



# Hyaluronidase Epidural Steroid Injections for Refractory Failed Back Surgery Syndrome: A Case Report

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## Case Description

- **Pertinent History:**
  - 50 y/o M with w/PMHx L4-S1 fusion extended to L3
  - Sx included b/l anterior thigh burning and cramping, worse with standing/walking, and a progressive sense of difficulty coordinating his legs.
- **Prior Interventions:**
  - **Prior meds:** Amitriptyline, baclofen, methocarbamol, cyclobenzaprine, gabapentin
  - **Procedural Hx:** Lumbar spinal cord stimulator removed due to bone growth around the paddle, b/l L3-5 RFA, caudal epidural lysis of adhesions, b/l L2 TFESI without significant relief.
  - Not a candidate for microdiscectomy due to the level and preferred not to extend the fusion.
- **Imaging:**
  - MRI lumbar spine revealed broad L2/3 disc bulge with bilateral L2 foraminal stenosis (**Image 1**).
- **Intervention:**
  - Bilateral L2 TFESI w/dexamethasone 4mg and hyaluronidase (initially 75u per side, subsequently 150u per side) (**Image 2**).
- **Conclusion:**
  - >50% reduction of symptoms and marked functional improvement, injections repeated every ~3-4 months.
  - Greater symptomatic improvement with hyaluronidase-steroid injections and enhanced relief with 150u hyaluronidase.

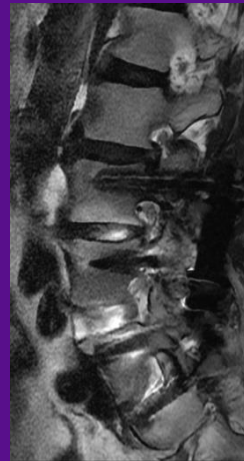


Image 1: Sagittal and Axial MRI demonstrating L2/3 disc bulge w/ b/l L2 foraminal stenosis



Image 2: Bilateral L2 TFESI

## Discussion

- Steroid alone did not provide any mechanical change and only temporarily calmed the nerves. Hyaluronidase allowed for microscopic decompression of the neuroforamen by enzymatically removing disc and/or adhesions created in response to disc-driven inflammation.
- Enzymatically targeting the disc at the disc-nerve interface has provided meaningful relief for this patient.
- In a 2014 randomized control study of 25 patients with failed back surgery syndrome, the addition of hyaluronidase to ESIs was found to have a significant improvement compared to steroids alone over a 4-week study interval.<sup>1</sup>
- The use of hyaluronidase is further supported by a 2012 trial which found reduced pain and improved function over 12 weeks when hyaluronidase is used with an ESI in comparison to ESI or hyaluronidase alone.<sup>2</sup>

## Take Away Point

**ESIs with hyaluronidase serve an important role in pain reduction and functional improvement in patients with failed back surgery syndrome, especially if ESIs have failed to provide relief.**

## References

1. Rahimzadeh, Pain Physician, 2014.
2. Kim, Ann Rehabil Med, 2021.