

**Free Paper C: Five Year Long-Term Results of Endoscopic Dorsal Ramus Rhizotomy and Anatomic Variations of the Painful Lumbar Facet Joint**

Farhan Siddiqi, MD; Jacqueline Romero, BS; Casey O'Donnell, DO; Victor Hayes, MD

**Introduction:** The lumbar facet joint is a significant contributor to chronic lower back pain (CLBP). We hypothesize that endoscopic rhizotomy is safe and performs with superior longevity when compared to published results of radiofrequency facet ablation.

**Methods:** 141 patients with at least 6 months of unsuccessfully treated CLBP, imaging evidence of degenerated facets, that experienced relief of pain with two comparative lumbar medial branch blocks. A five year retrospective clinical data analysis. One hundred and forty-one patients with facetogenic CLBP treated with endoscopic dorsal ramus rhizotomy. The Numerical Pain Rating Scale (NPRS) and the Oswestry Disability Index (ODI) were utilized to measure patients' postoperative pain relief and disability. Minimally clinically important difference (MCID) were analyzed three years and five years postoperatively. Additionally, anatomic variations were recorded photographically in each case and compared.

**Results:** Patients were separated into groups with or without deformity (spondylolisthesis or scoliosis). Follow up ranged from 1 year to 5.3 years (avg. 3 years). For all patients analyzed together, there was a 49% [ $p < 0.01$ ] improvement in pain intensity in NPRS and a 45% [ $p < 0.01$ ] improvement in ODI. For patients without deformity, there was a 60% [ $p < 0.01$ ] improvement in pain intensity in NPRS and a 53% [ $p < 0.01$ ] improvement in ODI. Eighty-two percent (82%) and 75% of patients in this group received greater than 50% improvement in NPRS and ODI at 5 years, respectively. Additionally, three separate newly identified anatomical variations of medial branch anatomy were observed through the series. Figure 1 details three anatomical variants. (a) & (b) show schematic and endoscopic images of standard type 1 medial branch anatomy. Tiles (c) and (d) detail two newly identified anatomical variants documented in the series.

**Conclusions:** Endoscopic lumbar medial branch rhizotomy is safe, effective, and provides long-term benefit up to 5 years post-procedure. The endoscopic approach affords clinically superior longevity when compared to published results of radiofrequency ablation. A significant majority of patients without deformity obtain long lasting improvement in pain and disability at 5 years follow up. Additionally, three separate newly identified anatomical variations of the medial branch anatomy may provide insight for improved techniques for both endoscopic and radiofrequency rhizotomy in the treatment of the painful lumbar facet joint.

**Disclosures:** F. Siddiqi: None. J. Romero: None. C. O'Donnell: None. V. Hayes: None.

