

Patient Education Handout

Intrathecal Pump Implantation

When chronic pain becomes so severe that all conservative measures have failed to control it including medications, surgery, injections, physical therapy, and alternative health methods,



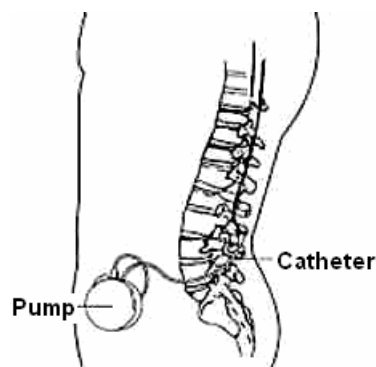
some patients may be candidates for intrathecal infusion pump therapy. After a successful intrathecal trial (>65% reduction in pain) by Dr. Lalani, a programmable or non-programmable intrathecal infusion pump is surgically implanted under the skin along with a spinal catheter connected to the pump. The successful implantation of a pump should result in minimizing the use of oral medications for pain control. Other therapies may be necessary including future injections or surgery.

➤ **WHAT IS THE DIFFERENCE BETWEEN PROGRAMMABLE AND NON-PROGRAMMABLE PUMPS?**

Programmable pumps permit several different pre-set infusion rates over a 24 hour period, can give bolus medications when needed, and are programmable by the physician through an external programmer. The patient may use PA device to deliver occasional boluses of breakthrough medications throughout the day. Programmable pumps cost more and they have batteries that wear out in 7-10 years. At that time the pump but not the catheter is usually replaced. Programmable pumps are refilled every 1-6 months depending on the medications used. Non-programmable pumps do not contain batteries, and unless the internal filter becomes clogged, they should last for the patient's lifetime. The amounts of medication infused are the same every hour, and the only way to change the overall amount infusing is by changing the concentration of the medication in the pump during 3 month refills.

➤ **HOW IS THE PUMP IMPLANTATION PERFORMED?**

You will be brought to the operating room in a hospital or surgery center depending on insurance coverage, and following general anesthesia, you will be turned to your side. Typically the pumps are implanted on the right side of the front of the abdomen. Following receiving antibiotics IV, a skin prep is performed and sterile drapes are applied. An incision is made over the lower spine for insertion of the catheter and another on the right or left side of the abdomen for the pump placement. The catheter is tied to the spinal ligaments and then tunneled to the pump and connected. The pump is filled during the surgery and is programmed at that time for a programmable pump, and will take effect immediately. Non-programmable pumps will become functional 1-3 days after surgery.



➤ **WHAT ARE THE RISKS OF SURGERY?**

Bleeding, infection (15% in diabetics), nerve injury, spinal cord injury, blood clots in the spine, abscesses, weakness of a leg after the surgery, need for further open emergency surgery, and meningitis are risks. Spinal (positional) headaches occur in 12% of patients.

➤ **WHAT ARE LATE RISKS?**

Pump pocket infections may occur weeks to years later if the patient develops significant infections elsewhere in the body. This is similar to the risk with artificial knees or hip implants. Catheter migration can occur but is rare. Catheter

breakage, coiling of the catheter, catheter disconnection from the pump, puncture of the catheter or cutting the catheter with refills or other surgical operations, pump rotation, pump migration, battery failure, and clogged filters are all possibilities. The most dreaded risk is a catheter granuloma that occurs in 0.1% of patients receiving high dose morphine infusions directly onto the spinal cord. For that reason, your catheter will not be placed on the spinal cord and morphine will not be used unless absolutely necessary.

- **WHAT MEDICINES ARE INFUSED?** *Currently, there are only three medications FDA approved for intrathecal infusion: baclofen (muscle relaxant), morphine, and Prialt. There are a variety of other off-label commonly use drugs commonly used including fentanyl, sufentanil, clonidine, bupivacaine, and hydromorphone (dilaudid). There are several other less often infused off-label drugs and several others that will soon be used.*
- **WHERE ARE THE MEDICATIONS MIXED FOR MY PUMP?** *Usually a special compounding pharmacy familiar with intrathecal drugs for infusion and equipped with infection control and quality assurance is used. These pharmacies may be out of state, therefore medications may require 1-3 days to be acquired.*
- **POST OPERATIVE CARE?** *You will be discharged to home with the same infusion amount of the same drug used during the intrathecal trial. You will wear an abdominal binder for at least 10 days after the procedure, and continue oral antibiotics 7-10 days after implantation. No showers should be used or immersion bathing during this period. No bending, twisting, or heavy lifting should be used. The most difficult incision to heal is the abdominal incision, and care should be taken not to stress the sutures and skin staples in this incision. After 7-10 days you will return for a recheck of the wound and to have skin staples or external stitches removed. Oral long acting medications and duragesic are discontinued at the time of the pump implant but short acting medications may continue for a period of time. We prefer patients with sedentary jobs to wait at least one week after implantation, diabetics and those with lifting jobs 3 weeks. **Tight control of diabetes is required before and after pump implantation to improve wound healing and reduce the chance of infection.***
- **-SPECIAL INSTRUCTIONS:** *Nothing to eat or drink after midnight on day of the procedure. DO TAKE ALL OTHER USUAL MEDICATIONS (except those listed below) WITH SMALL AMOUNTS OF WATER ON THE DAY OF THE PROCEDURE.*
- **Stop Plavix 7 days before the procedure** **Stop coumadin and warfarin 5 days before the Procedure.** **Stop Ticlid (ticlopidine) 14 days before the procedure.**
- **AFTER THE PROCEDURE:** *You will stay in recovery for about 1 hour after the procedure and should be able to urinate and walk before discharge.*

NOTIFY DR. LALANI IMMEDIATELY for new onset numbness or leg weakness, worsening numbness or weakness in the leg or foot, loss of bowel or bladder control, fever of >101.5 degrees, severe increase in low back pain, any drainage from beneath the bandages, severe headache or chills, inability to urinate, severe nausea, stiff neck, catheter disconnection with leakage of clear fluid from catheter connection sites, over-sedation, slurred speech, incoherency, shortness of breath, severe nausea or vomiting.

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