The Ins and Outs of Port Maintenance

By Heather Bremner Claverie

FOR PATIENTS WITH chronic conditions requiring treatment with intravenous immune globulin (IVIG), needles and in-office infusions are often a part of the monthly calendar. But for some patients — whether they have difficult-to-access veins, need long-term venous access or just don’t want to deal with the inconvenience of constant needle sticks — implanted infusion ports are a possible option. Also referred to as a central venous access device, an implanted infusion port is a convenient tool that improves patient care by enabling caretakers to infuse medicines easier with fewer needles in the process. The small device is placed under the skin — usually in the upper chest, but it can also be placed in the arm or abdomen — and is attached to a catheter that enters a large vein.

Why a Port?

Convenient and comfortable, many patients find infusion ports more convenient and less painful. Patients can swim, bathe and exercise freely while fitted with one. However, there are some inherent dangers associated with the devices. If a port is not maintained correctly, complications such as blood clots and infections can seriously jeopardize patients’ health. Infections, including life-threatening bacterial infections that travel from the device to the bloodstream, can arise if the port is not cleaned properly. This is why the decision to obtain a port is a collaborative one between patients and their prescribing physicians. In some cases, prescribers may not allow patients with a primary immunodeficiency to have a port due to this increased risk of infection.

Tips for Care

Physician or home care agencies may have differing protocols for port maintenance. Therefore, the following tips serve as general information and are not a substitute for maintenance and care as ordered by treating physicians. And, unless patients are adequately trained in port maintenance and access, all care should be provided by a trained clinical professional such as a home care or infusion center nurse.

For self-care, washing one’s hands can help prevent the spread of most pathogens. According to the Centers for Disease Control and Prevention (CDC), hands should be washed for at least 20 seconds with antibacterial soap before and after an infusion, whenever a caregiver enters the room and before and after preparing food. Patients should also wash their hands often, and especially before and after handling the port.

In addition, sterile techniques should be used whenever accessing or de-accessing the port. This means donning sterile medical gloves whenever touching the port, and cleaning the skin around the site prior to port access. The port site should be assessed daily for any signs of infection such as redness, swelling, tenderness or fluids. When accessed, the needle and dressing may be left in place for up to seven days. But, the dressing should be changed at any time it becomes damp or visibly dirty. Dressing changes should be completed by a nurse until patients are trained and competent in maintaining sterile technique.

Flushing the Port

Ensuring the port is flushed according to the guidelines established by the manufacturer of the port and/or the protocol prescribed by prescribers is essential to maintaining a functioning port. The frequency of this flushing can vary depending on the source. According to a 2017 Journal of Infusion Nursing article, an eight-week interval is ideal: “Guidelines for maintenance flushing of ports not in use provided recommendations of flushing every four to eight weeks, but no evidence existed to support optimal intervals… The eight-week interval for maintenance port flushing was well received by patients who appreciated the reprieve from the monthly flush visit. By using the maximum interval recommended in the guidelines instead of the conservative four-week interval, the patient experience was improved without an increase in patient risk for occlusion.”

To properly flush the port, a 10 mL or larger syringe should be used (a smaller syringe could cause the catheter to burst). All ports must be flushed with a saline solution before beginning the infusion and then, once complete, flushed again with saline. Some ports may require a final “lock” with heparin, a medication used to decrease blood clotting.

Opting for Convenience and Comfort

Fewer needles, less visits to the doctor office and fewer restrictions give patients the ability to carry on with their lives even while in the midst of treatments. For individuals who need frequent infusions, an implanted port is a potentially life-changing option.

HEATHER BREMNER CLAVERIE is a contributing writer for IG Living magazine.
**Numb It**

A topical anesthetic cream such as Ebanel Numb520 can be used at the port site to numb the area before inserting a needle. The anesthetic is comprised of equal parts of lidocaine and prilocaine. These creams work by blocking nerve signals on the area of the body it is placed on. The cream will begin its numbing power about 15 minutes after application, and it is most effective after being on the skin for two hours to four hours. These creams are available over the counter. $16.50; amazon.com

**Implant Power**

BD’s PowerPort Implantable Port combines reliable venous access with power-injection capability. Power-injected contrast-enhanced computed tomography scans produce enhanced images, improving the ability to track tumor markers or perform pulmonary embolism studies. The device’s lightweight, small and flexible design make it ideal for patient comfort and ease. Prices vary based on coverage. Contact a doctor for more information. www.portready.com/ports.php

**Combat Infections**

The Central Line Dressing Kit can minimize the possibility of infections. This kit streamlines the sterilization process and includes everything needed to lessen the risk of infection, including transparent tape, alcohol swab sticks, one skin wipe, one blue face mask with ear loops, one pair of medium aloe touch latex-free gloves, gauze, dressings and one Chloraprep application with insert. $124.98 for the set; www.amazon.com

**Shopping Guide to Infusion Aids**

Prefilled flush syringes are convenient and help reduce the risk of medication errors. They contain saline, which helps keep the infusion port clean, and heparin, which helps prevent blood clots from forming. Saline is required for the maintenance of all infusion ports, while some ports do not require maintenance with heparin. These prefilled syringes are an alternative to vial-based flushing systems and require a prescription. www.bd.com/en-us/offering/capabilities/syringes-and-needles/pre-filled-flush-syringes

**Prepped Syringes**

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**Prep and Clean**

Current guidelines recommend cleaning the port site with chlorhexidine in alcohol solution. One option is the Chloraprep Sponge Applicator that contains 2% chlorhexidine in alcohol and is a rapid-acting antimicrobial that kills a broad array of microorganisms and remains active for 48 hours after cleansing. It’s effective against gram-positive and gram-negative bacteria, including Methicillin-resistant Staphylococcus aureus, vancomycin-resistant Enterococci, Clostridium difficile, Acinetobacter and most viruses and fungi. $79 for a box of 25; amazon.com

**Protect Patients**

A total of 50 patients die every day in U.S. hospitals due to bloodstream infections, according to CDC. There are several dressings that contain integrated chlorhexidine. One option is the BioPatch Disk with integrated chlorhexidine gluconate proven in multiple trials to reduce the incidence of catheter-related bloodstream infections in central venous and arterial catheters. This dressing provides protection around the insertion site for up to seven days. $382.69 for a case of 40 (4 boxes of 10 disks); amazon.com