic set-up 5. Patient's unique ID inscribed on restoration. 6 High quality Mondial teeth made with nano-pearl technology for enhanced durability and strength.

DENTCA Jaw Gauge  
\$30.00

DENTCA Tray (1 Max. + 1 Mand.) Choose from: S, M, L, or XL  
1 Box (10 sets)  
\$10.00

Doctor Name

Patient Number

Patient Name

Gender  Male  Female

Case Type : Try-in

Please choose whether you want to receive a Try-in or go directly to Final.

\* If this is your first case, you will receive a try-in denture first before going to final regardless of your case type selection.

Flat Plane

Yes  No

Patient Namestamp Optional - Add \$40.00

Small stamp of the patient's name placed on denture

Yes  No

Stippling : Stippling

Teeth shade color : A3

A1	A2	<b>A3</b>	A3.5	A4
BL2	B1	B2	C1	C2
C3	D2	D3		

Gum shade color : Light Reddish Pink

Upper lip length : 6mm

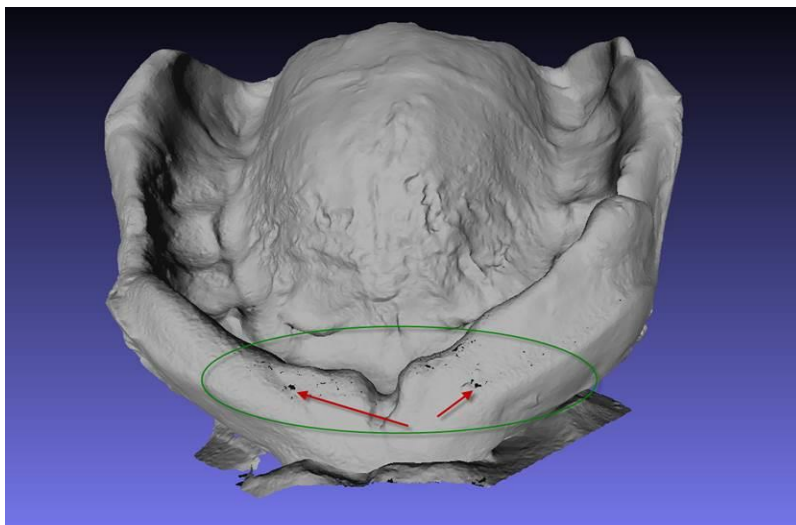
5mm	5.5mm	<b>6mm</b>	6.5mm	7mm
7.5mm	8mm	8.5mm	9mm	9.5mm
10mm	10.5mm	11mm	11.5mm	12mm

## Scanning QC

When inspecting case scan files, we are looking for the best possible scans. This consists of a multitude of things that we check for.

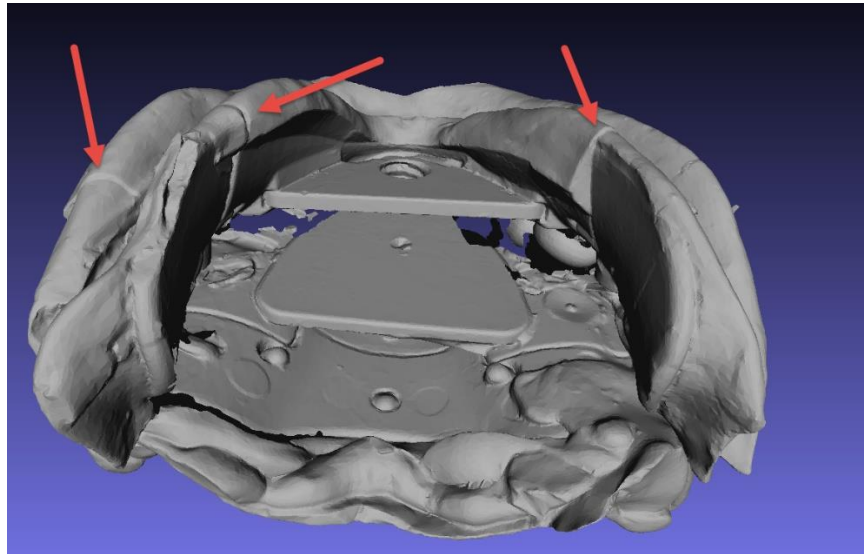
1. Incorrect file types. We are looking for .STL files. Any other files instead of this will be rejected.
2. No Steps on any part of the impressions (Bite, Maxillary, Mandibular)
3. Consistent bite impression with the Mandibular and maxillary scans (Identical Impression recognition)
4. Complete scans, no holes in the impressions
5. No smooth areas on the retro molar pad areas, as well as any on the anterior and posterior portions of the impressions.
6. Borders are full, not missing parts, and no lips/steps on the border that would later cause issues with the cut, and gun shell generation.
7. Full retro molar pad impression made in mandibular impression
8. Full posterior area on the maxillary behind, and around the hamular notch.
9. Full impression material exists on the anterior portions both lingual and buccal on mandibular and maxillary impressions.
10. No undercuts with the impressions, or sharp areas that might cause retention issues with the fitting.
11. Proper impressions on new scans, Bite, washes, and try ins. If there is not enough impression recognition with the scans, this will create open bites, or cross- bites.
12. No tray showing on any of the intaglio portions of the scans.
13. File sizes exceed the limit of 35mb (35,000kb), anymore this this and we will not be able to process the scan.
14. If any of the scan files violate any of the above conditions, delete the scan files and request for completely new scans to be submitted.

Figure one: There are holes in the anterior portion of the gumline of the maxillary=Rejection of case. The size of the hole does not matter.



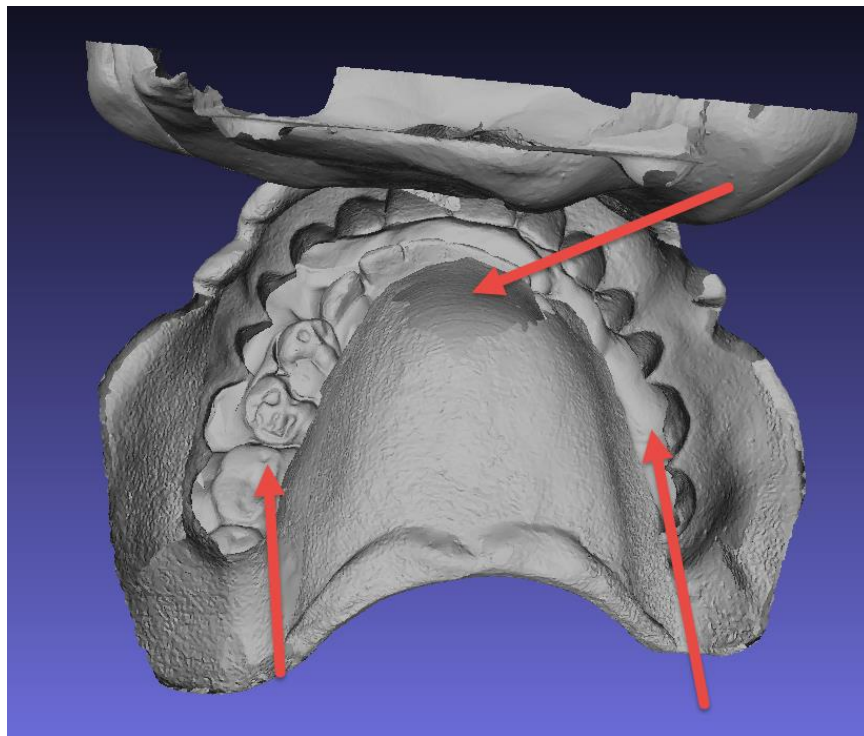
Solution= Powder the impression before scanning to help the scanner recognizes these areas.

Figure 2: there are a few steps on the mandibular. This will cause retention issues.



Solution= When attaching posterior portions make sure that they are flush on all sides of the intaglio side to eliminate steps.

Figure 3: missing impression area on the maxillary intaglio portion. This makes the impression completely un-usable as there is no patient impression.



Solution= Powder the impression prior to scanning to help the scanner see the material it is scanning.



Figure 4: There is not enough of the bite impression on the right sides of the bite to make a proper matching of the patient's opposing.

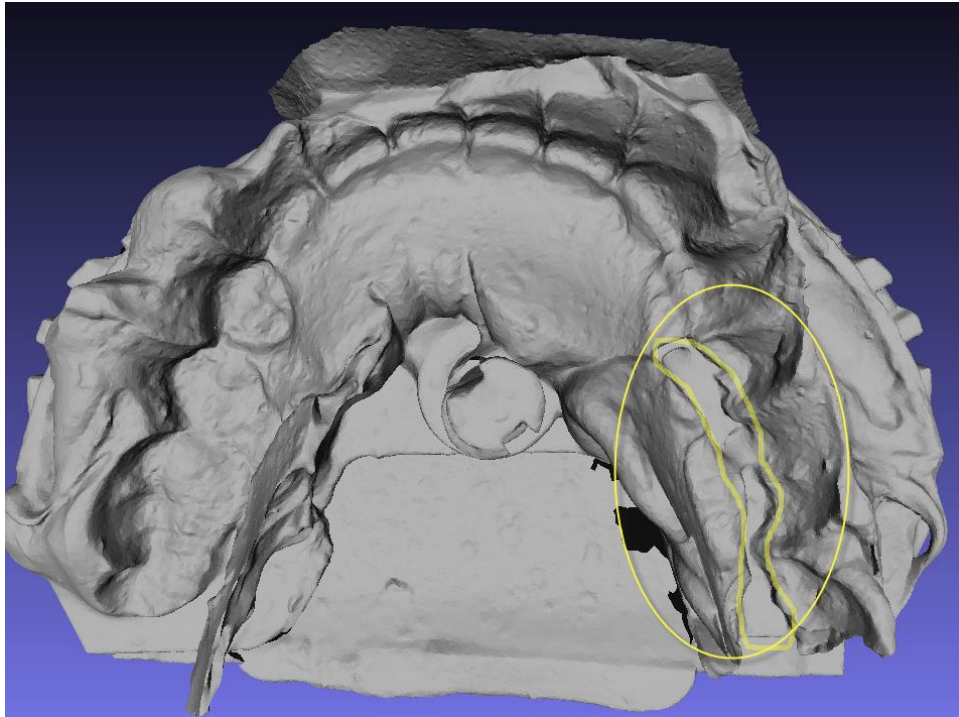
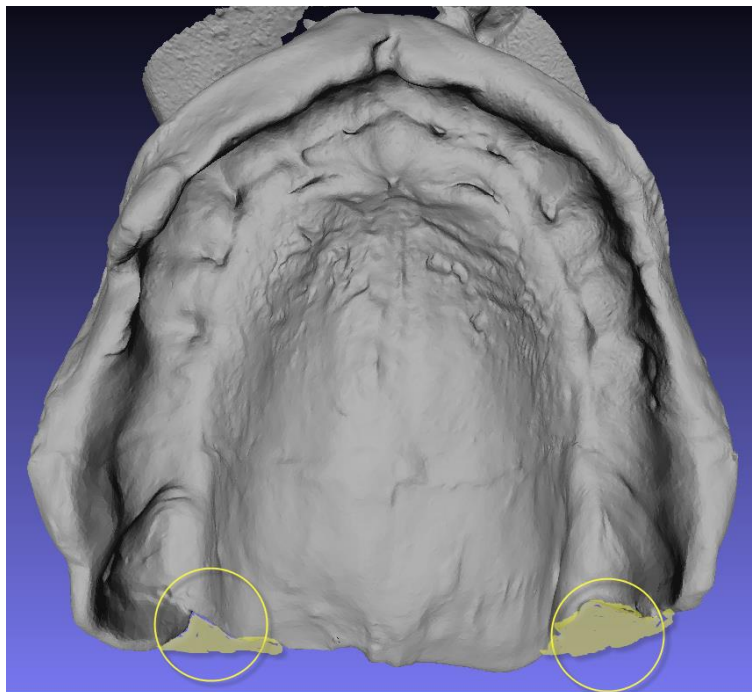
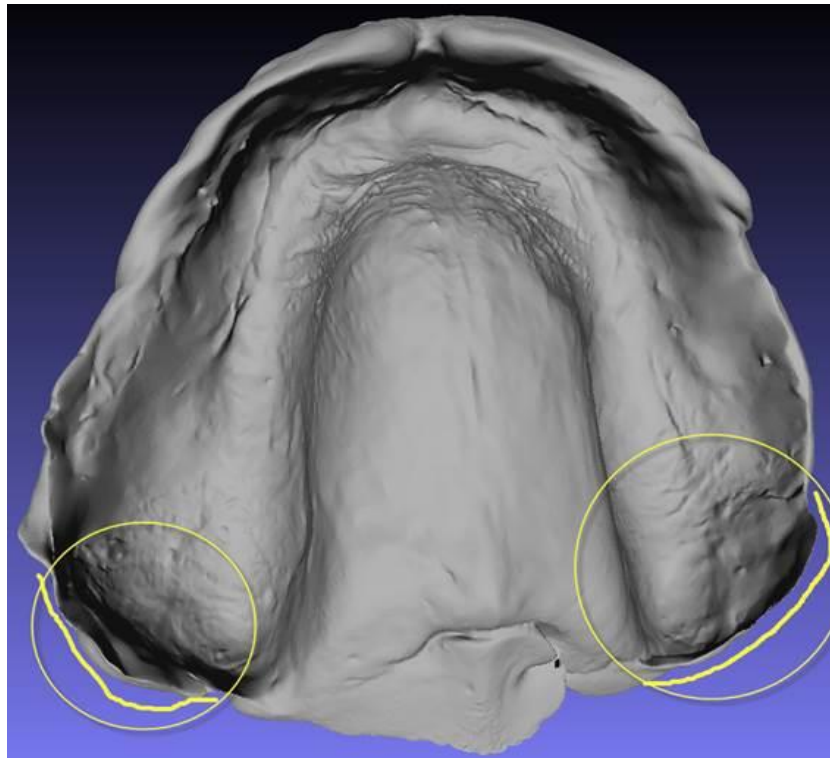


Figure 5: This one there is not enough impression material on the posterior portion of the maxillary.



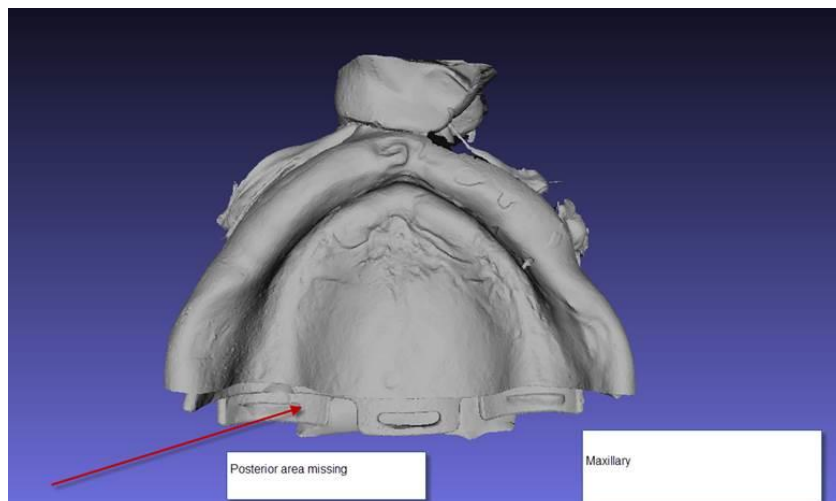
Solution= Use putty to add more area to the posterior portions.

Figure 6: The posterior intaglio borders are insufficient. Borders need to be thickened.



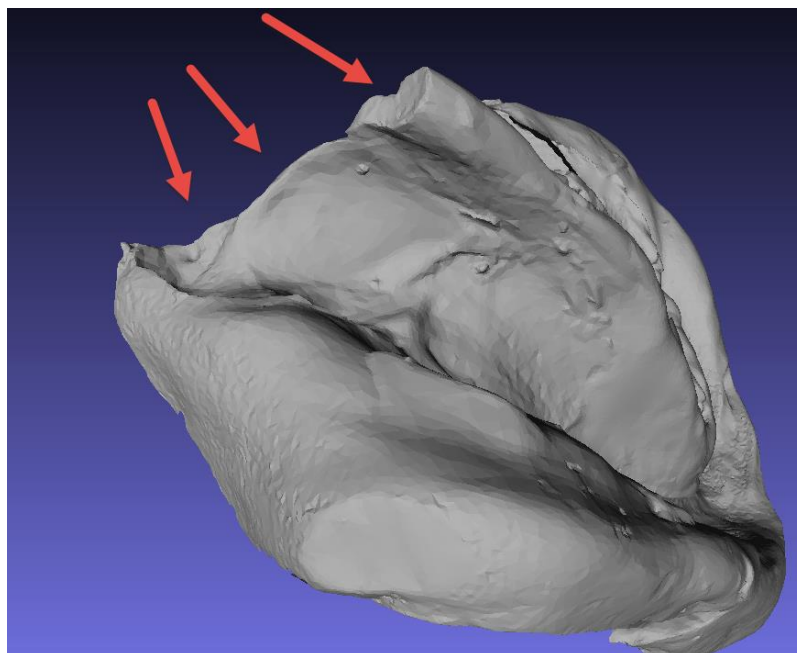
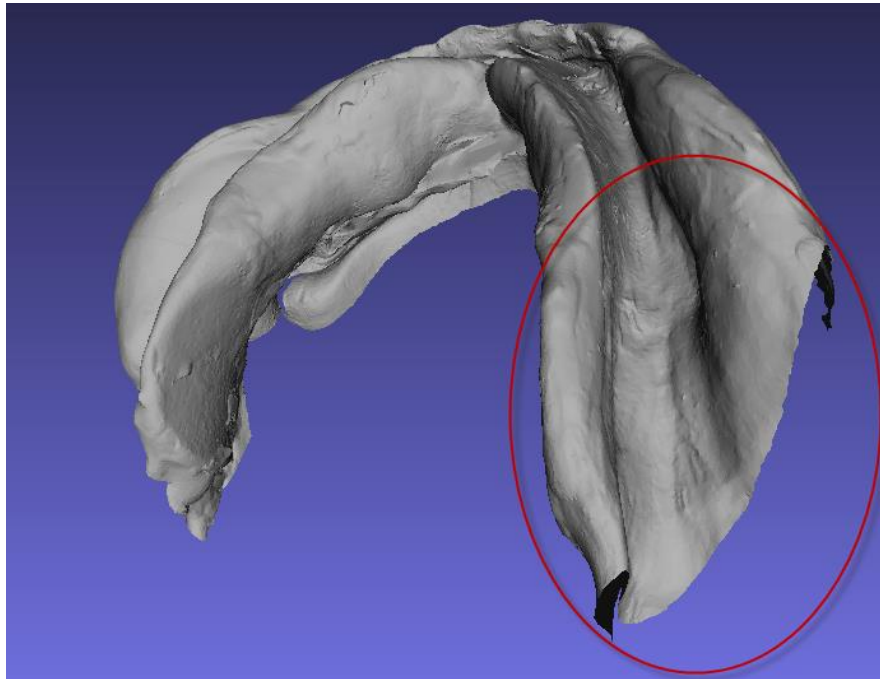
Solution= Add putty to borders to thicken to get a thicker wall.

Figure 7: The posterior portions of the maxillary on this one were not put back on after scanning the bite.



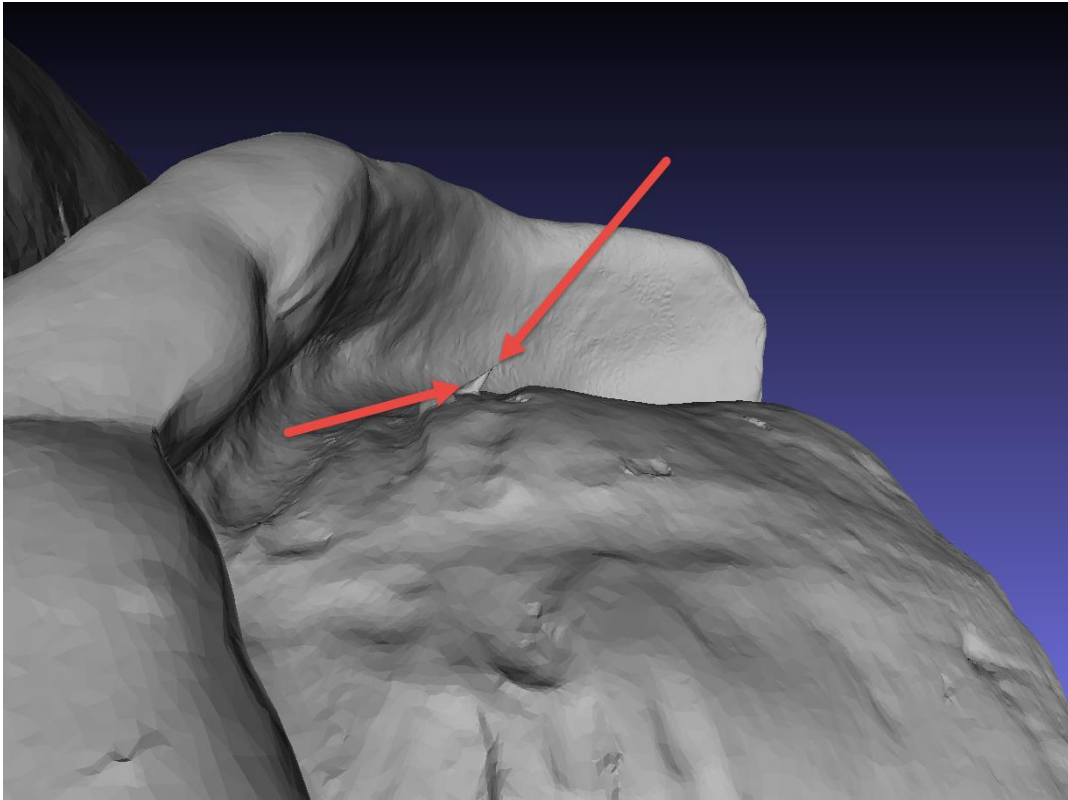
Solution= be sure to always add the posterior pieces of the impression when scanning maxillary or mandibular impressions. NOTE: Posterior portions are not needed for the bite.

Figure 8: The posterior portion of the mandibular, near the retro molar pad is missing. We need this whole area when modeling. You are able to clearly see that the scan is missing something.



Solution= Correct placement of impression on stone when placing in scanner. Portions are cut off because impression I out of the scannable area.

Figure 9: There is a spike on the anterior intaglio portion of the maxillary.



Solution= more impression material. If no spike is visible on the impression itself then re-scan the impression.

Figure 10: There is not enough of the bite impression visible to make a proper alignment of the maxillary and mandibular.

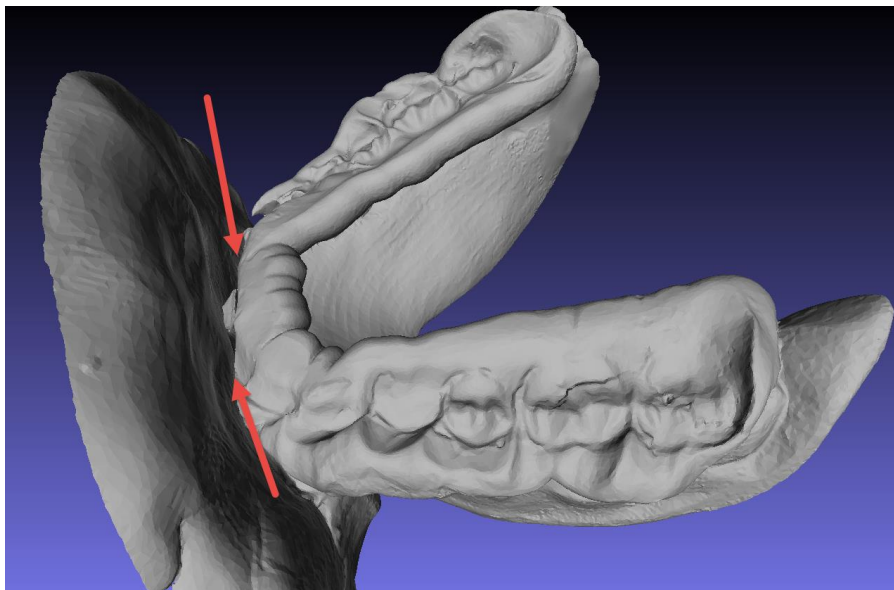
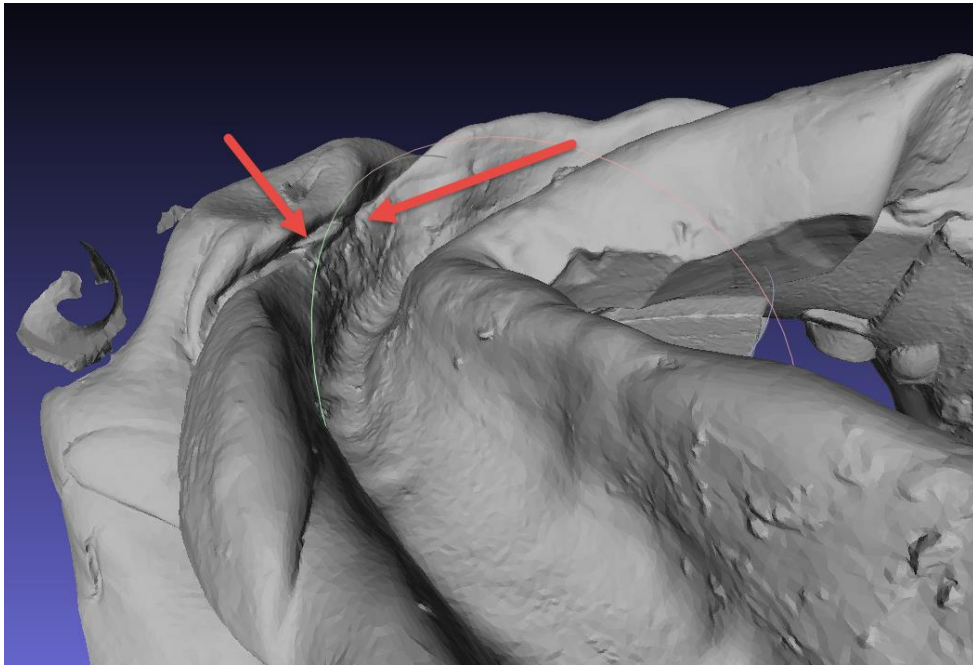


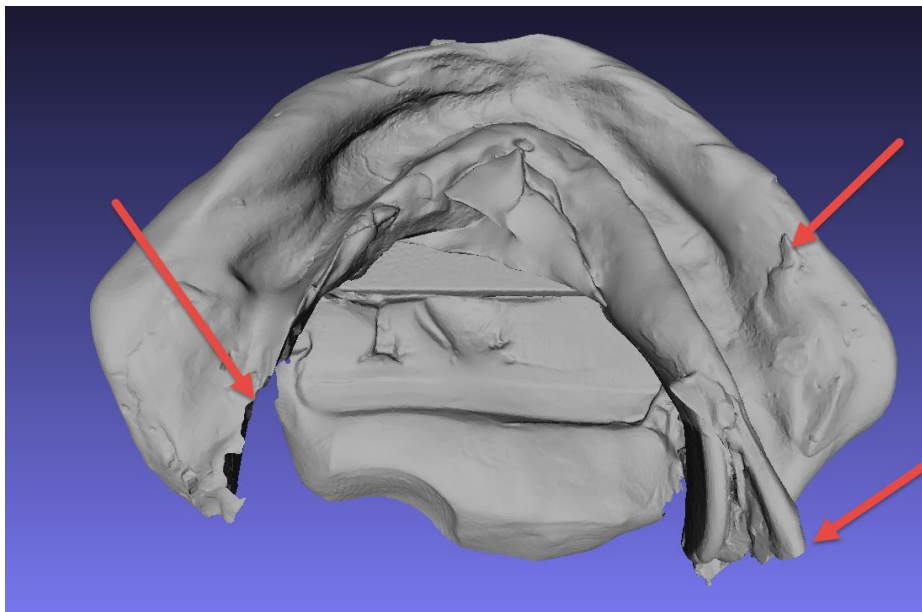


Figure 11: Not enough impression visible anteriorly on the mandibular intaglio portion.



Solution= Reposition the trying/impression to show more of the anterior portion. Or place impression/try in at a 45 degree angle. To properly obtain a good scan.

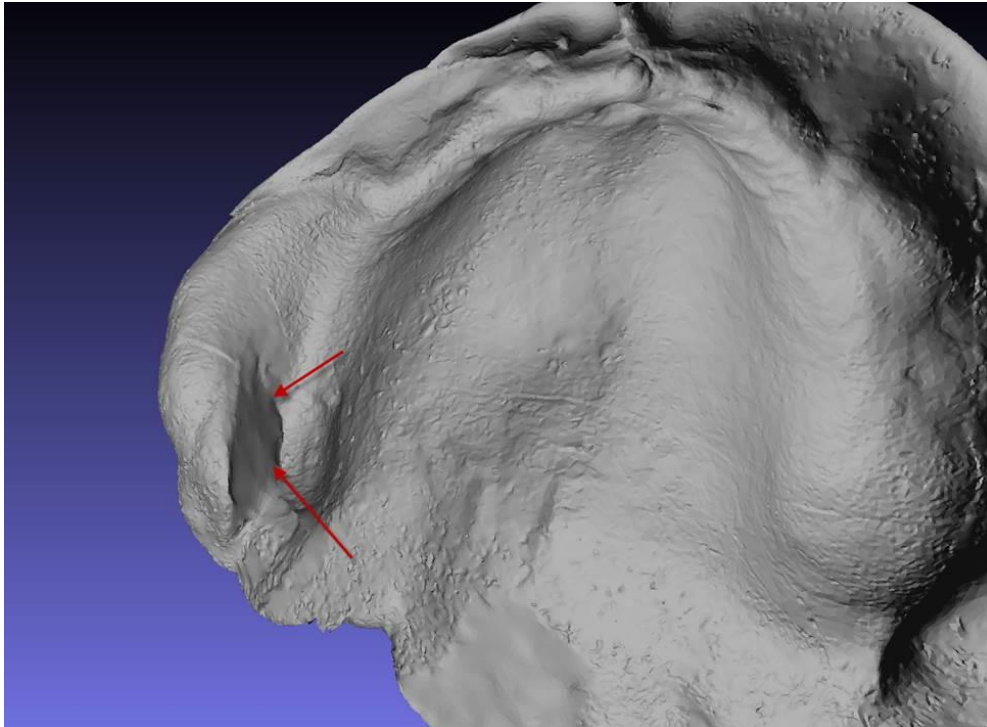
Figure 12: This one had a multitude of issues with it. Steps on intaglio portion, missing material near the patient's left retro molar pad, and insufficient borders on the patient's right side.



Solution= Add putty to border, use putty to smooth out the steps, and reposition impression in scanner to obtain a full scan.



Figure 13: Hamular notch is too smooth, there is not impression visible. This is because of the initial scan itself. Impression will need to be re-scanned.



Solution-F13= Powder the impression and reposition the impression at a 45 degree angel in the scanner.

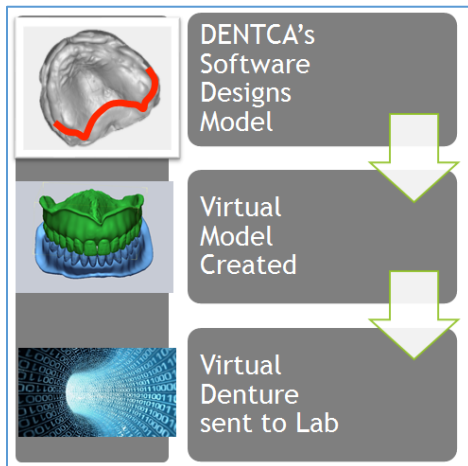
Figure 15: Incorrect file types;

Name	Date modified	Type	Size
3714-4280-bite.dcm	7/14/2015 1:32 PM	DCM File	2,989 KB
3714-4280-mandibular.dcm	7/14/2015 1:32 PM	DCM File	1,816 KB
3714-4280-maxillary.dcm	7/14/2015 1:32 PM	DCM File	1,510 KB

Correct file type;

3783-4358-bite.stl	7/28/2015 9:16 AM	STL File	9,936 KB
3783-4358-mandibular.stl	7/28/2015 9:16 AM	STL File	4,308 KB
3783-4358-maxillary.stl	7/28/2015 9:16 AM	STL File	5,475 KB

Solution=Save the correct file type when saving. Set defaults in scanning software to ensure that this issue does not persist.



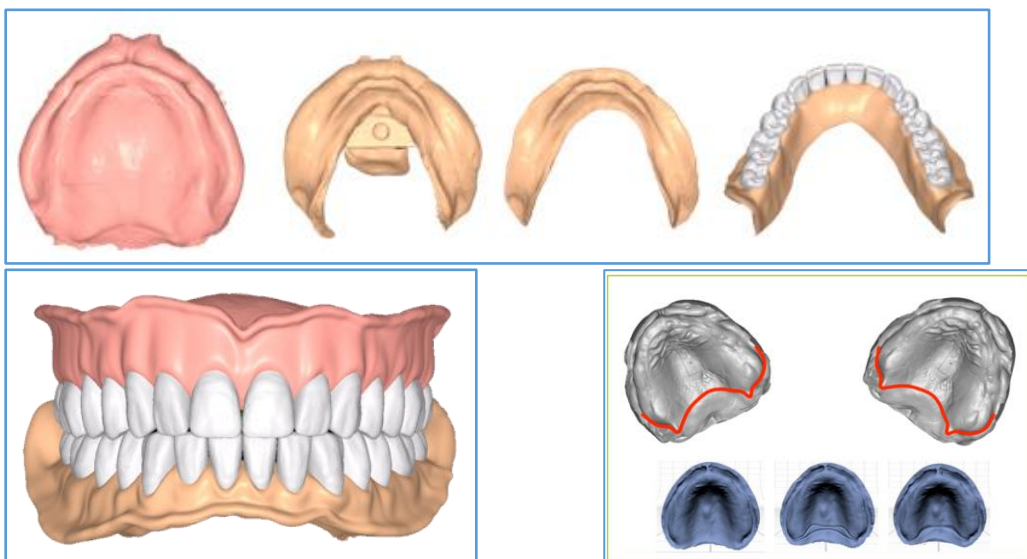
### Fabrication Detail: Denture Modeling

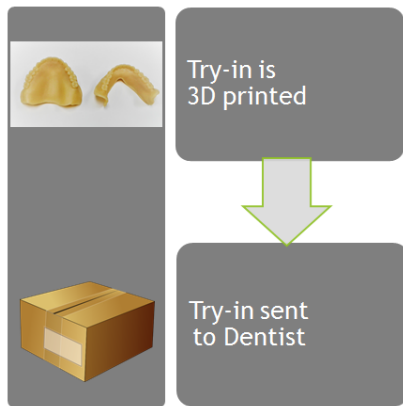
Dentca models virtual dentures based on impression scans, utilizing over 20 landmarks, and prescription notes from dentists and sends finished virtual denture back to Whole You

- ▶ Activity Location:
  - DENTCA
- ▶ Expected Time Required:
  - 48 hr.

### Dentca Modeling

The Software will virtually articulate and contextualize 26 anatomical landmarks in order to generate an ideal setup. The setup automates teeth Selection, midline, occlusal plane, Curve of Spee, Curve of Wilson, bite & occlusion and Post Dam.





### Fabrication Detail: 3D Printing

The Laboratory 3D Prints a Try-In based on DENTCA's Virtual Model

Note: Try-in step can be skipped if dentist is comfortable with the impression and record-taking protocols and the patient has low aesthetic standards. Still, WY recommends the try-in step to ensure the best outcome for both patient and dentist

- ▶ Activity Location:
  - Laboratory
- ▶ Average Time Required:
  - 5 to 7 business days for production time for try-in.

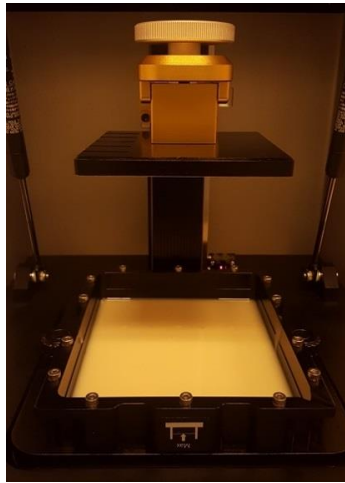
#### 3D Printing.

Step 1: Clean the mirror with a disposable PAD cloth. Wipe the metal surface platform & resin tank with IPA to remove any resin residue from previous printing jobs.

Step 2: Load the printer resin tank with the try in resin to at least 1/2 of capacity.

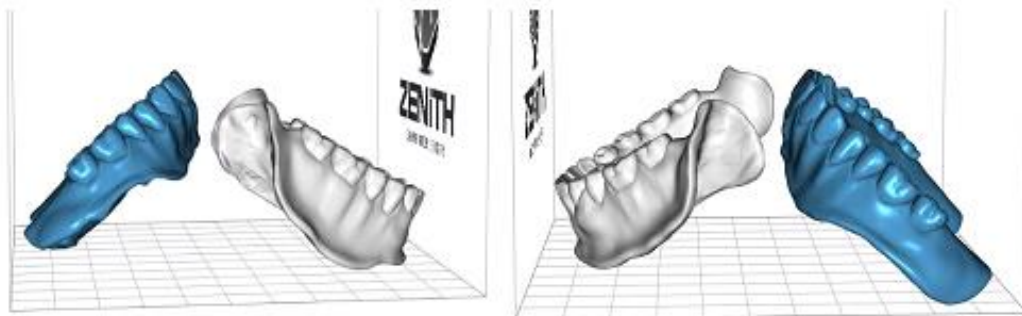
Size	Amount for Small/Medium	Amount for Large/Extra Large
Single arch	150 g	200 g
Full arches	180 g	250 g

Step 3: Slide the build platform and lock it in.

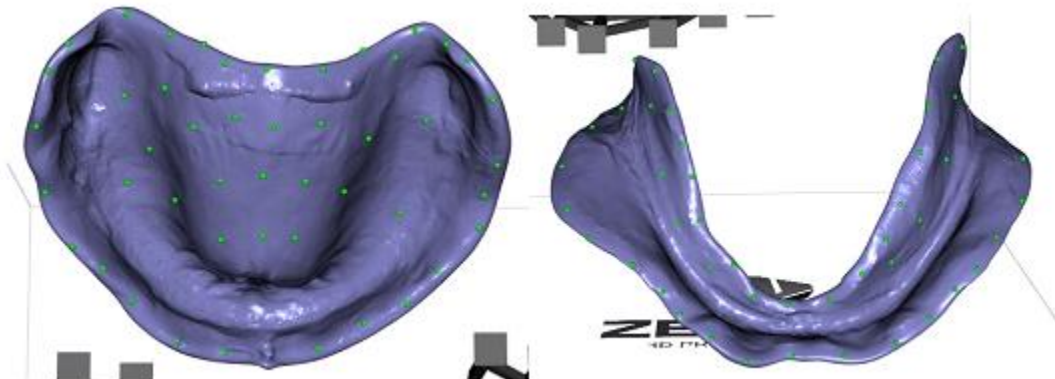


Step 4: Load the denture base files on the printer. Use the orientation tool to arrange and rotate the arches.

- For maxillary, enter 30° in X axis. For mandibular, enter -15° in X axis.



Step 5: Add/Delete supports as needed. Proceed to print the try in.



Step 6: After printing is done, remove the printed sample from the building plate using a scrapper.  
Step 7: Wipe out the excess material on the surface of the sample using a clean paper towel.

### Try in Cleaning.

Step 1: Remove the supports using a clipper on the printed try in.



Step 2: Smooth the support spot areas using a bur on the printed try in.

Step 3: Wipe out the residue from the printed objects.

Step 4: Soak try in on a container with isopropyl alcohol, then wash them with water and air dry.



### Curing.

Step 1: Prepare a clear glass tray and fill it with glycerin enough to cover the denture. Soak the fabricated denture in glycerin and use the glass plate to hold down the denture as the denture floats. Leave it under UV curing machine for 1.5 hours on each side to complete curing.



Step 2: Rinse with water and air dry.



## Try in Appointment

### Try in Appointment: (5-7 Business days later + Shipping)

Once the try ins arrive to the doctor's office, the doctor will try them into the patient's mouth. This would be the equivalent of a wax try in on conventional dentures.

Try ins are prototypes created by a 3D printer, in order to evaluate how our final denture will look like before processing it to the final product. They are obtained from a scanned impression and modeled with a proprietary computer aided design and manufacturing (CAD/CAM) software system at DENTCA®. **Not included in immediate dentures.**

The try in's will then be used to evaluate the following elements in fit, form, aesthetics and function. This appointment usually lasts for about 15 minutes. Normally there should be no issues with the try in, however if issues arise they can be categorized into four groups depending on the type of adjustment needed.

#### Dentist will insert try-in to check:

- Bite/occlusion
- Retention
- Borders
- Other aspects

#### Try ins must be check in this order:

1. Seat the denture.
2. Check everything is correct. (Occlusal plane, Midline, Bite, OJ, OB, Smile Line, etc.)
3. Take a wash if needed.
4. Take a bite if needed.
5. Check VD.

*(You can use the guides below as reference)*



## Try-in Evaluation & Adjustment Instructions

Please follow each step sequentially to ensure a successful Try-in appointment. These instructions are for the practitioner's reference only.  
 ▲ All adjustments and processing requests must be entered online. ▲  
 ▲ Hard copies of this form submitted to Dentca will not be processed. ▲

Step	Adjustments Needed	Required Steps/Items
1. Initial Insertion <input type="checkbox"/> No Issues <input type="checkbox"/> Issues →	<input type="checkbox"/> Grind maxillary intaglio <input type="checkbox"/> Grind maxillary border <input type="checkbox"/> Grind mandibular intaglio <input type="checkbox"/> Grind mandibular border  <div style="background-color: #f0f0f0; padding: 5px;">           *If any major adjustments are needed on the intaglio and/or border, make a wash impression at Step 11         </div> > Insert the Try-in into the patient's mouth > If the Try-in cannot be properly seated, relieve the Try-in, as needed, and proceed to Step 2.	
2. Occlusal Plane <input type="checkbox"/> No Issues <input type="checkbox"/> Issues →	<input type="checkbox"/> Too low <input type="checkbox"/> Tilting downward to patient's left <input type="checkbox"/> Too high <input type="checkbox"/> Tilting downward to patient's right  <input type="checkbox"/> Raise by _____ mm <input type="checkbox"/> Lower by _____ mm  <input type="checkbox"/> Whole occlusal plane <input type="checkbox"/> Anterior area <input type="checkbox"/> Posterior area <input type="checkbox"/> Left side <input type="checkbox"/> Right side	<input type="checkbox"/> Provide Occlusal Plane Adjustment Value
3. Maxillary Midline <input type="checkbox"/> No Issues <input type="checkbox"/> Issues →	<input type="checkbox"/> Move the maxillary midline towards patient's left by _____ mm <input type="checkbox"/> Move the maxillary midline towards patient's right by _____ mm  <div style="background-color: #f0f0f0; padding: 5px;">           *If the upper and lower midline are misaligned, it may be an issue with the bite. Follow Step 4 to take a new bite.            *If the maxillary midline is tilted, refer to Step 2.         </div> > Use a marker to draw the correct maxillary midline on the Try-in	<input type="checkbox"/> Provide Midline Adjustment Value
4. Bite <input type="checkbox"/> No Issues <input type="checkbox"/> Issues →	<input type="checkbox"/> Anterior Open Bite <input type="checkbox"/> Lateral Open Bite <input type="checkbox"/> Cross Bite <input type="checkbox"/> Other  <div style="background-color: #f0f0f0; padding: 5px;">           *If bite issue exists, make an adjustment according to the following instructions. Note: If needed, a new bite should be taken at Step 12.         </div> > Open bite: Grind the posterior teeth until only anterior teeth occlude > For all bite issues, take a new bite at Step 12	
5. Lip Support <input type="checkbox"/> No Issues <input type="checkbox"/> Issues →	<input type="checkbox"/> Excessive <input type="checkbox"/> Insufficient  <input type="checkbox"/> Reduce lip support: Move the anterior teeth lingually by _____ mm <input type="checkbox"/> Reduce lip support: Decrease the buccal gum thickness by _____ mm <input type="checkbox"/> Increase lip support: Move the anterior teeth buccally by _____ mm <input type="checkbox"/> Increase lip support: Increase the buccal gum thickness by _____ mm	<input type="checkbox"/> Provide Lip Support Adjustment Values
6. Smile Line <input type="checkbox"/> No Issues <input type="checkbox"/> Issues →	<input type="checkbox"/> Maxillary <input type="checkbox"/> Mandibular  <input type="checkbox"/> Show more teeth: Move the anterior gum line by _____ mm <input type="checkbox"/> Show less teeth: Move the anterior gum line by _____ mm  <div style="background-color: #f0f0f0; padding: 5px;">           *If incisal edge needs to be adjusted, refer to Step 2.         </div>	<input type="checkbox"/> Provide Adjustment Value

*Attention: The Dentca Try-in is used to seat, check and/or adjust the denture setup (bite and occlusion, vertical dimension, border, midline, teeth setup, etc.) for a short amount of time. The Try-in is not approved for use by the patient outside the dental office. The Dentca Try-in is made of photocurable acrylate resin composed of urethane acrylate, several acrylate monomers. This product may contain small amounts of acrylate monomers which may cause skin sensitization or other allergic reactions in susceptible persons. If skin sensitization or other allergic reactions occur, discontinue use. If mucosal irritation or other symptoms persist, stop using and seek medical advice. The Dentca Try-in is contraindicated for patients and users with a history of allergic reaction to urethane acrylate or acrylate monomers. See [www.dentca.com](http://www.dentca.com) for additional information.*

Dentca, Inc. | 357 Van Ness Way, Ste 250, Torrance, CA 90501 | Tel: 424-558-8726 | [www.dentca.com](http://www.dentca.com)

Step	Adjustments Needed	Required Steps/Items
7. Overjet <input type="checkbox"/> No Issues <input type="checkbox"/> Issues →	<input type="checkbox"/> Excessive <input type="checkbox"/> Insufficient <input type="checkbox"/> Desired anterior overjet is _____ mm	<input type="checkbox"/> Provide Overjet Adjustment Value
8. Overbite <input type="checkbox"/> No Issues <input type="checkbox"/> Issues →	<input type="checkbox"/> Excessive <input type="checkbox"/> Insufficient <input type="checkbox"/> Desired anterior overbite is _____ mm	<input type="checkbox"/> Provide Overbite Adjustment Value
9. Teeth Size <input type="checkbox"/> No Issues <input type="checkbox"/> Issues →	<input type="checkbox"/> Increase to next size <input type="checkbox"/> Decrease to next size	<input type="checkbox"/> Provide Teeth Size Adjustment Instruction
10. Take Pictures <input type="checkbox"/> Not Applicable <input type="checkbox"/> Applicable →	<input type="checkbox"/> 2. Occlusal Plane <input type="checkbox"/> 3. Maxillary Midline <input type="checkbox"/> 5. Lip Support <input type="checkbox"/> 6. Smile Line  If the adjustments are required for the above steps, pictures can help ensure that the proper adjustments are made. Pictures can be sent to cs@dentca.com, please include case/order number in subject line.  > Take a frontal picture of a patient wearing Try-in for adjustments related to Steps 2, 3 and 6 > Take both frontal and profile (side) pictures of patient wearing Try-in for adjustments related to Step 5	<input type="checkbox"/> Upload Applicable Pictures
11. Retention & Borders <input type="checkbox"/> No Issues <input type="checkbox"/> Issues →	<input type="checkbox"/> Maxillary Retention <input type="checkbox"/> Mandibular Retention <input type="checkbox"/> Maxillary Border <input type="checkbox"/> Mandibular Border  If minimal adjustments are required, such as slightly shortening the borders, make a corresponding adjustment on the final denture. If significant adjustments are required at this step or Step 1, perform a wash impression according to the following instructions: Adhesive May be required between the try-in and PVS materials  > Grind Try-in, if necessary > Apply heavy body PVS around the borders and edges > Perform border molding steps; see Impression Manual for details > Apply light body PVS, covering the entire intaglio surface and repeat border molding steps > Record a new bite at Step 12	<input type="checkbox"/> Heavy Body only on Adjusted Borders and Light Body Wash on intaglio surface
12. Bite Registration <input type="checkbox"/> No Issues <input type="checkbox"/> Issues →	<input type="checkbox"/> 4. Bite <input type="checkbox"/> 11. Retention & Border  If a) there is an issue with the bite, b) midlines are misaligned, or c) a new wash impression was performed, please take a new bite according to the following instructions:  > Use bite registration material to take the new bite (do not use wax or alginate) > Ensure mandibular Try-in is stable during bite registration	<input type="checkbox"/> Provide New Bite Registration on Try-in
13. Vertical Dimension <input type="checkbox"/> No Issues <input type="checkbox"/> Issues →	<input type="checkbox"/> Excessive <input type="checkbox"/> Insufficient <input type="checkbox"/> Reduce VD by _____ mm <input type="checkbox"/> Increase VD by _____ mm	<input type="checkbox"/> Provide VD Adjustment Value

14. Other Adjustments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Next Steps:  Request additional Try-in     Process to Final

Enter adjustment and processing requests online (required) at [ordernexteeth.wholeyou.com](http://ordernexteeth.wholeyou.com).  
Once requests are submitted online, pack the Try-in with reference to the case/order number and ship to Dentca.

Processing time's are 5~7 business days for Try-ins and 7~10 business days for Final Dentures (excludes shipping).  
Shipment service (Ground, 2-Day, Overnight) is based on initial order when the prescription and impression were submitted.

1. Border Issues:

a. What does it look like?



b. How to fix at try in stage?

- i. Reduce undercuts and find pressure spot areas.
- ii. You can use PIP paste mixed with a vegetable coloring.
- iii. If major adjustments were made a light body wash will be necessary at the end of the appointment.

2. Occlusal Plane Issues:

a. What does it look like?



b. How to fix at try in stage?

- i. Have doctor use a fox plane and determine by how much to raise/lower.
- ii. Note down amount on form.

3. Midline Issues:

► Note: This section is for issues regarding the Maxillary midline not being aligned with the center of the nose, do not use this section when there's a maxillary-mandibular mismatch. That is a bite issue!!.

a. What does it look like?



- b. How to fix at try in stage?
  - i. Have doctor use a fox plane and determine by how much to raise/lower.
  - ii. Doctor can mark midline on try in.
  - iii. Note down amount on form.

4. Bite Issues:

► Note: Always evaluate bite on Centric

- a. What does it look like?
  - i. Open Bite.



- ii. Cross Bite.



- b. How to fix at try in stage?
  - i. Open Bite.
    - Grind down interference areas.
    - Take a new bite at end of appointment.
  - ii. Cross Bite/Midline Mismatch.
    - Take a new bite at end of appointment.

5. Lip support Issues:

- a. What does it look like?



- b. How to fix at try in stage?
  - i. Have doctor note down amount to be reduced/increased on form.



6. Smile line Issues:

► Note: This adjustment will only move the gums and NOT the teeth.

a. What does it look like?



b. How to fix at try in stage?

i. Have doctor note down amount to be reduced/increased on form.

7. Overjet Issues:

a. What does it look like?



b. How to fix at try in stage?

i. Have doctor note down amount he wants the overjet to be.

8. Ovebite Issues:

a. What does it look like?



b. How to fix at try in stage?

i. Have doctor note down amount he wants the overbite to be.

9. Tooth size Issues:

- a. What does it look like?



- b. How to fix at try in stage?

- i. Have doctor note down for size to be reduced/increased on form.

10. Retention Issues:

- Note: Even though there are many things that can cause a retention issue, 90% of the time it's caused by the denture not being seated properly!!

- a. How to fix at try in stage?

- i. Grind overextended borders.
- ii. Slightly adjust post dam (Maxillary only)
- iii. If retention is not improved grind post dam completely (Maxillary only), and add PVS adhesive to try in.
- iv. Add heavy body on the borders of try in, seat and border mould.
- v. Take try in out of the mouth cut down overflow on internal areas.
- vi. Apply light body on entire surface, sit and border mould.
- vii. Have the doctor mark the desired post dam area with a Thompson stick on the patient's palate and then place the try in on the mouth to copy the imprint.
- viii. Take a new PVS bite.

- Note: If no retention issues appear and major border adjustments were; made add PVS adhesive to try in and perform a light body wash as described on step vi above now.

- Once wash is done please take a new PVS bite.

11. Bite registration:

- Note: If a bite was taken before skip this step.

- If no border or retention issues appeared and bite issues were present, please take a new PVS bite now.

12. Vertical Dimension Issues:

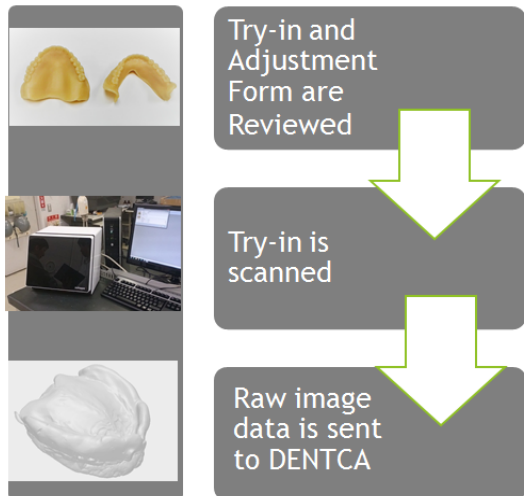
- ▶ Note: If a wash was performed retake VD measurements to determine whether VD has to be closed or not.
  - a. What does it look like?



- b. How to fix at try in stage?
      - i. Take new VD measurement.
      - ii. Have doctor note down amount to be reduced/increased on form.

Summary:

- a. Seat the denture properly.
- b. Evaluate all aspects of the denture.
- c. Do a wash if there is a retention/border issue.
- d. Take a bite if there is a bite issue/a wash done.
- e. Evaluate Vertical Dimension.
- f. Make sure instructions are clear.
- g. Enter online.
- h. Send Try in Back.



## Try in QC

Try-ins are scanned and raw images are sent to DENTCA for Design

Note: Try-in Step can be skipped as mentioned in previous slide

- ▶ Activity Location:
  - Dental Laboratory
- ▶ Average Time Required:
  - 1 Hr.

## Email Template

### Issues with the try in. (Rejection)

Dear Dr. \_\_\_\_\_, I hope you are doing well.

Today/Yesterday we received a try in for Patient \_\_\_\_\_, Order # \_\_\_\_\_; upon receiving the case, we encountered the following issues: (Select all that apply)

- A bite/occlusion issue was reported, yet a new bite registration was not provided to us.
- The try in is broken.
- A bite/occlusion issue was reported, however the bite registration provided was taken with wax, thus it got distorted during transit.
- A retention issue was reported, yet no new wash impression was provided.
- A new impression wash was made with light body only. By not using heavy body on the borders and border molding prior to doing a light body wash, there could still be retention issues.

Due to these reasons, we are afraid we have to send the case back to you, so you can obtain a new bite/do another wash with heavy and light body/redo adjustments with a reprinted try in. Please understand it's within Whole You's outmost interest, to provide you with high quality denture's; and it is with this interest that we are forced to reach such decision.

Also attached you will find important documents that will help you out on doing proper try in adjustments.

Receiving a Try-In

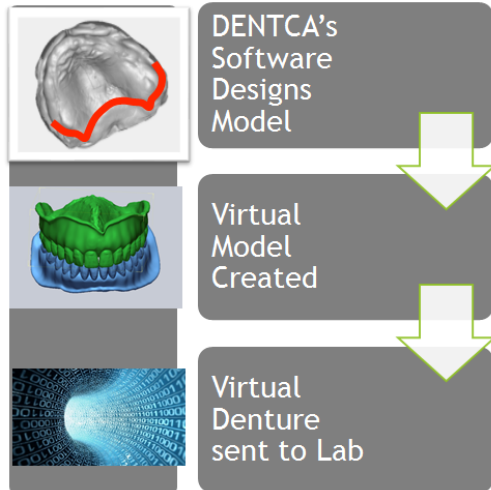
Issue	Issue Description	Image	Is this issue critical?	Why is it important?	Does the case proceed?	Next action
A bite issue was reported/A wash was done, but no new bite was sent.	A new bite was not sent with try in when an open bite/crossbite issue is reported.		Yes	Without a new bite we cannot fix the issue/The bite could have changed during the wash.	No	Notify CS that the doctor did not send a new bite/sent. Case will be sent back to doctor to take retake.
A bite issue was reported/A wash was done, but the new bite sent is unusable.	A wax bite was sent with try in. The bite has more than one set of imprints and cannot be matched to the try in. The bite was sent using clearbite.		Yes	If the bite is distorted it cannot be scanned/used.	Depends on Clinical Advisor's opinion	Notify the clinical advisor to evaluate if the bite can be used. Notify CS that the submitted bite is not ideal/cannot be used. If the bite cannot be used, the case will be sent back to doctor to retake.
A retention issue was reported, but no wash was sent.	A wash was not done when the doctor reported a Retention issue.		Yes	Without a new wash we cannot fix the issue.	No	Notify CS that the doctor did not send a new wash. Case will be sent back to doctor to retake.



Receiving a Try-In

Issue	Issue Description	Image	Is this issue critical?	Why is it important?	Does the case proceed?	Next action
<p>A retention issue was reported, but the new washes sent is unusable.</p>	<p>A wash was sent using light body only instead of heavy body on the borders and light body on everything/The wash is separating from the Try-In.</p>		<p>Yes</p>	<p>If the wash is distorted it cannot be scanned/used.</p>	<p>Depends on Clinical Advisor's opinion</p>	<p>Notify the clinical advisor to evaluate if the wash can be used. Notify CS that the submitted wash is not ideal/cannot be used. If the wash cannot be used, the case will be sent back to doctor to retake.</p>
<p>A border issue was reported, but no wash was sent/The new washes sent is unusable.</p>	<p>A wash was not done/not done properly, when the doctor reported a border issue.</p>		<p>No</p>	<p>Without a new wash border changes cannot be represented.</p>	<p>Depends on Clinical Advisor's opinion</p>	<p>Notify the clinical advisor to evaluate if the wash can be used. Notify CS that the submitted wash is not ideal/cannot be used. If the wash cannot be used, CS will inform the doctor that the changes won't be reflected in the final.</p>

Issue	Acceptable	Try-In/receiving	Retention Issues/Border Issues	
Bite Issues				



### Fabrication Detail: Final Denture Design

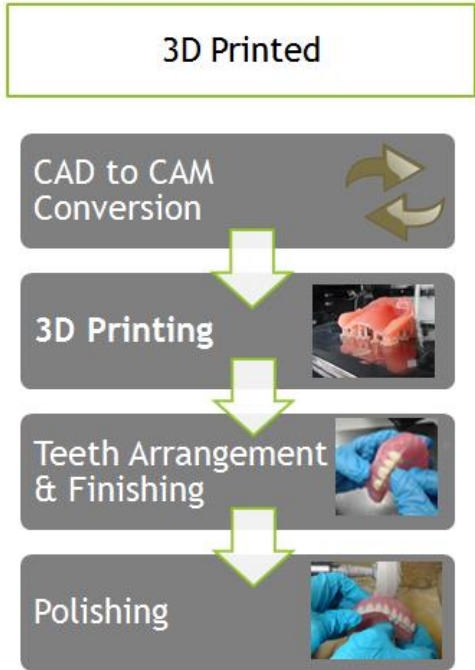
DENTCA creates final virtual model based on Try-in scan and Adjustment Form and sends finished virtual dentures back to the Dental Laboratory.

Please note even if no adjustments are needed final orders are necessary to close cases.

- ▶ Activity Location:
  - ▶ DENTCA
- ▶ Expected Time Required:
  - ▶ 2 Business days.

### Fabrication Detail: Final Denture Manufacture

- ▶ Activity Location:
  - Dental Laboratory.
- ▶ Average Time Required:
  - 7 to 10 business days for total production time
  - includes previous steps of scanning and designing, but excludes shipping



**3D Printed Denture Fabrication**

CAM conversion.

Once your case is ready to finish place an order on the Dentca website and DENTCA will convert your try in files into printable stl files for the teeth and base.

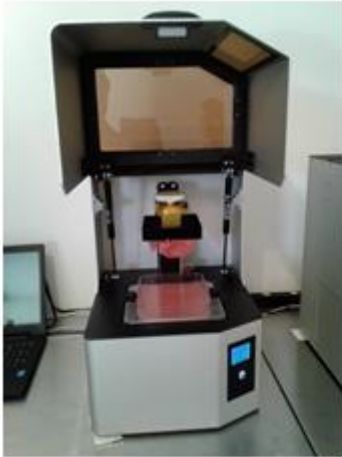
3D Printing.

Step 1: Clean the mirror with a disposable PAD cloth. Wipe the metal surface platform & resin tank with IPA to remove any resin residue from previous printing jobs.

Step 2: Load the printer resin tank with the corresponding gum shade resin to at least 1/3 of capacity.

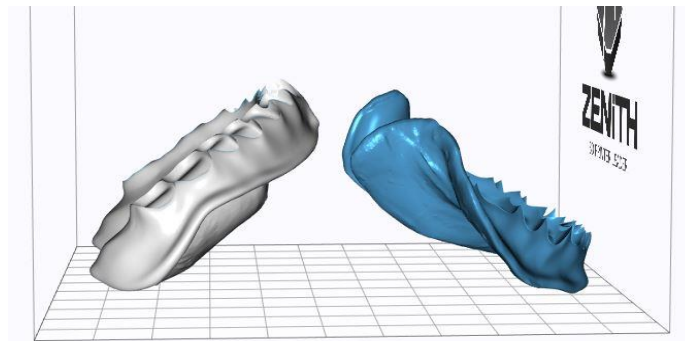
Size	Amount of resin in the tank for Small/Medium	Amount of resin in the tank for Large/Extra Large
Single Denture arch	150 mL	200 mL
Full Denture arches	180 mL	250 mL
Single Teeth set (3)	120 mL	120 mL
Full Teeth set (6)	150 mL	150 mL

Step 3: Slide the build platform and lock it in.

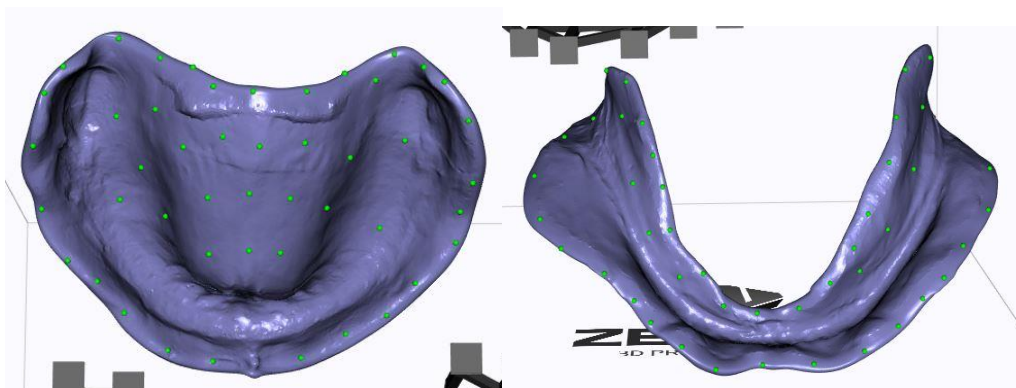


Step 4: Load the denture base files on the printer. Use the orientation tool to arrange and rotate the arches.

- For maxillary, enter 30° in X axis. For mandibular, enter -15° in X axis.



Step 5: Add/Delete supports as needed. Proceed to print the denture base.

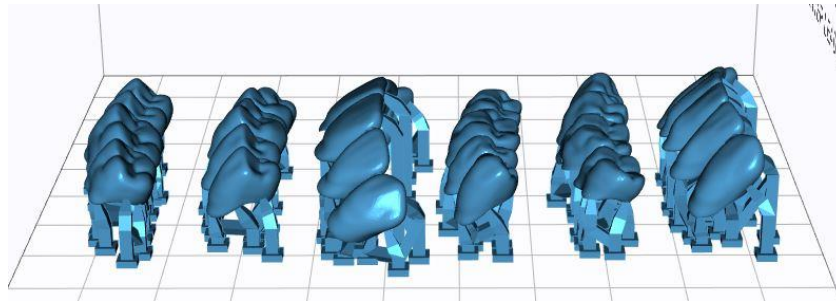




Step 6: After printing is done, remove the printed sample from the building plate using a scrapper.

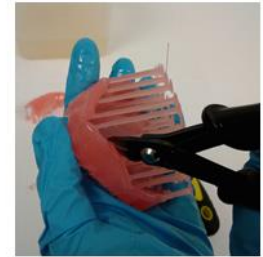
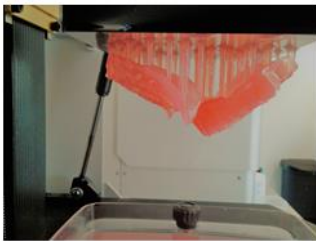
Step 7: Wipe out the excess material on the surface of the sample using a clean paper towel.

Step 8: Change the liquids on the resin tank to the corresponding tooth shade and load the tooth files on the printer. Proceed to print the teeth. Repeat steps 2-8.



Tooth and base preparation.

Step 1: Remove the supports using a clipper on the printed denture base and teeth.



Step 2: Smooth the support spot areas using a bur on the printed denture base and teeth.



Step 3: Wipe out the residue from the printed objects.

Step 4: Clean each pocket (tooth spot) using a bur.

**Step 5:** Soak base and teeth on a container with isopropyl alcohol, then wash them with water and air dry.



**Step 6:** Check the teeth fitting by placing the grinded teeth on each corresponding pock of the denture base. If necessary, grind the teeth further to improve the fitting.

**Step 7:** Check the alignment of the teeth.

Tooth bonding.

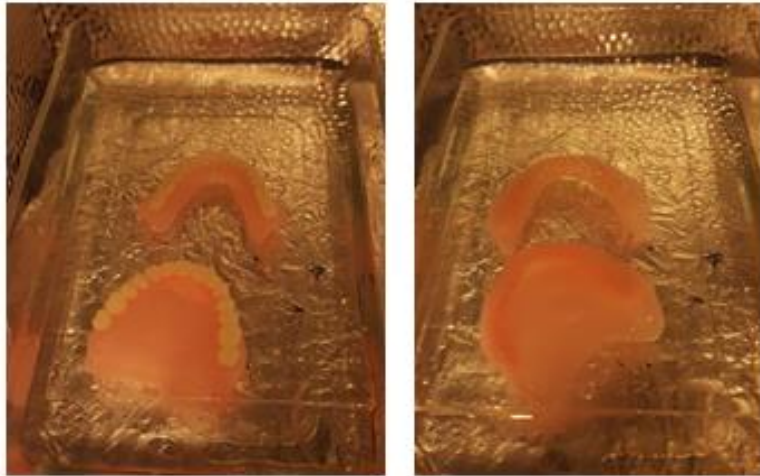
**Step 1:** Prepare denture base material into a small container. Bond each tooth set into the corresponding socket of denture base. Recommend teeth bonding order is mandibular posterior, maxillary posterior, maxillary anterior, and then mandibular anterior.



**Step 2:** Wipe out the excess material on the surface of the sample using a clean paper towel.

**Step 3:** Using Sablite V UV/Vis curing light, cure the applied resins. Check occlusion.

**Step 4:** Prepare a clear glass tray and fill it with glycerin enough to cover the denture. Soak the fabricated denture in glycerin and use the glass plate to hold down the denture as the denture floats. Leave it under UV curing machine for 1.5 hours on each side to complete curing.



Step 5: Rinse with water and air dry.

#### Finishing and Polishing.

Step 1: Using a wood lathe brush size #20, polish the denture base and the teeth with Tripoli. Polish the interproximal spaces of teeth with a small mounted wheel brush. Place denture in ultrasonic cleaner, which contains plaster and stone remover, for at least 10 minutes. Polish denture base with wet pumice applied to a wet rag wheel running at low speed.



Step 2: Use edge of wheel or a wood lathe brush size #20; to polish concavities and hard to reach places. Important: For cases with stippling, be extra careful when polishing as not to erase the characterizations when polishing. When all surfaces are smooth, wash all the pumice residue from the denture base and dry the denture.

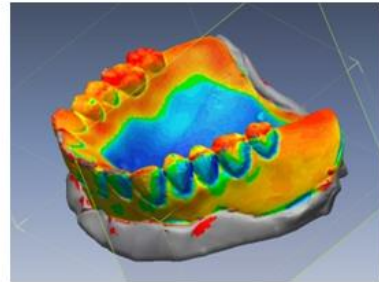
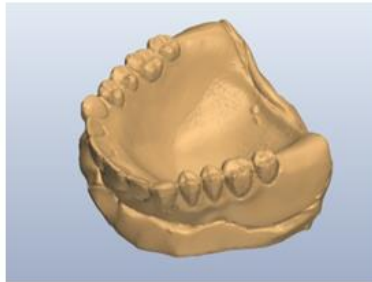
Step 3: Complete the final polishing using a soft dry rag wheel with high luster polishing paste. Replace denture in ultrasonic cleaner containing plaster & stone remover for at least 10 minutes. Use soap and water to scrub/brush polishing compound residue from denture.



### Fabrication Detail: QCQA

All products fabricated will go through strict quality control measures

One method is to compare our finished product to the most recent design data (which is based on the impression and try-in from the dentist)



### Final Delivery Appointment

The total average chair time for this appointment is 20 minutes.

The doctor will then take Pressure Indicating Paste (PIP) and look for pressure spot areas in the denture and deliver it to the patient.



## Repairing 3D printable dentures.

Note: This process is only applied to temporary repair cases. It is recommended to remake the whole denture using an original design file.

1. Prepare a cast made of a putty using a broken denture.
2. Prepare the fracture area by grinding to open more and roughing the outer side of fracture area.
3. Prime the roughened surfaces of the repair area with DENTCA Denture Base II.
4. Place the broken denture on the cast.
5. Apply the Dentca Denture Base resin to cover the roughed and fracture areas and cure the areas by exposing light curing machine until the resin is solidified.
6. Place the denture on the cast in the post-curing machine for 30 min. Carefully remove the denture from the cast and cure the tissue side for 30 min.
7. Grind, polish and finish.



## Clinical Q&A for Doctors.

The following is a list of the most common clinical questions and answers you are expected to be able to answer when doctors call inquiring about a case or issue.

### Tray Selection issues:

#### How do I know if I selected the correct tray for my patient?

Trays can be selected by matching the borders of an existing denture to the borders of the tray. Or testing the tray inside the mouth and looking for a 1-2mm space between the gums and the sides of the tray. Do not test for a tray size by putting the denture inside the tray, as you will end up with a tray one size bigger than what you need.

#### I found a tray that fit quite nicely, but it's hitting the tuberosity's in the back; the next sized tray seems too big. What do I do?

Trays are thermoplastic and can be adjusted by using a torch or an open flame, and manually bending them.

#### I chose the wrong tray, I do not want to throw away a perfectly unused tray to the trash. Are the trays auto cleavable?

They are not, but they can be cold sterilized by using ultrasonic/liquid disinfectants normally used for other non-auto cleavable dental instruments.

#### The tray I selected fits well but when trying it out, I notice it does not reach as far back as I would like it to. Can I extend the borders by using compound?

Yes, you can.

#### Can I mix and match upper and lower trays?

Trays can be interchangeable. (Ex. Medium on the top, smaller tray in the bottom). However, do not interchange the pin. Whatever lower tray is used; use the corresponding matching color pin and pin holder.

#### Why do the trays not have a handle?

The reason the tray does not have a handle, is because when you seat the impression, 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.

### Impression issues:

#### After taking the first heavy body impression and border molding, the borders look too thick. What do I do?

The impression tray is most likely too big, you need to select a smaller size tray. Bear in mind that insufficient border molding, can also lead to thick borders.

After taking the first heavy body impression and border molding, a lot of tray is showing through/ the tray shows an incomplete palatal area on the maxillary impression. What do I do?

The impression tray is most likely too small, you need to select a bigger size tray. Please keep in mind that some patients have a very deep palatal vault, please revise the oral anatomy prior to switching to a bigger tray size.

I did a light body wash after having to grind the borders and I noticed a dip where the border should go. What do I do?

Cut a square on that area, add heavy body PVS in the exposed border, prior to adding light body everywhere.

Can I use PVS putty for the impression?

Do not use PVS putty impression material, as this material is muco-compressive and will distort the tissue capture.

Can I use polyether for the impression?

Do not use polyether as the material is too rigid to cut with a scalpel, also most polyether materials are muco-compressive which are not recommended as it will distort tissue capture.

Do I need adhesive for the impression?

Our trays are naturally retentive. The use of adhesive is not recommended as it will make it very difficult to separate the trays after cutting them.

### **Impression cutting issues:**

I am having a hard time seeing where the junction of the trays is, when about to cut my impression. What do I do?

Relieve areas near the tray junctions, in order 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 incision easily.

I missed the junction line when cutting. How does this affect my impression?

It is not important to follow the junction precisely, as long as you make one clean cut. Even if the cut is not accurately in the tray junction, the tray posteriors will be able to be separated.

I am having a hard time separating the impression posterior on the maxillary. What do I do?

Make sure you cut a little deeper on the palatal area, the impression thickness is increased in this section. This is the number one leading cause of issues when having trouble separating the posterior maxillary segment of the impression.

Do I need to reposition the posterior attachments prior to shipping the case?

Do not attempt to reconnect the posteriors when sending orders. The scanner will scan the pieces separately, and the software will stitch them digitally together. Attempting to reposition the posterior attachments might damage the impression.

## Vertical Dimension issues:

I lowered the pin as low as it could go, but I am still seeing a gap between the lips. What do I do?

This is usually the result of an impression material thickness, which surpasses 6 mm on the tray. Bear in mind that seeing a gap between the lips, does not necessarily mean the vertical is open; as the impression material could be pushing the lips outward, giving the impression the Vertical Dimension still needs to be closed. In order to ensure the vertical has been achieved correctly it is best to measure it conventionally (by using a tongue depressor and marking the dots on nose and chin) and then comparing the ideal measurement to the one you have with the impression trays in. If you see you still need to reduce it and the pin is as low as it can get; note by how much it has to be closed and enter the amount under special instructions when placing the order online. Requesting the team to close vertical dimension by X amount (X being equal to the result of subtracting the Ideal VDO – VDO with trays).

I got the pin to the correct VDO, but now I notice the trays are touching each other in the posterior area. What do I do?

The trays touching could cause an open bite while at the try in stage. It is recommended that you try to grind the tray areas down. However if you have completely grinded the area down and the trays are still touching, open the pin 1-2 mm and note by how much the pin was opened; so you can request the modeling team to close vertical by the same amount when placing the order online under special instructions. As a rule of thumb, each full turn of the pin is about 1 mm.

## Centric Relation issues:

I am trying to place the EZ tracing sticker on the upper tray, but it's not adhering to the surface. What do I do?

It's always important to clean the surface where the EZ tracer will go with alcohol, prior to attaching the EZ tracing sticker; as some patient's saliva is more mucous than others, and it tends to leave a film that prevents proper surface adhesion.

What tracing method do you recommend?

The easier and most accurate EZ tracing method, is what we call "simplified tracing"; which is just asking the patient to move the jaw in a protrusive/retrusive motion, and looking for the most posterior end of the traced line.

I started tracing and the pin stopped at the red section, preventing it from reaching as far back as it could. What do I do?

Make sure the red part of the EZ tracer, is attached further back than where the tray ends; to avoid the tracing pin being stopped from reaching as far back as it needs to go.

I started tracing and when I wanted to verify my tracing I saw that the clear plastic is separated from the black surface, and no tracing got registered. What do I do?

This is usually caused by the patient biting too hard when tracing. It's always important to tell the patient not to bite too hard while doing this; In order to avoid ripping the plastic portion of the tracing surface. Also, sometimes saliva gets in the way of the tracing, if it does, this will cause the tracing to disappear. It is always recommended to dry the patient's mouth prior to tracing. If the clear plastic section of the tracer got separated and cannot re-adhere, you can always reattach a new sticker and try again; keep in mind however, that even though the tracing did not register in the clear part, it will still be visible in the black surface of the EZ tracer.

My patient seems to be having trouble understanding how to do the Protrusive/Retrusive movements, is there something you recommend?

Practicing the tracing movements with the patient, before CR recording really improves your chances for a successful trace. This can be achieved by putting the patient's hand on your chin, while you put yours on theirs; and ask them to repeat the movements you do. It's easier for them to understand the movement, if they feel it on your chin. If your patient cannot do the movement, recline the patient and request he opens and closes the mouth several times; look for the most concentrated dot area; that will be your centric relation point.

How can I double check I arrived at the correct CR point?

If you want to confirm CR tracing, mark a dot where centric would go with a sharpie, then clean the EZ tracer slate, and retrace to see if you arrive at the same position.

How wide/deep should I make the dimple?

When drilling the CR dimple, it's important to make sure the CR dot is located at the center of the area where hole will be created; and that it is deep enough (1 mm depth) and wide enough (2mm width); so that when the patient try's to lock the pin in the dimple; the dimple is easy to lock into but hard to get out of. Do not pierce through the tray, when creating the CR dimple.

I have created the dimple. Can I now remove the EZ tracer from the tray?

Once the dimple is created, it is recommended to remove the clear part of the EZ 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 before taking the bite.

### **Bite Recording issues:**

I recorded the bite, but when I removed the whole tray set, I noticed the pin is not locked into place/the trays are touching in the back. Does this affect the denture outcome?

Yes. It is always recommended to retake the bite after making sure the pin is into place and the trays are not touching. An incorrect bite recording can lead to bite and occlusion issues.

Can I record a bite with wax?

No wax bite records are accepted, under no exceptions. Wax can melt/break/distort during transit.

After taking the bite I noticed there's a gap between the impression material and the trays? How can I prevent this?

This is usually caused when the patient bite too strongly, bending the tray and distorting the bite, when taking the bite registration; this can cause bite issues later on at the try in stage. Please remember to ask the patient to bite softly on the trays, when performing the bite registration process.

Can I use clear bite (Clearbite ®) registration material to record my bite?

It is not recommended to use this material, as the scanner cannot register the bite properly.

Why is it important to hold the mandibular tray when taking the bite registration?

We have found that the tray can shift during this process causing an open bite issue at the try in stage.

## Shipping and Online Ordering issues:

My assistant threw away the posterior attachments and I no longer have them. Can you process the case without them?

Unfortunately the posterior attachments are essential to the case processing. If you no longer have them you will need to start the process from the beginning.

## Try in Adjustment issues:

Can I skit the try-in and instead do a direct to final denture?

Yes, however It's recommended to finish four successful cases before attempting to move to a direct to final case. Cases that can go direct to final are cases where the impressions look good, patient has good ridge, he was able to follow instructions successfully, and no issues were encountered when at the VDO or CR stage. Extreme Class III or Class II patients should not move direct to final.

Why do additional try-ins have a cost?

One try in should be sufficient to adjust any inconsistencies that could have happened on the impression stage. If further try-ins are needed, it usually means the new bites provided are not being taken at the proper centric position.

I got an open bite. What do I do?

If the open bite is smaller than 4mm, simply record another bite registration on centric. If the open bite is larger than 4 mm, proceed to grind down the areas where the interference is, with an acrylic bur; and once the bite has been closed, proceed to take a bite registration with the patient biting in centric position. Always remember to evaluate the bite while the patient is at biting at centric, before doing any adjustments.

I got poor retention on my try in. What do I do?

Proceed to apply heavy body on the borders, seat and border mold; clear any areas of heavy body on the inside of the try in and then proceed to do a light body wash. Always look for overextended borders and/or overextended post dam areas prior to doing a wash.

Can patients keep/take home the try-ins?

Absolutely under no exception should the patient take the try in home or wear it uninterruptedly for over 1-2 hours. Try-ins are only meant to be used to evaluate fit, form, and function. Never eat, sleep or use the try in outside the dental office.

I did no adjustments to the try in. Do I still need to send it back?

Yes. Try-ins are needed in order to process the case to final.



## Other issues:

### Can Dentca dentures can be relined? Repaired?

3D Dentca dentures can be repaired by utilizing mixable 3D printing material. Due to the simple and affordable nature of our 3D printable finals it is recommended to remake the denture instead of relining it.

### How do Dentca 3D Printed denture materials differ from conventional?

The DENTCA 3D printable Denture Base and Teeth is made of several acrylates which have been applied to dental field. Physical properties and biocompatibilities have passed the FDA requirements and are similar to conventional denture bases and acrylic teeth. The 3D Denture material is a type of acrylic similar to PMMA which has the same properties as conventional acrylic with the convenience of curing through UV light instead of temperature. Strength and performance remain the same however.

### Can you create a denture that looks like my patients old denture?

We can approximate the shape of the denture but we cannot make it look exactly like that.

### Can you work with a teeth brand of my own choice?

Unfortunately we cannot. Dentca 3D uses a tooth design of their own.

### My doctor' patient lost his Dentca dentures. What do I do?

Call our laboratory and we will send you another set, without the need to start the case all over. Do bear in mind in some instances we will need to send you a set of try-ins to be relined, especially if more than two years have passed since the denture got delivered.

### How should I select my first case?

We always recommend you choose a simple case to begin with, as the system is not difficult to use, yet there is still a learning curve.