CT Scan Protocol

CiS – Lower Limb

LRS Custom implant Solutions (CiS) are designed using patient CT data, hence it is important to ensure that the image quality of the CT data is to a level required for radiological evaluations of the bone.
The information in this document is provided as a guide to ensure optimal quality scans. Should a recent patient CT scan of no older than 2 months already be available, and it matches the requirements outlined below, this can be used instead to avoid an unnecessary scan.
Please read the following instructions carefully before scanning. Feel free to contact us should you have any questions.

Scan Requirements

Please ensure that the patient remains completely still during scanning. Any movement will prevent accurate anatomical reproduction and could render the scan unusable.

Remove any items that could interfere with the scan region, such as jewellery, zippers or any non-fixed metal prosthesis.

Left and right anatomies are requested. Please include contralateral side scans where possible.

Position the patient in a supine position with legs extended. No unnatural tilt or lift of the pelvis where possible. Legs are to be positioned in natural alignment with neutral rotation. Arms are to be folded upwards and away from the pelvis.

IMPORTANT

- **NO** reconstruction. Please use true axial slices.
- **DO NOT** alter X or Y centering between scans.
- **DO NOT** change table positioning between images.
- **DO NOT** change FOV.

Scan Parameters

Pelvis

Region of Interest	From 5cm below the most inferior point of the ischium to 1cm above the most superior point of the ilium.
Slice Thickness	1.0mm – 1.5mm
Pitch	≤ 1
FOV	Use smallest FOV that includes the complete bony pelvis.
Matrix	512 x 512
Algorithm	Moderate / Soft Tissue / High Resolution / Bone Kernel. No edge enhancement.
Gantry Tilt	0°

Knee

Region of Interest	25cm above and below the knee.
Slice Thickness	0.5mm – 1.0mm
Pitch	≤ 1
FOV	Use smallest FOV that includes the complete bony anatomy of interest.
Matrix	512 x 512
Algorithm	Moderate / Soft Tissue / High Resolution / Bone Kernel. No edge enhancement.
Gantry Tilt	0°

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Foot & Ankle

Region of Interest	From 1cm below the most inferior point of the foot to 10cm above the most superior point of the joint line.
Slice Thickness	0.5mm – 1.0mm
Pitch	≤ 1
FOV	Use smallest FOV that includes the complete bony anatomy of interest.
Matrix	512 x 512
Algorithm	Moderate / Soft Tissue / High Resolution / Bone Kernel. No edge enhancement.
Gantry Tilt	0°

Full Leg

Region of Interest	From 1cm below the most inferior point of the foot to 1cm above the femoral head.
Slice Thickness	1.0mm – 1.5mm
Pitch	≤ 1
FOV	Use smallest FOV that includes the complete bony anatomy of interest.
Matrix	512 x 512
Algorithm	Moderate / Soft Tissue / High Resolution / Bone Kernel. No edge enhancement.
Gantry Tilt	0°

Providing Scan Data

Obtained CT scan data can be sent to LRS digitally or on a CD/USB. Please ensure that the images are in an **uncompressed standard raw DICOM** format. No other file formats will be accepted.

Please ensure that the patient has given written permission allowing LRS Implants to use their CT scan data for the design and development of their CiS implant. Great care is taken to protect all patient information shared with LRS Implants, ensuring compliance with the POPI Act.

Contact Details

Unit C18, Prime Park
Mocke Rd, Diep River
Cape Town
South Africa
7800

www.lrsimplants.com
info@lrsimplants.com

+27 72 291 5475