University of Wisconsin CT Protocol Sheet

ROUTINE SHOULDER CT (non-arthrogram)

Indications
- Evaluating fractures of the scapula and/or proximal humerus.
- Evaluating shoulder prosthesis.
- Evaluating masses/infection in a patient who is not MR compatible. (May require contrast)

Positioning
- Pt supine, with arm being scanned at side.
  - If possible, position the shoulder being scanned higher than the other shoulder.
    This helps to minimize the streak artifact from the contralateral humerus.
  - With acute trauma, just position patient to be comfortable and stable.

Coverage
- From above Acromial-Clavicular (AC) joint, through the bottom of the scapula.
  - If there is a shoulder prosthesis, scan past the end of the humeral component.
- Field of View (FOV) wide enough to include entire scapula and proximal humerus.

Scanning Parameters
- Standard MSK Parameters: Helical slices 1.25mm thick at 0.625 mm intervals. (50% overlap)
- “BonePlus” and “Standard” Algorithms.

Reformat
- Reformat in 3 planes using the “BonePlus” images in a “Bone Window” (1500/300).
- All reformats are 3mm thick at 3mm intervals.
  (No gap, No overlap)
- ALL REFORMATS ARE RELATIVE TO THE GLENO-HUMERAL JOINT.
- Coronal & Sagittal Reformats are made off an Axial reference image, perpendicular & parallel to the Gleno-Humeral Joint.
- Axial Reformats are made off a Coronal image, perpendicular to Gleno-Humeral Joint.

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The primary indication for a shoulder Arthrogram-CT is to evaluate the rotator cuff and labrum in a patient who is not MR compatible.

Prior to the CT, under fluoroscopic guidance, 12-15ml of a 1:1 mixture of Omnipaque 300 and 1% lidocaine is injected into the Gleno-Humeral joint.

The patient is then positioned supine in the CT scanner and 2 scans are performed.

1) For the first scan the patient's arm is at their side, PALM UP, and the shoulder is scanned as in a routine CT, and the 3 standard sets of reformatted images are made.

2) For the second scan the patient shoulder is placed in the Abducted/External Rotation (ABER) position, with their hand behind their head.

Coverage
- From above Acromial-Clavicular (AC) joint, past the bottom of the glenoid.
- Field of View (FOV) wide enough to include entire scapula and proximal humerus.

Scanning Parameters
- Standard MSK Parameters: Helical slices 1.25mm thick at 0.625 mm intervals.
- “Bone Plus” algorithm only.

Reformat
- Using the ABER source images, find a Coronal reference image through the middle of the Gleno-Humeral Joint.
- Create ABER reformatted images perpendicular to the Gleno-Humeral Joint, 3mm thick at 3mm intervals.
- The ABER images should look something like this.

Do not create “Standard” 2D reformat unless requested by radiologist.

Send the source images only from both sets of scans, to the “Source Folder”.
Send the Scout and Reformatted images to the “CT Folder”.

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revised 3/31/08