**Indications**

- Polyurethane Implantable Ports are indicated for long-term access to the central venous system and are often used for repeated vascular access.
- Polyurethane Implantable Ports can be used to administer chemotherapy, antibiotics and antifungal drugs, as well as for parenteral nutrition, collection of blood samples and transfusion of blood or blood products.
- Polyurethane Implantable Ports also can be used for high pressure injection of contrast media during diagnostic studies. The maximum flow rate of power injector equipment used with the pressure injectable port may not exceed 5 mL/sec (300 psi).

**Use and Maintenance**

Use and maintenance of port/catheter must be done in accordance with hospital/institutional policies, procedures and practice guidelines. All personnel who care for patients with ports must be knowledgeable about effective management of the port/catheter device and treatment of complications.

### Determining Port System Volumes for Port Lock Procedures

1. To calculate a close approximation of port system volume, you will need to determine the length of the catheter used for each individual port.

### General recommendations:

- **Impact injection site before use.**
- **Locate the port by palpation.**
- **Observe aseptic technique, prepare injection site for access.**
- **Flush the non-coring needle using syringe filled with sterile normal saline.**
- **Insert the needle perpendicularly to the skin and advance as far as the base of the port.**
- **Check the patency of the device and correct positioning of the needle by observing distal vein dilatation and injection of physiological saline without observing resistance to flushing and local extravasation. Resistance to flushing may indicate partial or complete catheter occlusion.**

### Warning:

Never try to uncork the device by force and never use a syringe smaller than 10 mL to avoid applying excessive pressure to the device. Excessive pressure can damage the catheter or lead to the port disconnection.

### Steps:

1. **Perform hand hygiene:**
2. **Attach huber needle or high pressure non-coring needle to huber needle while flushing with heparinized saline.**
3. **Avoid port with adequate blood return.**
4. **Vigorously flush port.**

**Indications for port lock:**

1. **Observe a visual image to confirm catheter tip position prior to each pressure injection.**
2. **Look for port patency if necessary.**
3. **Check for port/catheter patency:**
   - **Attach 10-20 mL syringe filled with sterile normal saline.**
   - **Aspirate port for adequate blood return.**
   - **Vigorously flush port.**
4. **Use sterile technique.**
5. **Attach pressure injection administration set tubing to appropriate PPS PI Safety Huber Needle or other high pressure non-coring needles.**
6. **Position the patient, when possible, with arms vertically above his or her shoulders with palms on the face of the gantry during injection.**
7. **Set the maximum injection pressure to 300 psi or the maximum flow rate as seen in table below in order to guarantee the reliability of the system.**
8. **Inject contrast media in accordance with hospital protocol.**

### Establishing a “Lock”

If the port remains unused for long periods of time, the “lock” should be changed at least once every four weeks.

### Equipment:

- Non-coring needle with connecting line with clamp.
- 10 mL syringe filled with 1:100,000 diluted solution.

**Warnings and Precautions:**

- **Heparin-induced thrombocytopenia (HIT) has been reported with use of heparin concentrations of 100 IU/mL sterile heparinized saline should be used.**
- **Concentrations of heparinized saline (10 to 1000 IU/mL) have been found to be effective.**
- **Assess port for heparin sensitivity.**
- **Heparin-induced thrombocytopenia (HIT) has been reported with use of heparin flush solutions.**
- **Maximum concentration of 100 IU/mL sterile heparinized saline should be used.**
- **Concentrations of heparinized saline (10 to 1000 IU/mL) have been found to be effective.**
- **Heparin-induced thrombocytopenia (HIT) has been reported with the use of heparin flush solutions.**
- **Maximum concentration of 100 IU/mL sterile heparinized saline should be used.**