A New Multi-Suction Heart Positioner for Minimally Invasive Coronary Artery Bypass Surgery

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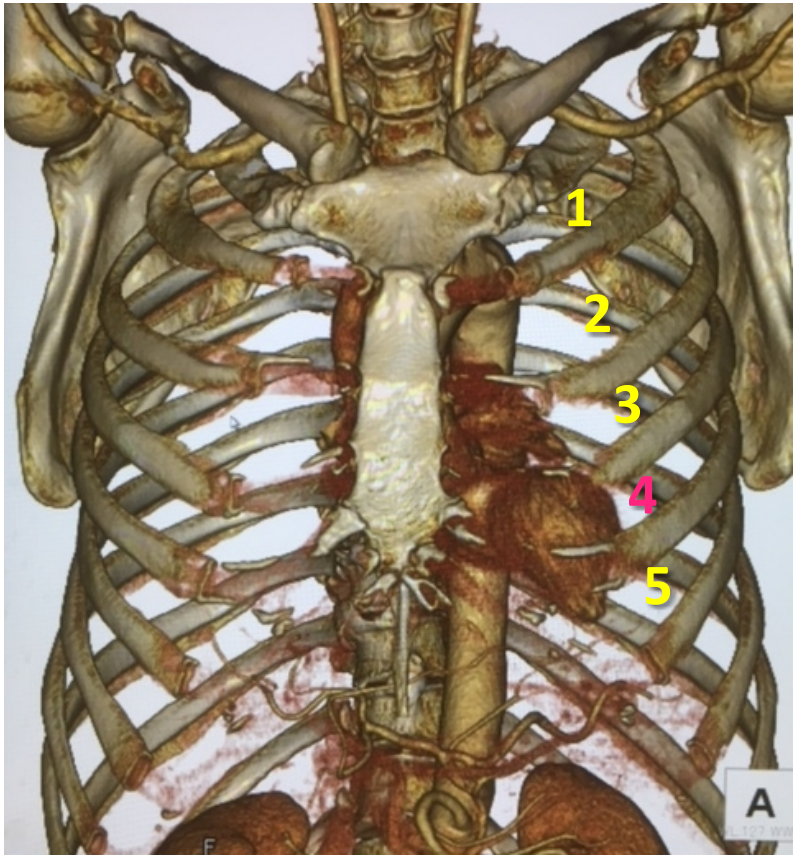
DISCLOSURE

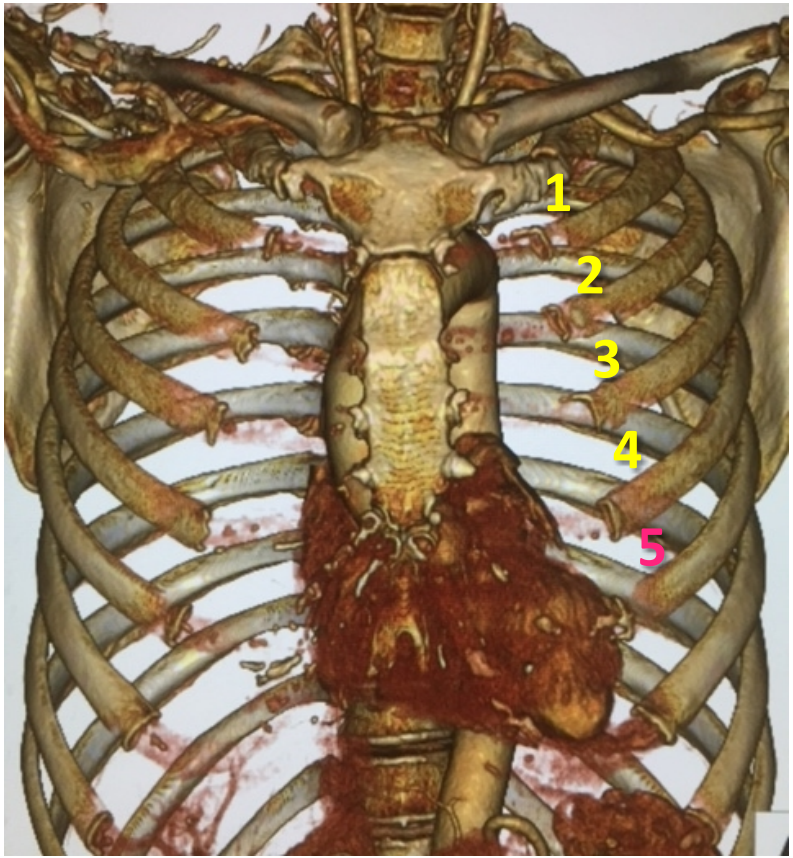
NONE

TIPS for distal anastomosis

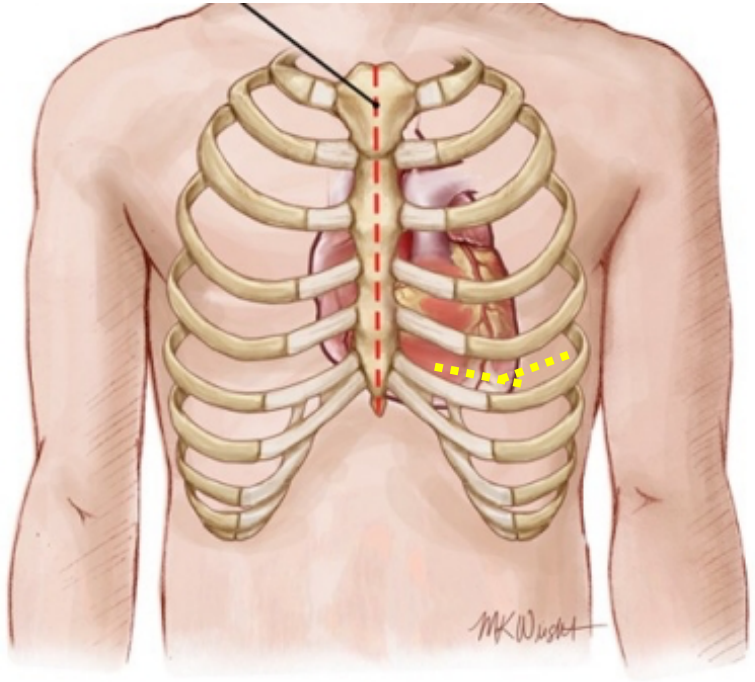
1. Proper thoracotomy (5^{th} ICS mostly)
2. Complete dissection between the sternum and the heart
3. Wide opening of the pericardium
4. Deep pericardial stitches
5. Proper use of suction devices
6. Use CPB in a difficult case (VA-ECMO)

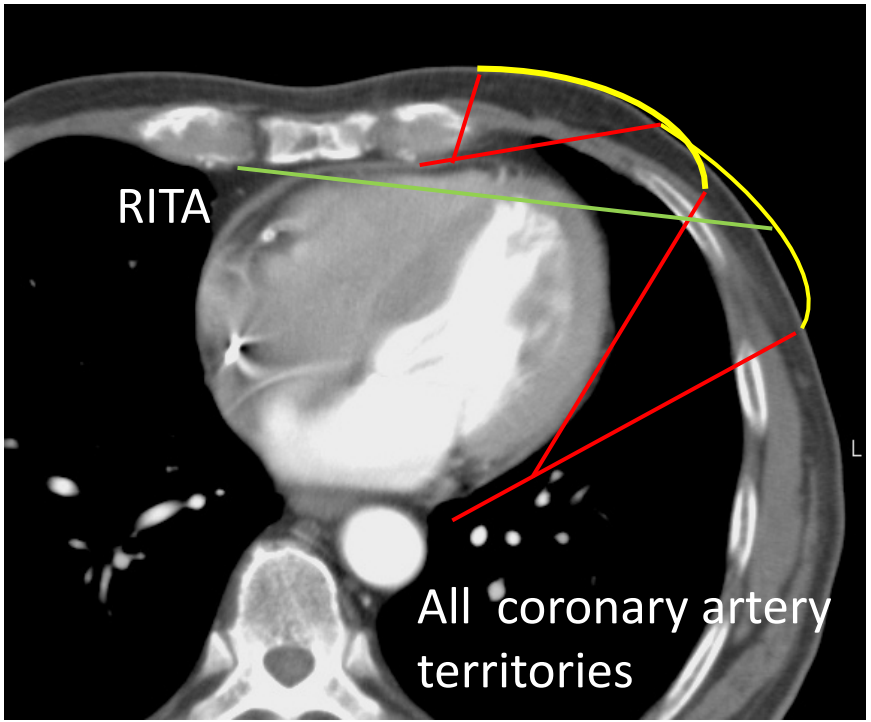
Preop. CT evaluation



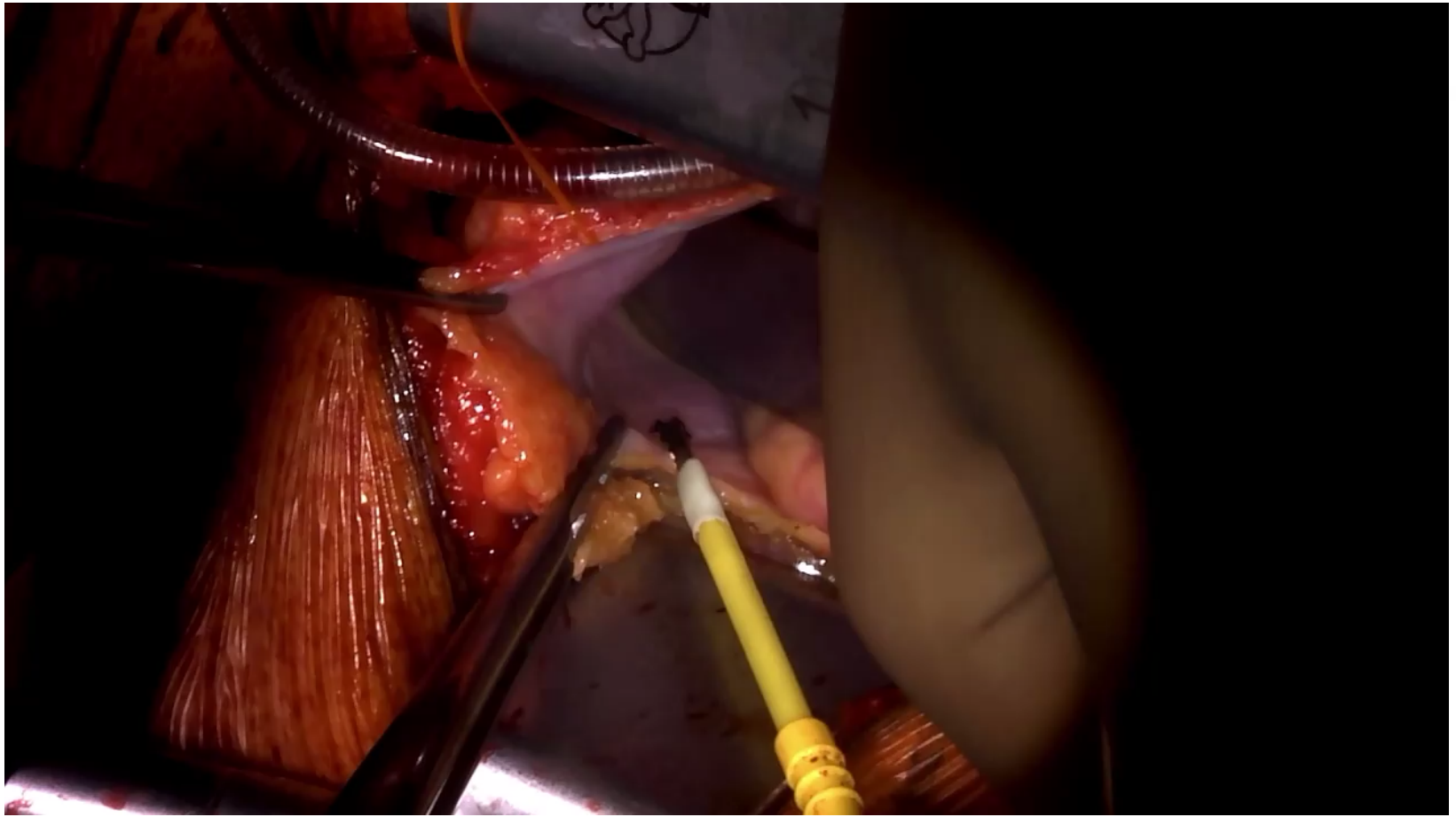


More lateral thoracotomy provides easy access to the lateral coronary arteries and the RITA

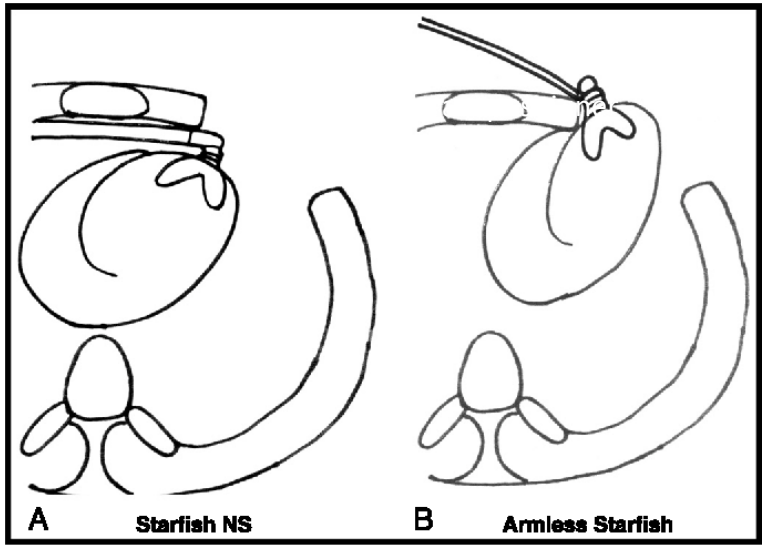


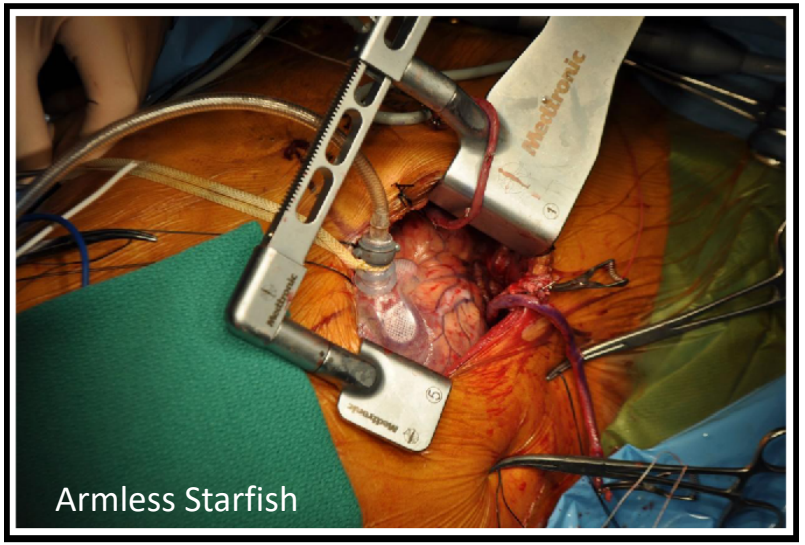


Wide pericardiotomy



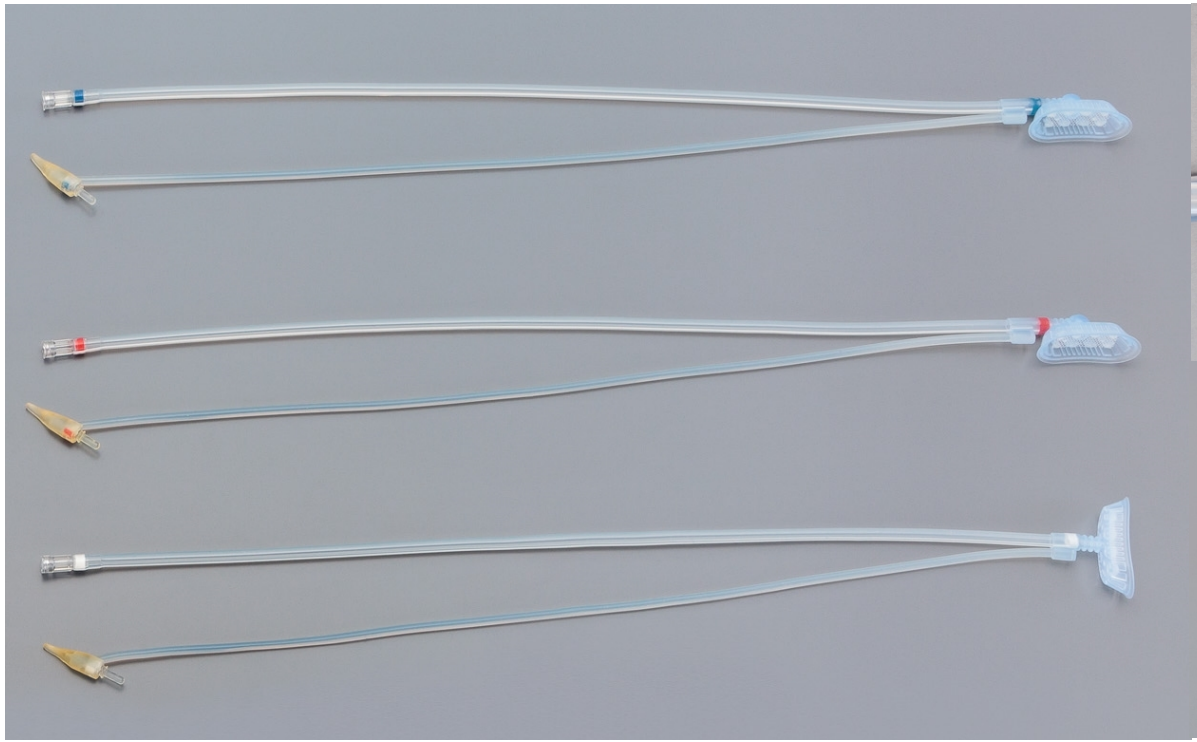
Displacement of the heart is challenging in MICS CABG

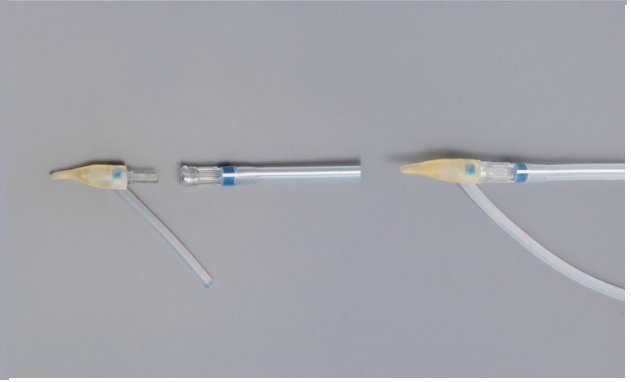




Kikuchi et al. Innovations 2015;10:183-7.

Tentacles NEO (SB-KAWASUMI LABORATORIES, INC, JAPAN)

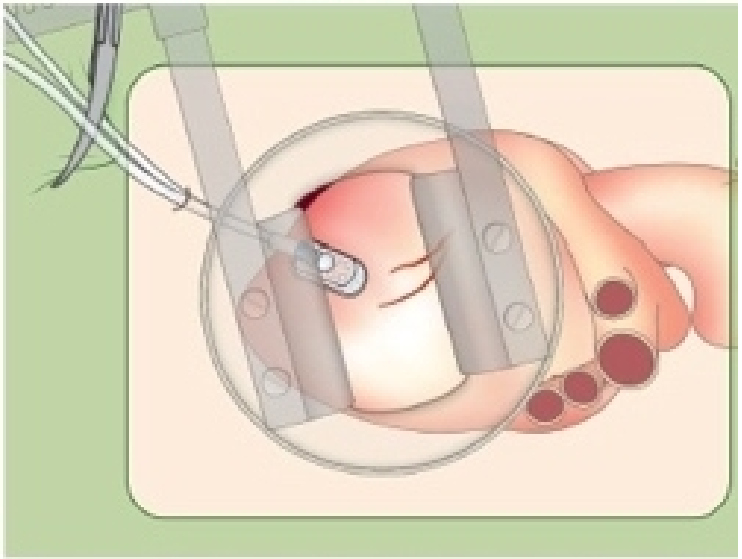


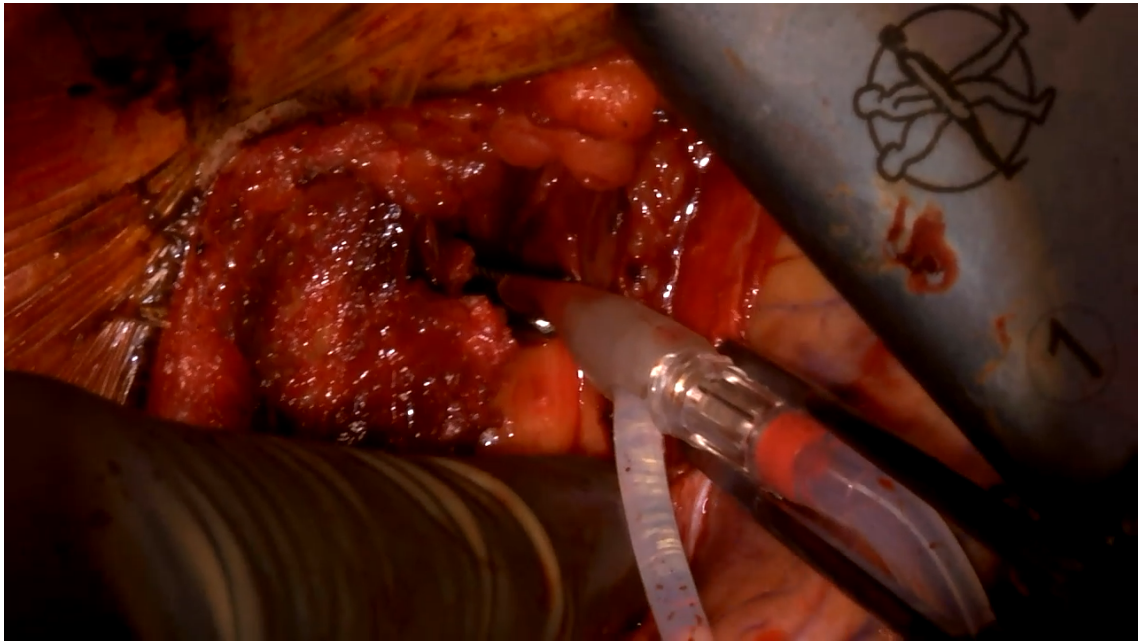


Sakaguchi, et al. Ann Thorac Surg 2020;109:e63-65


Medtronic
Medtronic

Exposure of Diagonal / Ramus





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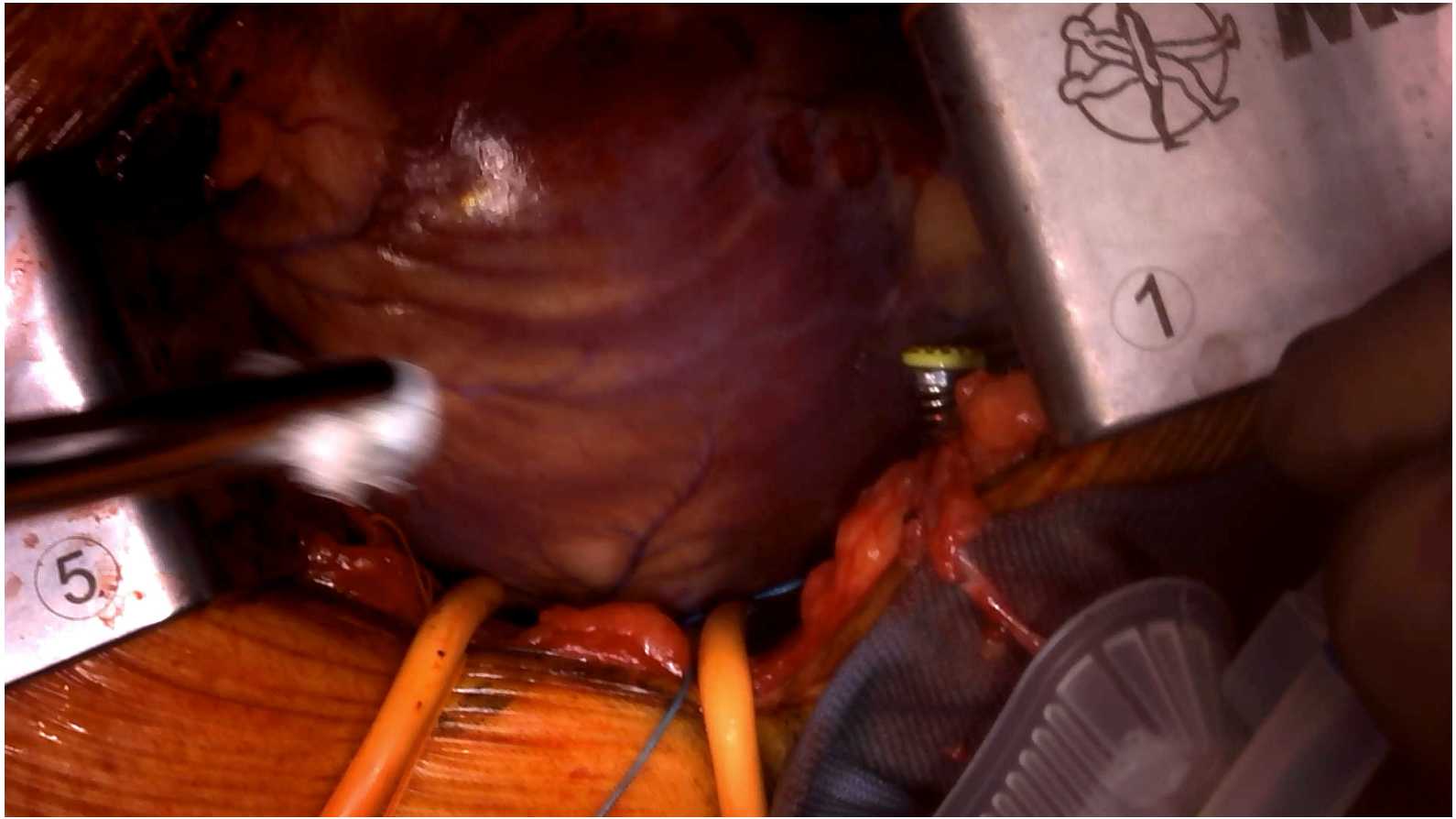
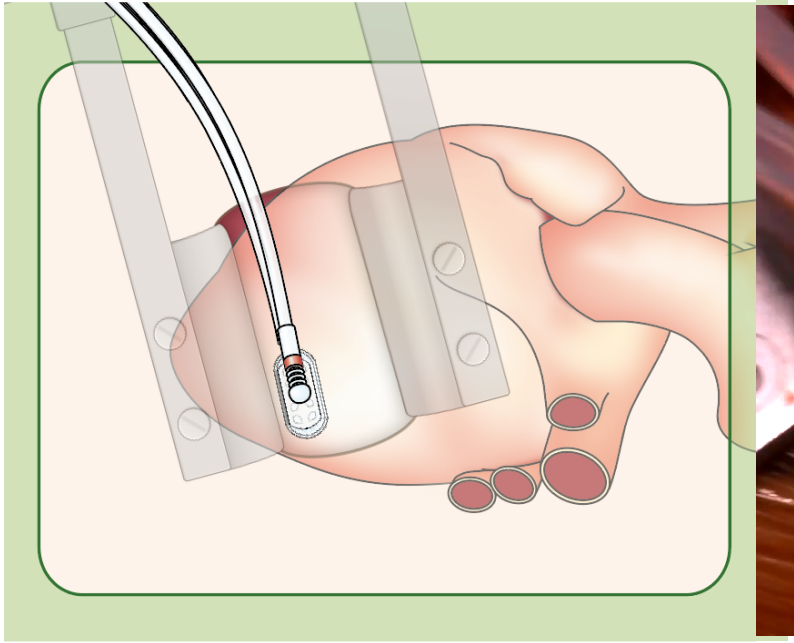
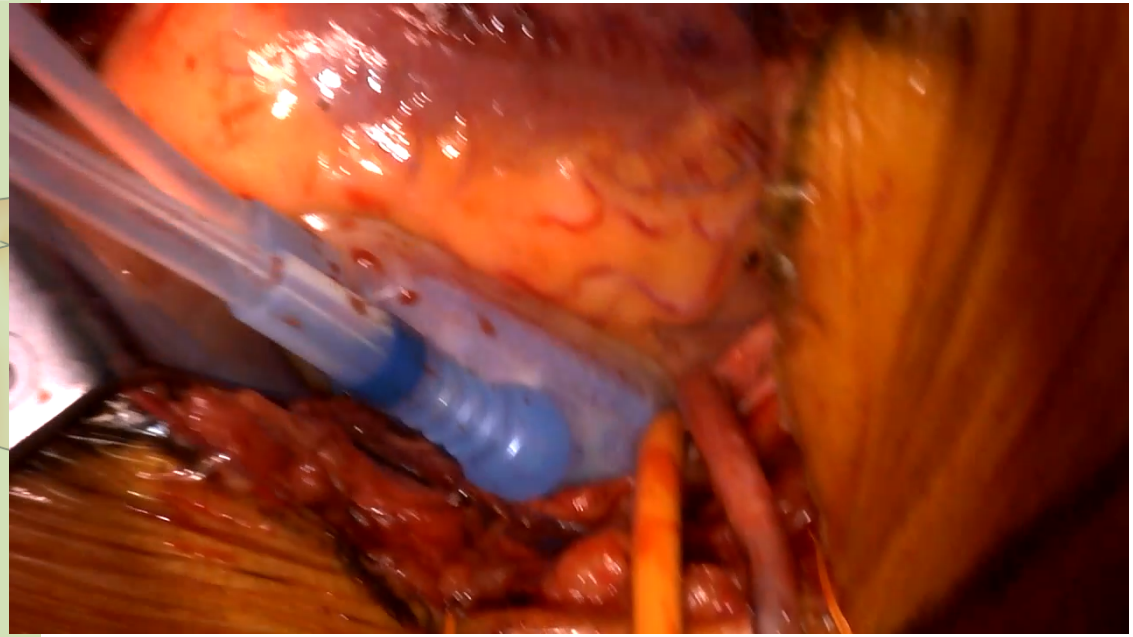
Exposure of OM

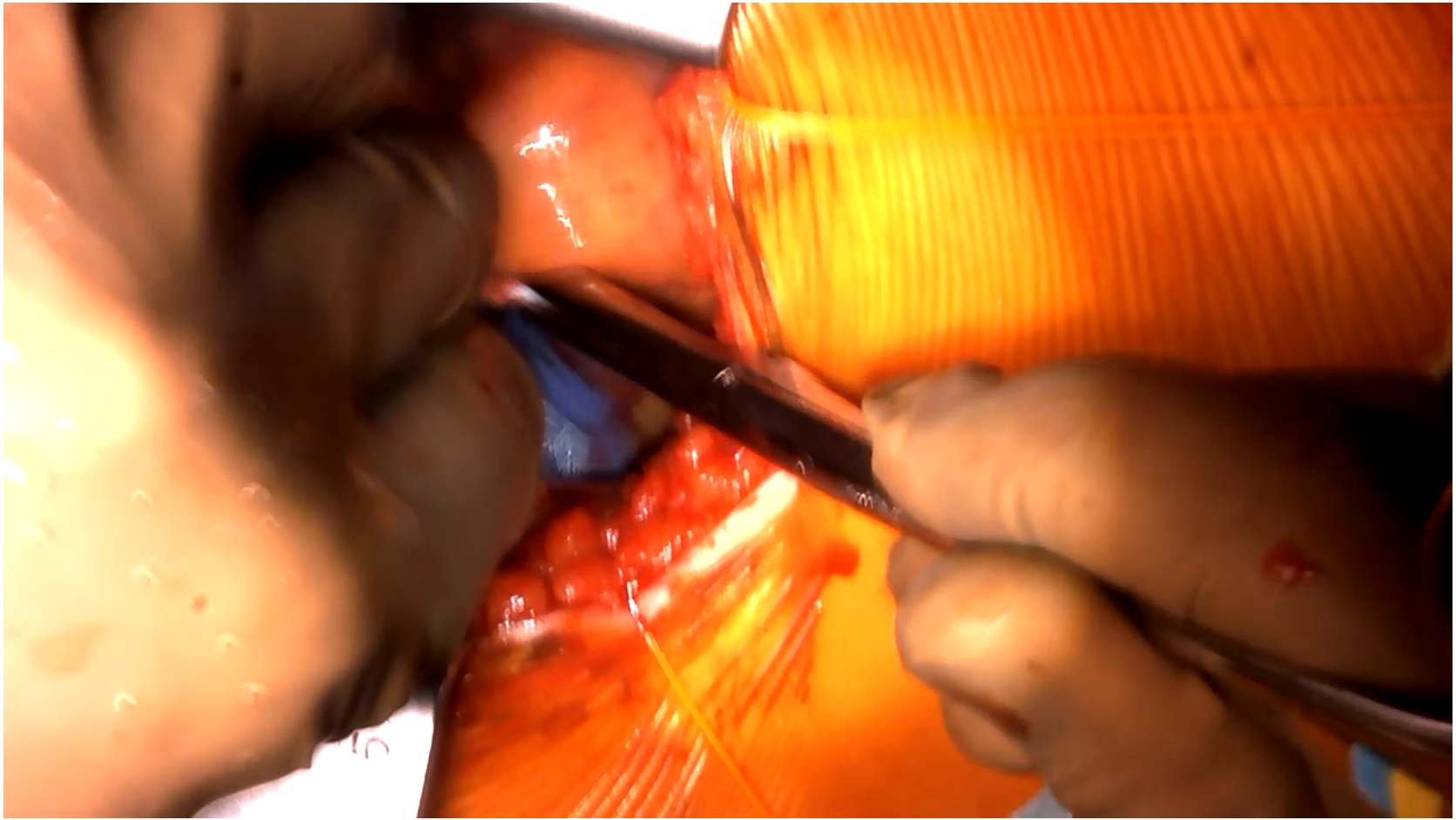


Stepwise exposure (PL)





Stepwise Exposure (PDA)



MICS CABG strategy for multivessel CAD

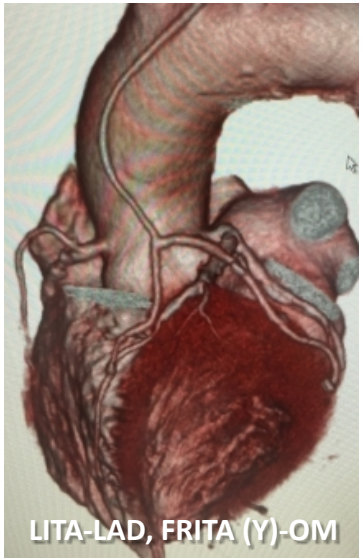
Aortic no-touch MICS CABG with BITA

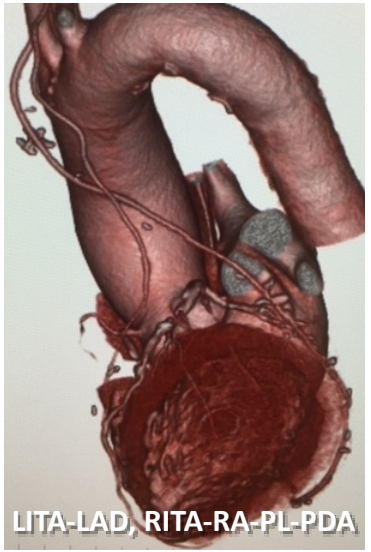
LITA-LAD

+ RITA (in-situ)

+ LITA-free RITA Y composite

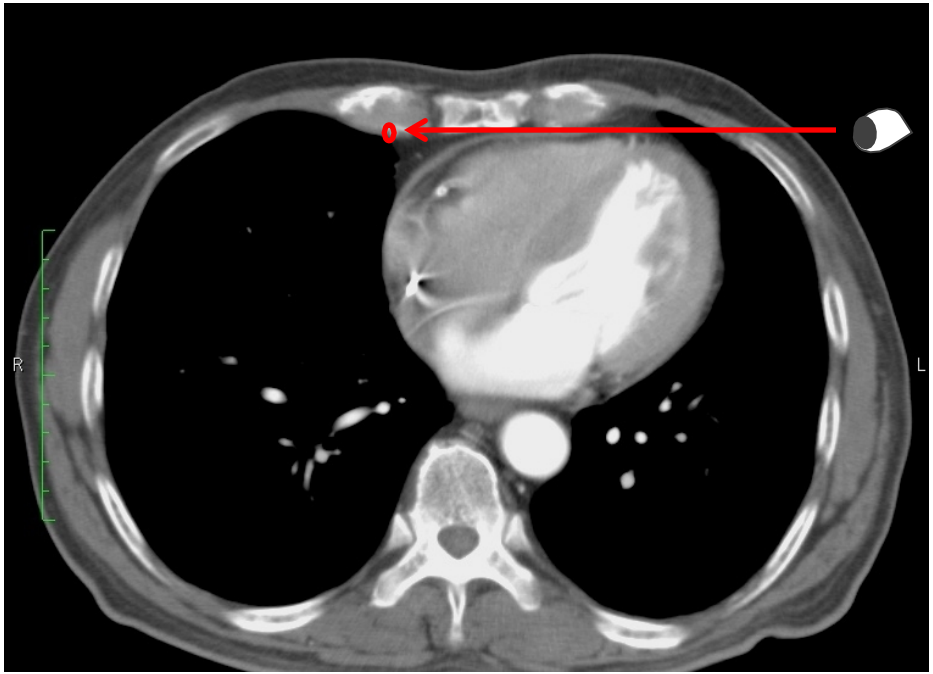
+ RITA-RA (or SVG) I composite



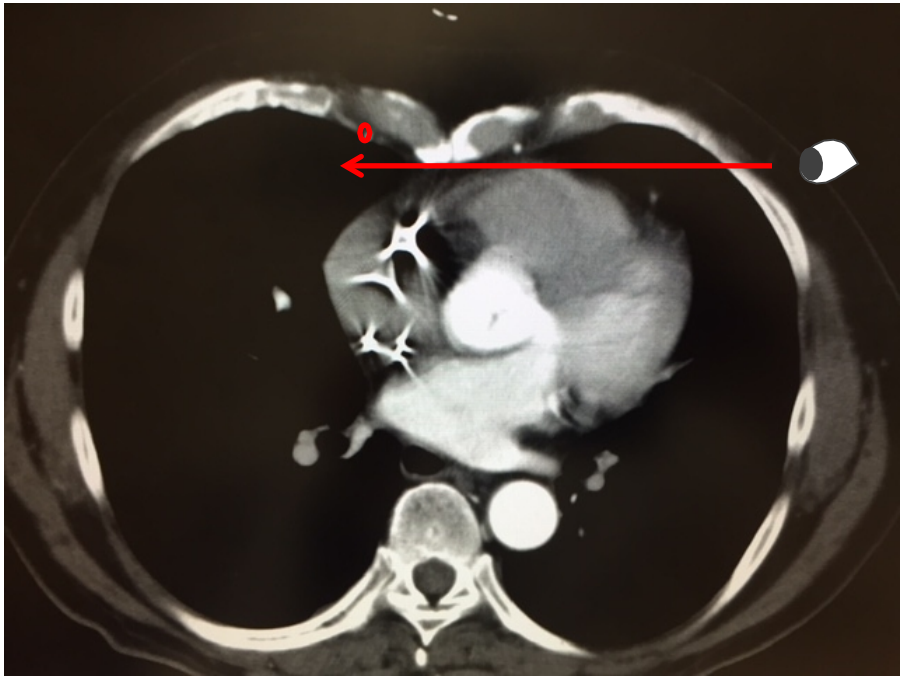


Consider Hybrid approach for frail or elderly patients.

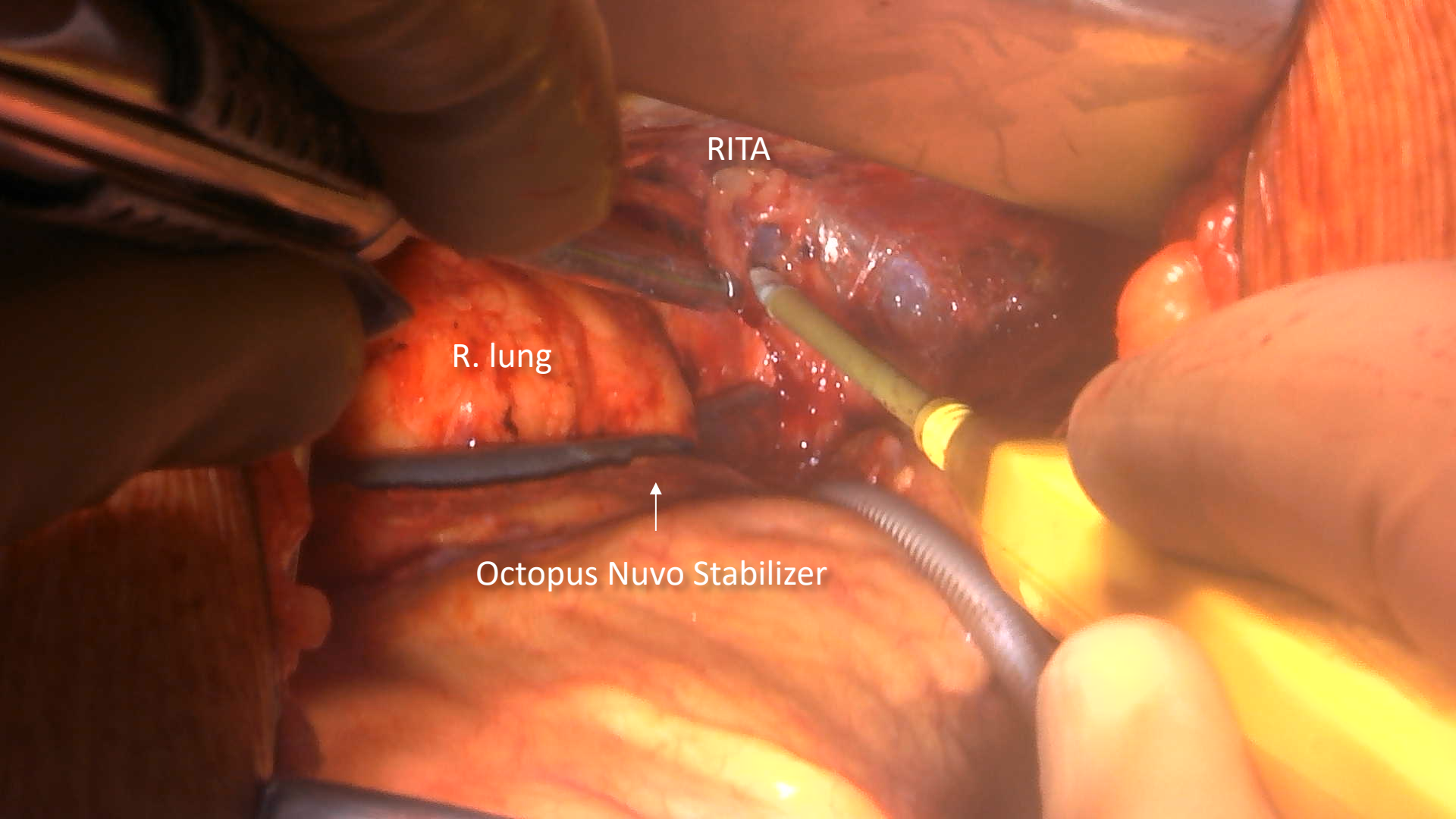
Preop. CT evaluation for access to the RITA



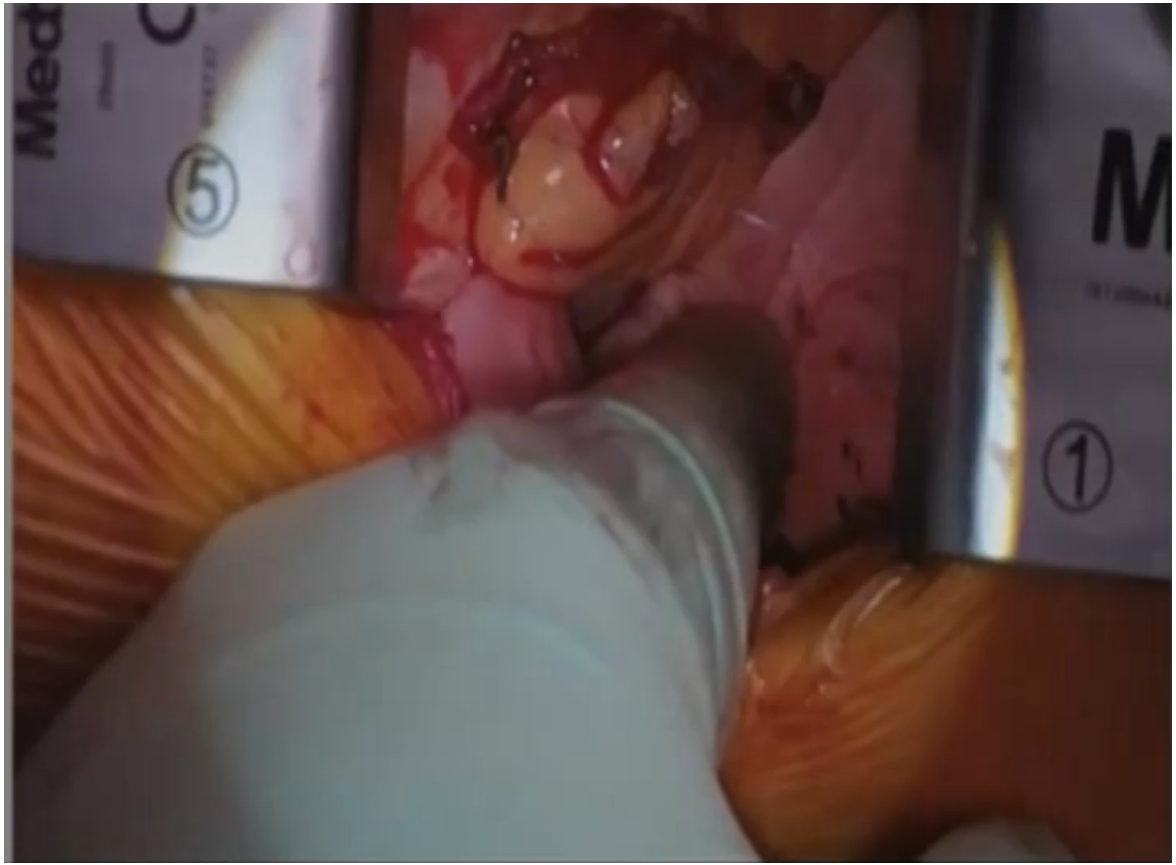
Good exposure



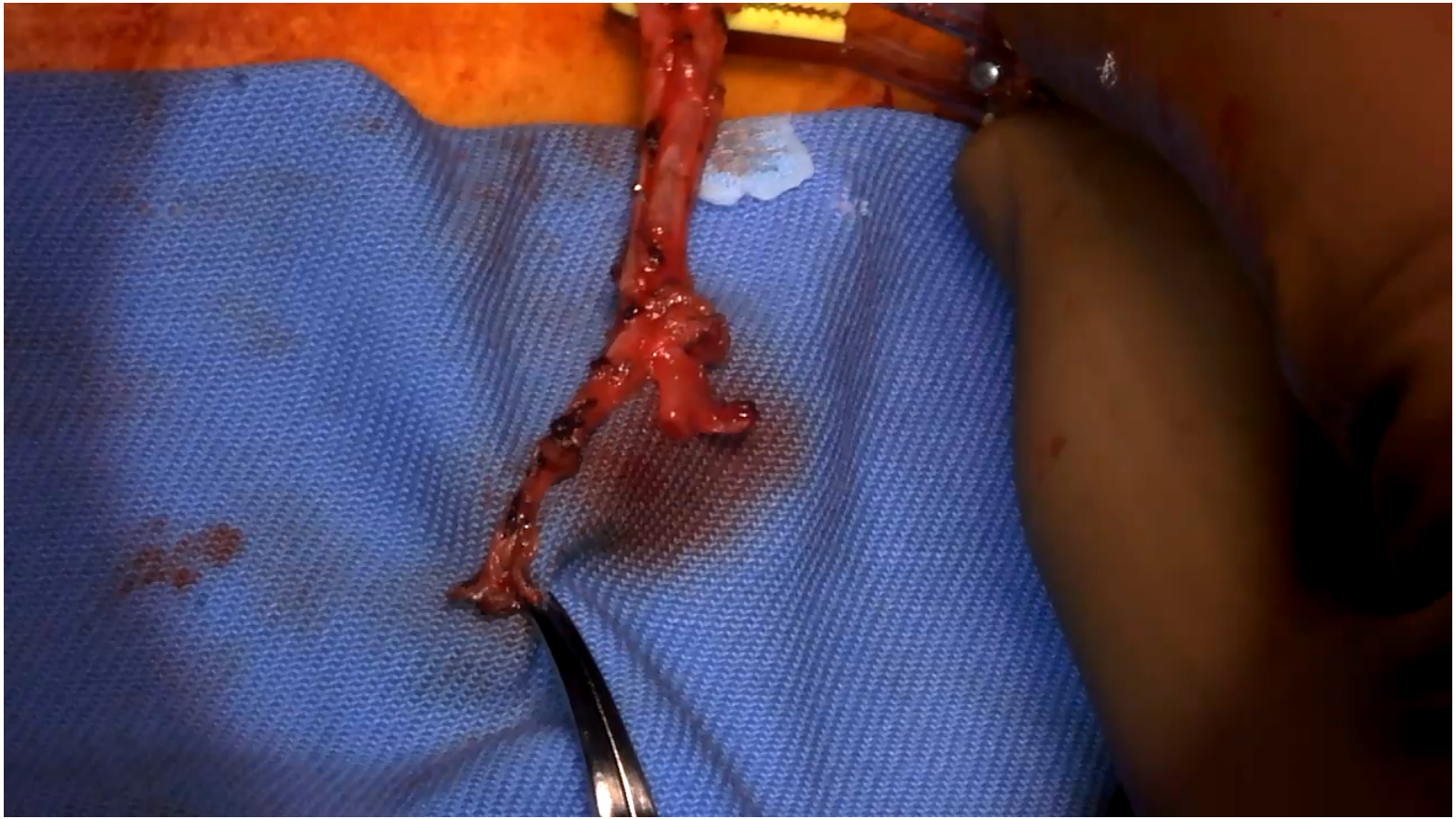
Poor exposure


RITA
R. lung
Octopus Nuvo Stabilizer

LITA-free RITA Y-composite graft



RITA-RA I-composite graft



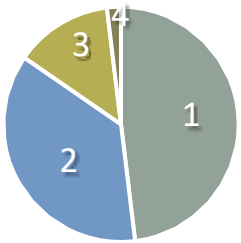
Clinical outcomes (N=210)

Age 73±11

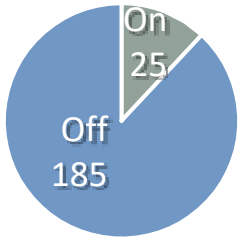
Concomitant procedures

- TAVR 7
- LV aneurysm resection 2
- LAA resection 2

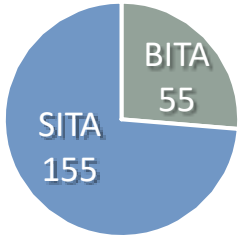
Hybrid coronary revascularization 33



Graft number



CPB use



ITA

Clinical Outcomes (N=210)

• Operative mortality	3 : cancer (1) NOMI (2)
• Chest re-exploration	0
• Stroke	1 (concomitant TA-TAVR)
• MI	1 (Hybrid case)
• Chest wound infection	0
• Prolonged ventilation	4 (1.1 %)
• Early graft patency	97.8% (351/359)

Thank you

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