

**IMAGING**

**GUIDE**

**LEG CT SCAN**

**bodycad**

## Introduction and Purpose

Through its mission, The Pursuit of Orthopaedic Perfection™, Bodycad aims to bring to market personalized restorations designed from a virtual 3D model of the patient's anatomy.

This procedure provides only the information required by Bodycad to design and manufacture personalized restorations.

The procedure described in this document may differ from the procedure used for diagnostic purposes. The physician is responsible for determining whether further tests are required for diagnostic purposes.

It is important to closely follow this guide, as this will produce a more accurate 3D model, and enhance the precision of the personalized restoration. Deviations from this guide may result in an unusable scan and potentially delay the surgery.

Please contact [image@bodycad.com](mailto:image@bodycad.com) if you require more information.

### Patient Preparation

- Remove any non-fixed metal prostheses, jewelry and zippers that may interfere with the region to be scanned.
- Make sure the patient is comfortable and instruct them not to move during the procedure. Movement during the procedure may result in an unusable scan and potentially delay the surgery.

### Patient Positioning

- The patient must be in a supine position, feet first, and patella pointing forward.
- The knees must be in maximal extension with toes pointing straight up.
- In the presence of a metal implant in the contra lateral knee, elevate the contra lateral knee to prevent metal artifacts from altering the images of the operative knee.

### In the Presence of Metal

- Apply any acquisition strategy that may be helpful to reduce metal artifact, such as using thin slice collimation, lowering pitch, increasing kVp, and reconstructing to larger slices of 1.5 mm.
- Provide an additional reconstruction with metal artifact reduction applied.

### Table Position

- Scan in a single acquisition: scan need to be performed all in one single run.
- Set the table height so that the region to be scanned is centered in the scan field.
- **Do not** move the table between slices.
- **Do not** change the X or Y centering between scans, center points must be identical.

### Field of View

- Use the smallest FOV possible to completely capture all bones of interest.
- Ideal FOV is 320 mm for 1 leg and ideally 500mm if bilateral scan is performed.
- Scan **all** slices with the same FOV, reconstruction center and table height.
- It is unnecessary to capture all of the soft tissue, only the series axial with clear bone contour will be used.

### No Gantry Tilt Bilateral Imaging

**Note:** Unilateral images are preferred. Provide bilateral images only if the patient is scheduled for a bilateral Bodycad procedure.

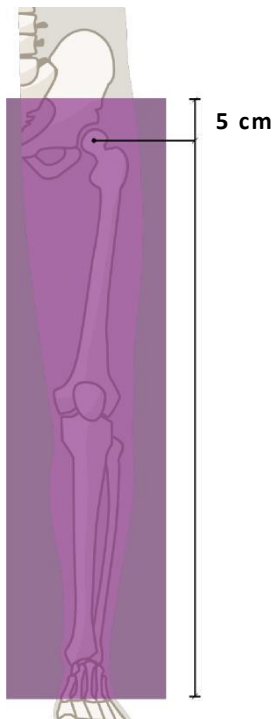
- If both legs cannot be captured in a 320mm FOV, use a 500mm FOV.
- Scan both legs in a single acquisition, while following the above guidelines.

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# Option 1: Full Leg Scan (Bodycad preferred option)

## Parameters

<b>Mandatory parameters:</b>		<p>From below the talus to above the femoral head:</p> 
single acquisition / all in one single run		
Region of Interest	From below the talus to above the femoral head	
Slice Thickness	0.5 - 1.0 mm	
Slice Increment	0.5 - 1.0 mm	
Format, series and ID	<p>Dicom format, Axial image series provided</p> <p>Patient's name, DOB and ID must be kept transmitted</p>	

## Other parameters suggested:

kVp	100 - 140
mAs	As given by the automatic system
Field of View	320 mm or smaller
Matrix	512 X 512
Algorithm	<p>Bone</p> <p>(No soft tissue enhancement / No edge enhancement)</p>

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# Option 2: Three Joint Scan

## Hip+Knee+Ankle

### Parameters

<b>Mandatory parameters:</b>			
single acquisition / all in one single run: same FOV, reconstruction center and table height			
	Hip	Knee	Ankle
Region	From above the femoral head to below the lesser trochanter	15 cm above the knee joint to 15 cm below the knee joint (30 cm total).	10 cm above the ankle joint to 5 cm below the ankle joint.
Slice Thickness	0.5 - 1.5 mm	0.5 - 1.0 mm	0.5 - 1.5 mm
Slice Increment	0.5 - 1.0 mm		
Region of Interest	From below the talus to above the femoral head		
Format, series and ID	Dicom format, Axial image series provided Patient's name, DOB and ID must be kept transmitted		

From below the talus to above the femoral head:

### Other parameters suggested:

kVp	100 - 140
mAs	As given by the automatic system
Field of View	320 mm or smaller
Matrix	512 X 512
Algorithm	Bone (No soft tissue enhancement / No edge enhancement)

## Series to Provide

- Full leg scout from the hip through to the ankle.
- Original axial images of the full leg or hip-knee-ankle.

## Transmission of Images

- Provide the complete data set of raw/original DICOM images to the surgeon.
- **Lossy compression is NOT allowed** (ISO\_10918\_1, ISO\_14495\_1, ISO\_15444\_1 or ISO\_13818\_1).
- Do not send any 3D recons, reformats, viewer software, etc.
- **Important:** Retain a permanent archive (via PACS) copy of the RAW imaging data (as scanned by the original parameters and in the uncompressed format).

## Data Anonymization and Privacy

- Be sure that the required rights for transmitting data to Bodycad are respected.
- The patient's name and ID must be kept in the transmitted data.
- Upon receipt of the transmitted data, Bodycad will ascertain the correspondence between the images and the surgeon's prescription, and anonymize the data before the whole process of personalized restoration begins.
- Confidentiality of patient data is part of Bodycad's quality procedure and patient privacy guidelines.

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The Pursuit of Orthopaedic Perfection

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