

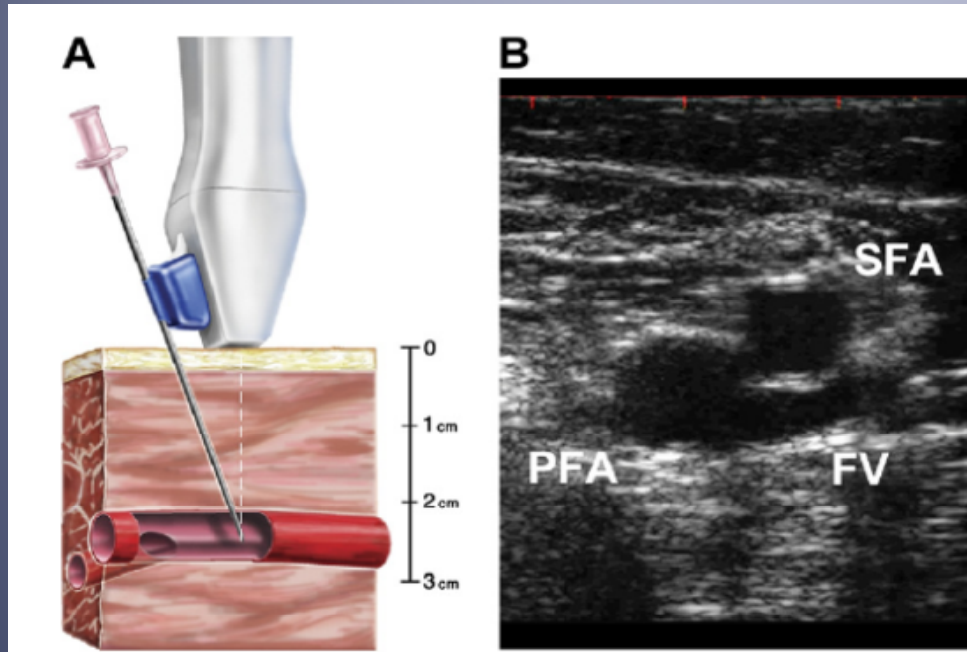
# US guided arterial access for complex coronary and peripheral interventions

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- No disclosures

# US use in transfemoral access



No Gender Specific analysis  
VCD use higher in US group (  $p = 0.04$  )

Seto et al. JACC Interv 2010

**Table 2. Sheath Placement According to Various Published Definitions of a High Stick**

Sheath Placement Above the CFA Bifurcation and	Fluoroscopy (n = 490)	Ultrasound (n = 499)	p Value
Below the origin of the IEA (6)	408 (83.3%)	431 (86.4%)	0.17
Below the most inferior reflection of the IEA (4)	391 (79.8%)	401 (80.4%)	0.82
Below the top one-third of the femoral head (5,7)	355 (72.4%)	361 (72.3%)	0.97
Below the top of the femoral head (6)	427 (87.1%)	447 (89.6%)	0.23
Anywhere over the femoral head (9)	407 (83.1%)	414 (83.0%)	0.98

Values are n (%). See references as noted.  
IEA = Inferior epigastric artery; other abbreviation as in Table 1.

**Table 4. Vascular Access Complications**

Complication	Fluoroscopy (n = 501)	Ultrasound (n = 503)	p Value
Hematoma $\geq 5$ cm	11 (2.2%)	3 (0.6%)	0.034
Pseudoaneurysm	0	1	NS
Dissection	3	2	NS
Access bleeding, transfusion	2	1	NS
Hematoma with DVT	1	0	NS
Any complication	17 (3.4%)	7 (1.4%)	0.041

Values are n (%) or n.

DVT = deep venous thrombosis.

# US use in transradial access- what is the rationale behind it?

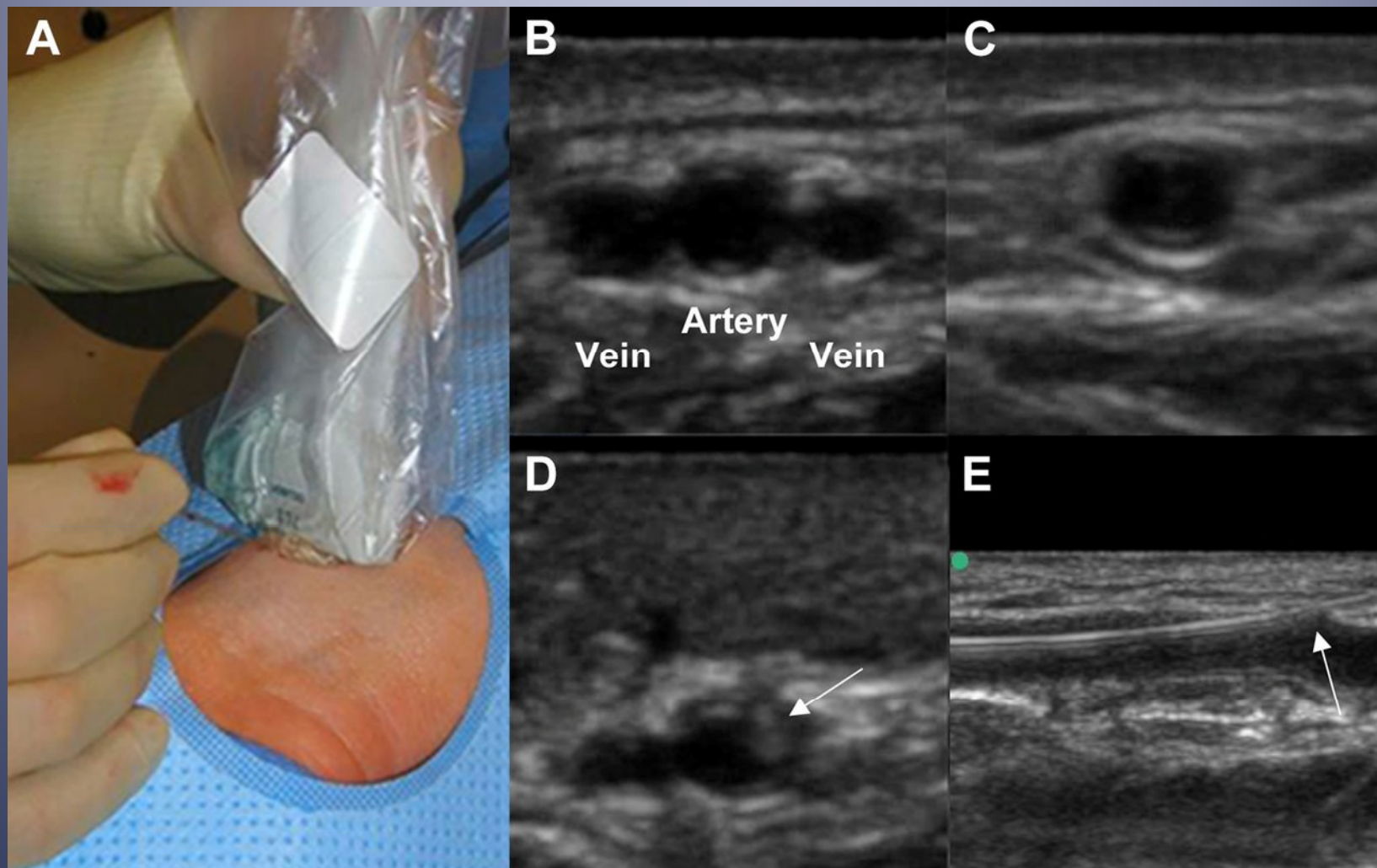
## What we know already

- Transradial PCI associated with reduced vascular site complications
- Transradial PCI associated with increased patients comfort
- Transradial approach associated with reduced mortality in STEMI patients

## What we do not realize

- Learning curve to transradial catheterization still steep
- Rate of transradial PCI in US still low (16%)
- 57% transradial failure due to failure to access radial artery ( small size, spasm, mobility, calcification, anatomic anomalies)

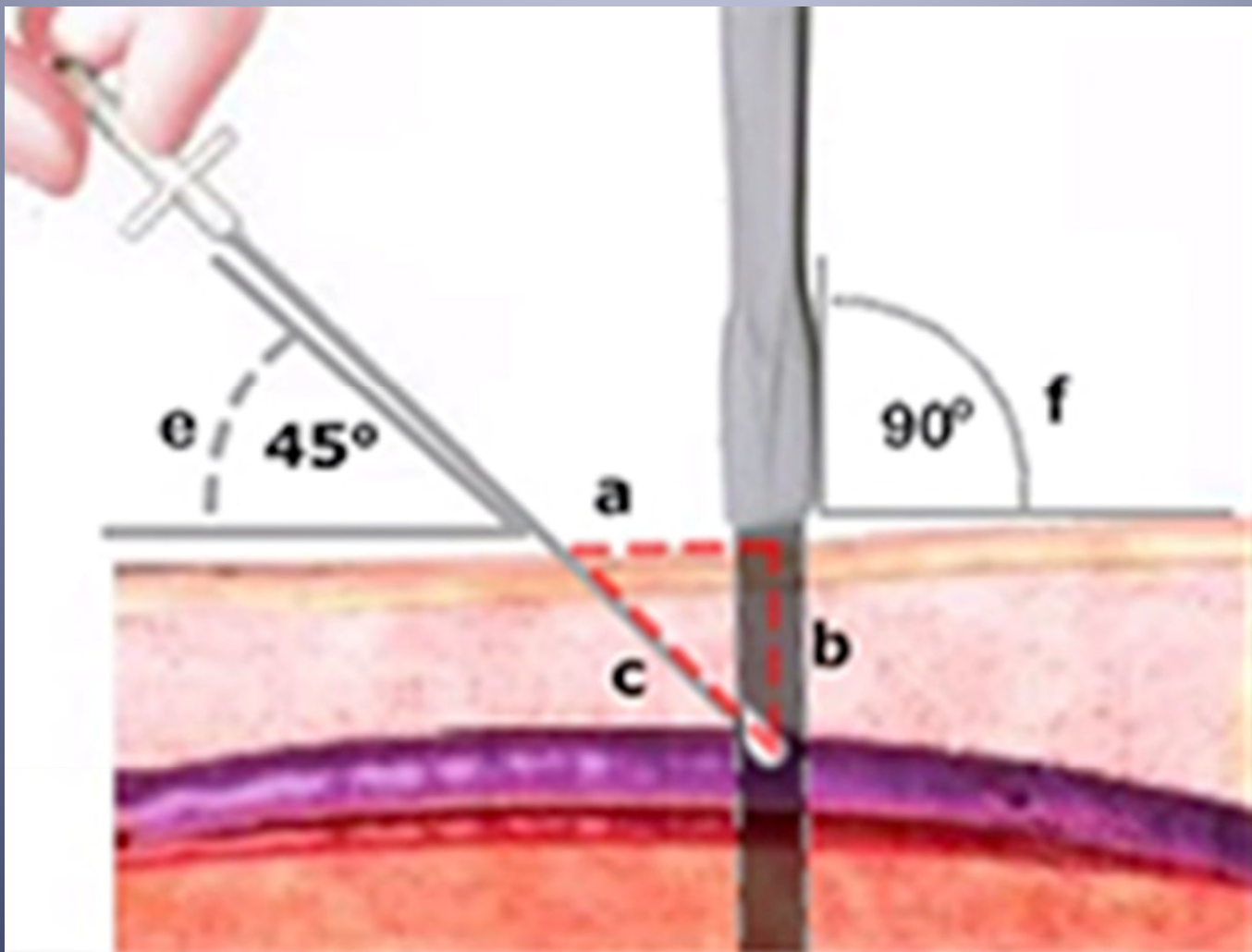
## Technique



Arnold H. Seto et al. JGIN 2015;8:283-291



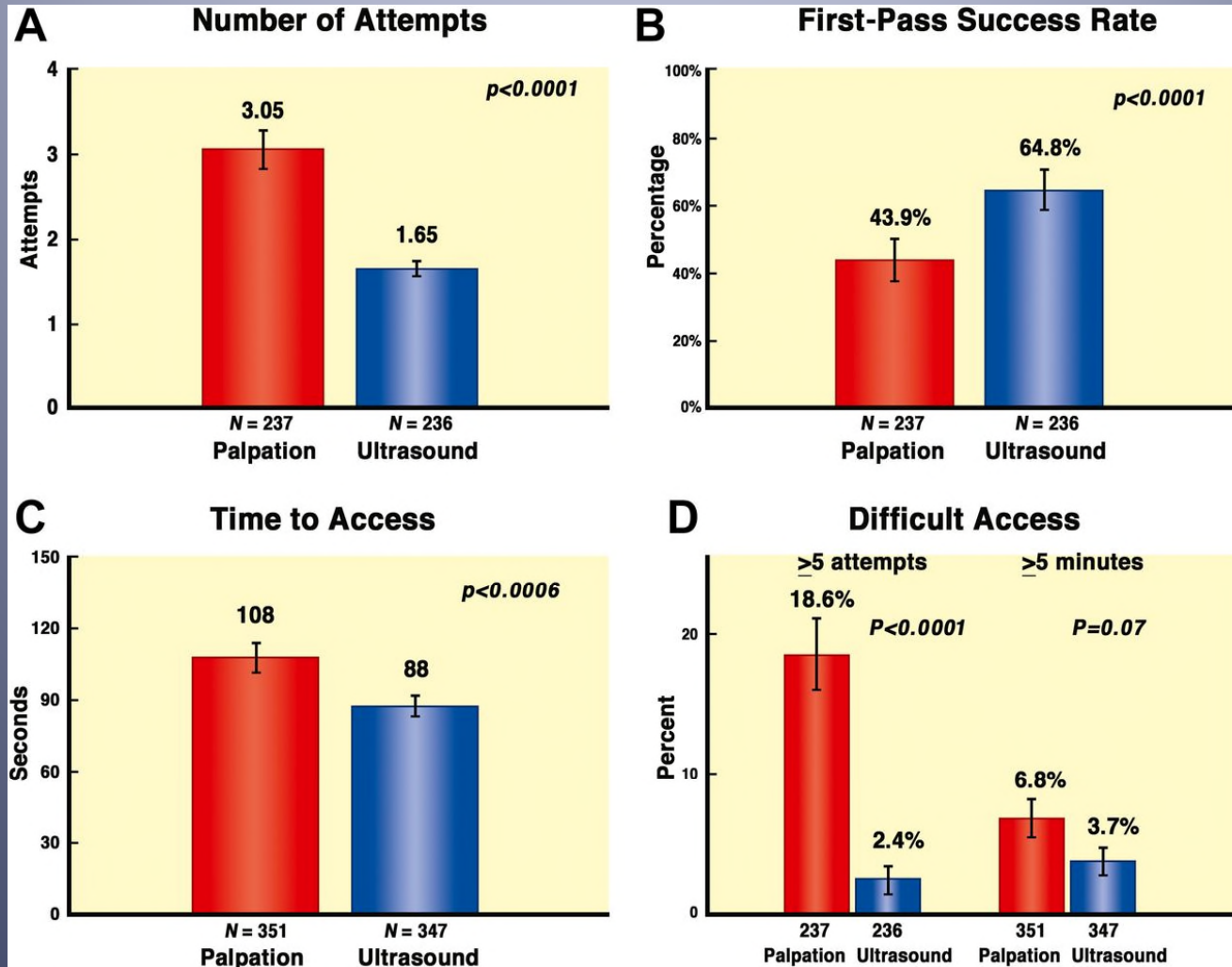
# Technique



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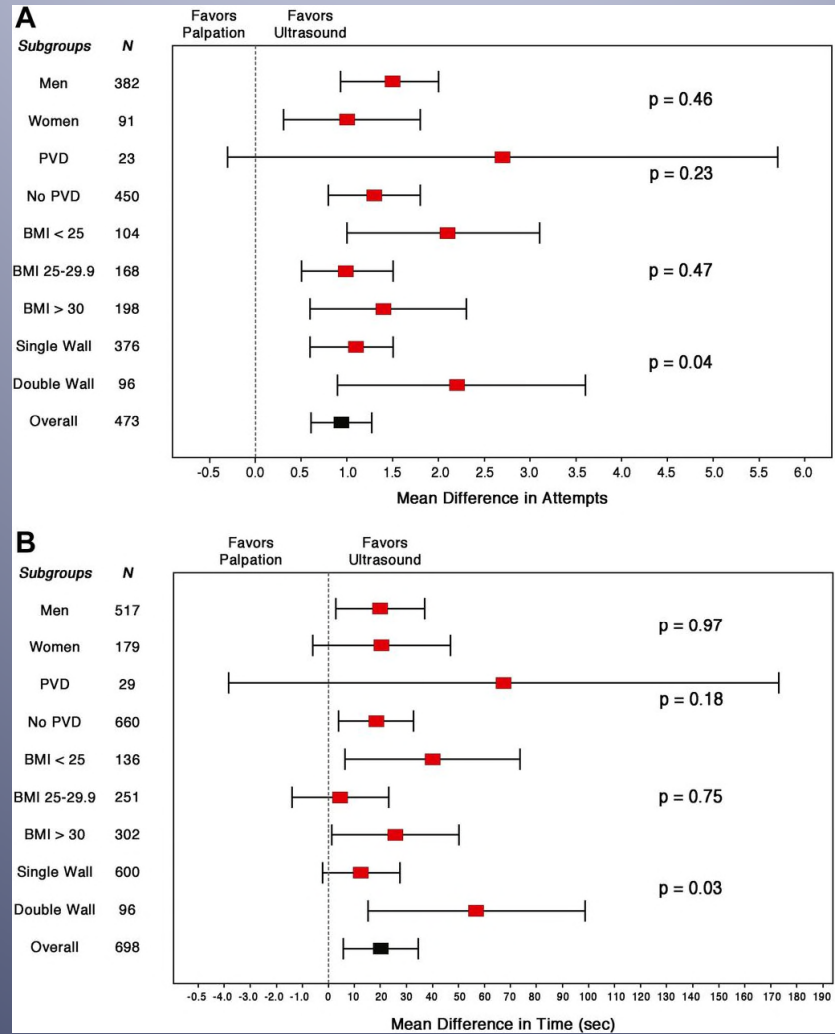
# RAUST trial: Real-Time Ultrasound Guidance Facilitates Transradial Access



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# RAUST trial: Real- Time Ultrasound Guidance Facilitates Transradial Access

	Palpation (n = 351)	Ultrasound (n = 347)	p Value
Spasm	12 (3)	15 (4.3)	0.56
Pain score, 0–10	0 (0–1)	0 (0–1)	0.67
Bleeding complication	4 (1.1)	5 (1.4)	0.75
Crossover to ultrasound rescue attempts after >5 min	10 (8 successful)	NA	NA
Crossover to another site after sheath insertion	5	2	0.45
Crossover to another site before sheath insertion/failed access	7	3	0.34
Failure of sheath insertion with original technique	15	3	0.007
Any crossover in access site or technique at any time	20	5	0.004

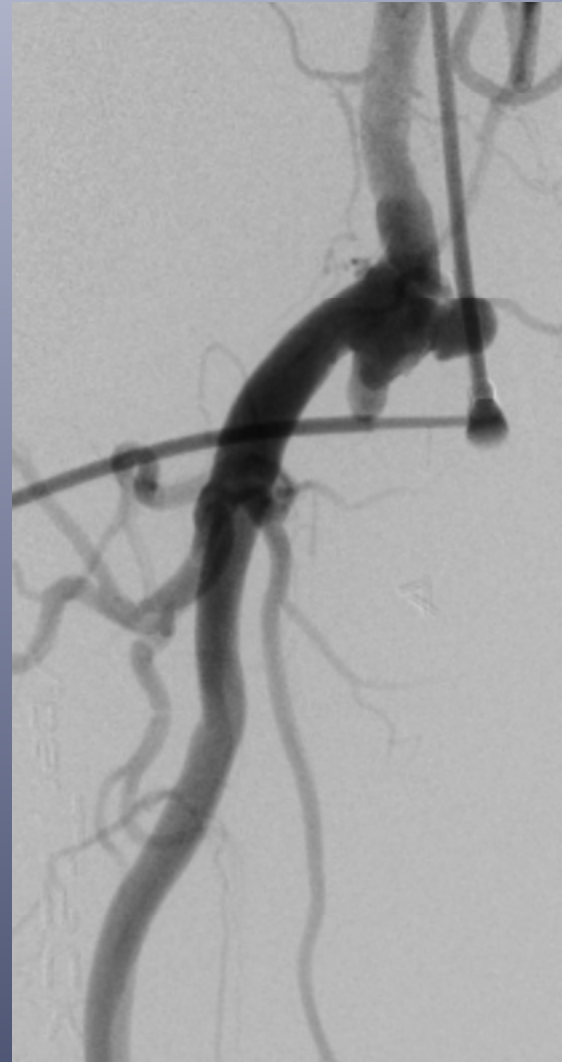
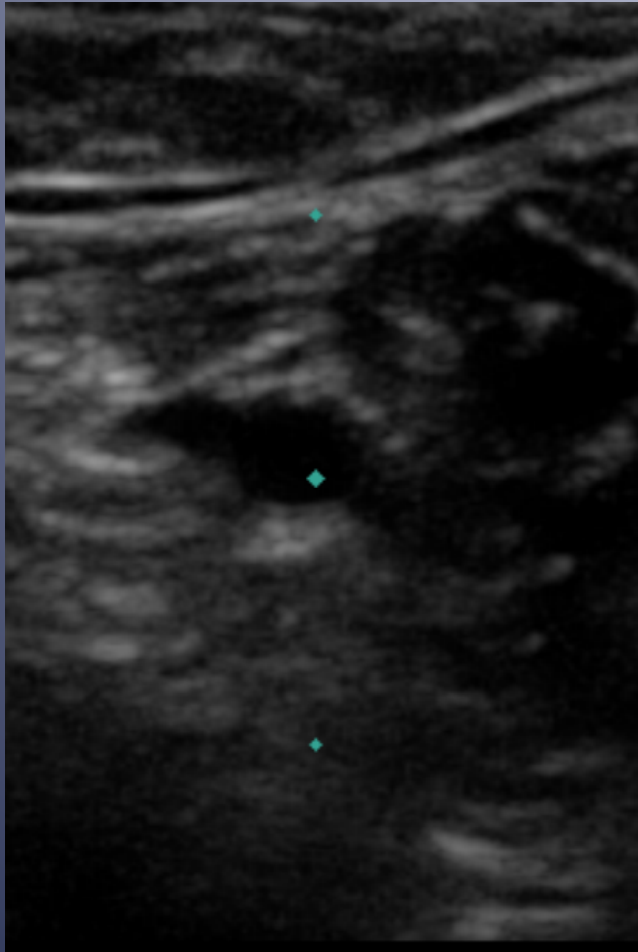
Values are n (%), median (interquartile range), or n.

NA = not applicable.

# RAUST conclusions

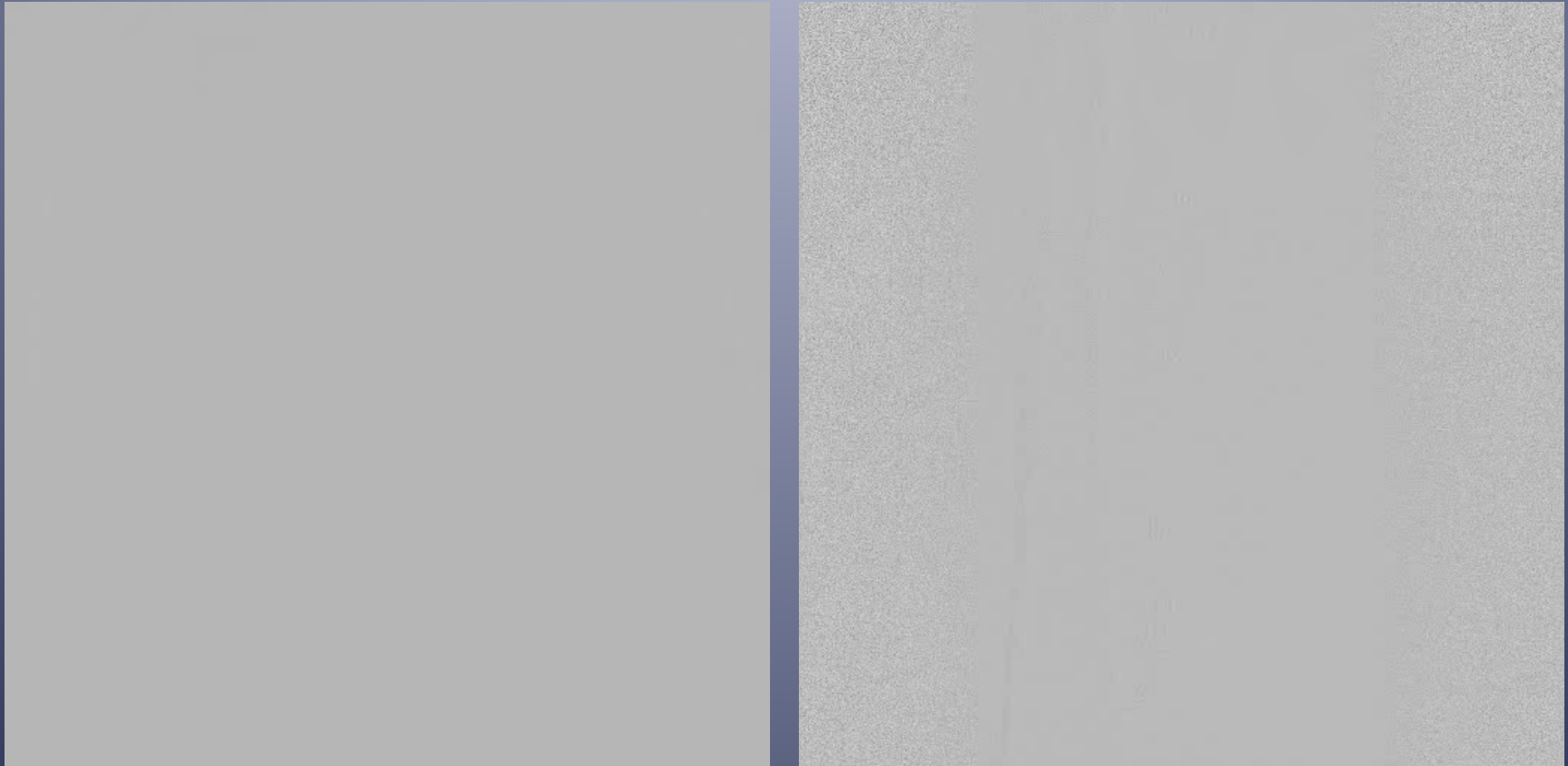
- US guided radial access increases the success and efficiency of sheath insertion
- Familiarity with the technique will benefit radial operators whether radial access is used routinely or as a bailout technique
- “seeing” small radial artery on US may be more accurate than “feeling” it

80 yo female with severe bilateral iliac aa. disease, severe RLE claudication- right posterior tibial a. access with US guidance

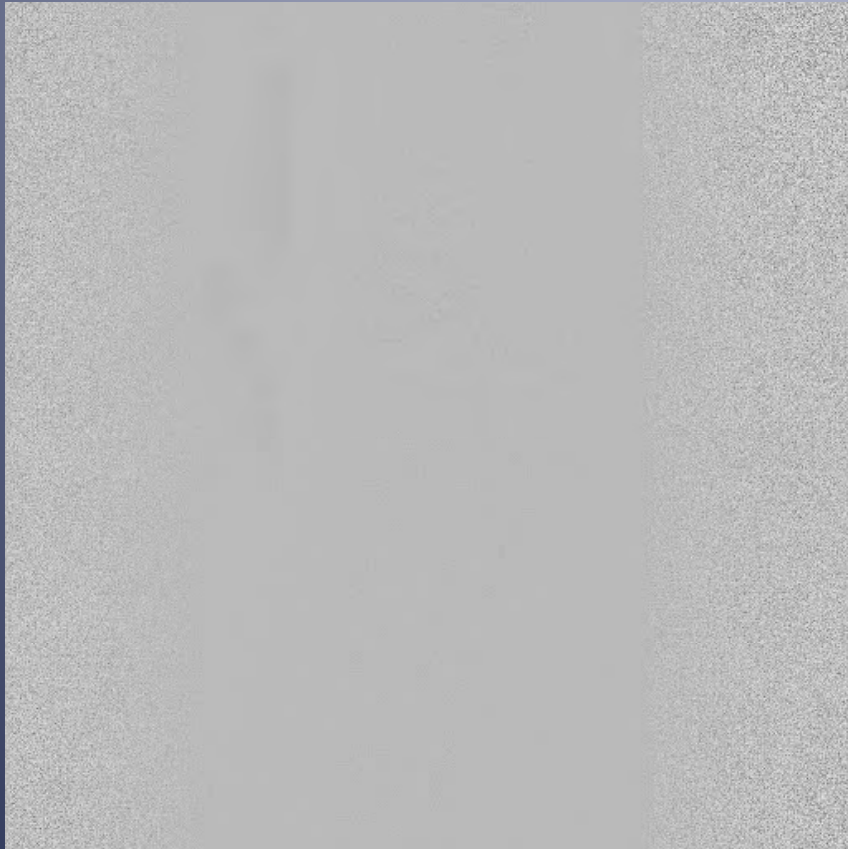


Dorsalis pedis a. on US

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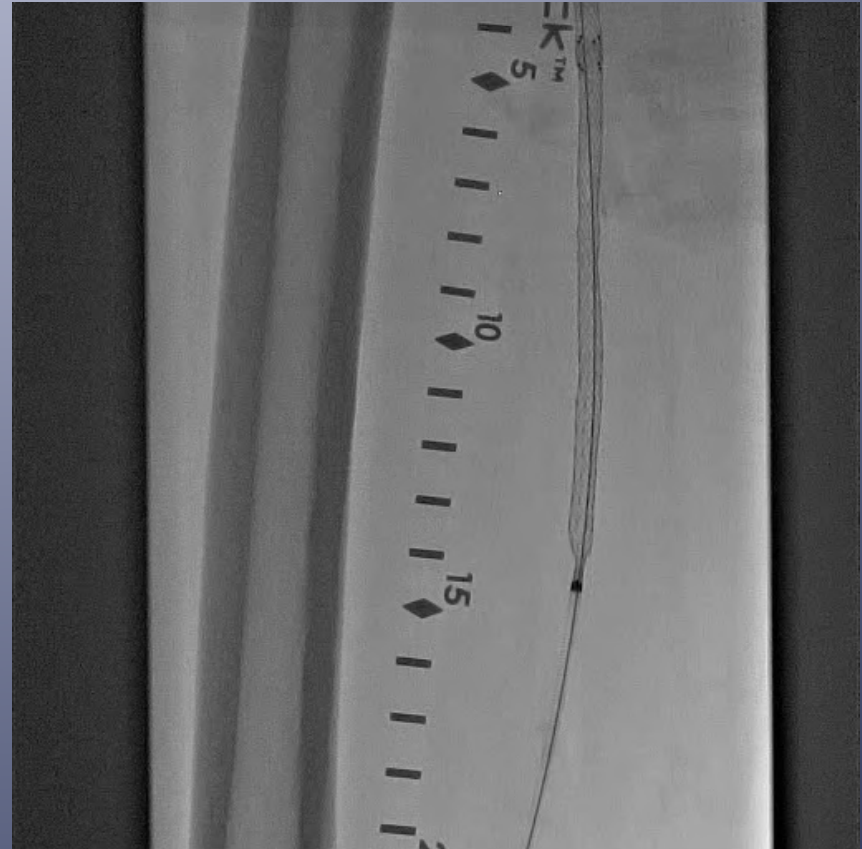
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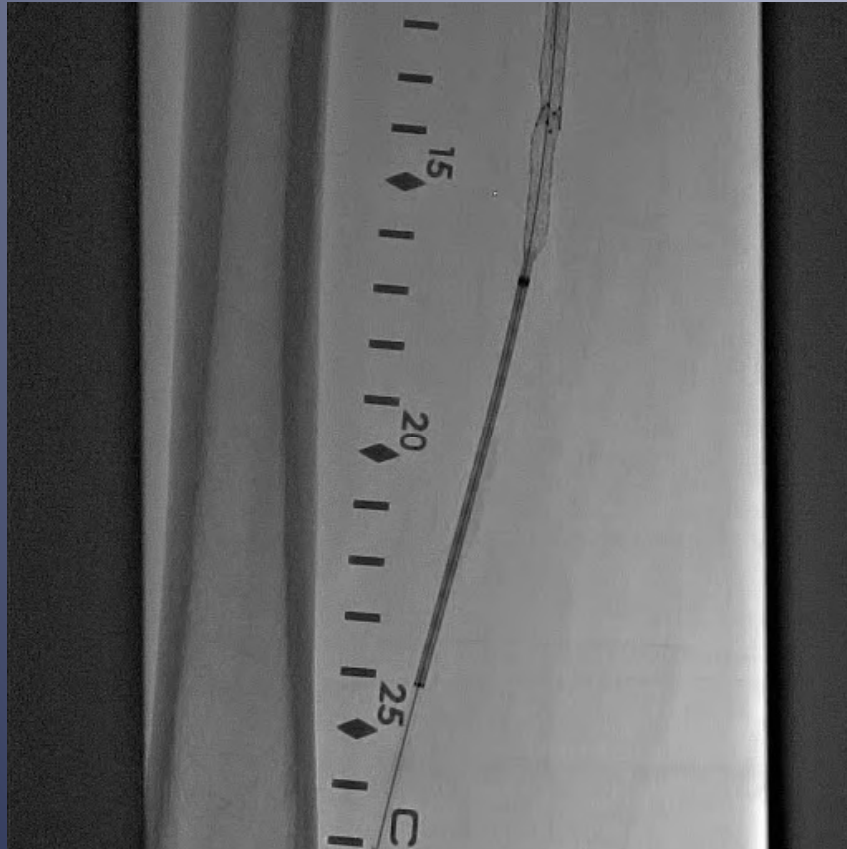
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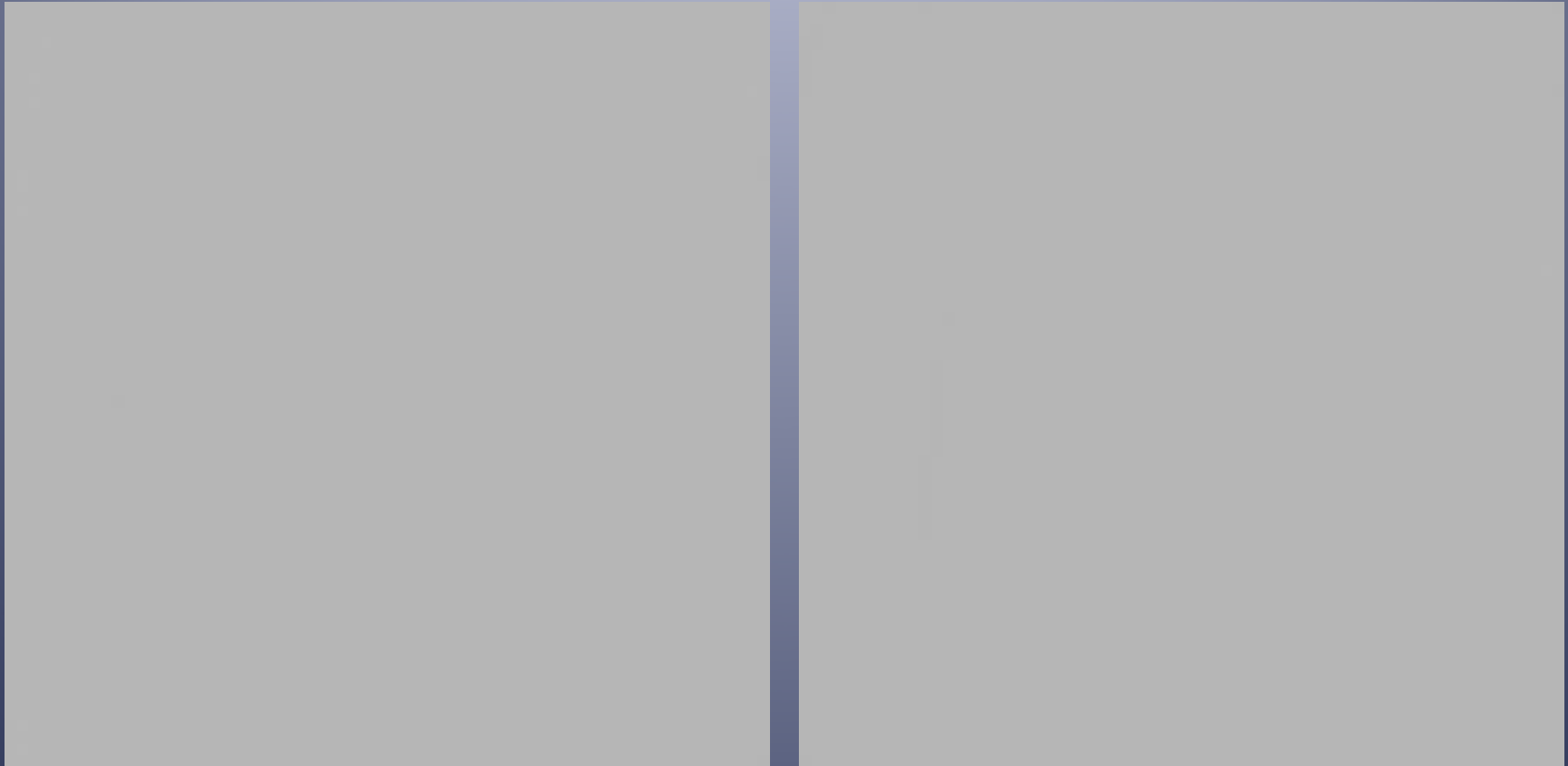


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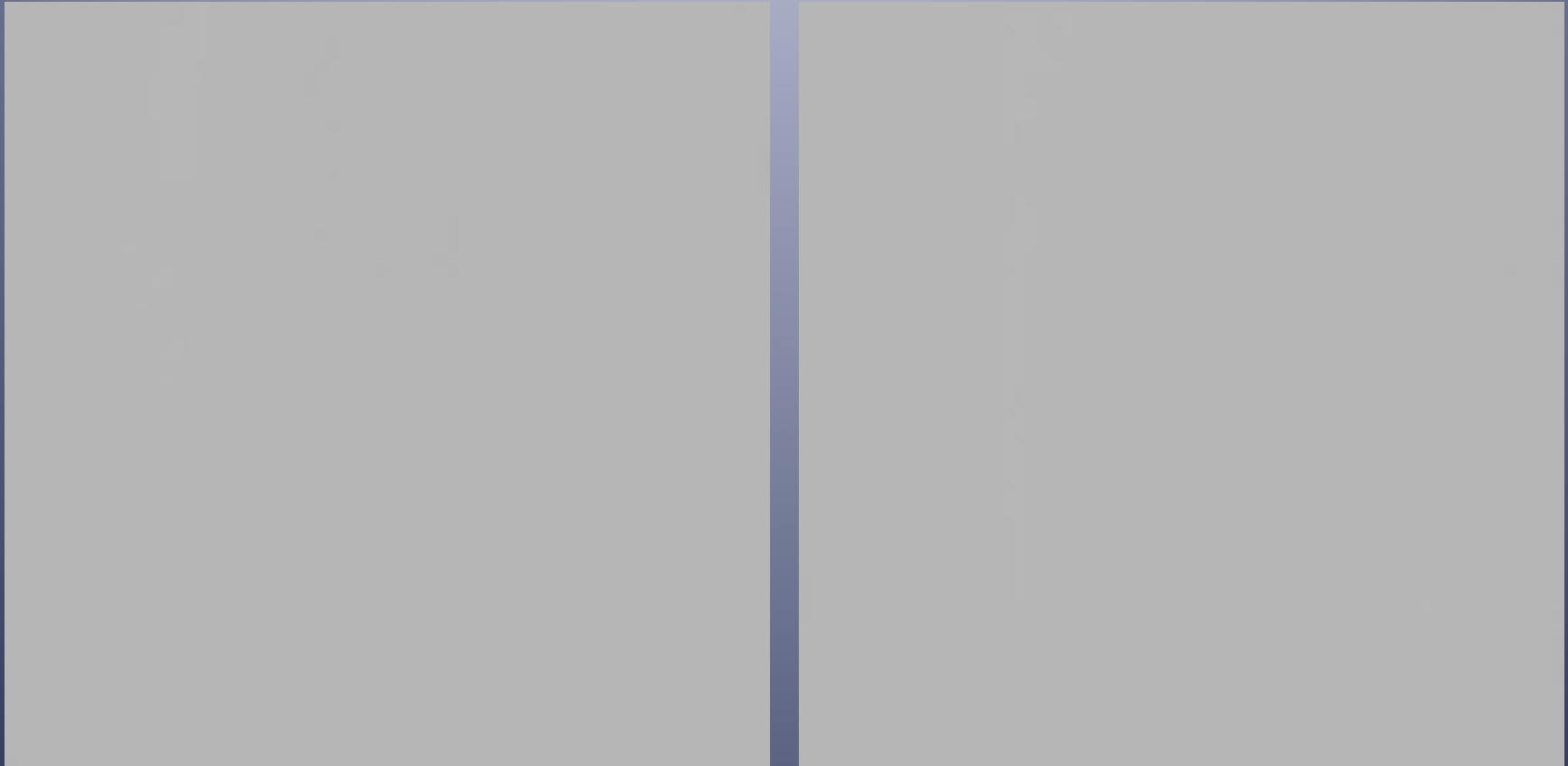




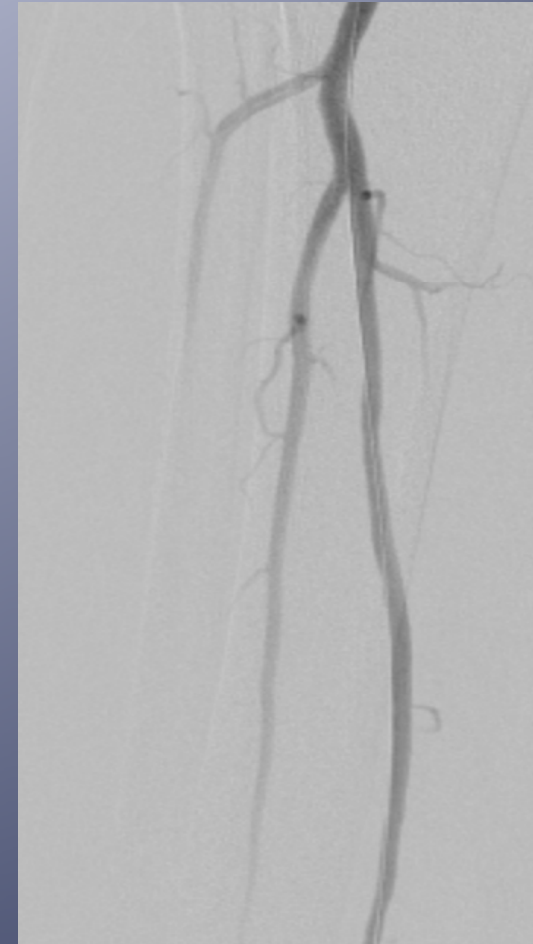
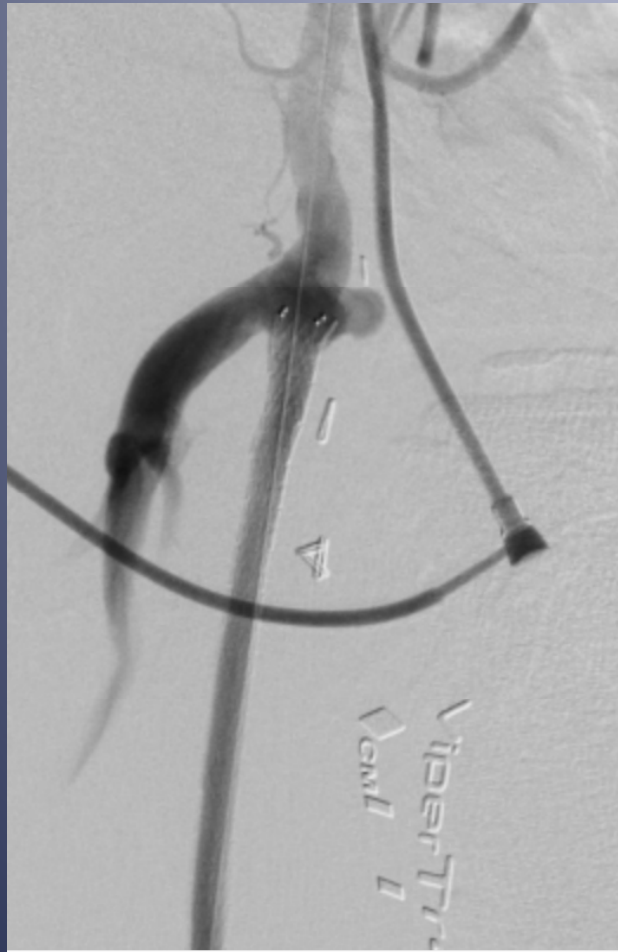
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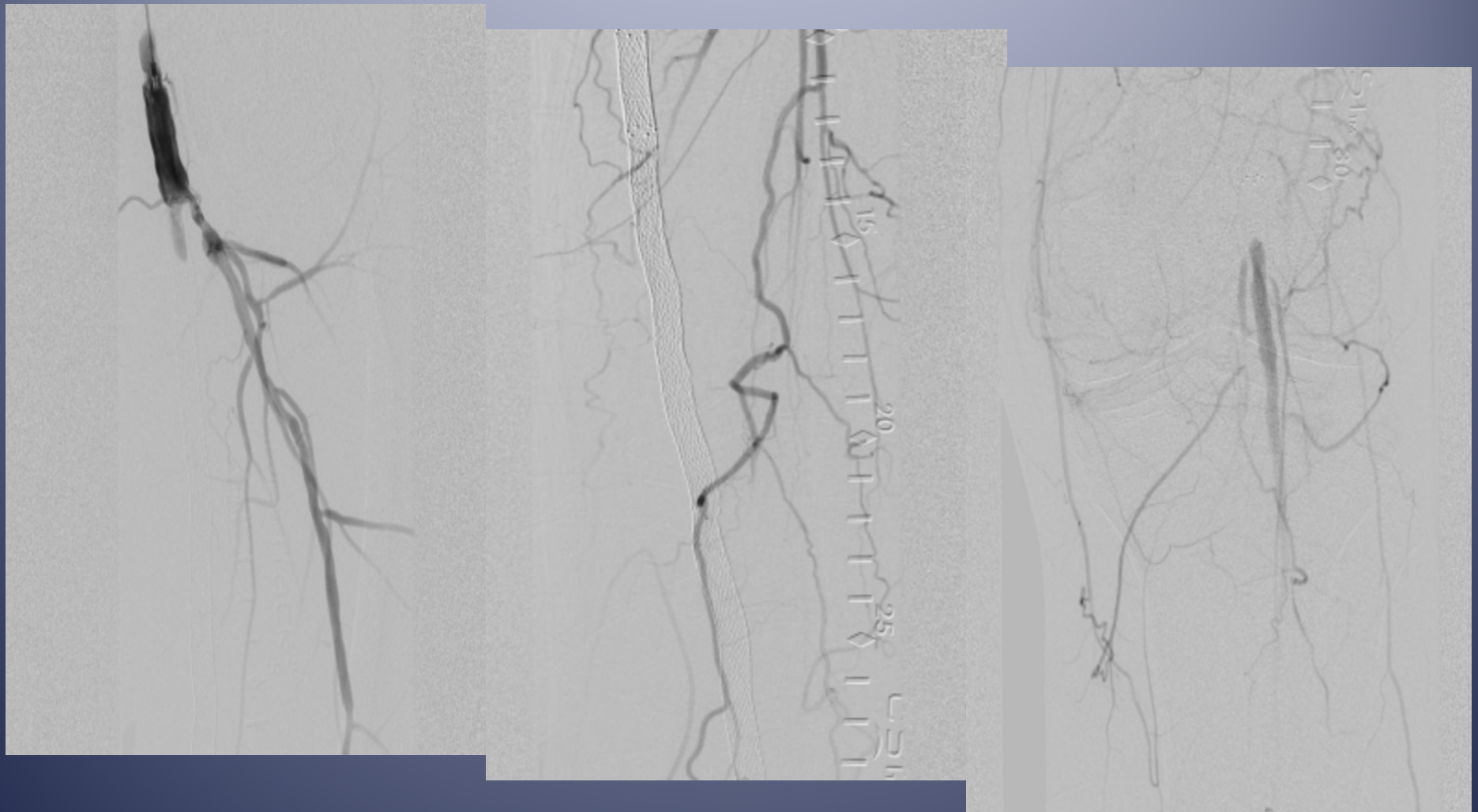
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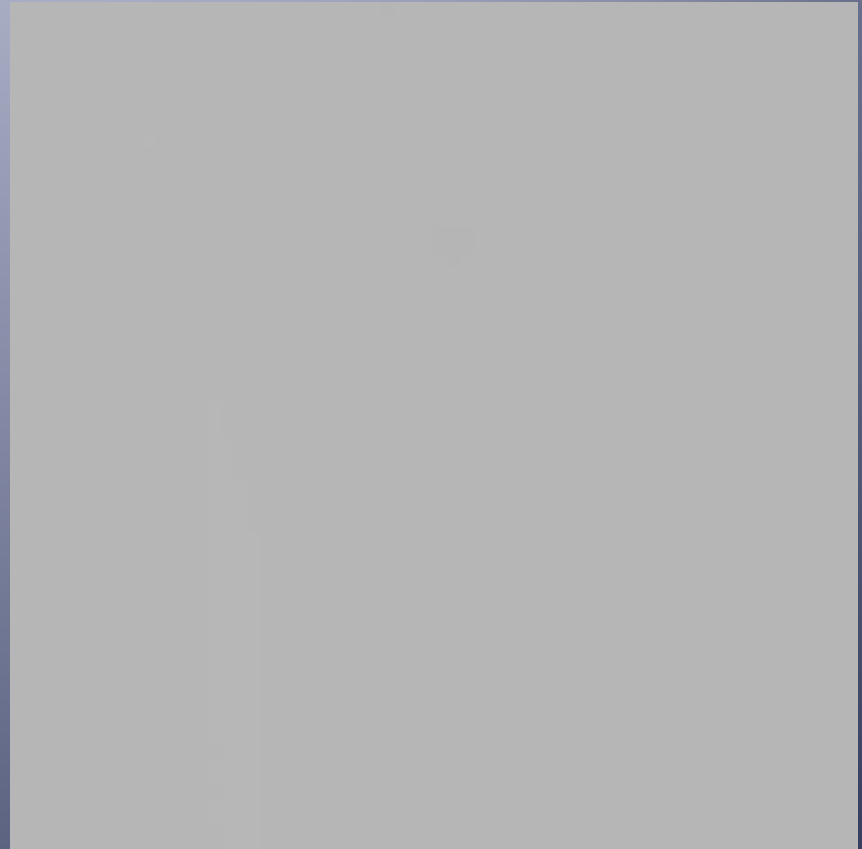
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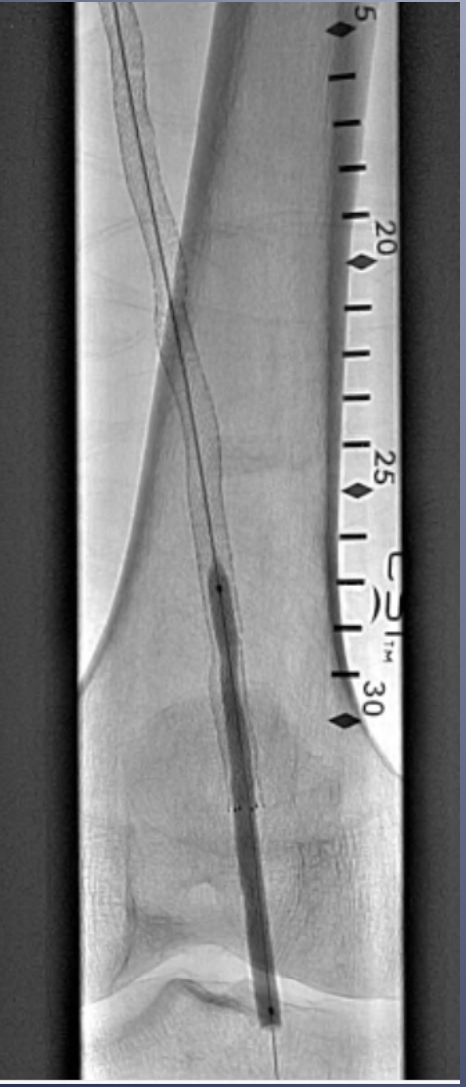
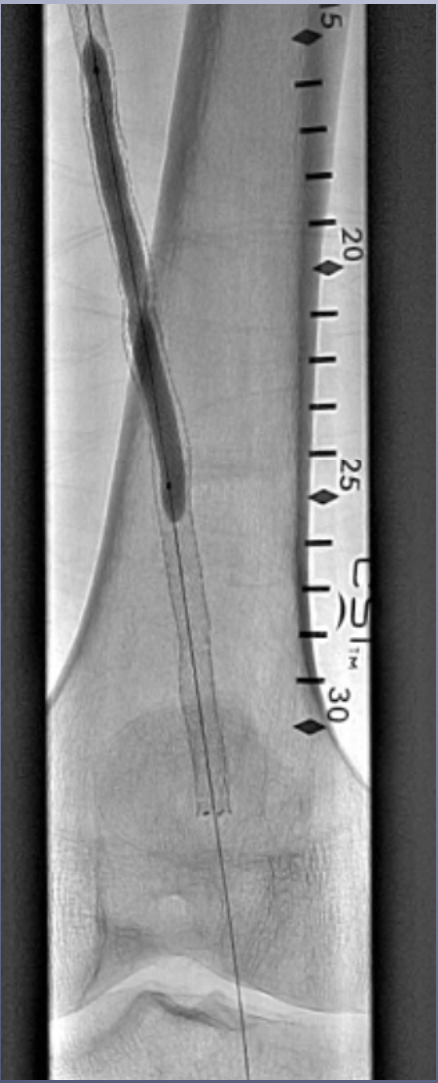


62 yo male with acute limb ischemia due to thrombotic occlusion of the LSFA stent- left radial artery access with US guidance

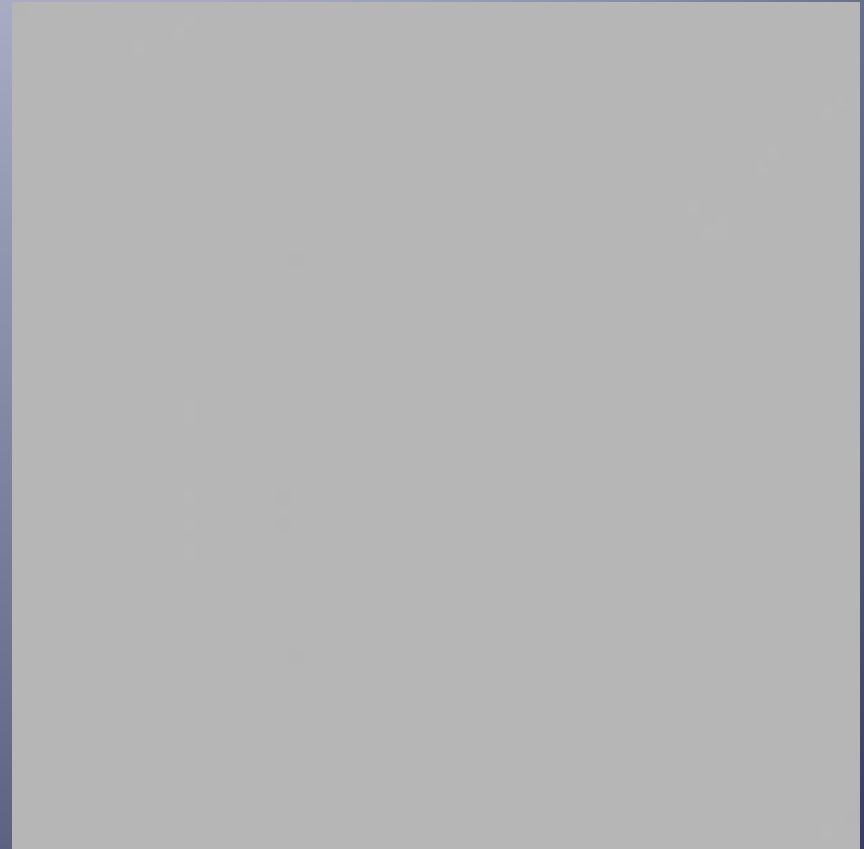
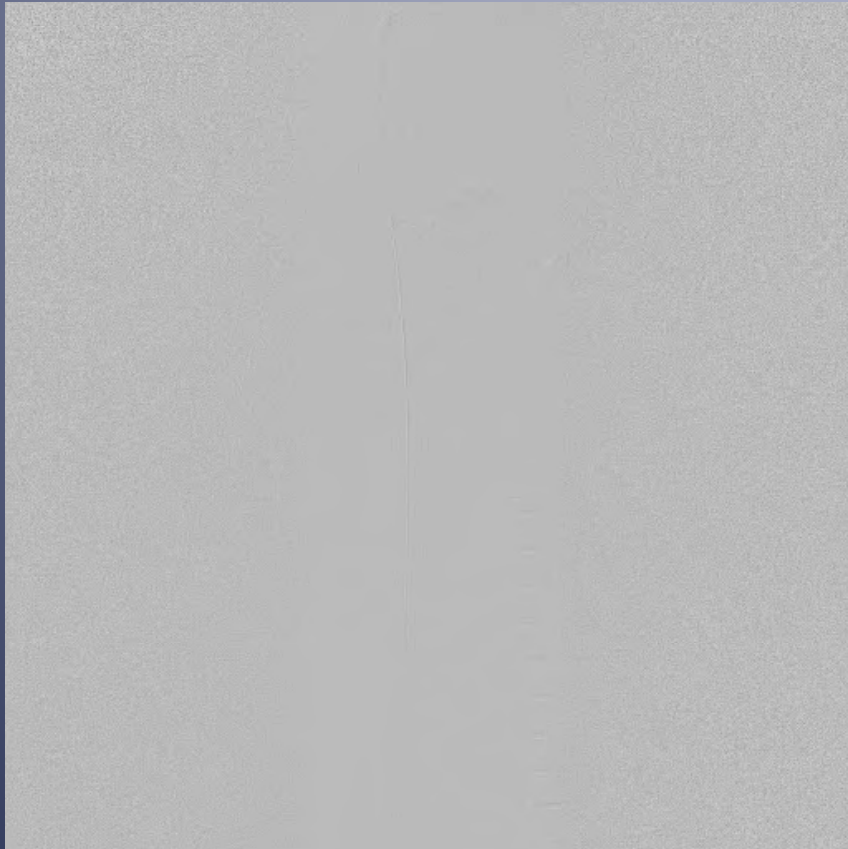


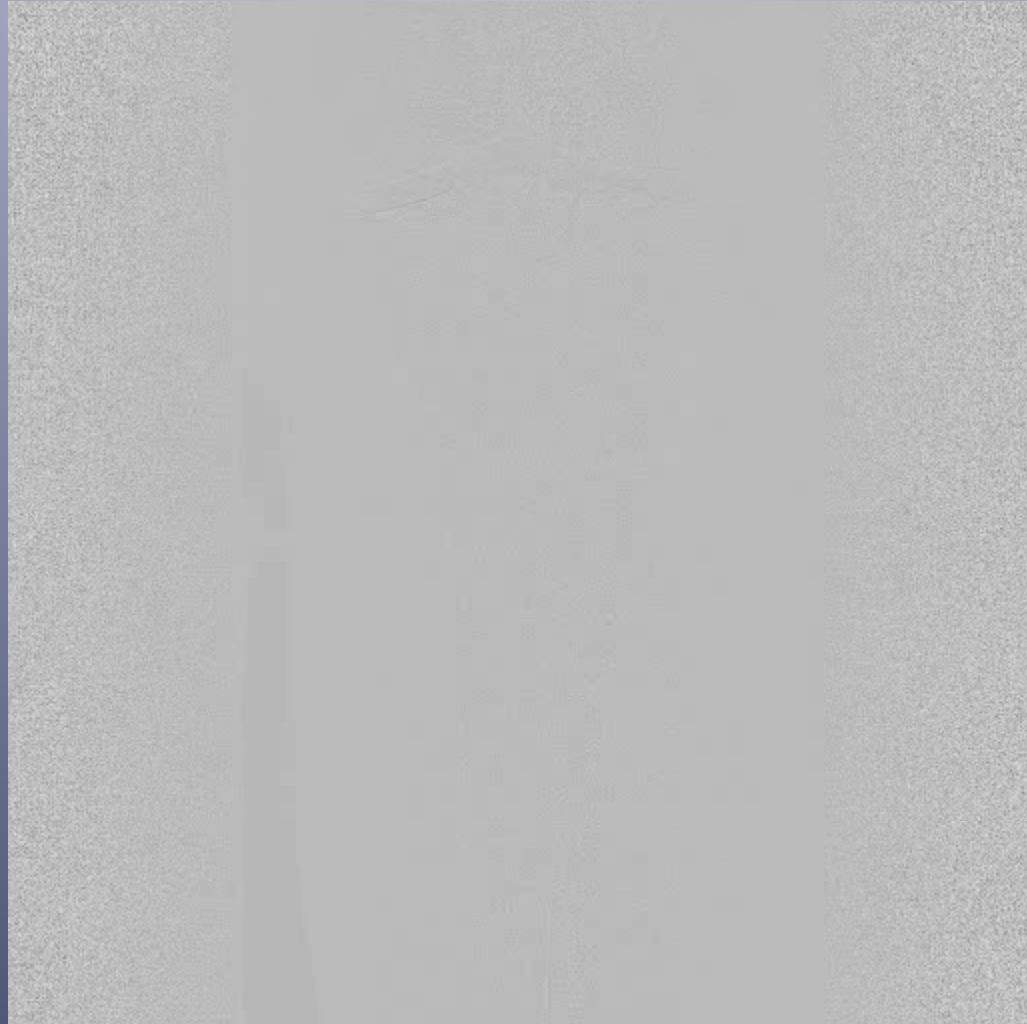
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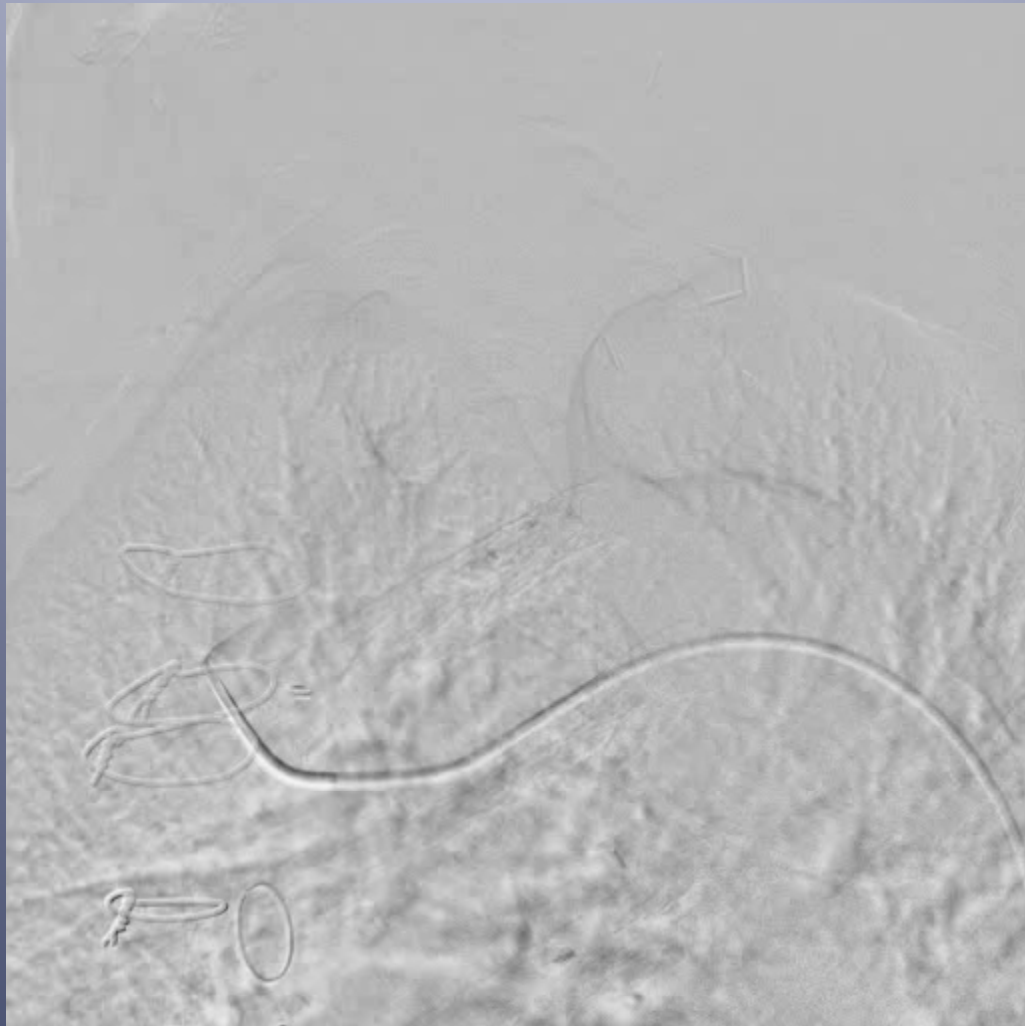






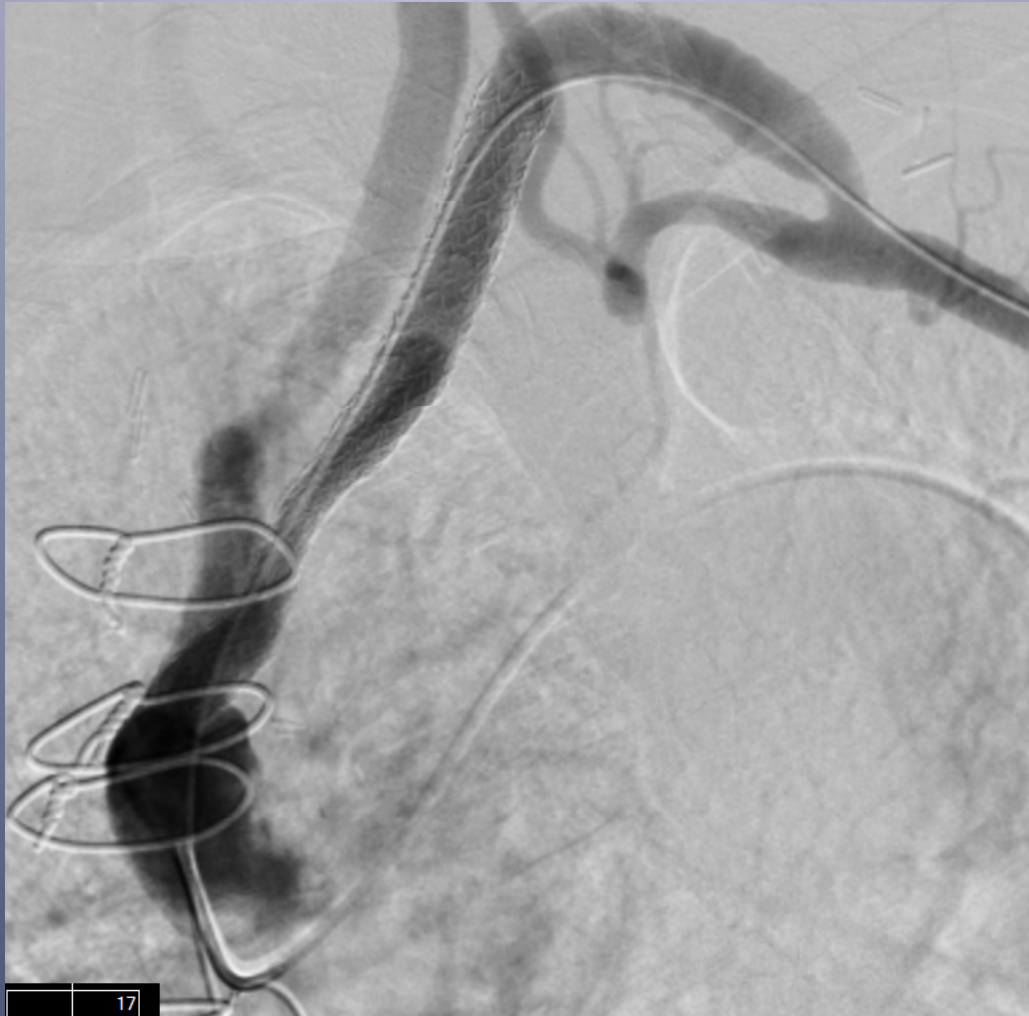
60 yo F with left subclavian steal syndrome and LUE claudication-  
left brachial a. access





60 yo F with left subclavian steal syndrome and LUE claudication-  
left radial a. access





THANK YOU