Signature Personalized Patient Care

Shoulder CT Scanning Protocol Version 1.0

BIOMET®

One Surgeon. One Patient.

Over 1 million times per year, Biomet helps one surgeon provide personalized care to one patient.

The science and art of medical care is to provide the right solution for each individual patient. This requires clinical mastery, a human connection between the surgeon and the patient, and the right tools for each situation.

At Biomet, we strive to view our work through the eyes of one surgeon and one patient. We treat every solution we provide as if it's meant for a family member.

Our approach to innovation creates real solutions that assist each surgeon in the delivery of durable personalized care to each patient, whether that solution requires a minimally invasive surgical technique, advanced biomaterials or a patient-matched implant.

When one surgeon connects with one patient to provide personalized care, the promise of medicine is fulfilled.

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Introduction

The shoulder CT scanning protocol consists of A/P and sagittal localizers and an axial high resolution scan. Localizers and axial scan should be executed on the surgical side from above the acromion process to below the inferior angle of the scapula. The **entire** scapula and adjacent humerus must be included in the field of view (FOV). This scan is executed as a single acquisition scan. Establish the landmark and do not allow the patient to move until all axial images have been acquired.

Only axial images are required and no image reformatting is needed. Images should be transmitted in uncompressed DICOM format via Biomet Virtual PACS in the original acquired thickness.

Important Note: CT scan quality can directly affect guide manufacture and accuracy. Please ensure that all protocol steps are closely followed for optimum scan quality.

Contact Information

Biomet Orthopedics
Signature Personalized Patient Care
Customer Support
+1 574.371.3710
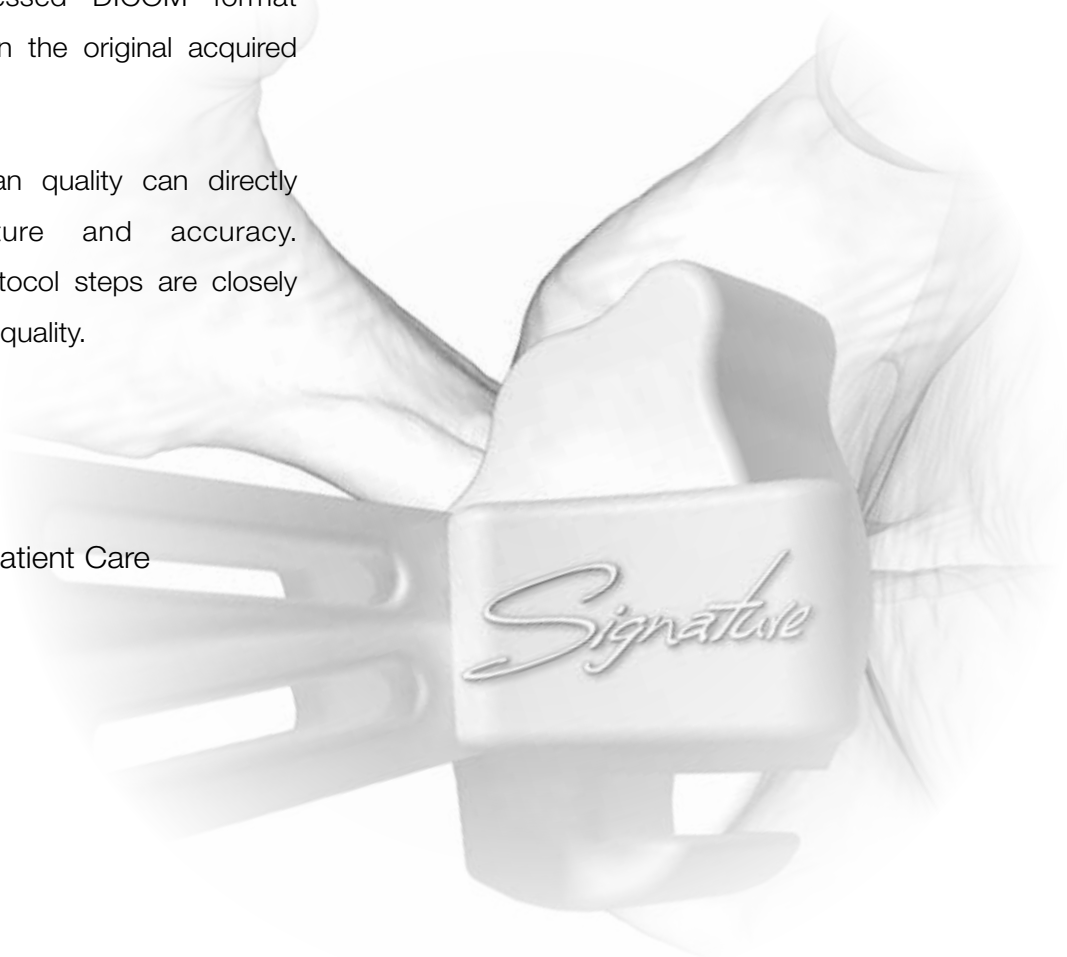
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Shoulder CT Scanning Protocol

File Naming

- Create two protocols "BIOMET SHOULDER RIGHT and BIOMET SHOULDER LEFT." The STUDY DESCRIPTION must read BIOMETSETR or BIOMETSETL for indicated side. (DICOM tag 0008,1030, StudyDescription). Enter the Referring Physician with the orthopedic surgeon's LAST name first. (DICOM tag 0008,0090 ReferringPhysiciansName) This will allow the images to be forwarded to the appropriate extremity data bank.

Anatomical Positioning

- Position patient supine with the affected arm extended along the side of the body with the wrist externally rotated (at least 45 degrees) and palm up.

Slice Thickness and Spacing

- Acquire slices at 0.625 mm x 0.625 mm or less in the axial plane

    – Do not acquire at a thicker slice and reconstruct to noted thickness

- Axial Helical or contiguous slices (Figure 1 and 2)

Field of View (FOV)

- Use a 250 mm FOV or smallest to include all bony anatomy of scapula and adjacent humerus anatomy

Table Position

- Do not raise or lower the CT couch between slices

- Do not alter the X and Y centering between slices

Matrix

- Use a 512 x 512 matrix

Algorithm

- Standard or soft tissue algorithm with no edge enhancement

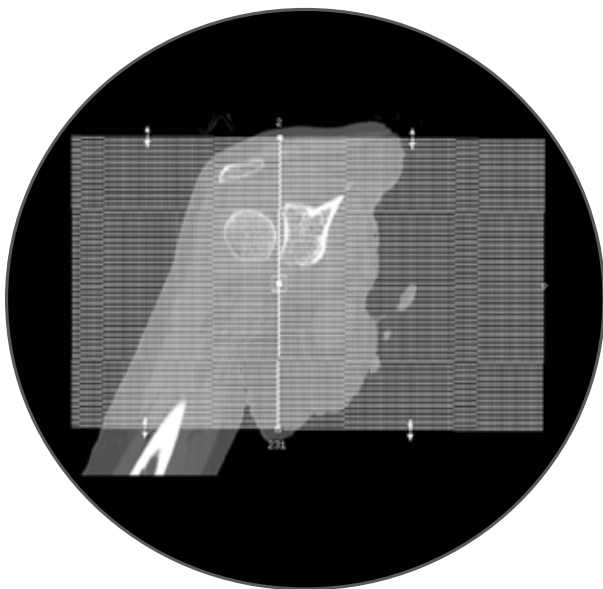- Do not use bone algorithm

- 120 kVp

Figure 1: FOV to include all of bony anatomy of scapula and adjacent humerus below the level of the inferior scapular angle.

Figure 2: Axial CT images from above acromion process to below inferior angle of scapula.

Q. Does the position of the hand make a difference?

A. Yes.
The hand should be positioned palm up to allow the best visualization of anatomy of interest.

Q. Can I scan with a thicker slice and reformat to 0.5 mm or 0.625 mm?

A. No.
Images must be acquired at a thickness of 0.625 mm or less.

Q. Will reformats in the Coronal and Sagittal planes help?

A. No.
The transmission of these additional images may hinder the transmission of the required image set.

Q. How will I know if my images are good?

A. If there is a need to rescan a patient you will be contacted by a Biomet Signature Representative.

Q. How do I evaluate my images to know they are adequate?

A. Confirm the below:
1. There is no motion evident
2. All bony scapula anatomy and adjacent humeral anatomy are present
3. The images are acquired with the soft tissue algorithm
4. The slice thickness is not greater than 0.625 mm
5. The FOV is not greater than 250 mm

Q. Who can I call if I have other questions?

A. Call the Biomet Signature Helpline at +1 574.371.3710

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