

Epidural Steroid Injections: A Minimally Invasive Option for Treating Spinal Pain



by Vincent Codispoti, M.D.

Spinal pain continues to be one of the most common reasons for patients to seek treatment from health care providers, and one of the leading causes of job-related disability. While many cases of acute low back and neck pain will resolve with conservative measures, the pain can often recur or persist due to underlying structural abnormalities such as a disc herniation, spinal stenosis, or spondylolisthesis. Surgical intervention is often reserved for patients with neurologic dysfunction, substantial anatomic abnormalities, or pain that is refractory to most non-surgical treatments. An appropriately-tailored course of physical therapy, in conjunction with a daily home exercise program, forms the foundation for treating persistent spinal pain and helping to prevent exacerbations. However many patients will continue to have pain despite these therapies and appropriate medication management. In addition, the pain may be too severe to allow them to participate in therapy. In cases such as these where surgery is not imminently indicated, an epidural steroid injection is a treatment option that can help to alleviate pain and allow patients to move forward with their therapies and home exercises.

An epidural steroid injection is a very safe and minimally invasive procedure, performed in carefully-controlled and monitored conditions under fluoroscopic guidance. A combination of corticosteroid and a small amount of local anesthetic and saline is deposited into the epidural space using one of several different approaches. There are several mechanisms of action through which the corticosteroid exerts an analgesic effect. The most well-documented of these is the inhibition of phospholipase A2, which is an inflammatory enzyme that is present in elevated concentrations in degenerated and herniated intervertebral disks. It is a rate-limiting factor and principal substrate in multiple inflammatory pathways. In addition, corticosteroids may also inhibit pain by suppressing conduction in injured nerves and normal pain fibers. There are additional mechanisms through which the local anesthetic is thought to help with pain relief, to include a “washout” effect of the inflammatory mediators.

Epidural steroid injections have been shown to provide short-term relief in well-selected patients, particularly those with radicular pain. The majority of patients with radiculopathy will recover within 6 months, and can experience resorption of disc material within 1 year of presentation. One of the most appealing aspects of an epidural steroid injection is that it can provide pain relief while intrinsic recovery mechanisms take place. This in turn provides the patient with a window of opportunity to progress with their physical therapy program and home exercises, and can decrease the likelihood that pain will impede this process. For patients with recurrent pain as a result of more chronic conditions such as spinal stenosis, a periodic injection can be used as part of a more comprehensive treatment plan to manage exacerbations. In addition, lumbar epidural steroid injections utilizing a transforaminal route can provide diagnostic information, as the injectate is placed into the neuroforamen corresponding to a specific nerve root. While providing potential therapeutic benefit, this can also help clarify whether the nerve root is contributing to a patient’s pain complex, especially if other potential etiologies are being considered.

Patients with persistent or recurrent spinal or radicular pain may be candidates for an epidural steroid injection. However they should first be evaluated by an appropriately-trained spinal interventionalist. In addition to the patient’s clinical presentation, a careful review of their imaging, medical co-morbidities and medications (particularly anti-

coagulants) must be factored into the decision-making process. A determination can then be made as to whether the patient is a candidate for an injection, and what type of approach would be most appropriate. During this consultation, the patient can be informed on the expectations and nature of the procedure, and all questions can be answered. When performed by a properly-trained interventionalist under carefully-controlled conditions, an epidural steroid injection is an extremely low-risk, well-tolerated, and effective treatment option for patients with persistent spinal and radicular pain.

(Dr. Codispoti sees patients in the Farmington, Hartford, Rocky Hill, and Plainville offices. He performs fluoroscopically-guided spinal injections at the Glastonbury Surgical Center and the Southington Surgical Center. His office can be reached at 860-549-8237)