CT Scanning and Picture Protocol for Digital Plans

Patient-specific 3D modeling and Digital Planning are only as accurate as the CT data provided. Follow this protocol to ensure clean and accurate CT data collection for these services. In addition to the scan, a digital picture of the patient facing forward is also required for life-like soft tissue simulation of resulting changes from the proposed surgery.

Compatible Scanning Equipment

ProtoMED’s patient-specific bone models and digital plans can be performed using data from all DICOM compatible scanners. DICOM compatible scanners include but not limited to, the following:

GE, Hitachi, Phillips, Siemens, Toshiba, Cone Beam Scanners

Preferred Algorithm by Manufacturer (standard soft tissue)

<table>
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<tr>
<th>GE</th>
<th>Phillips</th>
<th>Siemens</th>
<th>Toshiba</th>
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<tbody>
<tr>
<td>Standard</td>
<td>B</td>
<td>H30s</td>
<td>FC03 or FC30</td>
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Remove all non-fixed metal including jewelry, dentures, and prosthesis. It is very important the patient does not move or swallow during the scanning process.

Traditional CT
- Use 1mm slices or smaller
- Set Gantry Tilt to “0”

Cone Beam CT
- Select largest FOV
- Select smallest voxel size
- Select the highest mAs

CT Scan Positioning

Bone Considerations for cephalometric analysis
- Include nasium
- Include sella
- Include porions
- Include gnathion

Skin Considerations for cephalometric analysis and soft tissue simulation
- Extend above orbits if possible
- Include entire nose in scan
- Lips in a closed and relaxed position
- Extend slightly beyond the menton
**Digital Picture**

The digital picture will be overlaid on the CT scan data in an area as pictured.

- Picture taken face forward in scan position
- Lips in a closed and relaxed position
- Keep identified area clear of hair or foreign objects for best results

Make a CD or disc with the **uncompressed DICOM image data**.

Label the CD or disc with the following:

- Patient Identification
- Physician Name
- Facility Name
- CT Technologist Name
- Technologist Phone Number

You may upload the uncompressed DICOM data and digital picture to our secure ftp site or send them to the address below. To use our FTP site, please call for instructions. You may also arrange an alternate secure data transfer method of your choice.

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**ProtoMED, Inc.**

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Please contact us for instructions on uploading CT data or with any questions