Fukusaki M, Kobayashi I et al. Symptoms of Spinal Stenosis Do Not Improve After Epidural Steroid Injection. Clin J Pain 1998;14(2):148-151.

Design: Randomized clinical trial

Population/sample size/setting:

- 53 outpatients (mean age 70, 38 men, 15 women) with pseudoclaudication and leg pain treated at a University anesthesiology department in Japan
- Spinal canal stenosis defined as (1) degenerative spondylolisthesis, (2) lateral recess stenosis, (3) central mixed stenosis with anteroposterior diameter of canal less than 15 mm
- Degenerative changes and spinal stenosis demonstrated by plain x-ray, CT, and MRI in all patients
- Vascular claudication excluded by physical exam and thermography
- Randomized to translaminar injection of 8 ml epidural saline (n=16), 8 ml of epidural saline with 1% mepivacaine (n=19), or 8 ml epidural saline with 1% mepivacaine plus 40 mg prednisolone (n=19), done twice in one week for all groups

Main outcome measures:

- Baseline walking distance averaged 10 m, and 1 week after last injection, average walking distance was 23 m in saline group, 92 m in mepivacaine group, and 87 m in mepivacaine plus steroid group; however, after 3 months these distances were 11 m, 13 m, and 10 m respectively
- Same walking distances were categorized as excellent (more than 100 m), good (20-100 m), or poor (less than 20 m) by blinded therapist
- Saline group had 1 week, 1 month, and 3 month distribution of excellent, good, and poor results as follows: 0, 2, and 14 at 1 week; 0, 1, and 15 at 1 month; 0, 1, and 15 at 3 months
- Mepivacaine group as follows: 2, 8, and 8 at 1 week, 0, 3, and 15 at 1 month; 0, 1, and 17 at 3 months
- Mepivacaine plus prednisolone as follows: 2, 10, and 7 at 1 week; 0, 3, and 16 at 1 month; 0, 1, and 18 at 3 months

Authors' conclusions:

- Epidural anesthetic block has short-term beneficial effect on pseudoclaudication in lumbar degenerative stenosis, but addition of steroid confers no additional benefit

Comments:

- Power calculation is not done, which is of interest when no difference is found between fairly small groups of patients, but the 3 month distributions of results are similar enough to support hypothesis of no difference between interventions

- Translaminar technique done with loss or resistance technique rather than fluoroscopy for placement of injectate

Assessment: Adequate for evidence that translaminar epidural steroid injection has no long term benefit for walking distance in patients with lumbar spinal stenosis compared to local anesthetic injection alone