VANDERBILT HEALTH

WELCOME *To the*

2026 SYMPOSIUM

Preventing HAIDI

Robert Shahverdyan, MD PhD

Director of Vascular Access Program

Associate Professor of Vascular Surgery

Vanderbilt University Medical Center

Vanderbilt Health

Nashville, TN, USA

www.drshahverdyan.com

robshahverdyan

robert-shahverdyan

MANAGEMENT OF ACCESS COMPLICATIONS

Disclosure:

Speaker name: **Robert Shahverdyan**

I have the following potential conflicts of interest to report:

X Consulting, honoraria and travel support: Becton Dickinson, Laminate medical, Xeltis, FLEX Vascular

X Speaker bureau: BrosMed medical, Cardionovum, Teleflex, Abbott Vascular, Getinge

X Advisory Board Member: Venova medical, FLEX Vascular

Preventing HAIDI?













Preventing HAIDI=Hemodialysis Access Induced Distal Ischemia





HAIDI

- A complication of hemodialysis access causing hand numbness, weakness, pain and potential severe-tissue loss.

- Incidence of Steal in 1%-20% VAs created.
  - Incidence in AVGs up to 20%
  - Incidence in RCAVFs 1-2%
  - Incidence in BC/BB AVFs up to 15%

- Altered hemodynamic relationship with increased blood flow into the low resistance access and limited blood flow to the hand to incite ischemic changes.

Risk Factors

- Diabetes Mellitus
- PVD
- Female Gender
- Access created from the brachial artery
- Type of Vascular Access (AVG>AVF)

How can we prevent the HAIDI?

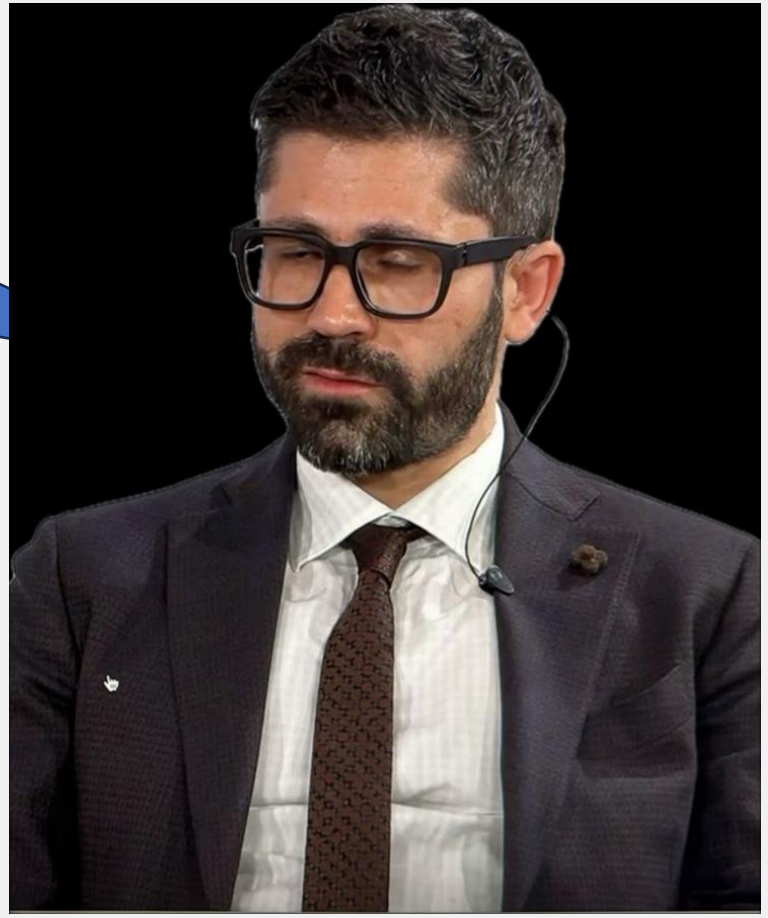
My patients never have HAIDI



Courtesy of Dr. Ari Kramer

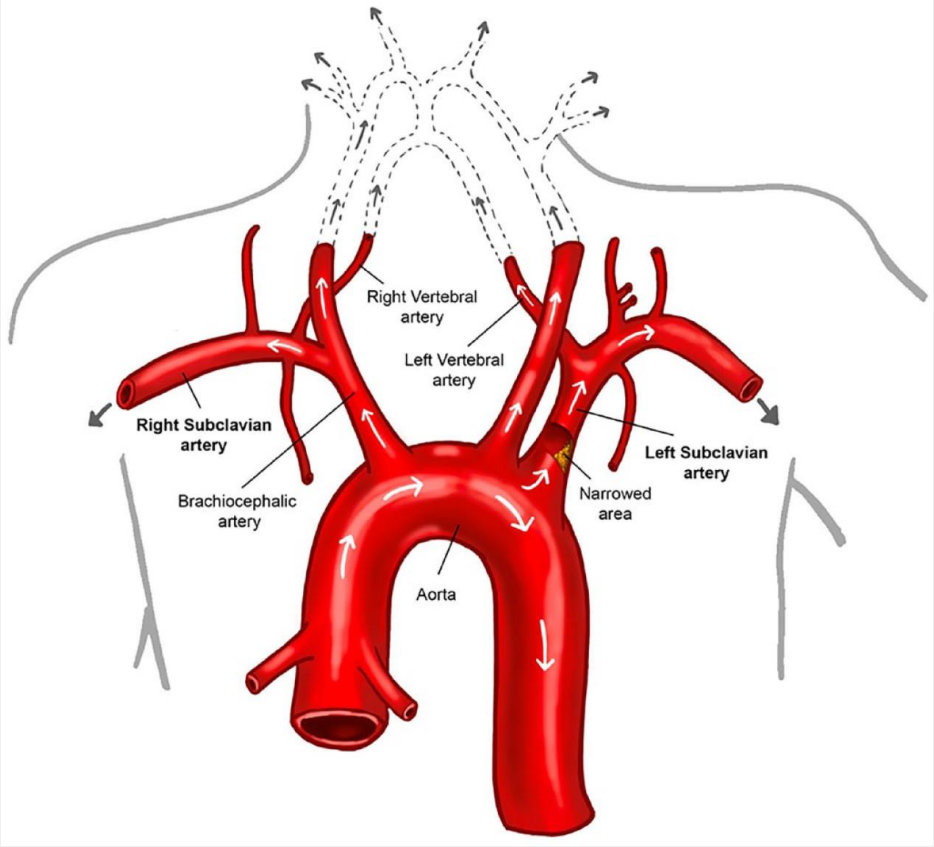
Prevention Nr. 1:
Don’t create any Vascular Accesses

We have 0 rates of steal! – we have placed 0 VAs this year

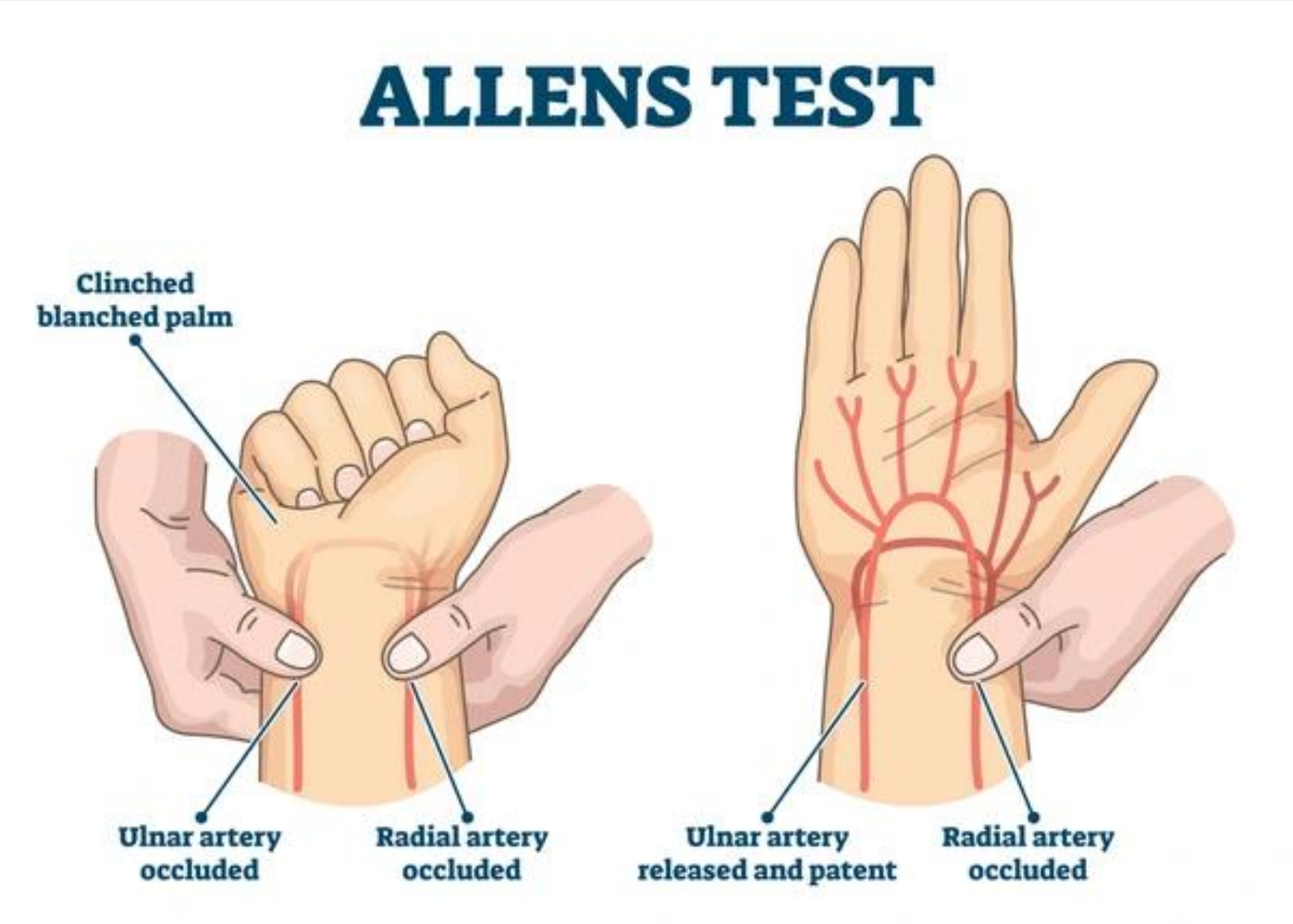


Prevention Nr. 2:
Do your homework!

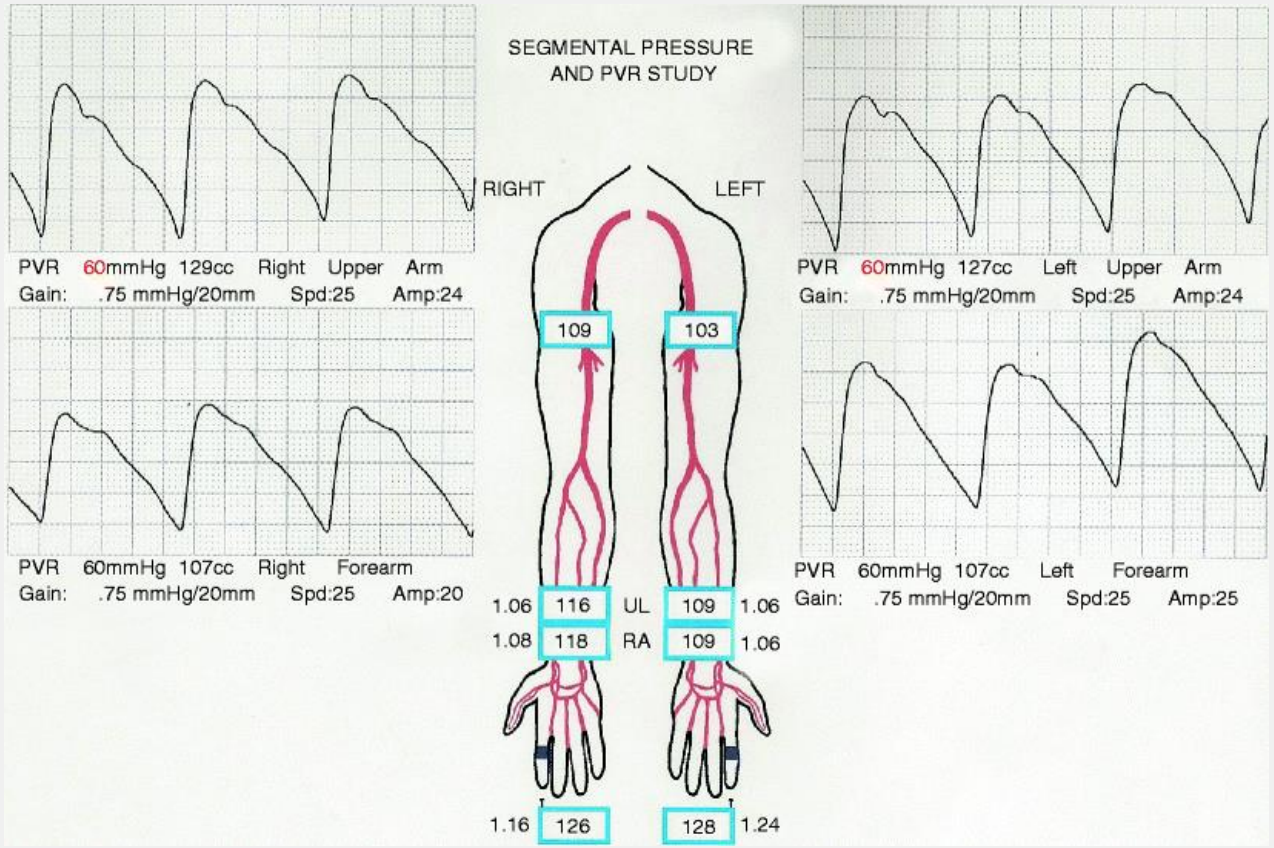
- Bilateral Blood pressure (RR) – subclavian artery stenosis

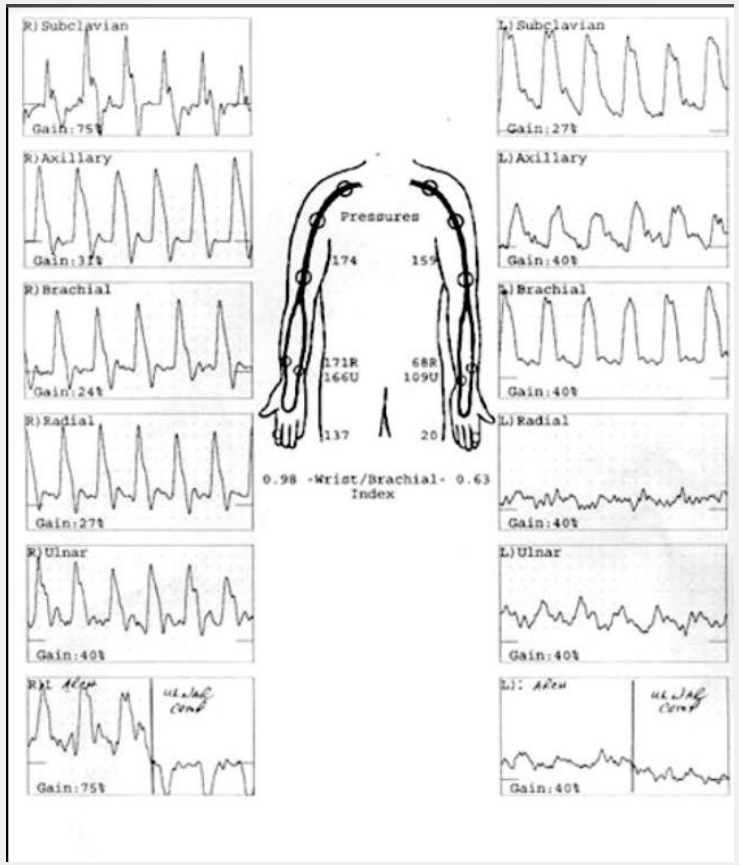


Allens Test


ALLENS TEST
Clinched blanched palm
Ulnar artery occluded
Radial artery occluded
Ulnar artery released and patent
Radial artery occluded

Digital Brachial Index





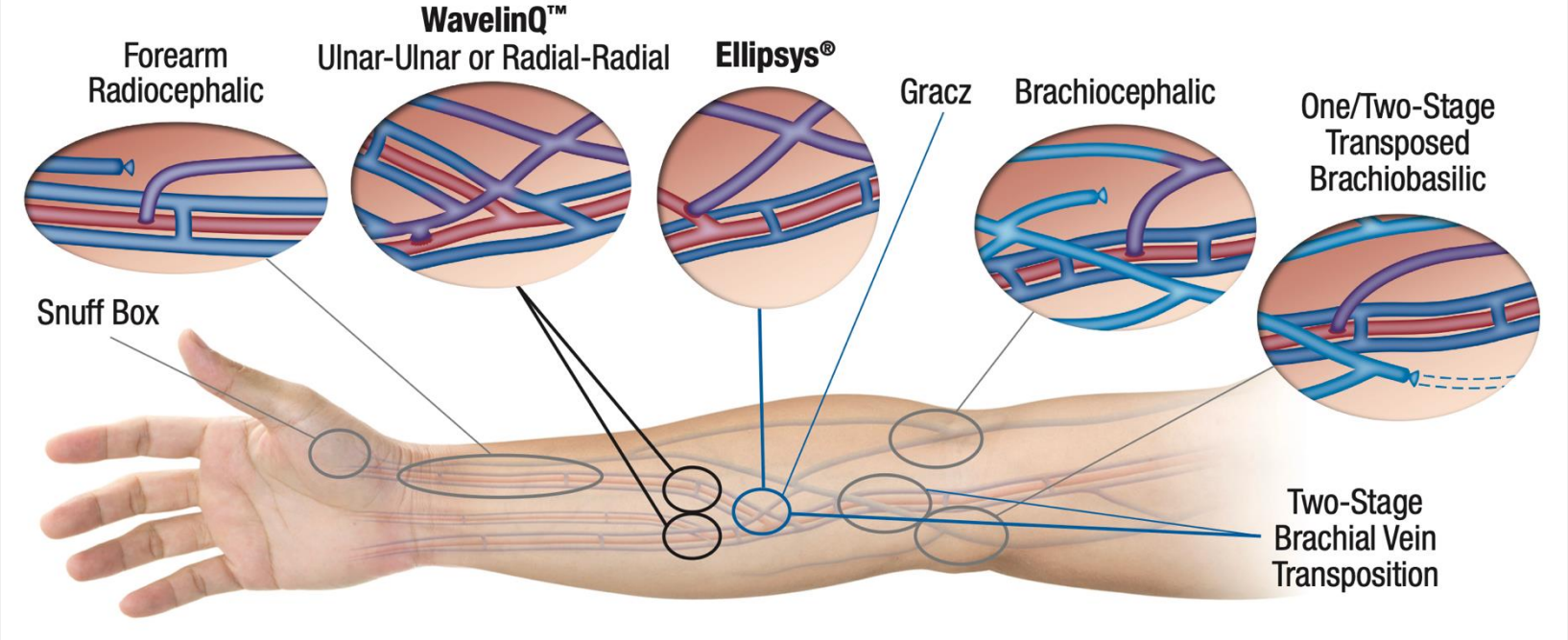
Consider the Risk Factors?

VANDERBILT HEALTH

- Diabetes Mellitus??? – exclude from VA?
- PVD??? – exclude from VA?
- Female Gender – exclude from VA?
- *Access created from the brachial artery*
- *Type of Vascular Access (AVG>AVF)*

Prevention Nr. 3: Avoid the brachial artery

- Whenever possible, utilize the radial or ulnar artery



Prevention Nr. 4: Control the flow

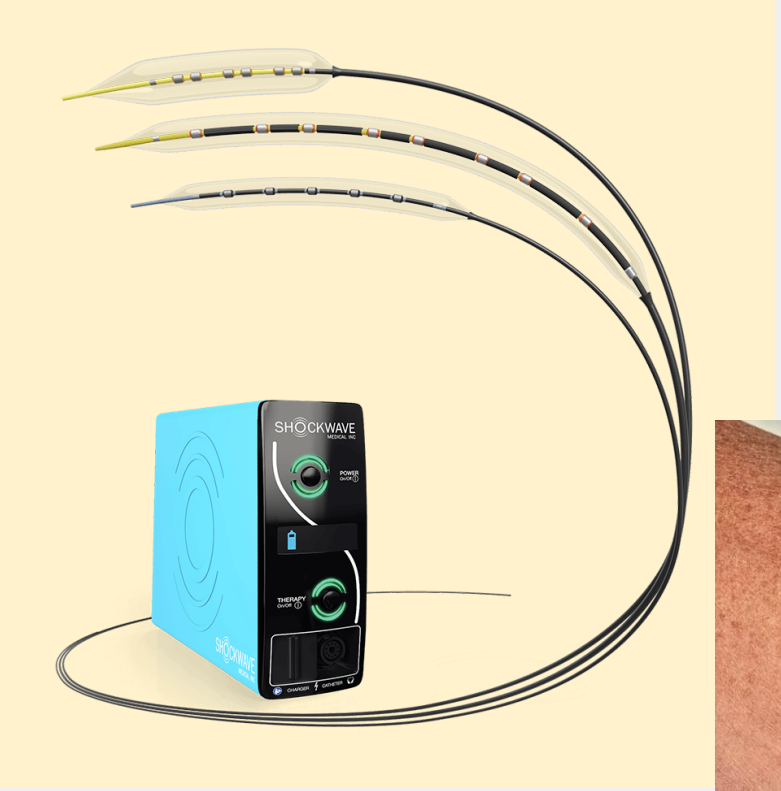
- Avoid large anastomoses with BA (max. 4 mm)
- Measure Qa intraoperatively and reduce it directly
- Correct RR and repeat, if necessary

Prevention Nr. 5: Prefer AVFs to AVGs

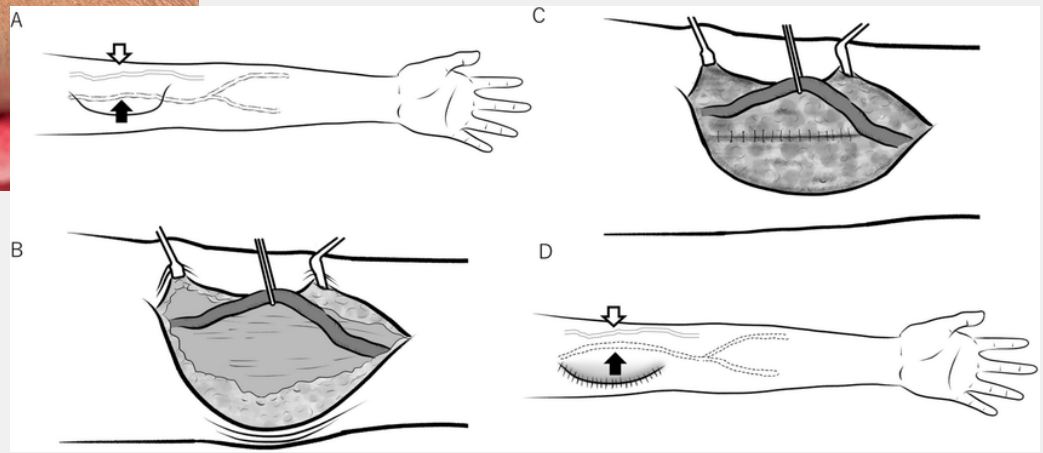
- Save the veins!
- Early referrals in CKD stage
- Educate patients and referrals
- Repeat mapping under regional anesthesia

Prevention Nr. 6:
be “creative” …. or controverse!

- Pre/intraoperative IVL
- “Undersized” VasQ
- Brachial artery transposition (BAT)


SHOCKWAVE
POWER
THERAPY




A
B
C
D

Conclusions

- HAIDI remains a relevant problem in vascular access care
- Individual Management
- Prevention must be considered in every patient
  - Rule out or treat preoperative lesions
  - Radial/Ulnar > Brachial artery
  - Small Brachial anastomosis
  - Tailor the Volume flow
  - AVF > AVG
  - Be creative (or not….)

www.drshahverdyan.com
robshahverdyan
robert-shahverdyan

Thank you!

VANDERBILT HEALTH

