Vascular access creation :

# RADAR – a new technique for an old problem

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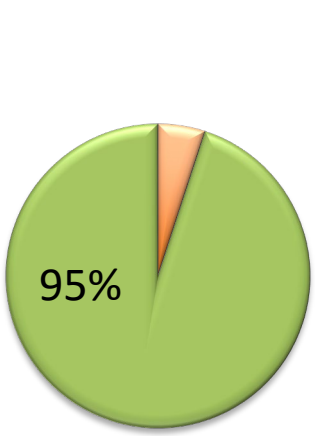
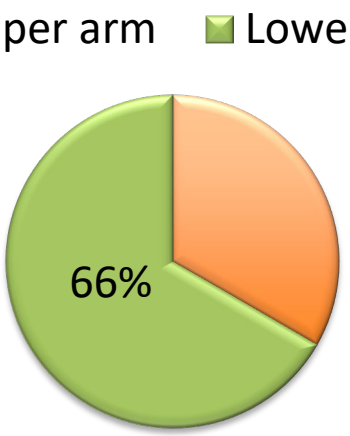
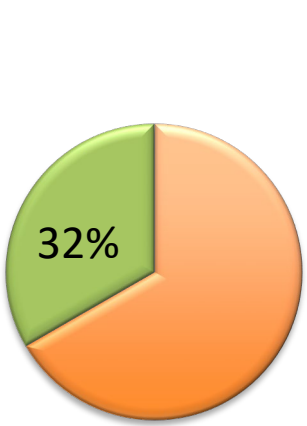
# When feasible, radial cephalic fistula is recommended as first-line access, but :




Upper arm  Lower arm

**Japan**

**Europe/ ANZ**

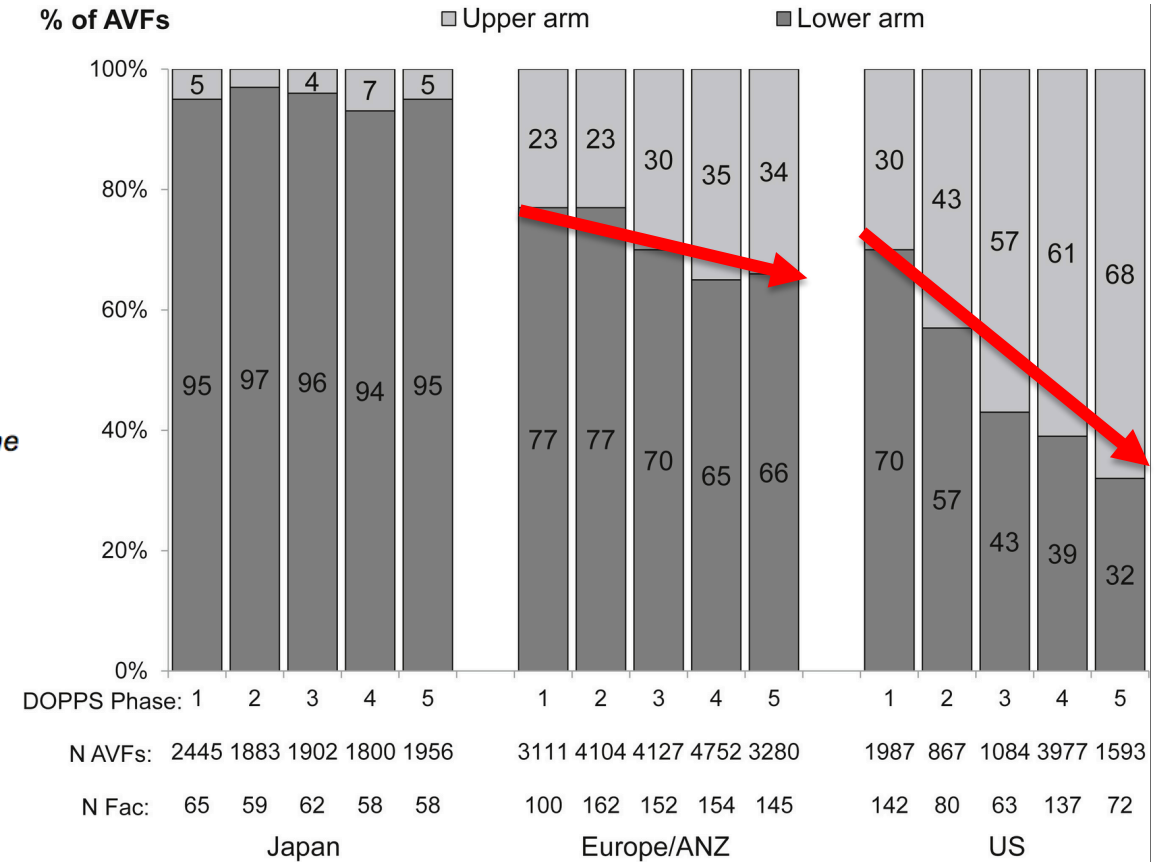
**North America**

*adapted from Pisoni et al. AJKD 2018 (DOPPS)*

# And yet called into question, especially across the Atlantic.

AJKD

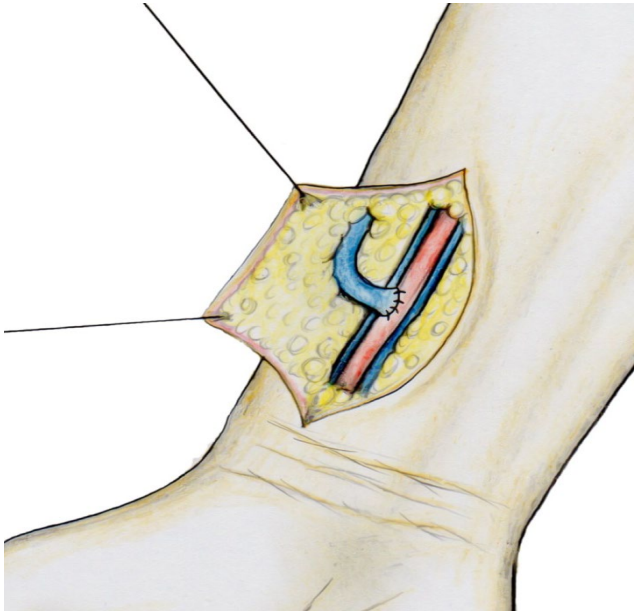
*Am J Kidney Dis. 71(4): 469-478. Published online November 29, 2017.*




DOPPS
1 : 1996-2001
2 : 2002-2004
3 : 2005-2008
4 : 2009-2012
5 : 2012-2015

# Why ?

**Radial-cephalic conventional fistula**



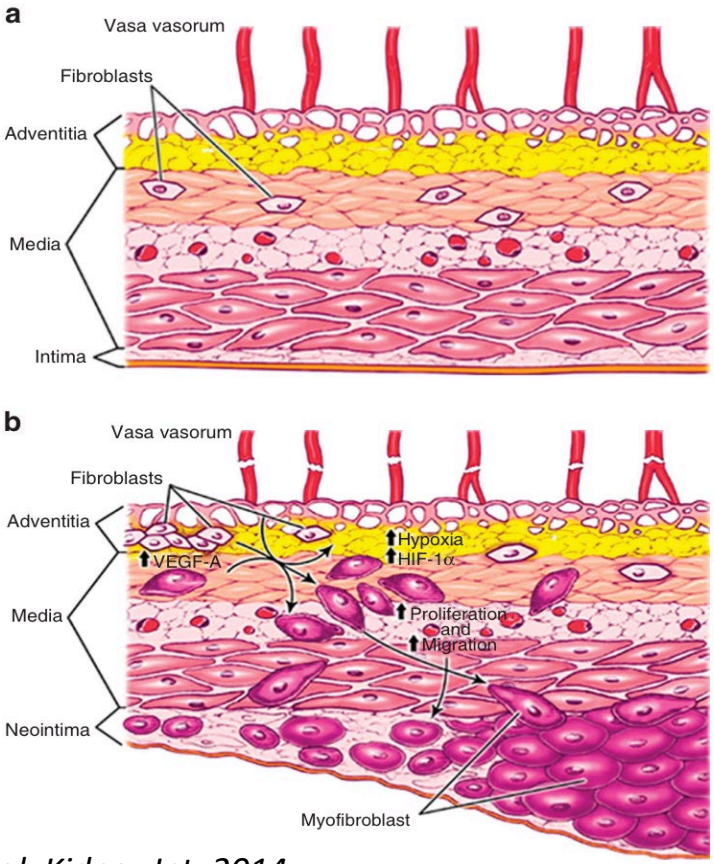
6 weeks later

**Juxta-anastomotic stenosis**

**Up to 77%**[1]

*Badero et al. Am J Kidney Dis 2008*

# Hypothesis : surgical dissection damages the vein




*Yang et al. Kidney Int. 2014*

Healthy vessel wall

**SURGICAL DISSECTION**

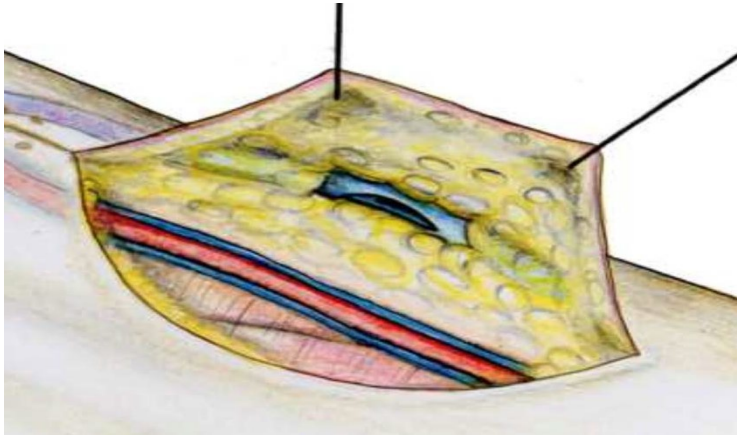
Vasa Vasorum damaged
**Wall ischemia**

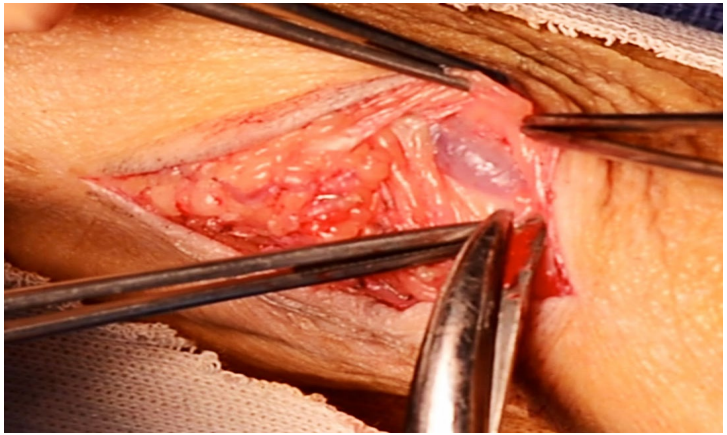
Migration
Differentiation
Proliferation

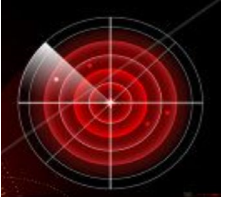
**STENOSIS FAILURE**

# The minimal dissection concept

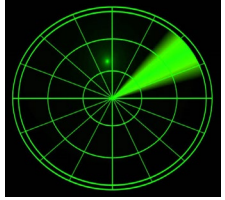
1. **No circumferential dissection** of the vein
2. Only **the anterior-medial aspect** of the vein
3. Only **the length needed** for the anastomosis
4. **NO CLAMPS, NO LOOPS** on the vein (tourniquet)







# RADAR



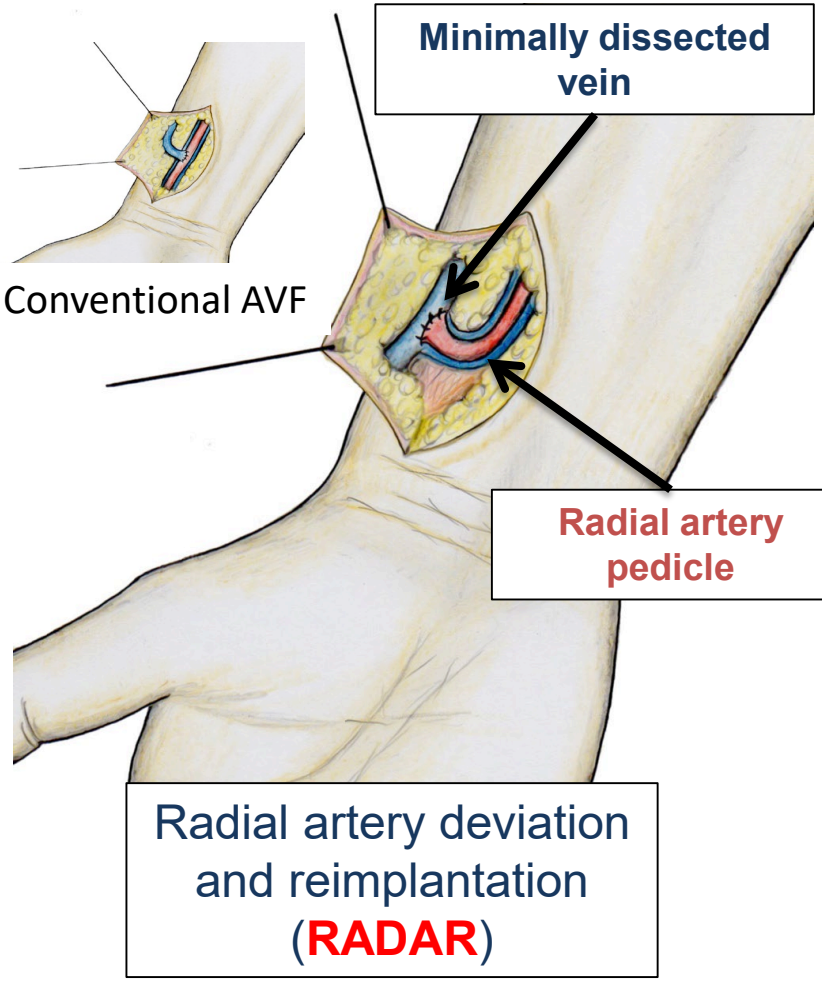
If the vein can’t join the artery…

**… the artery joins the vein.**

**PURPOSE : to avoid juxta-anastomotic stenosis**

**Principles of RADAR surgery** :

1. Minimal dissection of the vein
2. Form a harmonious loop with the arterial pedicle



# THE RADAR TECHNIQUE

## (Radial Artery Deviation and Reimplantation)

Radial artery deviation and reimplantation inhibits venous juxta-anastomotic stenosis and increases primary patency of radial-cephalic fistulas for hemodialysis

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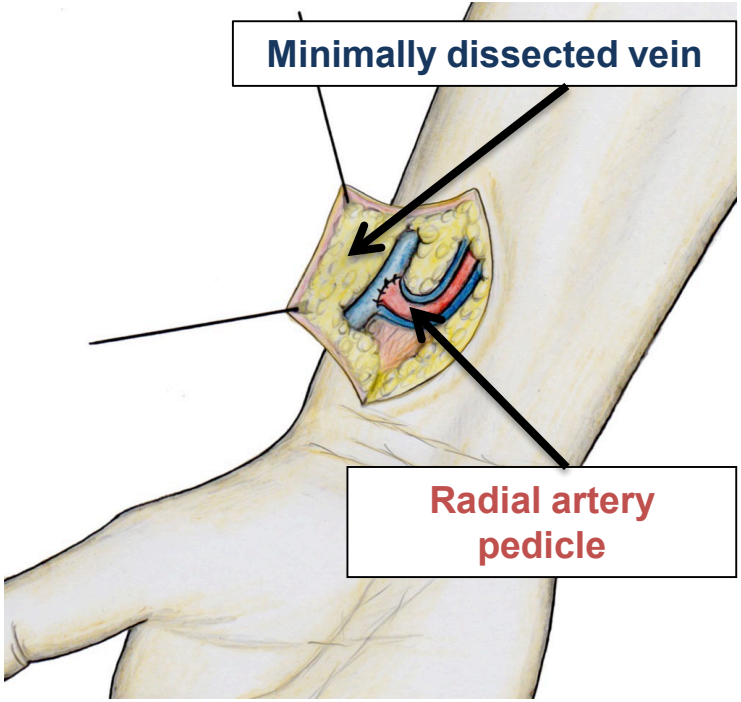
*J Vasc Surg 2016;64:698-707*

**50 RADAR vs. conventional AVFs**

**92% maturation at 3 months, vs. 71%**
**2% venous JAS, vs. 41%**
**10% reintervention, vs.74%**




RADAR