IMAGING TECHNIQUE

Magnetic Resonance Imaging (MRI)

bodycad

IMPORTANT NOTE

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.

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. The 3D model of the bone is produced by Bodycad Imager software, which employs 3D image segmentation from the patient's MRI. More specifically, the present protocol provides healthcare professionals with information on scanning requirements for the capture of patient MRIs of the lower extremities, for use by these algorithms.

It is important to closely follow this protocol, as this will produce a more accurate 3D model and enhance the precision of the personalized restoration. A high-quality image will provide the best results in terms of a high level of accuracy. A Bodycad representative will be on standby to answer any questions you may have and provide any additional information you may need.

Applicable Product

bc Reflex Uni™

(medial unicompartmental knee system)

Position of the Patient

— The patient position must be optimized to improve image quality.

— The leg of the patient must be placed at it normal position in the magnet (left leg in left portion of the magnet)

Images Acquisition

The magnetic resonance images must be taken using a coil that offers the best fit with patient anatomy. It is recommended to use specific coil as a first choice or a flex coil as an alternate choice.

Field of View

Images must be acquired from 10 cm above the knee joint to 10 cm below the knee joint.

10 cm

10 cm
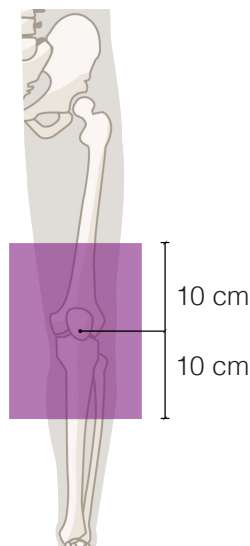
Sequence Description

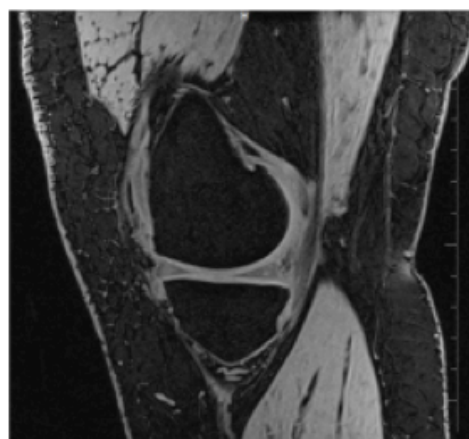| Instrument 1.5/3.0 Tesla	
Type	Isometric
Size	512 x 512
Axis	Sagittal

Figure 1

Bone Imaging

The sequence of the magnetic resonance image must produce the most uniform black bone surface. Figure 1 shows an example of the expected image quality.

MRI Scan Parameters

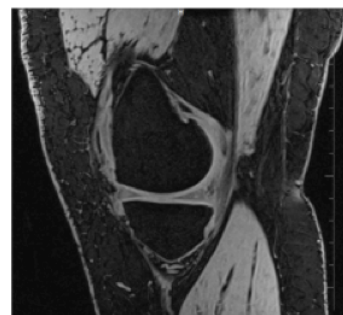| Instrument	Sequence Name	Repetition Time (TR)	Echo Time (TE)	Thickness of the Cut	Matrix	Field of View (FOV)	Flip Angle	Number of Cuts	Scanner Specific
Siemens Verio 3T	T1 VIBE WE (Water Excitation) ISO (Isometric)	10.1 msec	4.9 msec	0.6 mm	256 x 256	150 mm	10 degrees	160 cuts	N/A
Siemens Avanto 1.5 T	T1 VIBE WE (Water Selective Cartilage)	14.2 msec	6.2 msec	0.6 mm	256 x 238	150 mm	10 degrees	160 cuts	N/A
Philipps Achiva 3T	T1 3D WATS (Water Selective Cartilage)	20 msec	4.5 msec	0.7 mm	300 x 300	150 mm	15 degrees	N/A	N/A
GE 1.5 T	3D SPGR	42 msec	7 msec	1 mm	512 x 512	150 mm	20 degrees	N/A	Using Zip (Zero Interpolation Filling)
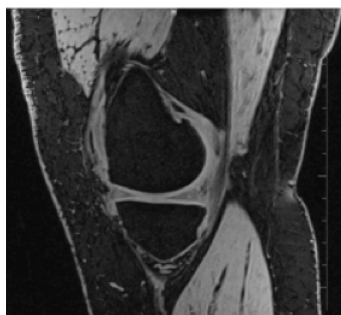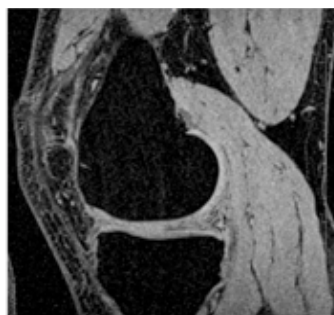
Siemens Verio 3T   Siemens Avanto 1.5 T   Philipps Achiva 3T   GE 1.5 T

Data anonymization and privacy

— Be sure that the required rights for transmitting data to Bodycad are respected.

— The patient name and ID must be kept in the transmitted data.

— The transmitted data will be anonymized by Bodycad before the whole process of personalized restoration begins. This anonymization follows the established Bodycad quality procedure and patient privacy guidelines.

Transmission of images

File format and instructions :

— Use only DICOM format, without lossy compression.

— Provide the images with the parameters, the scout view, additional images, notes.

— Return all images to referring physician

— Ensure that the CD or DVD is packaged appropriately in order to avoid breakage during transport.

Please direct all questions to **preptech@bodycad.com**
or call **418 527-1388** and ask for a PREP Tech.

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