PowerPort®
IMPLANTABLE PORT
FEEL THE NEW STANDARD OF CARE*

Guidelines for Physicians

Feel the NEW Standard of Care*

The PowerPort* Implanted Port is an implantable access device designed to provide repeated access to the vascular system. **The PowerPort* Implanted Port is the FIRST implantable access device indicated for power injection of contrast media during CECT scans.**

INDICATIONS FOR USE:

- The PowerPort* implanted port is indicated for patient therapies requiring repeated access to the vascular system. The port system can be used for infusion of medications, I.V. fluids, parenteral nutrition solutions, blood products, and for the withdrawal of blood samples.
- When used with the PowerLoc* Safety Infusion Set, the PowerPort* device is indicated for power injection of contrast media. For power injection of contrast media, the maximum recommended infusion rate is 5 ml/s.
- This device is **contraindicated** for catheter insertion in the subclavian vein medial to the border of the first rib, an area which is associated with higher rates of pinch-off.

Preventing Pinch-Off

The risk of pinch-off syndrome can be avoided by inserting the catheter via the internal jugular vein (IJ). Subclavian insertion of the catheter medial to the border of the first rib may cause catheter pinch-off, which in turn results in occlusion causing port system failure during power injection.

If you choose to insert the catheter into the subclavian vein, it should be inserted lateral to the border of the first rib or at the junction with the axillary vein because such insertion will avoid compression of the catheter, which can cause damage and even severance of the catheter. The use of image guidance upon insertion is strongly recommended. A radiographic confirmation of catheter insertion should be made to ensure that the catheter is not being pinched.

NEW IMPORTANT INFORMATION:

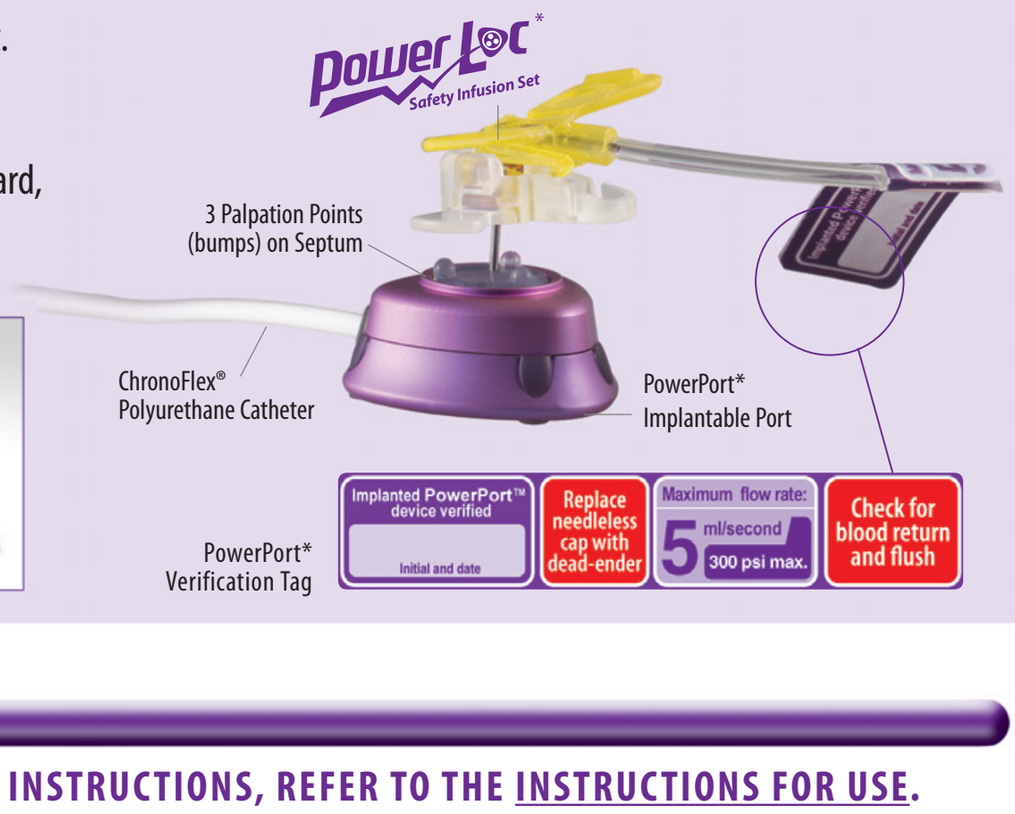
- **For power injecting contrast media, a PowerLoc* Infusion Set must always be used to access the PowerPort* implanted port.**
- Contrast media should be warmed to body temperature prior to power injection. **Warning:** Failure to warm contrast media to body temperature prior to power injection may result in port system failure.
- If possible, the patient should receive power injection with arms vertically above the shoulder with the palms of the hands on the face of the gantry during injection. This allows for uninterrupted passage of injected contrast through the axillary and subclavian veins at the thoracic outlet.
- Check for patency, via aspiration, then vigorously flush the PowerPort* device with a syringe and sterile normal saline prior to and immediately following the completion of power injection studies. This will ensure the patency of the PowerPort* implanted port and prevent damage to the port system. Resistance to flushing may indicate partial or complete catheter occlusion. Do not proceed with power injection study until occlusion has been cleared. **Warning:** Failure to ensure patency of the catheter prior to power injection studies may result in port system failure.
- Do not exceed a 300 psi pressure limit setting, or the maximum flow rate setting shown below, on the power injection machine if power injecting through the PowerPort* device.

MAXIMUM FLOW RATES AND PRESSURE:

PowerLoc* Safety Infusion Set Gauge Size	19 Ga.	20 Ga.	22 Ga.
PowerLoc* Safety Infusion Set Gauge Color	Cream	Yellow	Black
Max. Flow Rate Setting	5 ml/s	5 ml/s	2 ml/s
Max. Pressure Setting	300 psi		

POWERPORT* IMPLANTED PORT NOTIFICATION

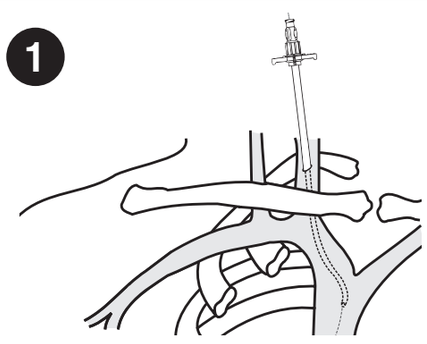
- Put a **PowerPort* Record Sticker** on your patient's chart.
- **Inform your patient** that they have a PowerPort* device and be sure to provide them with a **PowerPort* Patient Discharge Packet** that contains a patient identification card, ID bracelet and key ring to help remind them they have a PowerPort* device.



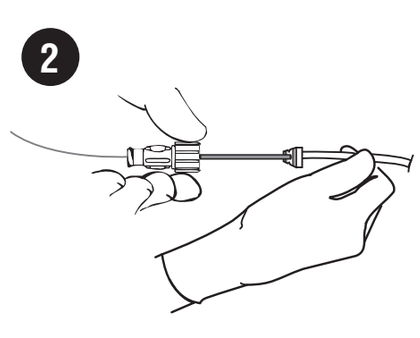
IMPLANTATION HIGHLIGHTS

FOR COMPLETE IMPLANTATION AND ACCESS INSTRUCTIONS, REFER TO THE INSTRUCTIONS FOR USE.

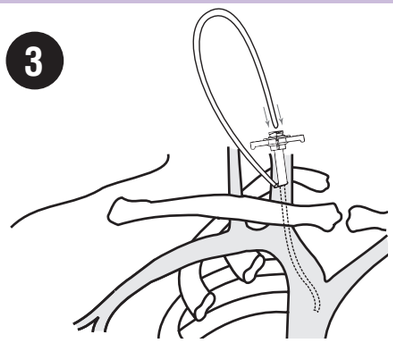
Peel-Apart Sheath Introducer Instructions:



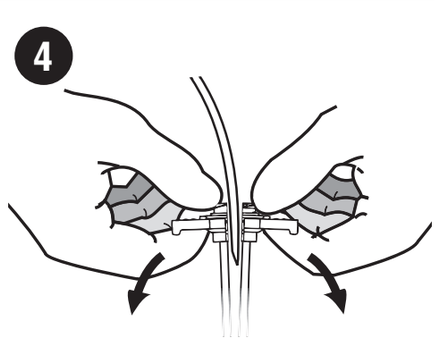
1. Advance the vessel dilator and sheath introducer as a unit over the exposed wire using a rotational motion. Advance it into the vein as a unit, leaving at least 2 cm of sheath exposed.
   Note: Placement may be facilitated by making a small incision to ease introduction of vessel dilator and sheath introducer.
   Warning: Avoid vessel perforation.



2. Release the locking mechanism and gently withdraw the vessel dilator and "J" wire, leaving the sheath in place. **Warning:** For non-AirGuard* introducers, hold thumb over exposed opening of sheath to prevent air aspiration. The risk of air aspiration is reduced by performing this part of the procedure with the patient performing the Valsalva maneuver.

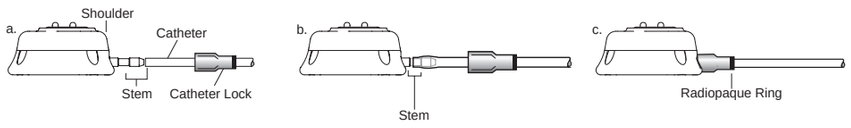


3. Insert catheter into the sheath. Advance the catheter through the sheath into the vessel to the desired infusion site. Catheters should be positioned with the catheter tip at the junction of the superior vena cava and the right atrium. Verify correct catheter tip position using fluoroscopy, or appropriate technology.



4. Grasp the two handles of the peel-apart sheath and pull outward and upward at the same time.
5. Peel the sheath away from the catheter completely. Make sure the catheter is not dislodged from vessel.

Connect Catheter to Port:



1. Flush all air from the port body using a 10 ml syringe with a non-coring needle filled with heparinized saline (100 USP U/ml). Insert the needle through the septum and inject the fluid while pointing the stem up. Remember that some patients may be hypersensitive to heparin and these patients must not have their port flushed with heparinized saline.
2. Cleanse all system components with irrigation solution.
3. Connect catheter to port: **Caution:** Prior to advancing the catheter lock, ensure that the catheter is properly positioned. A catheter not advanced to the proper region may not seat securely and lead to dislodgment and extravasation. The catheter must be straight with no sign of kinking. A slight pull on the catheter is sufficient to straighten it.
   a. Align port stem with catheter. **Note:** If the catheter and lock are connected and then disconnected, the catheter end must be re-trimmed to ensure a secure re-connection.
   b. Advance catheter over port stem to midway point. **Note:** Advancing catheter too far along port stem could lead to "mushrooming" of tubing when the catheter lock is advanced. Should this occur, it is advisable to stop advancing the catheter lock, pull the catheter back along the stem away from the port, and re-assemble the connection.
   c. Advance catheter lock straight until flush with port. **Note:** When using the catheter lock be sure the end containing a colored, radiopaque ring is distal to the port. Catheter lock should be sufficient to secure catheter to port. Bard Access Systems does not recommend suturing around the catheter as doing so could compress, kink, or damage catheter. Advancing the catheter lock over a kinked catheter may damage the catheter. Do not hold the catheter or cath-lock with any instruments that could potentially damage either piece (e.g., hemostats).

Heparin Lock Procedure:

To help prevent clot formation and catheter blockage, implanted ports with open-ended catheters should be filled with sterile heparinized saline after each use. If the port remains unused for long periods of time, the heparin lock should be changed at least once every four weeks. **Caution:** Remember that some patients may be hypersensitive to heparin and these patients must not have their port locked with heparinized saline.

Determining Port Volumes:
For future reference, it will be helpful to record this information on the patient's chart and/or patient ID card.

For PowerPort* implanted ports, you will need to check the patient's chart to determine the length of catheter used for each individual patient. For PowerPort* catheters, multiply the catheter length in cm by 0.02 ml, then add 0.60 ml for the port reservoir:

Example:
Catheter length: _____cm x 0.02 ml/cm +0.60 ml (port septum) = _____ ml volume, total priming volume for patient port and catheter.

Recommended Flushing Volumes:

FLUSHING VOLUMES

Procedure	Volume (100 U/ml)
When port not in use	5 ml heparinized every 4 weeks
After each infusion of medication or TPN	10 ml sterile normal saline, then 5 ml heparinized saline
After blood withdrawal	20 ml sterile normal saline, then 5 ml heparinized saline
After power injection of contrast media	10 ml sterile normal saline, then 5 ml heparinized saline

Equipment:
- Non-coring needle
- 10 ml syringe filled with sterile saline
- 10 ml syringe filled with 5 ml heparinized saline (100 U/ml)
  Note: Other concentrations of heparinized saline (10 to 1000 U/ml) have been found to be effective. Determination of proper concentration and volume should be based on patient's medical condition, laboratory tests and prior experience.

Procedure:
1. Explain procedure to patient and prepare injection site.
2. Attach a 10 ml syringe filled with sterile normal saline to needle.
3. Aseptically locate and access port.
4. After therapy completion, flush port per institutional protocol, then repeat with 5 ml 100 U/ml heparinized saline, or with volume calculated above. Close clamp while injecting last 0.5 ml of flush solution.
5. To deaccess PowerLoc* safety infusion set from the port, activate safety mechanism while withdrawing needle until you feel a "click" at which time the needle should be captured within the safety mechanism of the PowerLoc* safety infusion set.

Note: Alcohol should not be used to soak or declot polyurethane catheters because alcohol is known to degrade the polyurethane catheters over time with repeated and prolonged exposure.

REFER TO THE INSTRUCTIONS FOR USE FOR COMPLETE DESCRIPTION, INDICATIONS, CONTRAINDICATIONS, WARNINGS AND PRECAUTIONS.

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An issued or revision date for these instructions is included for the user's information. In the event two years have elapsed between this date and product use, the user should contact Bard Access Systems, Inc. to see if additional product information is available.
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CT (300psi) DEHP This device does not contain DEHP This product and package does not contain natural rubber latex. MR For MR Conditions, call 800-443-3385

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