



## TMJ REPLACEMENT – CT SCAN PROTOCOL

### Overview

The patient-specific TMJ replacements are designed using the CT scan of the patient. CBCT scans are NOT acceptable. Good quality scan data is, therefore, critical to the process of designing accurate prostheses and surgical guides.

Please review the following information before proceeding with the CT scanning process. Feel free to contact us if you have any queries about the scanning process or data transfer.

### Protocol

#### Procedure

Remove any non-fixed metal prosthesis or jewelry that might interfere with the scan region.

Instruct the patient to remain still until the scan is complete. Any movement will render the scan unusable.

Patients in which NO occlusal change will be made should be scanned with their teeth together in occlusion.

Patients in which an occlusal change IS to be made during the surgery should be scanned with two tongue depressors between their teeth AND with their teeth together in occlusion.

Ensure that the scan is performed within the scan area and according to the scan parameters as indicated below.

Only axial image data is required. Please provide the scan with slice intervals equal or less than 1mm slice thickness. Do not reconstruct the axial slice data into a different (thicker) slice interval.

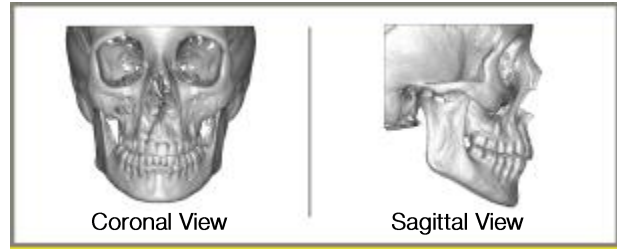
Send the images in **uncompressed standard raw DICOM** format to Craniotech, either digitally or on a CD.

If possible, retain the raw CT data until the scan has been reviewed by Craniotech.

#### Scan Area

Scan area should include all of the affected anatomical regions. Ensure that the outer limits adhere to the specifications listed below and shown in the image:

- Upper limit – 1cm above supraorbital rim, ensure that Sella and Nasion are included
- Lower limit – Below chin, ensure entire mandible is included
- Field of View (FOV) must include both sides of the maxilla



#### Scan Parameters

Scan Area	<ul style="list-style-type: none"> <li>• 1cm above supraorbital rim to below chin</li> <li>• Include Sella and Nasion</li> <li>• Include entire mandible</li> <li>• Include both sides of maxilla</li> </ul>
FOV	Adjust to best fit patient anatomy
Pitch	1:1
Slice Thickness	0.5mm or less
Slice Increment	< Slice Thickness
Gantry Tilt Angle	0°
Matrix	768 x768
Algorithm	Bone Kernel (±B65s) or High Resolution

#### Scan Results

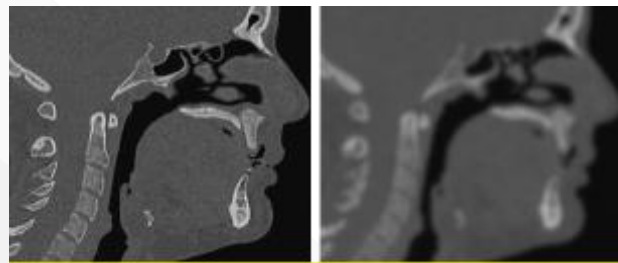
Satisfactory scans have clear, crisp boundaries and bone features. Boundaries between bone and surrounding soft tissue can clearly be observed in these images.

Unsatisfactory scans are blurry and have poor contrast between bone and surrounding tissue.

Refer to the image below.

Satisfactory Scan

Unsatisfactory Scan



#### POPI

Craniotech respects the POPI Act. Great care is taken to protect all patient information shared with Craniotech. Ensure that the patient provides written permission that allows Craniotech to obtain the patient scan data, as well as use it for the development of patient-specific solutions.