Implanted Spinal Infusion System

All sensations of pain, from the neck to the toes, are delivered to our brain across a well-organized nerve highway called the *spinal cord*. This nerve highway provides an opportunity for us to slow down the pain signal before it reaches the brain and is registered as *pain*.

Oral pain medications find their way to the bloodstream and then to the brain where they exhibit pain relief. Fortunately, it was discovered that pain medications like morphine also act on the spinal cord. In fact, medications like morphine are many times more powerful when applied to the spinal cord, as opposed to their effect when applied to the brain.

A device has been created that is wholly implanted in a patient's body and continuously delivers liquid pain medication to the spinal cord. It is used for severe and intractable pain for which simpler measures have failed or their side effects were not tolerable. The net effect of this technique is much greater pain relief with fewer side effects.

To determine if this device will help, we give patients a *trial* dose of the medication into the spine with a single injection. This is usually done as an outpatient procedure. The trial gives several hours of relief the patient might expect if the device were implanted.

If the trial is successful, the device is permanently implanted. The procedure usually requires an overnight stay in the hospital. Current devices last about 8 years. The device needs refilling about every 2 months. Several different types of medications are now available for use in the *pump*. The refill takes only a few minutes and is done in conjunction with a visit to the office.