

Analgesia for Shoulder Dislocation Reduction: A Retrospective Analysis of Ultrasound-Guided Local Anesthesia Versus Procedural Sedation in our Emergency Department

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BACKGROUND & OBJECTIVE

Shoulder reduction requires adequate analgesia and muscle relaxation. Procedural sedation is effective but requires monitoring and personnel; ultrasound-guided regional anesthesia may offer a targeted alternative. There's a lack of these studies from an underserved population .

Objective: Compare procedural sedation with ultrasound-guided nerve blocks for post-procedural pain, time from ED arrival to reduction, and evolving institutional practice patterns.

METHODS

-Retrospective observational cohort study.

-Adult shoulder dislocations, January 2019–December 2025.

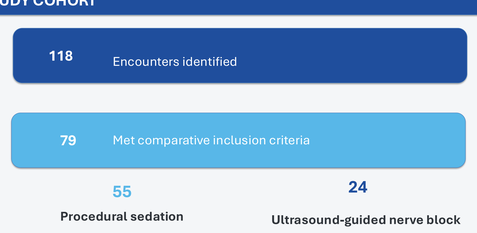
-Tertiary emergency department in Southern Puerto Rico.

-Data extracted from the electronic medical record and analyzed using REDCap and SPSS.

-Groups: procedural sedation (without nerve block) vs ultrasound-guided nerve block (without procedural sedation); NSAIDs/opioids could be co-administered.

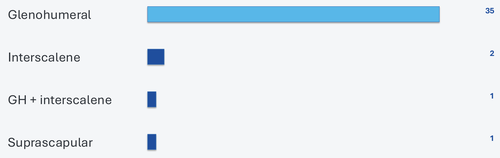
-Fisher exact test and Mann–Whitney U test; two-tailed α = 0.05.

STUDY COHORT



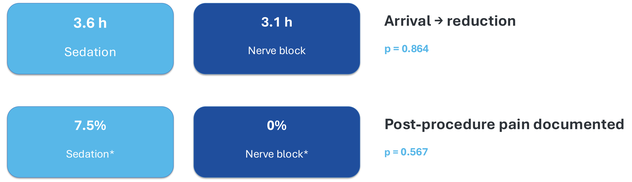
REGIONAL ANESTHESIA PRACTICE

Block types documented across all 118 encounters (n=39)



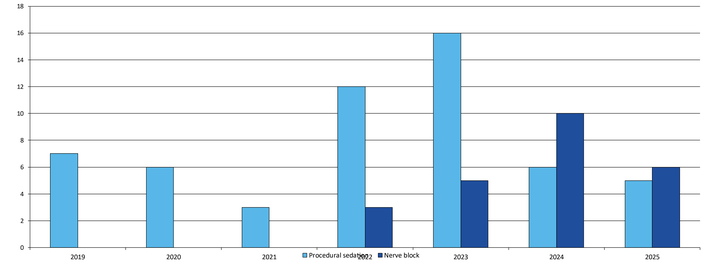
Glenohumeral block was the dominant documented technique.

PRIMARY RESULTS

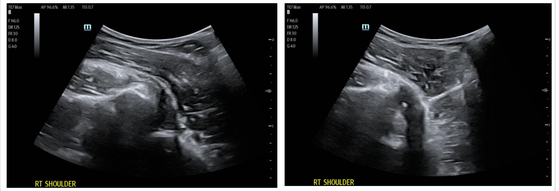


*Among patients with documented post-procedure pain status.

TEMPORAL TREND IN ANALGESIA STRATEGY



Nerve blocks first appeared in 2022 and accounted for 62.5% of included cases in 2024 and 54.5% in 2025.



INTERPRETATION

-No statistically significant difference was detected in arrival-to-reduction time.

-No statistically significant difference was detected in documented post-procedure pain.

-Use of ultrasound-guided nerve blocks increased substantially in later study years.

-The retrospective design and small nerve-block cohort limit causal or equivalence conclusions.

CONCLUSION

Ultrasound-guided nerve blocks were increasingly adopted and were not non-inferior in documented pain. Prospective studies should evaluate complications, opioid exposure, satisfaction, ED length of stay, and resource utilization for our specific population.

KEY TAKEAWAY

At our institution, regional anesthesia moved from absent in 2019–2021 to a major strategy for shoulder reduction by 2024–2025—without a statistically significant difference detected in the measured clinical outcomes.