

Accuracy of ultrasound-guided cervical medial branch blocks compared with conventional fluoroscopic techniques: A meta-analysis

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Introduction: Cervical facet joint pathology is a major source of chronic neck pain. Although cervical medial branch block is traditionally performed under fluoroscopic guidance, ultrasound provides real time visualization of soft tissues and vascular structures while avoiding radiation exposure.

Materials and Methods: We conducted a systematic review and meta analysis in accordance with the Cochrane Handbook for Systematic Reviews of Interventions. PubMed, Embase, the Cochrane Library, and Web of Science were searched for randomized controlled trials evaluating the efficacy of ultrasound guided cervical MBB using fluoroscopy or computed tomography as reference standards.

Discussion: These findings indicate that ultrasound guided cervical MBB provide high accuracy while improving procedural safety and efficiency. The reduction in intravascular injection risk is particularly important, given the potentially catastrophic consequences. A statistically significant reduction in procedure time with comparable pain relief demonstrates clinical efficacy across imaging modalities. These findings support ultrasound as a viable alternative to fluoroscopy or computed tomography.

Ultrasound guided cervical MBB provide **high accuracy** while improving procedural **safety** and **efficiency**.

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96%

High Contrast Spread Accuracy



86%

High Needle Placement Accuracy



Reduced Procedure Time



0.11

Low Injection Risk