

CAD 3D Printed Implant Surgical Guide **Scan to Guide Protocol**

Tooth Supported Surgical Guide:

Required:

- Good CBCT scan of the patient in DICOM format (not compressed).
- Intraoral Scan of a model or impression in STL format or a Model / PVS Impression.
*** Note: If this is a restoratively sensitive case, please also send a wax-up.

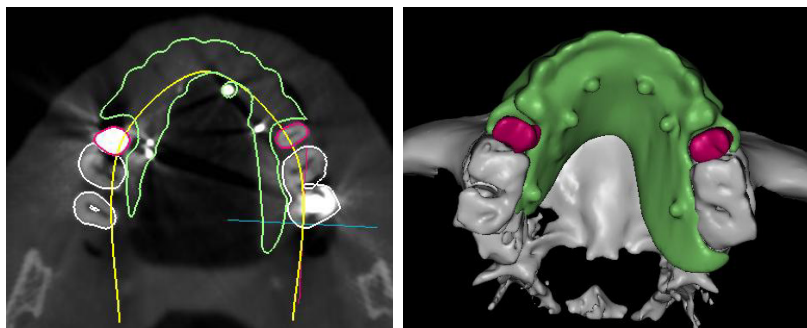
Recommended:

- Dual Scan of patient's non metallic flipper with markers properly placed.
- Additional impression with patient's appliance in place (not in the scan).
- Wax-up for import and visualization for implant planning

Prepare Patient

1. All detachable metal dentures and jewelry from the neck up must be removed from the patient prior to scan.

A non metallic denture should be used or If a scan appliance was provided it should be marked with scan markers, scanned first (dual scan) then worn during the patient scan.



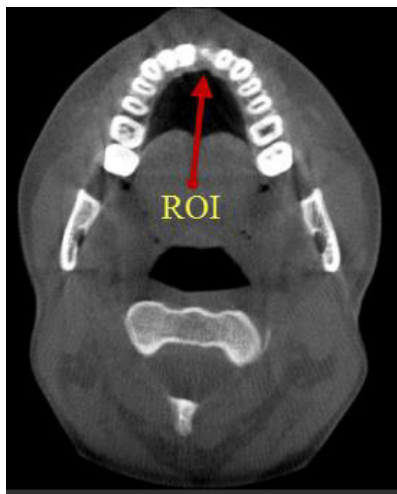
Place the patient in the CT scanner be sure to separate the occlusion at least 3mm with cotton rolls or a bite stick to minimize spray artifacts from opposing dentition. Separation of the upper and lower arch is necessary to clearly visualize incisal/ cusp tips for accurate matching of model scan to patient scan.

2. Drape the patient with the lead apron so that it lays flat across the shoulders and lap. Follow all regulations to protect the patient.

3. Align the patient in the scanner along the mid-sagittal and Frankfort plane (lower jaw should be parallel to the floor).



4. Secure the patient with either a chin cup, head straps, bite stick or temple supports(restraints vary between CT units)
5. Ask the patient to close eyes, swallow, place tongue low and in back of throat, take a deepbreath and hold.
6. Depending on the size of the CT scanners field of view, position patient in order to capture allapices and occlusal edges of the full arch.
7. Take a pre-view scan to ensure that the ROI is fully captured, reposition patient if necessary.
8. Scan patient at a 0.3 or 0.4 voxel for a full head or arch specific scan.



9. Export the images of the scan in Dicom file format to upload to 360imaging or import into360dps software.

10. Mail in recent stone model or PVS impression of the arch to Oral Arts
Note: If this is a restoratively sensitive case also mail in a model with the desired wax up.

Virtual treatment plan in 3Shape Implant Studio Software



CAD 3D Printed



Scan to Guide Protocol

Mucosa Supported Surgical Guide:

Required:

- Dual Scan with well fitting denture; markers placed properly.
- Good scan of patient with denture in place Seated properly; markers visible.

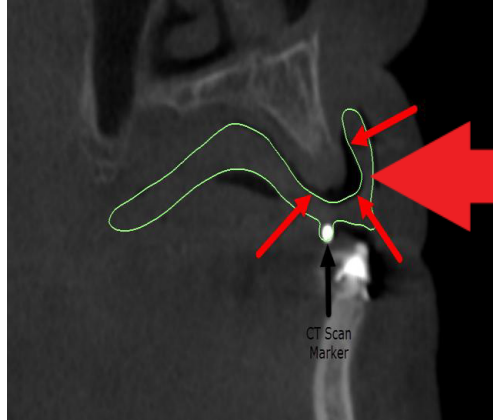
Recommended:

- Hard reline using a reline material that is not radiopaque.
- Bite registration to help make sure denture is seated properly; otherwise no separation unless the patient has natural teeth.

Prepare Patient

1. The patient's current denture may be used as a scan appliance if no metal is present.
 - a. It must be a well seated denture

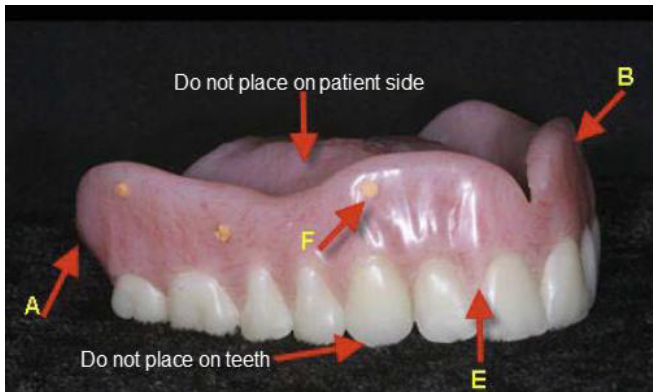
THIS IS AN EXAMPLE OF AN APPLIANCE THAT IS NOT SEATED PROPERLY



AIRSPACE BETWEEN THE
PATIENT'S SOFT TISSUE AND THE
APPLIANCE

- b. If not well seated do a hard reline, we recommend using a reline material that is not radiopaque.
- c. Adhere 6-8 scanning markers, such as radiopaque scan markers, to the flanges of the denture.

Place markers randomly on the appliance



*** Be sure NOT to place markers on the intaglio (soft tissue) surface or on teeth. ***

2. If there is metal in the patient's existing denture:
 - a. Duplicate the denture using clear acrylic.

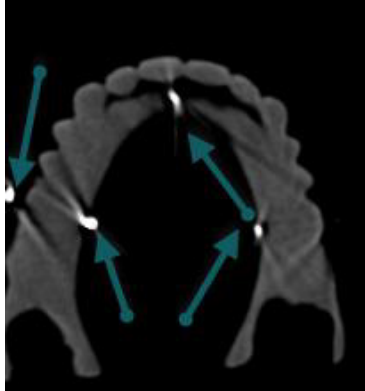


3. Scan denture/scan appliance first resting on a scanning platform or Styrofoam block the same orientation as it will be in the patient's mouth. Scanning the appliance first will allow the markers to stick properly to a drier surface.



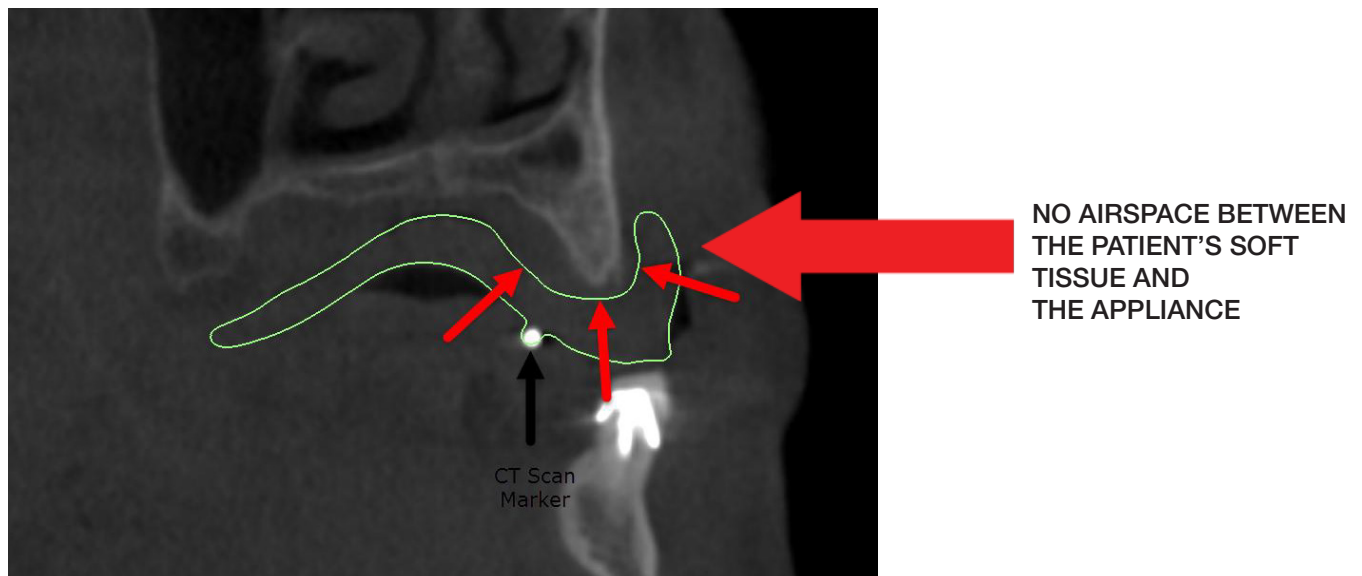
Scan the appliance at 80KVP and 2ma if you are using a Carestream unit. On ICAT, Sirona, Vatech use the same as patient morphology.

4. After scanning denture/scan appliance, check that all the markers are visible in the scan.

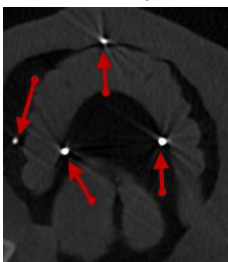


5. Prepare a bite registration if the patient is wearing a full arch appliance to ensure that it is fully seated against soft tissue. If you do not have a bite registration, do not use gauze or any separation technique.

THIS IS AN EXAMPLE OF AN APPLIANCE THAT IS SEATED PROPERLY

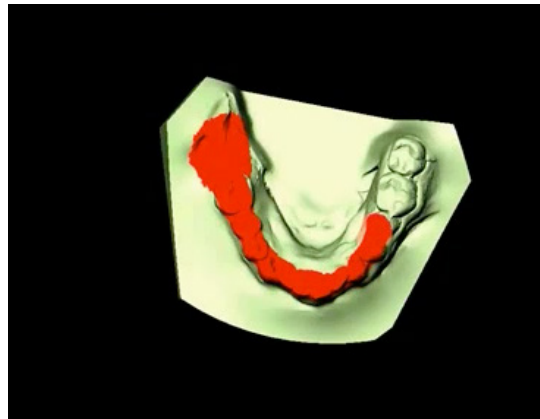
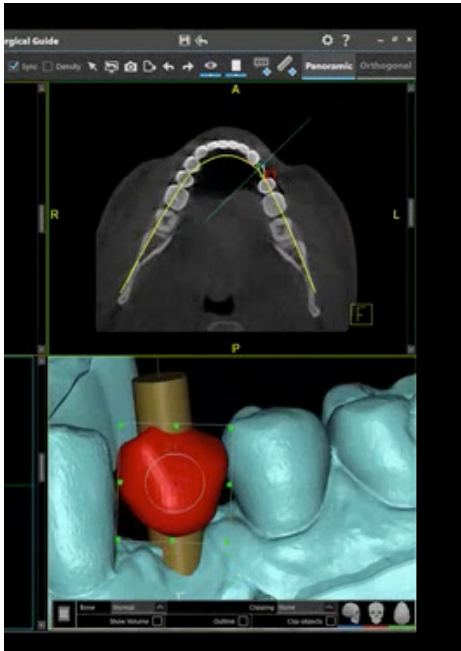


6. Scan the patient wearing the denture/scan appliance with the fiduciary markers.



7. Scan patient and appliance at a 0.3 or 0.4 voxel for a full head or arch specific scan.
8. Export the images of the scan to a zip file, and upload to Oral Arts Customer Portal or email zip file to implants@oralartsdental.com for virtual treatment planning and surgical guide order.

Virtual treatment plan in 3Shape software



CAD 3D printed Surgical Guide

