WELCOME *To the*

2026 SYMPOSIUM

Eradicating Area Cannulation & Dead Space Between Dialysis Needles

John F Lucas III, MD, FACS, FSVS

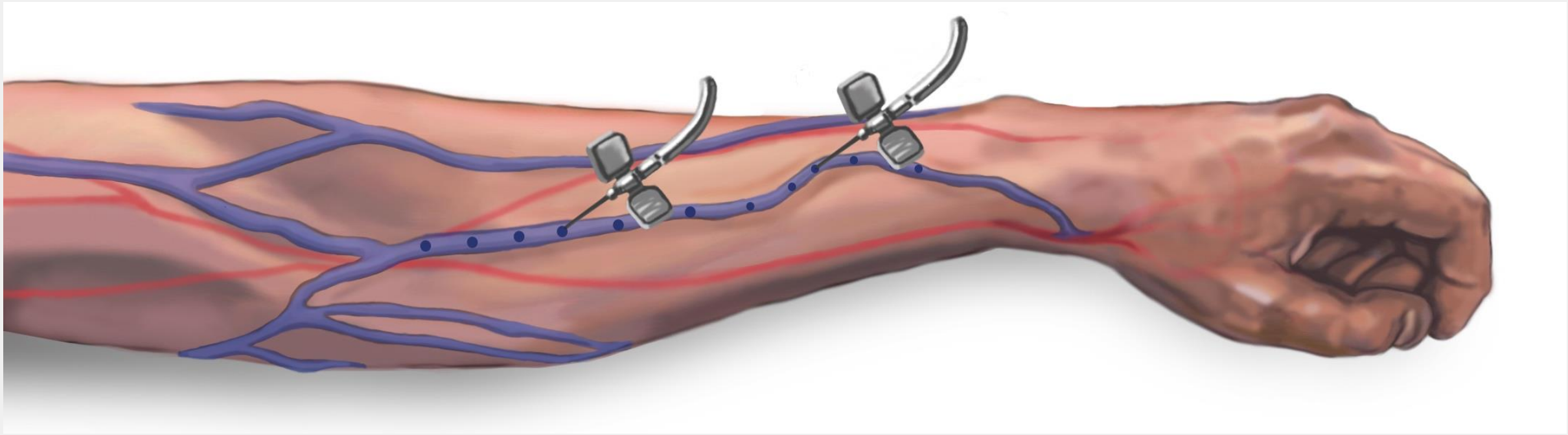
VASCULAR ACCESS SOCIETY OF THE AMERICAS VASA Access Excellence.

Disclosures

PI for Laminate Medical

PI for Xeltis

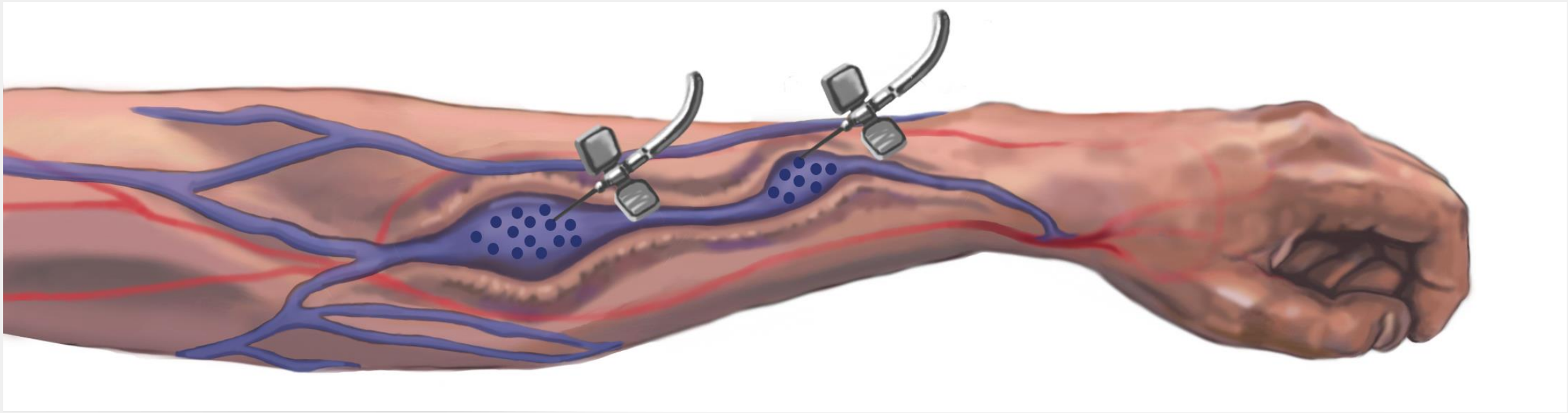
Rope Ladder Cannulation



Ideal Arm for Rope Ladder Cannulation



Area Cannulation



Result of Area Cannulation



Why Does This Happen?

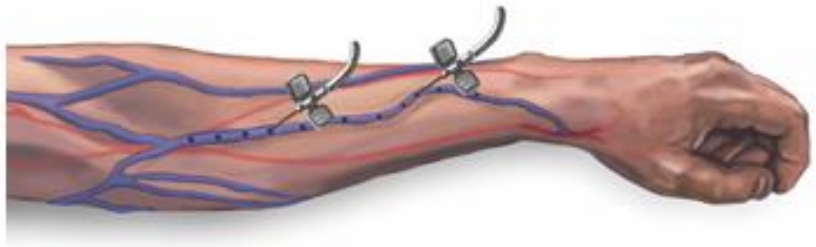
- Cannulation very close to needle mark from 2 days ago
  - Short segment for cannulation
  - Someone had success before in that location
  - Patient request due to pain

VASA
website

MASTERING SAFE & EFFECTIVE:

DIALYSIS CANNULATION

BEST PRACTICES FOR AVF/AVG CANNULATION





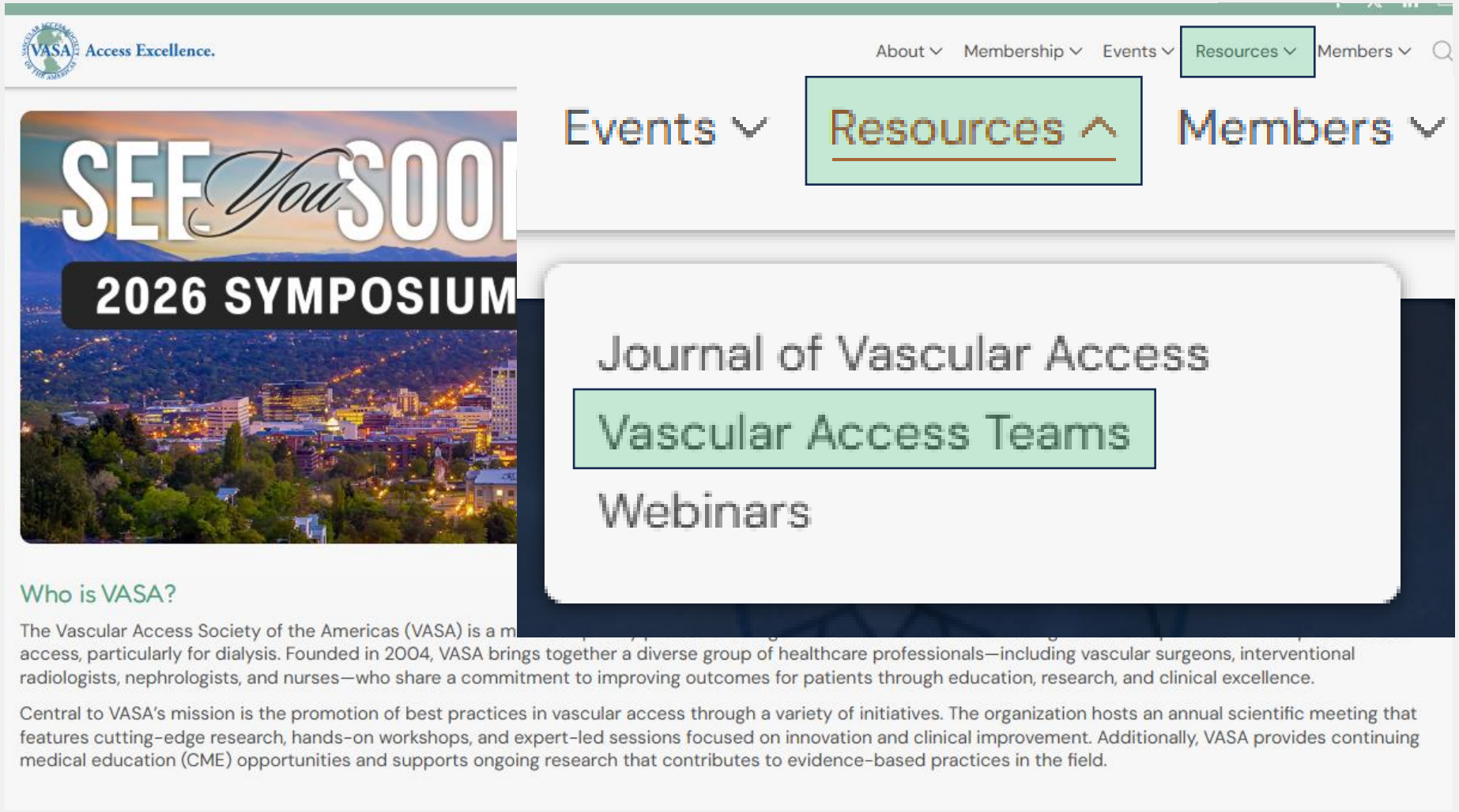
✓GO: **Rope Ladder Cannulation Technique is the recommended best practice for AVF or AVG**

- Help prevent serious complications.
- Preserves access longevity.

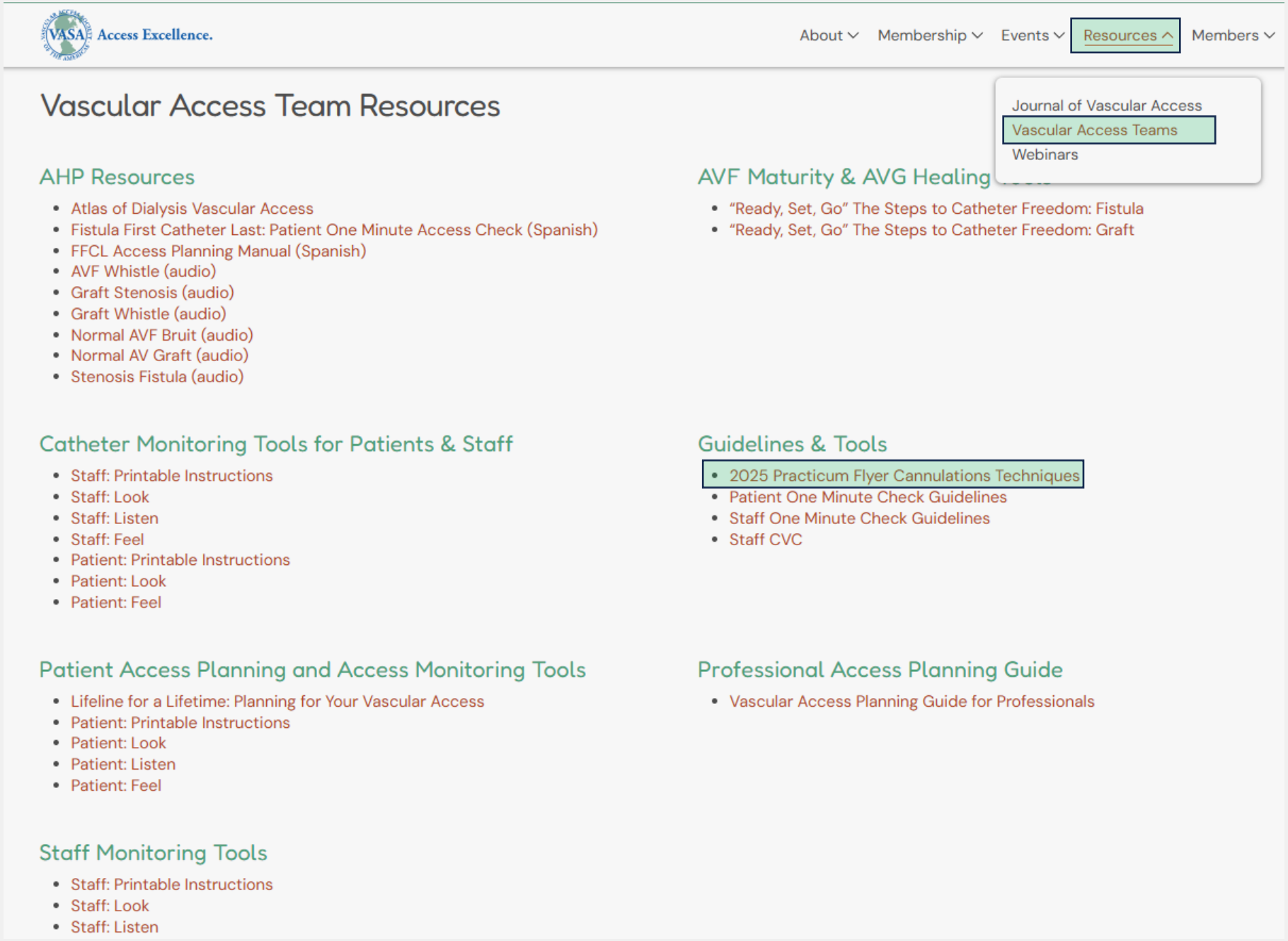
✗STOP: **Repeatedly Cannulating the Fistula in the same place causes direct harm to your patients AVF or AVG**

- Accelerates access failure and **Risks Fatal Vascular Access Hemorrhage**.
- Weakens the vessel walls (AVF) or creates large holes in graft material (AVG). Increases risk of aneurysm and pseudoaneurysm formation.
- Leads to scar tissue formation, increasing resistance to needle insertion.

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Who is VASA?
The Vascular Access Society of the Americas (VASA) is a m
access, particularly for dialysis. Founded in 2004, VASA brings together a diverse group of healthcare professionals—including vascular surgeons, interventional radiologists, nephrologists, and nurses—who share a commitment to improving outcomes for patients through education, research, and clinical excellence.
Central to VASA's mission is the promotion of best practices in vascular access through a variety of initiatives. The organization hosts an annual scientific meeting that features cutting-edge research, hands-on workshops, and expert-led sessions focused on innovation and clinical improvement. Additionally, VASA provides continuing medical education (CME) opportunities and supports ongoing research that contributes to evidence-based practices in the field.

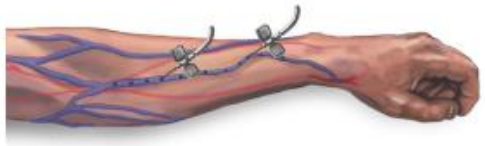
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Fistula First Catheter Last: Patient One Minute Access Check (Spanish)
FFCL Access Planning Manual (Spanish)
AVF Whistle (audio)
Graft Stenosis (audio)
Graft Whistle (audio)
Normal AVF Bruit (audio)
Normal AV Graft (audio)
Stenosis Fistula (audio)
AVF Maturity & AVG Healing
"Ready, Set, Go" The Steps to Catheter Freedom: Fistula
"Ready, Set, Go" The Steps to Catheter Freedom: Graft
Catheter Monitoring Tools for Patients & Staff
Staff: Printable Instructions
Staff: Look
Staff: Listen
Staff: Feel
Patient: Printable Instructions
Patient: Look
Patient: Feel
Guidelines & Tools
2025 Practicum Flyer Cannulations Techniques
Patient One Minute Check Guidelines
Staff One Minute Check Guidelines
Staff CVC
Patient Access Planning and Access Monitoring Tools
Lifeline for a Lifetime: Planning for Your Vascular Access
Patient: Printable Instructions
Patient: Look
Patient: Listen
Patient: Feel
Professional Access Planning Guide
Vascular Access Planning Guide for Professionals
Staff Monitoring Tools
Staff: Printable Instructions
Staff: Look
Staff: Listen

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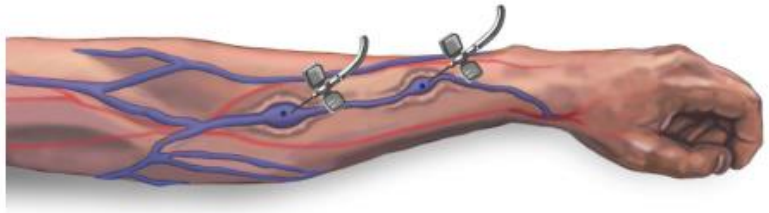
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- Leads to scar tissue formation, increasing resistance to needle insertion.

BUTTONHOLE DIALYSIS CANNULATION



✓GO: **Used only for AVFs**

- It involves repeatedly inserting the needle into the same spot at the same angle, which creates a tunnel of scar tissue (called a buttonhole).
- This tunnel lets a blunt buttonhole needle go into the fistula along the same path each time.
- It's best to have two spots for the artery and two for the vein to allow for rotation.
- The buttonhole technique should only be used if the doctor has included it in the patient's care plan.

It only takes a minute to check your patient's catheter. Check before you connect.

GO

A Bridge to Your Lifeline

STOP

Look

Look at the CATHETER to make sure:

- There are no cracks in the catheter tubing.
- The caps are on the ends of the catheter tubes.
- The catheter cuff is not coming out of the skin.

Look at the EXIT SITE to make sure there is no:

- Redness
- Drainage
- Bleeding
- Exposure of catheter cuff

Check the skin over tunnel for redness.



- If you think there is a problem with the catheter tubing.
- If the catheter hubs are exposed or dirty.
- If the catheter cuff is coming out of the skin.
- If the exit site is red, draining or bleeding.
- If the cuff is exposed.
- If a stitch is still in place: Check to see if it can be removed
- The skin over the tunnel is red.

Listen

Listen to the patient and be sure to ask:

- If they think they might have a fever.
- If they have noticed anything different with their catheter since the last dialysis treatment.



- If the patient reports or has a fever.
- If the patient reports something that is different with their catheter.
- If the patient reports a problem with their catheter.

Feel

Press lightly on the area over the tunnel away from the exit site.

There should be no:

- Pain
- Drainage coming from the exit site

The area over the tunnel should not feel warmer than the area around it



If there is:

- Pain and/or drainage from the exit site when you press lightly on the area over the tunnel.
- If the area over the tunnel is warmer than the area around it.

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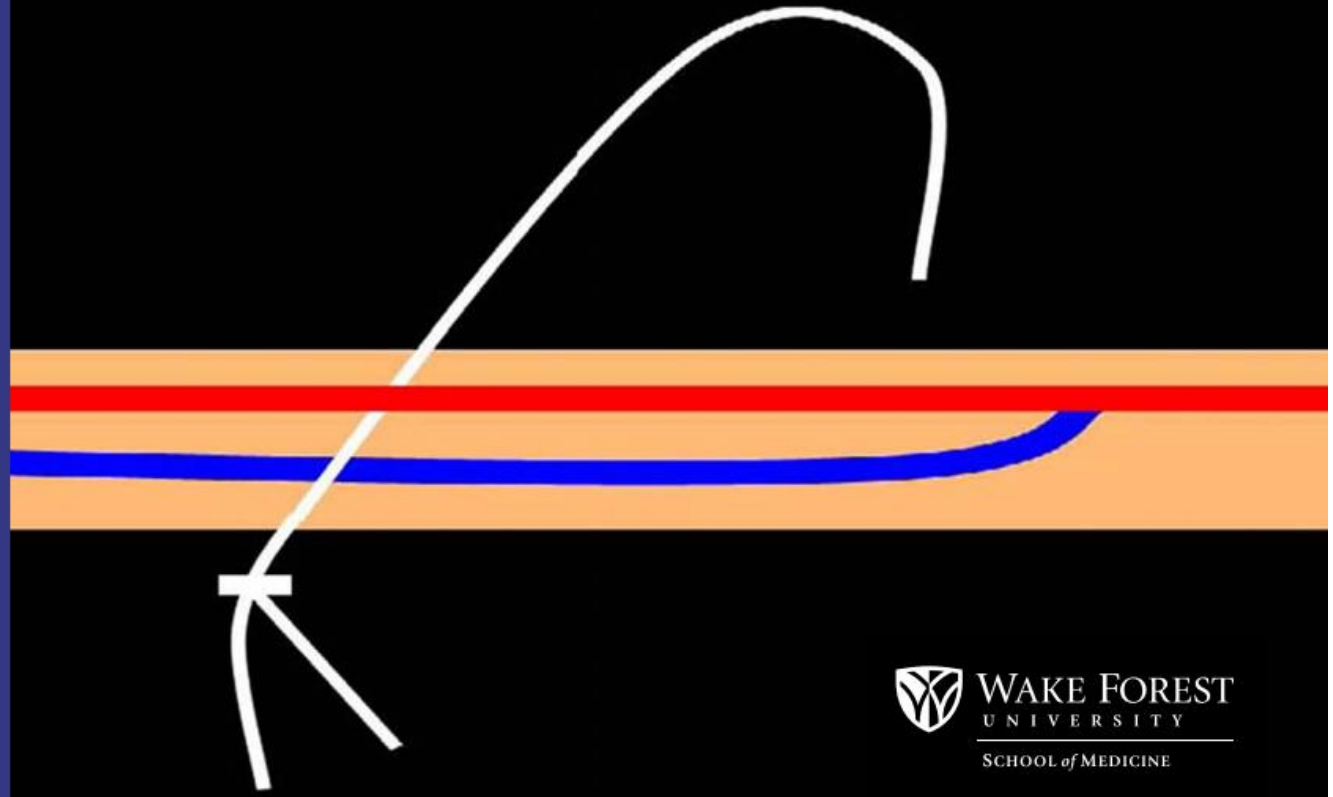
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arteriovenous FISTULA FIRST
AVF — The first choice for hemodialysis

Atlas of Dialysis Vascular Access

Tushar J. Vachharajani, MD, FASN, FACP

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AVF — The first choice for hemodialysis



WAKE FOREST UNIVERSITY
SCHOOL of MEDICINE

It only takes a minute to save your patient's lifeline.

GO

The skin over the access is all one color and looks like the skin around it.

Look



STOP

There is redness, swelling or drainage. There are skin bulges with shiny, bleeding, or peeling skin.

Listen



Bruit - the hum or buzz should sound like a "whoosh," or for some may sound like a drum beat. The sound should be the same along the access.

There is no sound, decreased sound or a change in sound. Sound is different from what a normal Bruit should sound like.

Feel



Thrill: a vibration or buzz in the full length of the access.

Pulse: slight beating like a heart-beat. Fingers placed lightly on the access should move slightly.

Pulsatile: The beat is stronger than a normal pulse. Fingers placed lightly on the access will rise and fall with each beat.

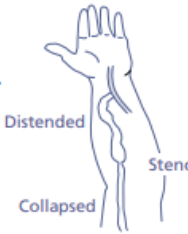
Arm Elevation

Upper Arm AVF

The AVF outflow vein partially collapses when the arm is raised above the level of the heart. It may feel "flabby" when palpated.

Lower Arm AVF

The AVF outflow vein collapses when arm is raised above the level of the heart.



Upper Arm AVF

The AVF outflow vein does not partially collapse or become "flabby" after being raised above the level of the heart. This finding should be reported to an expert clinician.

Lower Arm AVF

The AVF outflow vein does not collapse after being raised above the level of the heart. This finding should be reported to an expert clinician.

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Identify Other Cannulation Sites



Identify Other Cannulation Sites



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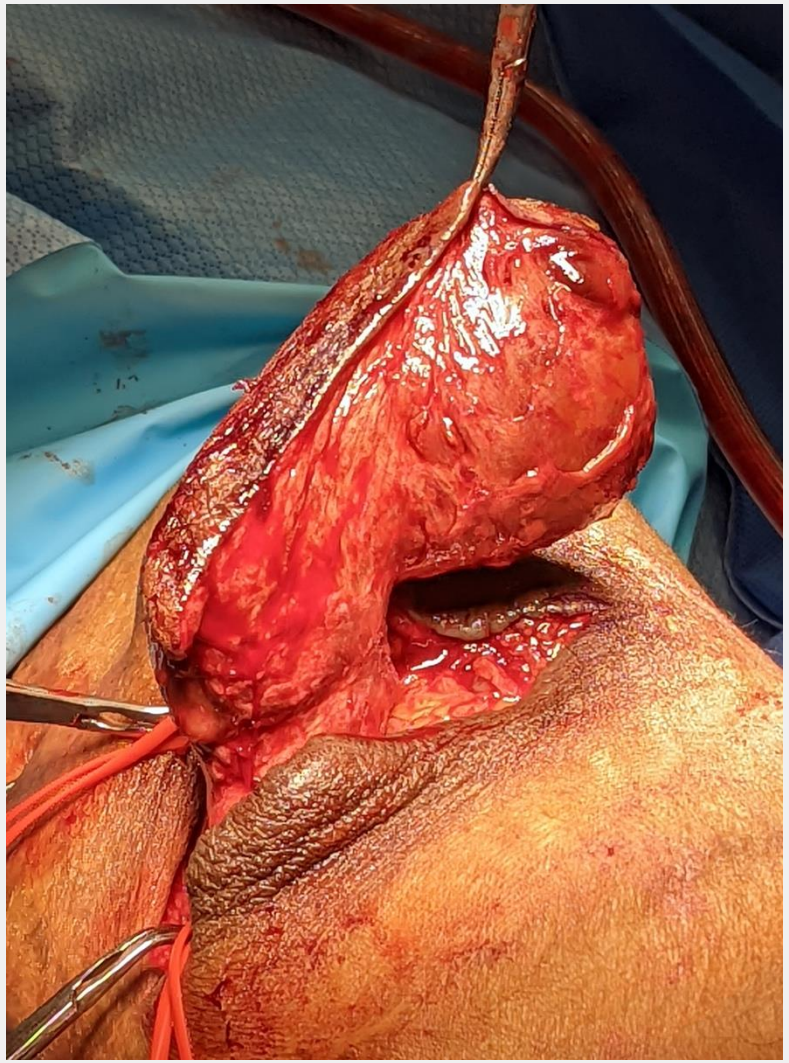
Fix 2 Aneurysms Now and 2 Later

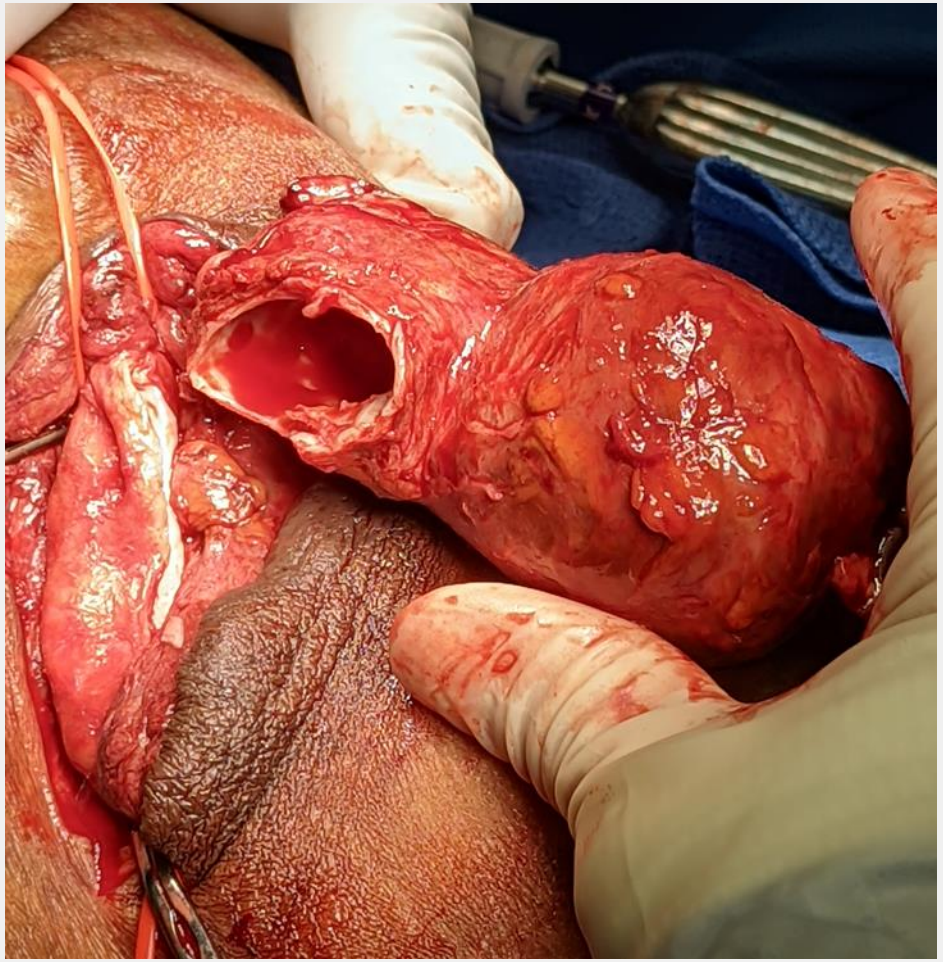


Aneurysm Growing in Direction of Cannulation









How Can We Fix This?

- Longer cannulation segments
- Educate patient and empower them to advocate for Rope Ladder cannulation
- Better education at the dialysis unit for the cannulators
- Implement a monthly exam to identify unused sites for cannulation