

WHEN CENTRAL STENOSIS IS NOT THE PAIN GENERATOR

Endoscopic Interlaminar Decompression for Lumbar Lateral Recess Stenosis

Rachel Emami, DO, MS • Ghazaleh Ebrahimi, MD • Russell C. Feit, MD
Department of Physical Medicine and Rehabilitation, Larkin Community Hospital, South Miami, FL

LARKIN® COMMUNITY HOSPITAL
A TEACHING HOSPITAL

THE PAIN GENERATOR MATTERS.

Concordant L3–4 lateral recess pathology guided targeted endoscopic decompression, resulting in pain relief and improved strength and ambulation within 1 week.

THE CASE

- 72-year-old man with a history of HTN and HLD
- 6 months of progressive left anterior thigh pain, numbness, and weakness
- Walking tolerance **<50 feet** with subjective instability
- Symptoms worsened with ambulation and improved with sitting and rest
- No bowel or bladder dysfunction

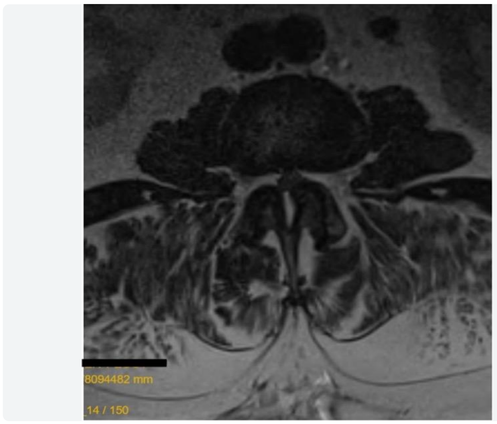
Exam

- Decreased light touch over the left anterior thigh
- Weak left hip flexion and knee extension
- Positive left femoral stretch test

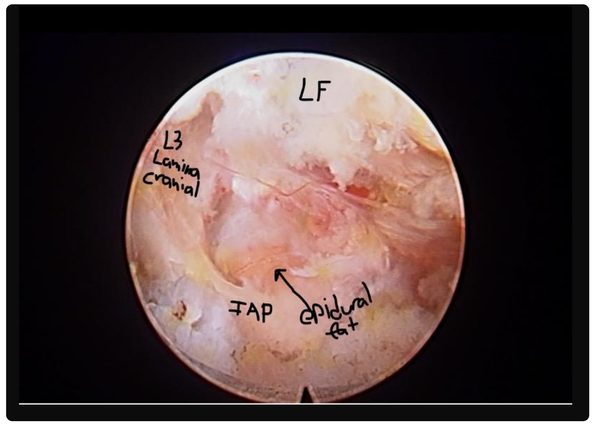
Failed conservative care

- Physical therapy
- Medications
- Injections

CLINICORADIOGRAPHIC CORRELATION



Axial MRI: Focal left L3–4 lateral recess stenosis with compression of the exiting L3 and traversing L4 nerve roots.



Endoscopic view: Decompressed lateral recess showing the ligamentum flavum (LF), inferior articular process (IAP), L3 lamina, and epidural fat.

TARGETED ENDOSCOPIC DECOMPRESSION

Fluoroscopic localization → **Paramedian incision + sequential dilation** → **Interlaminar working corridor** → **Laminotomy + medial facetectomy** → **LF / compressive material resection** → **Direct neural decompression**

OUTCOME

Within 1 week

- **↓ Pain**
- **↑ Strength**
- **↑ Ambulation**

- No new neurologic deficits
- No perioperative complications
- Continued clinical improvement without symptom recurrence at follow-up

DISCUSSION

- Lateral recess stenosis should be distinguished from central canal stenosis when identifying the symptomatic pain generator.
- The endoscopic interlaminar approach enabled precise neural decompression under direct visualization with minimal tissue disruption.

TAKE-HOME **Careful clinicoradiographic correlation can guide pathology-specific intervention and avoid treatment directed at the wrong anatomic target.**

REFERENCES

1. Kamada M, et al. *Clin Case Rep*. 2020;8(10):2008-2013.
2. Zhao QL, et al. *Pain Res* Manag. 2022;10(2):656-662.
3. Ahn Y, Rhee DY. *Neurospine*. 2024;21(1):123-128.
4. Kim HS, et al. *Neurospine*. 2024;21(2):250-260.