

CT SCANNING PROTOCOL – PATIENT SPECIFIC IMPLANTS & BIOMODELS

Thank you for reviewing this protocol. The quality of the CT scan is important for the production of a high quality patient specific implant or Surgical BioModel (anatomical replica). For more information please email Anatomics at contact@anatomics.com.

REQUIREMENTS

- 1) Perform a high-resolution 3D Helical CT scan according to the following guidelines;
- 2) Archive the original high-resolution fine slice acquisition data in DICOM format to CD or DVD.

CT SCANNING GUIDELINES

- Only provide the **original fine slice data** on disc, **NOT REFORMATS**.
- Do not use Cone Beam CT (due to insufficient contrast resolution).
- No patient movement. If the patient moves during the scan, it must be repeated.
- The following table outlines appropriate slice thickness and spacing combinations in millimetres:

Anatomy	Slice Thickness	Spacing	Algorithm	Example
Skull/Spine/Chest	1.0 to 1.25	0.625 to 0.8	"Standard" or "Soft Tissue"	Cranial Implants, Chest Implants, Orthopaedics
Face/Mandible	0.5 to 0.625	0.4 to 0.625	"Bone"	Facial Implants, Orbits

- **Gantry tilt:** Zero.
- **Field of View (FOV):** To include only the structures of interest to surgeon. For cranial implants, include the entire skull.
- **Chest implants:** For custom chest implants, scan patient with **ARMS DOWN BY SIDES** to ensure normal position of chest anatomy.
- **Dose:** Use a low mA for bone. Use a higher mA for when soft tissue definition is required (for example: tumours or vessels).
- **Contrast Enhancement:** If vascular or tumour definition is required, perform a CT Angiogram (CTA) with IV contrast via pressure injector.
- **Archive:** Archive only the fine slice acquisition data to CD or DVD in DICOM format.