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:

<table>
<thead>
<tr>
<th>Anatomy</th>
<th>Slice Thickness</th>
<th>Spacing</th>
<th>Algorithm</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skull/Spine/Chest</td>
<td>1.0 to 1.25</td>
<td>0.625 to 0.8</td>
<td>“Standard” or</td>
<td>Cranial Implants, Chest</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“Soft Tissue”</td>
<td>Implants, Orthopaedics</td>
</tr>
<tr>
<td>Face/Mandible</td>
<td>0.5 to 0.625</td>
<td>0.4 to 0.625</td>
<td>“Bone”</td>
<td>Facial Implants, Orbits</td>
</tr>
</tbody>
</table>

• 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.