# Cranio-maxillofacial
## CT Scanning Protocol

**Thank you for taking a moment to read this protocol.** The quality of the CT or CBCT scan is the most important aspect of creating case-specific anatomical models. Your observation of the recommendations made in this protocol will have a significant impact on the accuracy of the final model. We understand concerns about keeping the radiation dose to your patients as low as reasonably achievable, therefore, please apply these guidelines as appropriate to your patients. Please do not hesitate to contact us toll free at (844) 643 1001 with any questions or prior to using this protocol for the first time.

## Please keep in mind the following key points

- Please use a 3D scanning routine that provides high resolution images as would be suitable for image guided surgery, stereotactic planning or other 3D applications. It may be useful to consult with your CT vendor's Application Specialist for advice on optimal parameters for your machine that provide the best scan with acceptable radiation dose levels. Scans should not be taken more than 6 months prior to the surgery date.
- Acquire scans at a high spatial resolution. Series should be acquired with thin, contiguous image slices (equivalent thickness and spacing of 1.25 mm or less) and as small a field of view (FOV) as possible while still including the patient's anatomy of interest.
- Please provide images in the original scanning plane. If software post-processing is performed to reorient or reformat the scan volume, then a series of thin slice images in the original acquisition plane MUST be included.
- Do not use gantry tilt during image acquisition. Images acquired with gantry tilt then post-processed to reorient images (i.e. "take out" tilt) are not acceptable.
- Please ensure that scans are free from motion artifact. Patient must remain completely still through the entire scan. If patient motion occurs, the scan must be restarted. Image distortion from patient motion can severely compromise the accuracy of a model.
- Image artifact caused by metallic implants can obscure anatomy of interest. Please take steps to minimize artifact from the presence of metal.
- Archive the entire study in uncompressed DICOM format on CD-R or DVD for shipping. It is also possible to transfer image data via the internet. Please contact us at (844) 643 1001 for details.

## Recommended protocol for medical CT scanners

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|---|---|
| **Slice Spacing:** | 1.25 mm or less (equal to slice thickness) |
| **Pixel Size:** | 0.60 mm or less |
| **Field of View:** | 20.0 - 25.0 cm |
| **Algorithm:** (examples) | GE: Standard (not bone or detail)<br>Siemens: H30s<br>Toshiba: FC20<br>Philips: B |
| **Gantry Tilt:** | 0° |
| **Archive Media:** | CD or DVD |
| **File Type:** | DICOM (uncompressed) |
| **Series:** | Original / Primary / Axial<br>(no recon, reformat or post process data) |

## Recommended protocol for medical CBCT scanners

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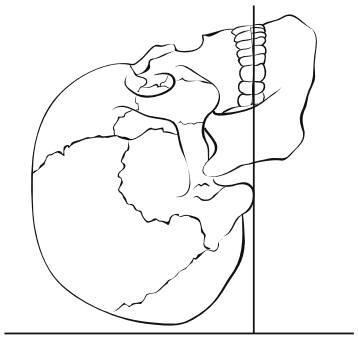
|---|---|
| **Scan Time:** | Longest Available |
| **Voxel Size:** | 0.3 - 0.5 mm |
| **Field of View:** | Largest Available |
| **File Type:** | CT (one file per slice) |
| **Reconstruction:** | Axial |
| **Compression:** | Uncompressed |

## Patient positioning

Occlusal plane should be parallel to the gantry.



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