

Your Implantable Hepatic Artery Infusion Pump

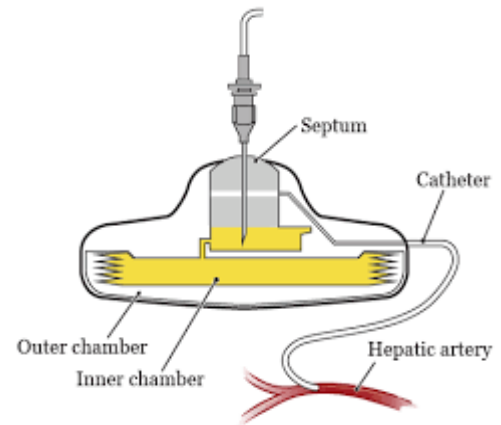
Why do I have this pump?

This pump is used to treat adults with colon or bile duct cancer that has spread to the liver. It allows a steady flow of chemotherapy medication through the hepatic (liver) artery directly into the liver to attack the cancer cells. You are free to move about during treatment instead of sitting in a clinic infusion chair.

What is an implantable hepatic pump?

The pump is small (2x 3 inches across and 1 inch high) made of titanium, with a rubber septum at the top. Medication is injected through the septum to fill or refill the inner chamber (reservoir) of the pump.**

The outer chamber contains a propellant. The pump includes a catheter, which runs from the chamber and ends in the hepatic artery – a main blood vessel that carries blood to the liver. The pump allows the medication to be delivered directly into the liver. Traditionally, chemotherapy is given by IV into the blood stream and it is circulated throughout the body, causing side effects. Giving chemotherapy directly into the liver lessens your risk of these potential side effects.

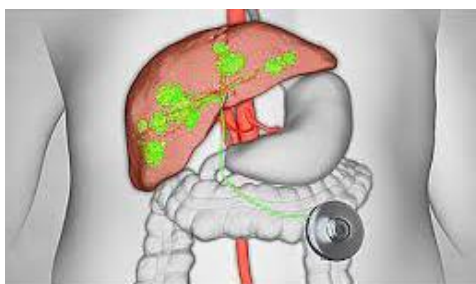


** Alternately, your provider can use a special needle to give you a *bolus* injection. A *bolus* is a single dose of a drug given over a short period of time, usually between a few minutes and 30 minutes. In this method, the chemotherapy medication bypasses the inner chamber and goes into the artery and then the liver. There is a safety valve to ensure a bolus cannot be given accidentally while attempting to refill the pump.

How is the pump implanted?

The pump is surgically placed just under the skin of your abdomen (belly). The operation takes 1-2 hours. It will take longer if other procedures are done in addition to implanting the pump. During the surgery, the pump is filled with normal saline, not chemotherapy, to allow you time to heal before treatment begins.

You may need to stay in the hospital for a day or 2 after surgery, then you can return home to recover. After 2-3 weeks, you can return to *most* activities.



After your surgery, your provider will give you a patient ID card. Carry this with you to show other doctors, including before having an MRI scan (magnetic resonance imaging). You may also need to show it if you go through a metal detector while traveling or in buildings with higher security such as courts or schools.

Are there risks to the operation?

All surgeries carry some risks such as infection. Risks of implanting a pump are uncommon and include:

- a blood clot (thrombosis) in a blood vessel or in the catheter
- pump dislodging or moving
- medication leaks out of the artery into nearby tissue (extravasation) or medication gets to organs other than the liver (extrahepatic perfusion)
- abnormal collection of fluid under the skin, usually near a surgical incision (seroma)
- bruise, black and blue (hematoma)
- damage to wall of an artery (pseudoaneurysm) or damage to the wall of catheter (catheter shear) with risk the broken piece could cause a blockage
- inside layer of artery tears and blood gets in and separates the layers of the artery, which weakens that area of the artery (arterial dissection)

How does it work?

When the propellant in the outer chamber gets warmed (by your normal body temperature), the medication flows out continuously from the inner chamber, through the catheter, into the hepatic artery, and into the liver. Since body heat causes the medication to flow, the pump has no motor and doesn't need charging or batteries. Note: The propellant is permanently sealed inside the outer chamber.

Does it need to be refilled and how do you refill it?

Yes, it needs to be refilled. **While you are in active treatment, you'll have to see your provider about every 2 weeks for a flush without medication or for a chemotherapy refill.** Your provider will refill the inner chamber by injecting the medication through your skin and the rubber septum. You may feel a small prick as the needle passes through your skin, but the discomfort is fast and very mild. Refilling takes about 15 minutes. Your pump should only be flushed or refilled by Roswell or other trained medical professionals.

How long will I have this pump?

Each person is different, but you'll keep the pump as long as you're on treatment. Talk to your provider and discuss how long they expect you to have the pump.

What will it look like?

The pump creates a bulge under your skin. After a while, you might forget it's there, but you can still see the bulge. It may be visible under your clothes, depending on what you are wearing.

Can anyone use this pump?

No. Tell your provider if you:

- have an infection
- have had a problem or reaction to an implanted device in the past
- have, or have had, kidney or liver problems
- have mental health issues that may make this type of treatment difficult for you

Do I have any special precautions or restrictions?

After recovering from the implant surgery, which takes about a month, there are some basic precautions to follow. Your provider may give you additional restrictions to protect both you and the pump site.

- ✓ Do not lift more than 10 pounds. It can dislodge the pump.
- ✓ No rough housing, contact sports, or other activities that could damage the pump.
- ✓ No running or other strenuous exercise. It may move the catheter.
- ✓ Do not apply heat at the implant site. No heating pads; hot water bottles; or lengthy time in hot tubs, saunas, or direct sunlight. Heat may cause the medicine to flow faster.
- ✓ Do not subject yourself to high pressure conditions such as those experienced during scuba diving in deep waters. The pressure can cause the medication to flow faster. Swimming is fine.
- ✓ A change in elevation can also affect flow rate. If you are planning a vacation to somewhere that is 1000 feet or more above sea level or planning to travel by air, discuss it with your provider first.
- ✓ You must keep your appointments! Call right away if you will have to miss one. Your provider will need to reschedule the visit as soon as possible to avoid the pump running dry. **If the pump is not refilled on a regular basis and runs dry, it may be impossible to continue this therapy.**
- ✓ Talk to your doctor before having an MRI scan. They will have to make certain accommodations before you can safely have an MRI (because the implant is metal).

When should I call my doctor?

Call your doctor right away if you:

- need your pump refilled (medication in chamber lasts 14 days) and you don't have an appointment
- have signs of infection: Temperature of **100.4°F (38°C)** or higher; chills; cough; sore throat; pain or burning upon urination; or redness, swelling, or tenderness at the implant site or at any skin wound
- have dark urine or if your skin or eyes have a yellow color
- have any sudden or severe symptom without a known cause

If it is determined you need to be seen, you may be asked to come to our Assessment & Treatment Center (ATC), which is open 24/7. You need to be referred to the ATC by your Roswell Park provider (or the provider on-call); it is not a walk-in clinic.

You can reach Roswell Park 24/7 at **716-845-2300** or toll free at **1-800-ROSWELL (1-800-767-9355)**.

Call 911 or go to the nearest hospital emergency department if you have life-threatening symptoms such as signs of a heart attack (chest pain, shortness of breath, sweating; nausea) or stroke (sudden numbness or weakness – especially if only on one side of the body; sudden trouble walking, seeing, speaking, or maintaining balance or coordination)

Please let us know if you go to the emergency room or are admitted to the hospital.

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