



port

implantable infusion device

Department of Surgical Oncology

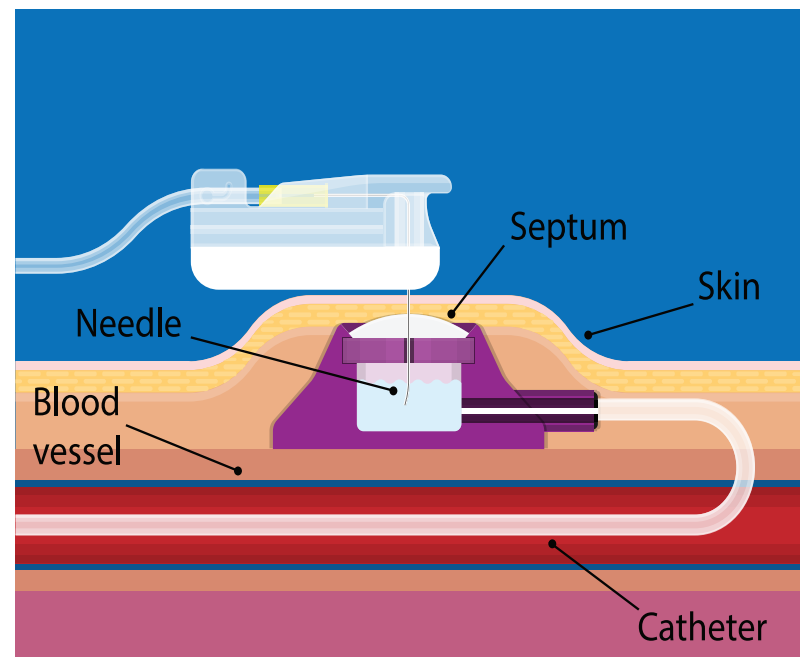


## what is a port?

Port is an implanted vascular access device, also known as an implanted port, placed completely under the skin. It is used for patients who require frequent or continuous infusions, such as chemotherapy, immunotherapy or targeted therapy. The port consists of a portal or small chamber sealed with a septum silicone on the top, connected to a thin flexible catheter that will sit inside a large central vein.

## how is the port used?

The port is used to collect blood samples, to give infusions, and medications. Before using, the skin over the port is cleaned and then a special needle is used to puncture the septum of the port. After the blood is collected or medication is administered into the bloodstream the needle is removed. After it is filled with a heparin solution. If it is not used, it should be flushed every 4 weeks.



## why a port?

The port serves a safe and effective route of giving frequent intravenous therapy and medications that are irritating to veins in the hand and arm. Studies show that the use of the port in treatment and management of cancer patients, results in overall greater patient satisfaction, shorter hospital stay, less nursing time spent trying to find a vein, and fewer emergency visits. Generally, chemotherapy drugs are very toxic and irritating to the skin, tissues, and veins. Giving such potent medications into a small vein can irritate and cause inflammation of the blood vessel and possibly damage tissue surrounding. The port allows medication to be administered into a large central vein and immediately diluted.

## how is the port placed?

Placing the port is a small surgical procedure and takes less than an hour. It can be performed by a surgeon or an interventional radiologist under local anesthesia with IV sedation. The procedure involves a 3 cm skin incision on the chest wall for the port pocket and 5 mm incision in lower neck to enter the vein. The port is placed completely inside the body. Generally, the patients can go home two hours after the procedure or after the effect of sedation has worn off. However, patients are advised to not drive or operate any machinery for 24 hours.

Your doctor will recommend one of two places for port placement.

### **chest-placed system:**

This is the most common approach for port placement. The port is placed in the chest and the catheter is inserted into a vein in the chest. the tip of the catheter lies in a vein just above the heart.

### **arm-placed system:**

the port is placed in the upper arm and the catheter goes from the arm vein to end just above the heart.



After surgery, it is normal to have some redness and tenderness at the area of incision which should resolve in 24 to 48 hours. However, if you continue to have redness, tenderness, swelling or drainage from the site for more than 2 to 3 days or notice any other unusual skin changes, contact your

doctor immediately. Avoid any strenuous activities involving the chest/arms for at least ten days. If the port is not used in 7 days after placement, follow up with your doctor for a wound check and dressing change. After the port incisions are healed, one can notice only a small bump under the skin.

## what preparations are required for the port implantation?

One is asked to not eat or drink anything starting at midnight before the procedure day. Clear fluids and medications are allowed till the time of procedure but it is best to verify with your doctor. Also mention to your doctor if you are on aspirin, plavix or warfarin

to find out when to discontinue these medications prior to surgery. The medications can be resumed the day after the procedure. If you are sick with an active/ongoing infection, your doctor might choose to postpone your port placement.

## what are the potential problems/risks associated with port?

- **Risk of infection:** although the risk of infection with the port is minimal, catheter related bloodstream infection is a concern. this risk can be limited by keeping the port site clean. if infected, the port is removed and one is treated with appropriate antibiotic medications.
- **Risk of forming biofilm:** after months of insertion, biofilm can form in the catheter. this is prevented by flushing the catheter regularly after blood draws and medication administration. patients do not need to be on any treatment to prevent biofilm or clot formation in the port.
- **Air outside the lungs:** at the time of port placement air can leak out of the lungs but usually resolves with time.
- **Irritation or blistering of skin** if chemotherapy leaks around the needle insertion site.
- **With the use of modern imaging technology,** there is very little risk of bruising, bleeding or damage to the blood vessels when implanting the port.

## what are the aftercare precautions required?

- Keeping the port-site clean at all times is very crucial. If a needle is in place, it is covered with a transparent dressing to keep the site clean and prevent the needle from dislocating. If there is no needle in place, there is less risk of infection.
- Check with your doctor before engaging in excessive, repetitive upper extremity motion: such as swimming, golfing, weight-lifting as there is risk of catheter fragmentation (breaking).
- If your port is no longer being used, you need to follow-up with your doctor every 4 weeks and get it flushed with normal saline and locked with heparinized saline.

## how long does the port need to stay in place?

The port can stay as long as your doctor wants. Talk to your doctor or nurse about how long your port needs to stay in place.

## is it ok to have MRI with the port in place?

Port is MRI conditional, which means that they may safely undergo magnetic resonance imaging with magnetic field strength of 3.0 or lower. However, do mention that you have a port placed prior to having an MRI done.

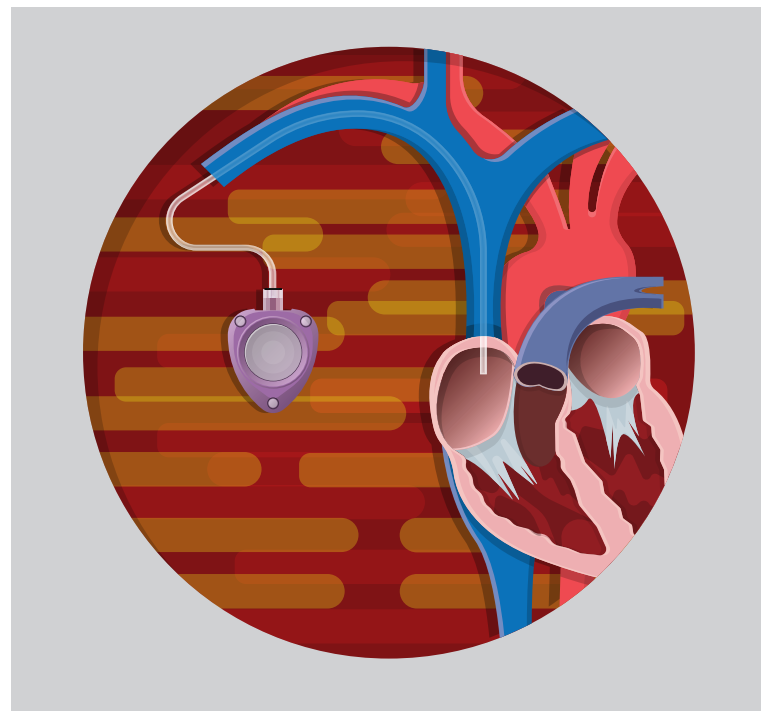
## will it be ok to go through security alarms/metal detectors with a port?

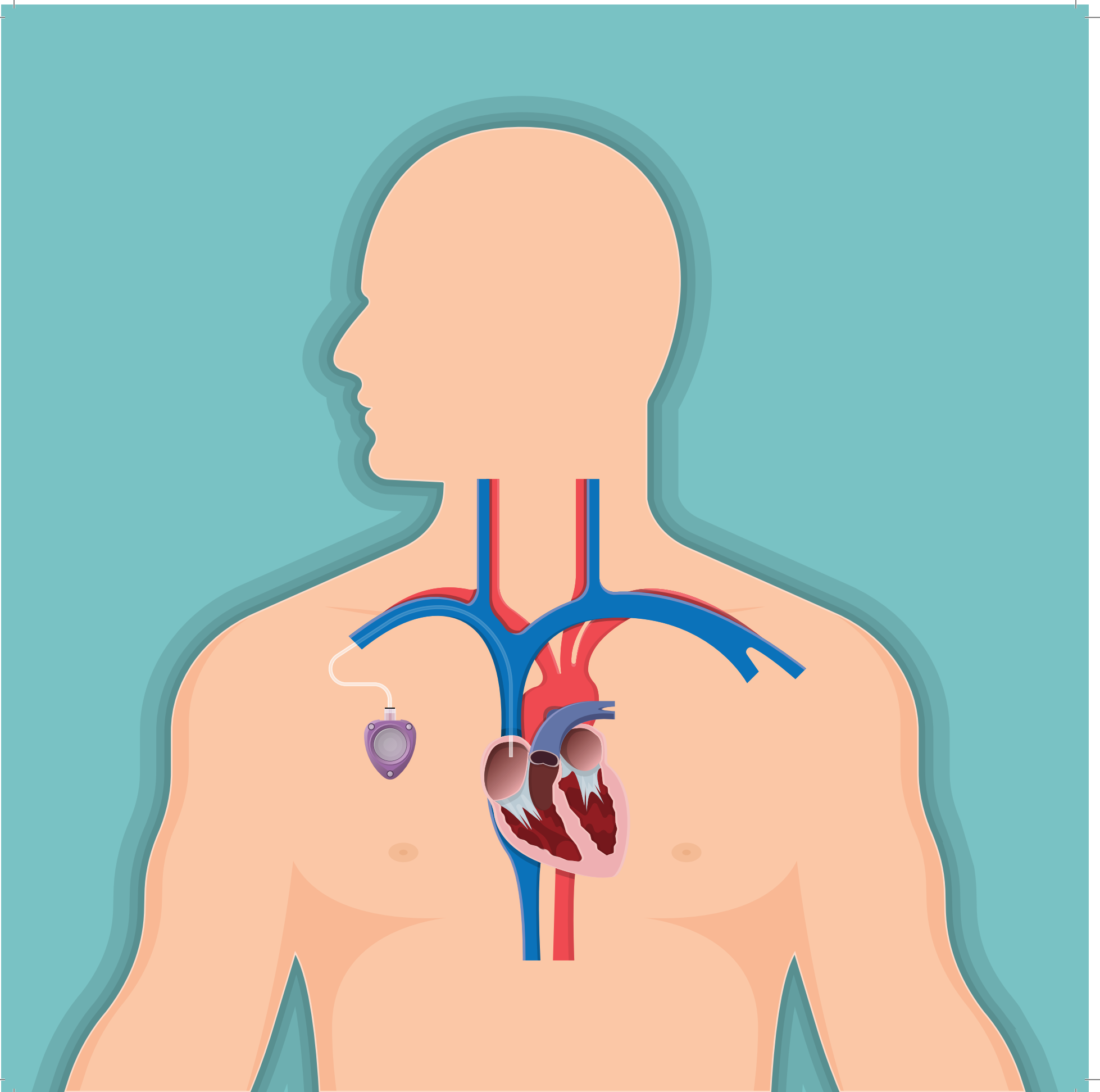
Metal detectors will not harm the port. The Port will not activate the security alarms. However, since the sensitivity of metal detectors varies, it might be helpful to have your Port Identification Card with you.



## additional guidelines for your port

- Do not inject any fluids or solutions in your port unless you have been asked to do so by your doctor or nurse.
- Inform your doctor if you notice that fluids are not flowing freely through the port and stop any infusion at that time.
- Inform your doctor if you notice any skin changes, such as redness, swelling, or drainage at the site of port placement.







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