

AT THE CONSOLE

Slice thickness	0.625 mm ideal · 1.0 mm maximum	Above 1.5 mm a scan cannot be used for surgical guides or implants.
Reconstruction increment	≤ slice thickness, contiguous	Overlapping reconstruction improves the result. Gaps do not.
Reconstruction kernel	Bone / sharp	Plus a soft-tissue series. See the kernel table below for your scanner.
Matrix	512 × 512	Square matrix. Some scanners default to rectangular — set it manually.
Display FOV	Smallest that encloses the full anatomy	250–320 mm for head and neck. Do not clip the region of interest.
kVp	120 (140 for large patients)	Use a lower kV only when boosting iodine contrast for a vascular model.
Gantry tilt	0°	No tilt, no oblique acquisition.
Compression	Uncompressed or lossless only	Lossy compression permanently destroys the data we segment.

BONE KERNEL BY SCANNER

GE	Bone, Boneplus, HDBONE, Ultra
Philips	D, E, YA, YB, YC, YD
Siemens	B60, B70, B75, B80 (legacy); Br56, Br59, Br69 (ADMIRE)
Toshiba / Canon	FC30, FC50, FC80, FC81
UIH	Sharp

LABEL THE SERIES

Set Study Description to **03D THIN AXIAL BONE** on the thin bone series so whoever exports later can find it.

CHECK IT BEFORE YOU SEND IT

osteo3d.com/check-scan

Drop the exported folder onto that page and it tells you whether the study is usable before it leaves the department. Nothing is uploaded — it runs in your browser.

SENDING IT TO US — WHERE MOST UNUSABLE DATA IS CREATED

- 1 Export from the source series — never from a 3D, MPR or reformat view.
- 2 Format: DICOM, one file per slice ("multi-file", or "set of single frame DICOM files"). Not JPEG, BMP, PDF, video, or "save image".
- 3 Compression: uncompressed, none, or lossless. If asked for a ratio, choose 1:1 on X, Y and Z.
- 4 Range: every slice in the series. Do not sub-sample and do not crop the range.
- 5 Do not bundle a viewer application, and do not password-protect or encrypt the archive.
- 6 Zip the folder and upload the zip, or upload the folder directly.
- 7 Include the thin bone-kernel axial series. Include the soft-tissue series alongside it.

IF YOU READ NOTHING ELSE

- ✓ **Thin slices** — 0.625 mm ideal, 1 mm maximum. Reconstruct at an increment no larger than the slice thickness, constant across the whole series.
- ✓ **Bone kernel** — Reconstruct a sharp / bone-algorithm series. A soft-tissue kernel alone cannot be segmented into an accurate bone model.
- ✓ **Thin axial source series** — The model is built from the original axial images, so the thin axial series must be in what you send. A coronal or sagittal reformat cannot stand in for it. If in doubt, send the whole study — what matters is that the thin axials are in it.
- ✓ **The whole folder, uncompressed** — Every slice, DICOM format, one file per slice, no lossy compression, no bundled viewer, no password.
- ✓ **Zero gantry tilt** — Tilt skews the acquired volume. Scan at 0°.
- ✓ **Do not edit the metadata** — De-identify if you need to — but never change acquisition values. We measure the geometry independently, so edited tags cannot make a scan usable.

CANNOT BE USED IN PLACE OF THE AXIALS

- ✗ Screenshots or Secondary Capture images
- ✗ 3D, VRT or volume-render series
- ✗ Coronal or sagittal reformats instead of the axial series
- ✗ The scout or localiser only
- ✗ The soft-tissue series only
- ✗ The thick reporting series only
- ✗ A report PDF, JPEG images, or an AVI cine
- ✗ Lossy / JPEG-compressed DICOM

You never need to delete anything — send the complete study as exported.

No extra radiation. It is generated from raw data you have already acquired and costs the patient no additional radiation.

CBCT

ACCEPTABLE FOR

- ✓ Tooth-borne dental implant guides
- ✓ Gross craniomaxillofacial anatomical models
- ✓ Orthognathic planning where bone morphology, not density, drives the plan

MEDICAL CT REQUIRED FOR

- ✗ Load-bearing titanium patient-specific implants
- ✗ Condylar, temporal bone and other fine-detail anatomy
- ✗ Any case where tissue density or Hounsfield values inform the design
- ✗ Cranial flap moulds and cranial helmets

Voxel size 0.3–0.4 mm or smaller, isotropic.