Teaching Self-Cannulation for Home Hemodialysis Patients: Keys to Success
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Introduction

- For home hemodialysis (HHD) patients, self-cannulation empowers patients to take control of their own care.1
- Self-cannulation promotes independence, reduces access infections, and may help preserve the vascular access.2,3
- Fear of self-cannulation can present a significant barrier to HHD.4,5

Objective

The objective of this study was to identify factors that contribute to patient success with self-cannulation.

Methods

- Short surveys were administered to HHD nurses and HHD patients at a large dialysis organization in the US.
- The surveys posed a series of questions about experience with HHD and self-cannulation.
- Survey answers were collated to identify common themes.

Results

**Nurse Survey Results**

- **How do you handle training for a patient with a new fistula?**
  - **Common Themes:**
    - Teach the basics of anatomy technique, through measurement of the arm.
    - Initiate cannulation with smallest (2-5g) needles.
    - Use of real-time imaging allows the patient to feel and visualize the correct position when placing future needles.
- **Do you teach both patient and care partner how to cannulate?**
  - **Common Themes:**
    - If time allows, training the care partner can be helpful to better assist the patient if needed.
    - It is preferable for the patient to cannulate because they can feel proper placement more easily than a care partner.
    - There may be a benefit to obtaining a fistulagram or surgical diagram of the vascular access to assist the new, novice patient with the best site selection for needle placement.

**Patient Survey Results**

- **How do you handle training for a patient with a mature fistula?**
  - **Common Themes:**
    - Nurse should cannulate initially (~3 treatments), but it is very important for the patient to start cannulating early stage 4 to develop the skill.

- **How do you feel about inserting your own needles?**
  - **Common Themes:**
    - It is important for the patient to become cannulate in the same position they will ultimately use at home.
    - Patients are most successful sitting in a straight back chair or a table during training.

**Common Themes:**

- **How does the patient sit during training?**
  - **Common Themes:**
    - The patient should use the arm that will be cannulated if possible.
    - It is preferable to train the patient to sit in the same position they will ultimately use at home.
- **How do you feel about inserting your own needles?**
  - **Common Themes:**
    - It is important for the patient to be seated in the same position they will ultimately use at home.
- **What is the best thing about inserting your own needles?**
  - **Common Themes:**
    - Can feel your right spot
    - Can feel your right spot
- **What is the worst thing about inserting your own needles?**
  - **Common Themes:**
    - Painful
    - Still need assistance

**Common Themes:**

- **Do you teach buttonhole? If yes, does the patient create the site?**
  - **Common Themes:**
    - Many patients prefer to use the buttonhole technique.
    - It is important to teach patients to use sharp care in case of future need.
- **What are the most successful training tools you have used?**
  - **Common Themes:**
    - Use a model for the patient to practice with:
      - An orange
      - Pool noodle
      - Mannequin arm
      - Blood pump tubing segment taped to a saline bag

- **Do you train both patient and care partner how to cannulate?**
  - **Common Themes:**
    - It is preferable for the patient to cannulate because they can feel proper placement more easily than a care partner.
- **What is the worst thing about inserting your own needles?**
  - **Common Themes:**
    - How do you feel about inserting your own needles?
  - **Common Themes:**
    - What is the worst thing about inserting your own needles?

Conclusions

- Overcoming the fear of self-cannulation is critical to a patient succeeding on HHD.
- In our experience, successful self-cannulation training requires flexibility and creativity.
- Training should be tailored to the patient’s home environment, physical ability, and learning style.

References


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