

**Ultrasound-Shoulder Glenohumeral Joint**

**PURPOSE:**

To evaluate the glenohumeral joint and surrounding muscles, such as deltoid, infraspinatus and trapezius, to assess posterior shoulder instability in the pediatric patient with brachial plexus birth injury (BPBI).

**SCOPE:**

Applies to all US shoulder glenohumeral joint studies performed at Imaging Services / Radiology

**INDICATIONS:**

- BPBI
- Loss of External Rotation of Shoulder
- Shoulder Click

**CONTRAINDICATIONS:**

No absolute contraindications

**EQUIPMENT:**

High frequency linear transducer 7-15MHz.

**PATIENT PREPARATION:**

- None

**EXAMINATION:**

**GENERAL GUIDELINES:**

A complete examination includes evaluation of the humeral head and glenoid cavity, with attention to epiphysis morphology and size, ossification center of the humeral head, and the shape of the posterior glenoid.

**EXAM INITIATION:**

- Introduce yourself to the patient (AIDET)
- Verify patient identify using patient name and DOB
- Explain Test
- Obtain patient history
- Enter and store data page

## **TECHNIQUE CONSIDERATIONS:**

- Review any prior imaging exams that are available, making note of any abnormalities that require further evaluation.
- Posterior subluxation should be evaluated visually during the dynamic phase of the study and by measurement of the alpha angle or scapular glenohumeral angle.
- Static and cine images should be obtained of the glenohumeral joint with the arm in neutral position, as well as with internal and external rotation, if possible.
- The normal value of the scapular glenohumeral angle is 30 degrees or less.
- Attention to the deltoid and infraspinatus muscles is important to assess for muscular atrophy.
- The trapezius muscle should be evaluated with a posterior axial approach for muscular atrophy.
- The contralateral shoulder should be imaged for comparison.

## **DOCUMENTATION:**

- Trapezius Muscle
  - Posterior axial static imaging two times.
- Glenohumeral Joint to include:
  - Posterior Scapular Line
  - Humeral Head
  - Osseous Glenoid
    - Obtain 2 static images and 2 cines in the neutral position.
    - If the patient is cooperative, obtain 2 static images and 2 cines with internal rotation and external rotation.

## **PROCESSING:**

- Review examination images and data
- Export all images to PACS
- Document relevant history and impressions in primordial.
- Present images to Radiologist

## **REFERENCES:**

- ▶ A. Doblado López, C. Bravo Bravo, P. Garcia - Herrera Taillefer, M. I. Martínez León, P. Cabo; Málaga/ES (2015). *Glenohumeral instability ultrasound in children with brachial plexus injury*. Retrieved from [www.myESR.org](http://www.myESR.org)

## **REVISION HISTORY:**

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