

# Options for Spine Treatments

## Surgical Options For Chronic Spinal Pain Management

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There are many patients with back pain who do not respond to traditional medical treatment. There are options available that are considered relatively safe and effective alternatives for these patients with severe intractable pain. The use of an implantable drug delivery system or the use of an implantable neurostimulator are often considered for severe back pain patients. Implantable devices should not be considered during the early course of treatments for benign back pain. Typically these modalities are reserved for patients who have debilitating, intractable pain that has failed to respond to more conventional non-operative and operative care.

More common conditions, which these methods are used for, include failed back syndrome (FBS), complex regional pain syndrome (CRPS), peripheral vascular disease (PVD), metastatic disease and for the management of the pain associated with spinal cord injury and spinal fracture.

#### **Spinal Cord Stimulation**

Spinal cord stimulation is a reversible method for managing chronic pain. It is critical that the right patients be selected for this form of intervention. Spinal cord stimulation is used to block the transmission of pain signals. Patients who are considered good candidate for this approach typically undergo a therapeutic trial for a period of 4-7 days. Generally only those patients who experience a significant reduction of their pain during the trial go on to have invasive placement of the electrodes along the spine and implantation of the control mechanisms. After implantation the patient is able to modify and regulate the stimulator through the use of a hand-held telemetry device.

#### **Pulsed Radiofrequency (RF) Denervation**

Physical ablation of nerves generating pain from degenerated joints of the spine has been demonstrated to alleviate pain. This procedure is called a facet denervation or RF rhizotomy. This procedure is usually performed on nerves that supply the facets joints of the spine. The surgical technique is performed under local anesthesia and guided fluoroscopy to facilitate placement of the RF probe. The pain management specialist first identifies the nerve causing pain by injecting a short acting anesthetic to numb the pain generating nerve. The pain should completely disappear following the shot and remain unchanged when given a placebo injection. The nerve is ablated with a small probe designed to heat up the nerve and cauterize it. Pain can intensify for a few days after the procedure. Pain relief may be temporary and last only 3-9 months.

#### **Implantable Drug Delivery Systems**

Intrathecal drug delivery systems (IDD) can be a very effective treatment alternative for some patients who have severe chronic pain who have not responded favorably to other types of care. The use of IDD should be considered in those patients who fail to respond to a controlled oral and/or injection drug delivery approach and for those who are not good candidates or who fail to respond to spinal cord stimulation. IDD is a form of patient controlled pain management or analgesia. The procedure should be considered if it will potentially improve the quality of life for the patient with severe chronic pain. Some of the benefits of the IDD approach include increased duration of drug action, reduced drug related complications involving other organ systems, and a more stable use of a known drug level.

IDD use can be more cost effective than more traditional oral approaches. IDD allow for the use of relatively small dosages of narcotics when compared to the amount required during oral dosing. The typical IDD system consists of an implantable pump and a catheter. The pump is usually placed just under the skin along the right or left part of the abdomen. A catheter is carefully placed into the space surrounding the spinal nerve in the low back. The end of the catheter is then attached to the pump. The drug delivery pump is programmed to release the medication at a programmed time, duration, rate and quantity. The medication flows from the pump through the catheter into the region of the spine where the nerves generating the pain are located.