Shoulder Anterior Capsular (SHAC) Block for Anterior Shoulder Dislocation in the Emergency Department: A Case Series

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Background

- Anterior shoulder dislocations are common ED injuries and often cause severe pain and muscle spasm, complicating reduction.
- **Procedural sedation** is frequently required but can be resource- and personnel-intensive.
- Existing alternatives, including **intra-articular lidocaine and regional nerve blocks,** have limitations in analgesic efficacy, positioning, or potential complications.
- The **Shoulder Anterior Capsular (SHAC) block** is a superficial, ultrasound-guided, anterior approach designed to provide **targeted, motor-sparing analgesia** while avoiding proximal brachial plexus structures.
- **Objective: Describe the clinical use of the SHAC block for anterior shoulder dislocation in the ED.**

Material & Methods

- **Two ED patients** with anterior shoulder dislocation underwent ultrasound-guided SHAC block prior to attempted reduction; patients were not prospectively screened or consecutively enrolled.
- Patients were positioned **supine or seated**, with the affected arm in **abduction and external rotation**
- A **high-frequency linear transducer** was used to identify the humeral head, deltoid, subscapularis, and coracoid process.
- Using an **in-plane, lateral-to-medial approach**, local anesthetic was deposited at two targets: **(1) deltoid–subscapularis interfascial plane** and **(2) pericapsular space**.
- **20 mL of 0.25% bupivacaine total** was administered: 10 mL at each target.
- Patients were reassessed **15–20 minutes post-block** for analgesic response before reduction.

Nerve Block

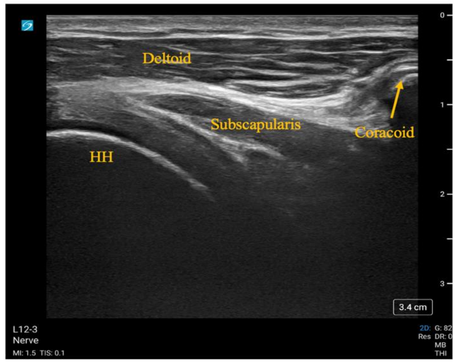


Figure 1. Anterior shoulder in transverse (short-axis) orientation demonstrating key sonoanatomic landmarks for SHAC block. The coracoid process serves as the primary bony landmark, appearing as a hyperechoic curvilinear structure with posterior acoustic shadowing at the medial field. The subscapularis tendon is visualized in cross-section deep to the deltoid muscle at this level. Linear transducer, 12–3 MHz. HH, humeral head.

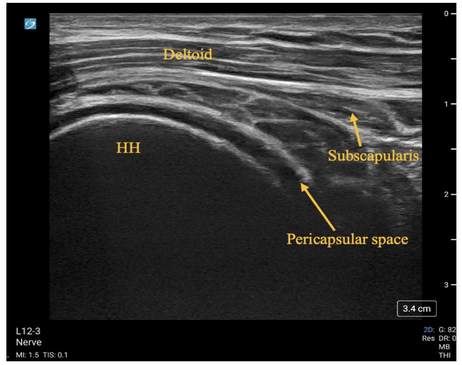


Figure 2. Anterior shoulder in longitudinal (long-axis) orientation demonstrating the pericapsular space, the target of the SHAC block. The potential space between the subscapularis tendon and the glenohumeral joint capsule is identified deep to the deltoid muscle. Linear transducer, 12–3 MHz. HH, humeral head.

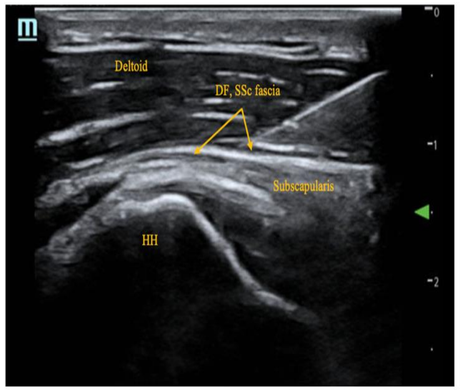


Figure 3. Anterior shoulder in longitudinal (long-axis) orientation demonstrating demonstrating in-plane needle advancement for the SHAC block. The needle (hyperechoic linear structure) is directed into the fascial space between the deltoid fascia and subscapularis fascia. Linear transducer, 12–3 MHz. DF, deltoid fascia; HH, humeral head; SSc, subscapularis fascia.

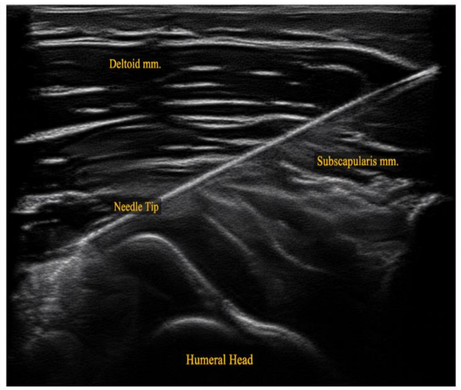


Figure 4. Anterior shoulder in longitudinal (long-axis) orientation with confirmation of needle tip position and deposition of anesthetic within the deltoid fascia–subscapularis fascia space. Linear transducer, 12–3 MHz. DF, deltoid fascia; HH, humeral head; SSc, subscapularis.

Discussion

- The SHAC block provided **targeted, motor-sparing analgesia** in both anterior shoulder dislocations with differing clinical effectiveness.
- In Case 1, analgesia was sufficient for **successful reduction without procedural sedation,** however recurrent dislocations may be inherently easier to reduce.
- In Case 2, the complex fracture-dislocation, the SHAC block provided **partial analgesia but did not eliminate the need for procedural sedation**.
- **Motor preservation** facilitates immediate post-reduction neurologic assessment of the axillary nerve.
- The **anterior approach** may be advantageous when posterior access is limited, particularly in patients requiring cervical spine immobilization.
- Both blocks were performed by **EM interns without prior nerve block experience under direct supervision**, supporting the potential feasibility of supervised trainee performance.
- Larger prospective studies are needed to define **efficacy, patient selection, safety, and impact on procedural sedation and ED resource utilization**.

Conclusion

- The SHAC block was **technically feasible** in two ED patients with anterior shoulder dislocation.
- Analgesic response varied: one patient underwent **sedation-free reduction**, while a complex fracture-dislocation still required procedural sedation.
- The SHAC block may represent a **motor-sparing regional analgesic option** in selected ED patients, but these cases do not establish efficacy or safety.
- **Further prospective study** is needed to define effectiveness, safety, reproducibility, positioning requirements, and optimal patient selection.