Journal Review II

By Ron Feise, DC

Is There Evidence for Repeat Spinal Injections?

Novak S, Nemeth WC. The basis for recommending repeating epidural steroid injections for radicular low back pain: a literature review. *Arch Phys Med Rehabil* 2008;89:543-52.

SYNOPSIS: This was a review of the literature that examined the evidence to support guidelines for frequency and timing of epidural steroid injections (ESIs) for radiculopathy from either a herniated nucleus pulposus or spinal stenosis. Reviewers searched PubMed, Medline, the Cochrane library (up to December 2005), and additional references found from the initial search.

There were no studies that specifically addressed the objectives outlined. Eleven randomized controlled trials, 1 prospective controlled trial, and 2 prospective cohort studies were identified that included a protocol involving repeat epidural injections for radicular pain secondary to herniated nucleus pulposus or spinal stenosis. One qualitative survey was also identified. Five review articles were also included that discussed this topic. No study has specifically evaluated the objectives for frequency and timing of ESIs.

RESEARCH QUALITY: Overall, this study had reasonable methodological rigor.

Quality Details: This study used the following: 1) appropriate design; 2) a clearly focused question; 3) clearly stated and appropriate inclusion criteria; 4) a clearly described search of the literature; 5) a thorough assessment of the studies; 6) a description of the data extraction process; and 7) a conclusion that flowed logically from the evidence.

CONCLUSION: There is no evidence to support the current common practice of administering a series of injections.

COMMENTS: *Repeat injections remain the norm, but the rationale for repeating treatment has not been elucidated, and research has not been provided to support this practice. It has been stated that the decisions regarding selection and timing of ESIs are largely based on personal experiences and preferences of the treating physician and anecdotal accounts.*[1-3] *There are currently no scientific data regarding the minimum or maximum number of ESIs or ideal timing for repeat injections.*

Evidence to support the use of injections for the treatment of low-back pain and sciatica is lacking.[4-6] *Injections for neck pain without radiculopathy are not supported by current evidence.*[7] *But injections for severe neck pain with radiculopathy yield short-term symptomatic improvement.*[7] *Numerous potential adverse reactions have been associated with cervical epidural steroid injections. Although the vast majority are minor and transient in nature, serious complications, including death, may also result.*[8]

Warning. Healthcare professionals should not automatically use information from research studies (especially abstracts) to make decisions about patient care, because health care literature suffers from inconsistent quality and frequently distorts research findings. To improve the likelihood of applying valid/appropriate research conclusions to your practice and to avoid invalid/inappropriate research findings, healthcare professionals should use reviews that apply the following model: **C**ritical **A**ppraisal & **P**revious **R**elevant **E**vidence (**CAPRE**). Reviewers using this model do the following: 1) assess the quality of the research methods used within the study under review in order to determine the level of bias, if any, and the impact of bias upon the study's conclusion; 2) formally report upon the quality (If a study doesn't report the quality of the research, a quality assessment was not performed); and 3) connect the present study with previously published research by formally discussing the research conclusions of the present and previous studies.■

This review is an excerpt from Direction of the Evidence*, published by the Institute of Evidence-Based Chiropractic, whose aim is the integration of science into chiropractic practice in order to improve patient outcomes. Dr. Feise can be reached at rjf@chiroevidence.com.*

References

1. Abram SE. Treatment of lumbosacral radiculopathy with epidural steroids. *Anesthesiology* 1999;91:1937-41.
2. Abram SE. Factors that influence the decision to treat pain of spinal origin with epidural steroid injections. *Reg Anesth Pain Med* 2001;26:2-4.
3. Cluff R, Mehio AK, Cohen SP, Chang Y, Sang CN, Stojanovic MP. The technical aspects of epidural steroid injections: a national survey. *Anesth Analg* 2002;95:403-8.
4. Rozenberg S, Dubourg G, Khalifa P, Paolozzi L, Maheu E, Ravaud P. Efficacy of epidural steroids in low back pain and sciatica. A critical appraisal by a French Task Force of randomized trials. Critical Analysis Group of the French Society for Rheumatology. *Rev Rhum Engl Ed* 1999;66:79-85.
5. Nelemans PJ, deBie RA, deVet HC, Sturmans F. Injection therapy for subacute and chronic benign low back pain. *Spine* 2001;26:501-15.
6. Luijsterburg PA, Verhagen AP, Ostelo RW, van Os TA, Peul WC, Koes BW. Effectiveness of conservative treatments for the lumbosacral radicular syndrome: a systematic review. *Eur Spine J* 2007;16:881-99.
7. Carragee EJ, Hurwitz EL, Cheng I, Carroll LJ, Nordin M, Guzman J, Peloso P, Holm LW, Cote P, Hogg-Johnson S, van der Velde G, Cassidy JD, Haldeman S. Treatment of Neck Pain: Injections and Surgical Interventions: Results of the Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders. Best Evidence on Assessment and Intervention for Neck Pain. *Spine* 2008;33:S153-S169.
8. Abbasi A, Malhotra G, Malanga G, Elovic EP, Kahn S. Complications of interlaminar cervical epidural steroid injections: a review of the literature. *Spine* 2007;32:2144-51.