



# Ark Cannulation Training

Device Overview and Training Guide for  
Cannulation

Confidential Information 413-016-0001v5

413-016-0001

## Agenda



Ark Introduction

Access Evaluation

Establishing Vascular  
Access

Post Dialysis

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Introduction to  
the Ark



Access  
Evaluation: Ask,  
Look, Listen, Feel



Feel the Ark and  
Identify its Parts



Establishing  
Vascular Access  
and Potential  
Occurrences



Post Dialysis



Caution  
Statements,  
Training Activity  
and Q&A

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# Ark Introduction



Ark Introduction

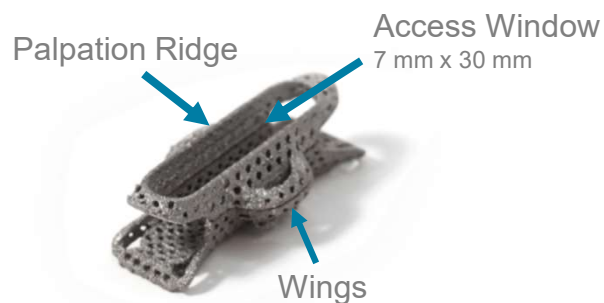
Access Evaluation

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- ✓ Easy target for cannulation
- ✓ Protects the patient's access
- ✓ Accommodates buttonhole and rope ladder technique per KDOQI guidelines



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# Access Evaluation



Ark Introduction

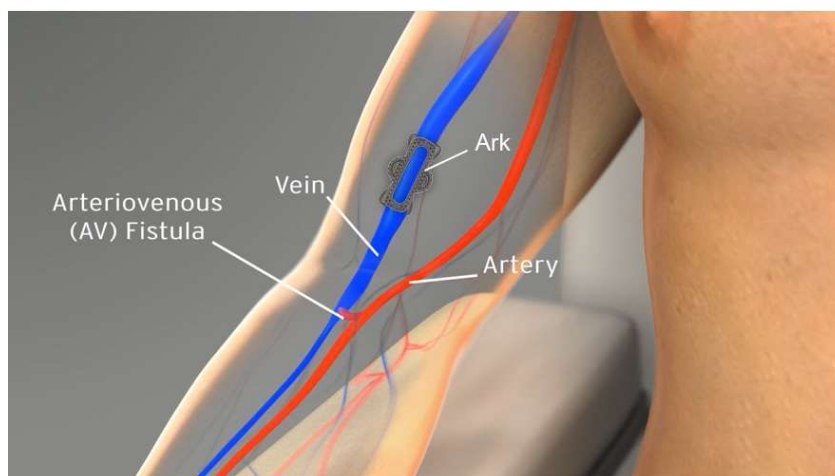
Access Evaluation

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**ASK**  
**LOOK**  
**LISTEN**  
**FEEL**



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## Ask the Patient



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- Ask the patient about their access and their Ark.
- Review post-op surgical report
  - Good communication between the dialysis clinic and the surgeon can be very helpful
- Each patient should have:
  - Patient implant card with date of implantation and serial number
  - Bracelet with QR code that opens additional information about the Ark



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## Look At The Patient's Access



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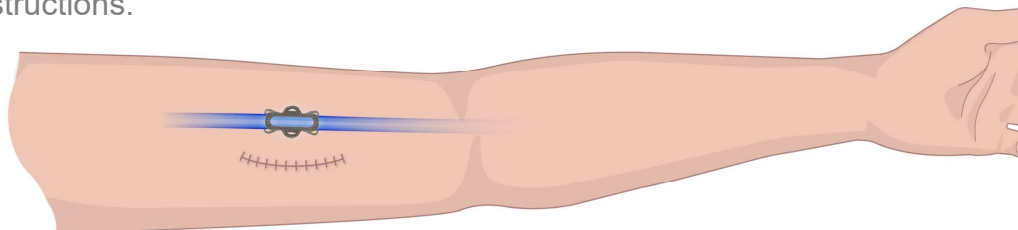
Access Evaluation

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- Look for post-op scars that may indicate Ark location
- Look to see if the Ark outline is visible under the skin
- Look at the access and examine for:
  - Any signs of Skin Erosion or Skin Breakdown especially around the Ark
  - If signs of skin erosion are present consult nephrologist for further instructions.



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## Listen to the Patient's Access

voyager  
BIOMEDICAL

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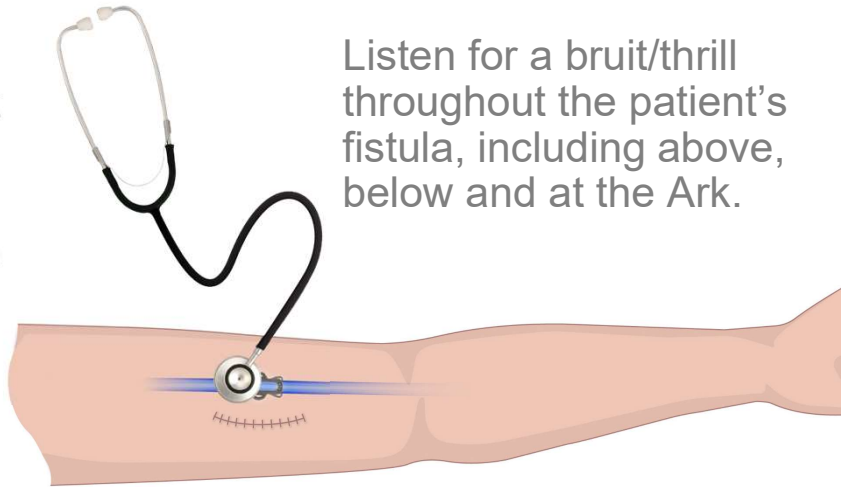
Access Evaluation

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The Ark may affect the sound of the bruit when listening inside the Ark, so it is important to evaluate the entire fistula.



Listen for a bruit/thrill throughout the patient's fistula, including above, below and at the Ark.

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## Feel the Patient's Access

voyager  
BIOMEDICAL

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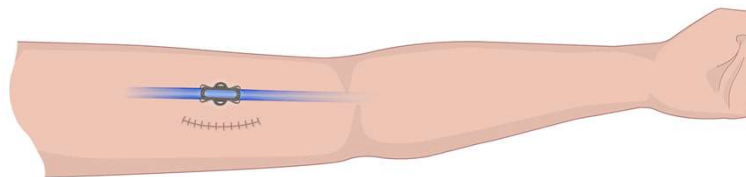
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- Feel the entire fistula and assess
- Palpate the access to locate the Ark and its edges/ends
- Use your fingers to "see" the different parts of the Ark



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## Feel: Identifying the Ark's Palpation Ridge



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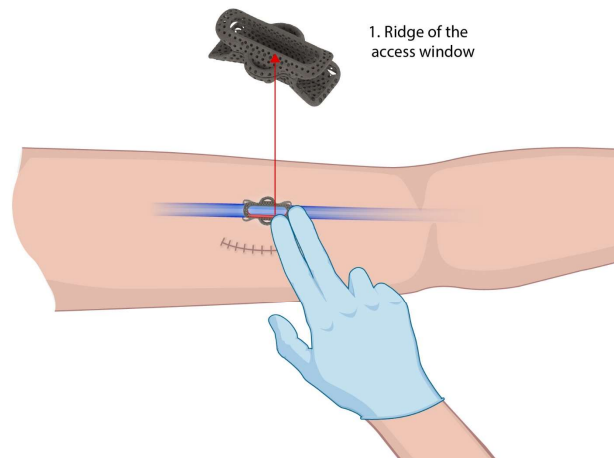
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- Feel for the ridge of the Access Window (highlighted in red)
- The palpation ridge is in the shape of an oval racetrack and marks the margins of the cannulation area



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## Feel: Identifying the Ark's Access Window



Ark Introduction

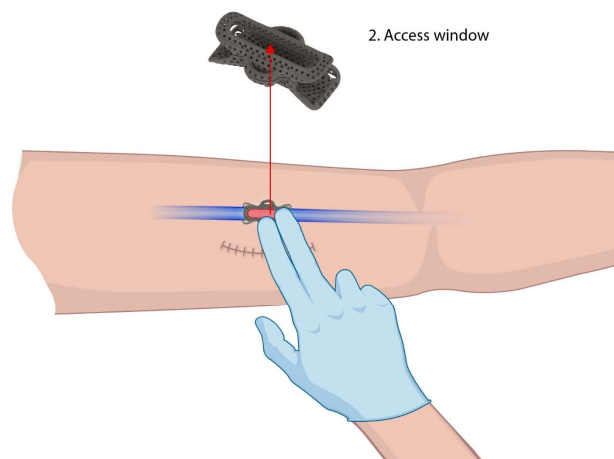
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- Once you identify the Palpation Ridge, feel for the Access Window (highlighted in red).
- Take note of any physical markers (i.e. scars, freckles, etc.) that can help locate the access window



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## Feel: Identifying the Wings of the Ark



Ark Introduction

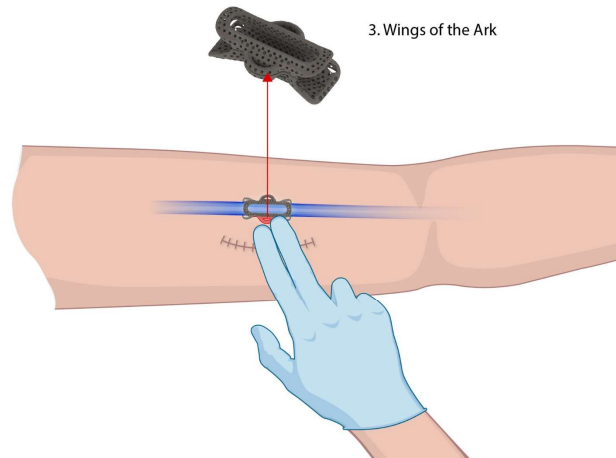
Access Evaluation

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- Finally, identify the wings of the Ark (highlighted in red)
- The wings are different from the Palpation Ridge in length, shape and position.
- The wings can also help identify the orientation of the Ark if rotation is present.



3. Wings of the Ark

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## Rope-Ladder Map Accessory



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Access Evaluation

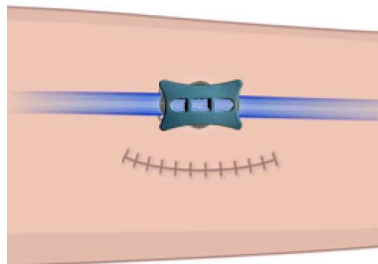
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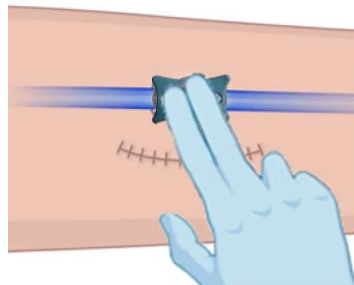
12

Cannulators may find this optional accessory helpful for Ark patients undergoing rope-ladder cannulation

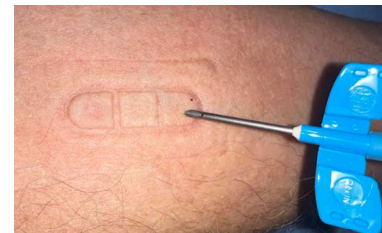
- 1.** Once the Ark has been located and assessed, Align the Accessory over the Access Window



- 2.** Press down on the Accessory with mild to moderate pressure for 10-15 seconds



- 3.** Remove the Accessory and palpate at the mark on the skin to ensure the Ark's Access Window is directly below



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## Feel: Ark Movement and Rotation



Ark Introduction

Access Evaluation

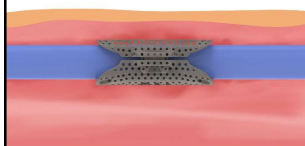
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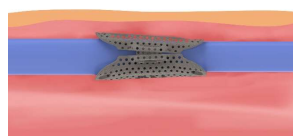
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All of the below are **OK** with proper assessment!

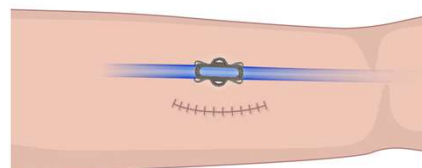
- Sign of separation: spongy/ squishy feeling



Even Separation



Uneven Separation



- Rotation may not affect cannulation with **proper identification** of the Access Window. If unable to properly assess, contact the nephrologist.

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## Determine Needle Type and Size



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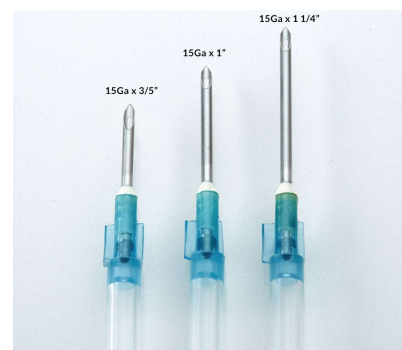
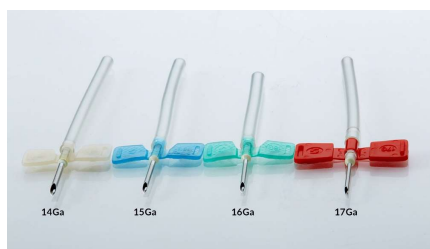
Follow dialysis clinic guidelines and protocol to select the proper needle



Buttonhole Needle



Routine Dialysis Needle



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## Establishing Vascular Access: Needle Insertion

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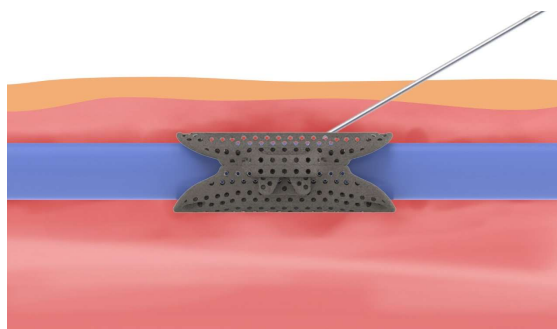
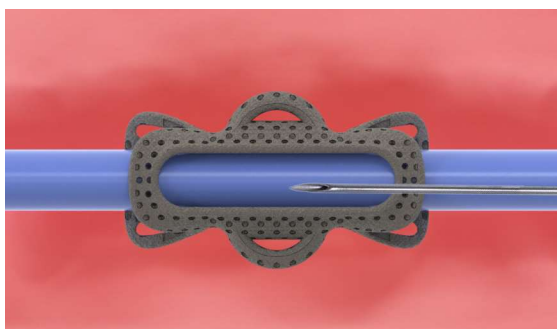
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The Ark does not require additional steps when cannulating compared to a fistula without a device; however, the angle of entry may need to be **slightly steeper**.



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## Potential Occurrences: Establishing Vascular Access

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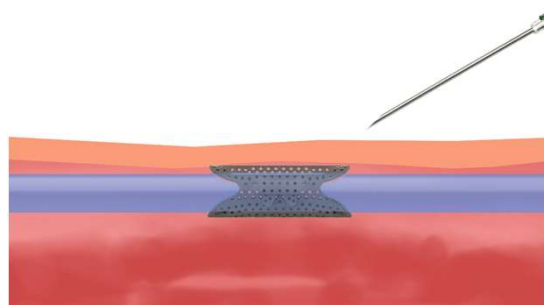
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Needle can come into contact with the back wall. This is not a problem and can occur during normal cannulation. Simply pull back very slightly, adjust the angle and advance needle.





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# Potential Occurrences: Establishing Vascular Access



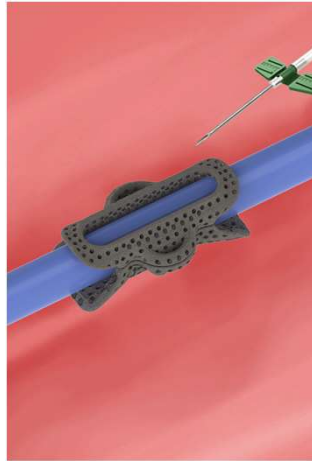
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Needle  
contacts the  
top of device

Adjust needle  
as needed to  
achieve access

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# Potential Occurrences: Establishing Vascular Access



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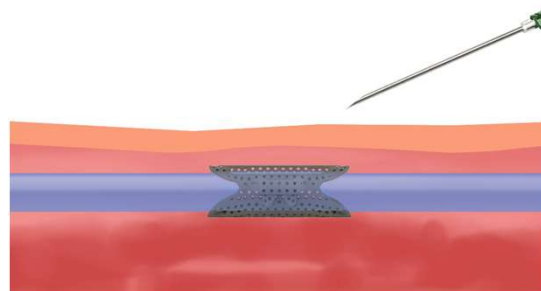
Establishing Vascular Access

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Needle is inserted but there is no flashback

- Follow similar steps for achieving access as a normal surgical fistula, just remember the Ark may require a **steeper cannulation angle**.
- Confirm that the depth of your cannulation is sufficient
- Confirm that you have gone through the Access Window



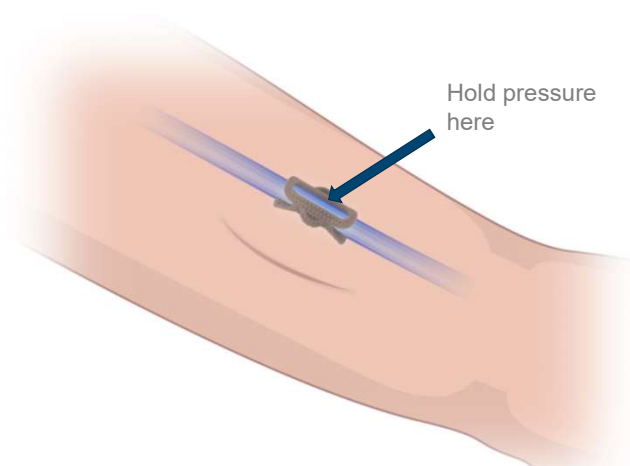
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## Post Dialysis

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- Once dialysis treatment is complete, follow standard protocol for removing needle and holding pressure. Hold pressure for 5-10 minutes after bleeding has stopped.



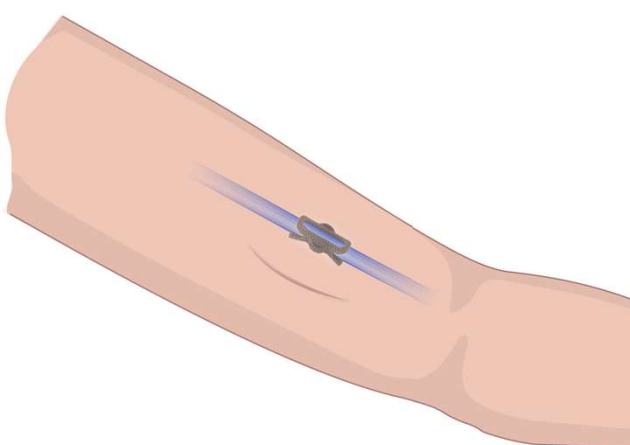
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## Post Dialysis Considerations

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- Check for thrill, bruit and verify hemostasis
- Dress the access site according to facility guidelines



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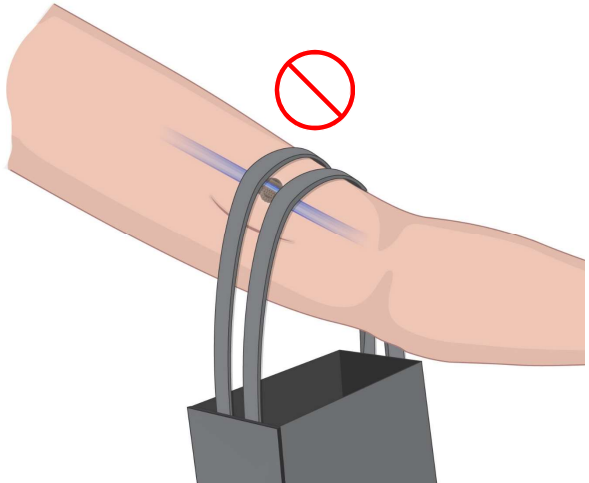
## Patient Education

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- The Ark has the same care requirements as a normal fistula
- Avoid physical trauma and prolonged pressure to the Ark area such as carrying a heavy purse or shopping bag over the Ark area.



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## CAUTION STATEMENTS

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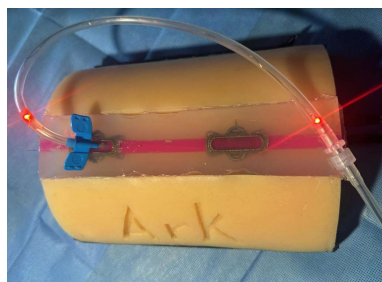
- CAUTION:** Avoid tourniquet placement over or around the Ark area
- CAUTION:** Consult a nephrologist or vascular surgeon if unable to identify or cannulate the access window
- CAUTION:** The Ark bottom protects the back wall of the vessel from infiltration when cannulating; however, a needle advanced outside of the Ark may still result in back wall penetration
- CAUTION:** Avoid excessive force or prolonged pressure.
- WARNING:** Post dialysis risks include skin erosion due to excessive pressure at the puncture site. Inspect for skin erosion and treat as necessary
- WARNING:** Only authorized and trained medical professionals who have read the instructions for use and been trained can implant and use the Voyager device.

# Cannulation Activity

## Cannulation Activities

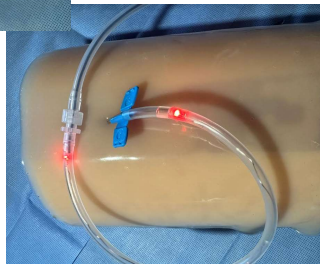


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↑  
Image above shows 2 Ark tabletop cannulation model without skin layer

Image at right shows same model with skin layer in place. →



- Utilize cannulation aids to practice assessing and accessing the Ark device.



↑  
Image above shows single Ark wearable cannulation model with skin layer in place. This model can be used with a partner



←  
Image at left shows the same model without the skin layer in place

## Resources



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For additional guidance, review 413-016-0002 Cannulation Training Video.



During the initial cannulation of the Ark device, a clinical representative is required to be present to provide support. Please reach out to [clinicalsupport@voyagerbiomedical.com](mailto:clinicalsupport@voyagerbiomedical.com) to get in contact with a clinical representative.

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