

# Minimally Invasive Mitral Valve Repair: How to make the first steps?

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CardioThoracic Surgery*



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**Central Clinical Hospital  
of the Ministry of Interior  
and Administration**  
in Warsaw

## Financial Disclosures

- none



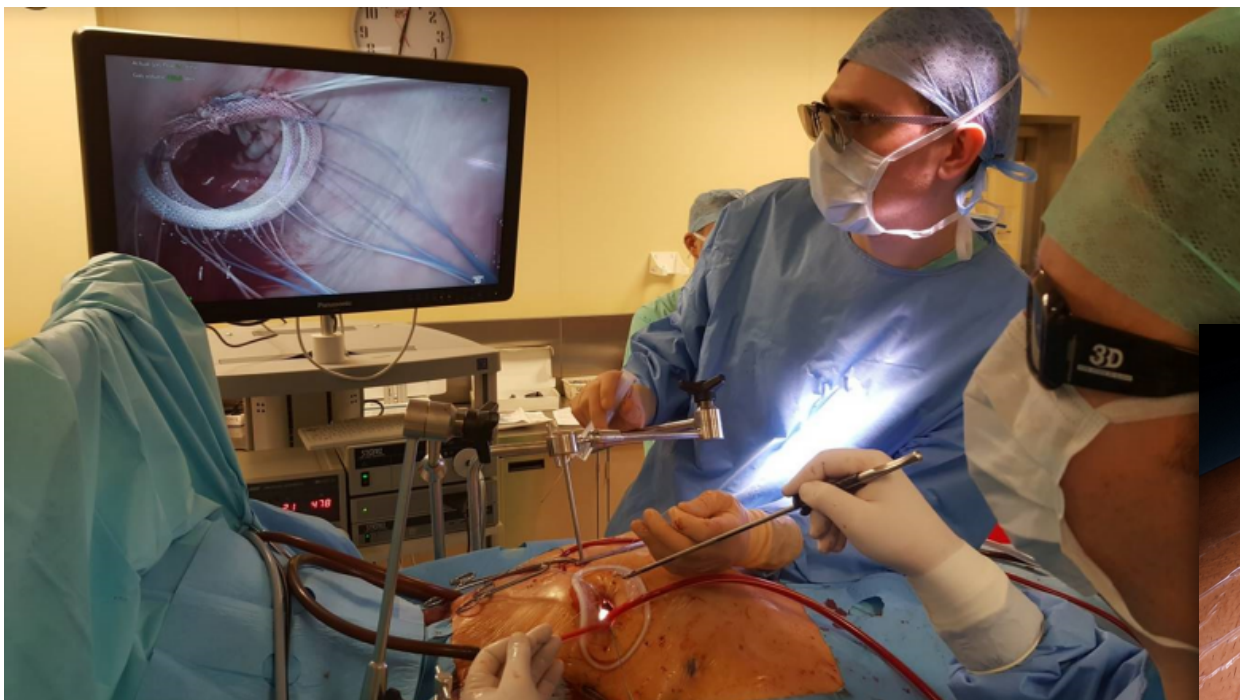
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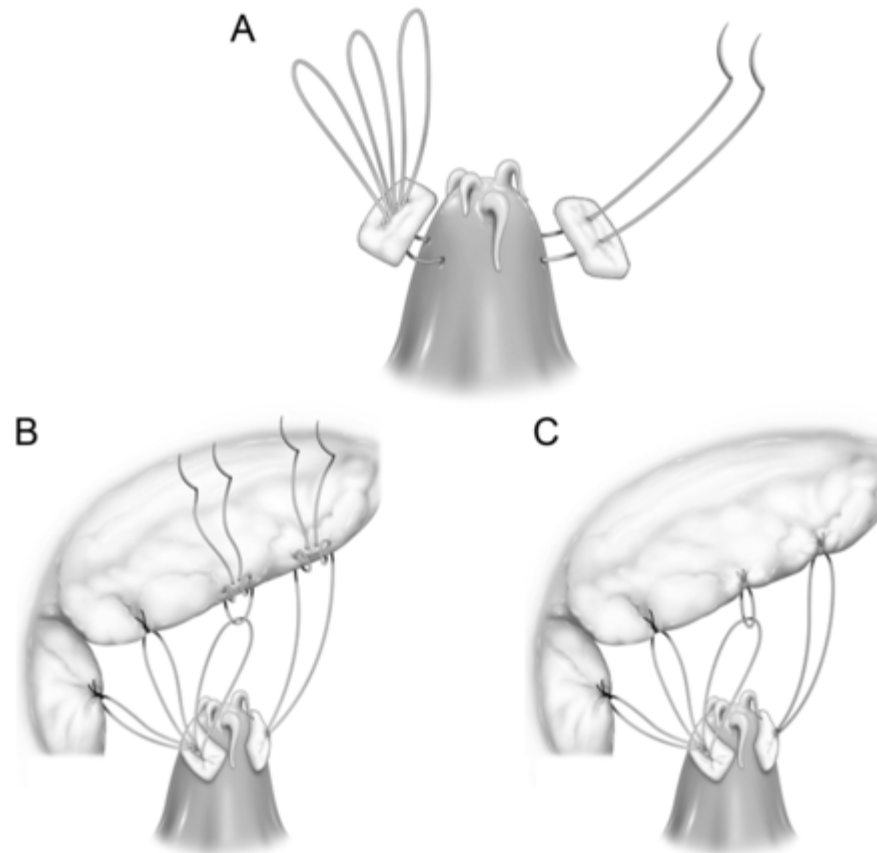
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# Totally toracoscopic view- 3D vision



# THE MOHR PROCEDURE





# ACCESS



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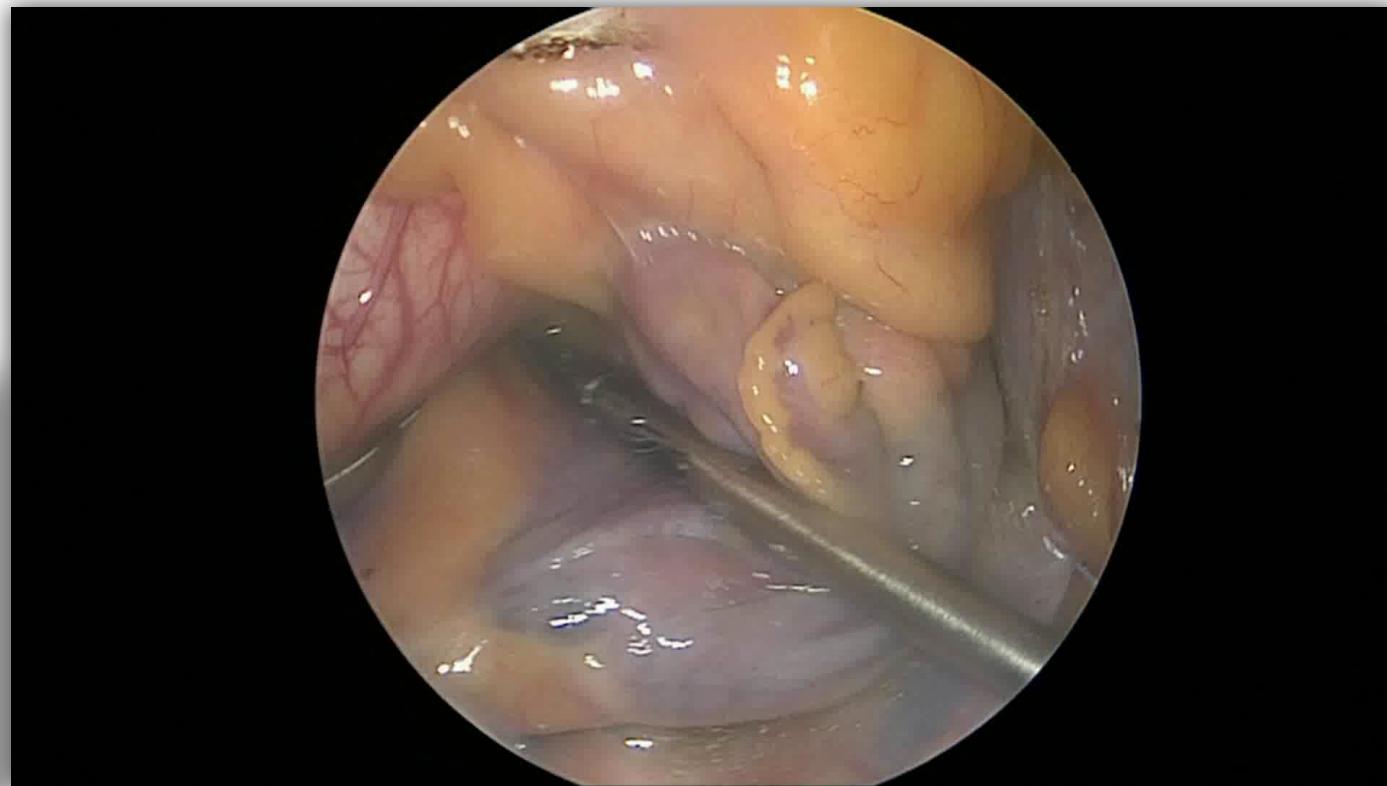


# INTUBATION

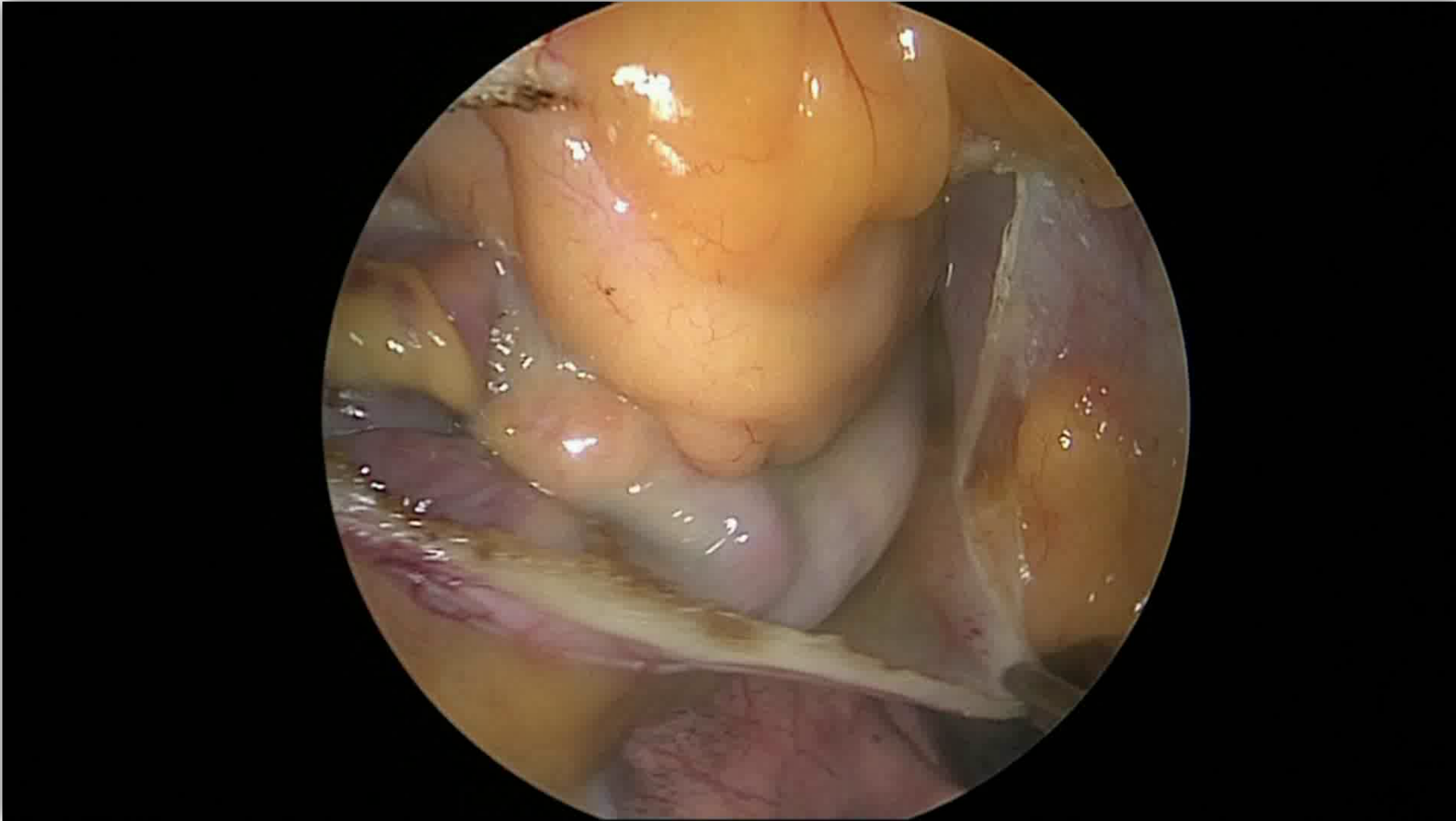
- Normal intubation (single lumen)
- Double lumen intubation



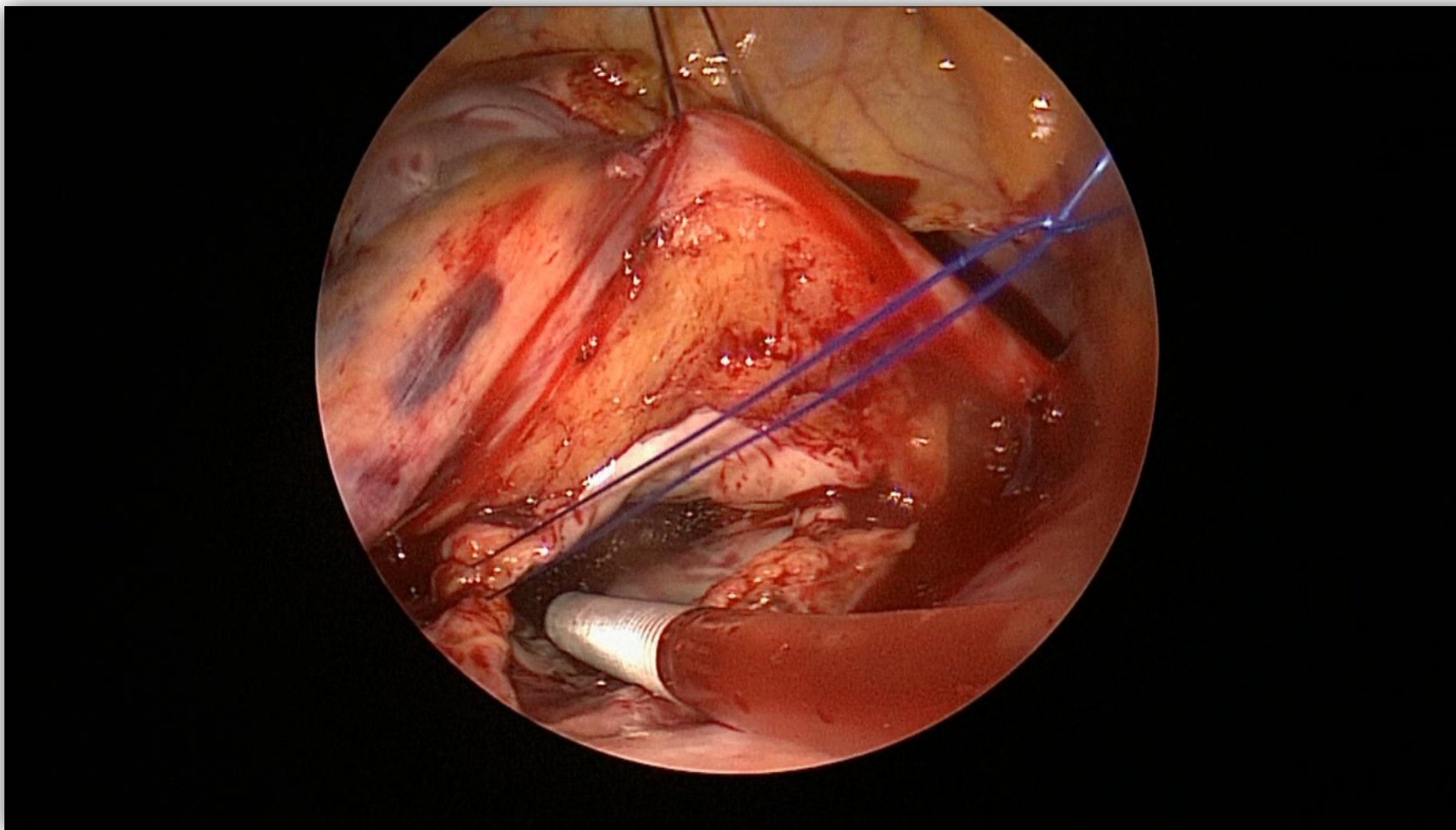
# CARDIOPULMONARY BYPASS



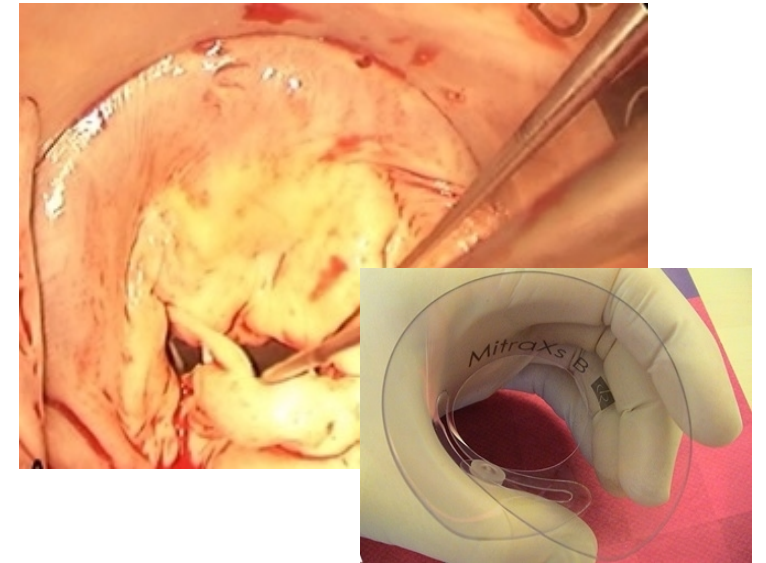
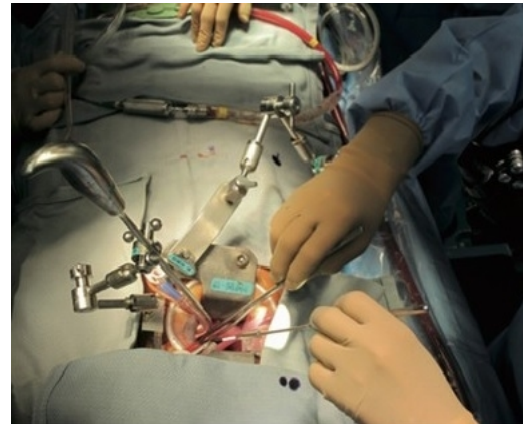
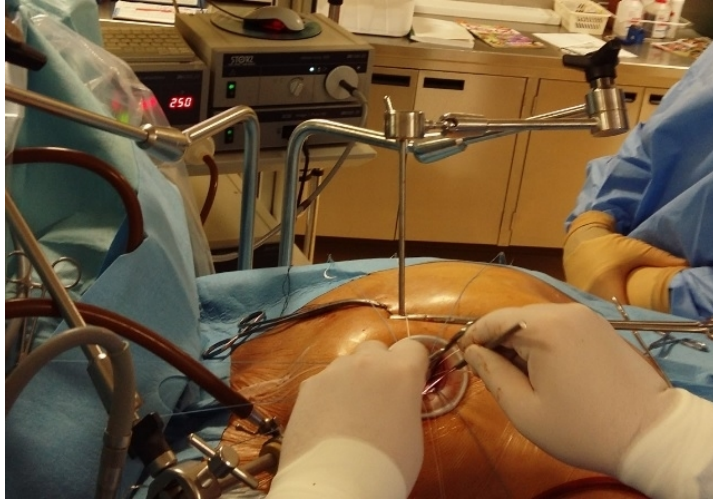
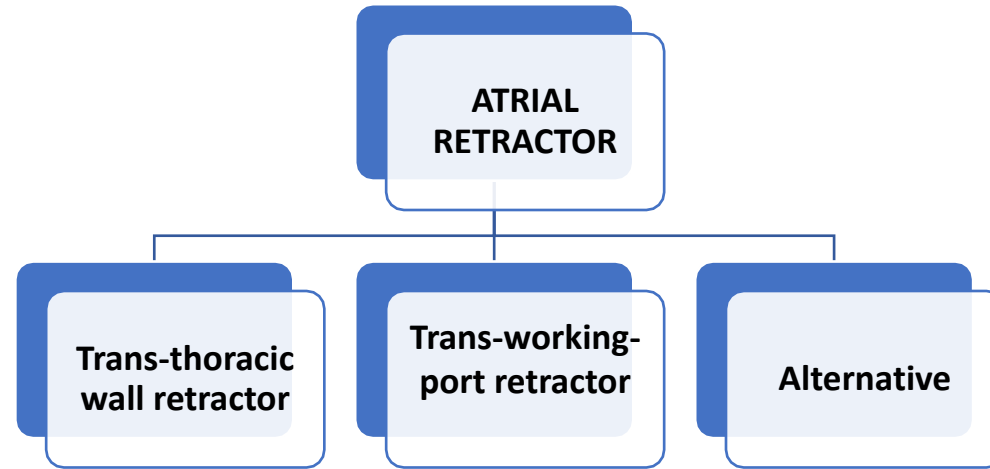
## STAY SUTURES ON THE PERICARDIUM



## WATERSON'S GROOVE



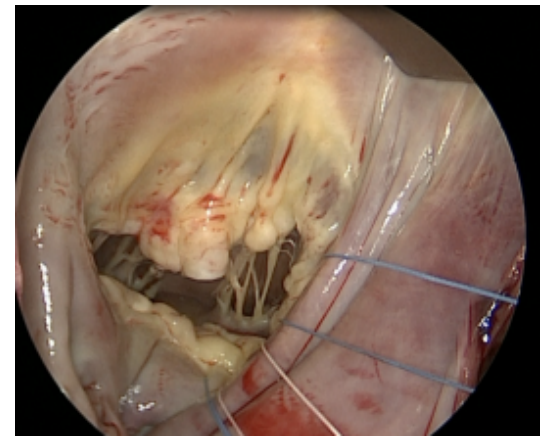




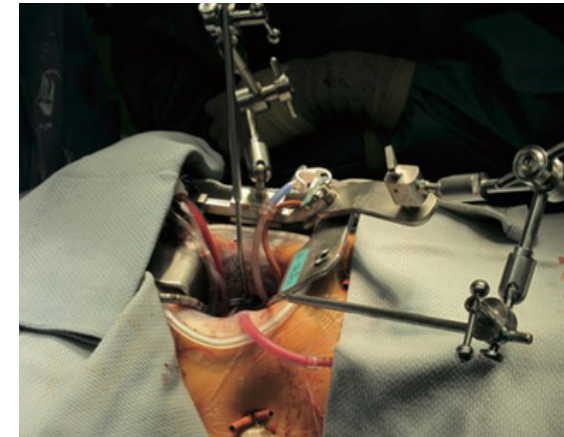
*Okamoto K, Yozu R. Ann Cardiothorac Surg 2015  
Jegaden O, et al. JTCVS 2011*



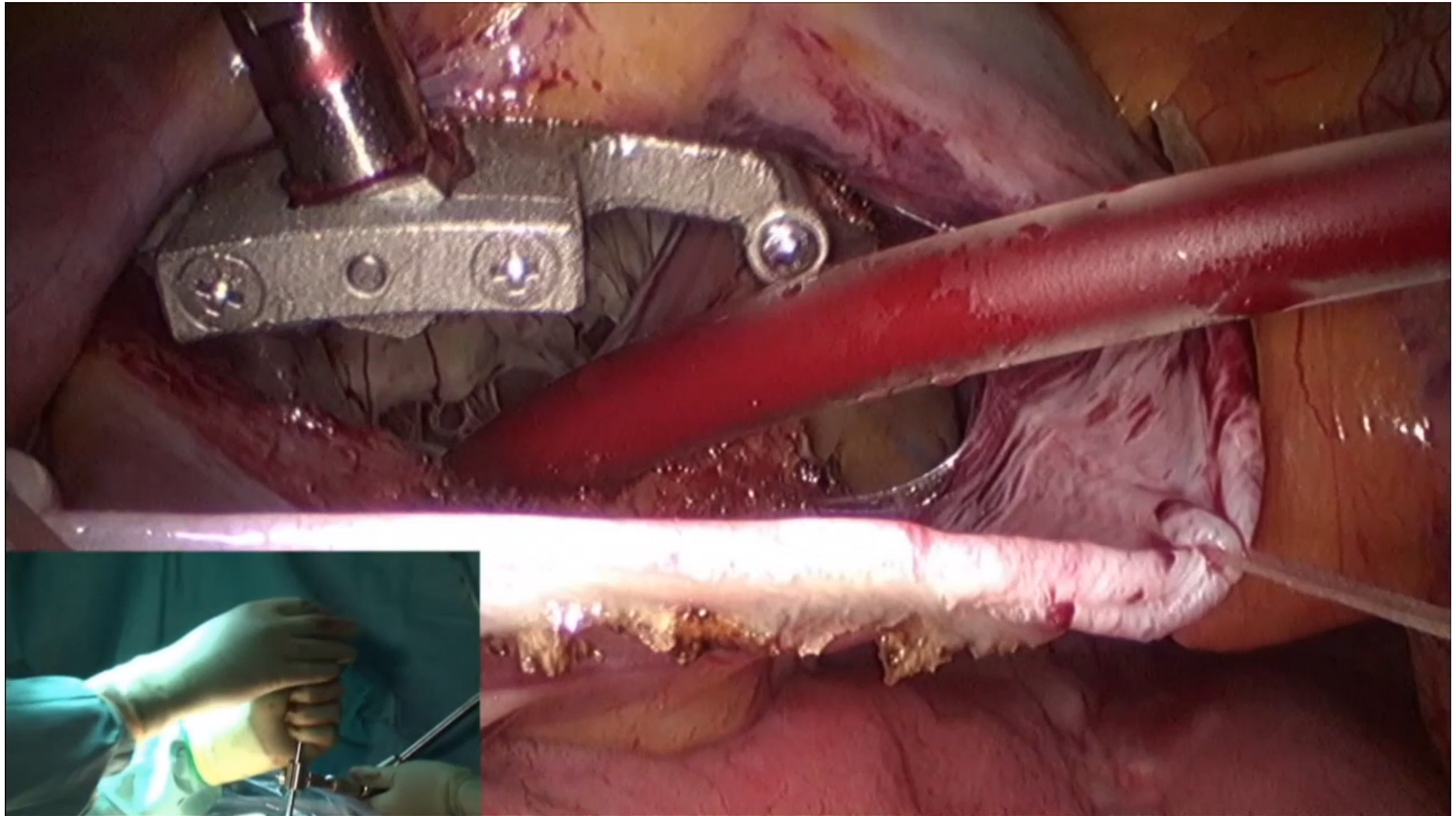
## P2 – P3 VISIBILITY



- Extra spatule/retractor (TT not possible, metal rib spreader needed)
- Open the oblique sinus
- Start with the 3-4 sutures on the P2-P3 annulus and pull them
- Place a „magic stitch” on the FOLD and diaphragm
- Go for TT approach (and don't care...)

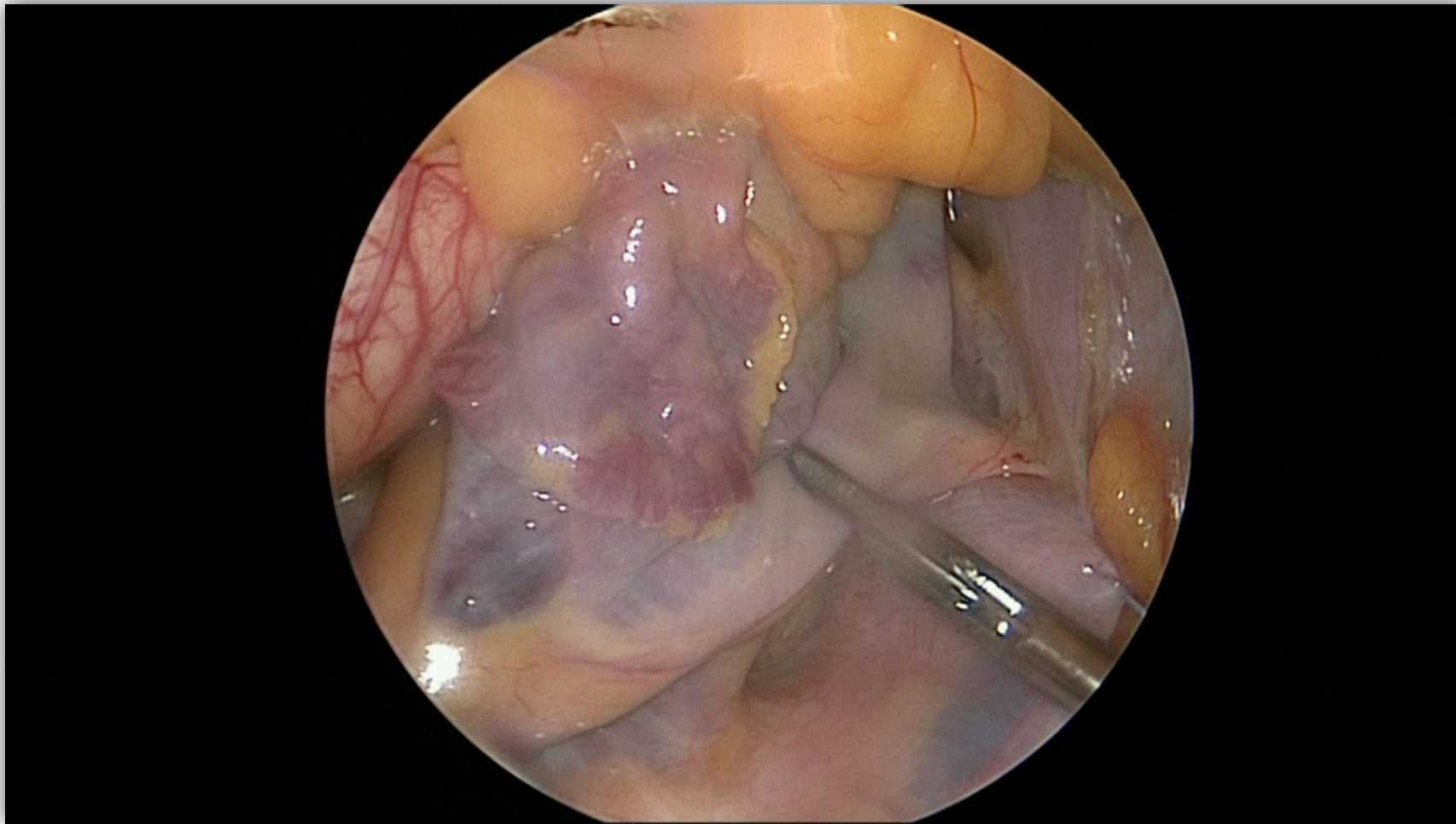


*Picture: Okamoto K, Yozu R. Ann Cardiothorac Surg 2015*



Courtesy Prof. Dr. J. Kempfert

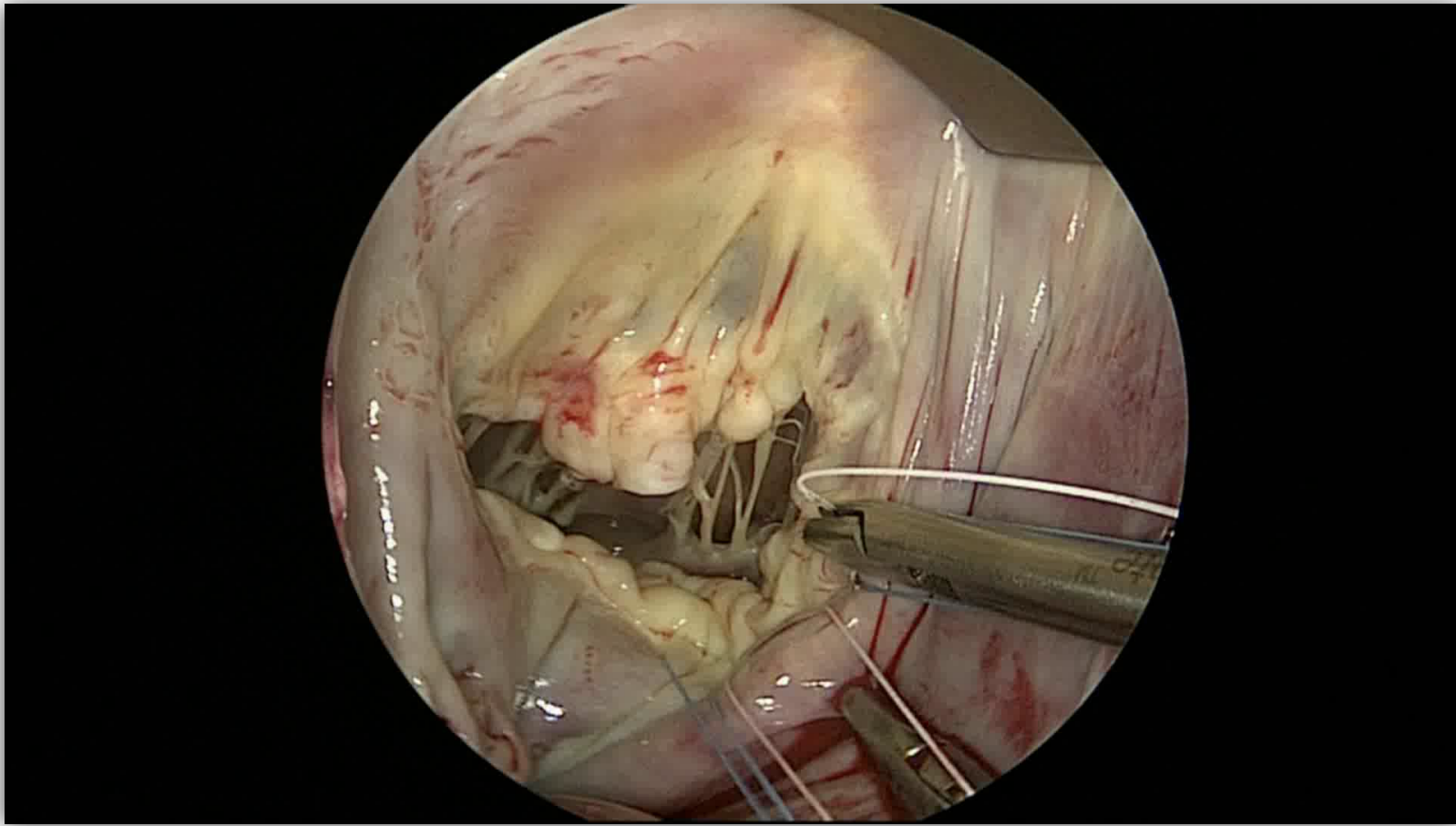
## OPENING OF THE OBLIQUE SINUS





## P2 – P3 VISIBILITY

- Start with the 3-4 sutures on the P2-P3 annulus and pull them
- Place a „magic stitch” on the FOLD and diaphragm

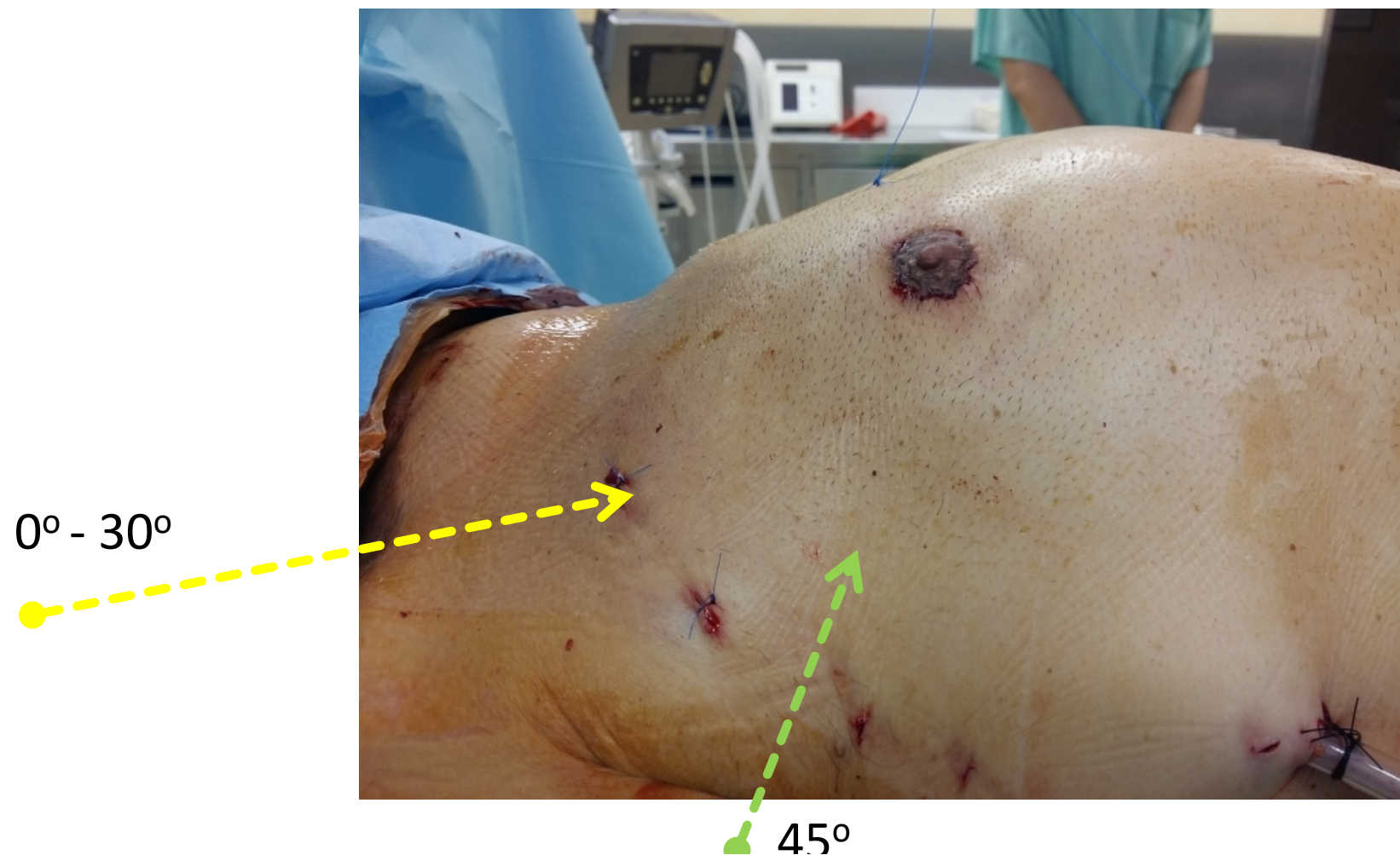


## P2 – P3 VISIBILITY

- or go for TT approach (and don't care...)



## ENDOSCOPIC CAMERA – working space





# VALVE EXAMINATION

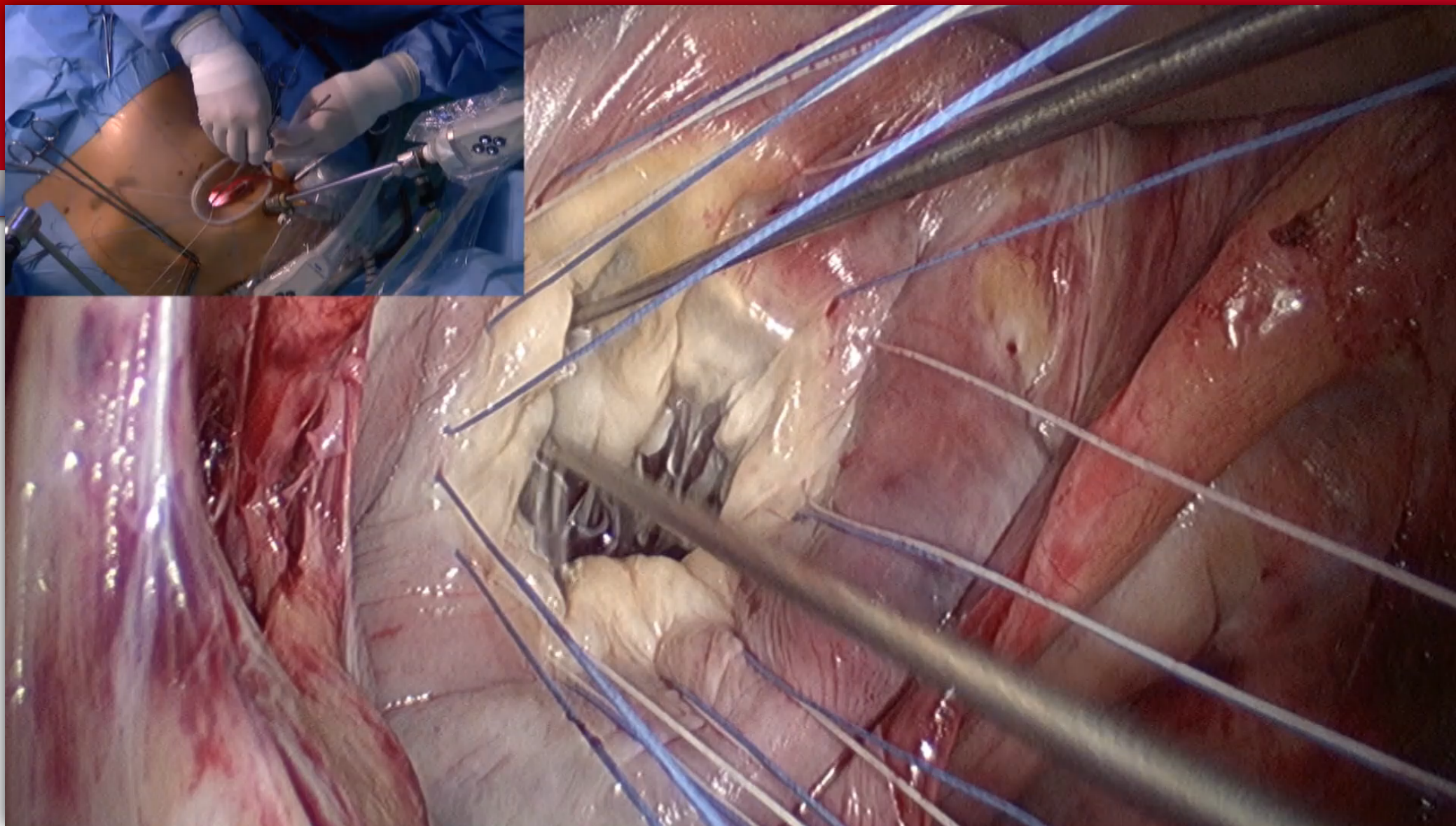


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# NEOCHORDAE MEASUREMENT

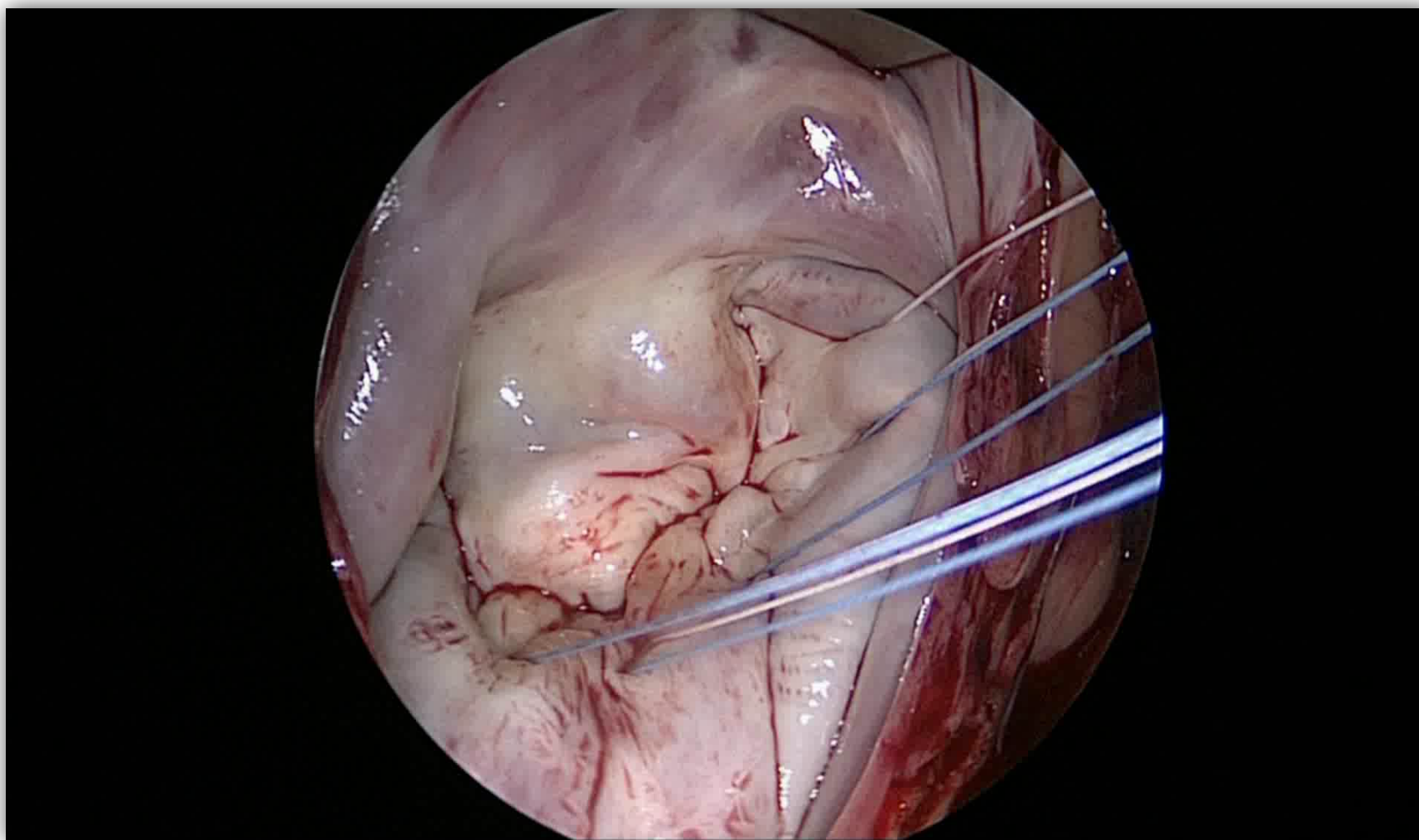


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Important role of ECHO pre-measurement



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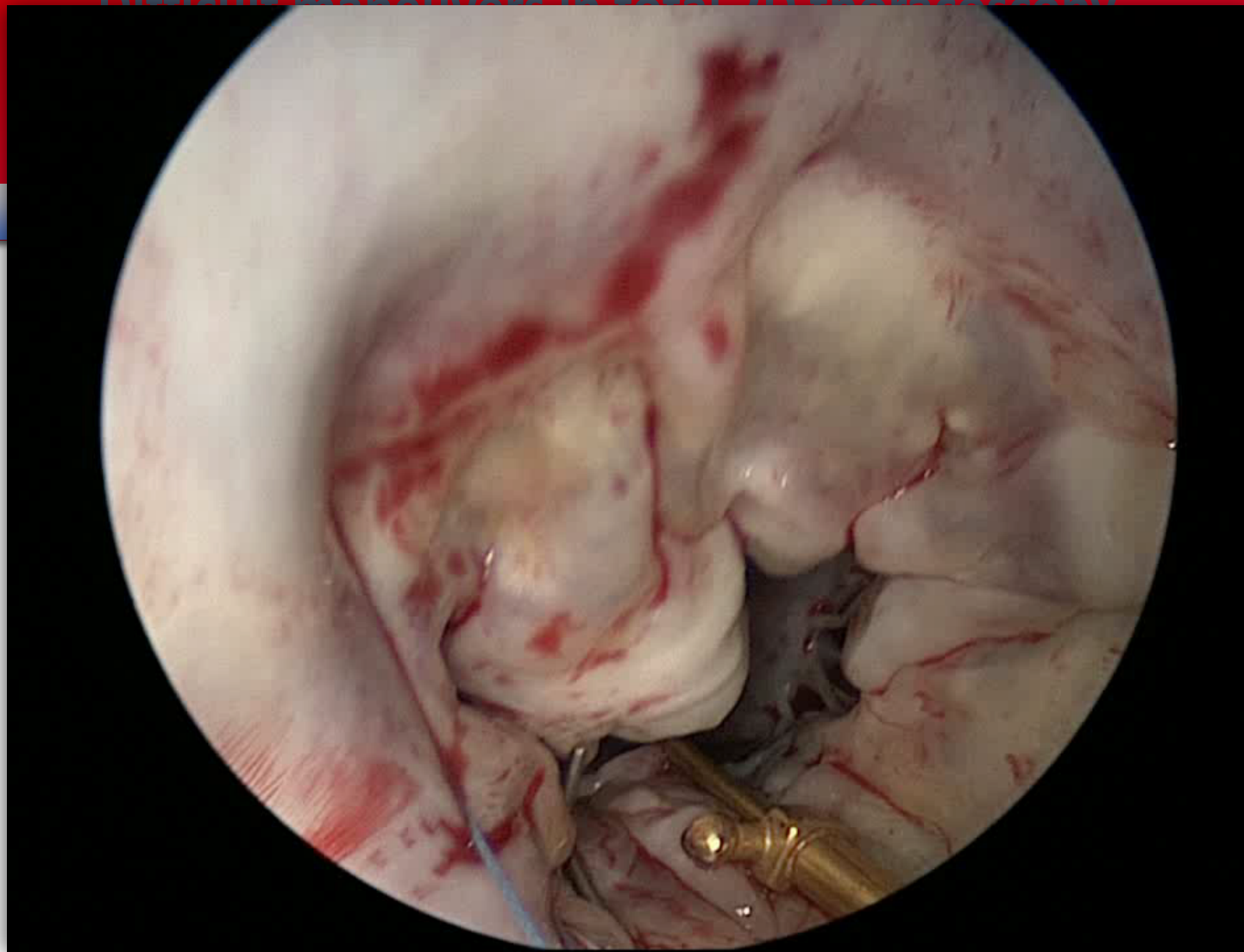
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## Difficult maneuvers in total 2D thoracoscopy



# PTFE LOOP FIXATION



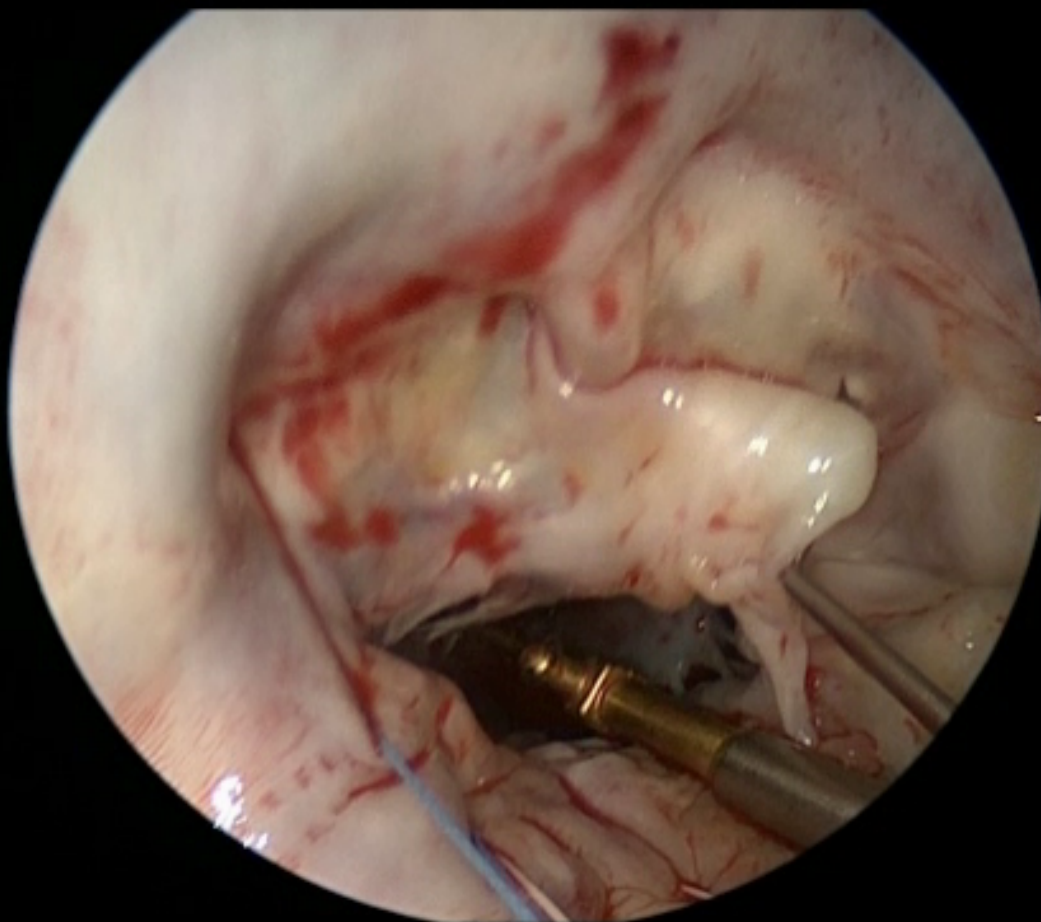
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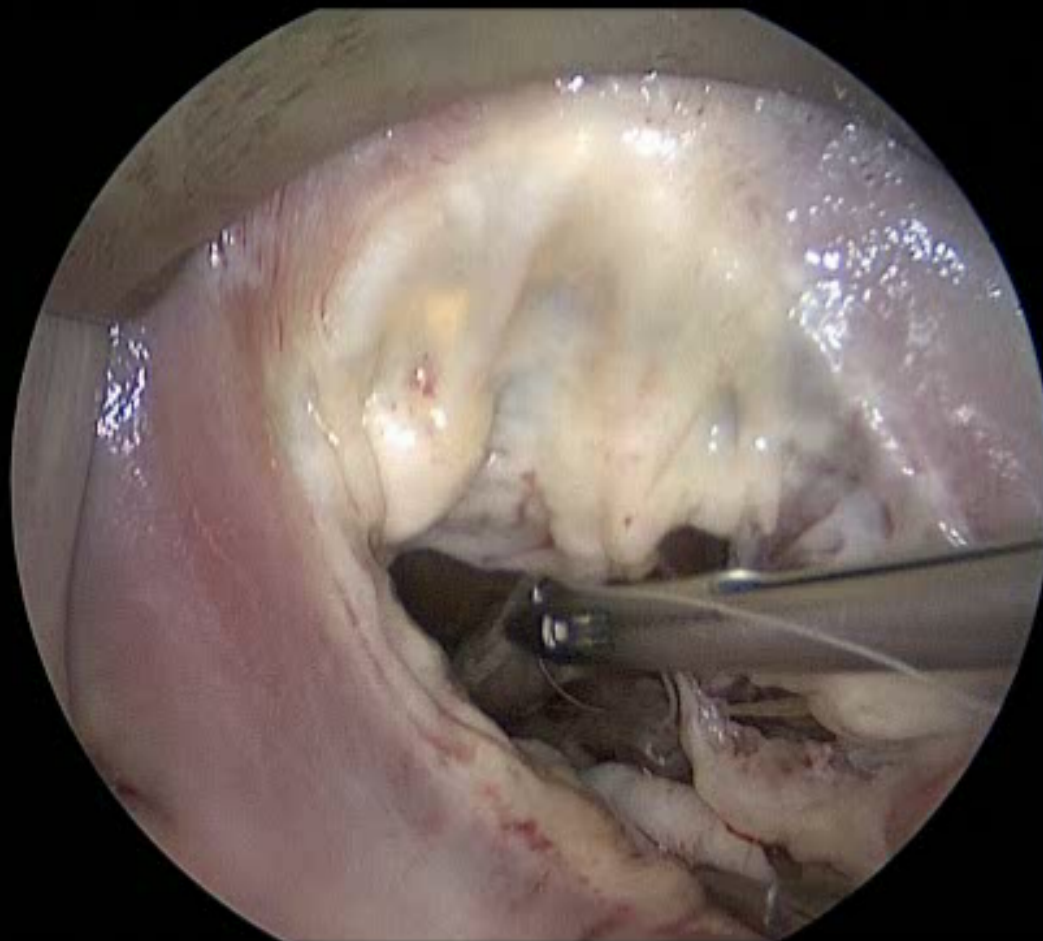
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# RING

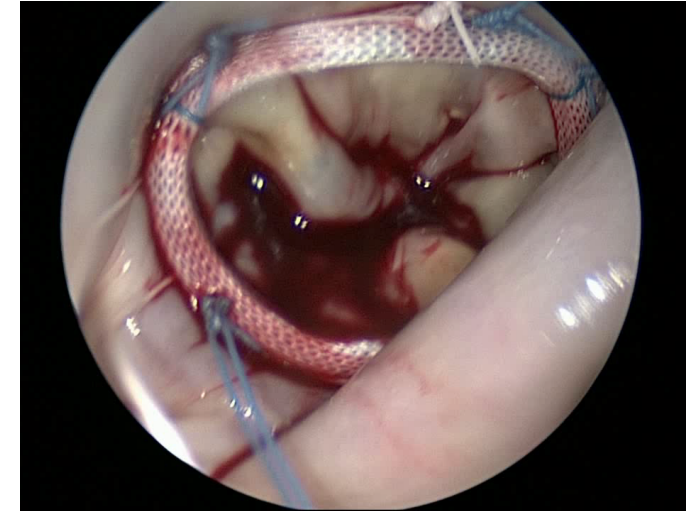


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# SPECIAL SITUATIONS



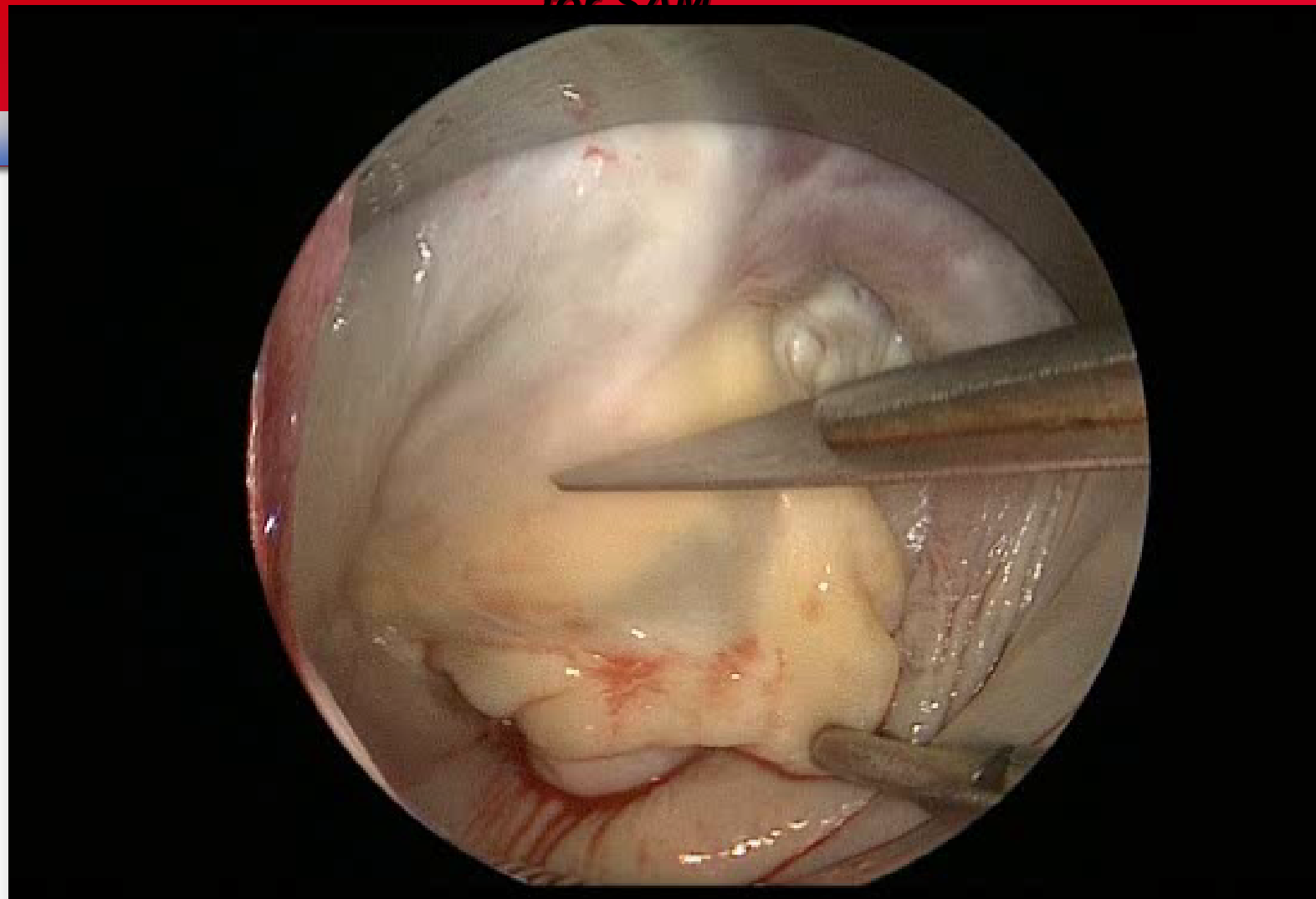
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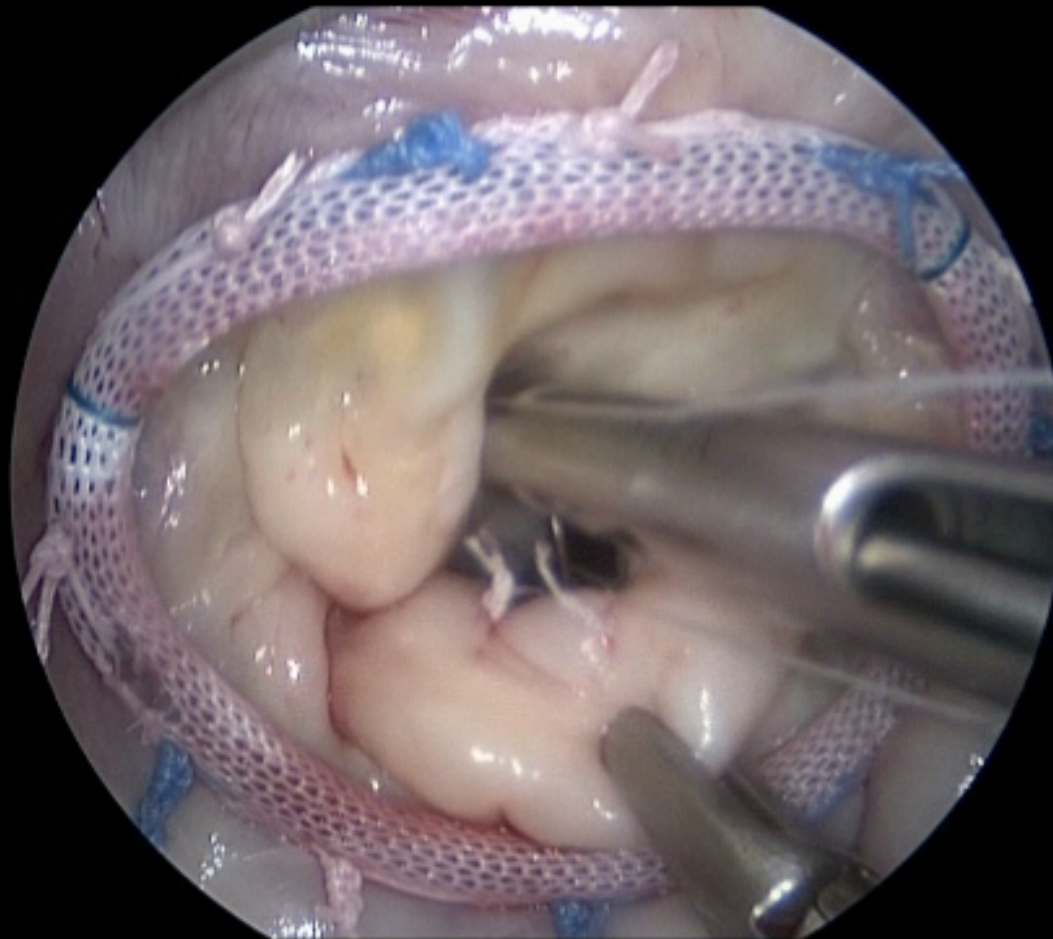
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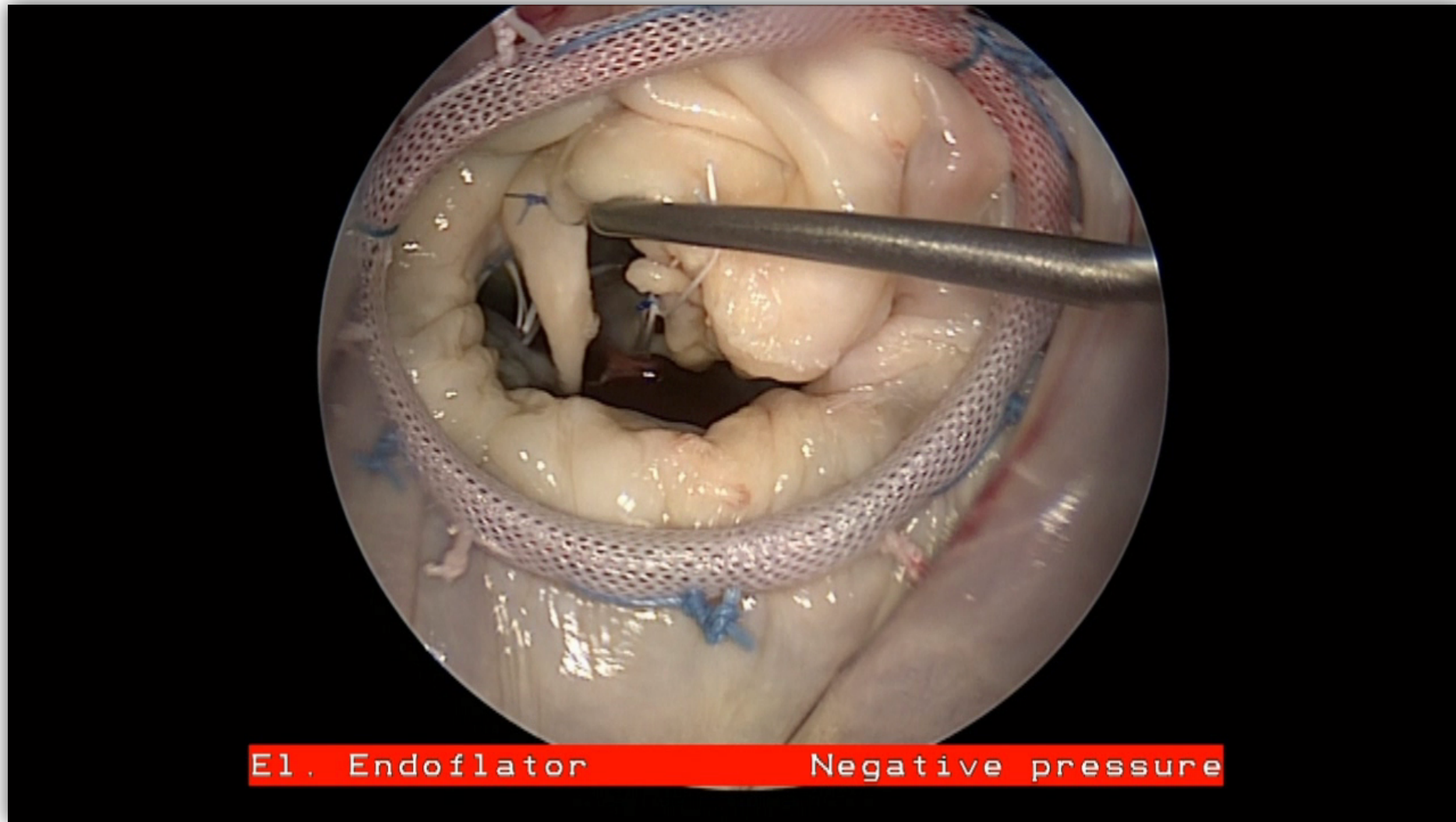
## ***Totally thoracoscopic septal myectomy for HOCM and mitral valve repair for SAM***





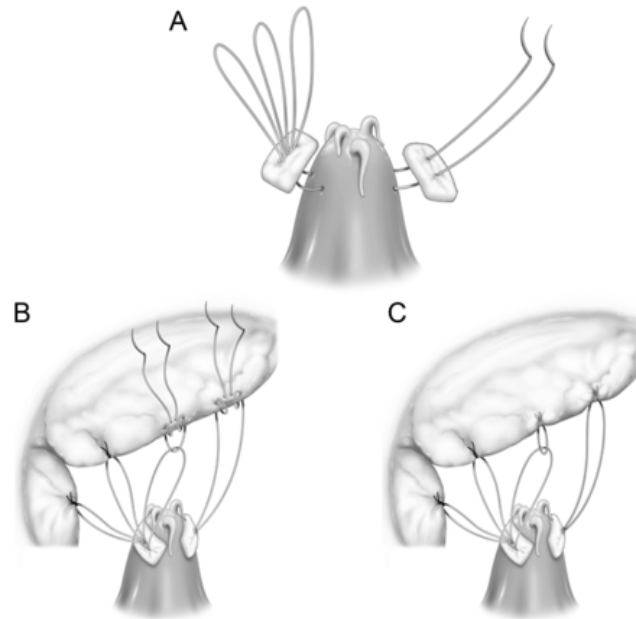


# „LOOP-IN-LOOP” NEOCHORD ELONGATION



# COMMISURAL PROLAPS

- anterior and posterior placement from 1 bunch







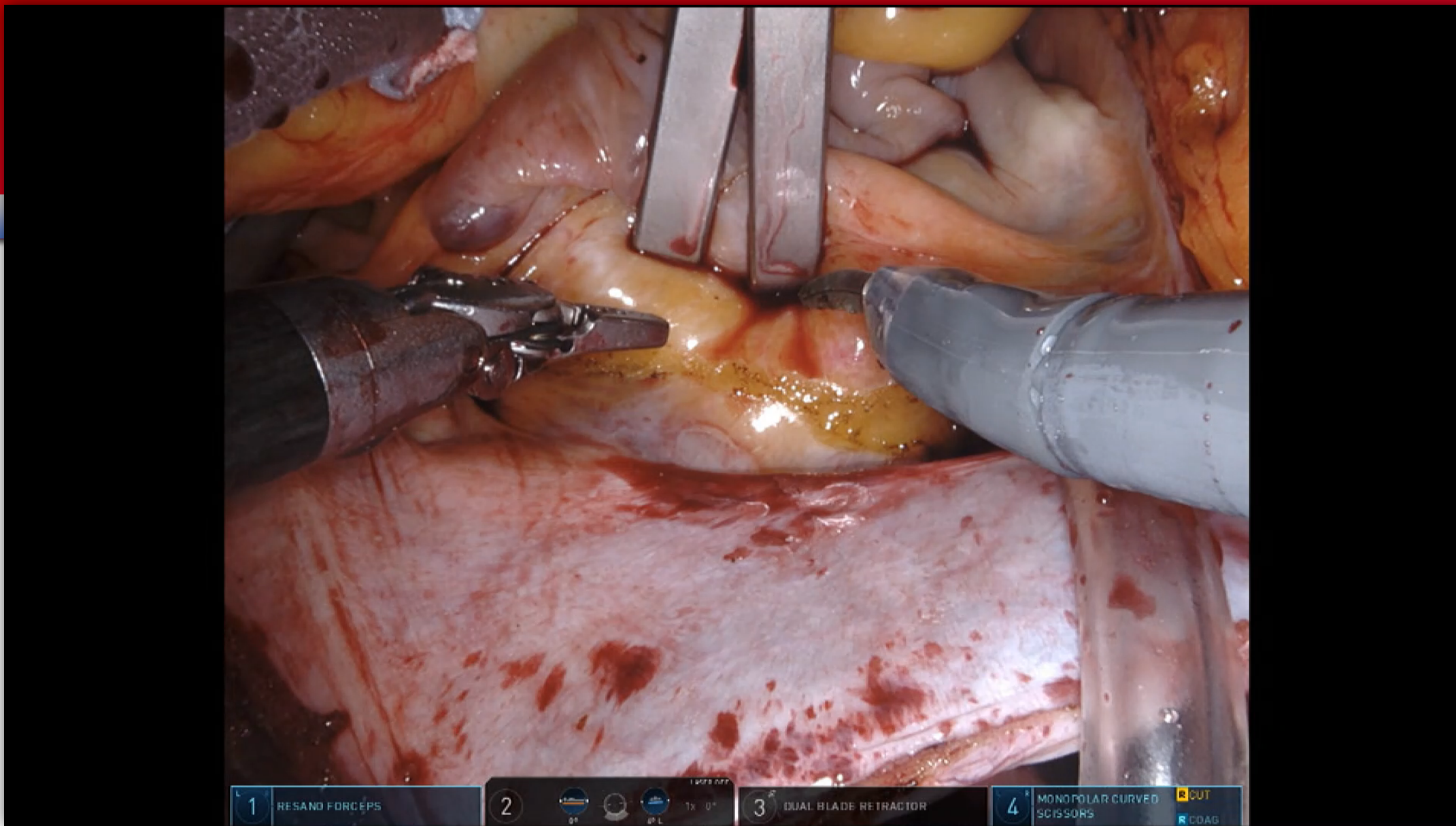
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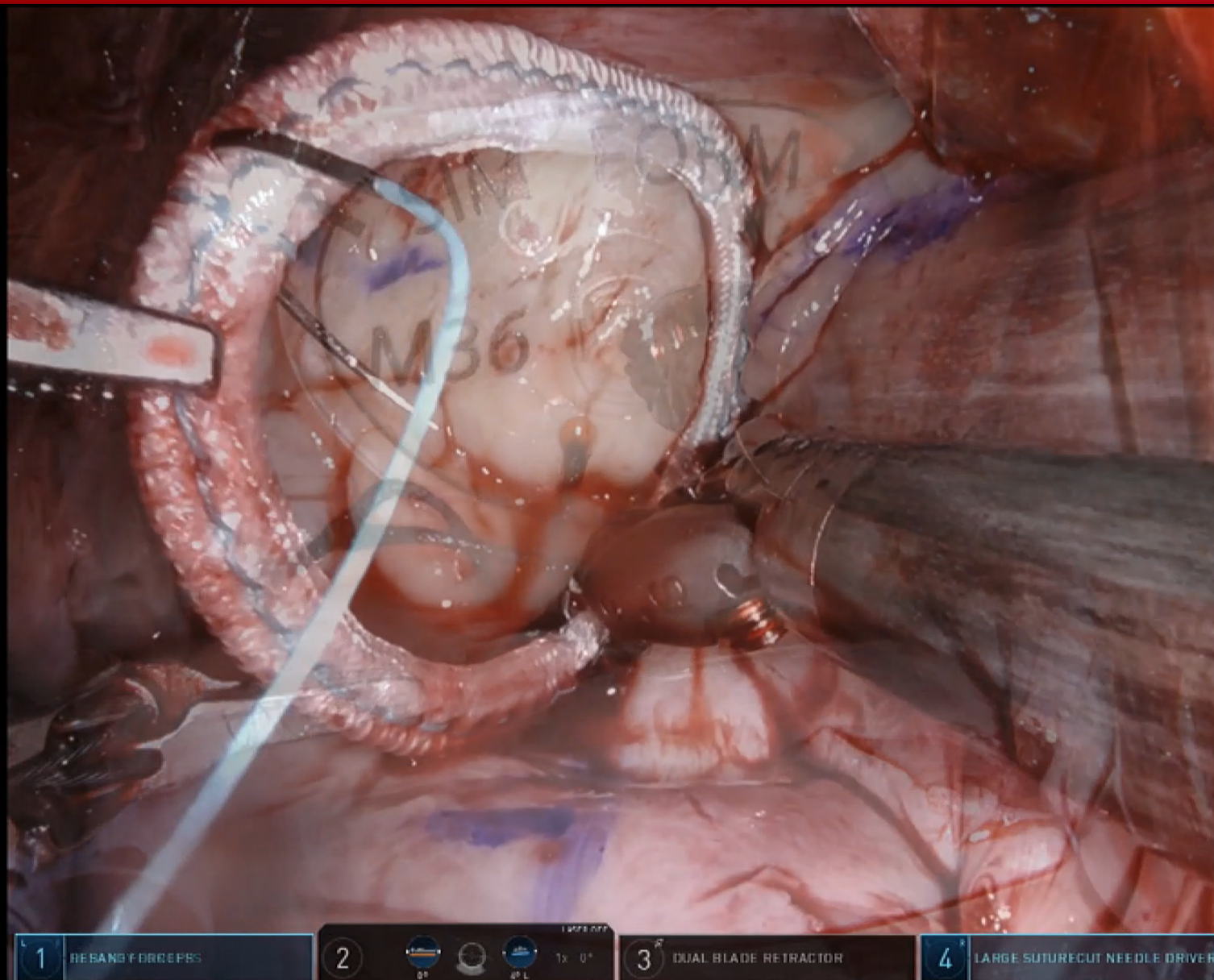
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# Cumulative team experience matters more than individual surgeon experience in cardiac surgery

Andrew W. ElBardissi, MD, MPH, MBA,<sup>a</sup> Antoine Duclos, MD, PhD,<sup>a,d</sup> James D. Rawn, MD,<sup>b</sup> Dennis P. Orgill, MD, PhD,<sup>a,c</sup> and Matthew J. Carty, MD<sup>a,c</sup>

TABLE 2. Multivariate cardiopulmonary bypass models

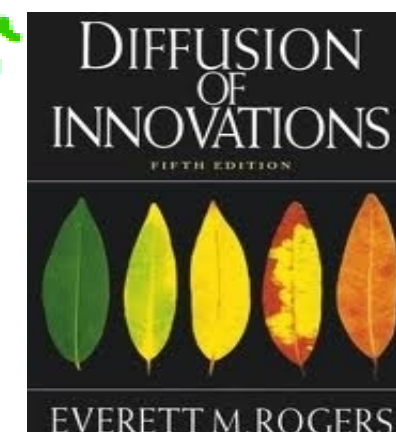
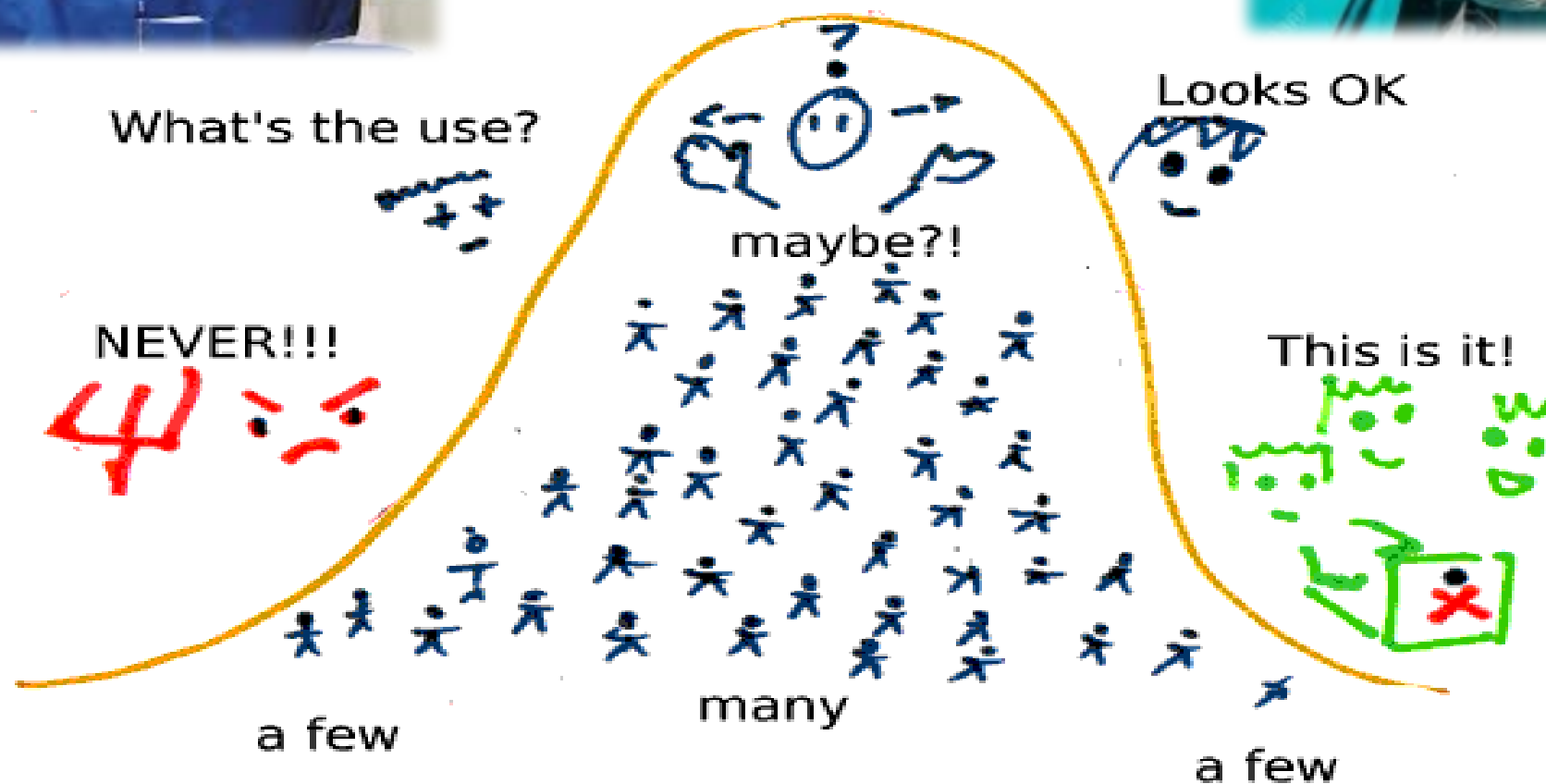
Term	Risk-adjustment model		Final cumulative experience model	
	Beta estimate	Prob> t	Beta estimate	Prob> t
Intercept	185.31	<.0001	190.16	<.0001
Age	-0.23	.0004	-0.22	.0005
Sex	-6.96	<.0001	-6.99	<.0001
Congestive heart failure	-3.20	.0489	-2.98	.0602
Cardiogenic shock	-19.88	<.0001	-16.02	.001
Ejection fraction	-0.13	.0128	-0.14	.0072
Diabetes	-3.32	.017	-3.79	.0052
Attending surgeon experience			-0.33	<.0001
Attending-fellow team cumulative experience			-0.85	<.0001

TABLE 3. Multivariate crossclamp models

Term	Risk-adjustment model		Final cumulative experience model	
	Beta estimate	Prob> t	Beta estimate	Prob> t
Intercept	101.23	<.0001	142.48	<.0001
Age	-0.15	.0008	-0.17	.0036
Sex	-6.88	<.0001	-6.73	<.0001
Diabetes	-2.50	.0096	-3.91	.0017
Attending surgeon experience			-0.36	<.0001
Attending-fellow team cumulative experience			-0.89	<.0001

The Journal of Thoracic and Cardiovascular Surgery • Volume 145, Number 2







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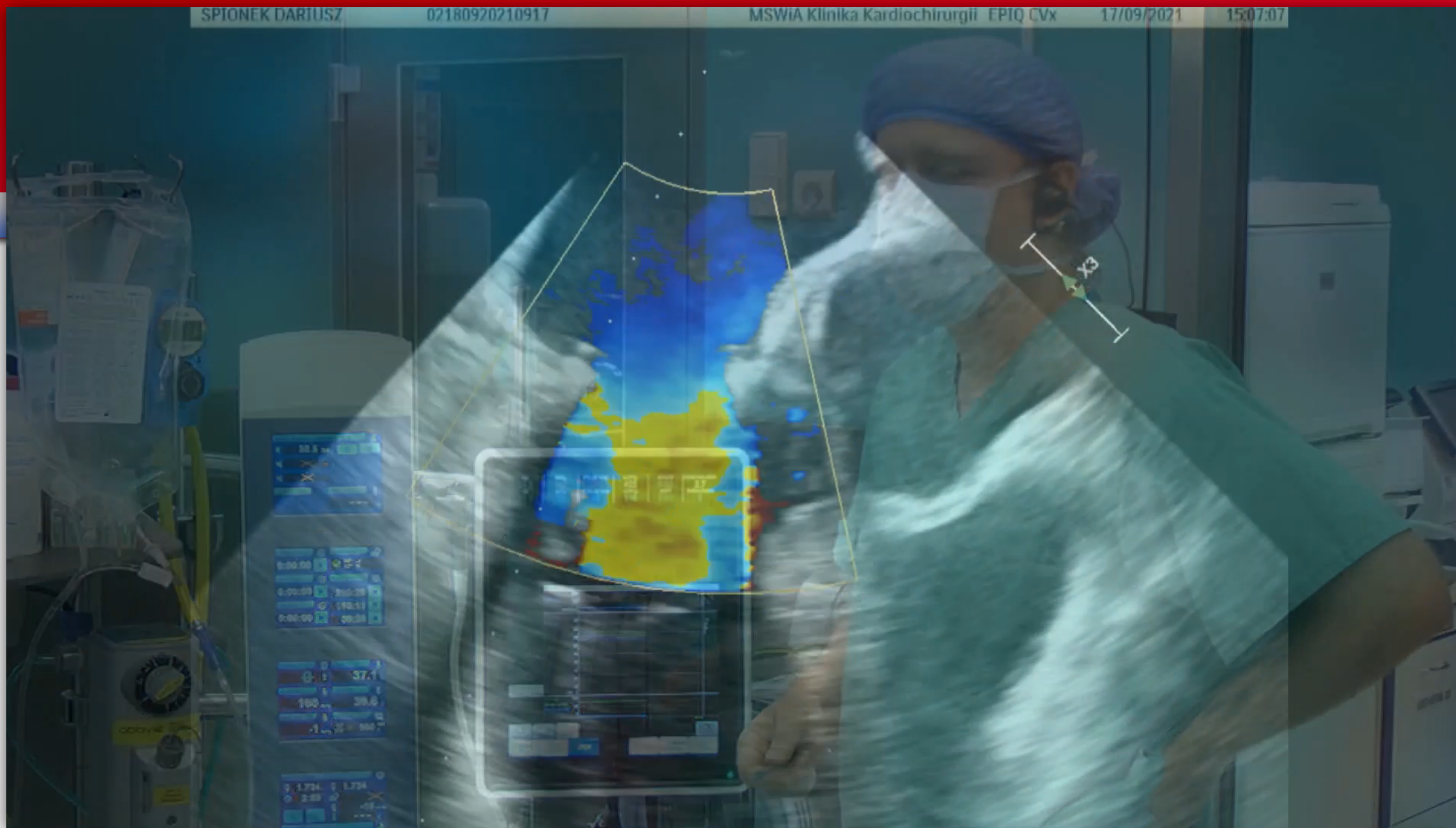
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Thank you!

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