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## A Prospective Study Investigating the Relationship Between Diagnostic Lumbar Medial Branch Blocks and the Use of Sedation

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Title: A Prospective Study Investigating the Relationship Between Diagnostic Lumbar Medial Branch Blocks and the Use of Sedation

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**INTRODUCTION:** Diagnostic medial branch blocks (MBB) confirm whether the origin of lower back pain is the facet joint, but are prone to false positive results. This study investigates the effects of midazolam sedation on perceived intensity of pain relief following lumbar MBB and determines the frequency of positive results in sedated patients for the corresponding treatment, radiofrequency thermocoagulation (RFTC).

**METHODS:** This prospective observational study compares pain scores between patients who undergo the MBB procedure with midazolam sedation (treatment) and without (control). Participants reported baseline and post-injection NRS pain scores, and 4, 8 weeks post-RFTC. If >80% pain relief was achieved post-diagnostic block, but RFTC produced <50% pain relief, the score was considered “false positive.” The primary outcome was the difference between baseline versus lowest post-injection score and the frequency of false positive results in sedated RFTC patients.

**RESULTS:** 27 and 26 patients completed diagnostic MBBs in the non-sedation group and sedation group, respectively. There was not a significant difference in NRS pain score change between groups for diagnostic block 1 and 2 (80.77% vs 74.07%, respectively). There was also not a significant relationship between sedation and non-sedation with false positive RFTCs at week 4 (69.23% vs 61.11%) or at week 8 (70.0% vs 75.0%).

**CONCLUSIONS:** In summary, this study found no significant difference in NRS pain scores for patients who were or were not given midazolam sedation for diagnostic lumbar MBBs. Further, sedation did not significantly impact frequency of positive RFTC results. Larger studies are required to draw definitive conclusions.