

Patient-Matched Implants

CT Protocols

Patient-Matched Implants

The prevention of motion is critical for 3-D imaging and modeling. Instruct the patient on the importance of holding completely still during the scan.

The following instructions are very important. Please read them carefully before scanning.

Scanning the Patient and Technical Factors (for all scanners)

Slice Thickness: See specific protocols.

Field of View: Magnify or zoom image so it fills the entire screen without cutting off any of the anatomy for imaging. The FOV must not be changed during the scan.

Table Position: The CT couch must **not** be raised or lowered between slices. The X and Y centering must **not** be altered between slices.

Matrix: Quality images can be obtained from any scan matrix, although a high resolution 512 x 512 matrix should be used whenever possible.

Algorithm: **A standard or soft tissue algorithm** with no edge enhancement must be used. Do **not** use bone algorithm.

Slice Spacing: All slices must be contiguous or overlapping. Slice thickness and table increment is dependent on anatomy.

Data Collection: We accept CD-ROM in **DICOM** format off all CT machines.

CT Image data (not raw data) is required for patient modeling. Do **not** send hard copy X-rays.

Please contact Suzanne Smeltzer or Monica Crowder with any questions at 1.800.348.9500, ext. 1736 or 1509, or email Suzanne.Smeltzer@zimmerbiomet.com or Monica.Crowder@zimmerbiomet.com.

CT data may be submitted for reconstruction:

- CD-ROM
Ship to:
PMI Dept./Suzanne Smeltzer
2392 N Boeing Road
Warsaw, IN 46582

Processing of CT data and/or X-rays by Zimmer Biomet is not to be construed as supplying a medical diagnosis. This service merely reprocesses existing data to facilitate diagnosis by the physician/user. Zimmer Biomet shall not be liable or responsible for any physician-supplies service, such as diagnosis or treatment. Zimmer Biomet makes no representations or warranties as to the accuracy or completeness of this service nor does Zimmer Biomet represent or warrant that this service is fit for any particular application or purpose.

All content herein is protected by copyright, trademarks and other intellectual property rights owned by or licensed to Zimmer Biomet, or its affiliates unless otherwise indicated, and must not be redistributed, duplicated or disclosed, in whole or in part, without the express written consent of Zimmer Biomet.

This material is intended for health care professionals and the Zimmer Biomet sales force. Distribution to any other recipient is prohibited.



Patient-Matched Implants

Primary or Revision Hip/Acetabulum Replacement

Femurs must be positioned so they are parallel to the horizontal plane of the table. Patient needs to be in A/P position with feet inverted.



Start (see below)

Stop (see below)

Femoral Condyles

Start: Top of Iliac crest

Stop*: Mid-femur or below existing femoral

*Perform two femoral condyle slices (to show anteversion) if patient does **not** have an existing implant. Do **not** change FOV or X and Y coordinates.

Slice Thickness and Spacing: 2 mm by 2 mm, 2.5 mm by 2.5 mm, or 3 mm by 3 mm

Field of View: 38–44 FOV depending on patient size

Algorithm: A **standard** or **soft tissue** algorithm, **no** bone enhancement

Processing of CT data and/or X-rays by Zimmer Biomet is not to be construed as supplying a medical diagnosis. This service merely reprocesses existing data to facilitate diagnosis by the physician/user. Zimmer Biomet shall not be liable or responsible for any physician-supplies service, such as diagnosis or treatment. Zimmer Biomet makes no representations or warranties as to the accuracy or completeness of this service nor does Zimmer Biomet represent or warrant that this service is fit for any particular application or purpose.

All content herein is protected by copyright, trademarks and other intellectual property rights owned by or licensed to Zimmer Biomet or its affiliates unless otherwise indicated, and must not be redistributed, duplicated or disclosed, in whole or in part, without the express written consent of Zimmer Biomet.

This material is intended for health care professionals and the Zimmer Biomet sales force. Distribution to any other recipient is prohibited.



Patient-Matched Implants

Acetabulum/Pelvis for Oncology

Position patient in A/P with feet inverted, no rotation. Entire pelvis in FOV.

Start (see below)



Stop (see below)

Start: Top of Iliac crest

Stop: Ending slice just below ischial tuberosity

Slice Thickness and Spacing: 2 mm by 2 mm, 2.5 mm by 2.5mm, or 3 mm by 3 mm

Field of View: 38–44 FOV depending on patient size

Algorithm: A **standard** or **soft tissue** algorithm, **no** bone enhancement

Processing of CT data and/or X-rays by Zimmer Biomet is not to be construed as supplying a medical diagnosis. This service merely reprocesses existing data to facilitate diagnosis by the physician/user. Zimmer Biomet shall not be liable or responsible for any physician-supplies service, such as diagnosis or treatment. Zimmer Biomet makes no representations or warranties as to the accuracy or completeness of this service nor does Zimmer Biomet represent or warrant that this service is fit for any particular application or purpose.

All content herein is protected by copyright, trademarks and other intellectual property rights owned by or licensed to Zimmer Biomet or its affiliates unless otherwise indicated, and must not be redistributed, duplicated or disclosed, in whole or in part, without the express written consent of Zimmer Biomet.

This material is intended for health care professionals and the Zimmer Biomet sales force. Distribution to any other recipient is prohibited.



Patient-Matched Implants

Knee: Primary or Revision



Start

Stop

Start

Stop

Start

Stop

Slice Thickness and Spacing: 1 mm by 1 mm, 1.25 mm by 1.25 mm, or 2 mm by 2 mm

Field of View: 25–35 FOV depending on patient size

Algorithm: A **standard** or **soft tissue** algorithm, **no** bone enhancement

Processing of CT data and/or X-rays by Zimmer Biomet is not to be construed as supplying a medical diagnosis. This service merely reprocesses existing data to facilitate diagnosis by the physician/user. Zimmer Biomet shall not be liable or responsible for any physician-supplies service, such as diagnosis or treatment. Zimmer Biomet makes no representations or warranties as to the accuracy or completeness of this service nor does Zimmer Biomet represent or warrant that this service is fit for any particular application or purpose.

All content herein is protected by copyright, trademarks and other intellectual property rights owned by or licensed to Zimmer Biomet or its affiliates unless otherwise indicated, and must not be redistributed, duplicated or disclosed, in whole or in part, without the express written consent of Zimmer Biomet.

This material is intended for health care professionals and the Zimmer Biomet sales force. Distribution to any other recipient is prohibited.



ZIMMER BIOMET

Patient-Matched Implants

Patella / Femoral Implant



Start (see below)

Stop (see below)

Start: 10 cm above joint line

Stop: 3 cm below joint space

Slice Thickness and Spacing: 1 mm by 1 mm, 1.25 mm by 1.25 mm, or 2 mm by 2 mm

Field of View: 25 FOV depending on patient size

Algorithm: A **standard** or **soft tissue** algorithm, **no** bone enhancement

Processing of CT data and/or X-rays by Zimmer Biomet is not to be construed as supplying a medical diagnosis. This service merely reprocesses existing data to facilitate diagnosis by the physician/user. Zimmer Biomet shall not be liable or responsible for any physician-supplies service, such as diagnosis or treatment. Zimmer Biomet makes no representations or warranties as to the accuracy or completeness of this service nor does Zimmer Biomet represent or warrant that this service is fit for any particular application or purpose.

All content herein is protected by copyright, trademarks and other intellectual property rights owned by or licensed to Zimmer Biomet or its affiliates unless otherwise indicated, and must not be redistributed, duplicated or disclosed, in whole or in part, without the express written consent of Zimmer Biomet.

This material is intended for health care professionals and the Zimmer Biomet sales force. Distribution to any other recipient is prohibited.



Shoulder: Primary or Revision

Start (see below)

Stop (see below)

Humeral Condyles



Start: Above acromion process

Stop*: 15 cm below top of humerus or 3 cm below existing implant

*Perform two humeral condyle slices (to show anteversion) if the patient does **not** have an existing implant.
Do **not** change FOV or X and Y coordinates.

Slice Thickness and Spacing: 2 mm by 2 mm, 2.5 mm by 2.5 mm, or 3 mm by 3 mm is acceptable

Field of View: 25–30 FOV depending on patient size

Algorithm: A **standard** or **soft tissue** algorithm, **no** bone enhancement

Processing of CT data and/or X-rays by Zimmer Biomet is not to be construed as supplying a medical diagnosis. This service merely reprocesses existing data to facilitate diagnosis by the physician/user. Zimmer Biomet shall not be liable or responsible for any physician-supplies service, such as diagnosis or treatment. Zimmer Biomet makes no representations or warranties as to the accuracy or completeness of this service nor does Zimmer Biomet represent or warrant that this service is fit for any particular application or purpose.

All content herein is protected by copyright, trademarks and other intellectual property rights owned by or licensed to Zimmer Biomet or its affiliates unless otherwise indicated, and must not be redistributed, duplicated or disclosed, in whole or in part, without the express written consent of Zimmer Biomet.

This material is intended for health care professionals and the Zimmer Biomet sales force. Distribution to any other recipient is prohibited.



ZIMMER BIOMET

Patient-Matched Implants

Elbow: Primary or Revision



Start (see below)

Stop (see below)

Start: 10 cm above joint line or 5 cm above existing implant

Stop: 8 cm below joint line or 5 cm below existing implant

Slice Thickness and Spacing: 1 mm by 1 mm, 1.25 mm by 1.25 mm, or 2 mm by 2 mm

Field of View: 15–20 FOV depending on patient size

Algorithm: A **standard** or **soft tissue** algorithm, **no** bone enhancement

Processing of CT data and/or X-rays by Zimmer Biomet is not to be construed as supplying a medical diagnosis. This service merely reprocesses existing data to facilitate diagnosis by the physician/user. Zimmer Biomet shall not be liable or responsible for any physician-supplies service, such as diagnosis or treatment. Zimmer Biomet makes no representations or warranties as to the accuracy or completeness of this service nor does Zimmer Biomet represent or warrant that this service is fit for any particular application or purpose.

All content herein is protected by copyright, trademarks and other intellectual property rights owned by or licensed to Zimmer Biomet or its affiliates unless otherwise indicated, and must not be redistributed, duplicated or disclosed, in whole or in part, without the express written consent of Zimmer Biomet.

This material is intended for health care professionals and the Zimmer Biomet sales force. Distribution to any other recipient is prohibited.



Patient-Matched Implants

Wrist/Hand

Start (see below)



Stop (see below)

Start: Tip of fingers

Stop: 4–5 cm proximal to carpal bones

Slice Thickness and Spacing: 0.625 mm by 0.625 mm, 1 mm by 1 mm, or 1.25 mm by 1.25 mm

Field of View: 15 FOV

Algorithm: A **standard** or **soft tissue** algorithm, **no** bone enhancement

Processing of CT data and/or X-rays by Zimmer Biomet is not to be construed as supplying a medical diagnosis. This service merely reprocesses existing data to facilitate diagnosis by the physician/user. Zimmer Biomet shall not be liable or responsible for any physician-supplies service, such as diagnosis or treatment. Zimmer Biomet makes no representations or warranties as to the accuracy or completeness of this service nor does Zimmer Biomet represent or warrant that this service is fit for any particular application or purpose.

All content herein is protected by copyright, trademarks and other intellectual property rights owned by or licensed to Zimmer Biomet or its affiliates unless otherwise indicated, and must not be redistributed, duplicated or disclosed, in whole or in part, without the express written consent of Zimmer Biomet.

This material is intended for health care professionals and the Zimmer Biomet sales force. Distribution to any other recipient is prohibited.



ZIMMER BIOMET

All content herein is protected by copyright, trademarks and other intellectual property rights owned by or licensed to Zimmer Biomet or its affiliates unless otherwise indicated, and must not be redistributed, duplicated or disclosed, in whole or in part, without the express written consent of Zimmer Biomet.

This material is intended for health care professionals and the Zimmer Biomet sales force. Distribution to any other recipient is prohibited.

For complete product information, including indications, contraindications, warnings, precautions and potential adverse effects, see the package insert and www.zimmerbiomet.com where appropriate.

Zimmer Biomet does not practice medicine. The treating surgeon is responsible for determining the appropriate treatment, techniques(s), and product(s) for each individual patient.

Check for local product registration requirements and reference product specific instructions for use.



ZIMMER BIOMET
Your progress. Our promise.™

Legal Manufacturer
Biomet Orthopedics
P.O. Box 587
56 E. Bell Drive
Warsaw, Indiana 46581-0587
USA