

# IMAGING PROTOCOL

for patient-specific fixation plates  
CT / CBCT — matched to the host procedure

STABILITY · FIT · PRECISION

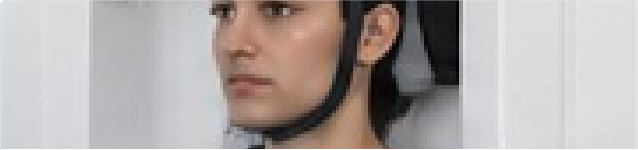


A patient-specific plate is designed to the bone it fixes. The imaging follows the procedure the plate is part of — the plate is only as accurate as the CT of the bone surface.

## 1 CT / CBCT ACQUISITION

### GENERAL PRINCIPLES

- Capture the full bone segment the plate will span
- Include stable bone beyond the screw positions
- Natural Head Position; mandibular plates — condyles in CR
- Patient still — avoid any motion during the scan
- Metal-artefact-reduction enabled (existing hardware)



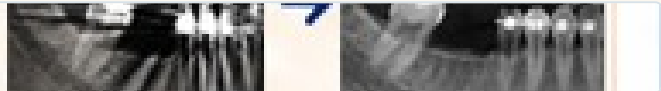
Stable position — full segment in the field of view

### RECOMMENDED

Capture the whole span of the plate plus solid, screw-bearing bone at each end, so fixation can be planned on stable anatomy.

### IMPORTANT — METAL ARTEFACT REDUCTION

Enable the metal-artefact-reduction protocol — existing plates, screws or dental work otherwise distort the bone surface the new plate is fitted to.



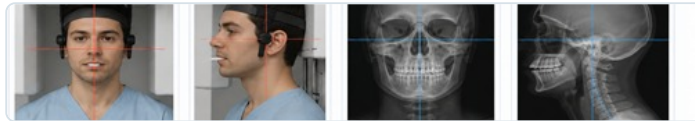
### FOR OPTIMAL RESULTS

- Capture the full segment plus stable screw-bearing bone
- Reduce metal artefact from existing hardware
- Provide the host-procedure data set

## 2 RECOMMENDED CT / CBCT PARAMETERS

PARAMETER	CT (SPIRAL)	CBCT (CONE-BEAM)
FOV (field of view)	Full segment + stable bone	Full segment + stable bone
Matrix	≥ 512 × 512	≥ 512 × 512
Slice thickness (Z)	0.5–1.0 mm (reconstruction)	0.3–0.6 mm
In-plane reconstruction (X,Y)	0.5–0.7 mm	0.3–0.4 mm
Orientation	Axial, preferably	Axial, preferably
Contrast agent	NO	NO
Scan time	Per device protocol	20–40 sec
Metal-artefact-reduction protocol	<b>ENABLED</b>	<b>ENABLED</b>

### 2.1 — SCAN VERIFICATION (SCOUT)



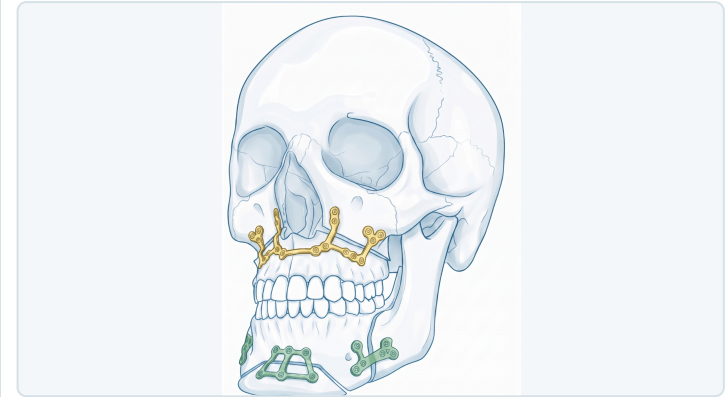
Full segment covered    Stable bone at ends    No motion    Position respected

**Capture the whole segment** the plate will span, plus stable bone beyond the planned screws so the fixation has a solid reference.

## 3 MATCHED TO THE HOST PROCEDURE

A plate inherits the imaging of the surgery it belongs to. **Provide the data for that procedure** — the plate is planned on the same scans.

Orthognathic plates	CT in CR + dental scan
Tumour / fibula plates	CT + leg CT angiography
Trauma / genioplasty	CT of the region



The plate is designed on the CT of the bone it fixes

### WHAT TO PROVIDE

- The host-procedure CT / CBCT data set
- Dental scan + occlusion in CR, if the bite is involved
- The plate's role and the segment it spans

### 3.1 — FILE FORMATS

CT / CBCT	.dcm · .DICOM (uncompressed)
Dental scan (if occlusion)	.STL · .PLY · .OBJ

### GENERAL RECOMMENDATIONS

- Provide the complete, uncompressed data set
- Tell us the host procedure and the plate's role
- For mandibular plates, scan with the condyles seated

### KEY MESSAGE

A plate is only as accurate as the scan beneath it:  
**1.** Full segment + stable bone, low metal artefact  
**2.** The data set of the host procedure

### SIMPLIFIED WORKFLOW

