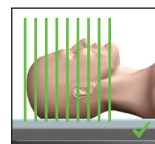


Email: CMFcustomizedimplants@stryker.com

Protocol for medical CT scanners

Patient positioning

Head alignment	Remain straight in neutral position
Gantry tilt	0° Gantry Tilt



No oblique angle of locator/survey lines.

No gantry tilt (CT).

Scan length/Field of view (FOV)

Scan length	For cranial defects, encompass the entire skull , including at least 2 slices superior to the skull.
FOV	For mandibular defects, encompass the entire mandible. Select FOV to include all surrounding anatomy.

Scanning process

Patient movement	Avoid patient motion. If the scan shows motion artifacts, the scan cannot be used.
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Acquisition

Slice thickness	Maximum = 1.5 mm (1 mm preferred)
Beam collimation	Width and detector configuration necessary to achieve actual slice thickness.
Table increment	Constant table increment, no gaps. Smaller than or equal to slice thickness.
Sequential scanners	No overlap and no gap
Single-slice helical scanners	Beam pitch = 1
Multi-slice helical scanners	Beam pitch < 1 (GE: High Quality; Toshiba: Detail)
Pixel type	Axial slice orientation.
Slice orientation	Axial slice orientation
Algorithm (kernel)	Bone algorithm.
Slice orientation	Axial slice orientation

Warning: DO NOT post process to alter slice orientation or thickness.

Data

Series ID	All images of a scan should be stored in one series.
File format	DICOM format. No raw data. No cone beam scans. Do not compress. Contrast not required. Inclusion of CT Viewer not recommended.
No raw data	Archive only the relevant examination in uncompressed DICOM (CD-R preferred).
Data storage	Recommendation: Save raw data for at least 14 days after scan.

Guidance for pediatric scanning

Exposure to ionizing radiation is of particular concern in pediatric patients. Check if existing scans meets the requirements for Stryker implant design. To avoid rescanning of patients, follow the parameters given in the Stryker Scan Protocol and use reduced dose and child - sized protocols where appropriate. Stryker recommends consulting the instructions for use provided by your imaging device manufacturer, and limiting radiation dosage to the amount clinically necessary. Statutory national Diagnostic Reference Levels (DRLs) for pediatric as well as for adult CT examinations must be complied with. Limit the dose by reducing Tube Voltage (kV) and the Tube-Current-Time product (mAs), consider patient size and activate Tube Current Modulation and/or Automatic Exposure Control if applicable and indicated for pediatric patients.

References

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3. Liu JK, Gottfried ON, Cole CD, Dougherty,WR, CouldwellWT, "MEDPOR Porous Polyethylene implant for Cranioplasty and Skull Base Reconstruction"Neurosurgery. April 2004.

Craniomaxillofacial

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Stryker Leibinger GmbH & Co. KG
Bötzingen Straße 41
79111 Freiburg
Germany



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