# Transradial access postgraduate course: Optimal technique for puncture


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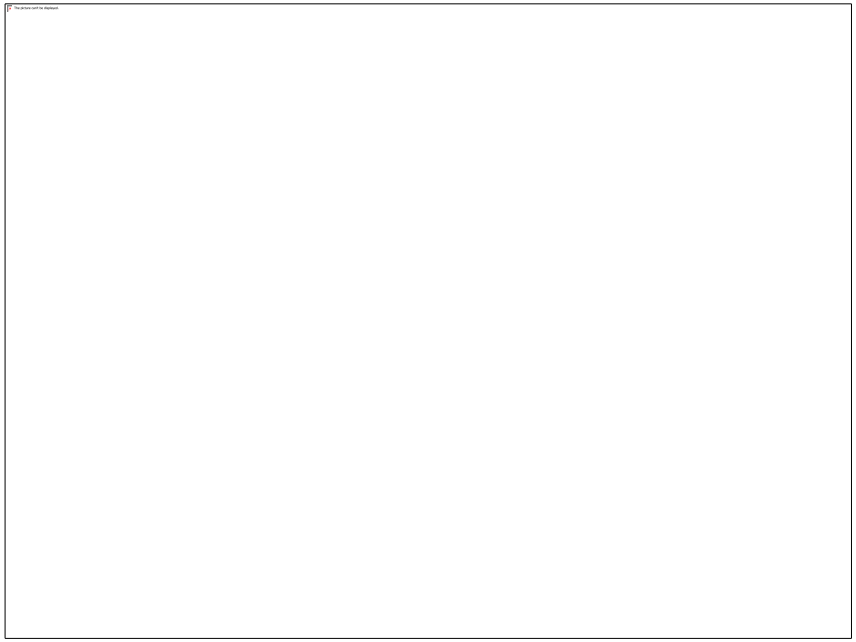
Herzklinik Ulm

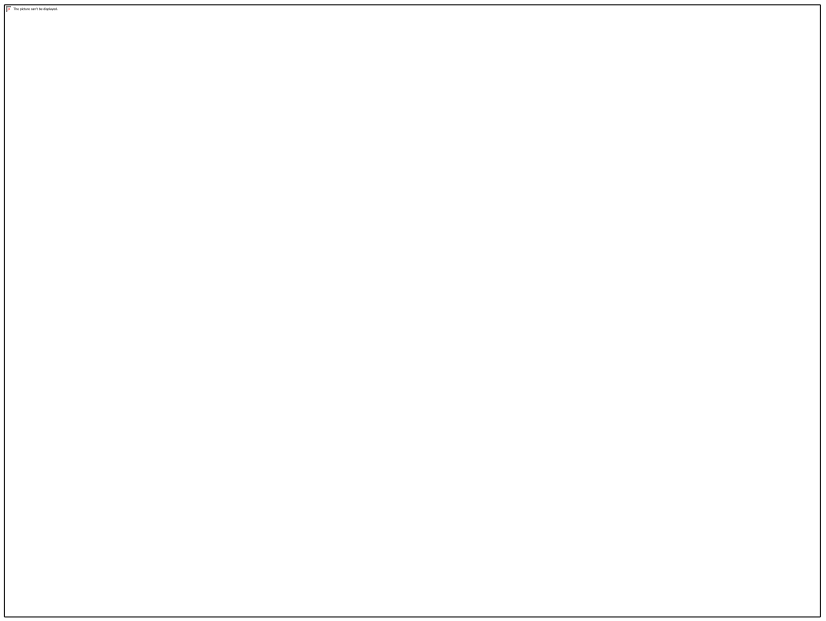
# Simultaneous access from right radial and femoral artery in a CTO case



*By courtesy of Dr. Hoffmann*

- **6F sheath right radial artery**
- **5F sheath right femoral artery**

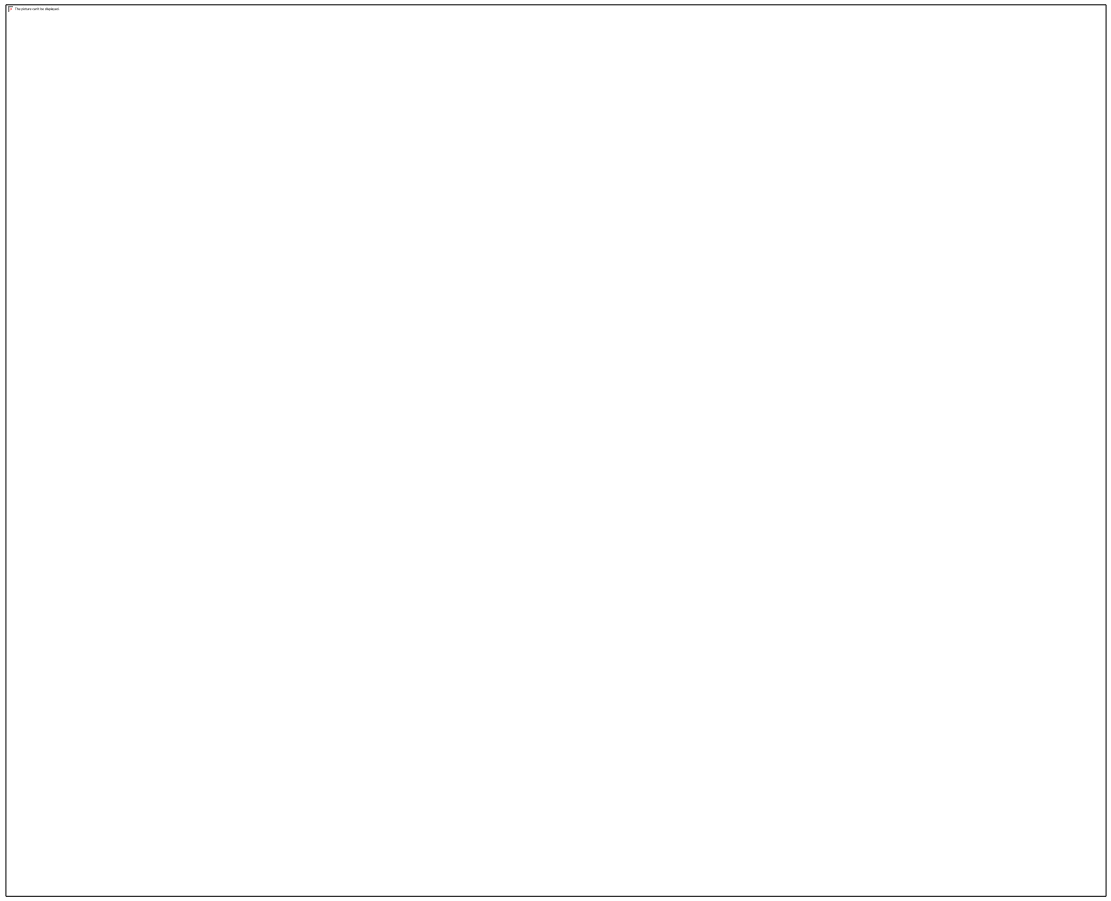
# The initial decisions



*If you need a Doppler examination to localize the radial artery the transfemoral access is probably an appropriate alternative*

- **Left or right radial artery ?**
- **Is the chosen radial artery at all suitable for sheath insertion?**
- **Is the radial artery needed for something else (eg. pending hemodialysis)?**

# Left or right radial artery?

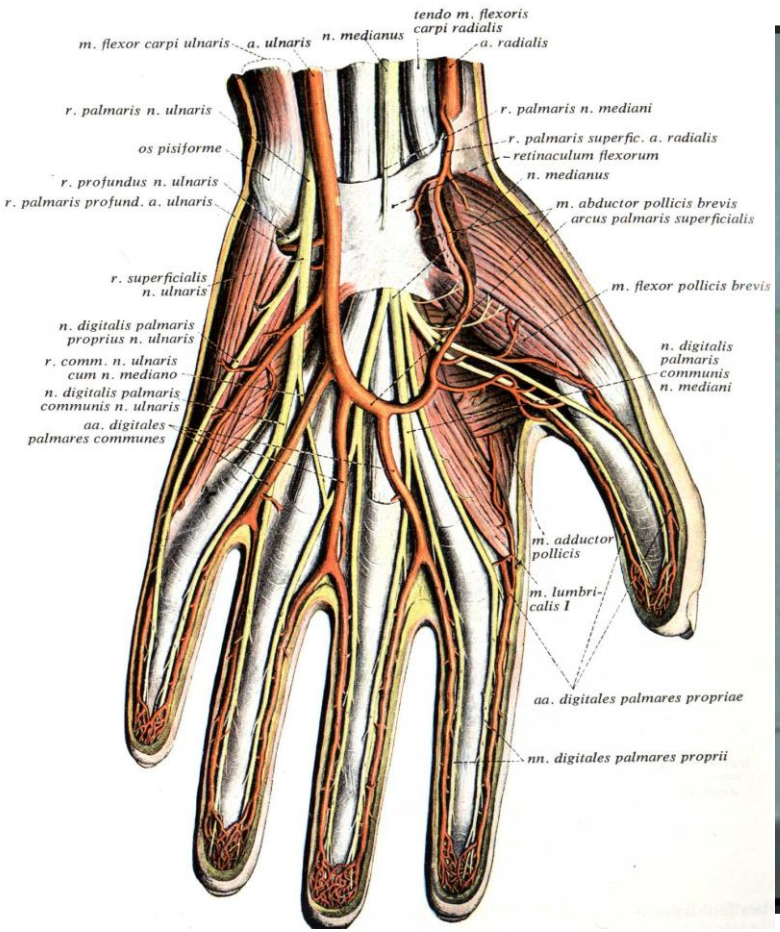


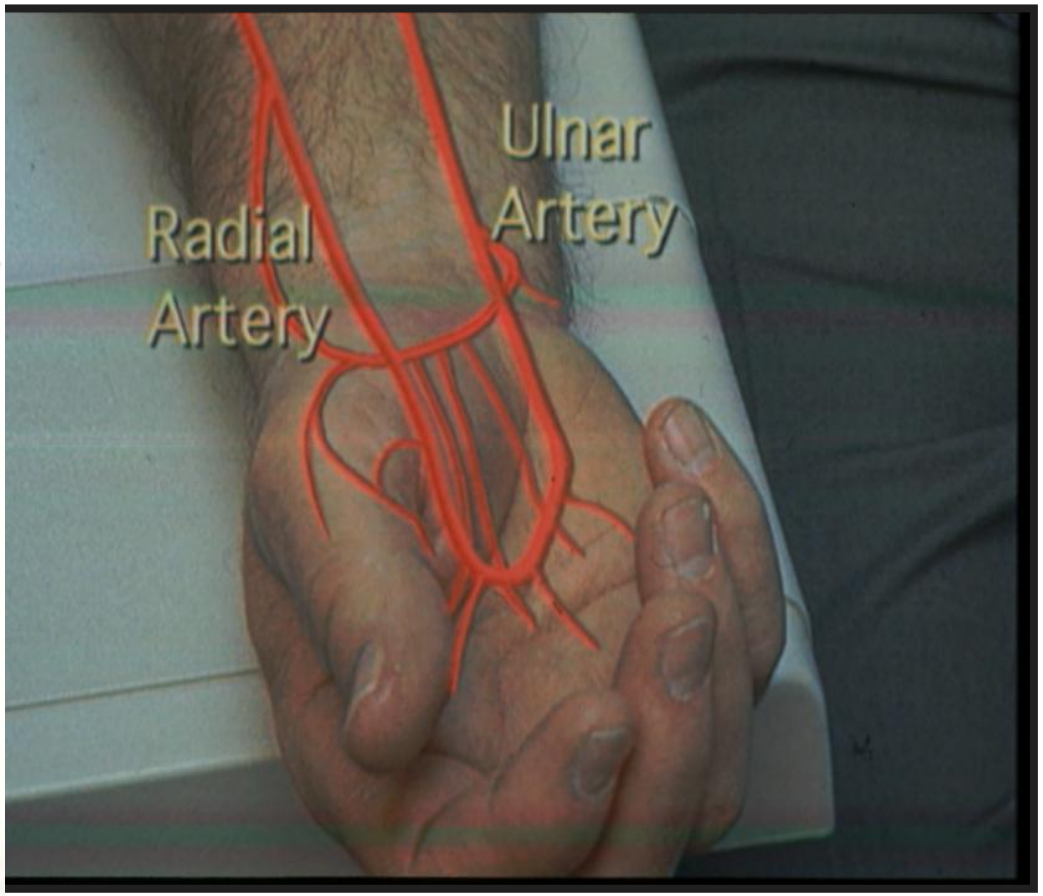
*Obvious implication on accessibilty of different vessels like a LIMA-graft, material selection and back-up*

# Left or right radial artery?

*Probably lower radiation exposure of the operator but potentially undesirable orthopedic effects with the left radial access !*

# Sufficient collateral arterial supply of the hand?




*To test or not to test? -*

*The procedure might induce a chronic radial occlusion*

# Is the collateral supply sufficient?

## *Allen Test*

*Too subjective and quite often pathological !*

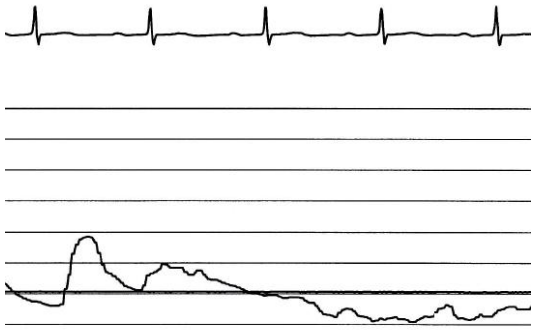
# Is the collateral supply sufficient?

## *Oxymetry*

# Barbeau Test

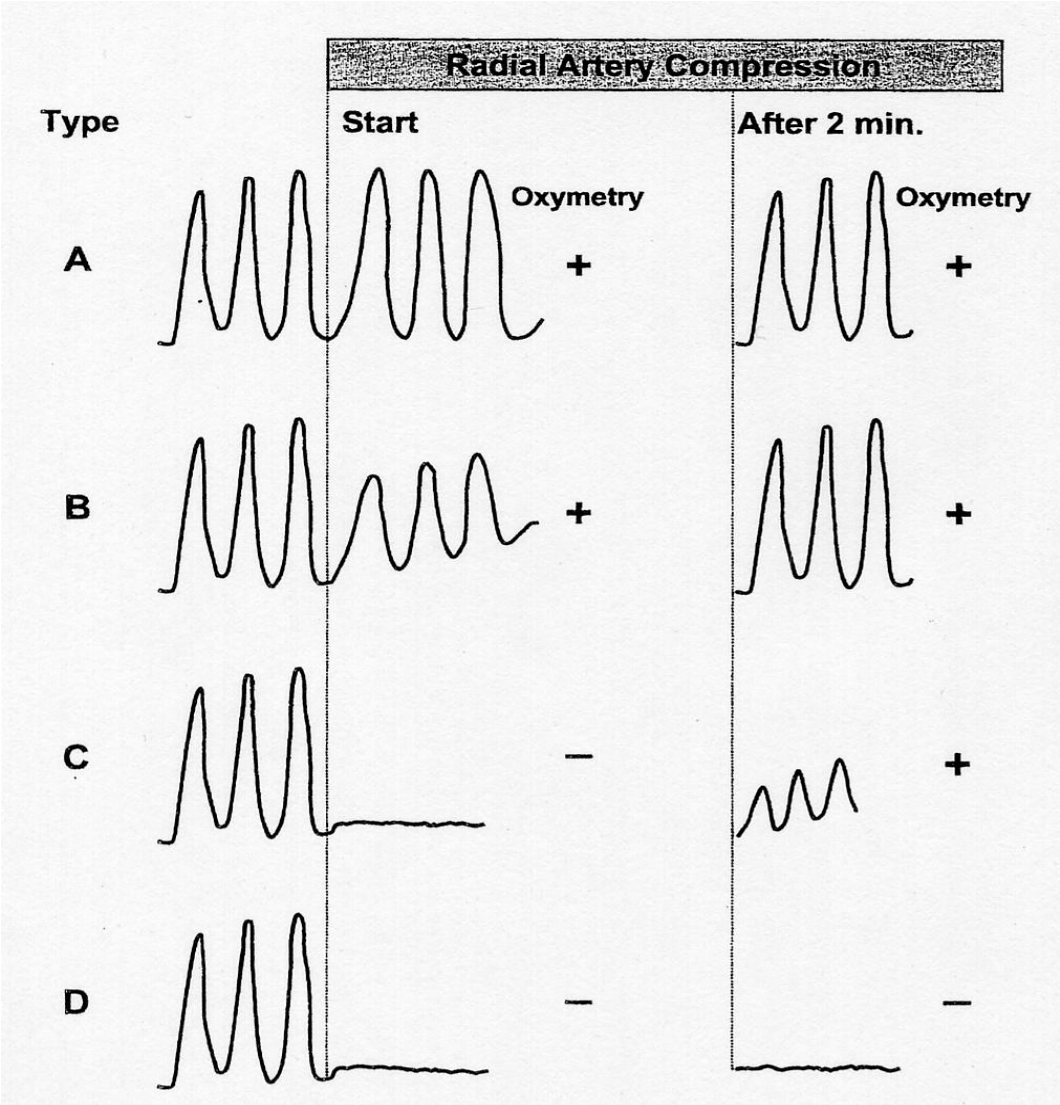
Step 1

Step 2



Step 3

# Results of the Barbeau Test



# Patient preparation for radial access

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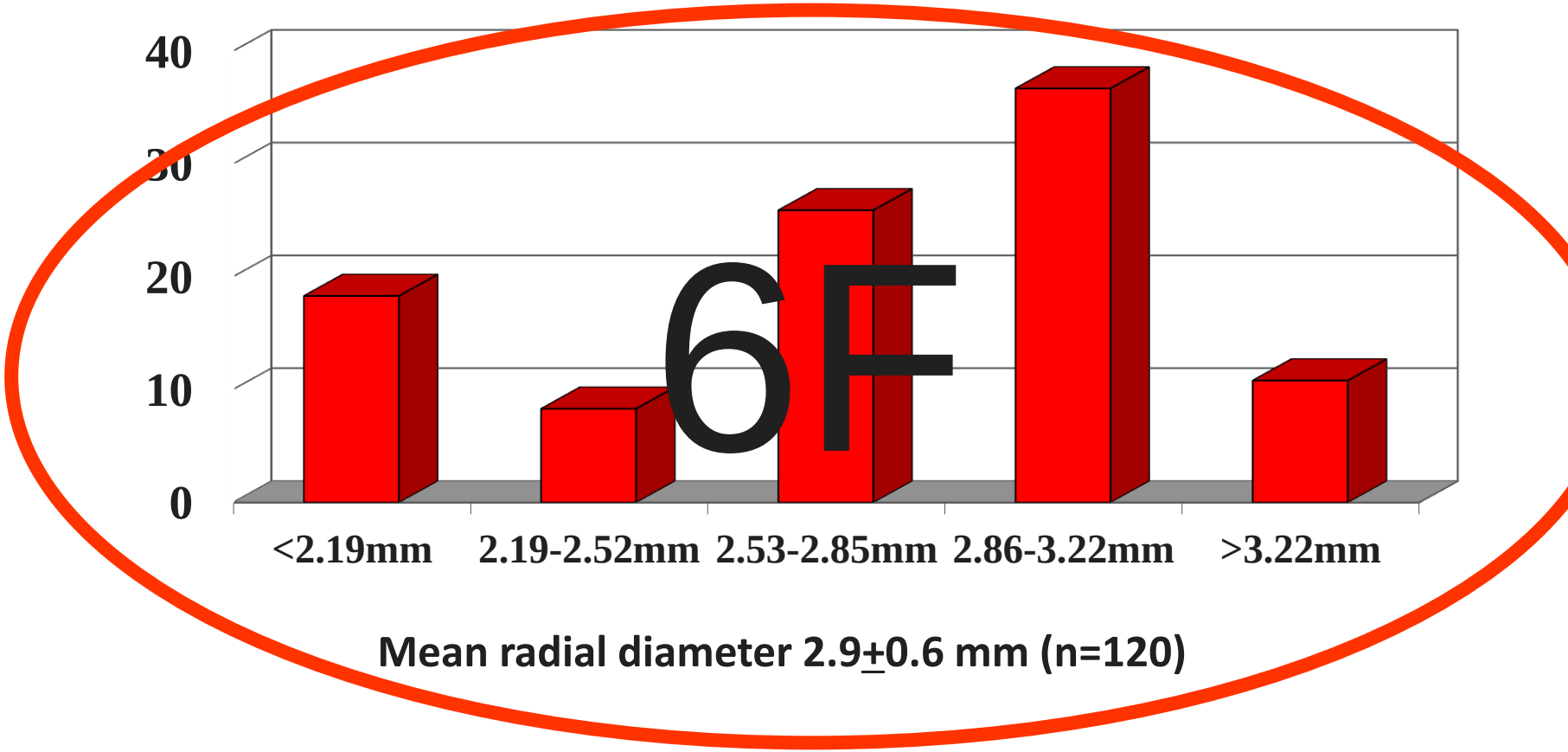
*Extension of the wrist and fixation of the hand!*

# Patient preparation for radial access

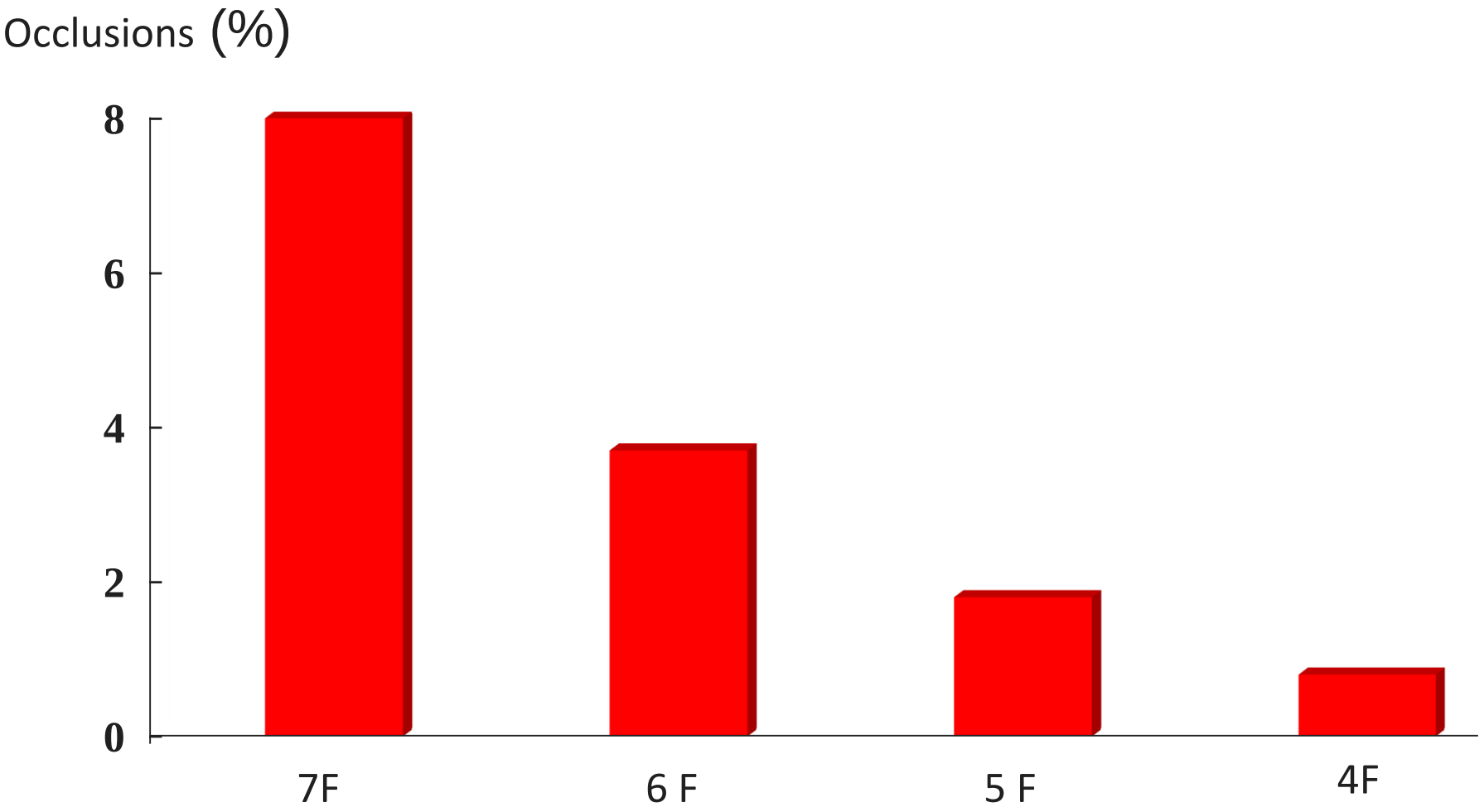
*With left radial access it is not advisable to just lay patients ´s forearm on his abdomen – gravity is strong !*

# Sheath size selection




Louvard et al

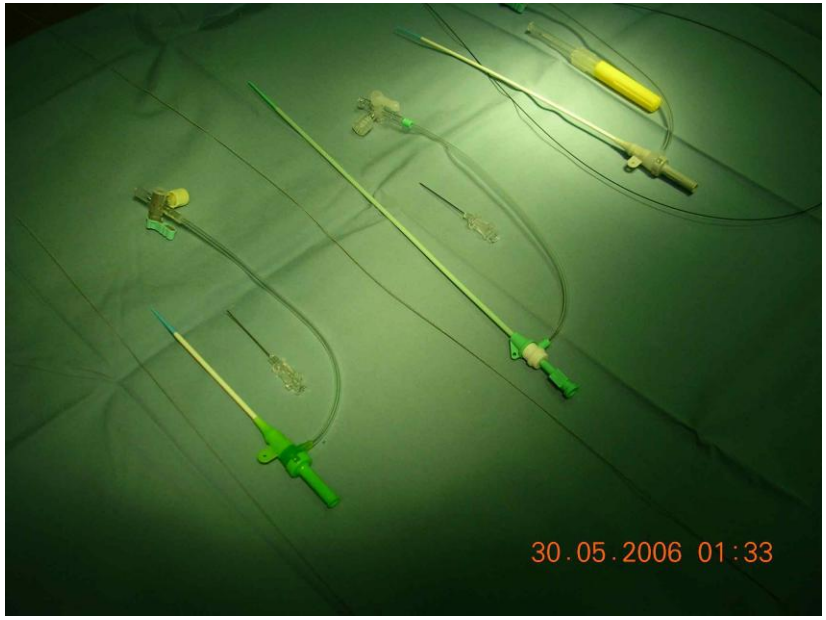
# Occlusion rate of the radial artery depends on sheath size




*Initial choice of a 5F or 6F sheath for diagnostic procedures ?*

Spaulding CCD 1996

# Sheaths and sheathless solutions




Terumo Radifocus II 16 cm hydrophilic

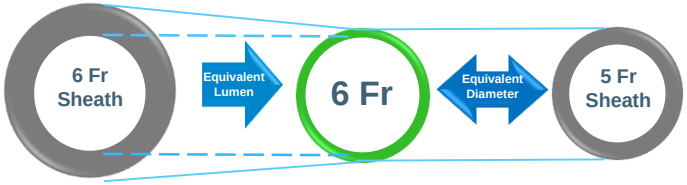
Cordis Introducer 23 cm

Terumo Radifocus II 7 cm

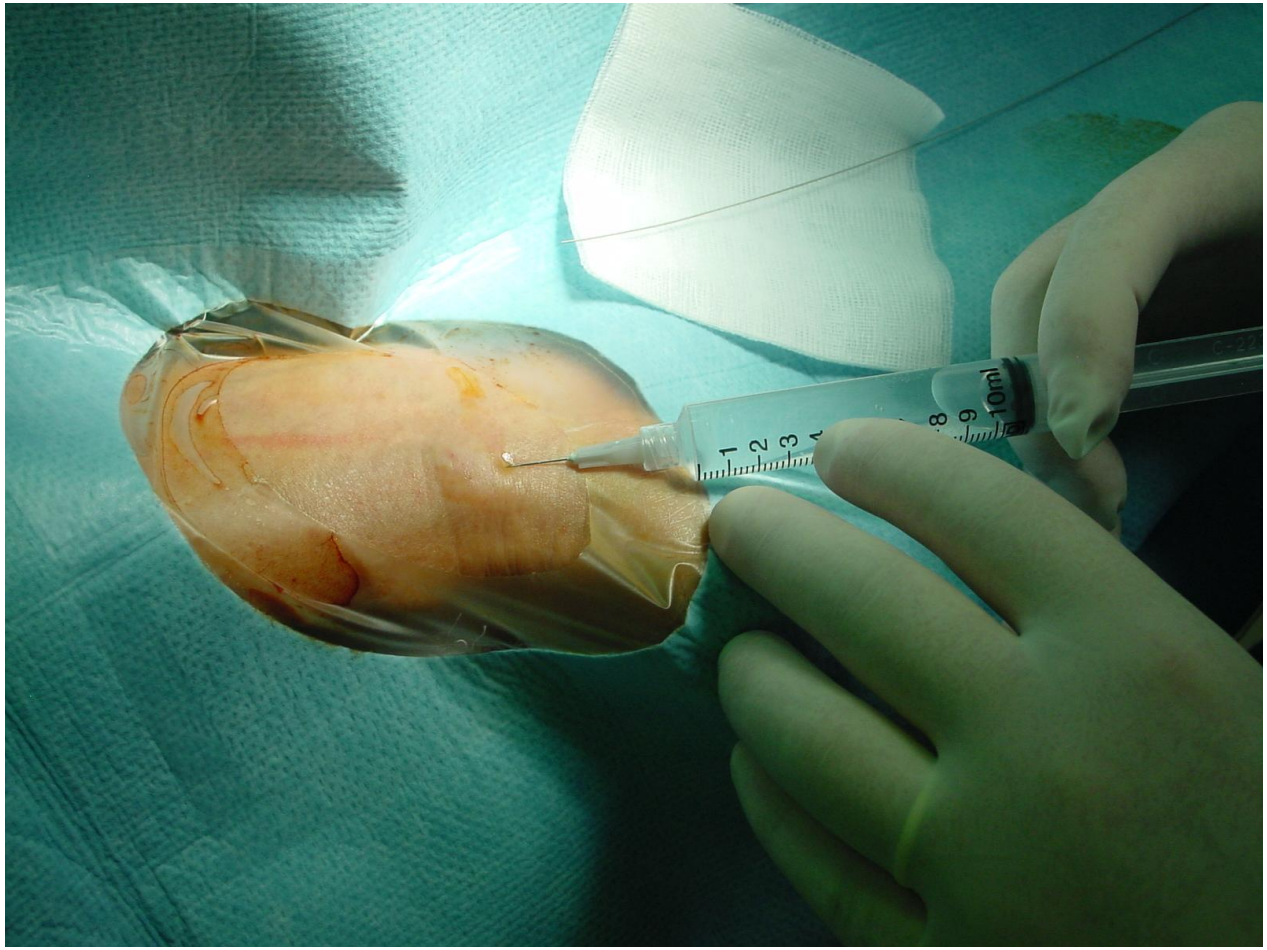

Asahi Eaucath: sheathless guiding catheter

# Thin wall radial sheaths


Terumo Glidesheath Slender: inner diameters: 5F, 6F, 7F; outer diameters comparable to conventional 4F, 5F, 6F sheaths

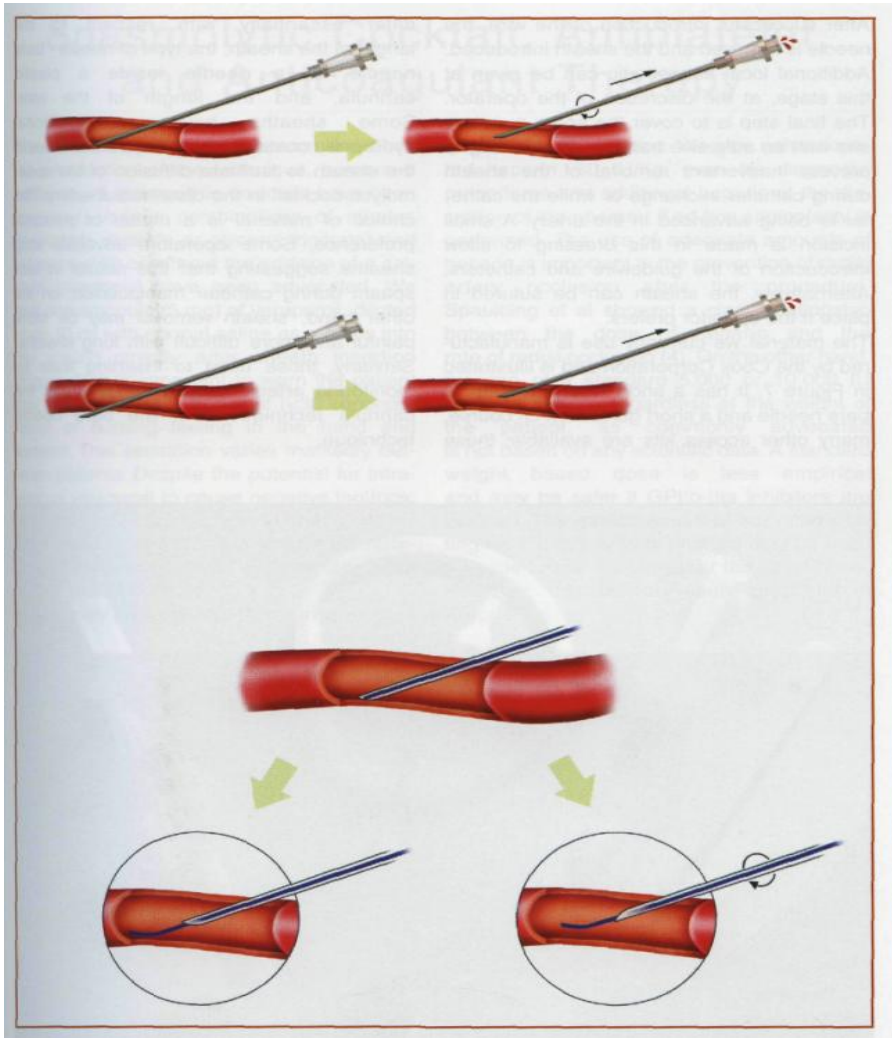


# Puncture of the radial artery




*Local anesthesia with 1-2 ml*

# Puncture of the radial artery



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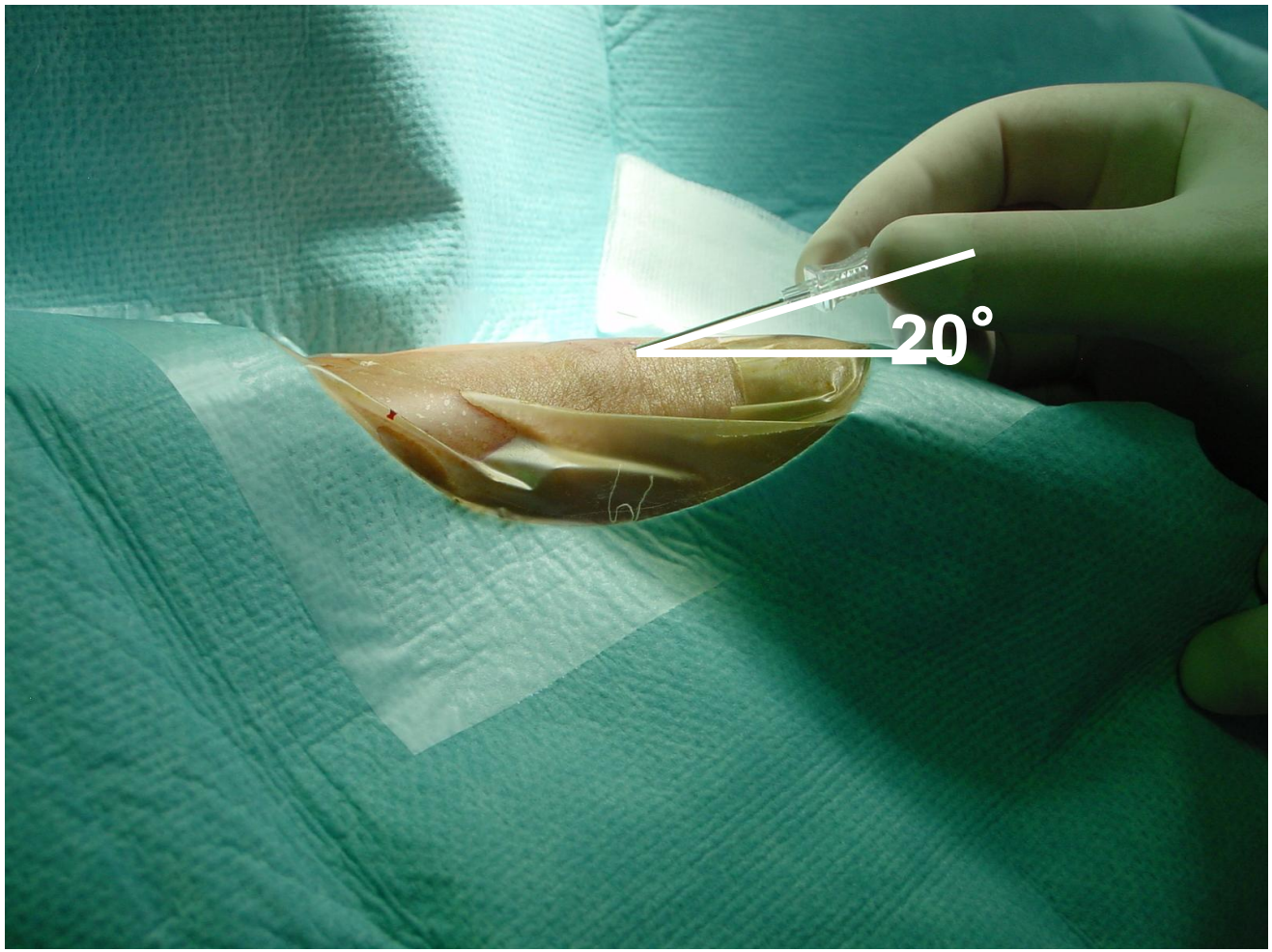
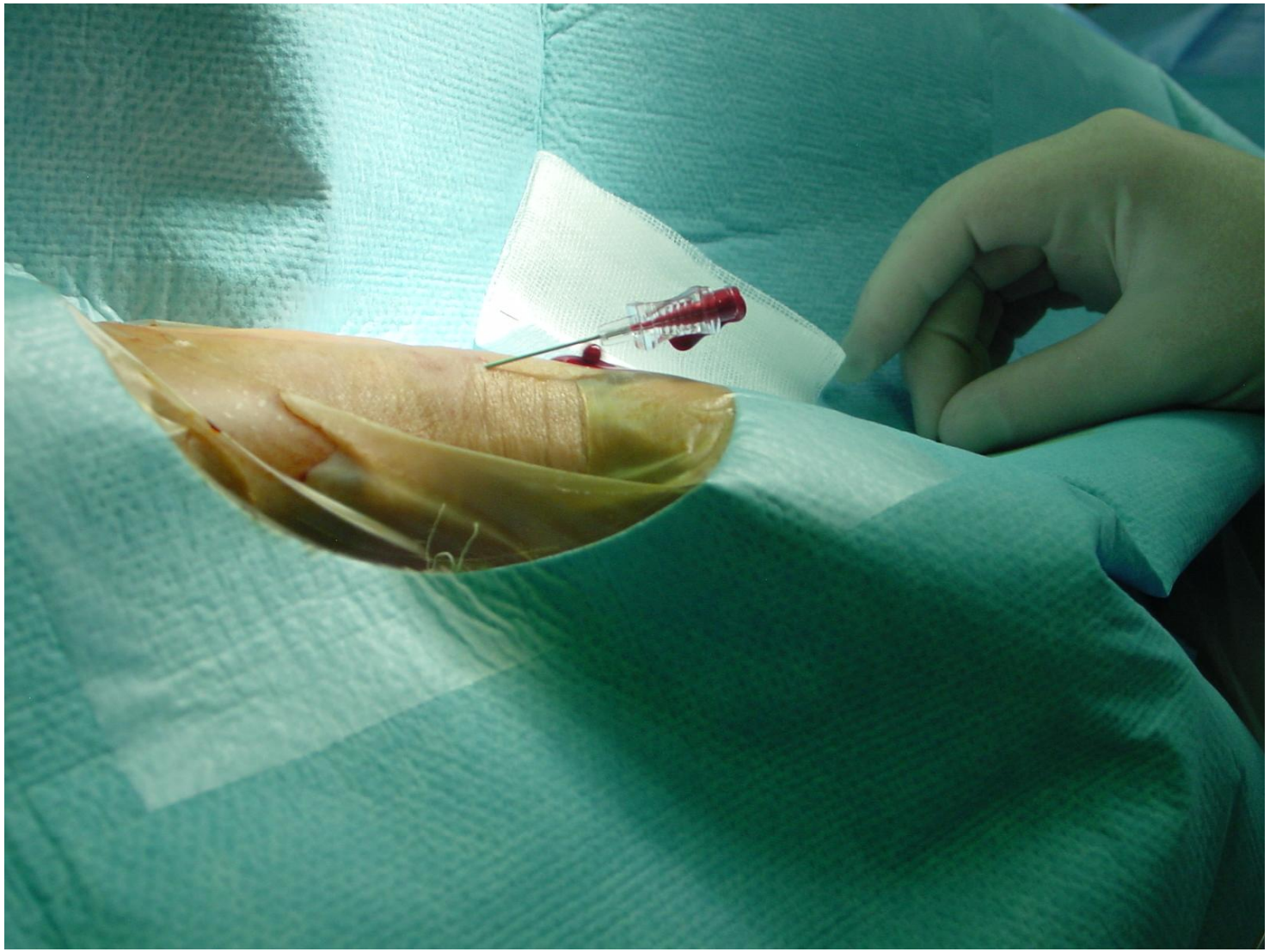
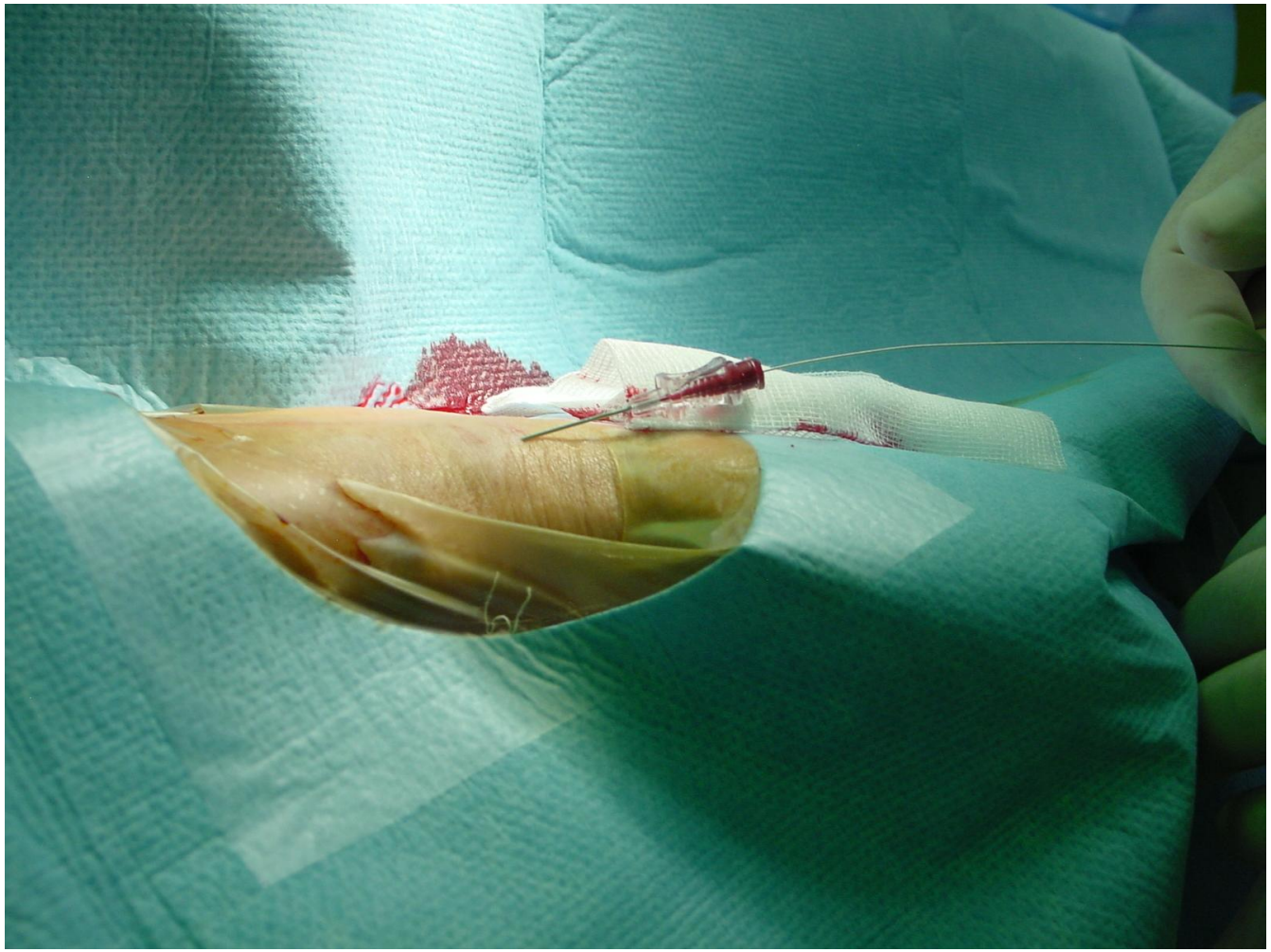



*Personal preference: puncture site 2 cm abover the styloid process with a short steel needle (alternative: venous cannula technique)*

# Puncture of the radial artery



# Puncture of the radial artery



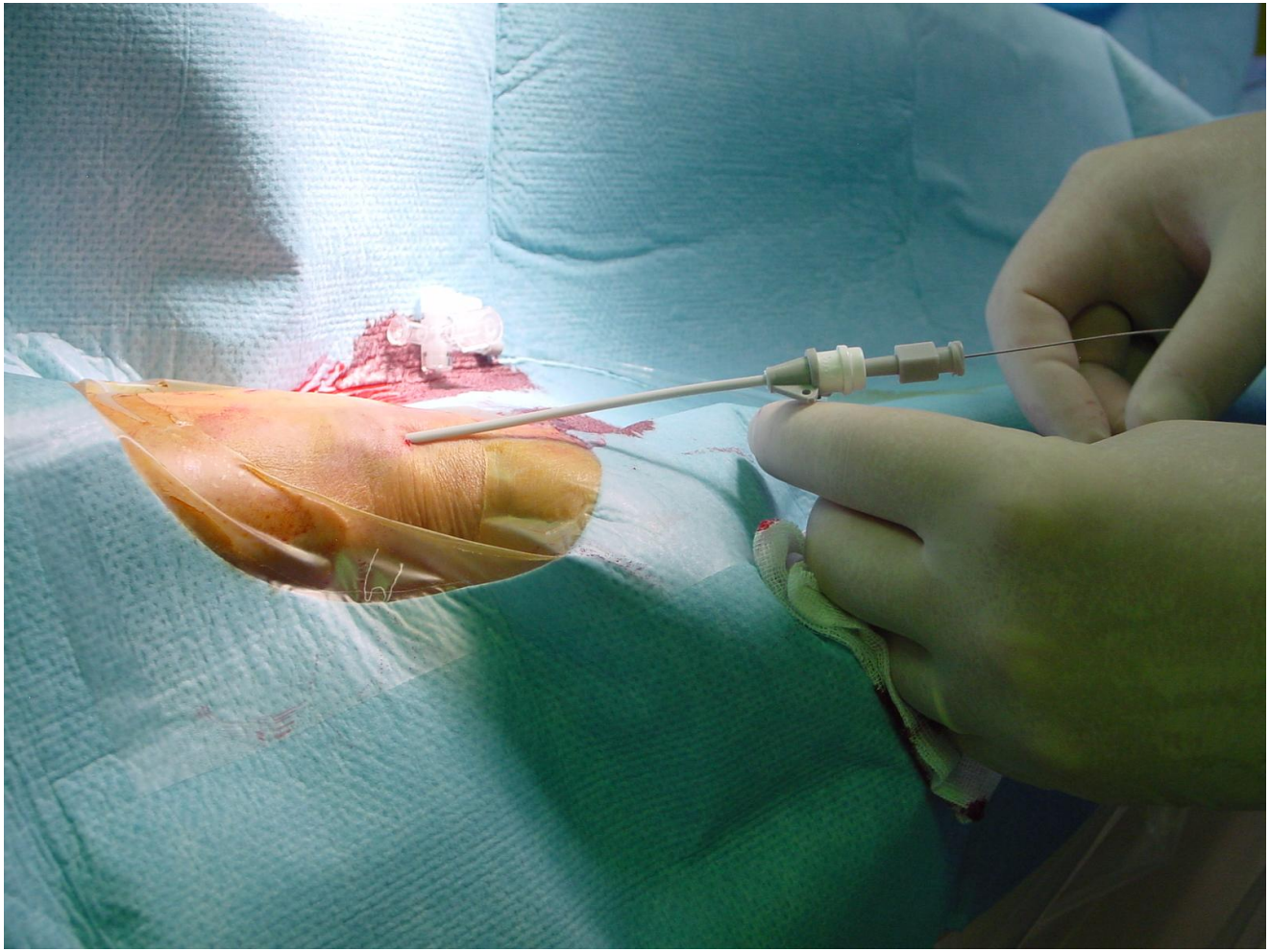
*Polymer-coated or stainless steel wire?*

# Puncture of the radial artery

**Wire does not advance after successful puncture:**

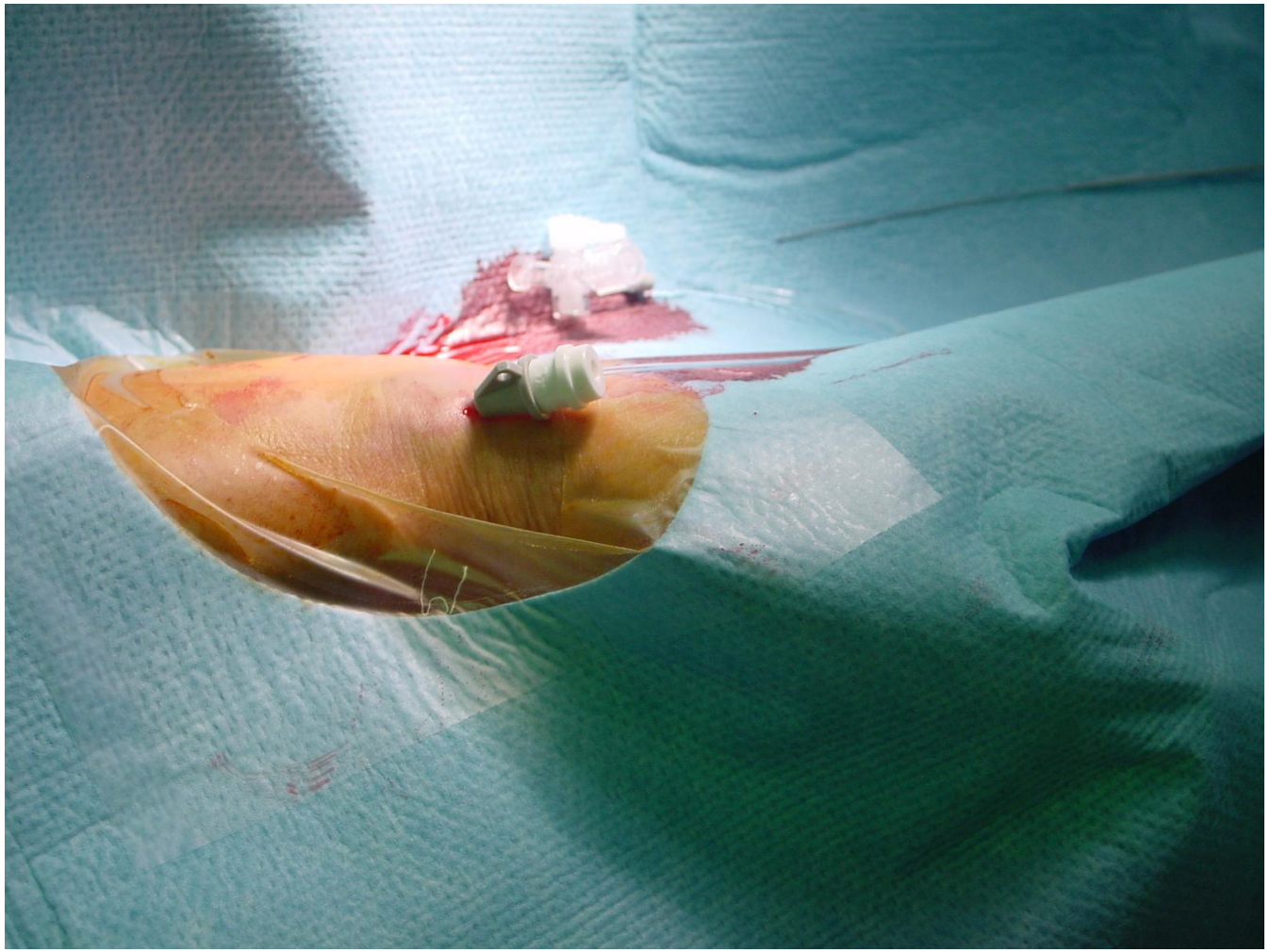
- **Pull needle a little bit**
- **Bend the wire**
- **Angio (spasm, dissection, loop, sidebranch )**

# Puncture of the radial artery



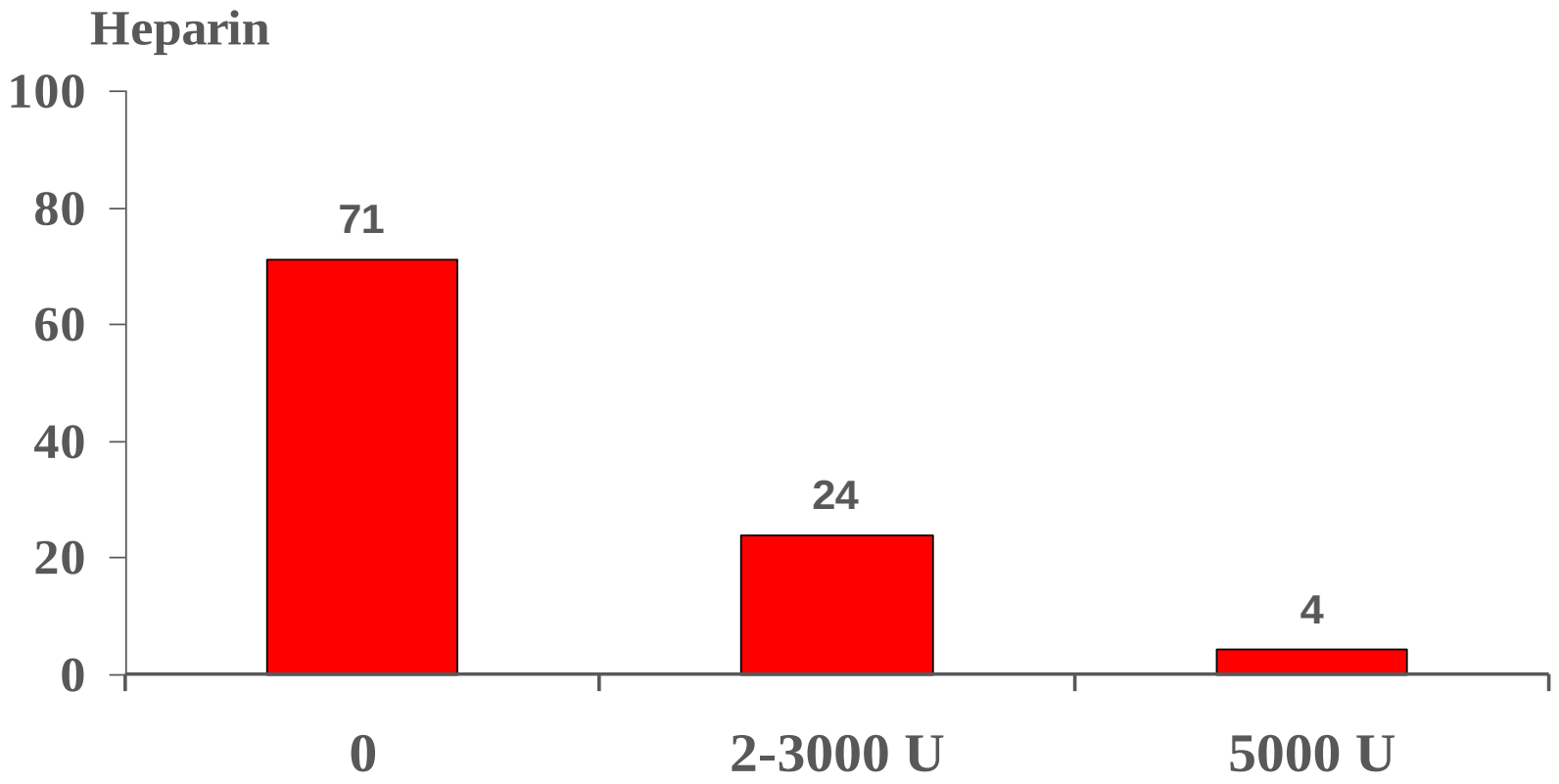
*Our strategy with the Terumo sheathes: No skin cut !*

# Puncture of the radial artery



# Anticoagulation

*Predictive factor of radial occlusion at 2 months after TR Coronary angiography*




*Our strategy: i.v. Bolus of 5000 I.U. of unfractionated heparin after radial puncture*

Lefèvre et al, Arch Mal Cœur 1996

**Thank you for your attention!**