IMAGING PROTOCOL

for patient-specific implants

CT / CBCT acquisition — the defect & the healthy mirror side

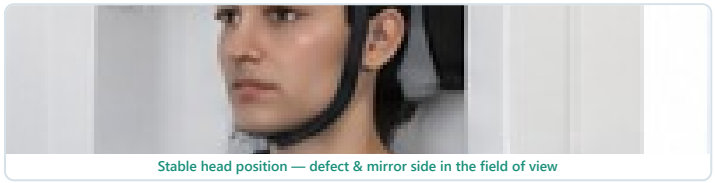
ACCURACY · SYMMETRY · RECONSTRUCTION

A patient-specific implant restores a skeletal defect. Its fit depends directly on the CT — the defect margins and the healthy mirror side must be captured cleanly.

1 CT / CBCT ACQUISITION

GENERAL PRINCIPLES

- Capture the full defect region (cranial · orbital · midface · mandibular)
- Include the contralateral healthy side — for mirroring
- Natural Head Position — stable and reproducible
- Patient still — avoid any motion during the scan
- Metal-artefact-reduction protocol enabled



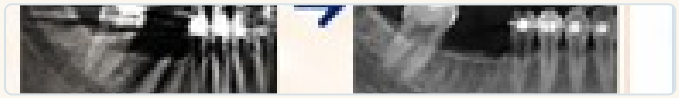
Stable head position — defect & mirror side in the field of view

✓ RECOMMENDED

Capture the defect and the intact opposite side in the same scan, so the implant can be mirrored from the healthy anatomy.

! IMPORTANT — METAL ARTEFACT REDUCTION

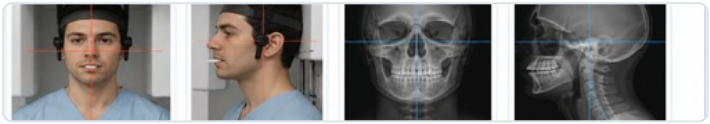
Enable the metal-artefact-reduction protocol — existing hardware, plates or dental work near the defect otherwise cast streaks over the reconstruction surface.



2 RECOMMENDED CT / CBCT PARAMETERS

PARAMETER	CT (SPIRAL)	CBCT (CONE-BEAM)
FOV (field of view)	Defect + contralateral side	Defect + contralateral side
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
Table feed (CT spiral)	< 3 mm / rotation	—
Metal-artefact-reduction protocol	**ENABLED**	**ENABLED**

2.1 — SCAN VERIFICATION (SCOUT)



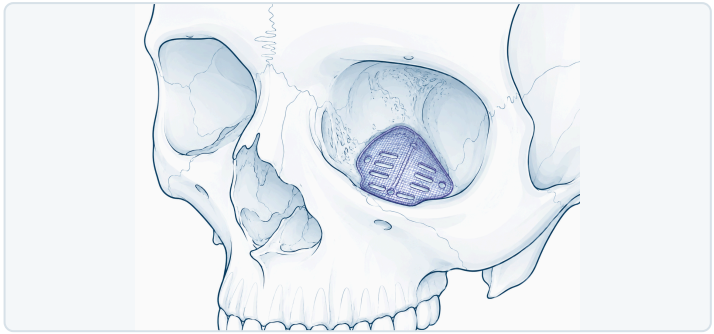
Defect covered · Mirror side included · No motion · Stable position

Tell us the defect site — cranial, orbital, midface or mandibular. Capture the defect and the mirror side at full resolution so the implant can be designed and mirrored accurately.

3 DATA YOU PROVIDE

✓ NO DENTAL DATA REQUIRED

For cranial, orbital and midface implants, the design works from the bony defect. **Intraoral scans and occlusal records are not needed.**



The implant is designed to the defect and mirrored from the healthy side

3.1 — WHAT TO PROVIDE

✓ PROVIDE

- One CT or CBCT covering the defect **and the mirror side**
- Metal-artefact-reduction enabled
- The complete, uncompressed DICOM data set
- The defect site and the goal (restore / augment / support)

! MANDIBULAR / TMJ IMPLANTS

Only for implants that restore the mandible or the TMJ: scan with the condyles seated in CR, and add a dental scan if the bite is involved.

3.2 — FILE FORMATS: CT / CBCT

Imaging data	`.dcm · .DICOM (uncompressed)`
Reconstructions / surface	`.dcm · .DICOM`
Volume export (optional)	`DICOMDIR (.dcm series)`

GENERAL RECOMMENDATIONS

- Always provide the complete data set (all DICOM files)
- Avoid lossy compression on export
- Include patient and orientation information
- Tell us the defect site and the reconstruction goal

FOR OPTIMAL RESULTS

- Follow the positioning and scan parameters
- Capture the defect and the healthy mirror side
- Share the defect site and the reconstruction goal

SIMPLIFIED WORKFLOW

CT / CBCT defect + mirror side → **Implant design** mirrored / patient-matched → **Manufacture** & surgical fit

KEY MESSAGE

Implant accuracy depends on one essential:
A clean CT / CBCT of the defect and the healthy mirror side. Dental data only for mandibular / TMJ implants.