

# Pressure Measurements and IVUS

## Mandatory or fancy?

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## Disclosure

Speaker name:

.....

I have the following potential conflicts of interest to report:

- Consulting: Cook medical; Optimed GmbH; Bard; Volcano/Philips;  
TVA Medical; Vesper Medical;
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)
  
- I do not have any potential conflict of interest

# Background

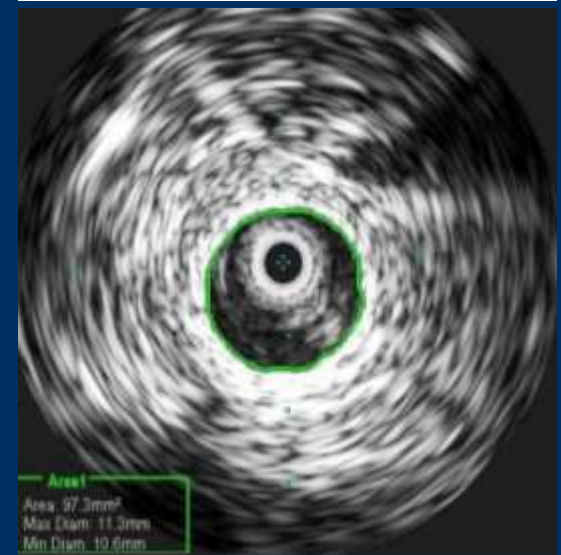
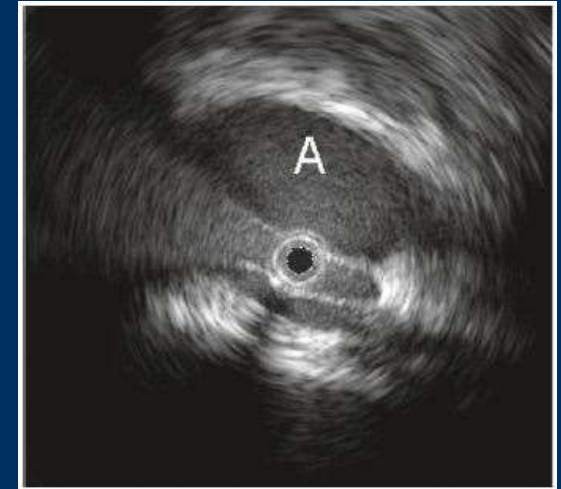
## Pressure measurements and IVUS

- + Distinct outcome measures
- Arbitrary cut-off values

## Clinical correlation is missing

- Degree of obstruction -> Complaints

Not convincingly caught by clinical scoring systems  
(i.e. venous claudication)



# Measuring pressure

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## Examples

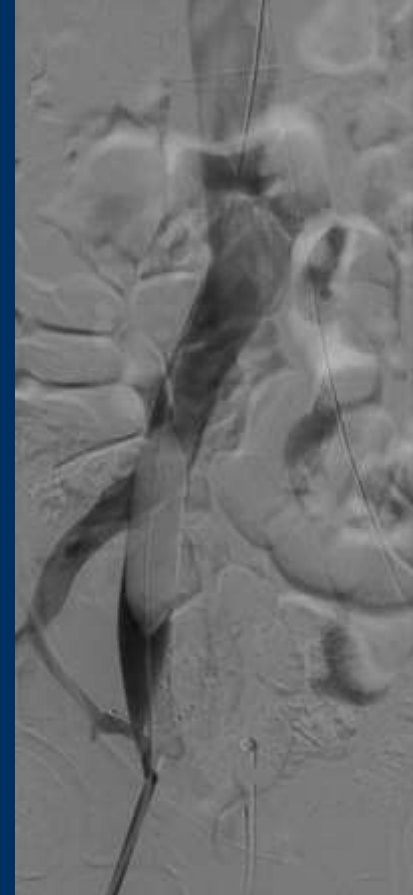
- Chronic liver disease
  - Portal hypertension: 5mm Hg
  - Clinical significant portal hypertension: 10mmHg
- Nutcracker Syndrome (Hartung et al. J Vasc Surg 2005;42:275-80)
  - Between left renal vein and IVC
    - 3mm Hg
- Iliofemoral obstruction (De Almeida et al. J Vasc Surg Venous Lymphat Disord. 2018)
  - Between VF and IVC
    - 2mm Hg rest; 3mm Hg active

# Measuring pressure

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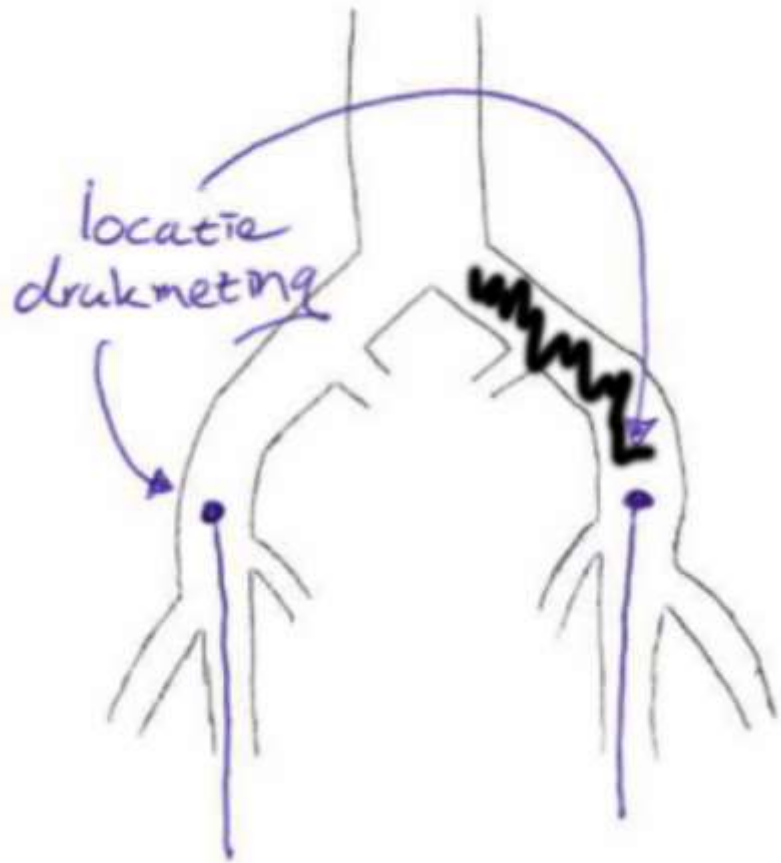
## Challenges

- Patient during angiography
  - Supine, non-active, anesthesia, ..
- Collaterals (Kurstjens et al. Phlebology. 2015 Mar;30(1 Suppl):27-34)
  - Decrease pressure, may cause complaints
- Location of measurement and extent of disease
  - Foot vein; popliteal vein; common femoral vein?

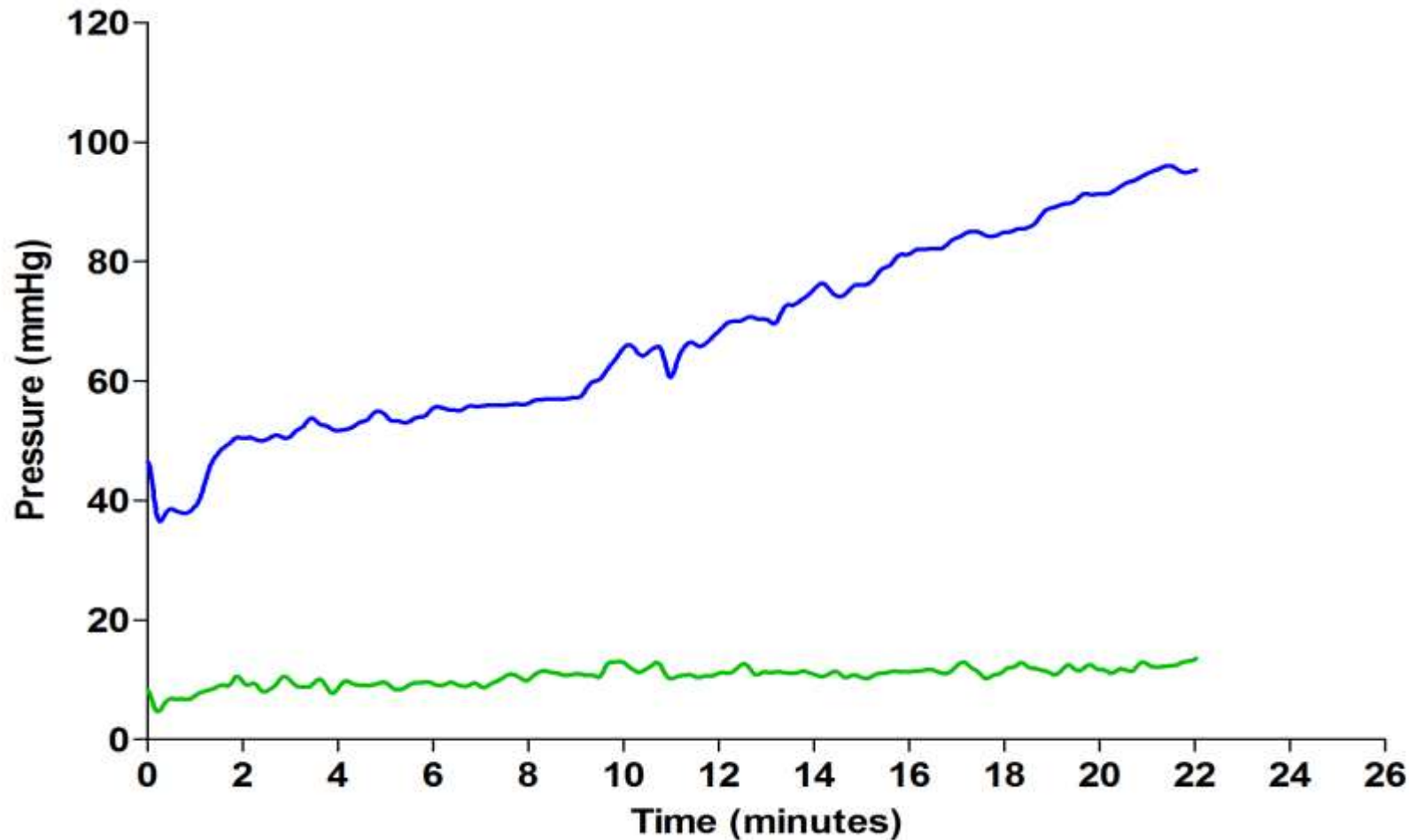


# Pressure measurements

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# CFV Pressure





The logo for LINC (Landscape Institute for North Carolina) is located in the top left corner. It features a stylized graphic of three curved, overlapping bands in shades of red, orange, and yellow, set against a dark blue background. The letters "LINC" are positioned to the right of this graphic.

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# IVUS



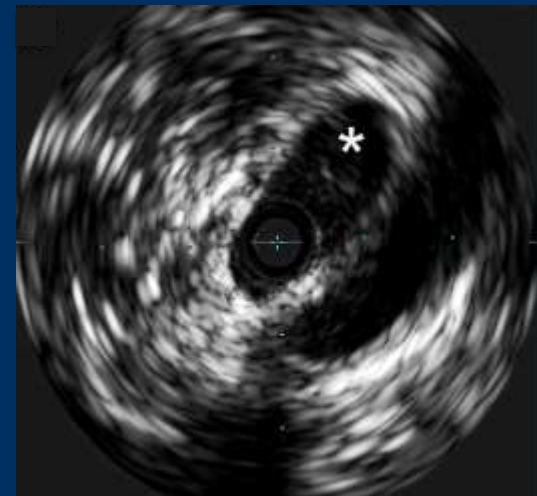
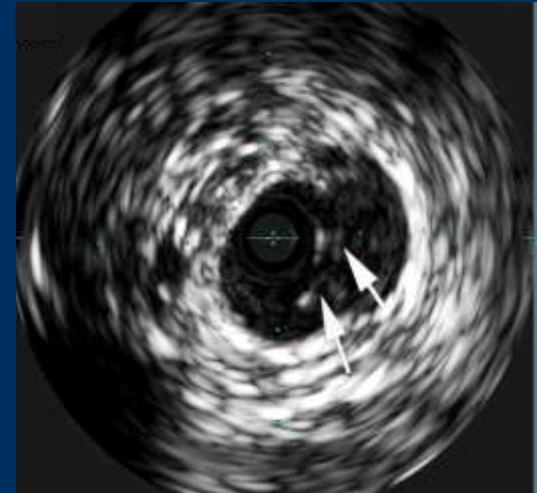
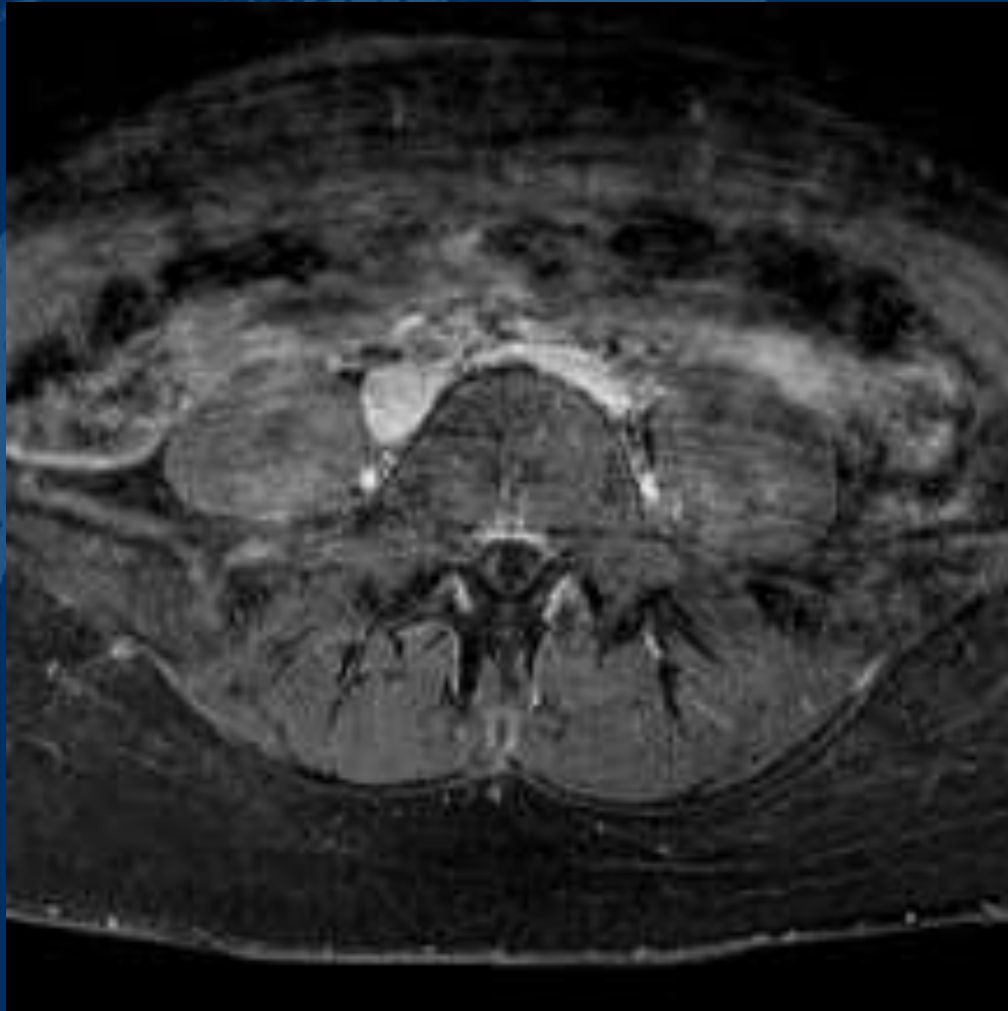
# IVUS Indications

- Determining significant Stenosis
  - >50% lumen reduction
- Determining landing spot
  - Healthy segment
- Post-stenting evaluation
  - Residual stenosis/compression
  - Thrombus
- Primary and secondary thrombectomy
  - Residual thrombosis

# May-Thurner Diagnosis

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IVUS



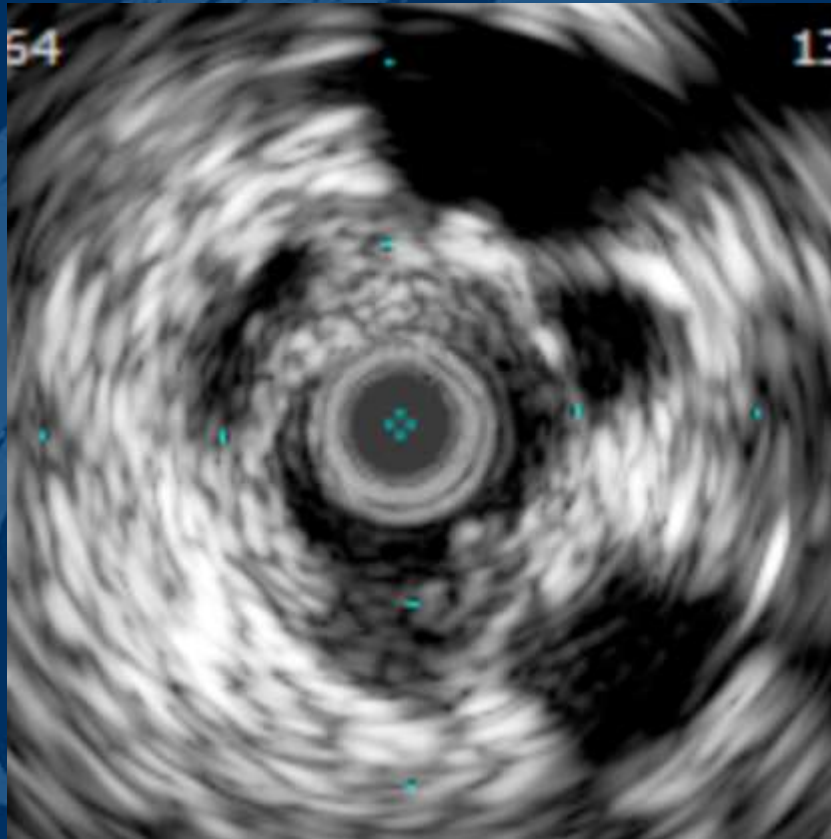
# May-Thurner without IVUS



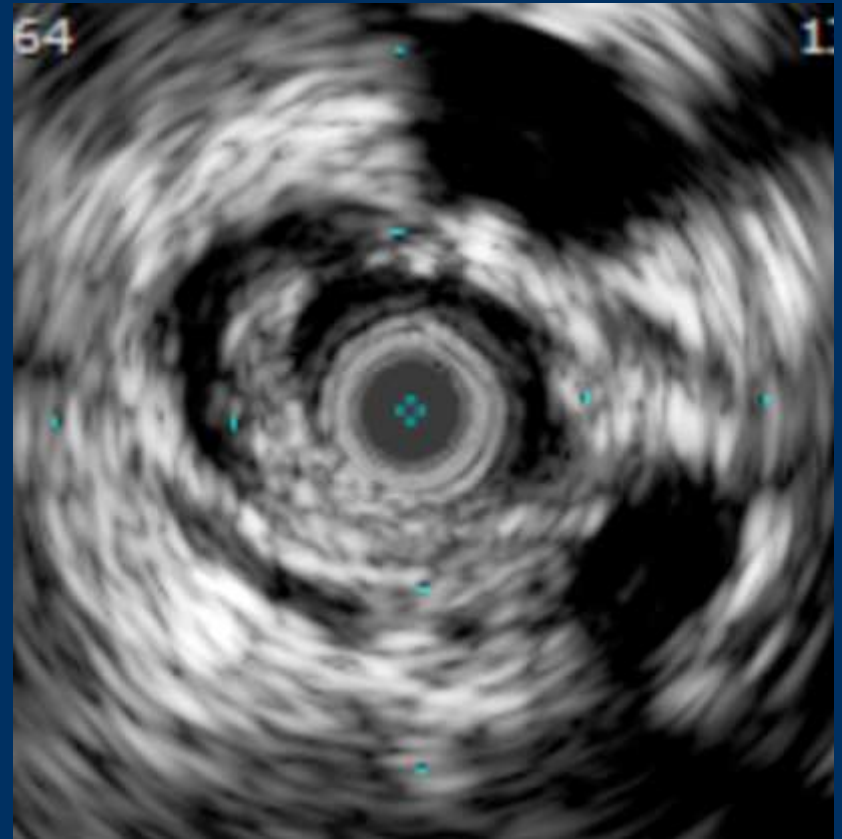
# Determine stent landing spot

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CFV Proximal



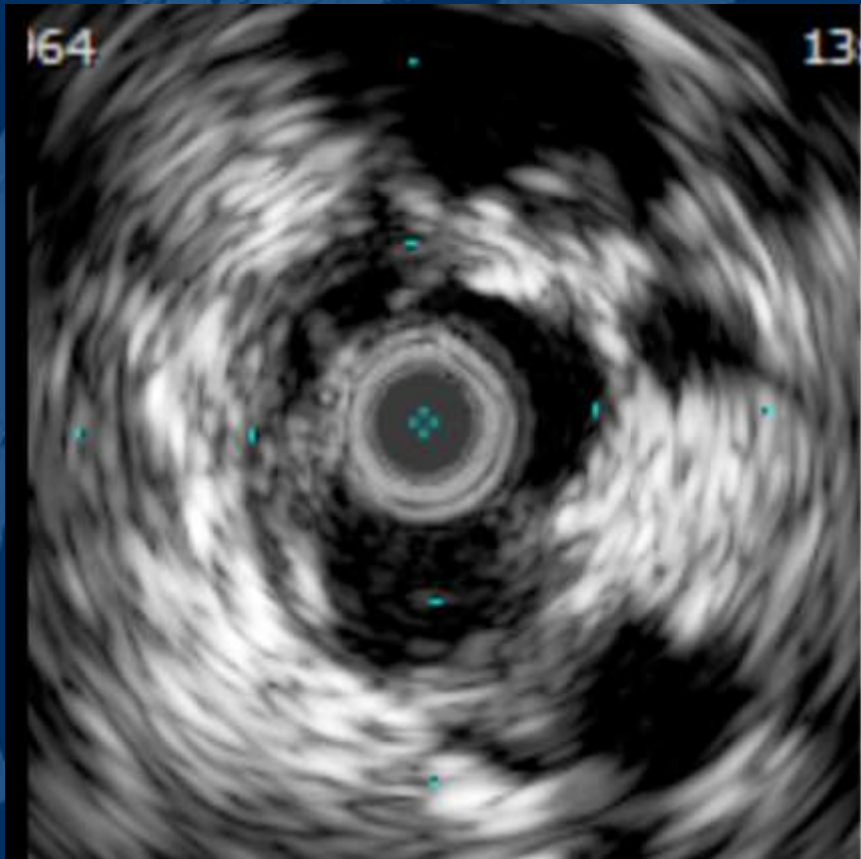
CFV Distal



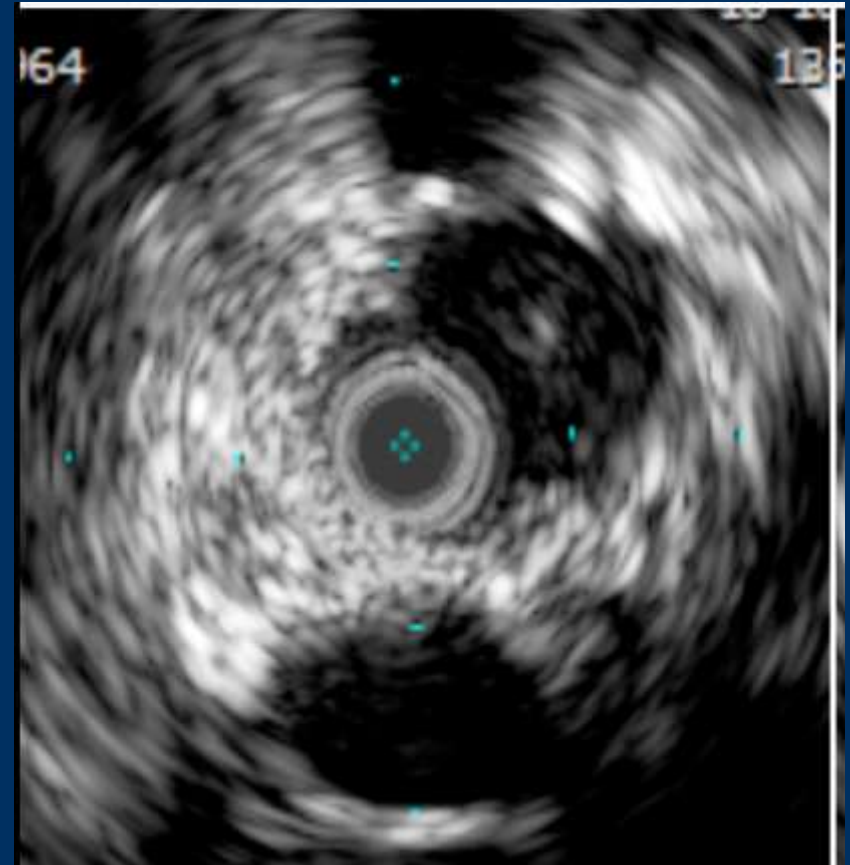
# Determine stent landing spot

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CFV Confluence



Distal from CFV Confluence



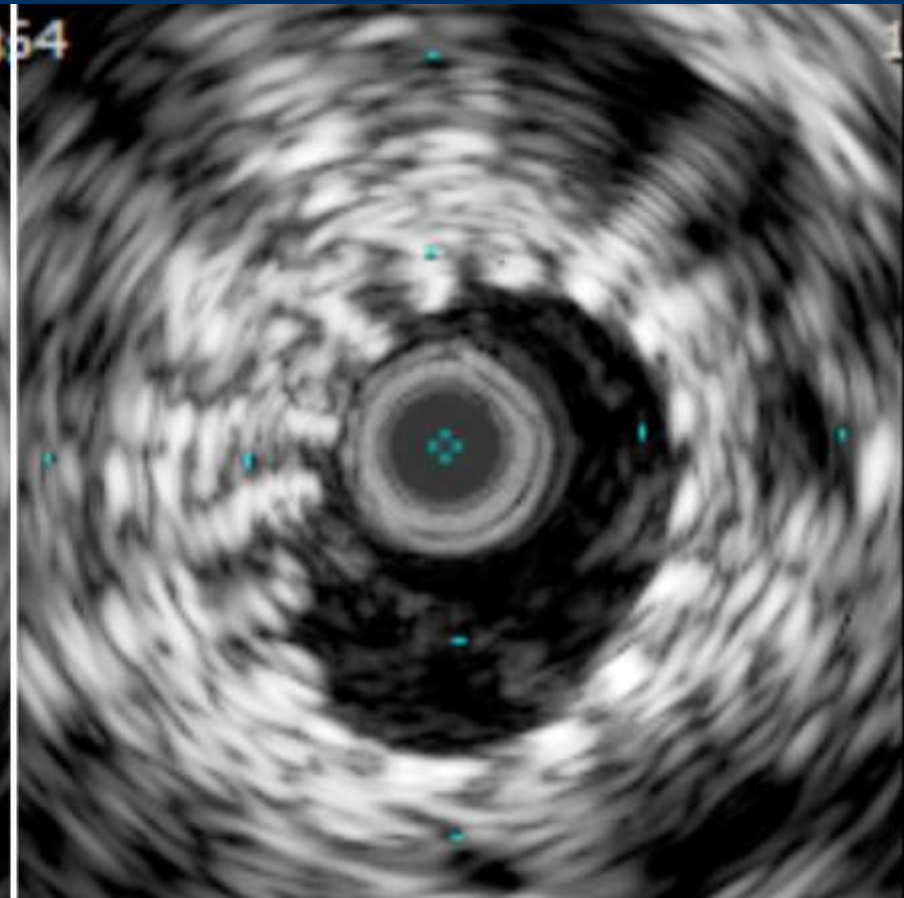
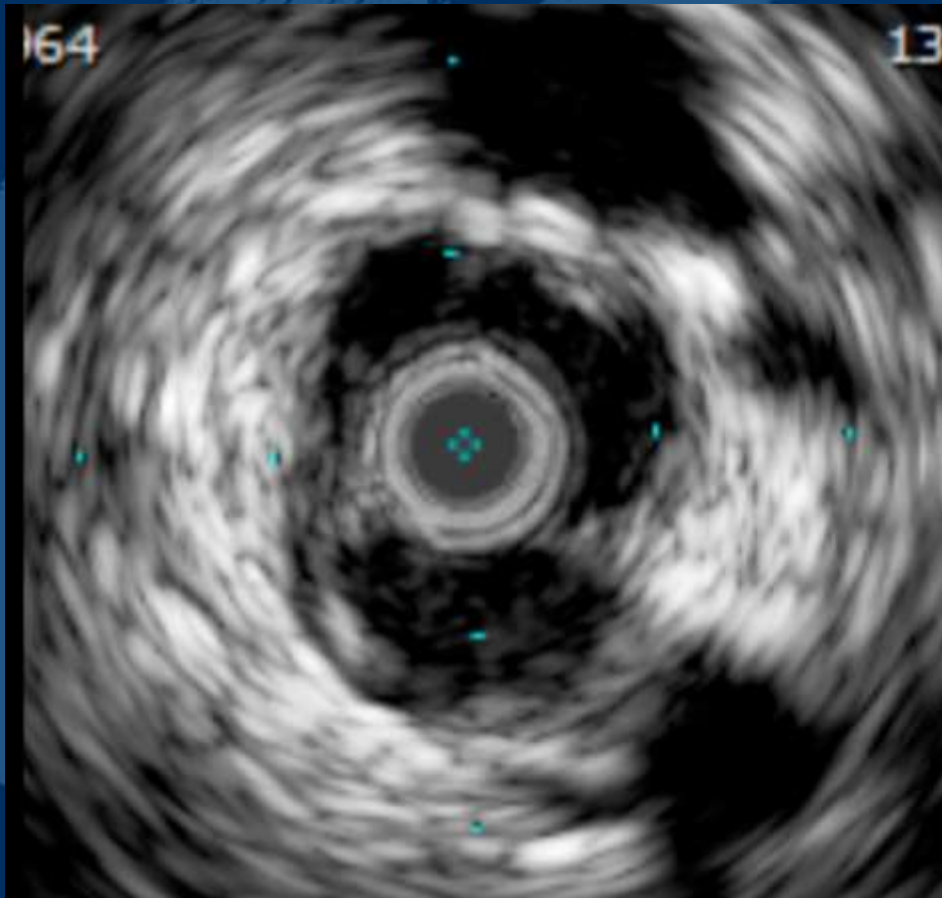


# Determine stent landing spot

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Pre-Stenting at CFV Confluence

Post-Stenting at CFV Confluence



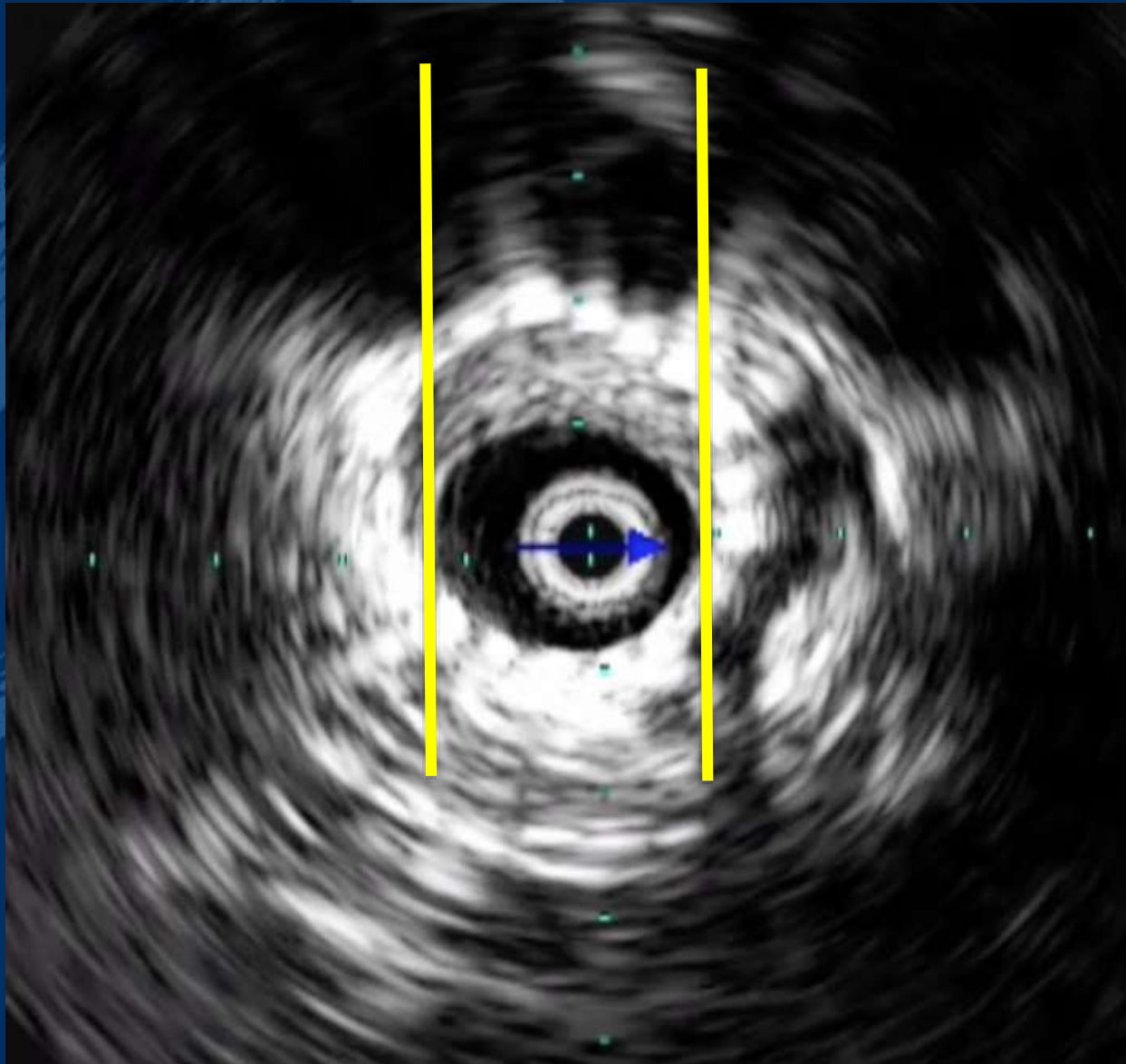
# Landing spot without IVUS





# Detect Residual Thrombus

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# Summary

The logo for LINC (Laser Interference Nanoscale Characterization) features a stylized, colorful graphic of a curved, multi-colored line (red, orange, yellow, green, blue) resembling a DNA helix or a fiber, with the letters "LINC" in white capital letters to its right.

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- Both IVUS and pressure measurements rely on arbitrary cut-off values
  - Need to learn when and how to use and how to interpret
- Clinical correlation is lacking
  - Clinical evaluation should be in the lead, therefore we need to optimize scoring systems
- IVUS mandatory?
  - Maybe not, however...

The logo for LINC, featuring the letters 'LINC' in a white, sans-serif font. To the left of the text is a stylized graphic consisting of three curved, overlapping bands in shades of red, orange, and yellow, set against a dark blue background.

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... what you don't know, you will not see

and

what you don't see, you won't miss

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