Intrathecal Pump for the Treatment of Cancer Pain

This information describes how an intrathecal pump can be used to manage cancer pain and answers some frequently asked questions.

About Your Intrathecal Pump

What is an intrathecal pump?
An intrathecal pump is a small device that holds pain medication. It is placed under your skin and delivers pain medication through a catheter (thin tube) directly to the nerves in your spine (back). When the medication goes directly to the nerves in your spine, it stops you from feeling pain.

Your doctor may recommend an intrathecal pump for you if oral (by mouth) or intravenous (IV; into a vein) pain medications do not control your pain. Also, oral and IV pain medications are absorbed into every part of your body. This can cause unwanted side effects. Most of the medication from the intrathecal pump goes directly to the nerves in your spine, so you will need less medication and should have fewer side effects.

What does the intrathecal pump look like?
The intrathecal pump is round. It is about 1 inch thick and 3 inches wide, which is about the size of a hockey puck. The pump will look like a bulge under the skin of your abdomen (belly, see Figure 1).

**Intrathecal Pump Placement**

Is there any way to know if the intrathecal pump will work before I decide to use it?

Yes. If you are considering an intrathecal pump, you will be admitted to the hospital for an epidural screening test. This involves putting an epidural catheter into your spine to see if getting pain medication this way works for you. This is the same type of catheter women get for pain relief when they are having a baby.

**What are the differences between an intrathecal pump and an epidural catheter?**

Both devices give pain medication directly to the nerves in your spine through a pump, but there are some differences.

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<tr>
<th>Intrathecal Pump</th>
<th>Epidural Catheter</th>
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Figure 1. What the intrathecal pump looks like
Pump is inside your body | Pump is outside your body attached to a pole

Inserted during surgery while you are asleep | Inserted by your pain doctor with some medication to make you comfortable

Can be used at home | Can’t be used at home

The screening test usually takes 3 to 4 days. It may take longer if your pain is hard to control. During this time, you will be in the hospital.

**What do the results of the epidural screening test mean?**
If you had less pain, fewer side effects, or both while you were using the epidural catheter, then the intrathecal pump may be a good option to treat your pain.

**When is the intrathecal pump placed?**
Usually, the intrathecal pump is placed while you are in the hospital after your epidural screening test. If you and your doctor decide to have the pump placed later, you will have to go back to taking your oral pain medication when you get out of the hospital.

**How is the intrathecal pump placed?**
The intrathecal pump is placed inside your body during a surgery. Your healthcare provider will help you prepare for your surgery. You will be given general anesthesia (medication to make you fall asleep) during the surgery.

During the surgery, an incision (surgical cut) about 6 inches
long will be made in your abdomen where the pump will be placed. A second incision will be made in your back, and one end of the catheter will be placed near the nerves in your spine. The catheter will be attached to the pump so that it can give pain medication to this area. The incisions will be closed with sutures (stitches).

The surgery usually takes 1 to 3 hours.

**After Your Intrathecal Pump Placement**

You will stay in the hospital until your doctor determines the kind and amount of medication you will need to keep your pain under control. This is usually 2 to 3 days.

Your doctor or nurse will give you an identification card to carry with you while you have your pump. You must carry this card at all times while you have your pump.

**Will I have pain after my surgery?**

The incisions on your abdomen and back may be tender. You will be given pain medication for this.

**What activities should I avoid after my surgery?**

You should limit your physical activities for about 6 to 8 weeks after your surgery so that you can heal. Avoid doing the following:

- Lifting
- Bending
• Twisting your body
• Exposing your body to extreme hot or cold temperatures, such as in a sauna

Talk to your pain doctor about when you can resume your normal daily activities.

Follow-up appointment
You will be given an appointment to see your surgeon 1 to 2 weeks after you leave the hospital. Your sutures will be taken out at that visit. If everything is healing well, you may not need to visit your surgeon again and will only need to see your pain doctor.

Refilling Your Pump
Your pump will need to be refilled in the clinic by your pain doctor. You will need to make an appointment for this. Call your pain doctor’s office 1 week before your appointment so that your medication can be ordered in time.

How often will my pump need to be refilled?
Your pump will need to be refilled every 4 to 6 weeks.
Between refills, the amount of medication given by the pump may need to be changed if your pain increases. To change the amount of medication, your pain doctor will put a programmer on top of the pump. The programmer makes changes to the pump by communicating with it through your skin (see Figure 2). This is called telemetry.

You will need to come to the clinic for refills and any changes to the pump.

**What will happen during my refill appointment?**

At your appointment, your doctor will numb your skin so that you will not feel any pain. Then, your doctor will put a needle through your skin and into the pump. Your doctor will take out any medication that is left in your pump and will put new medication into it (see Figure 3). You will have a small bandage over your injection site. You can remove the bandage after 1 day.

Each time your pump is refilled or changed, you will get a piece of paper with the following information:

- The kind of pain medication that is in your pump.
• The amount of medication that the pump gives you.
• The date that your pump will need to be refilled with new medication.

It is important to keep track of this information so that your pump does not run out of medication.

**Will I need additional pain medication?**
If your doctor thinks you will need extra doses of medication, he or she will give you a device called a personal therapy manager (or PTM). This handheld programmer will allow you to give yourself an extra dose of medication from the pump, if you need it. The amount of this extra dose is preset by your doctor.

If you use the PTM, your pump refill date may change depending on how many extra doses you use. Each time you use the PTM, it will tell you the date the pump will need to be refilled.

It is your responsibility to keep track of the new date and call your pain doctor’s office 2 weeks before the new refill date. You will need to make an appointment for the pump refill and let the office know to order the medication.

Even with the pump and the PTM, you may still need to take oral pain medication to control your pain.

**Other Frequently Asked Questions**

**Will the intrathecal pump set off metal detectors?**
In most cases, yes. It is important to have your identification card with you to show to security personnel.

**Can I have magnetic resonance imaging (MRI) with the intrathecal pump in place?**
Yes. However, having MRI will cause your intrathecal pump to stop working for a short time. It may sound an alarm while it is stopped. The pump should work normally after the MRI is done, or shortly after. If you are having an MRI, tell your technologist that you are using an intrathecal pump.

**How long will the intrathecal pump work?**
The battery in the intrathecal pump usually lasts for 4 to 7 years. If the battery starts to wear down, it will alert your doctors when they program it. They will have enough time to replace the pump.

**Call Your Doctor if:**
- Your pain gets worse
- Your side effects, like nausea or sedation (being sleepy), get worse
- Your legs feel numb or weak
- You have pain or redness at the pump site
- You hear a beep from the pump
If you have any questions, contact a member of your healthcare team. After 5:00 PM, during the weekend, and on holidays, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.