

# Spinal Drug Delivery Systems for Cancer Pain and for Spasticity

## What are Spinal Drug Delivery Systems?

Spinal drug delivery systems can put pain medication directly into your spinal fluid and spinal cord. This direct delivery system can greatly reduce cancer pain.

Reducing cancer pain with this system requires much less medication than it would take to get the same relief from pills. It also has less side effects. When you take pills for cancer pain, only a small amount of the drug reaches the areas in the brain and spinal cord where they have the most effect. Sometimes increasing the dose is required, but that can increase side effects that may include lowering your brain function and increasing drowsiness.

## Getting Started with a Spinal Drug Delivery System

Patients who have severe or disabling cancer pain or who have serious side effects from pills can usually benefit from this type of therapy. Your doctor may try other treatments first and only use a spinal drug delivery system if those don't work for you.

This drug delivery system can be expensive to start, but it's usually cheaper than oral medications over time. Refills are required approximately every 2-3 months. Because of the high start up cost, Medicare and most insurance companies ask that you have a psychological evaluation and a trial of the system first. The psychological evaluation will screen for conditions that can prevent effective cancer pain management.

For the trial, your doctor will place medicine in your spinal canal as a test to see if this therapy helps your cancer pain. The trial period can last anywhere from a few hours up to a week, depending on the method your doctor uses. Some patients find it helpful to write down their experiences during the trial period, so they can compare it to their usual cancer pain. If the trial is successful, you and your doctor will then decide together whether to put in a more permanent system.

## How it Works

A spinal drug delivery system has a drug pump and a catheter that delivers medication directly into your spinal canal. A permanent spinal drug delivery system has both the pump and the catheter placed under your skin. You don't see the device directly, but the pump, which is about the size of a hockey puck, will be visible if you are thin or moderately built. A programmable pump can be reset by sending messages to the pump with radio waves. This allows the doctor to change the daily dose without touching you.

**What are the Side Effects and Complications?** *(continued on back)*



### What are the Side Effects and Complications?

Spinal drug delivery systems can be very effective. They can have side effects and complications too. There are risks associated with anesthesia and the surgery that is needed to place the device into your body. If the system becomes infected, it's usually very difficult to treat with antibiotics because the body cannot fight the bacteria that build up on the surface of the device. If infection occurs, the system will probably have to be removed. The side effects of the drugs used in these systems are much the same as when they are given by other means. However, because it's possible to get better cancer pain relief with drugs given into the spinal canal at much lower dosages, you may find you have less severe side effects.

There are two complications that can happen with a spinal drug delivery system. One is swelling in your ankles. You may have to try different drugs or combinations of drugs to see what works best. Some patients may need to take water pills to help get rid of the extra fluid. If the problem is severe, the medication doses may need to be lowered or stopped.

A second and common problem is hypogonadism (a condition in which the body doesn't produce enough testosterone). Testosterone is the hormone that plays a key role in masculine growth and development during puberty. Hypogonadism can also cause a low sperm count. A less common problem is difficulty in emptying your bladder; this can lead to retaining fluid.

Portions taken from North American Neuromodulation Society (NANS).