**Activity Title:** Line locks: too much of a good thing? Re-evaluating therapies for CVA device patency in a home infusion setting

**Speaker:** Claire Meredith, PharmD

**Mentor(s):** Johanna Bezjak, PharmD, BCNSP

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**Objectives:**

1. Recognize the types of central venous catheters common to a home infusion setting
2. Describe the current roles of therapies to maintain line patency
3. Discuss emerging literature influencing protocols for central line maintenance in a home infusion setting

**Presentation Abstract:**

There is currently conflicting evidence surrounding the optimal maintenance of central venous access (CVA) devices in the home infusion setting. Risks of catheter occlusion, thrombosis, and catheter-related infection have led to clinical evaluations of protocols for preventative flushing and locking techniques and pharmacotherapeutic intervention for line salvage. One of the most common controversies with CVA devices is the use of heparin locks following the administration of intravenous therapies. Historically, heparin has been used to dwell in catheters and prevent the clotting potential of residual blood within CVA devices. In recent years, multiple randomized control trials and meta-analyses have determined increased patient risk and no statistically significant benefit to catheter patency when heparin locks are compared to 0.9% saline solution alone. These studies are clinically evaluated by consensus groups (e.g., INS) to develop outpatient protocols and provide guidance in the home infusion setting, where study data is limited.

In addition to concerns of optimal maintenance, line salvage in another area of care inviting clinical discussion for pharmacotherapeutic intervention. Antibiotic lock solutions (e.g., gentamicin) and alternative solutions (e.g., ethanol, sodium citrate, EDTA, etc.) may be used to manage or prevent line infection. The use of fibrinolytic agents (e.g., alteplase) to treat thrombotic line occlusion also creates safety discussions regarding home administration. In summary, to compensate for limited studies detailing these therapies in the home infusion setting, risk-benefit analyses are needed to build patency protocols that ensure the safety of patients.

**Assessment Questions:**

Which of the following are central venous access devices (CVADs)?

I. Implantable port

II. PASV PICC

III. Skin-tunneled catheter

IV. Midline catheter

Answer choices:

1. I, III, and IV
2. I only
3. II and III
4. I, II, and III

Which of the following is not a growing concern for the use of heparin locks in the home health setting?

1. Additional patient education is needed
2. Interference with CMP/BMP laboratory results
3. Increased likelihood of biofilm formation
4. Additional risk of bleeding events

Which patient is the best candidate for ALT?

1. A patient with a Groshong® with a biofilm containing Candida species
2. An endocarditis patient with a double lumen PICC colonized with coagulase-negative Staphylococci
3. A patient receiving 5-fluorouracil via an implanted port with vancomycin susceptible Enterococcus
4. A patient receiving TPN via an implanted port with new signs of abscess near the port site

**Format:**

 Live

 Home study

 Live and Home study

 Webinar (Live)

Date of Live Activity: 12/14/22

Activity length (hr, or CEU): 1 hour

**Topic Designators - activities are related to:**

If a CPE activity's target audience is exclusively for pharmacists, the designation "P" will be used as follows:

* 01-P Disease State Management/Drug therapy

 02-P AIDS therapy

 03-P Law (related to pharmacy practice)

 04-P General Pharmacy

 05-P Patient Safety

 06-P Immunizations

 07-P Compounding

 08-P Pain Management/Opioids

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