

# STS/EACTS Latin America Cardiovascular Surgery Conference

November 15-17, 2018

Hilton Cartagena | Cartagena, Colombia



The Society  
of Thoracic  
Surgeons



EACTS  
European Association for  
Cardio-Thoracic Surgery



  
**HOSPITAL ITALIANO**  
de Buenos Aires  
*Instituto de Medicina  
Cardiovascular*

## ***Are Heart Valve Referral Centers Feasible in Latin America?***

***Vadim Kotowicz, MD***

***Chief of Cardiovascular Surgery Department  
Italian Hospital of Buenos Aires***

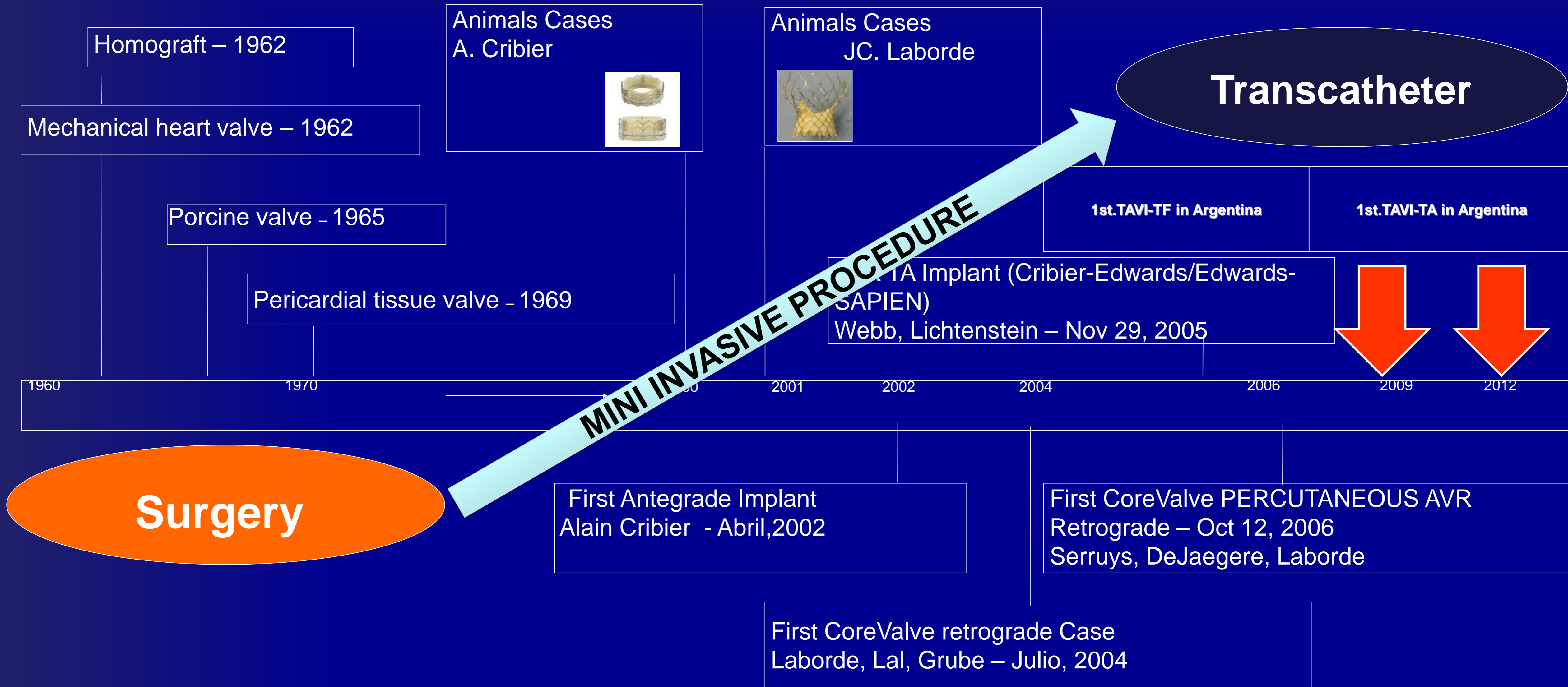
# Disclosure

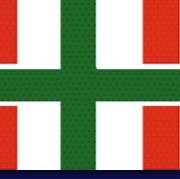
Medtronic inc. Consultating

Johnson & Johnson Advisory Board

Edwards Lifesciences Corp. Consultating

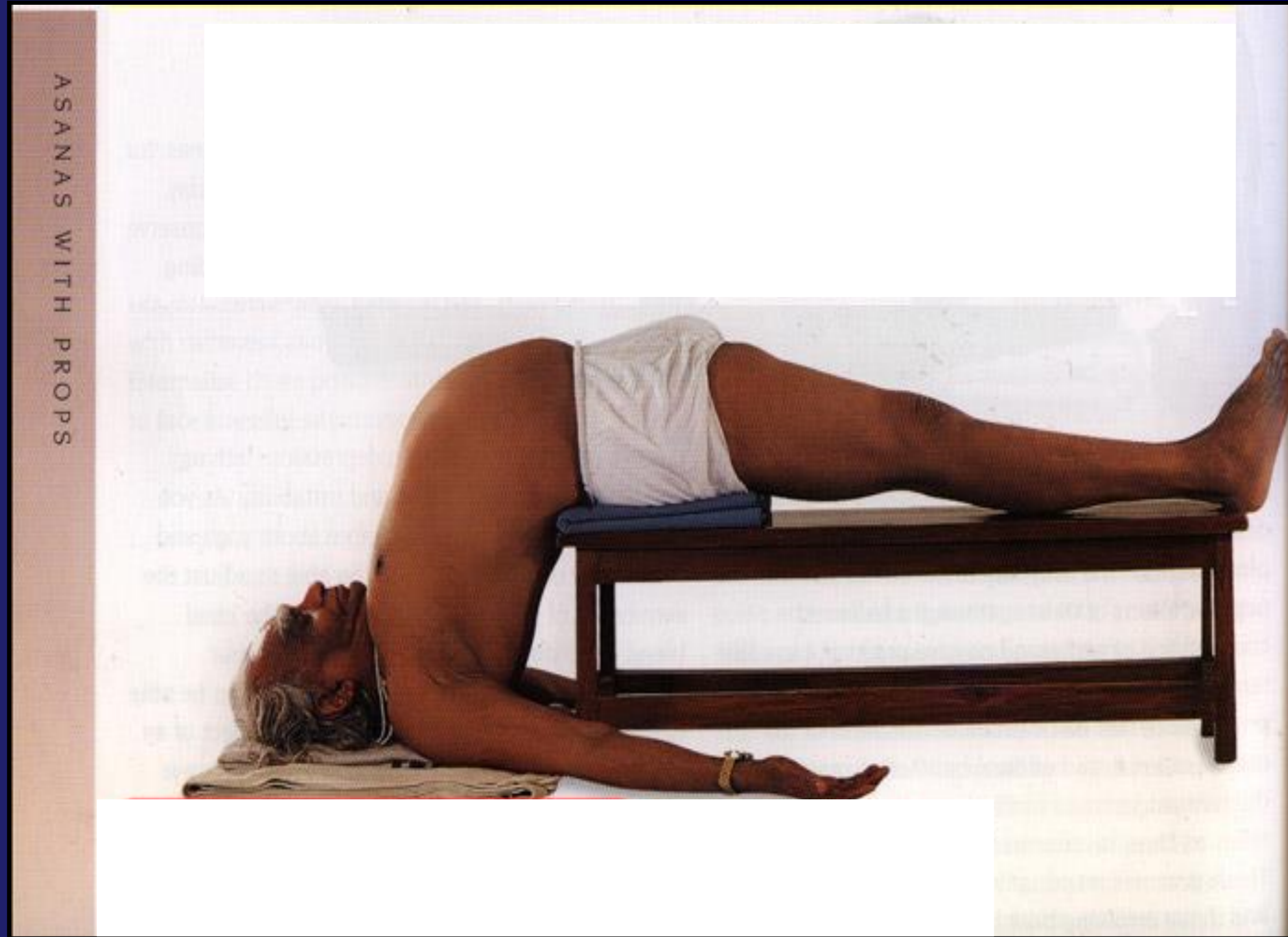
# Aortic Valve Stenosis Treatment - Evolution

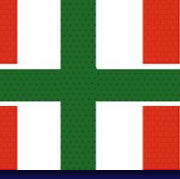




# CONCLUSION

What we learned in Cartagena



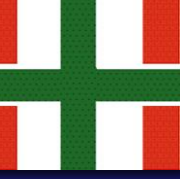


# CONCLUSION

What we learned: 'It is feasible to have a Heart Valve referral center'

- 1- Built a Real TEAM - Heart Team
- 2- Training and Proctoring
- 3- Patient Selection and Rejection
- 4- Intensive Care Training
- 5- Preparation, planning and conductin the procedure
- 6- DATA Registry

# WHY WE FIGHT EACH OTHER?



“It concerns me that the most aggressive doctors may not realize the risk in what they do,”

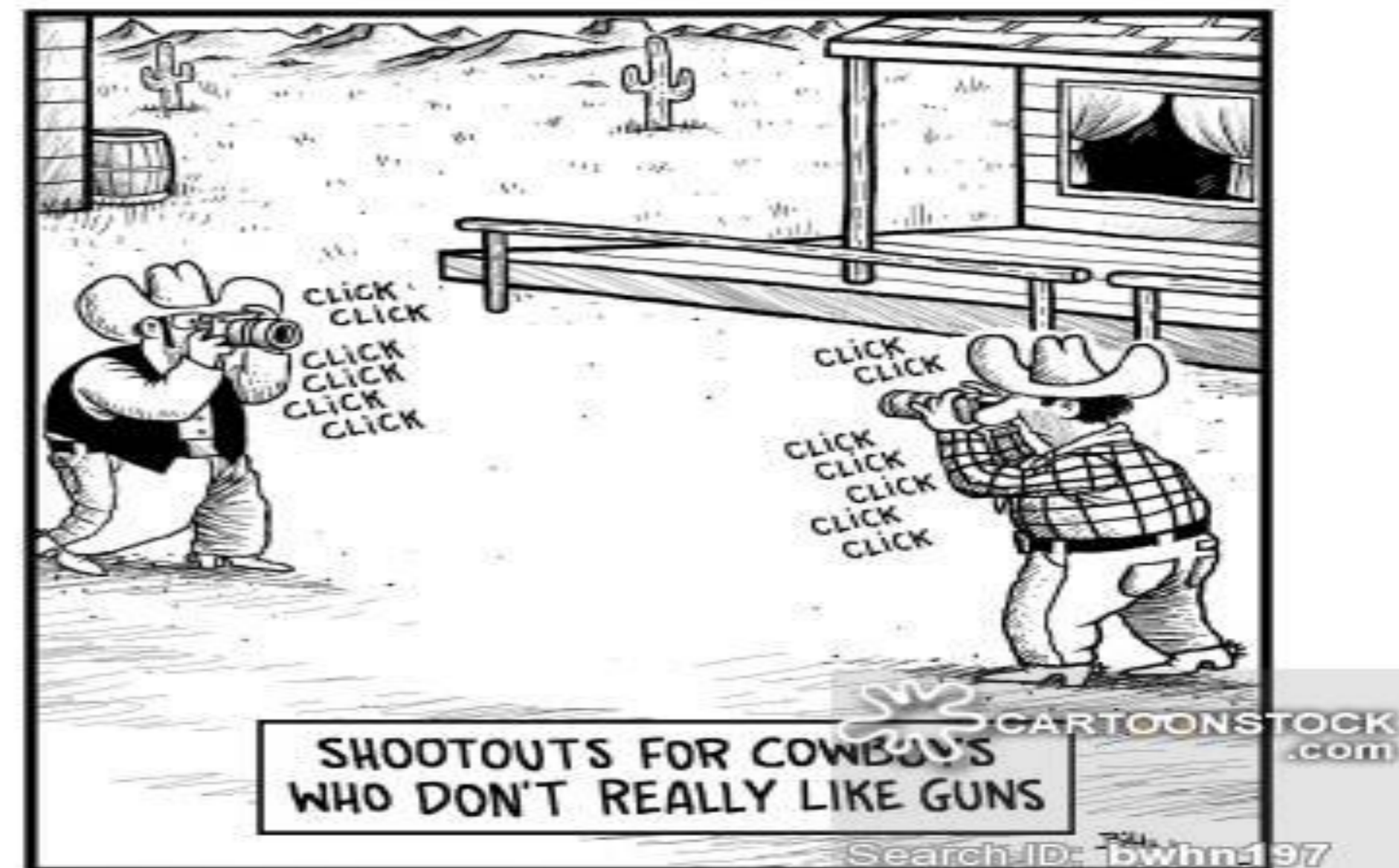
“They look at images and X-rays, but I don’t think they understand pathophysiology.”

Robert F. Tranbaugh, chief of cardiac surgery at Beth Israel.

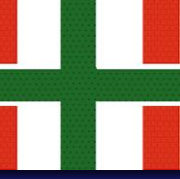
It’s no trivial spat involving money and ego

**MONEY**

**EGO**



# Heart - Team



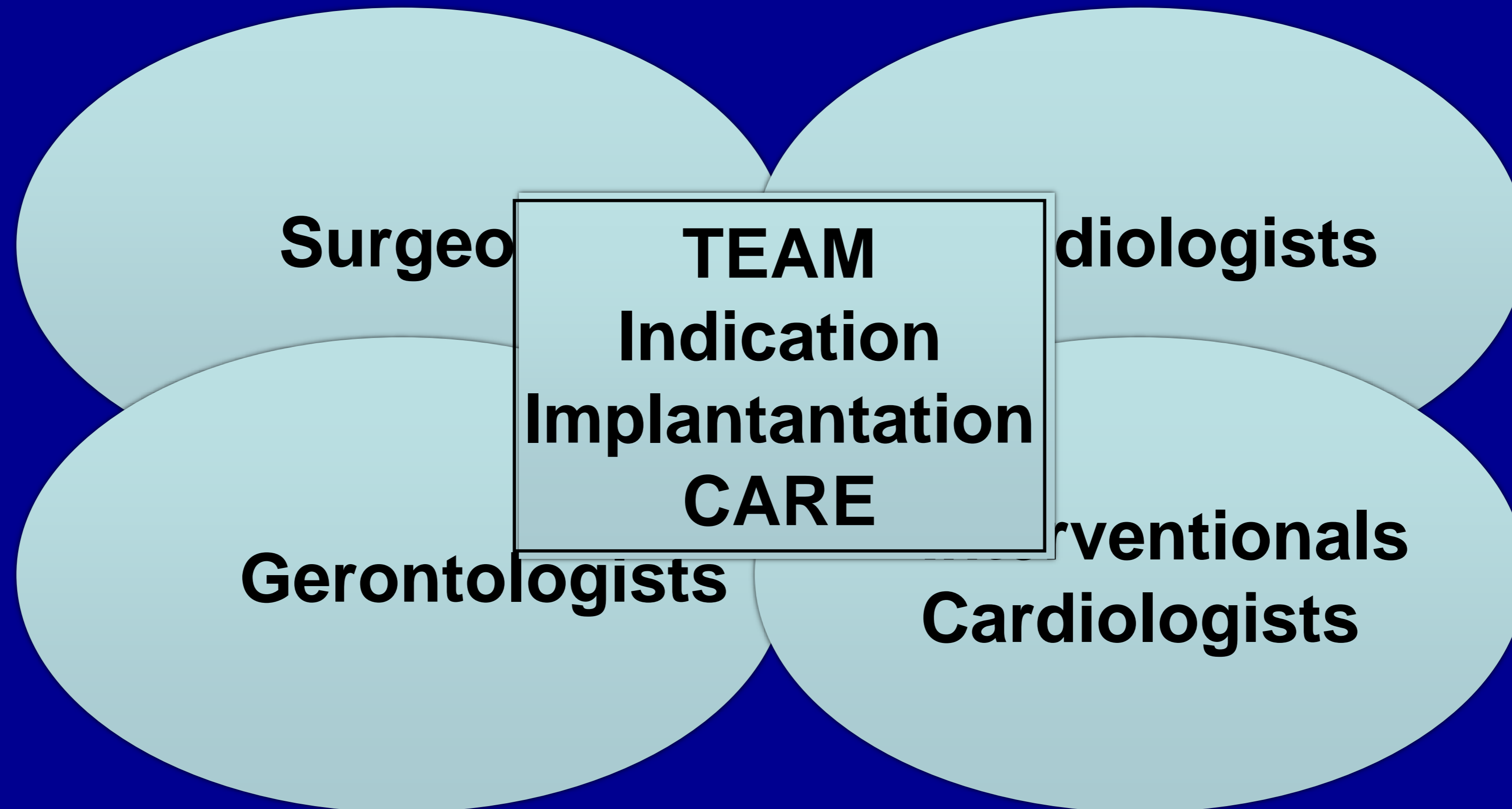
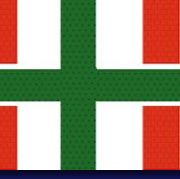
**Surgeons**

**Cardiologists**

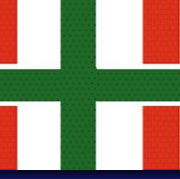
**Gerontologists**

**Interventionals  
Cardiologists**

# Heart - Team





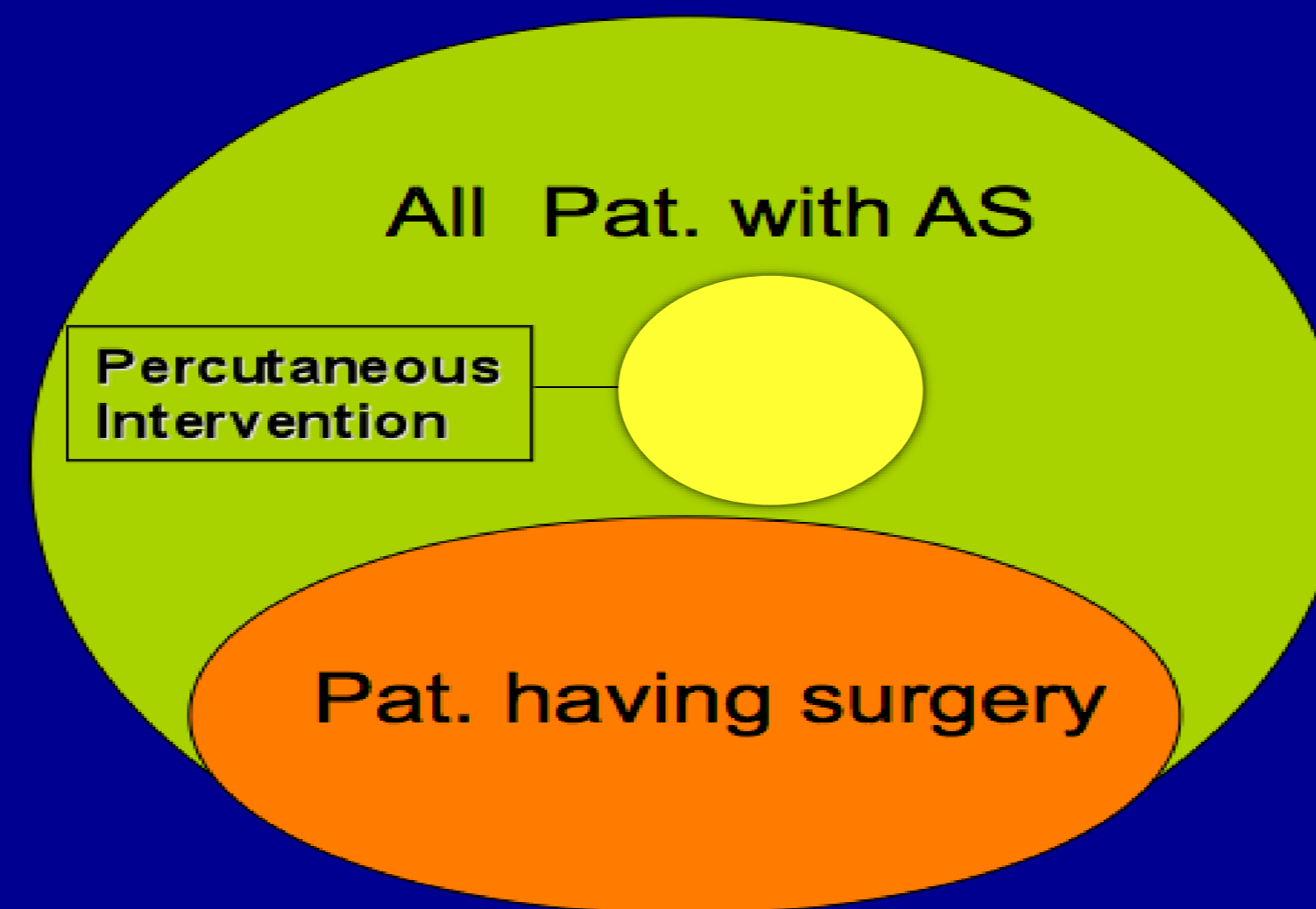


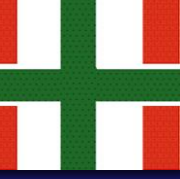
# Team - Work

Post operative Risk

Post Operative Recovery

Gate Keeper- Cardiologists and Gerontologists





# Team - Work

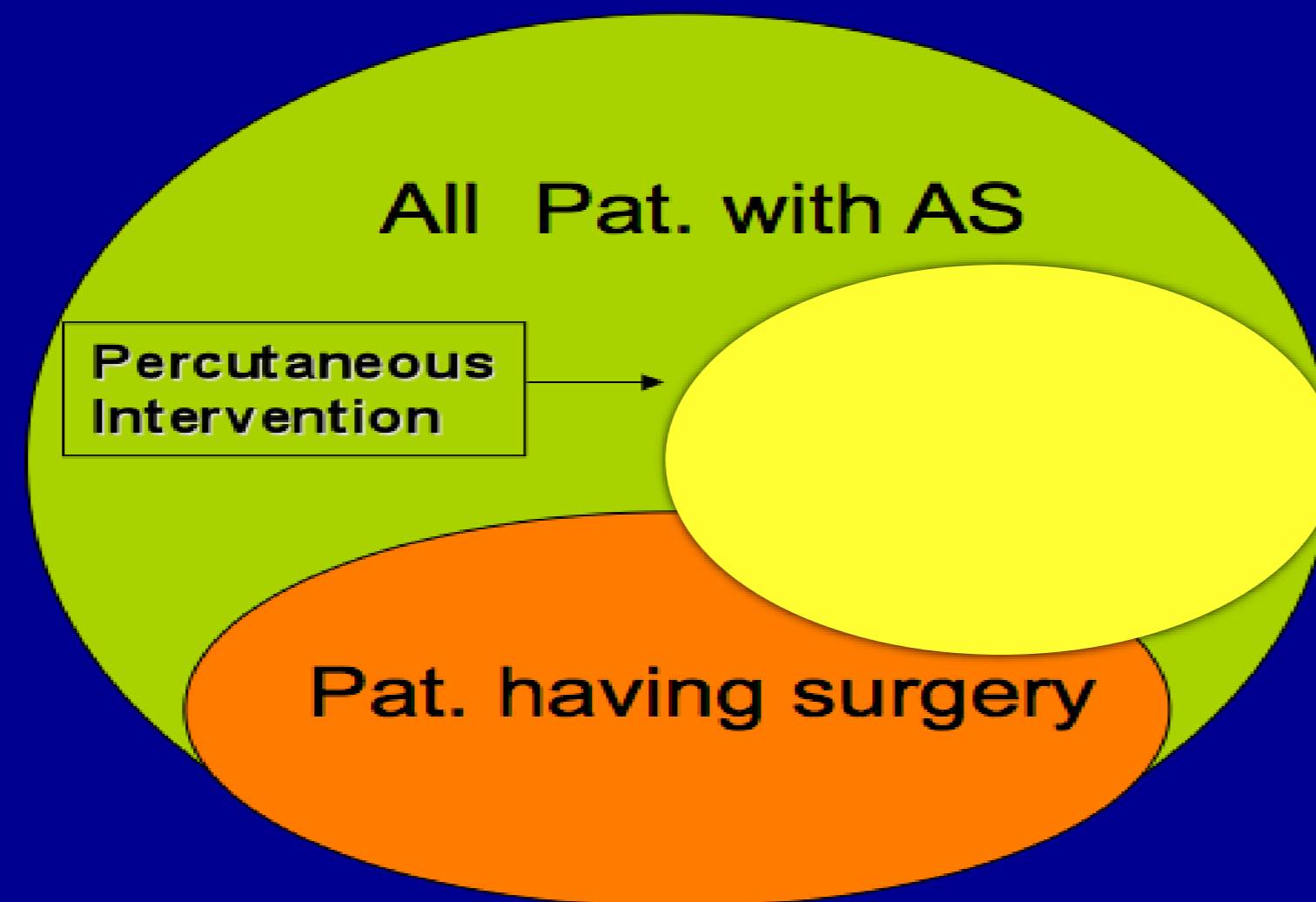
Post operative Risk

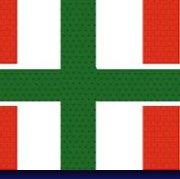
Post Operative Recovery

Gate Keeper- Cardiologists and Gerontologists



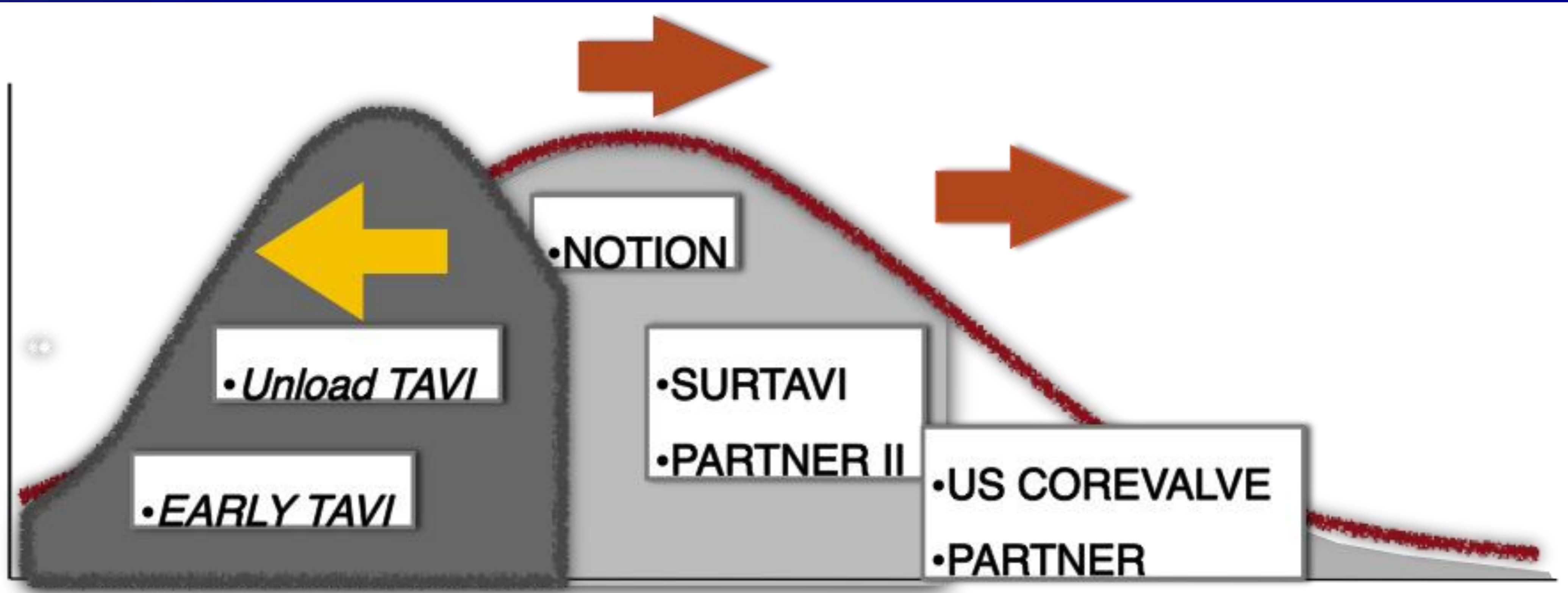
**MITRAL VALVE  
MULTIPLE VALVES**





# TAVR vs. SAVR Trials

Patients Distribution



Low risk STS < 4

Intermediate risk  
STS 4 - 10

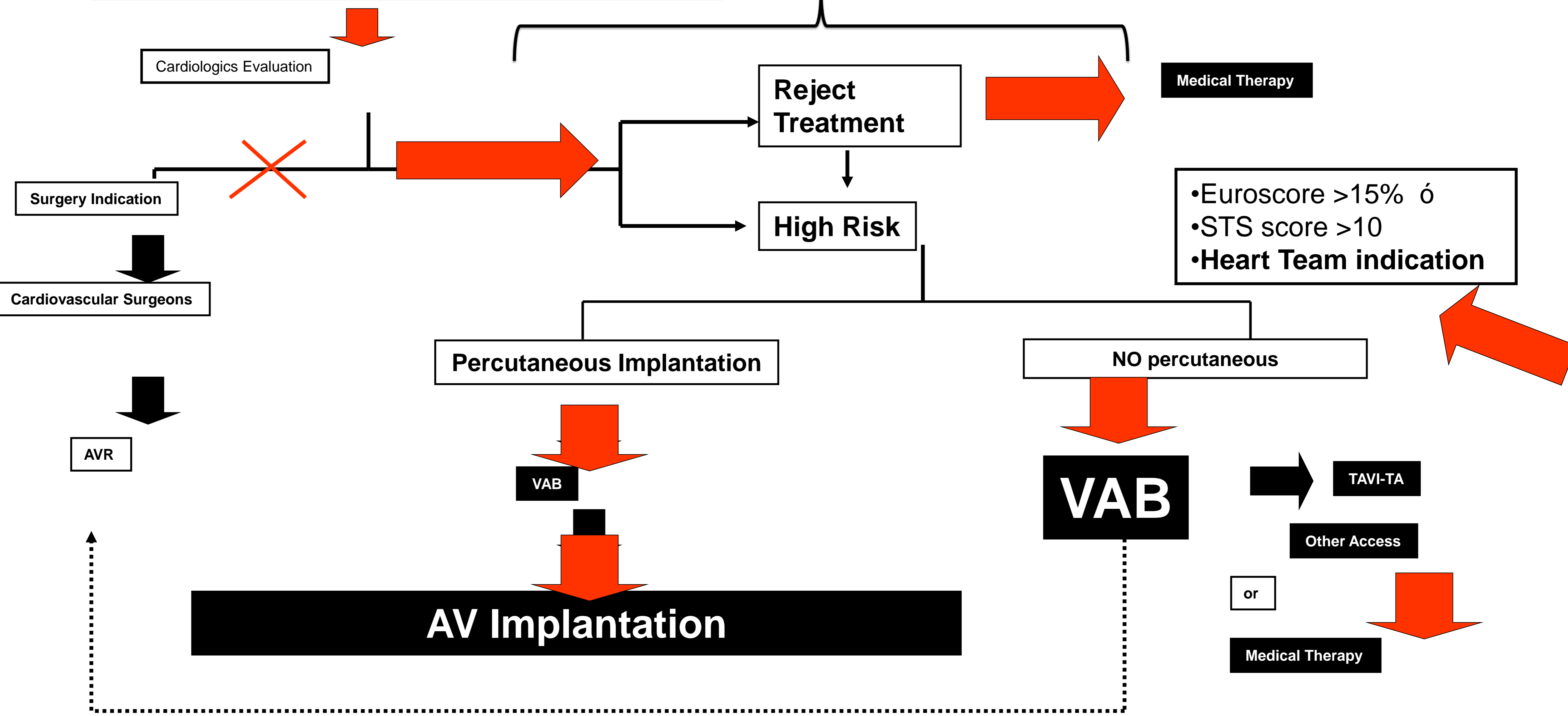
High risk STS > 10

Extremely High  
risk STS > 15

- V>4m/s
- AVA<1cm<sup>2</sup>
- Gradiente >40mmhg

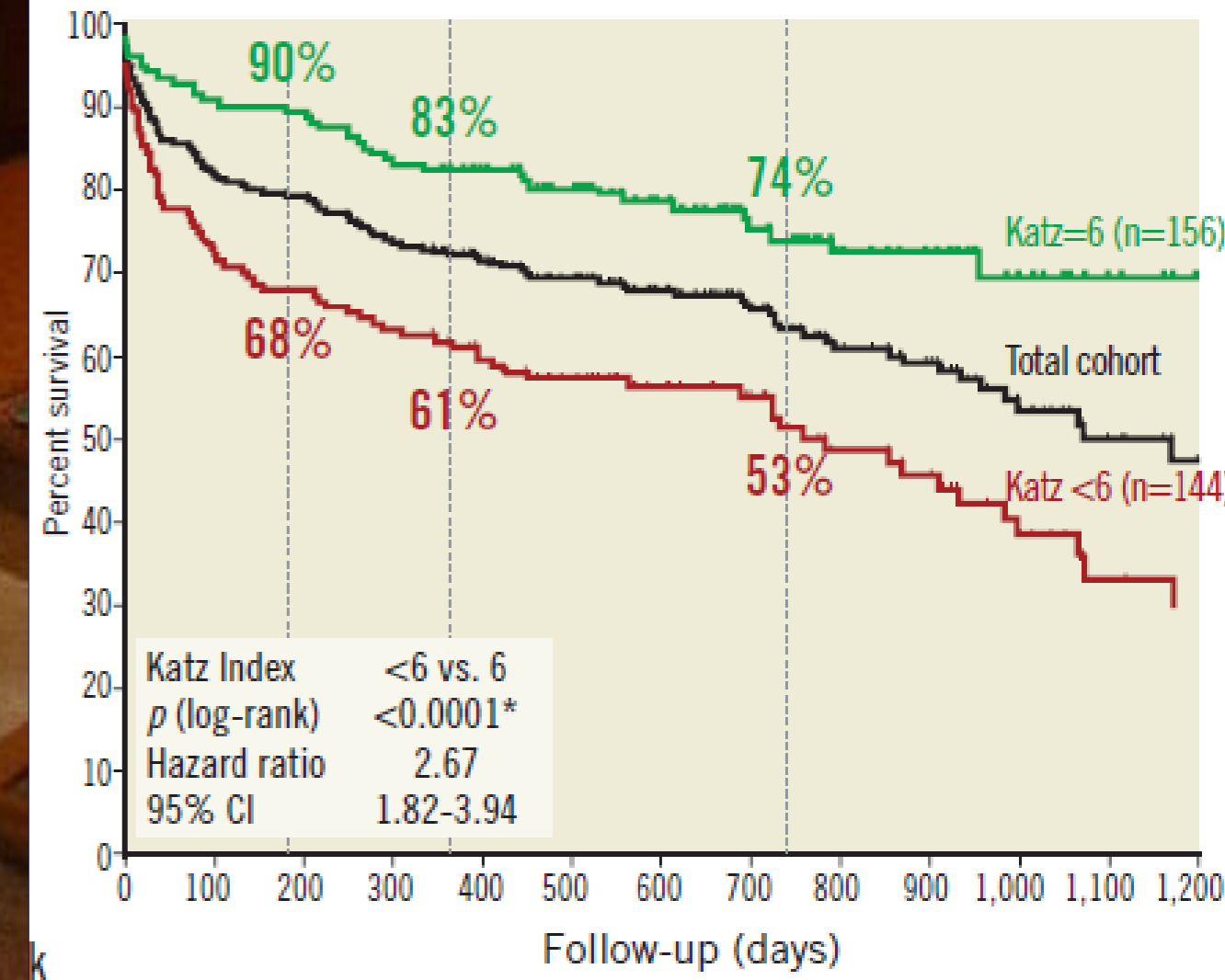
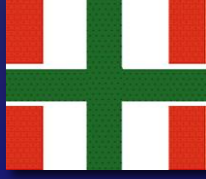
1/3 of Patients

Symptomatic AS



# Impact of frailty on short- and long-term morbidity and mortality after transcatheter aortic valve implantation: risk assessment by Katz Index of activities of daily living

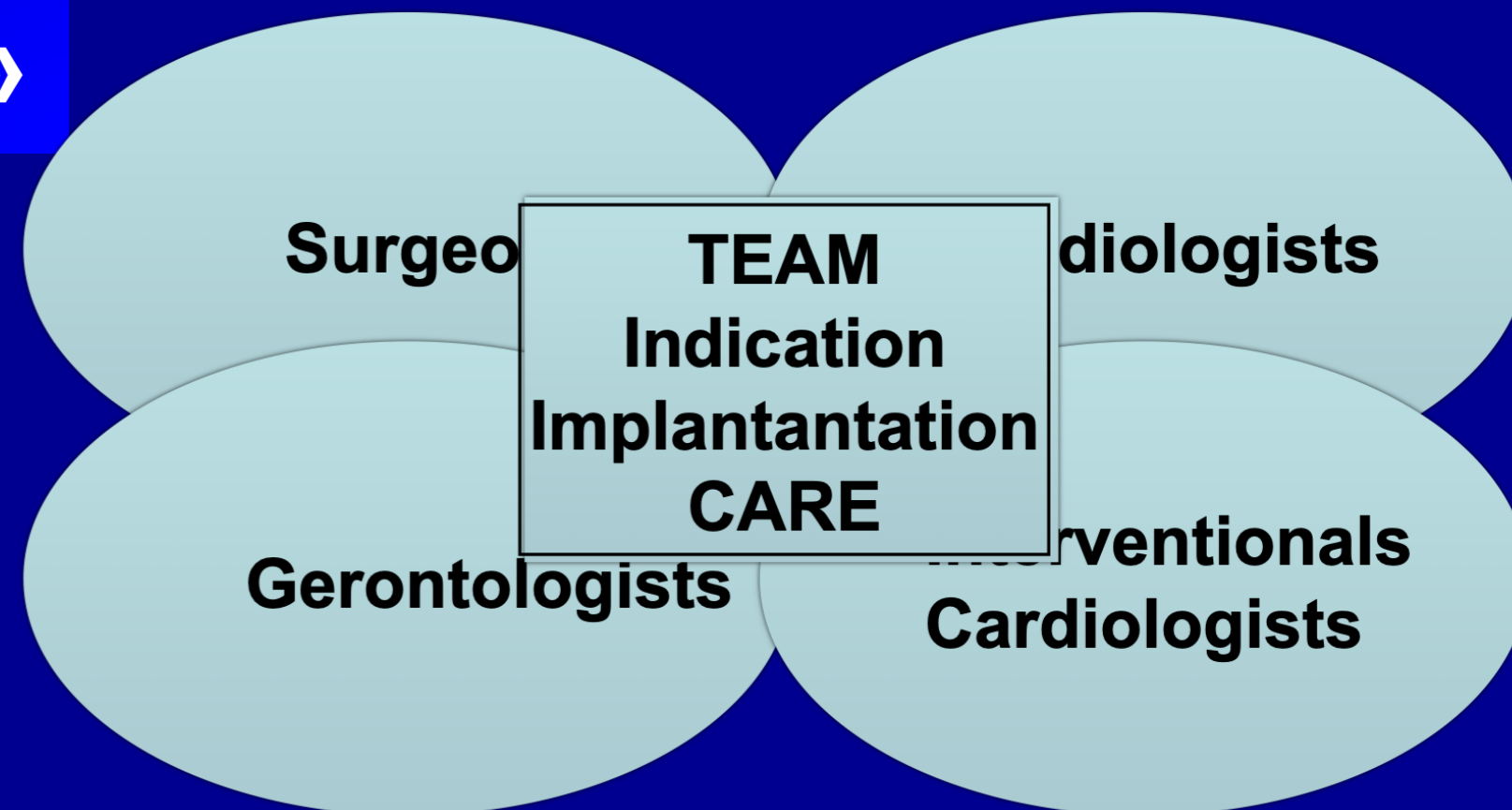
EuroIntervention 2014;10:609-619



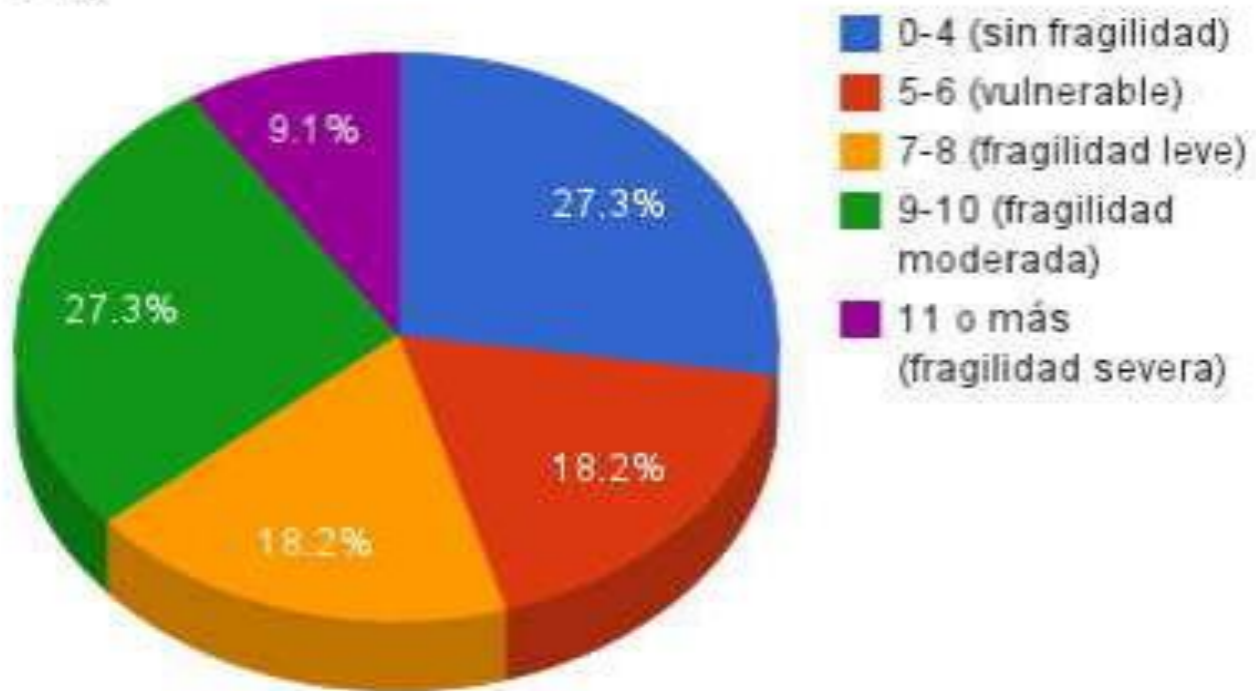
**INOPERABLE**

**SURGERY CANDIDATE**

**«Futility»**



Distribución de niveles de fragilidad (Edmonton) en pacientes con baja comorbilidad (Charlson 0-1)





**INOPERABLE**



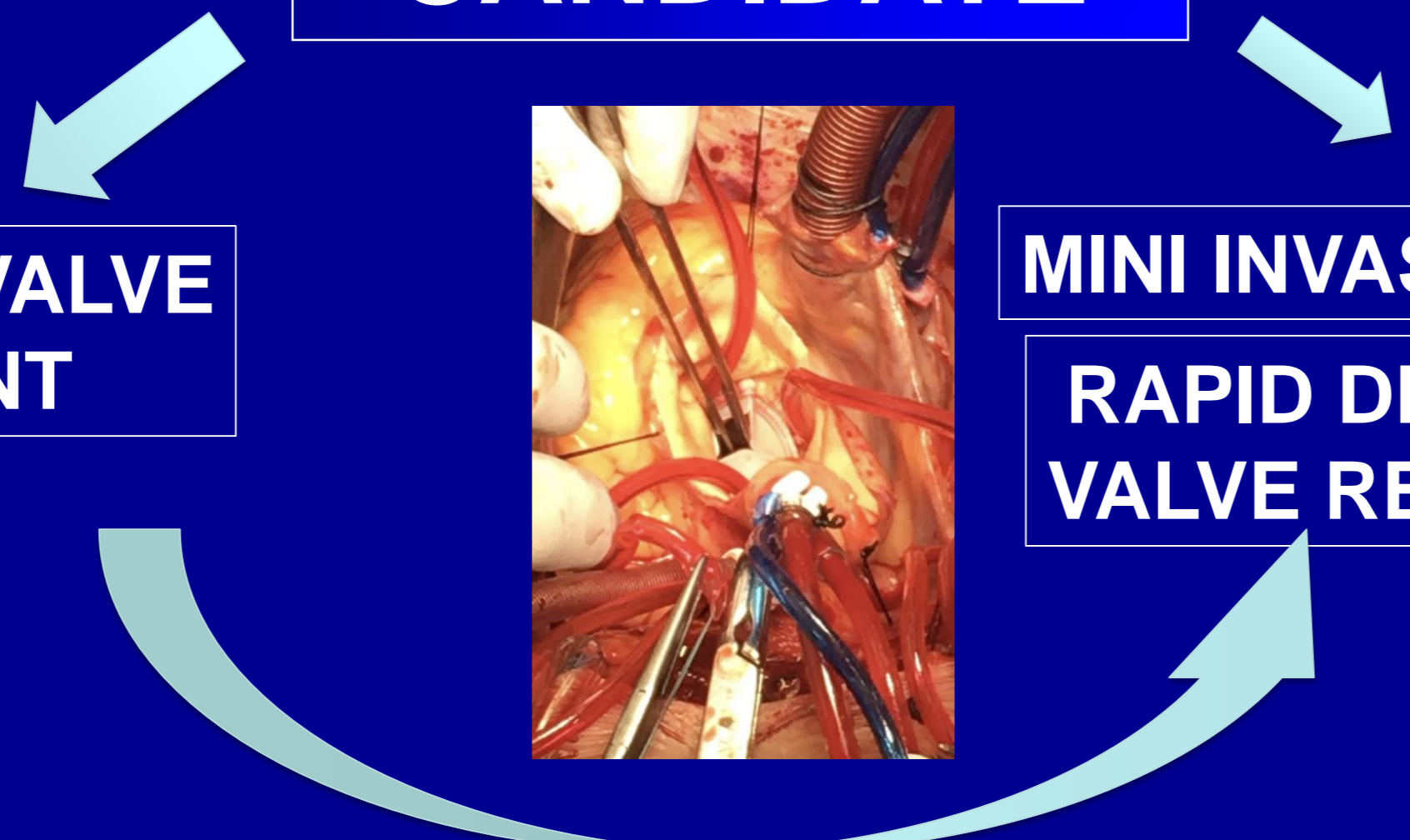
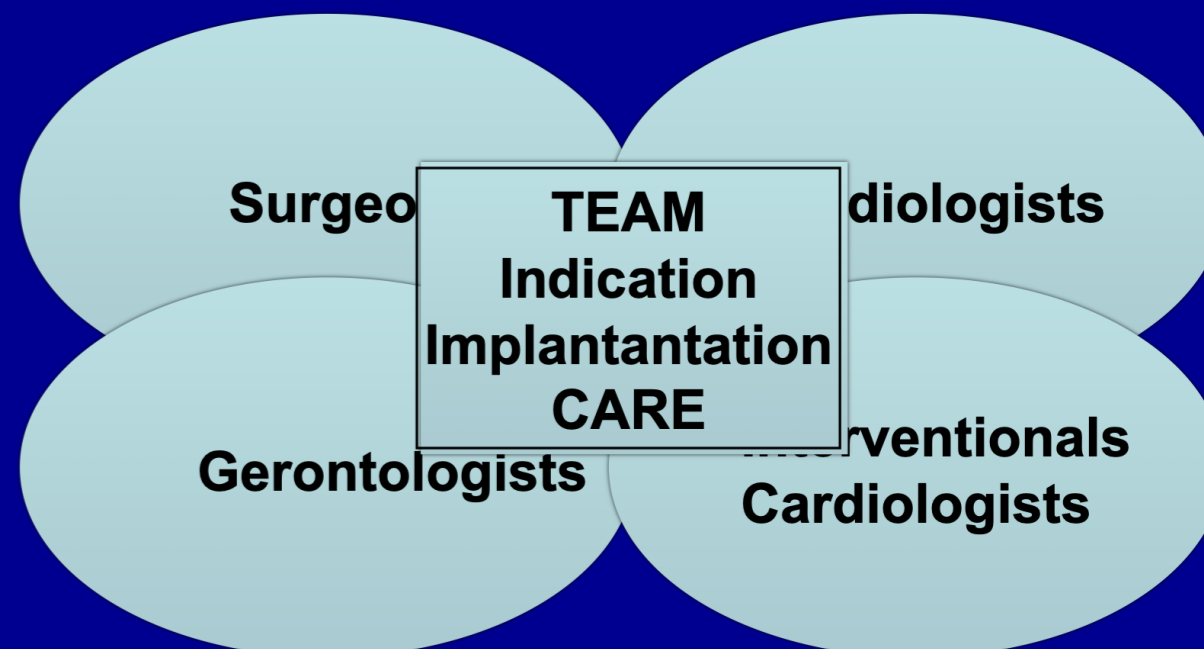
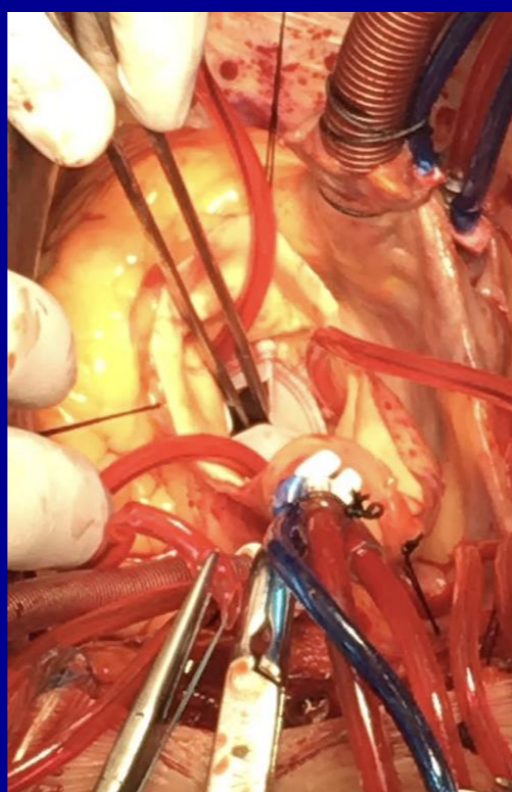
**SURGERY  
CANDIDATE**



**«Futility»**

**CONVENTIONAL VALVE  
REPLACEMENT**

**MINI INVASIVE SURGERY  
RAPID DEPLOYMENT  
VALVE REPLACEMENT**





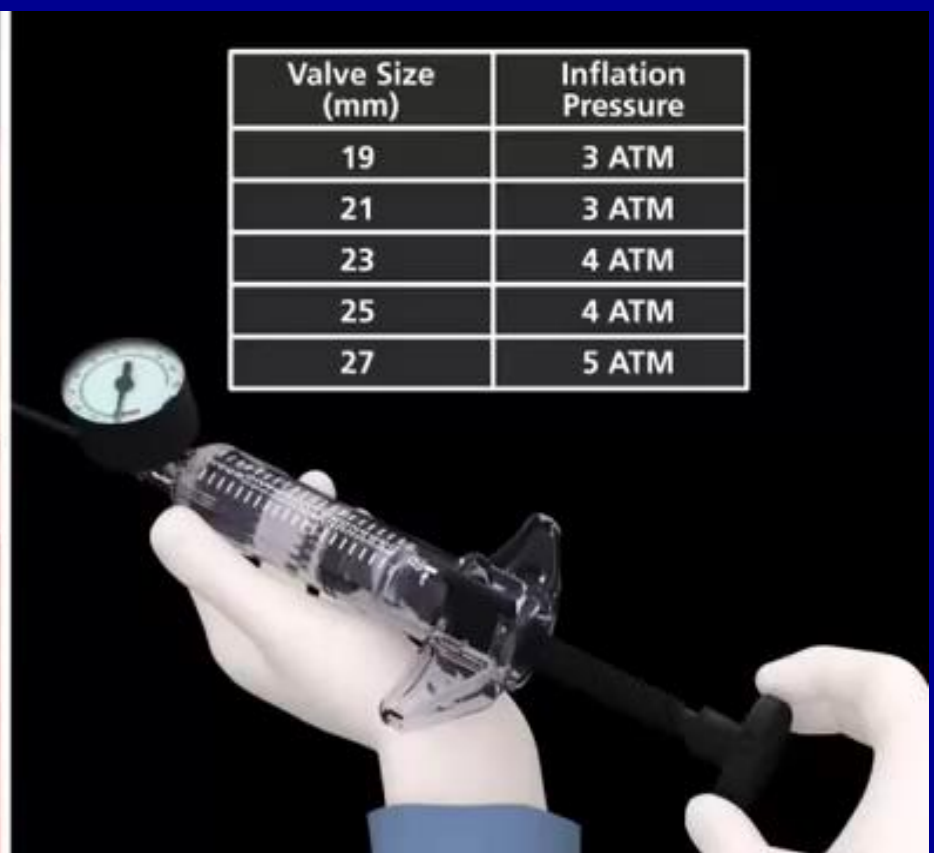
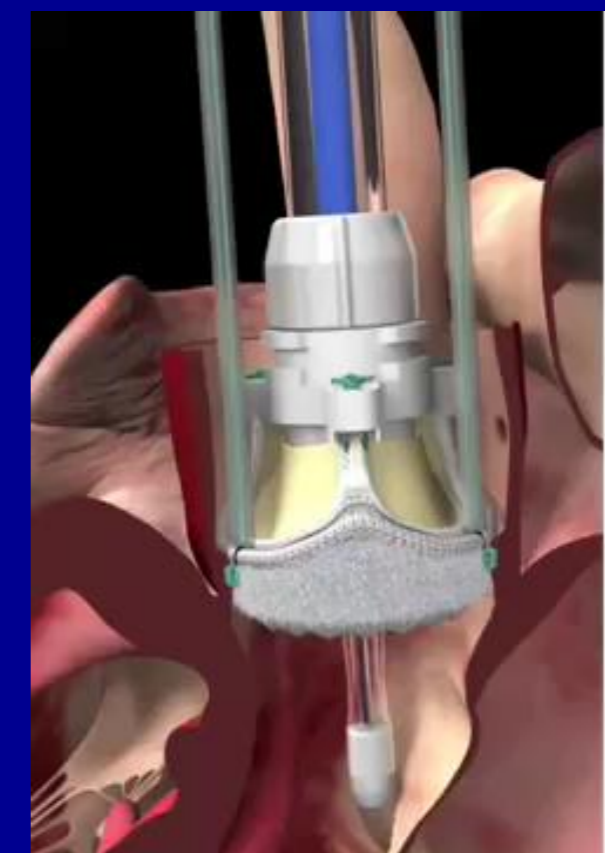
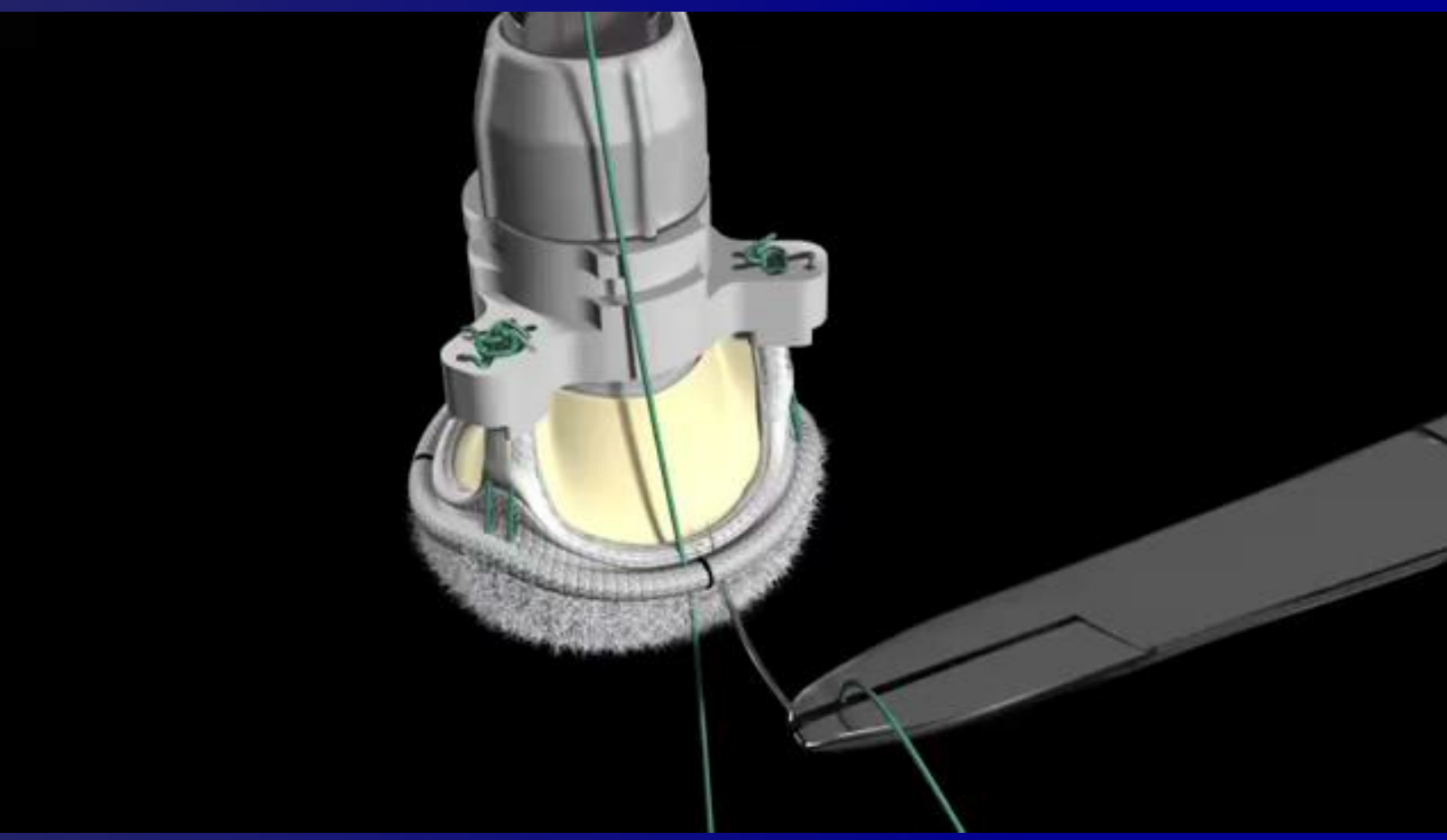
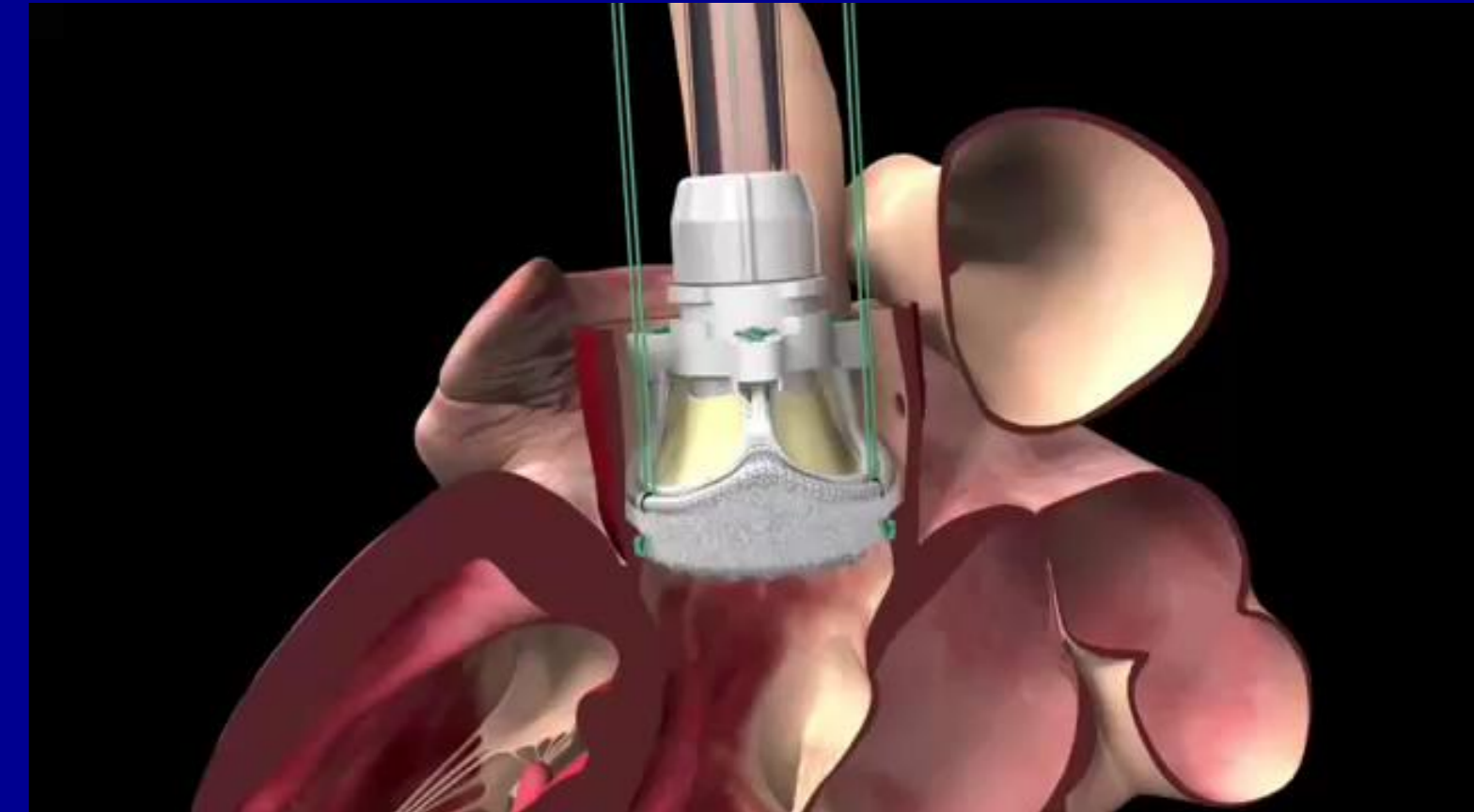
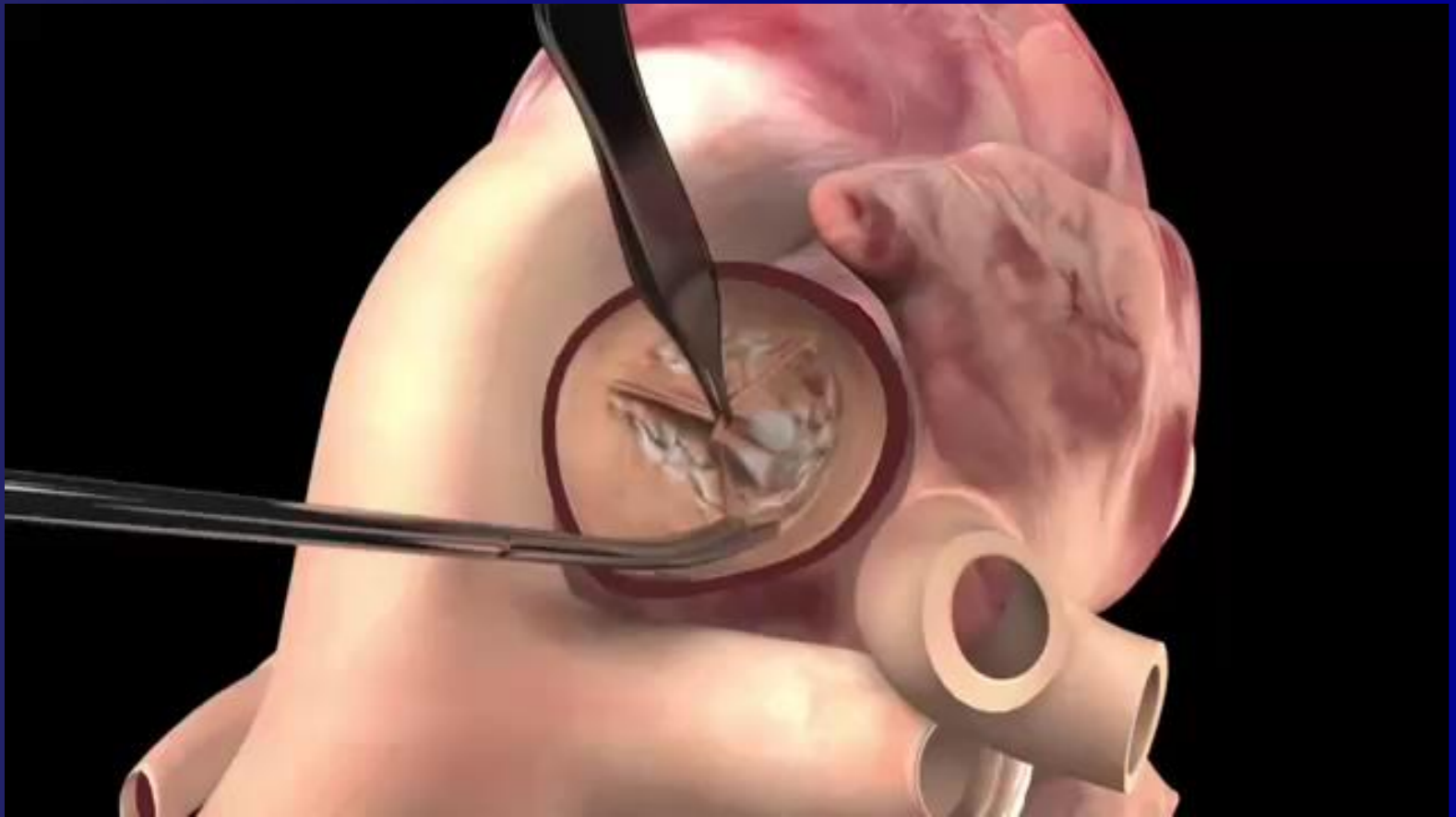
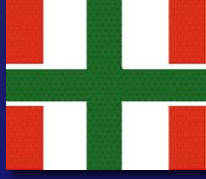
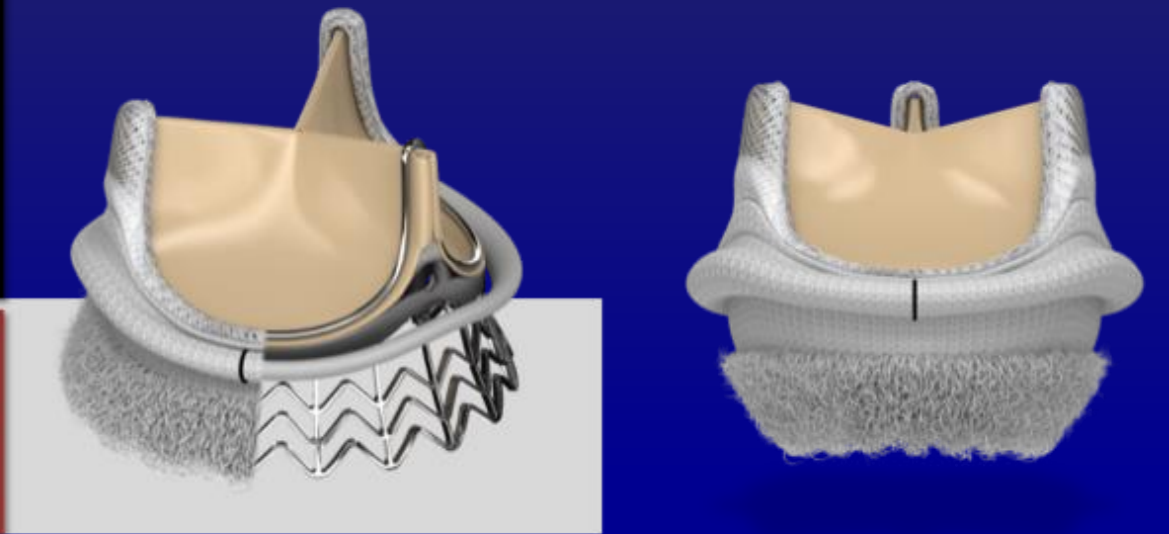
# SURGERY CANDIDATE

CONVENTIONAL VALVE REPLACEMENT

RAPID DEPLOYMENT VALVE REPLACEMENT

MINI INVASIVE SURGERY

Proven Percardial Technology  
New Innovations



Valve Size (mm)	Inflation Pressure
19	3 ATM
21	3 ATM
23	4 ATM
25	4 ATM
27	5 ATM

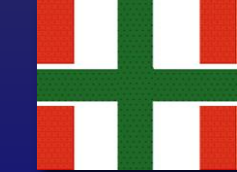


# SURGERY CANDIDATE

CONVENTIONAL VALVE REPLACEMENT

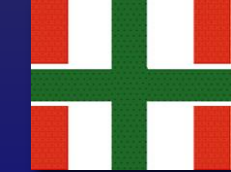
RAPID DEPLOYMENT VALVE REPLACEMENT

MINI INVASIVE SURGERY

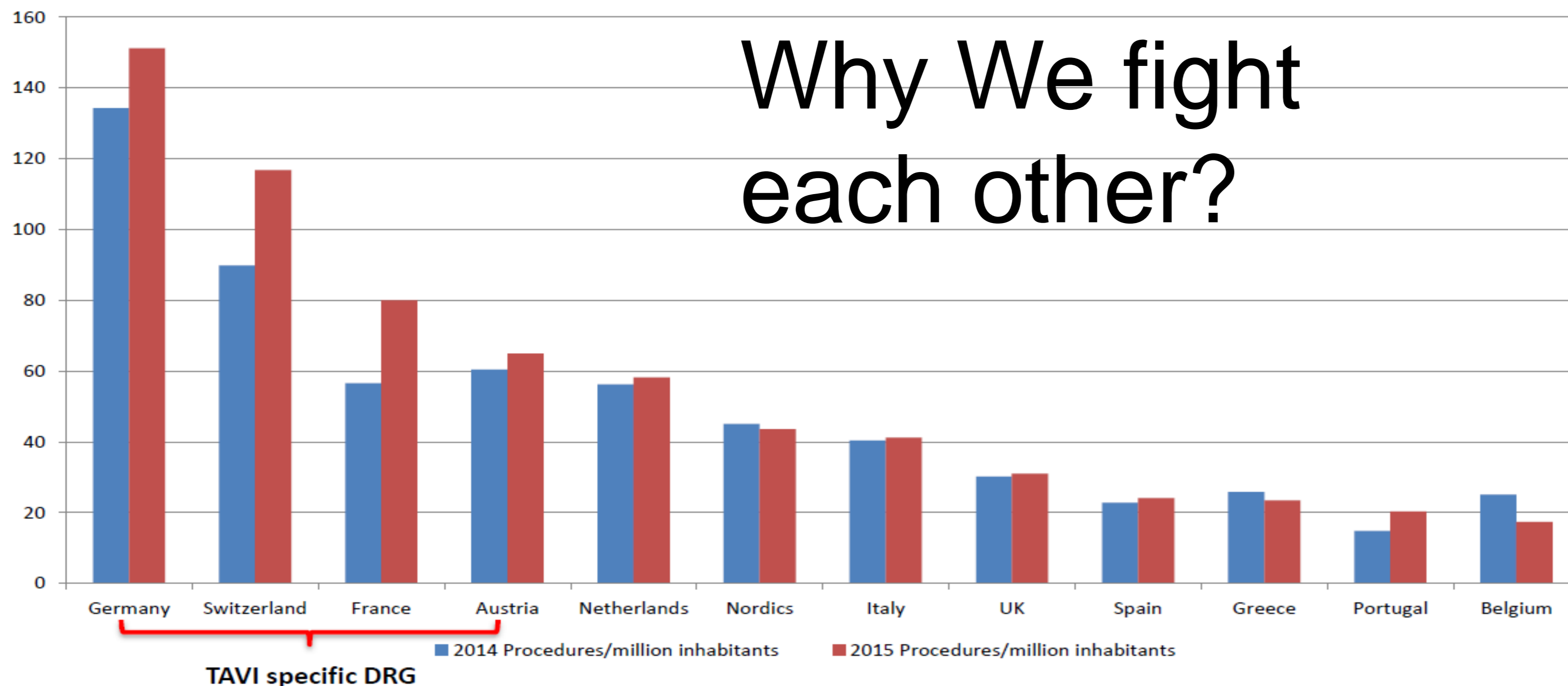




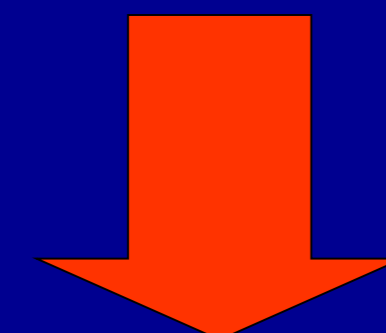
## TAVI Procedures/million inhabitants



# Why We fight each other?



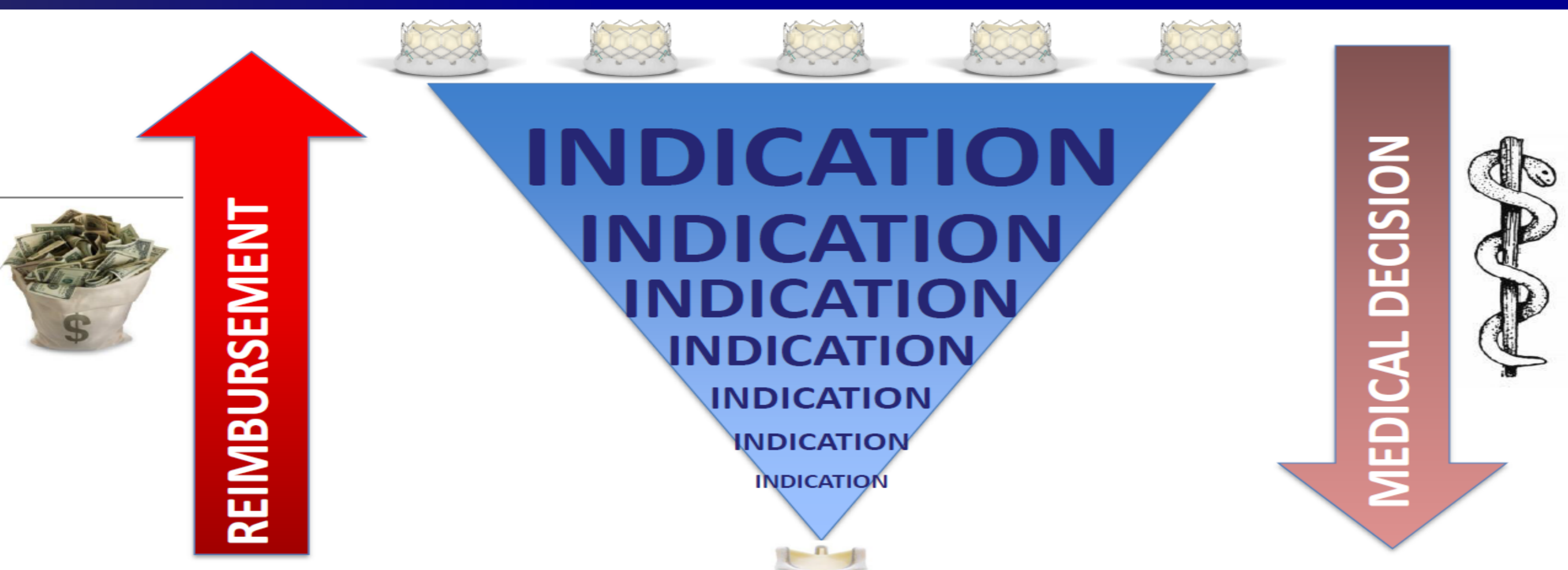
Prosthesis: u\$d 40.000

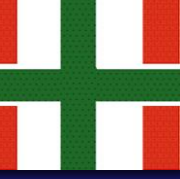


Total Cost/ Proc:  
u\$d 55.000

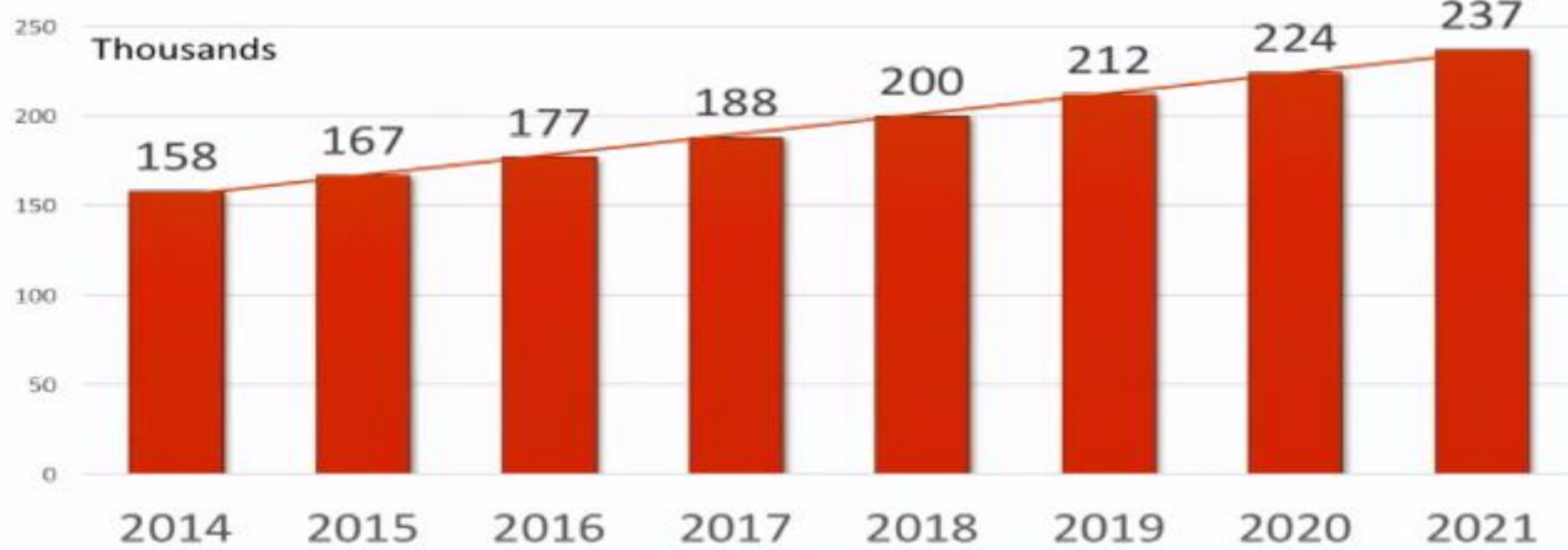
VS

Surgery total cost/Proc  
u\$d 15.000





### Symptomatic Aortic Stenosis

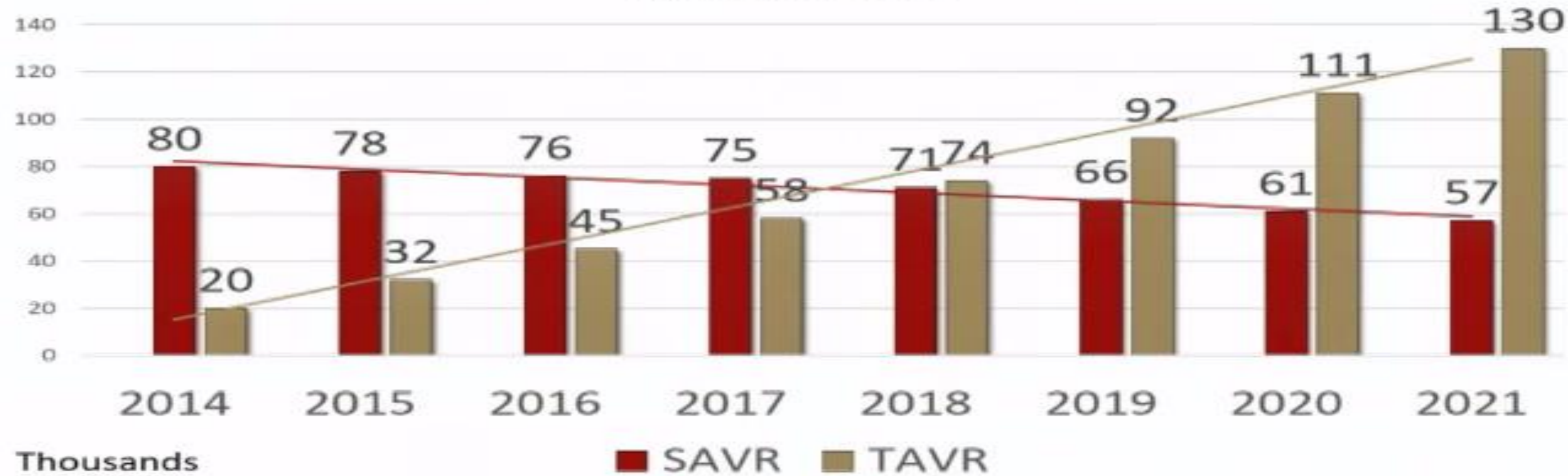


Wells Fargo Securities, April, 2017

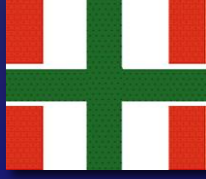
Why We fight each other?

BECAUSE THE NUMBERS ARE RAISING!

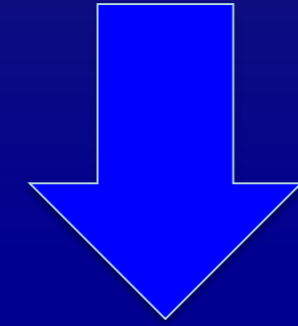
### Aortic Stenosis



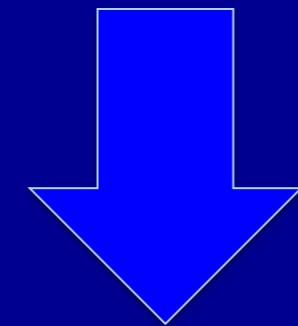
Wells Fargo Securities, April, 2017



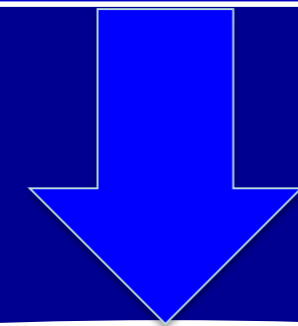
**Team - Work**



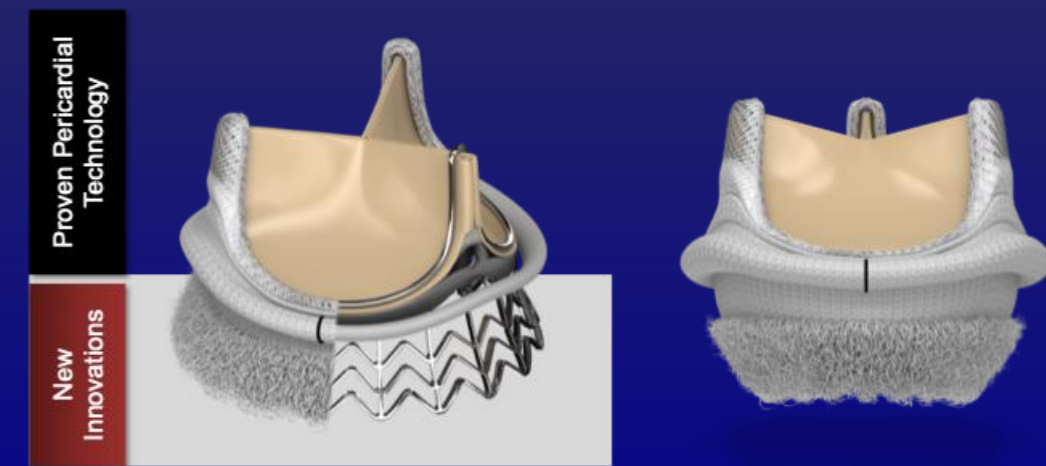
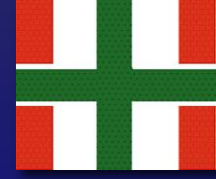
**FORMAL REPORT**



**MEDICAL INSURANCE**

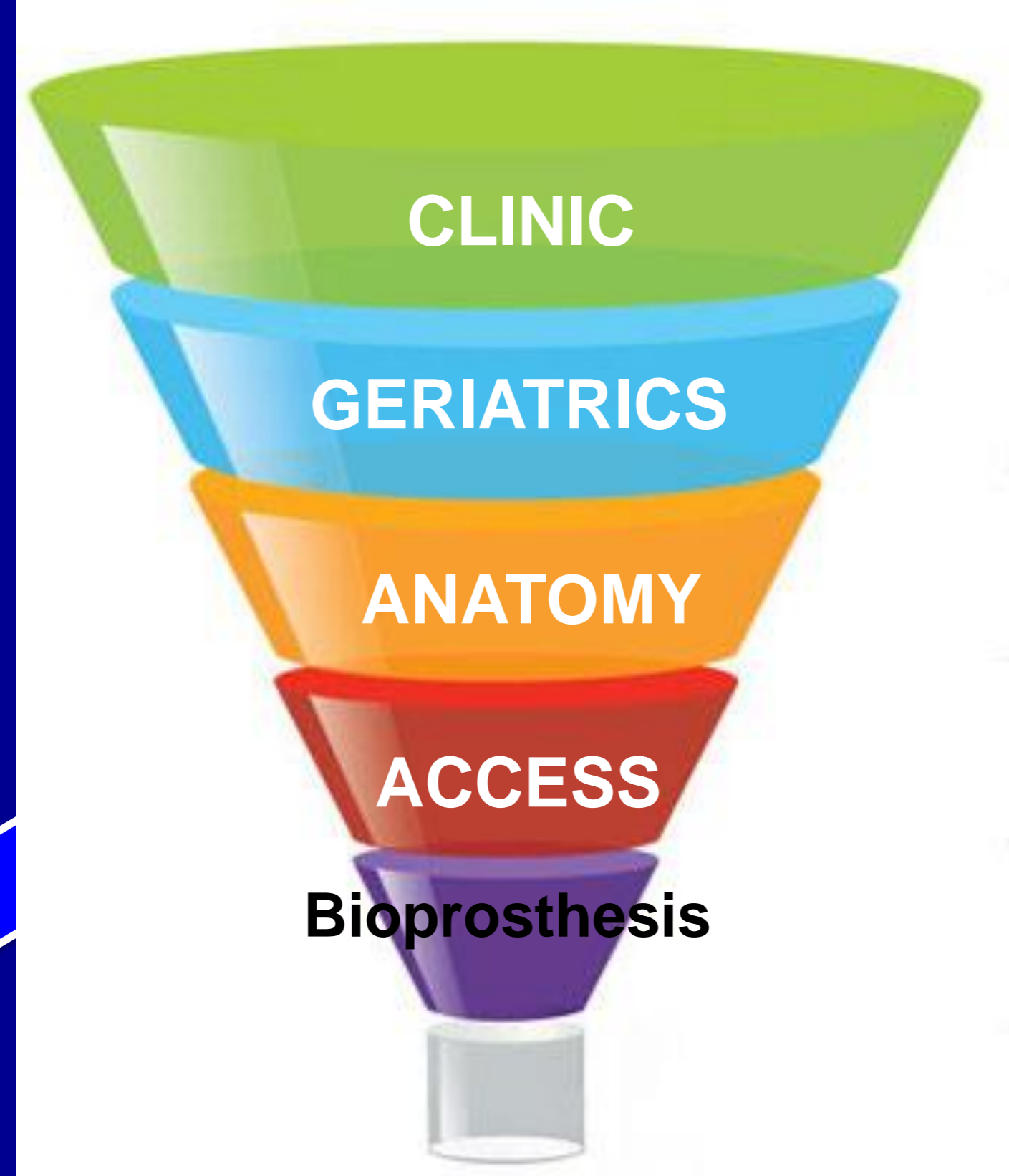


**OPTIMIZE  
RESOURCES**



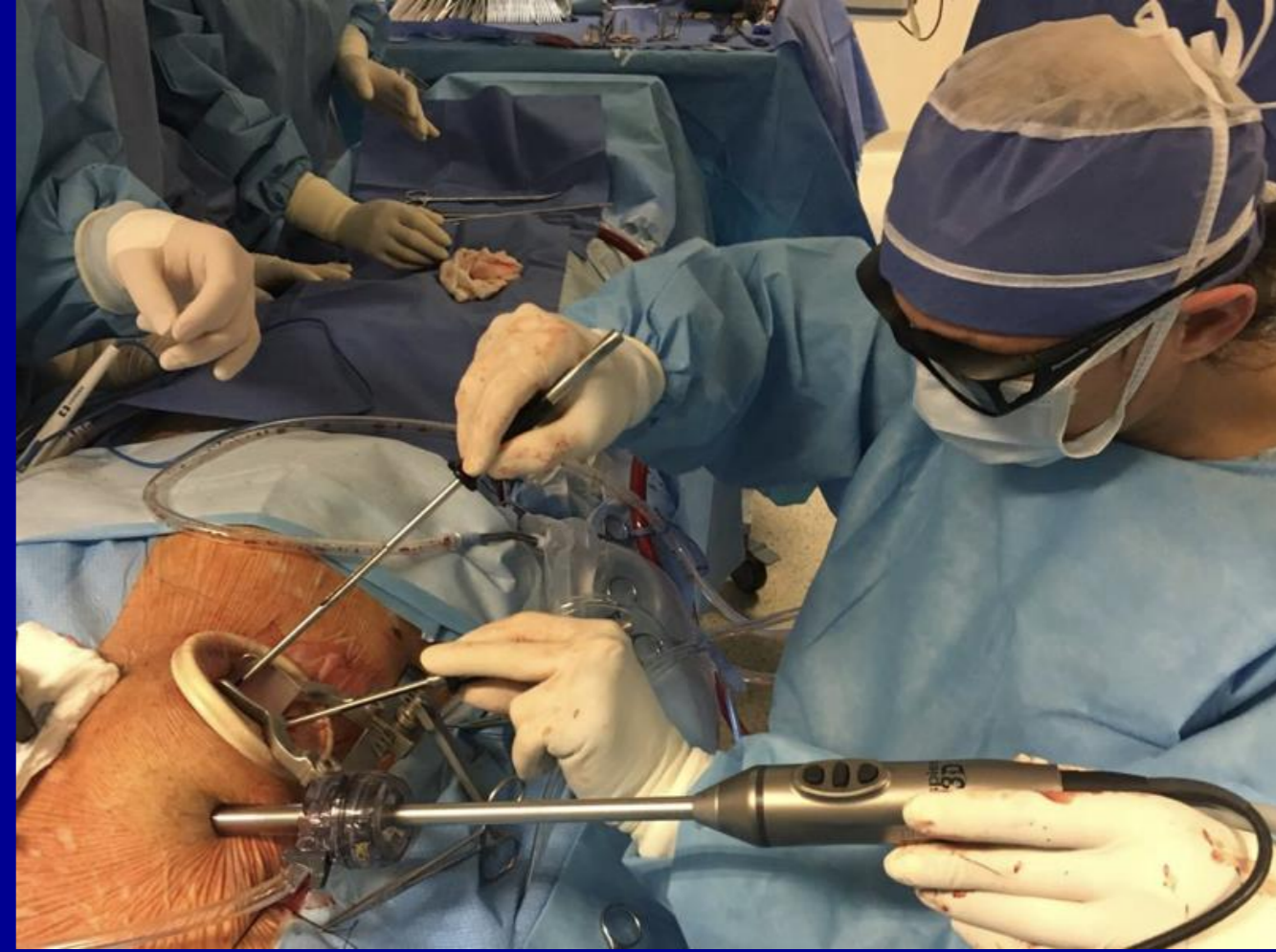
# OPTIMIZE RESOURCES

**TAVI ACCESSIBILITY**



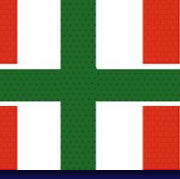
**RAPID DEPLOYMENT VALVE COST**

**MINI INVASIVE SURGERY**



**SURGERY ACCESSIBILITY**

**TAVI COST**



# Team Training and Proctoring

Interventionals Cardiologists

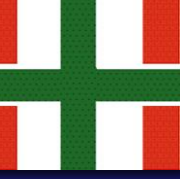
SURGEONS

CHARLES NICOLLE HOSPITAL  
ROUEN UNIVERSITY

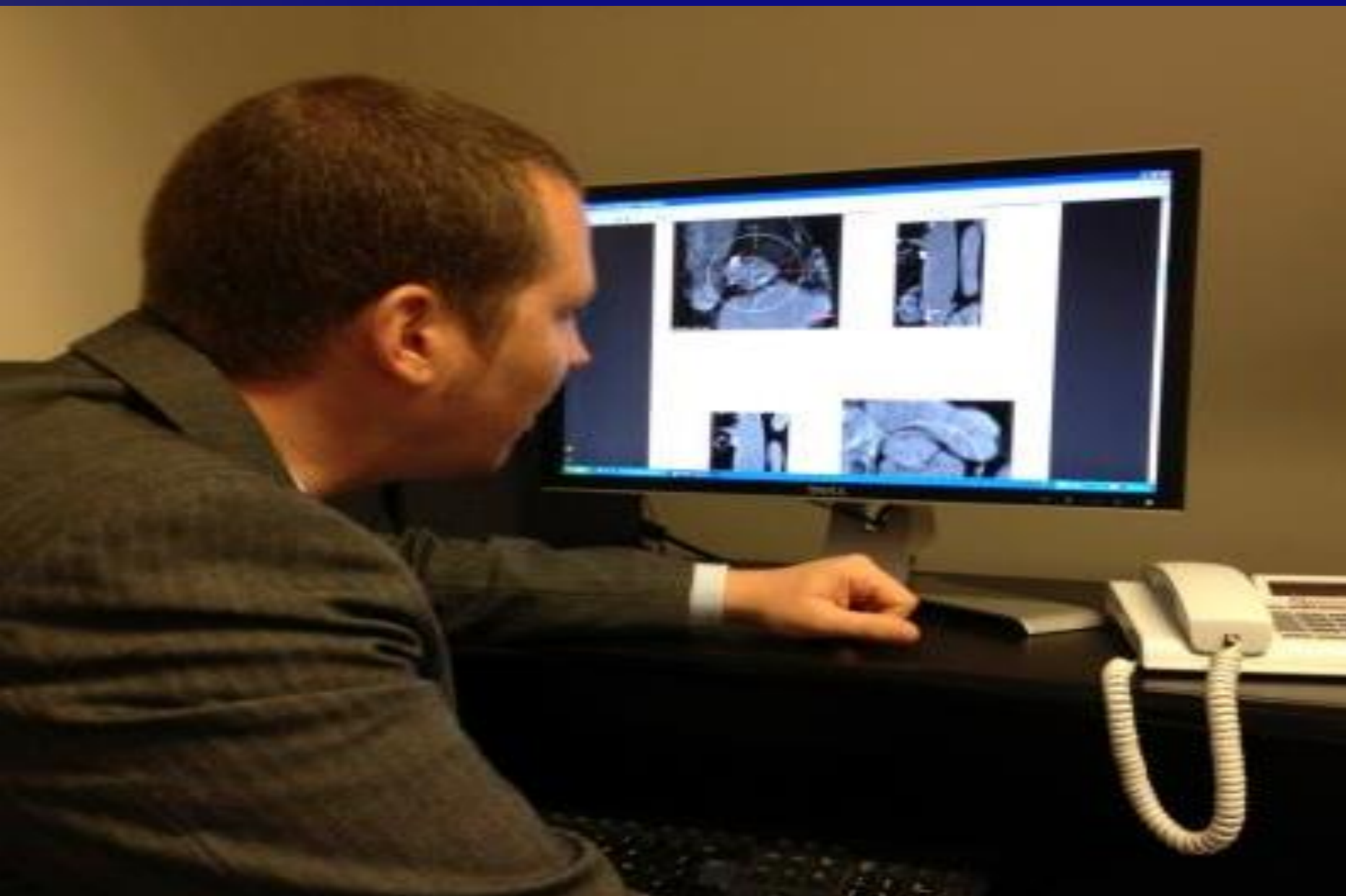
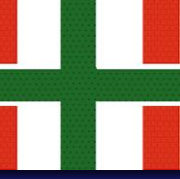
HERZZENTRUM LEIPZIG  
ROBERT-BOSCH-KRANKENHAUS



# AVOID MISTAKES



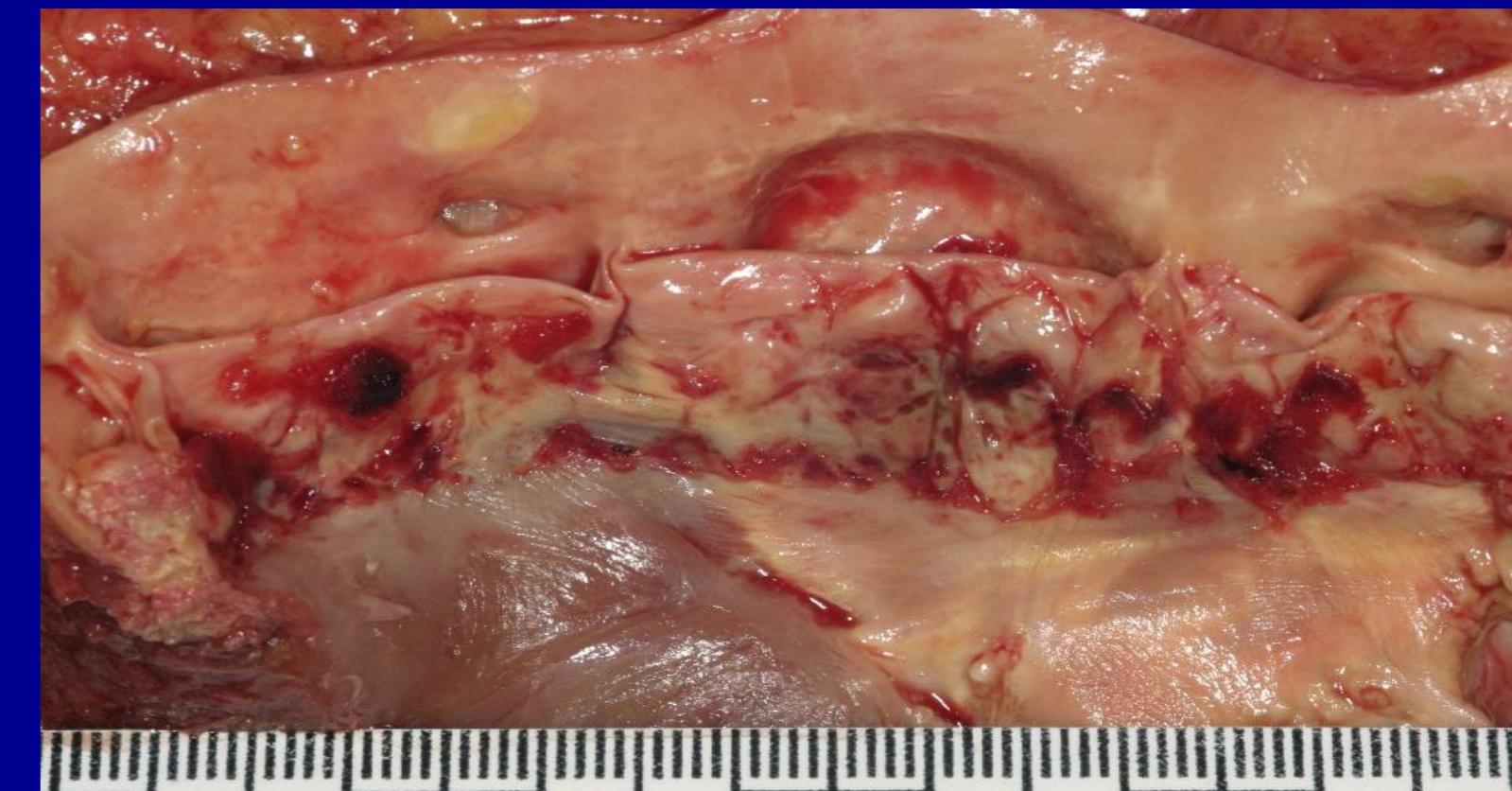
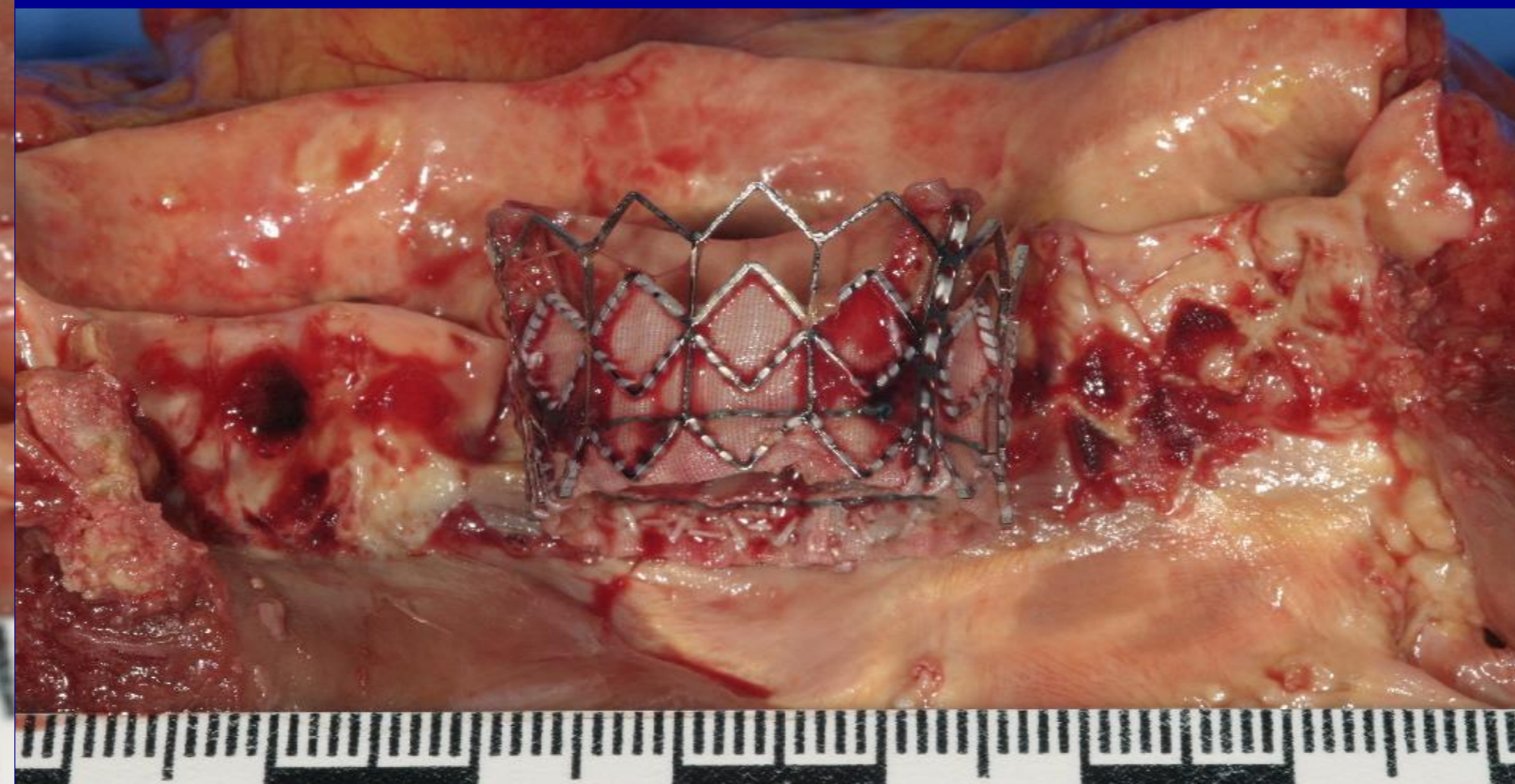
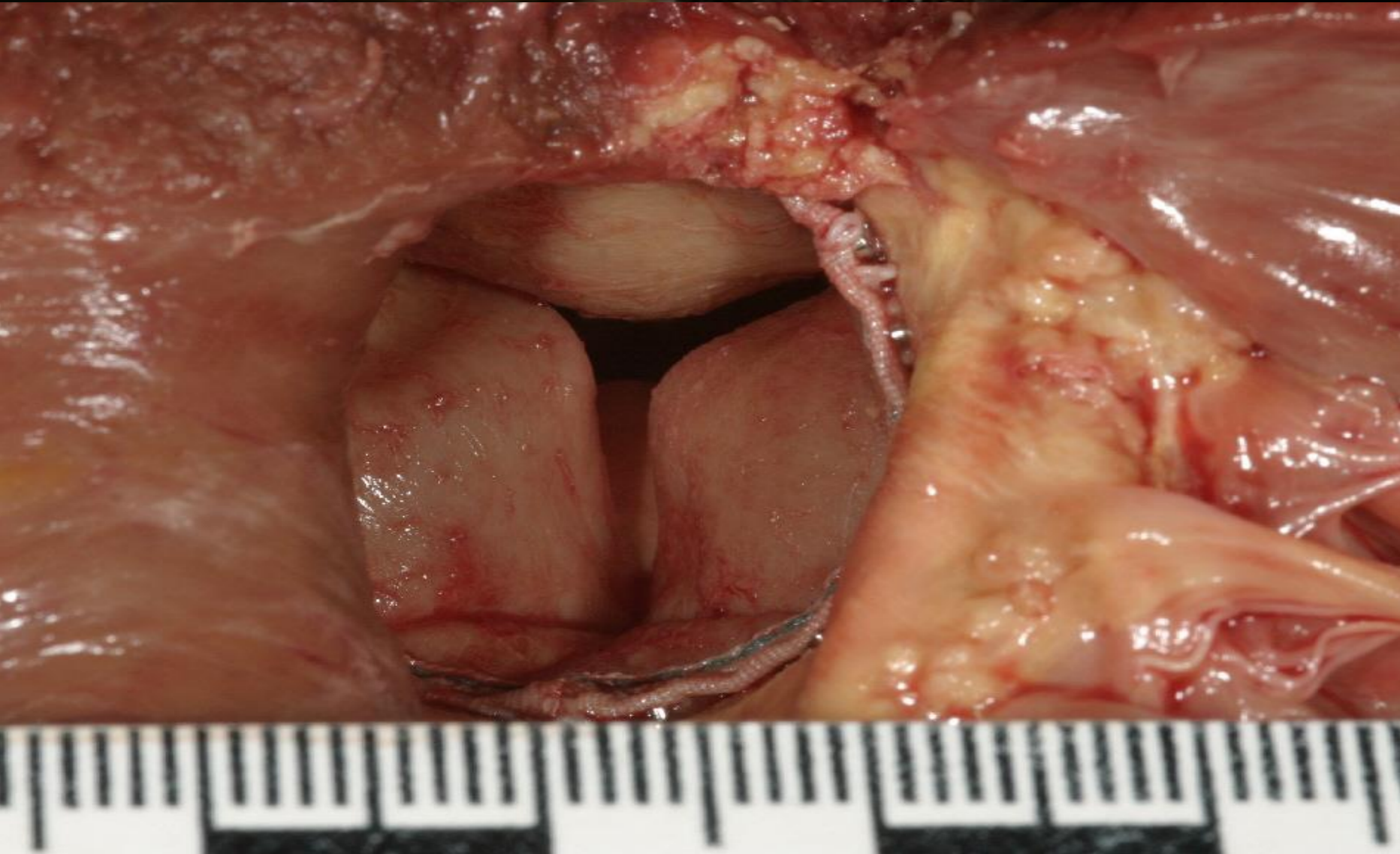
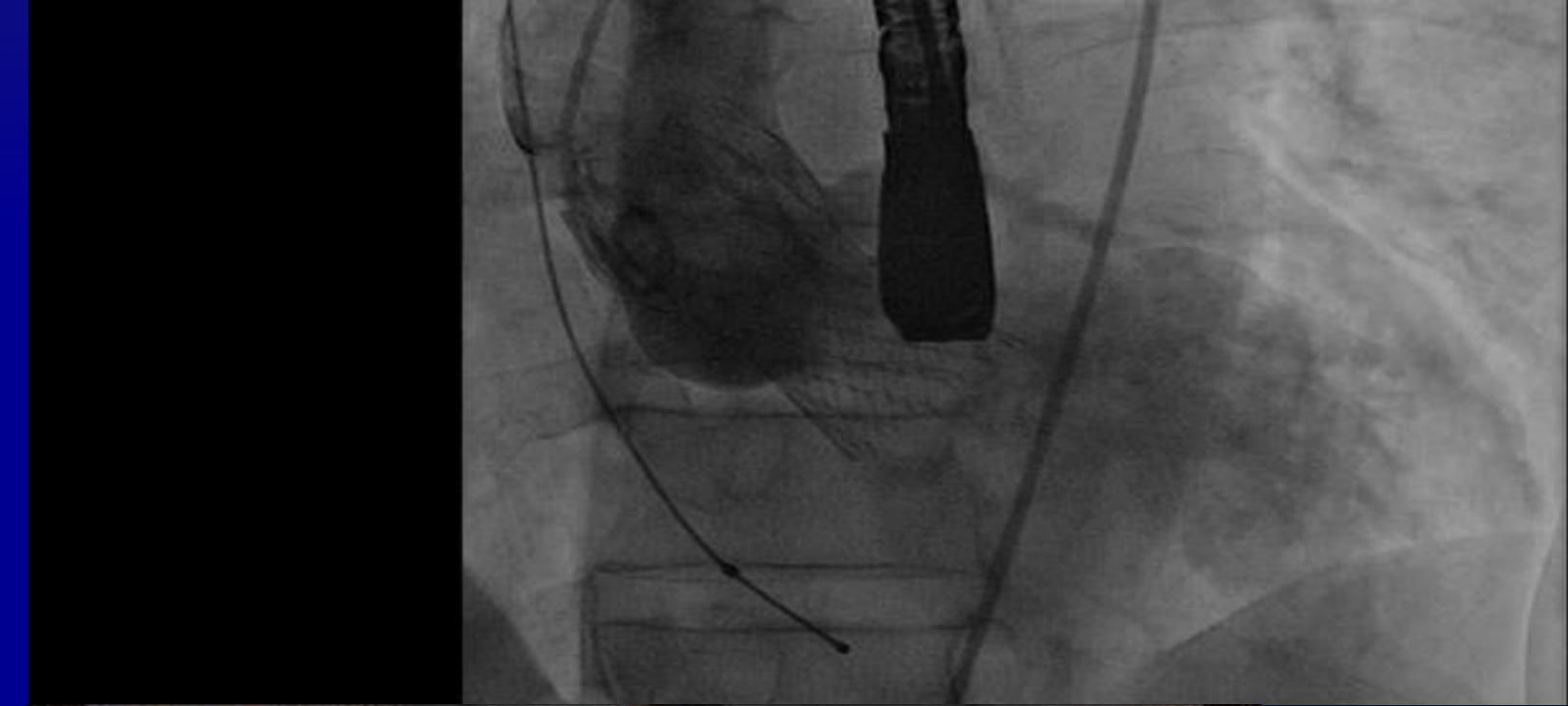
# Team Training and Proctoring



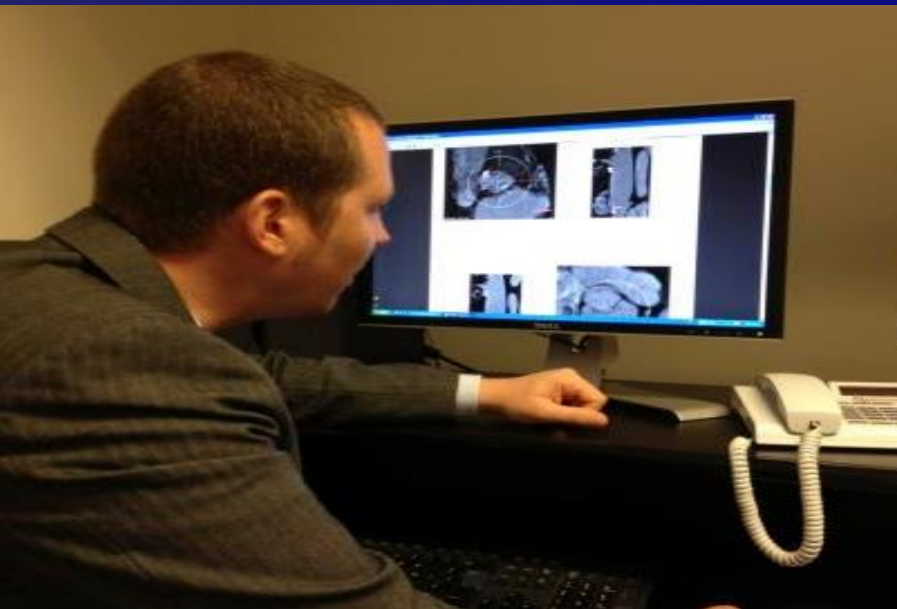
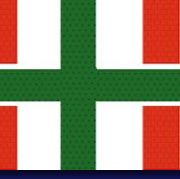
Case  
Analysis

Calcium

PARAVALVULAR  
LEAK



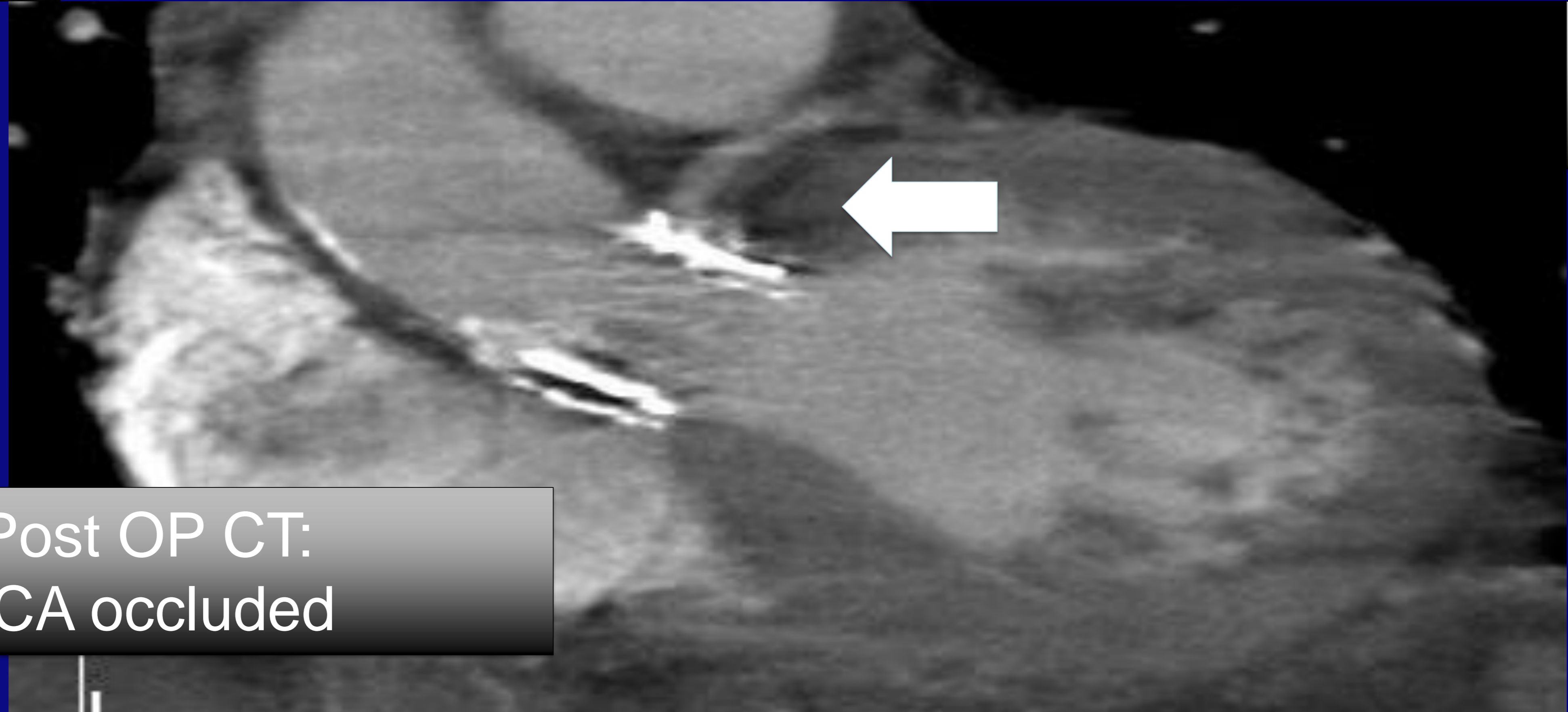
# Team Training and Proctoring



Case  
Analysis

AORTIC RING

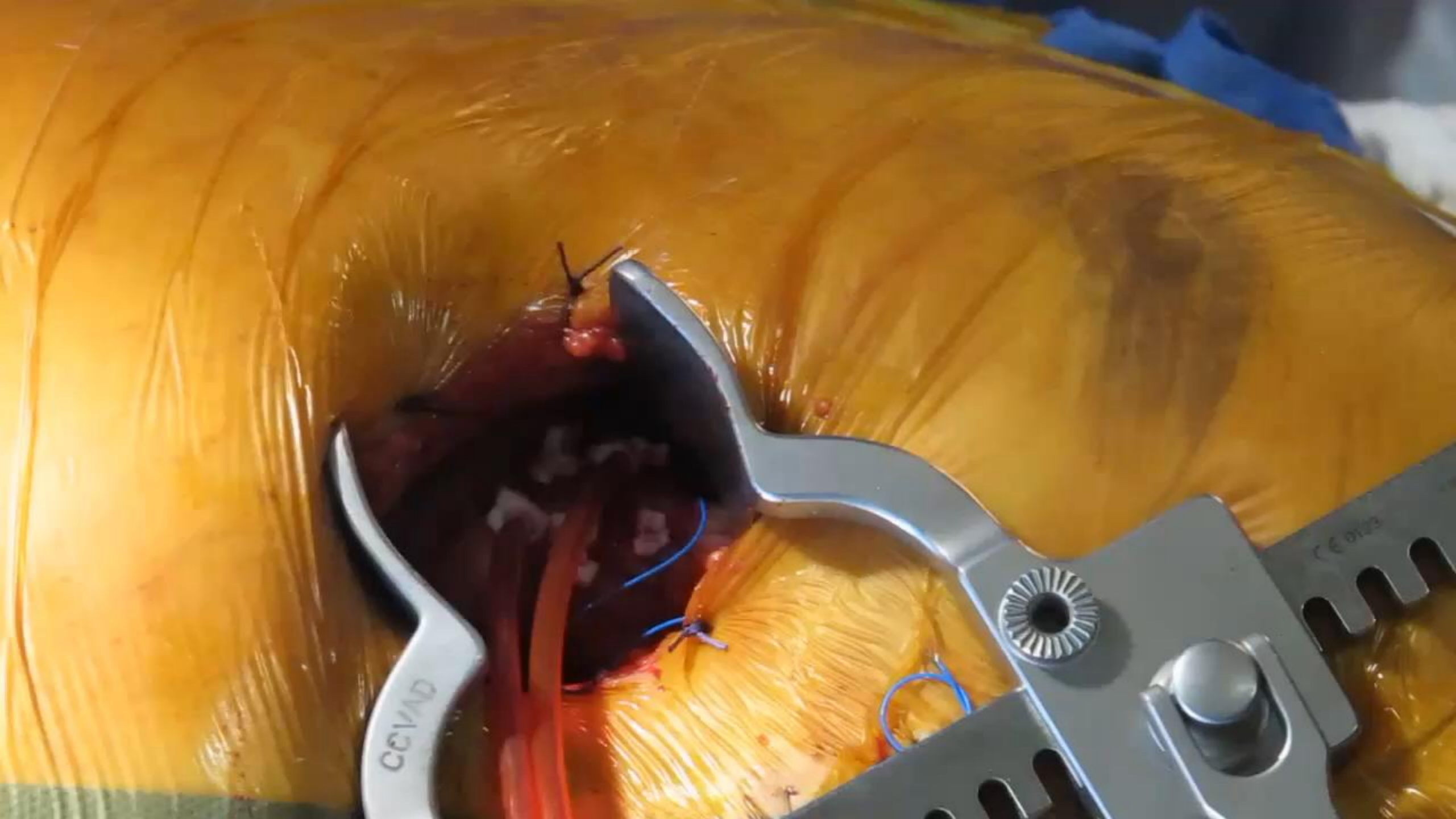
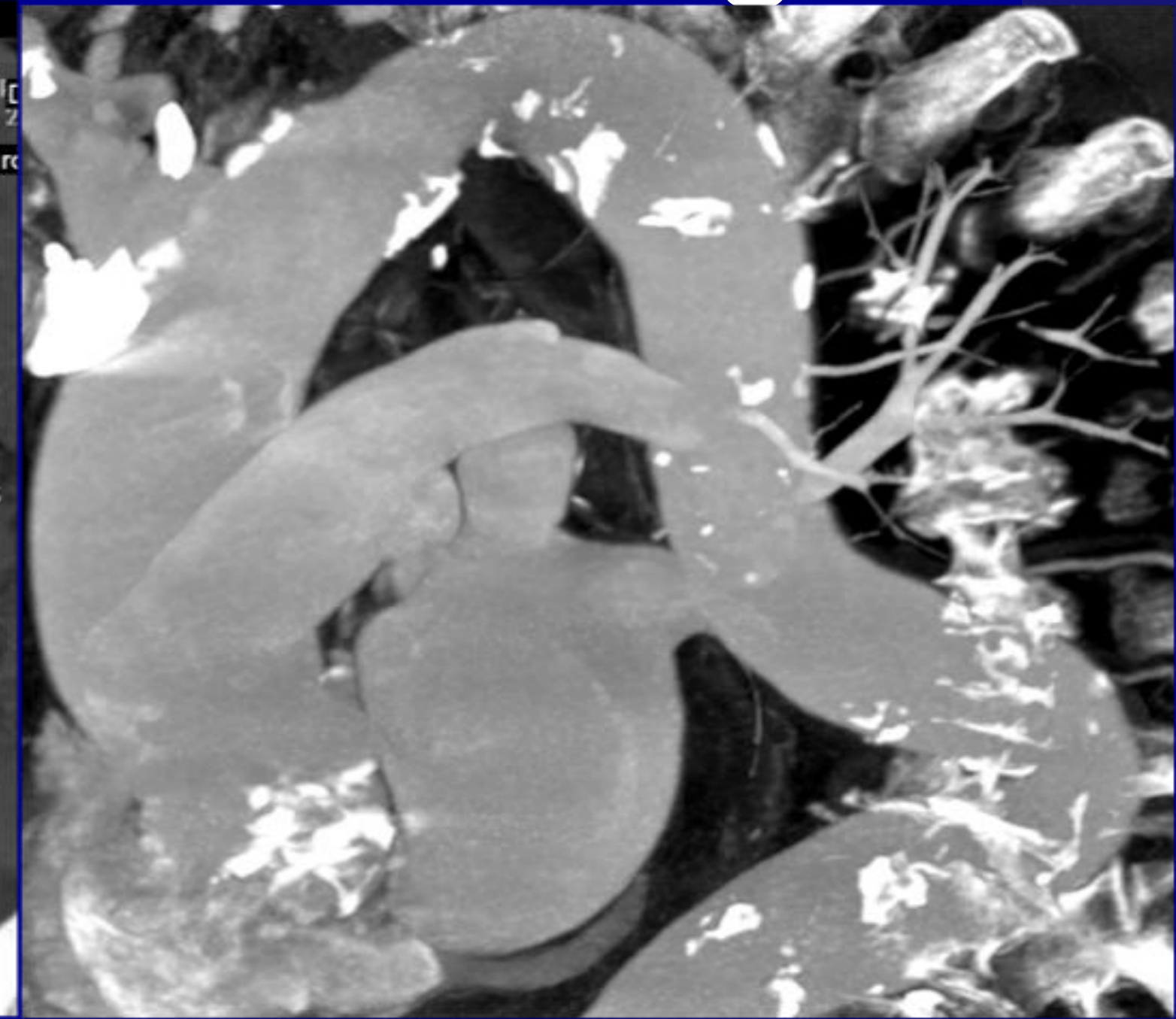
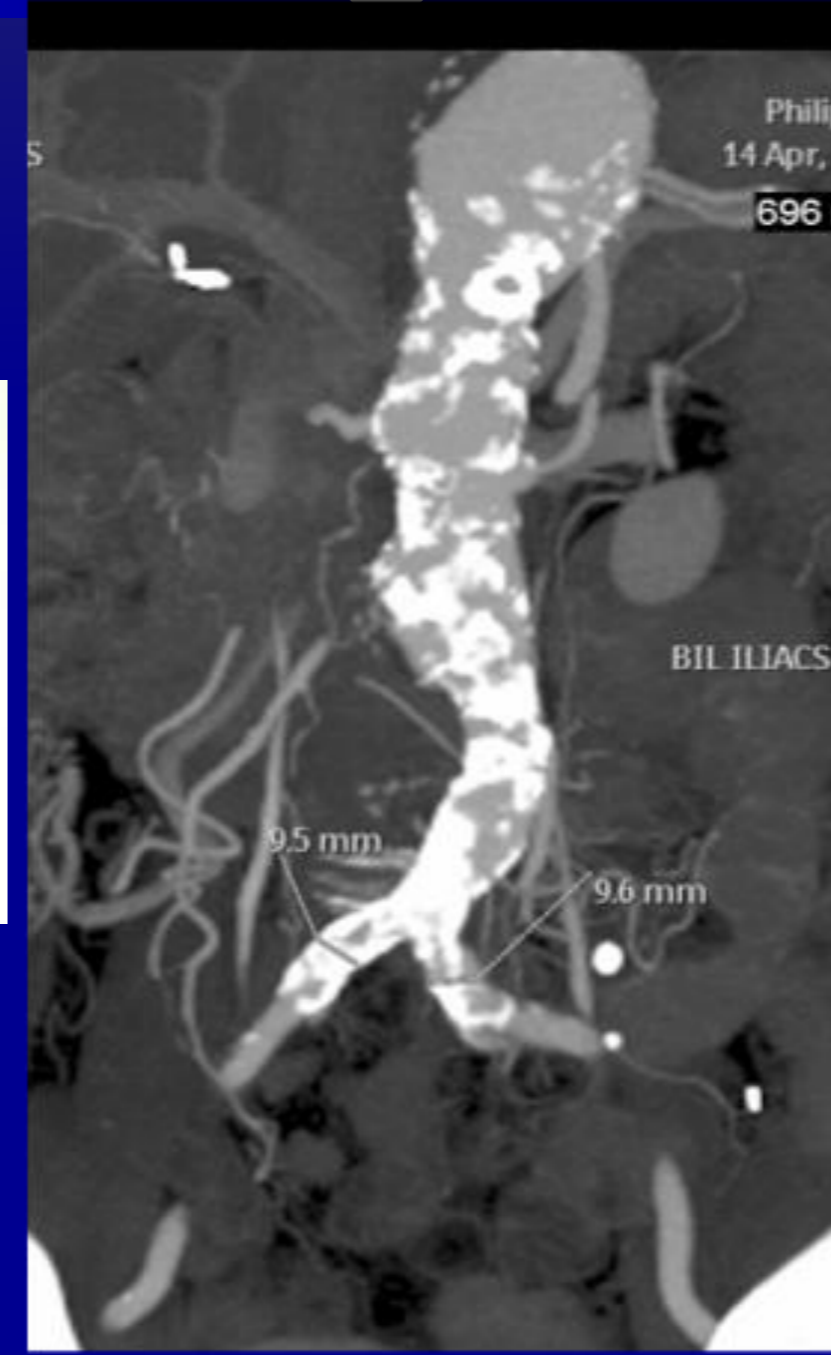
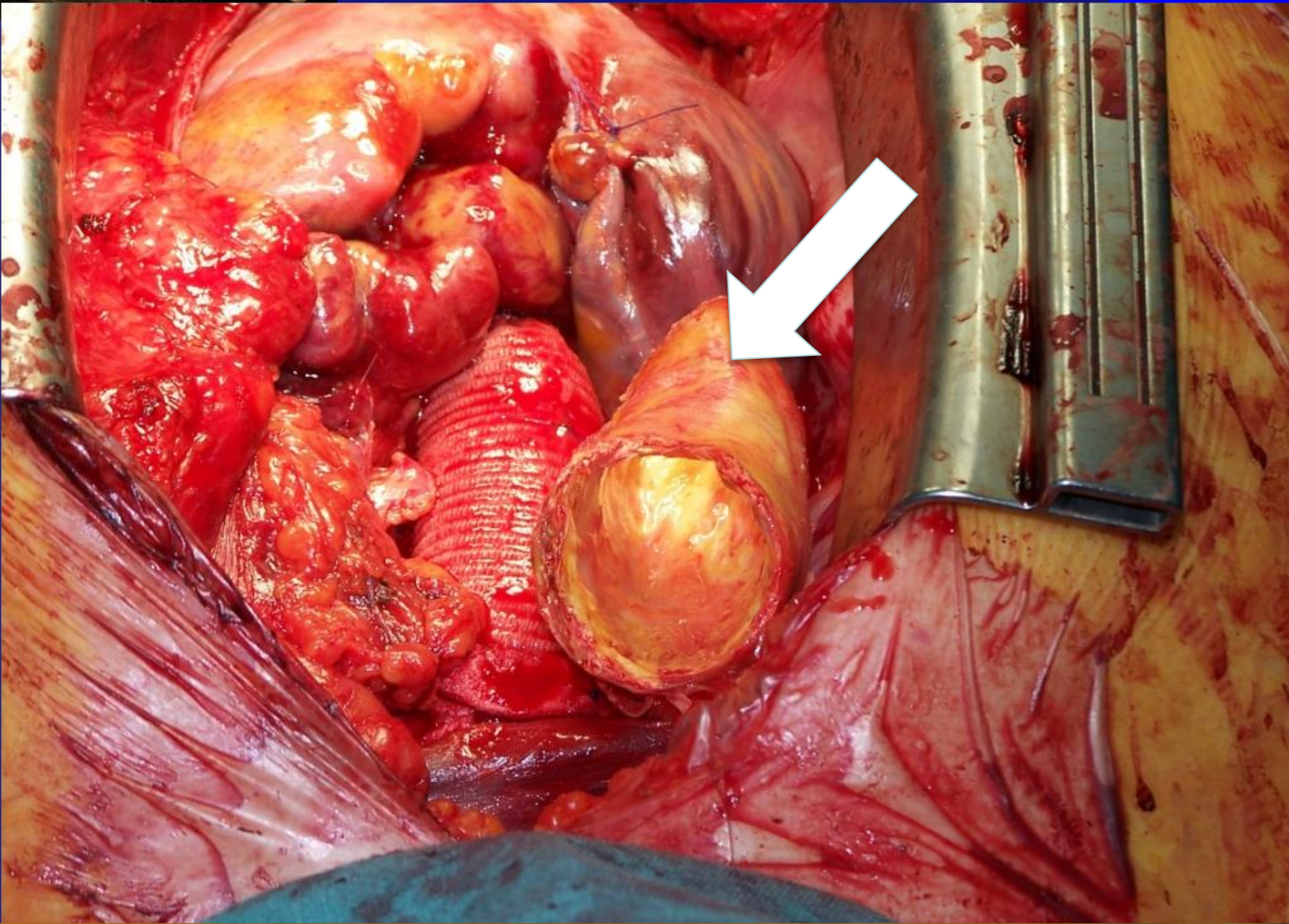
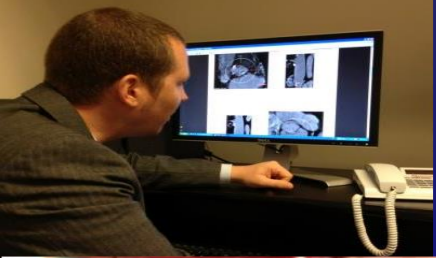
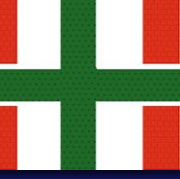
CORONARY  
OSTIUM



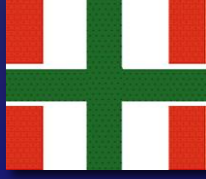
Post OP CT:  
LCA occluded



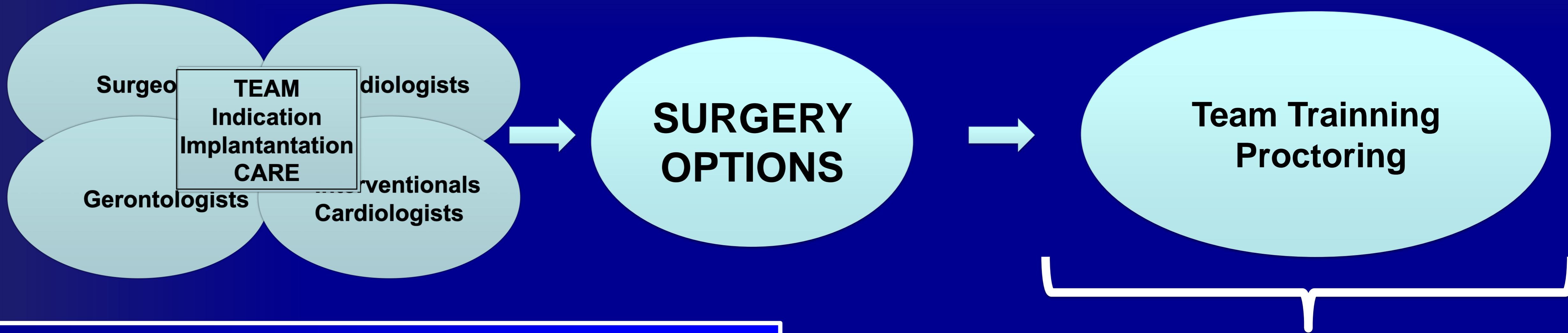
# Team Training and Proctoring



# Heart Valve Referral Center



## TEAM WORK



## REGIONAL DATA

TAVR  
TA - TF

MINI INVASIVE  
SURGERY



RAPID  
DEPLOYMENT

3D TECH

Training surgicals  
Course

SURGICAL  
TRAINING  
CENTER

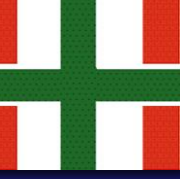
UNIVERSITIES



INDUSTRY

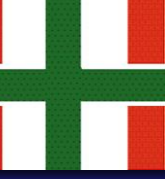


# ARGENTINA SURGERY DATA: Intermediate Risk



Variable	n=877	Valor
ARM prolongado		17 (17,53)
SBGC		22 (22,7)
BCIAO Intra-posquirúrgico		6 (6,2)
IAM posquirúrgico		1 (1,03)
Sangrado 24 horas		230 (150-370)
ACV isquémico		3 (3,1)
IRA con requerimiento de HMD		5 (5,2)
Transfusiones UGR		2 (0-3)
Estadía hospitalaria PO total		8 (6-14)
FA posoperatorio		43 (44,53)
Bloqueo AV c/requerimiento de MCP		4 (4,12)
Mediastinitis		2 (2,16)
Reoperación por sangrado		4 (4,1)
Mortalidad al mes		5 (5,2)

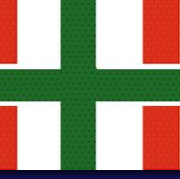
**MORTALITY 5,2%**



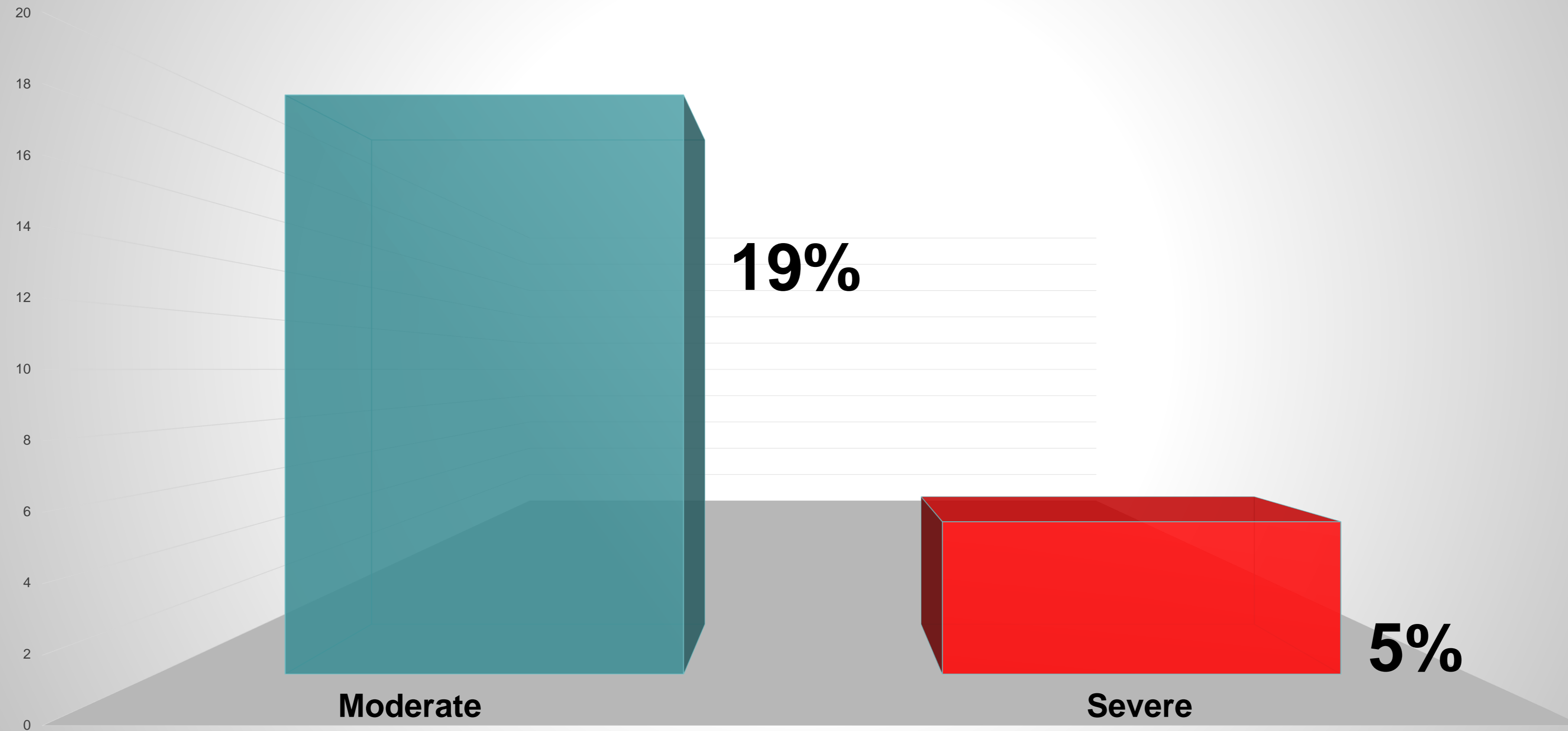
# Registry: Argentina

- ✓ TAVI 2300 patients
- ✓ 95% TAVI-TF
- ✓ 5% :TA, transsubclavian, etc.-
- ✓ AGE:  $80 \pm 5$
- ✓ Euroscore  $>15$
- ✓ STS Score  $>10$

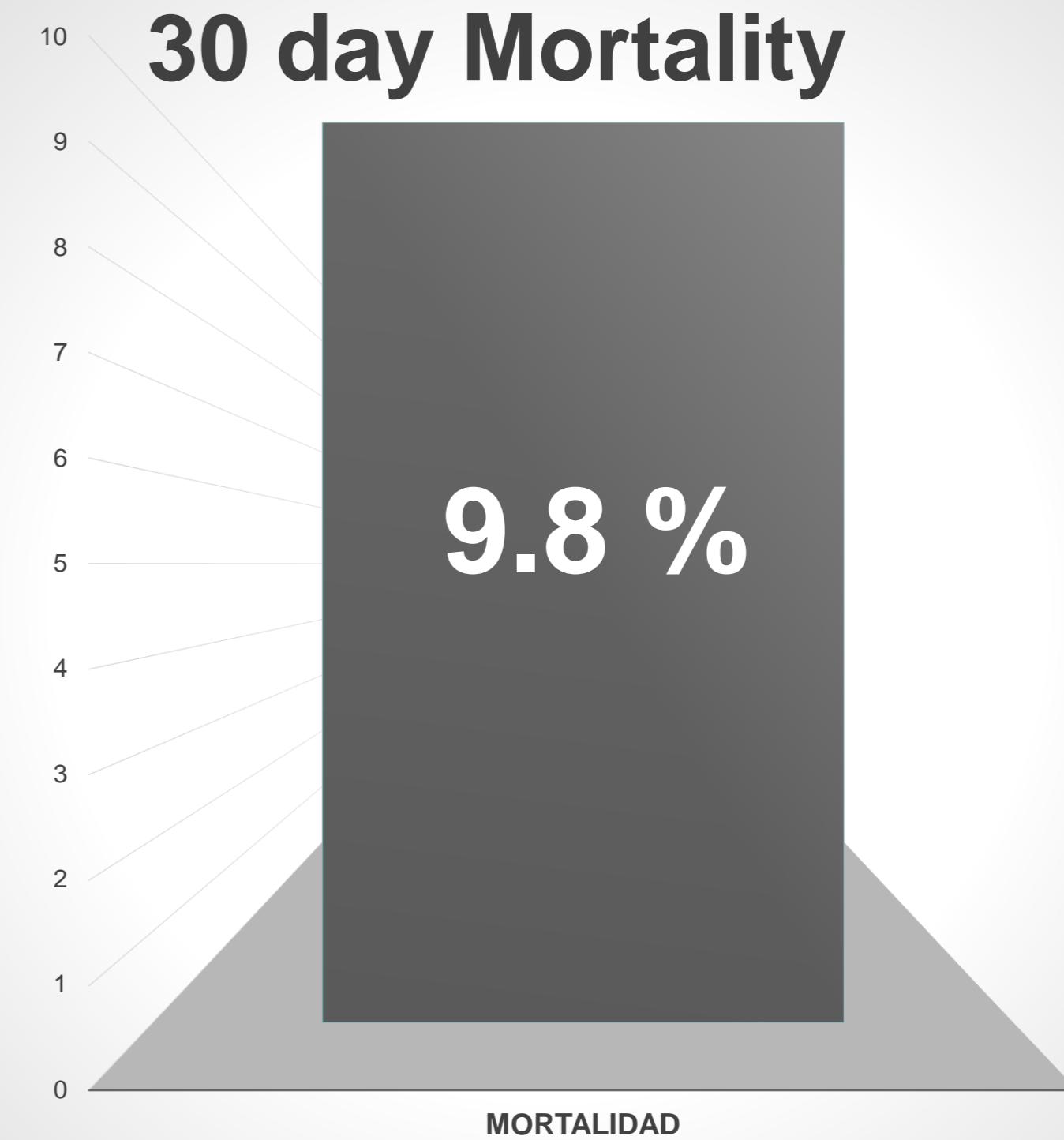
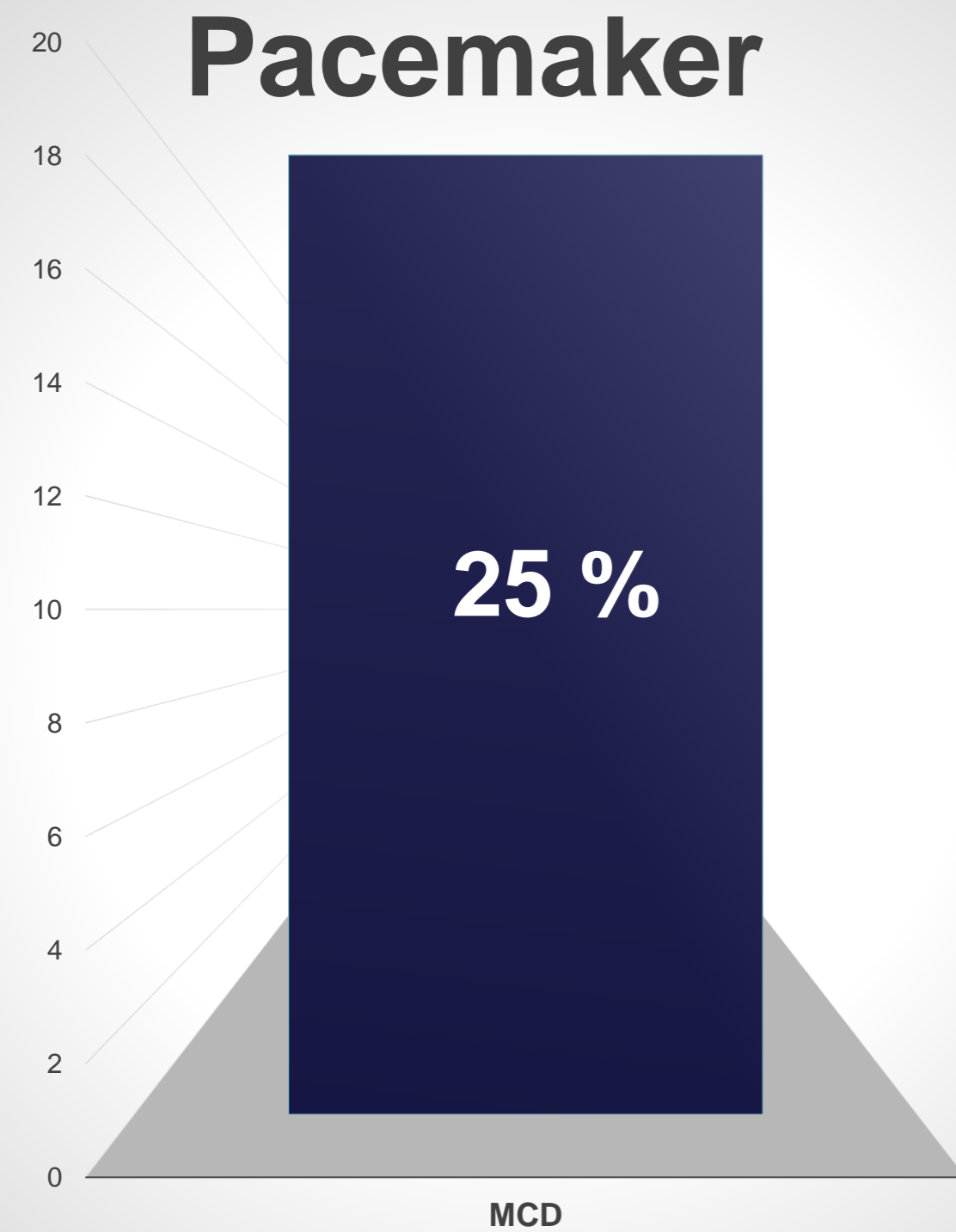
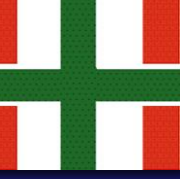
# Real World : ARGENTINA (n: 2300 TAVI)

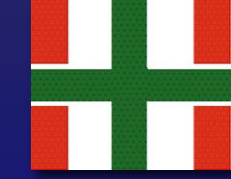


## Para valvular Leak



# Real World : ARGENTINA (n: 2300 TAVI)





<b>N=155</b>		
Age (yr)-mean±SD	82.6+/-5.7	
Male-total %	36%	
BMI (Kg/m <sup>2</sup> )-mean±SD	27.3+/-4.8	
NYHA-No/total No.%		
I	12.7%	
II	52.0%	
III	32.7%	
IV	1.8%	
STS %-mean±SD	5.7+/-2.3	
MSCT annulus area mm2 +/-SD	404.3+/-84.0	
Femoral access-No.Total/ (%)	64.51%	
Transapical access-No.Total/ (%)	35.49%	
MACCE (30-day)	10.32%	
MACCE (MI/Death/Stroke/Redo/dyalisis)	22.8%	
Pacemaker (30 day Post TAVR)	16.1%	
Paravalvular Leak		
mild/trivial	78,08%	
moderate	16,2	
severe	5,8%	21,92%



# CONCLUSION

What we learned: 'It is feasible to have a Heart Valve referral center'

- 1- Built a Real TEAM - Heart Team
- 2- Training and Proctoring
- 3- Patient selection and rejection
- 4- Intensive Care training
- 5- Preparation, planning and conducting the procedure
- 6- DATA Registry



# STS/EACTS Latin America Cardiovascular Surgery Conference

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# THANK YOU

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***Things should be made as simple as possible, but not simpler"***

**Albert Einstein**