Supera in popliteal aneurysms: how to do it step by step

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Disclosure

Speaker name:

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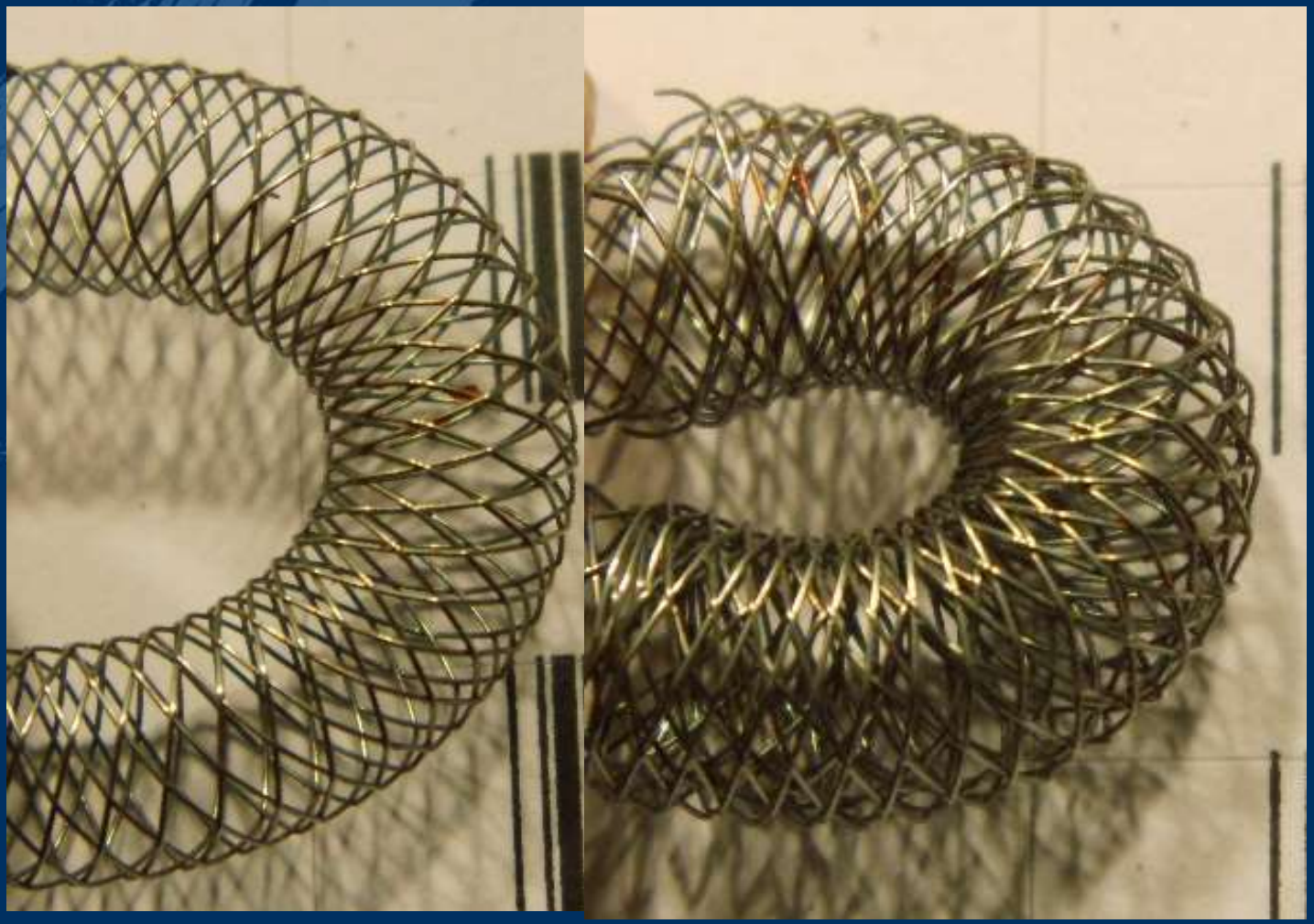
I have the following potential conflicts of interest to report:

- [x] Consulting: Abbott, AB medica, Phillips Volcano, Taryag medical
- [X] honoraria : Abbott, AB medica, Phillips Volcano, Medtronic, Terumo aortic
- [X] research grants : Abbott

Procedure synopsis: similar to other femoropopliteal endovascular procedures

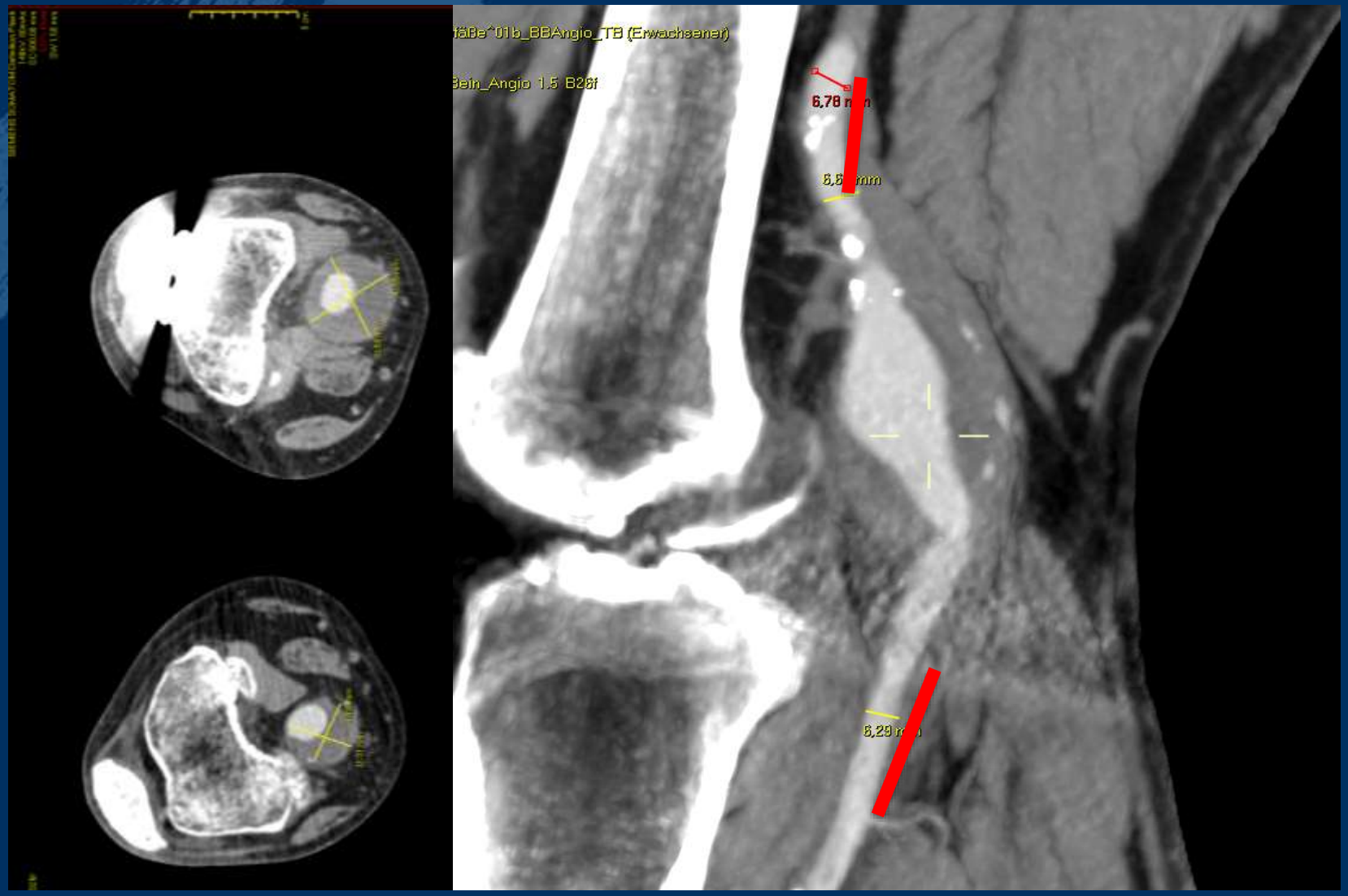
- Indication and limitations
  - PAA indicating treatment (also thrombosed PAA)
  - Landing zone diameter maximum 7mm (stent OD 7.5mm)
- Planning
  - Define distal landing zone: wall contact for stent circumference
  - Define proximal landing zone
  - Best option: 2 long stents, max. 3
- preloaded DAPT
- Local anesthesia, DUS guided puncture
- Antegrade/ x-over approach, intraop 70IE Hep./ Kg BW
- Postop regime: Heparin low dose/ therapeutic dose 48h, DAPT for 6 mo., anticoagulation + MAPT (experience based)

Dual layer modification: higher density of mesh without loss of flexibility

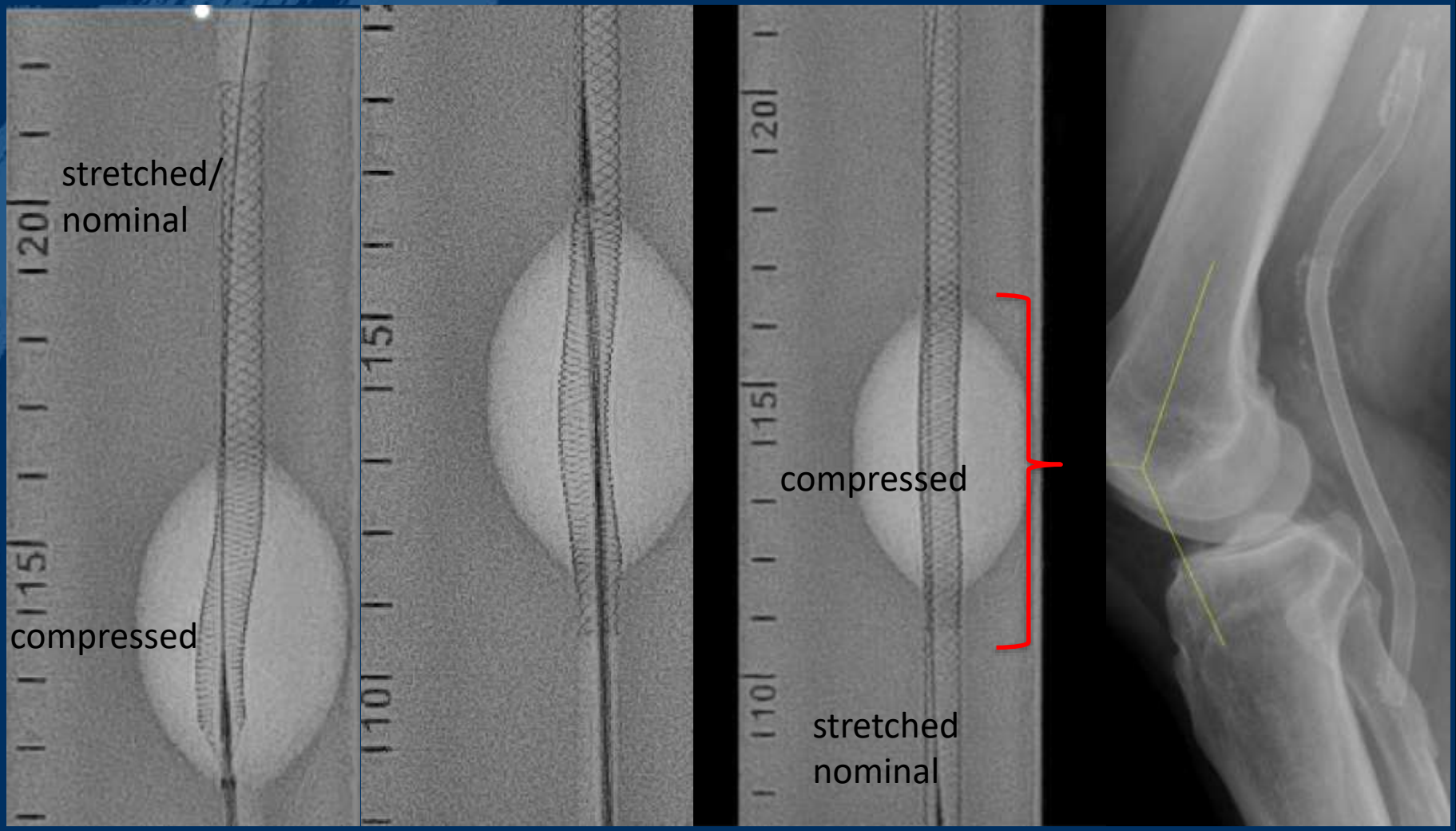


[New Aspects of Endovascular Treatment for Popliteal Aneurysms: First Results of a Pilot Trial]. **Tessarek** J et al.; Zentralbl Chir. 2015 Oct;140(5):535-41

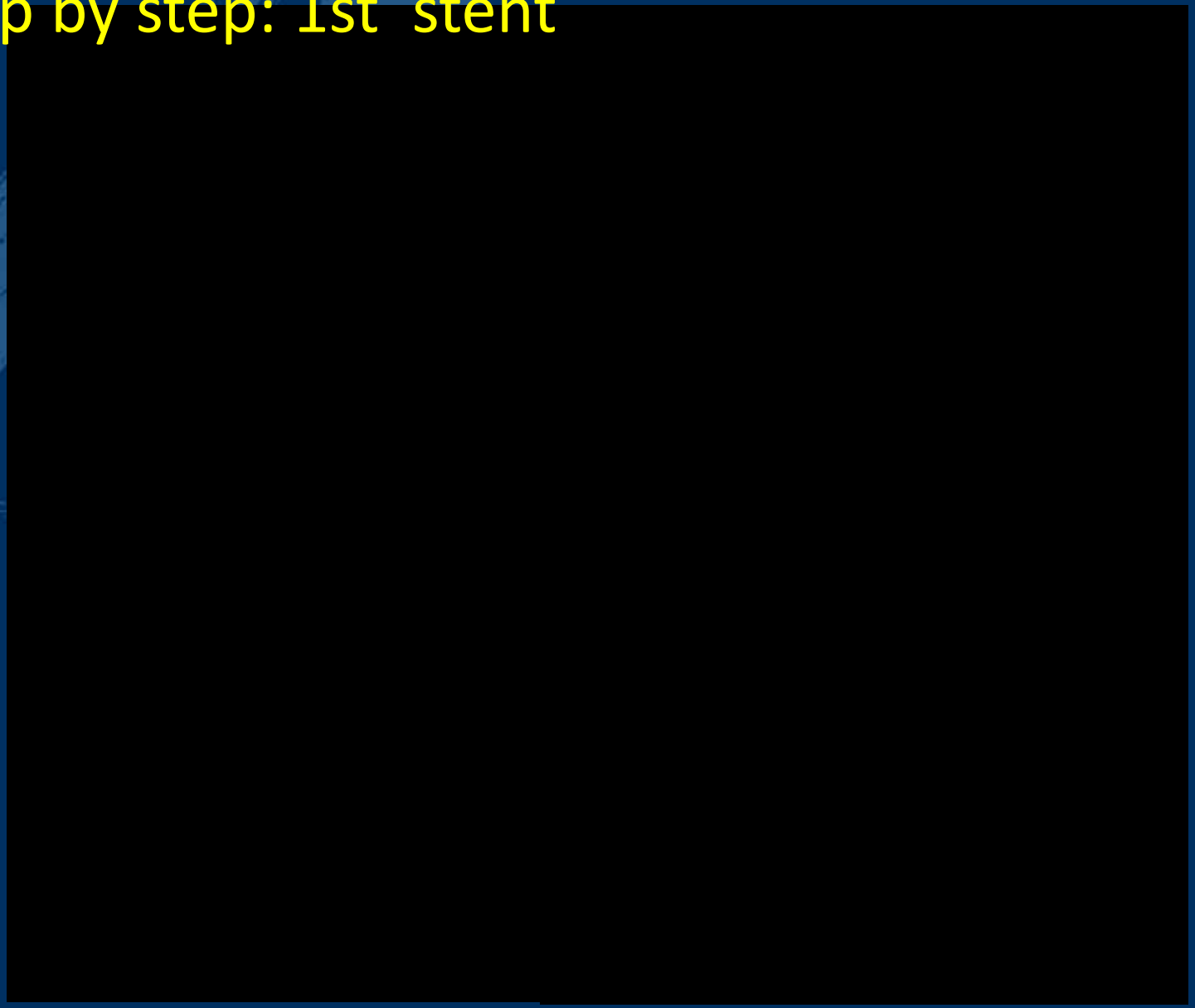
Limitation: landing zone diameter > 7.0mm
other diamters or tortuosities are irrelevant
1cm is ok in the long term, covered collaterals remain patent



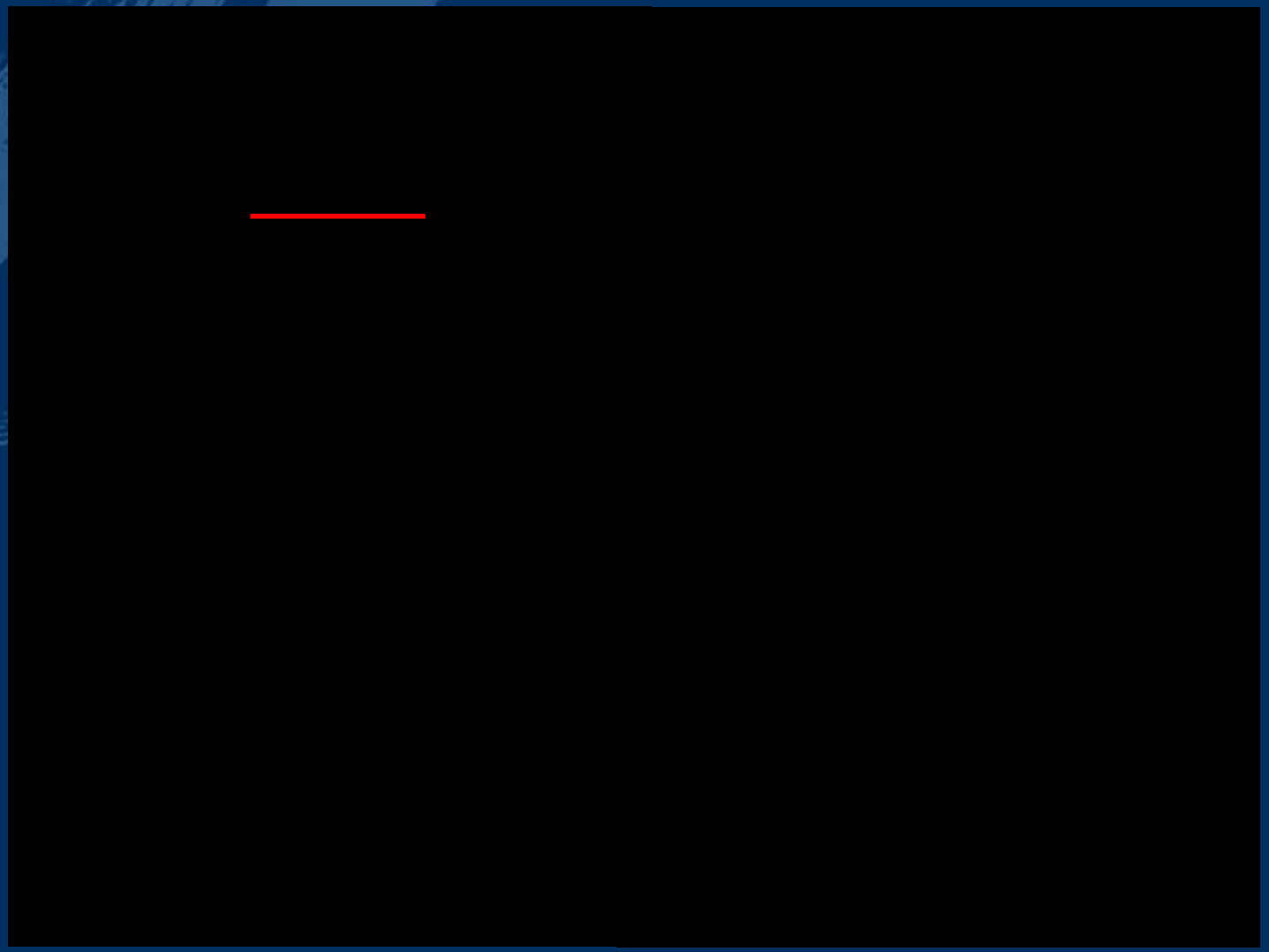
Optimal situation: 1st stent fixed on both ends



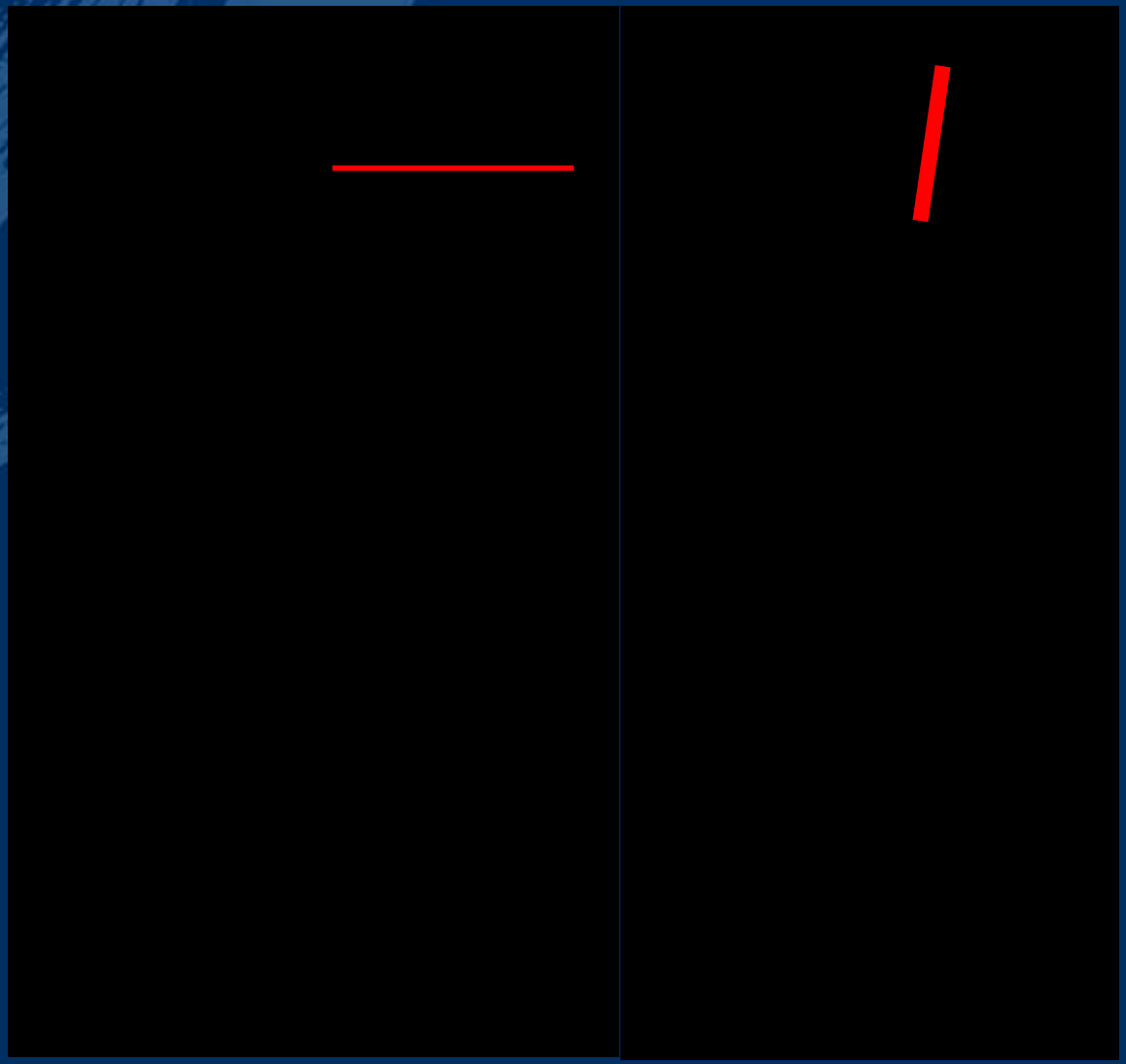
Step by step: 1st stent



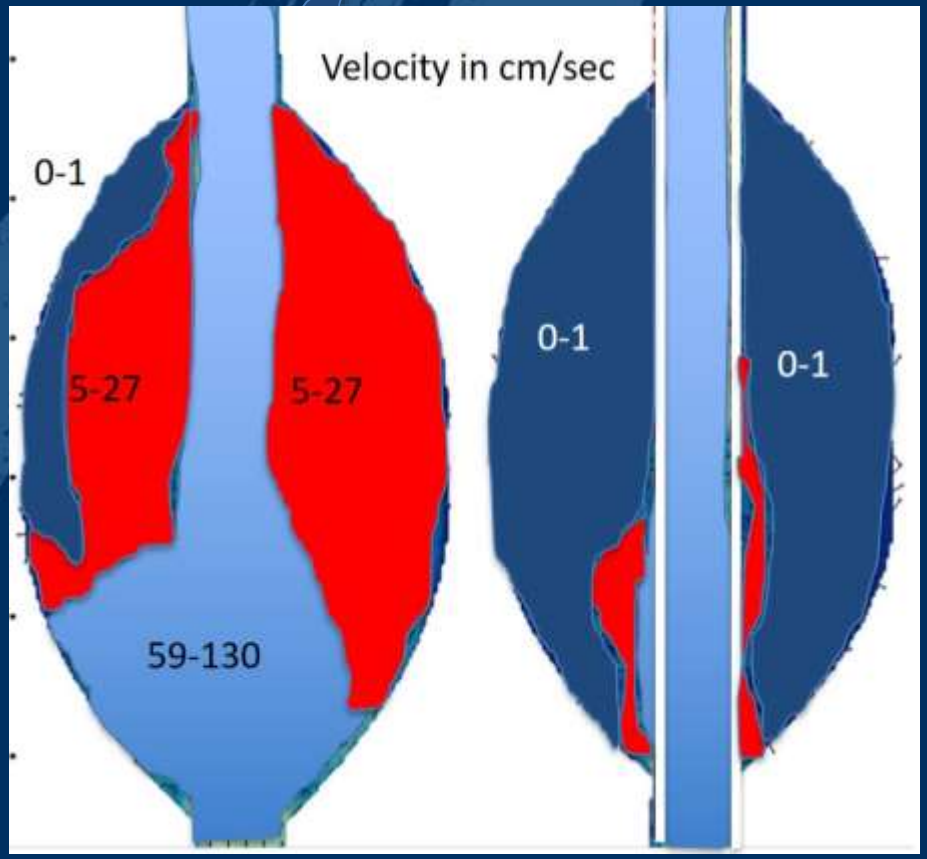
Step by step: 2nd stent deployment



Step by step: 3rd stent deployment



Proof of concept in PAA flow models



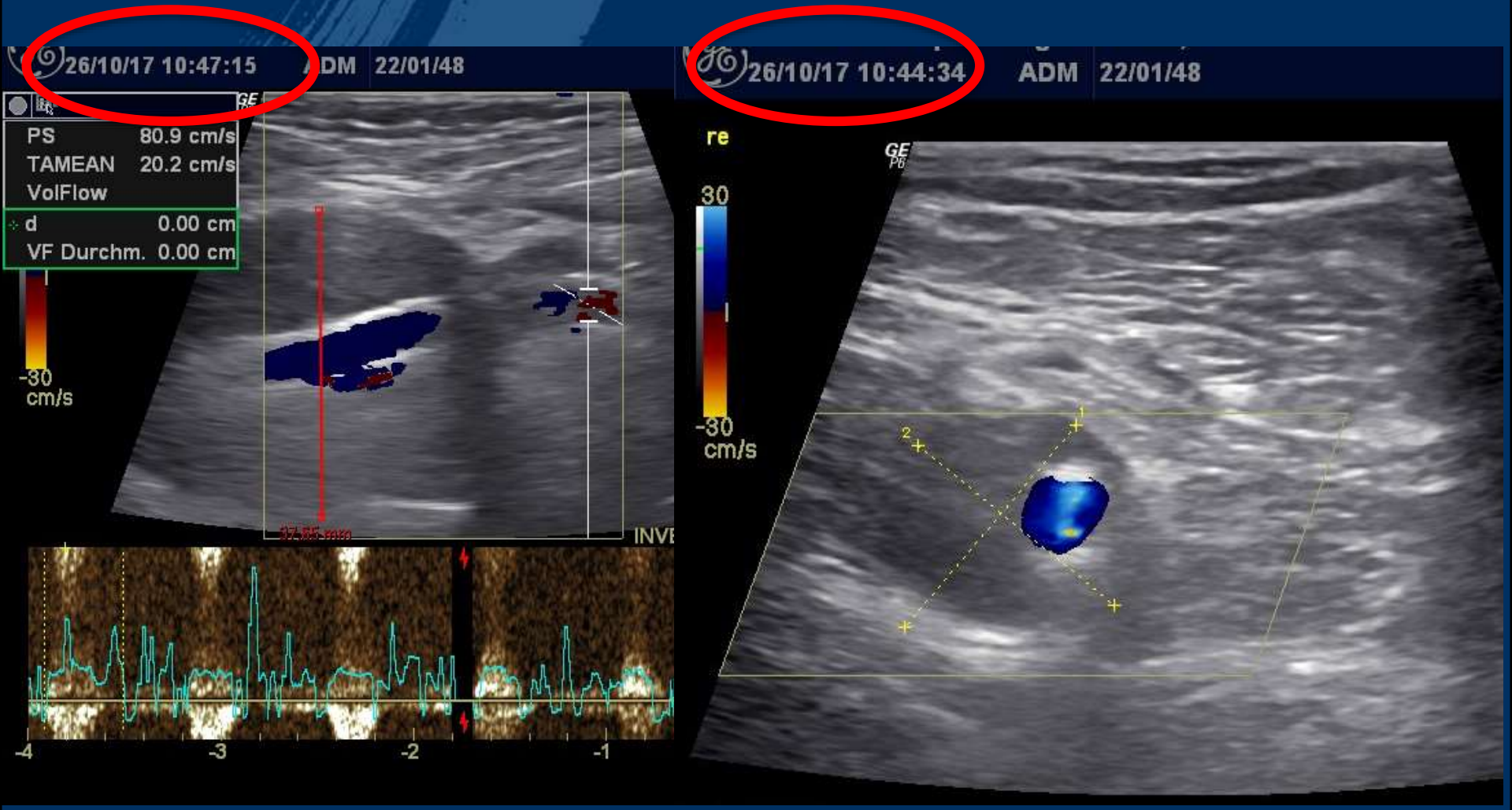
Straight and curved flow modes (University of Twente)

Stent free PAA (left)

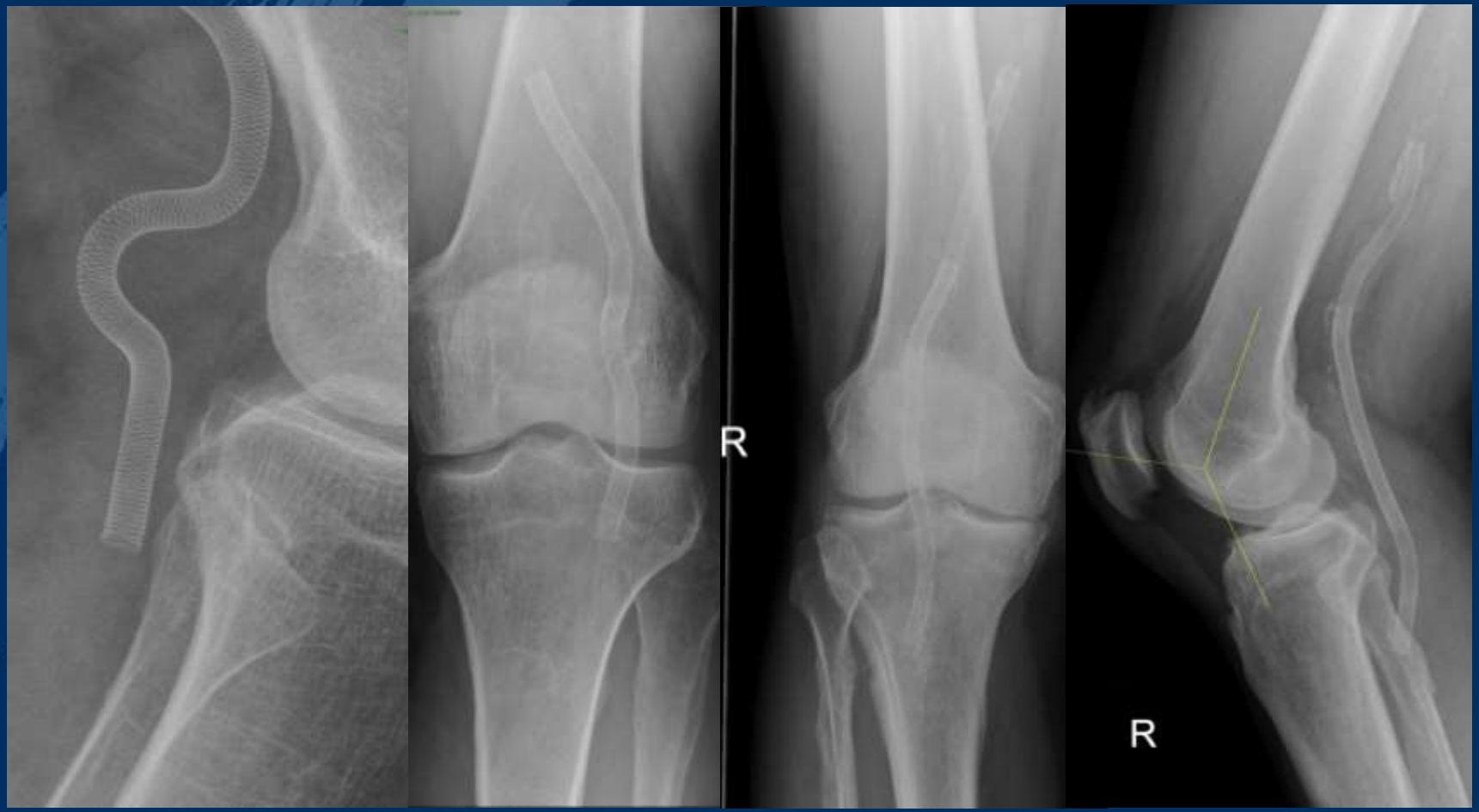
Stented PAA (right)
Expansion of low to zero flow areas
Centralisation of high laminar flow in stent tube

Explains excentric thrombus formation in untreated PAA
Explains the ordered thrombus formation after stent placement
Low flow and high residence time→ thrombogenicity
Explains thrombus stability without wash out even with stent sideways migration

Baseline FU examination : DUS / ABI/ 0-3-9-15…



FU with DUS, ABI and native X-ray



results and conclusions drawn

Diameter mismatch (4-7mm) does not influence the outcome but 6-7mm stent to achieve maximum ID in overlapping zone

DAPT was more effective than anticoagulation alone and prolonged DAPT (6 mo) more effective than 30 d

Maximum 3 telescoped stents : depends on landing zone diameter and PAA longitudinal extent

Max. 7x100 mm available

But 6x200 mm

In conclusion

- Supera in PAA is a safe and effective therapeutic approach
- Lab tests coherent with clinical results: early thrombosis
- Principle of flow diverting devices is reliable for this purpose
- User must be familiar with the device characterisitcs
- Deployment of stent must be complete before pulling the sheath back !!!!!!
- Radiologic control, deployment safety advice (IFU)
- When safely deployed (!) no device related complications (fractures, migration, separation)
- PP/ SP are in the range of CS

Thank you for your attention

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