



Intrathecal Spinal Pumps and Spinal Cord Stimulation Pain Management Treatments for Chronic Pain

Pain messages originate in the spinal cord and the brain and the feelings of pain are then transferred throughout the body by nerves. Intrathecal spinal pumps and spinal cord stimulators are two techniques designed to stop the pain message before it even leaves the spinal cord.

Intrathecal Spinal Pumps

If pain is limited to the spine, an intrathecal pump can be used to deliver medication directly into the spinal fluid. Normally, for an adequate amount of pain medication to reach the spinal fluid, it must be given in great quantities, causing significant side effects. Alternatively, an intrathecal pump can be implanted under the skin in the side of the abdomen with a catheter extended to the precise location of pain in the spine. Medication is then provided directly into the spinal fluid for a powerful effect on the spinal cord. This method reduces the amount of medication required and thus medicinal side effects.

The pump is refilled with medication through a syringe by a physician every four to 12 weeks and is programmed to deliver specific amounts of medication throughout the day. The amount of medication that flows through the catheter can be reprogrammed by physicians using radio telemetry from a computer and electronic wand.

Benefits include a significant reduction in pain (approximately 65 percent of patients experience significant pain relief with intrathecal pumps) and easy removal.

Spinal Cord Stimulation

Spinal cord stimulation is a pain management strategy that blocks pain messages by sending an electrical impulse to selected nerves in the spinal cord. A generator is placed just under the patient's skin and small electrodes are implanted in the spine. A programmable transmitter is then worn by the patient and communicates with the receiver via radio

waves. The generator is programmed to allow a certain number, type and pattern of electrical impulses to be fired by the electrodes within a specific time frame. Patients can turn off the system throughout the day by turning off the power source and a physician can adjust the amount, type and pattern of impulses by adjusting the generator.

Pain relief with a spinal cord stimulation system is almost instantaneous and patients normally experience a 50 to 70 percent reduction in pain. This allows patients to significantly reduce the amount of pain medication needed thus reducing medicinal side effects. The system can be removed if needed.

"These two techniques are not the first option for patients suffering from back pain because we are not 'fixing' the problem, we are just stopping the *feeling* of pain. A specialized pain management physician needs to determine which option is best for each individual patient," said Kenneth A. Follett, MD, a neurosurgeon in Iowa and a specialist in pain management. "The advantage is that they can be tested in a trial mode, they are non-destructive to the tissue and they are reversible."

Source: <http://www.spineuniverse.com/treatments/pain-management>
Information provided by the American Association of Neurological Surgeons.



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