1. Access the port with a PowerLoc® Safety Infusion Set device. Ensure that needle tip is inserted fully within the port.[See Warning 1]
2. Attach a syringe filled with sterile normal saline.
3. Instruct the patient to assume the position they will be in during the power injection procedure, before checking for patency. The optional position is with the arms at the sides of the port, with the shoulder with the palm of the hand on the face of the gantry. [See Note 1]
4. Aspirate for adequate blood return and vigorously flush the port with at least 10 mL of sterile normal saline.[See Warning 2]
5. Detach syringe.
6. Warm contrast media to body temperature.
7. Attach the power injection device to the PowerLoc® Safety Infusion Set device. Ensure connection is secure.
8. Check indicated flow rate of infusion set and confirm CT settings.[See Warning 4]

Flow Rate

<table>
<thead>
<tr>
<th>PowerLoc® Safety Infusion Set Device</th>
<th>PowerPort® Safety Infusion Set Device</th>
<th>Maximum Flow Rate Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge Size</td>
<td>Gauge Color</td>
<td>in mL/sec</td>
</tr>
<tr>
<td>PowerLoc®</td>
<td>PowerPort®</td>
<td></td>
</tr>
<tr>
<td>Safety Infusion Set Device</td>
<td>Safety Infusion Set Device</td>
<td>5 mL/sec</td>
</tr>
<tr>
<td>36 Ga.</td>
<td>Yellow</td>
<td>5 mL/sec</td>
</tr>
<tr>
<td>38 Ga.</td>
<td>Black</td>
<td>2 mL/sec</td>
</tr>
</tbody>
</table>

9. Instruct the patient to communicate immediately any pain or change in feeling during the injection.

10. Inject warmed contrast. Do NOT exceed the flow rate limits. If local pain, swelling, or signs of extraction are noted, stop injection immediately.[See Warning 3]

When doubt, SCOUT.

For single lumens PowerPort® Implantable Ports:
- Palpate top of port to identify three palpation bumps on the septum, arranged in a triangle.
- Palpate the sides of the port to identify triangular port housing.

For dual lumens PowerPort® Implantable Ports:
- Palpate top of each septum to identify three palpation bumps on the septum, arranged in a triangle.

Lock Procedures for Catheters

To help prevent clot formation and catheter blockage, implantable ports with open-ended catheters should be flushed per institutional protocol using a turbulized push-pull flushing method after each use. Clamp the tubing while infusing the last 0.5 mL of fluid to reduce potential for blood back flow into the catheter tip, which could encourage catheter clotting. If the port remains unused for long periods of time, the 5 mL of heparin solution should be changed at least every 24 days for each septum. For Ganzonoc Catheters flush and lock every 48 days with sterile normal saline when port is not in use.[See Note 2]

Determine Port Volume

To calculate a close approximation of port system volume for each lumen, check the port volume/cm³ table below.

Port Volume/cm³

<table>
<thead>
<tr>
<th>Catheter Volume (per lumen)</th>
<th>Volume/cm³</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerLoc® Implantable Port</td>
<td>0.6 mL</td>
</tr>
<tr>
<td>PowerPort® Implantable Port</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>PowerPort® Duo Implantable Port</td>
<td>0.3 mL</td>
</tr>
</tbody>
</table>

Recommended Flushing Volumes

Open-Ended Catheter Flushing Volumes (per lumen)

- After blood withdrawal: 10 mL sterile normal saline
- After each infusion of medication or TPN: 10 mL sterile normal saline
- After contrast injection: 20 mL sterile normal saline
- After power injection of contrast media: 10 mL sterile normal saline

Procedure

Review Site Preparation in the PowerPort® Implantable CT Guide, and Accessing Implantable Ports section before proceeding with the following:

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 with PowerPort® Safety Infusion Set device, or other non-curing safety needle. Confirm correct positioning of the needle within the port reservoir by aspiration of blood (“flushback”). If there is doubt regarding proper needle placement, have a radiographic dye procedure done to confirm placement.
4. After therapy completion, flush port per institutional protocol. Then repeat with 5 mL of heparin flush solution, or as volume calculated above. Close clamp while injecting last 0.5 mL of flush solution.[See Note 4]