

# Why should we consider ACURATE Neo2

*: Based on Clinical Evidence*

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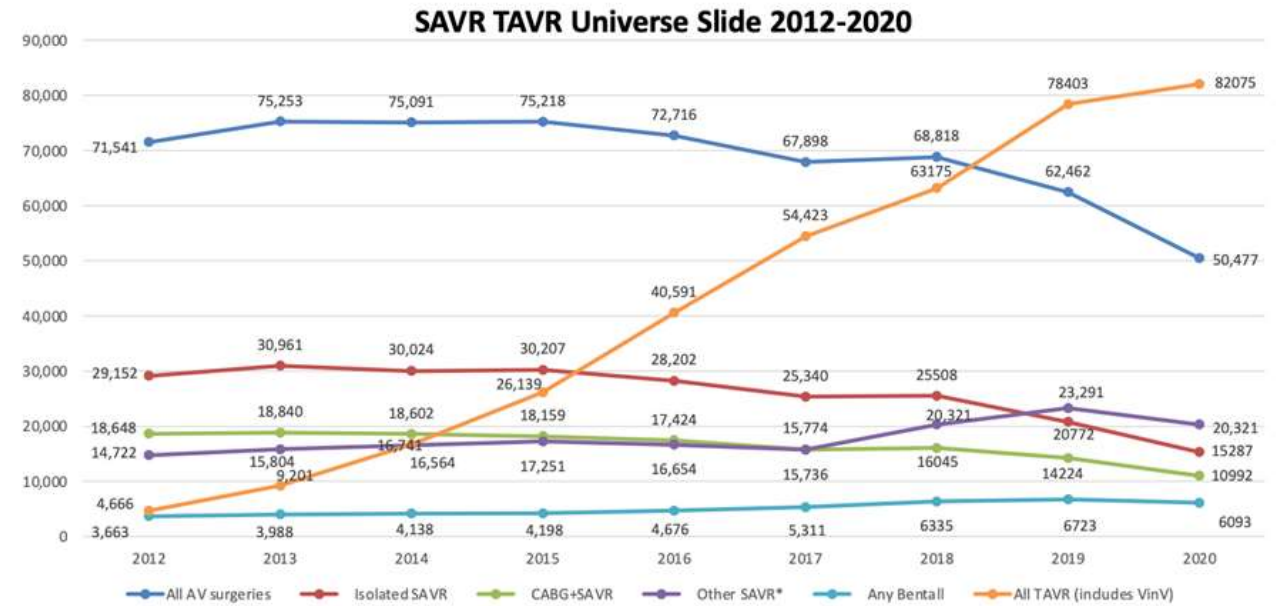
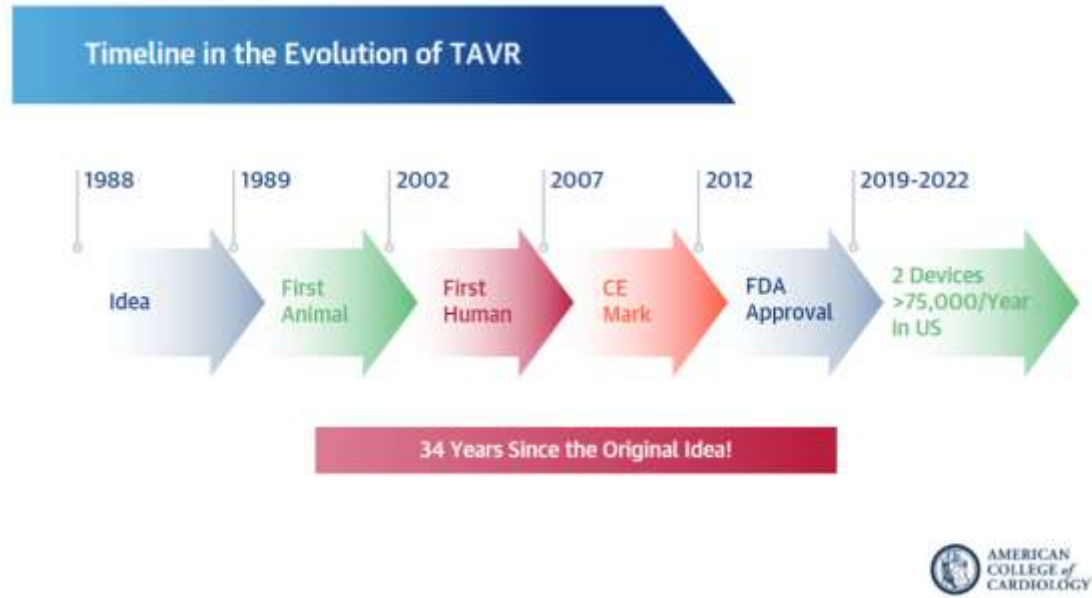
**Jeehoon Kang**  
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**Seoul National University Hospital, Korea**



# Current trend of TAVI



- During a >30 years evolution, rapid(?) increase of TAVI
- To lower risk/younger age patients.



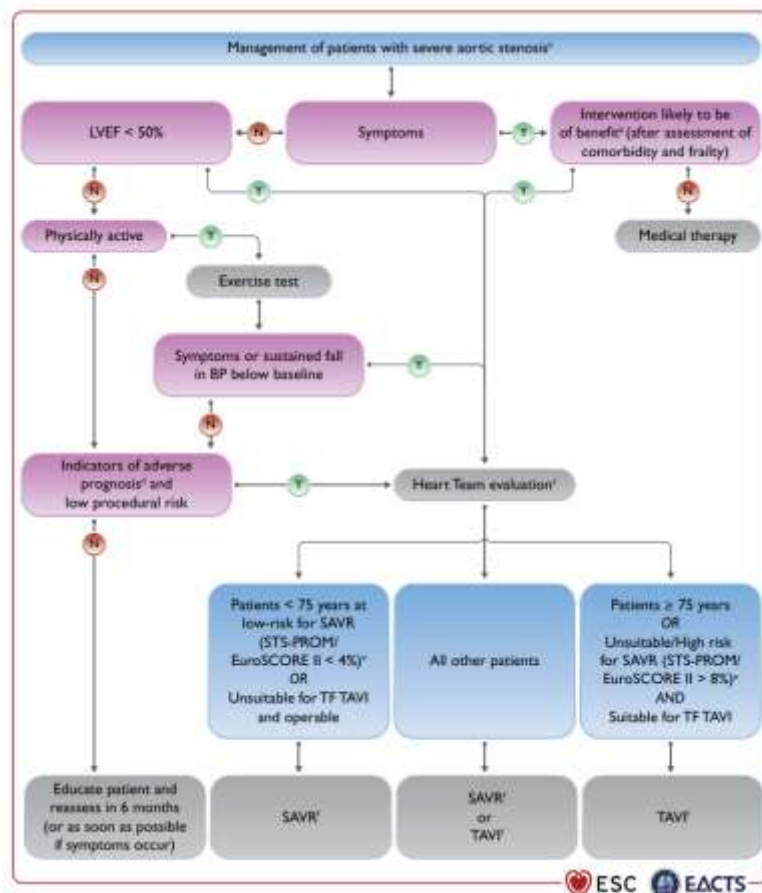
# Recent Guidelines of TAVI



## 2021 ESC/EACTS Guidelines for the management of valvular heart disease

Developed by the Task Force for the management of valvular heart disease of the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS)

- Treatment modality is determined by... **Heart Team evaluation**  
**Age** (75 years old) and **high risk** (STS, EuroSCORE) and suitability of TAVI



### Previous guidelines

### Current guidelines

	Previous guidelines	Current guidelines
Revised	SAVR is recommended in patients at low surgical risk (STS or EuroSCORE II <4% or logistic EuroSCORE I <10%, and no other risk factors not included in these scores, such as frailty, porcelain aorta, sequelae of chest radiation).	SAVR is recommended in younger patients who are low risk for surgery (<75 years and STS-PROM/ EuroSCORE II <4%) or in patients who are operable and unsuitable for transfemoral TAVI.
Revised	TAVI is recommended in patients who are not suitable for SAVR as assessed by the Heart Team.	TAVI is recommended in older patients (≥75 years), or in those who are high-risk (STS-PROM/ EuroSCORE II >8%) or unsuitable for surgery.

TAVI in patients not suitable for SAVR

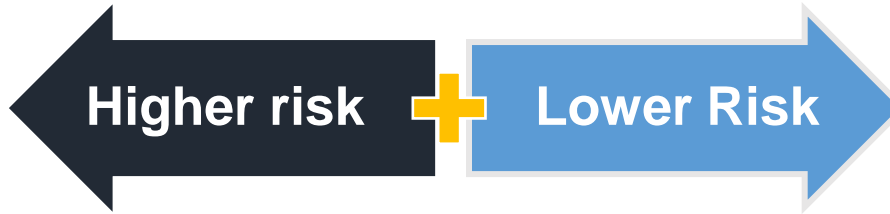


SAVR in patients not suitable for TAVI


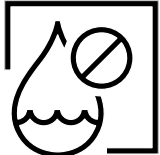

# Shift in the metrics of *'what matters?'*



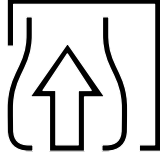
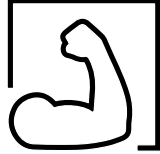

## PROCEDURAL SUCCESS METRICS



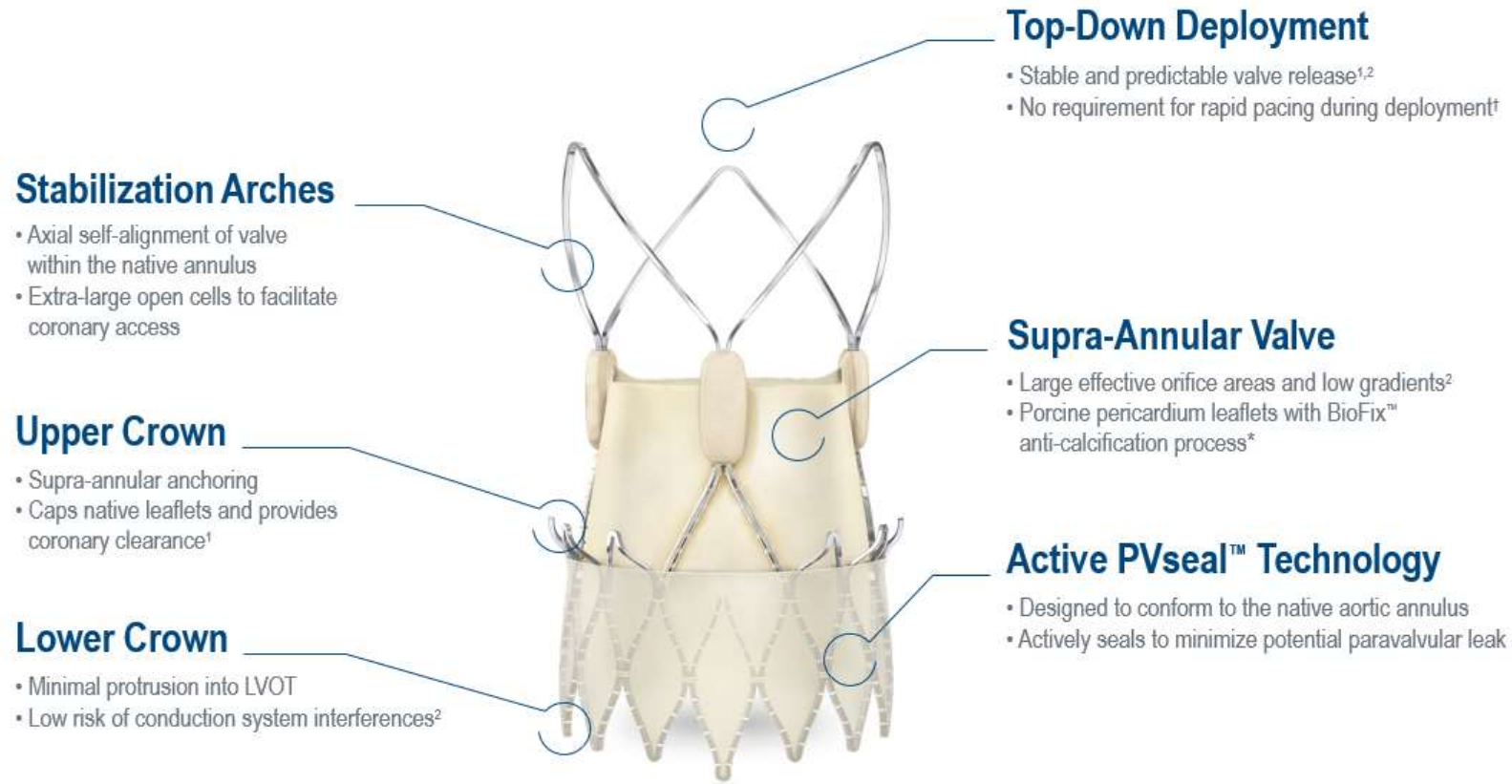
## LIFETIME MANAGEMENT METRICS

-  Mortality & Stroke
-  Quality of Life
-  Conduction Disturbance (PPI)

AGE	
80+	65+, CAD
ANATOMY	
Tri-leaflet	More Bicuspid
ACTIVITY	
Low	High(er)

-  Hemodynamics & PPM
-  Durability < Life Expectancy
-  Coronary Access (PCI) & TAV-in-TAV

# The ACURATE neo2 valve



## *In regards of device specific characteristics*

### ✓ *Hemodynamics*

✓ PVL and conduction disorders

✓ Coronary access and Commissure alignment

# Hemodynamics



✓ **Supra-annular self-expandable valves** are associated with favorable hemodynamics compared with balloon-expandable valves

## 5-Year Outcomes After TAVR With Balloon-Expandable Versus Self-Expanding Valves

Results From the CHOICE Randomized Clinical Trial

	Balloon-Expandable Valve (n = 121)	Self-Expanding Valve (n = 120)	p Value
Death			
From any cause	63 (53.4)	54 (47.6)	0.38
From cardiovascular causes	37 (31.6)	25 (21.5)	0.12
Stroke	21 (17.5)	19 (16.5)	0.73
Repeat hospitalization for heart failure	30 (28.9)	26 (22.5)	0.75
Myocardial infarction	2 (1.6)	7 (6.1)	0.08
Bleeding			
Life threatening	21 (17.3)	18 (16.2)	0.77
Major	28 (26.3)	20 (22.0)	0.26
Minor	17 (14.3)	12 (10.4)	0.37
Vascular complications			
Major	14 (11.6)	14 (12.1)	0.89
Minor	5 (4.2)	3 (2.6)	0.51
New pacemaker*	28 (25.4)	40 (40.4)	0.01



	Balloon-Expandable Valve (n = 36)	Self-Expanding Valve (n = 41)	p Value
Effective orifice area, cm <sup>2</sup>	1.6 ± 0.5	1.9 ± 0.5	0.02
Number of patients	39	45	
Mean gradient, mm Hg	12.2 ± 8.7	6.9 ± 2.7	0.001
Number of patients	47	52	
Transvalvular aortic regurgitation			0.62
None/trace	46 (97.9)	49 (94.2)	
Mild	1 (2.1)	3 (5.8)	
Moderate	0 (0.0)	0 (0.0)	
Severe	0 (0.0)	0 (0.0)	
Number of patients	47	52	
Paravalvular aortic regurgitation			0.69
None/trace	28 (59.6)	28 (53.8)	
Mild	19 (40.4)	24 (46.2)	
Moderate	0 (0.0)	0 (0.0)	
Severe	0 (0.0)	0 (0.0)	
Number of patients	47	52	
Total aortic regurgitation			0.42
None/trace	27 (57.4)	25 (48.1)	
Mild	20 (42.6)	27 (51.9)	
Moderate	0 (0.0)	0 (0.0)	
Severe	0 (0.0)	0 (0.0)	
Left ventricular ejection fraction, %	54.4 ± 10.2	57.2 ± 8.4	0.15
Left ventricular end-systolic dimension, mm	34.4 ± 12.0	29.1 ± 6.7	0.02
Left ventricular end-diastolic dimension, mm	45.5 ± 7.7	41.7 ± 6.8	0.02
Systolic pulmonary artery pressure, mm Hg	30.9 ± 12.0	29.0 ± 12.7	0.49
Moderate/severe mitral regurgitation	15/47 (31.9)	9/48 (18.7)	0.13
Moderate/severe tricuspid regurgitation	10/45 (22.2)	13/47 (27.6)	0.54

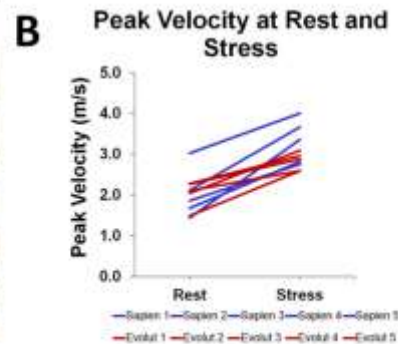
	Balloon-Expandable Valve (n = 121)	Self-Expanding Valve (n = 120)	p Value
Bioprosthetic valve dysfunction	28 (22.5)	26 (20.9)	0.91
Components			
SVD	6 (6.6)	0 (0.0)	0.018
Moderate SVD	4 (5.6)	0 (0.0)	0.047
Severe SVD	2 (0.9)	0 (0.0)	0.20
NSVD	17 (17.8)	23 (26.7)	0.20
Moderate/severe PPM	14 (15.9)	13 (16.0)	1.0
Moderate/severe PVL	3 (2.5)	10 (8.5)	0.08
Valve thrombosis	6 (7.3)	1 (0.8)	0.06
Endocarditis	2 (1.6)	4 (3.4)	0.39

- Forward flow hemodynamics were significantly better with the SE valve. Structural valve deterioration was uncommon but occurred more frequently with the BE valve

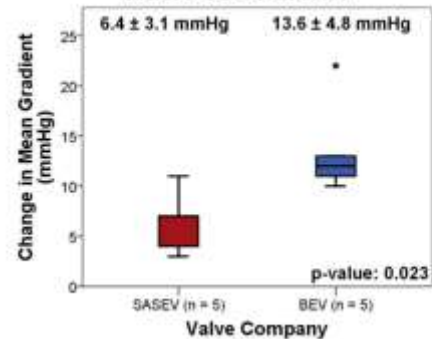
# Hemodynamics



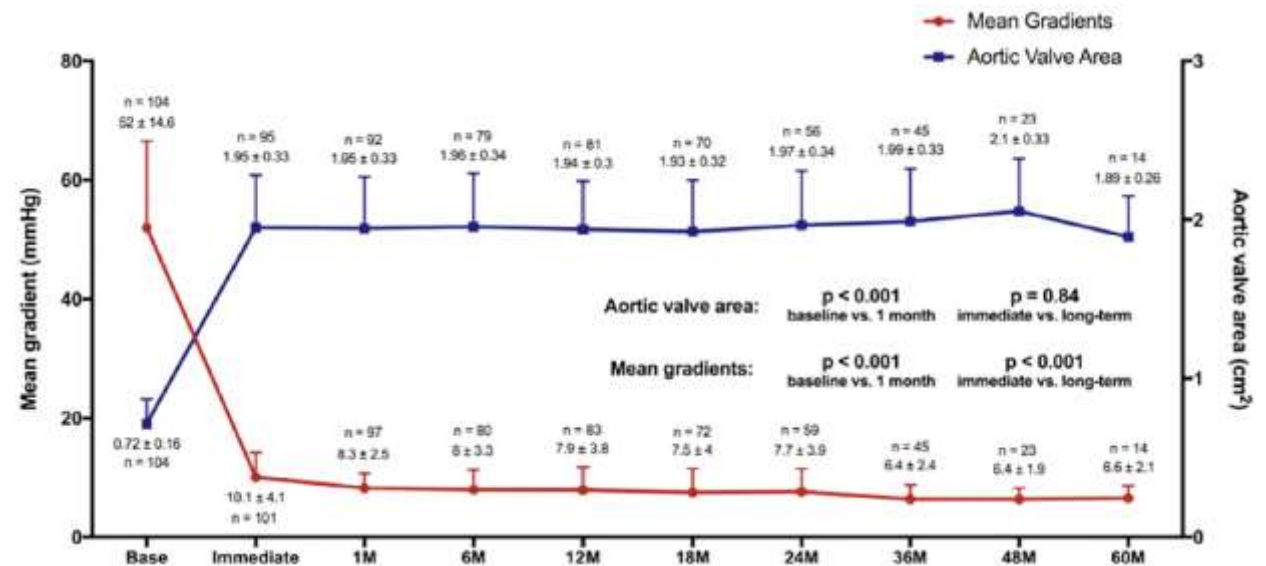
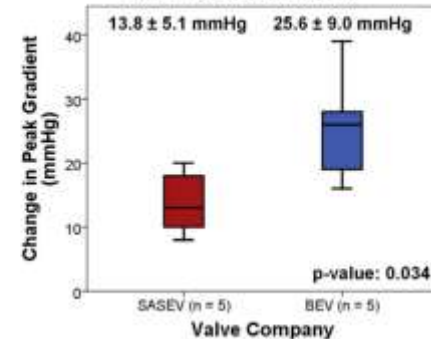
- ✓ **Supra-annular self-expandable valves** are associated with favorable hemodynamics compared with balloon-expandable valves, **even during stress**.



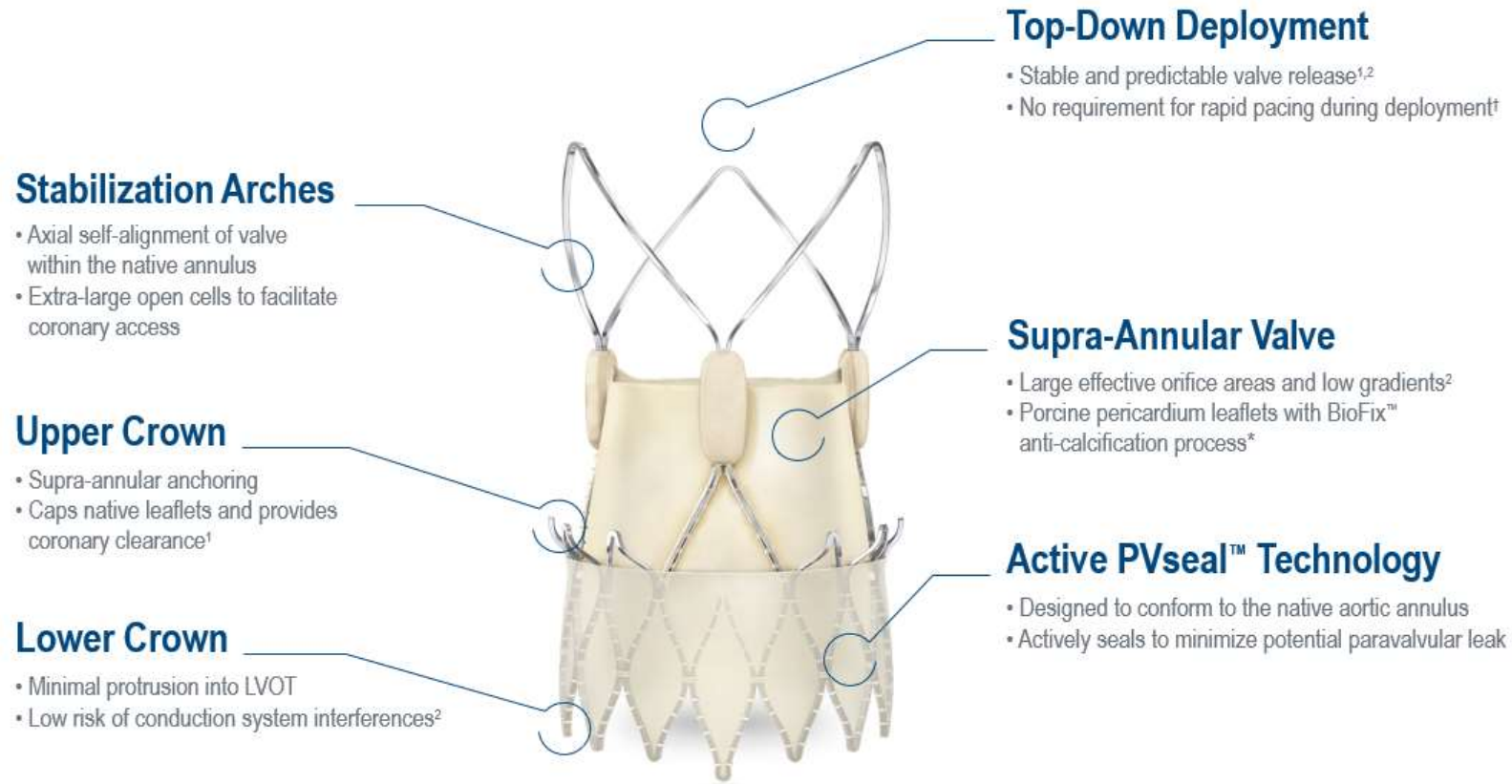
**C Augmentation in Mean Gradient from Rest to Stress**



**D Augmentation in Peak Gradient from Rest to Stress**



# The ACURATE neo2 valve



## ***In regards of device specific characteristics***

- ✓ Hemodynamics
- ✓ ***PVL and conduction disorders***
- ✓ Coronary access and Commissure alignment



# PVL and conduction disorders



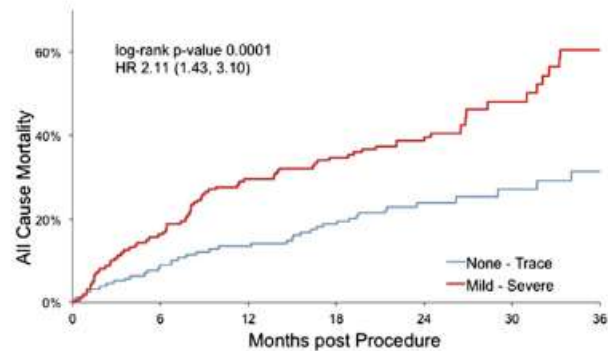
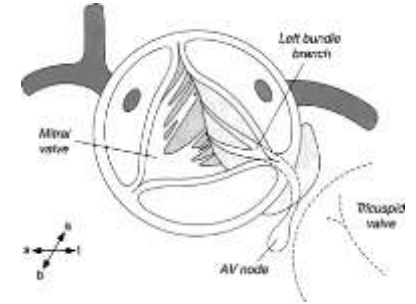
## ✓ Paravalvular leak ( PVL )

✓ PVL is common after TAVI and has been linked with worse survival. The prevalence of PVL after TAVI varies from 7% to 40%.

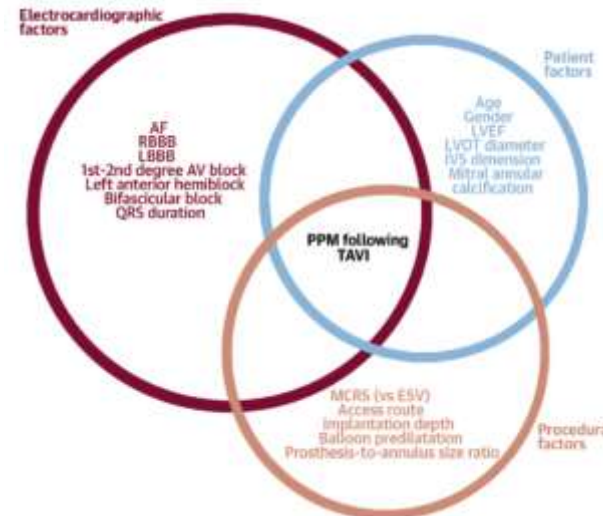
## ✓ Pacemaker (PM) implantation

✓ AV conduction disturbances requiring PPM implantation are common (upto 40%) and clinically important adverse events.

✓ Related to the close proximity of the AV conduction system to the aortic valvular complex.



**Figure 2** Impact of Paravalvular Leak on 2-Year All-Cause Mortality



Predictor	No. of studies	No. of participants	RR (95% CI)	p-value	I-squared
Age>80	1	1,147	1.17 (0.98-1.41)	0.09	-
Sex (male)	17	3,621	1.23 (1.10-1.38)	<0.01	0%
Atrial fibrillation	15	3,215	1.16 (0.96-1.41)	0.12	25%
First-degree AV block	6	1,381	1.52 (1.15-2.01)	<0.01	4%
Left anterior hemiblock	5	1,065	1.62 (1.17-2.25)	<0.01	0%
Left posterior hemiblock	1	167	1.14 (0.70-12.83)	0.91	-
Intraoperative AV block	2	333	3.49 (2.49-4.89)	<0.01	-
LBBB	16	2,371	1.01 (0.80-1.27)	0.93	0%
RBBB	17	2,158	2.89 (2.36-3.54)	<0.01	44%
PR>200 msec	1	50	1.45 (0.59-3.62)	0.42	-
MCRS (versus ESV)	9	5,131	2.54 (2.08-3.12)	<0.01	14%
Preserved LVEF	4	805	1.26 (0.78-2.02)	0.35	12%

# PVL and conduction disorders



## The ACURATE neo Transcatheter Heart Valve

### A Comprehensive Analysis of Predictors of Procedural Outcome

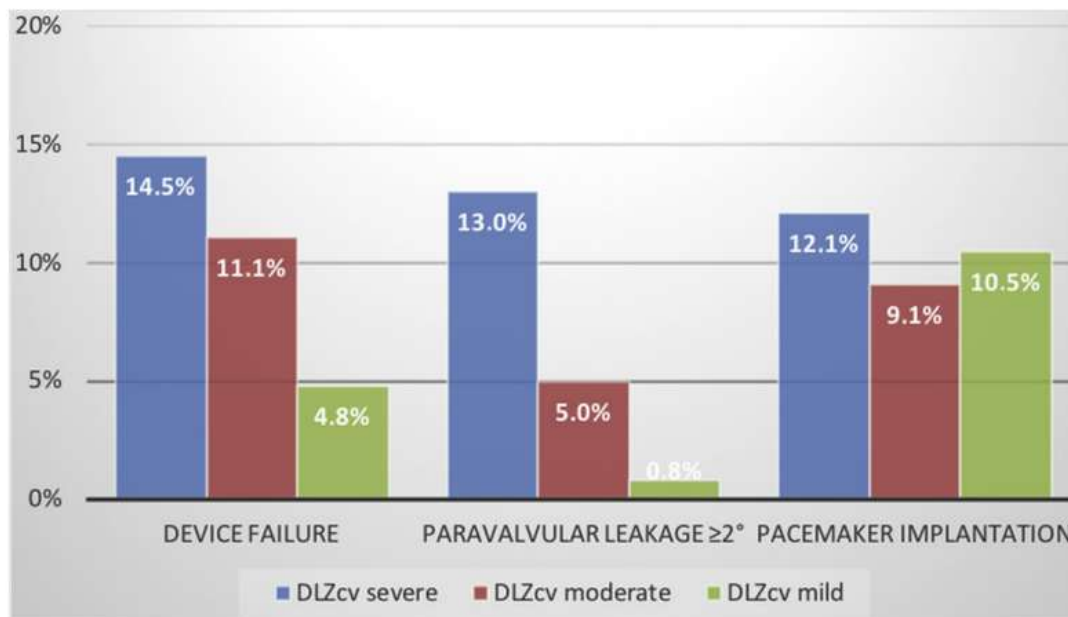
Won-Keun Kim, MD,<sup>a,b,c,e</sup> Helge Möllmann, MD, PhD,<sup>d,e</sup> Christoph Liebetrau, MD, PhD,<sup>a,c</sup> Matthias Renker, MD,<sup>a</sup> Andreas Rolf, MD, PhD,<sup>a,c</sup> Philippe Simon,<sup>a</sup> Arnaud Van Linden, MD,<sup>e</sup> Mani Arsalan, MD,<sup>e</sup> Mirko Doss, MD, PhD,<sup>b</sup> Christian W. Hamm, MD, PhD,<sup>a,c</sup> Thomas Walther, MD, PhD<sup>c</sup>

- ✓ Study population: A total of 500 patients with severe AS undergoing TF-TAVR using the ACURATE neo prosthesis (2012.5-2017.9)

**TABLE 2 Procedural Outcomes and Complications (n = 500)**

Device success (VARC-2)	448 (89.6)
All-cause 30-day mortality	16/483 (3.3)
Post-procedural ejection fraction, %	65.0 (60.0-65.0)
Post-procedural P <sub>mean</sub> , mm Hg	8.0 (6.0-11.0)
Post-procedural AVA, cm <sup>2</sup>	1.6 (1.4-1.9)
Second-degree or greater PVL (post-procedure)	32/499 (6.2)
Second-degree or greater PVL (at discharge)	24/499 (4.8)
Pacemaker implantation	51 (10.2)
Second valve	9 (1.8)
Conversion to sternotomy	9 (1.8)
Device embolization	6 (1.2)
Aortic root injury	0
Aortic dissection	1 (0.2)
Ventricular septum defect	1 (0.2)
Ventricular perforation	6 (1.2)
Coronary obstruction	0
Major bleeding	38 (7.6)
Major vascular complication	46 (9.2)
Major stroke	1 (2.0)
AKI stage 2 or 3	15 (3.0)

**FIGURE 4 Outcomes in Relation to Device Landing Zone Calcification**



**TABLE 4 Independent Predictors of More Than Mild Paravalvular Leakage**

Multivariate Analysis	Odds Ratio	95% CI	p Value
CV <sub>Ann,r</sub> per mm <sup>3</sup>	1.007	1.003-1.010	<0.001
Cover index for perimeter-derived annular diameter in diastole, per %	0.867	0.773-0.971	0.014
Plaque protrusion at annular level	2.756	1.138-6.670	0.025
Stent holder movement aortic	5.593	1.299-24.076	0.02
Sinotubular junction height, per mm	1.156	1.007-1.328	0.04

# PVL and conduction disorders



## Effectiveness and Safety of the ACURATE Neo Prosthesis in 1,000 Patients With Aortic Stenosis

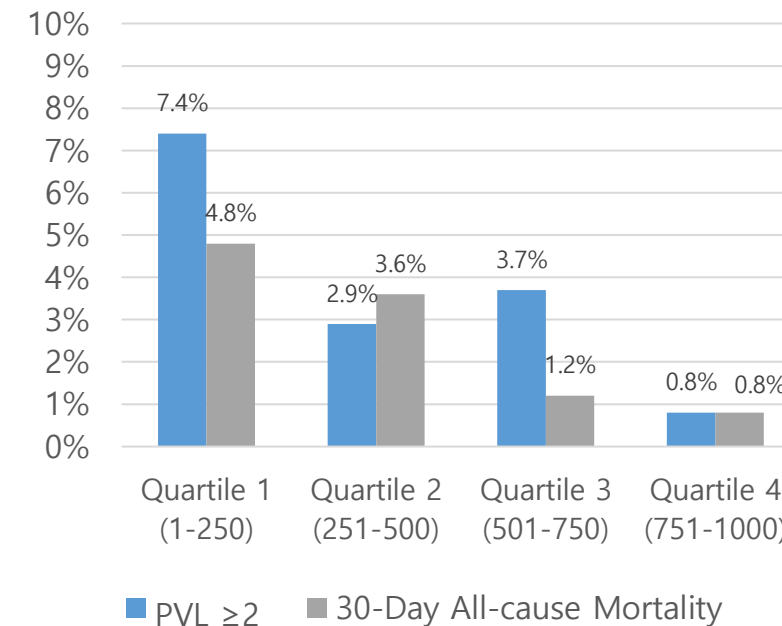


Won-Keun Kim, MD<sup>a,b,\*</sup>, Helge Möllmann, MD, PhD<sup>c</sup>, Christoph Liebetrau, MD, PhD<sup>a</sup>, Matthias Renker, MD<sup>a</sup>, Thomas Walther, MD, PhD<sup>d</sup>, and Christian W. Hamm, MD, PhD<sup>a,b</sup>

### Predictors of paravalvular leak

Variable	Univariate Analysis Odds ratio [95% CI]	P	Multivariable Analysis Odds ratio [95% CI]	p
Prosthesis size	1.08 [0.89; 1.31]	0.444		
AVCS, per AU	1.0006 [1.0004; 1.0009]	<0.001	1.0003 [1.0001; 1.0006]	<0.001
Compact peri-annular calcification	9.20 [4.99; 16.93]	<0.001	6.15 [3.13; 12.08]	<0.001
Bicuspid aortic valve	1.88 [0.72; 4.93]	0.201		
Cover index annulus, per %	0.87 [0.79; 0.95]	0.001	0.89 [0.80; 0.99]	0.026
Annulus/STJ height-ratio	0.07 [0.01; 0.94]	0.045	0.03 [0.02; 0.45]	0.012
Pmean, per mmHg	1.01 [0.99; 1.03]	0.140		
Implantation depth at NCC, per mm	0.93 [0.83; 1.05]	0.254		
Implantation depth at LCC, per mm	0.85 [0.75; 0.97]	0.012		

Center learning curve across quartiles of 1,000 ACURATE neo™ cases with respect to PVL and 30-day mortality



### ACURATE neo learning curve

Variable	Quartile 1 (Case 1–250)	Quartile 2 (Case 251–500)	Quartile 3 (Case 501–750)	Quartile 4 (Case 751–1000)	p
Cover index (%)	3.87 [1.86; 6.37]	5.13 [3.04; 7.30]	5.38 [3.39; 7.52]	6.17 [4.20; 7.90]	<0.001
Aortic valve calcium score (AU)	2395 [1646; 3111]	2049 [1494; 2872]	1955 [1385; 2893]	1989 [1280; 2726]	<0.001
Compact peri-annular Ca <sup>++</sup> formation	64 (25.6%)	41 (16.4%)	42 (16.8%)	29 (11.6%)	0.001
Implantation depth at LCC (mm)	5.0 [3.0; 6.0]	6.0 [5.0; 7.0]	6.0 [4.0; 6.0]	5.0 [4.0; 6.0]	<0.001
Device success (VARC-2)	171 (85.5%)	177 (88.5%)	181 (90.5%)	186 (93.0%)	0.002
≥moderate PVL at discharge	18/243 (7.4%)	7/241 (2.9%)	9/246 (3.7%)	2/246 (0.8%)	0.001
≥moderate PVL procedural	21/246 (8.5%)	13/249 (5.2%)	11 (4.4%)	3 (1.2%)	0.002
Permanent pacemaker	25 (10.0%)	26 (10.4%)	26 (10.4%)	17 (6.8%)	0.444
TVH embolization	5 (2.0%)	4 (1.6%)	3 (1.2%)	3 (1.2%)	0.496
Need for second THV	3 (1.2%)	7 (2.8%)	4 (1.6%)	3 (1.2%)	0.462
Major vascular complication	32 (12.8%)	26 (10.4%)	14 (5.6%)	16 (6.4%)	0.013
Major stroke	4 (1.6%)	7 (2.8%)	5 (2.0%)	5 (2.0%)	0.820
30-day all-cause mortality	12 (4.8%)	9 (3.6%)	3 (1.2%)	2 (0.8%)	0.012

**\*\* Cover Index =**  
**(Prosthesis diameter-Annulus size)**  
**Prosthesis diameter**

# PVL and conduction disorders



## ✓ Comparison of PPI between two THVs

### Transcatheter Valve SELECTION in Patients With Right Bundle Branch Block and Impact on Pacemaker Implantations



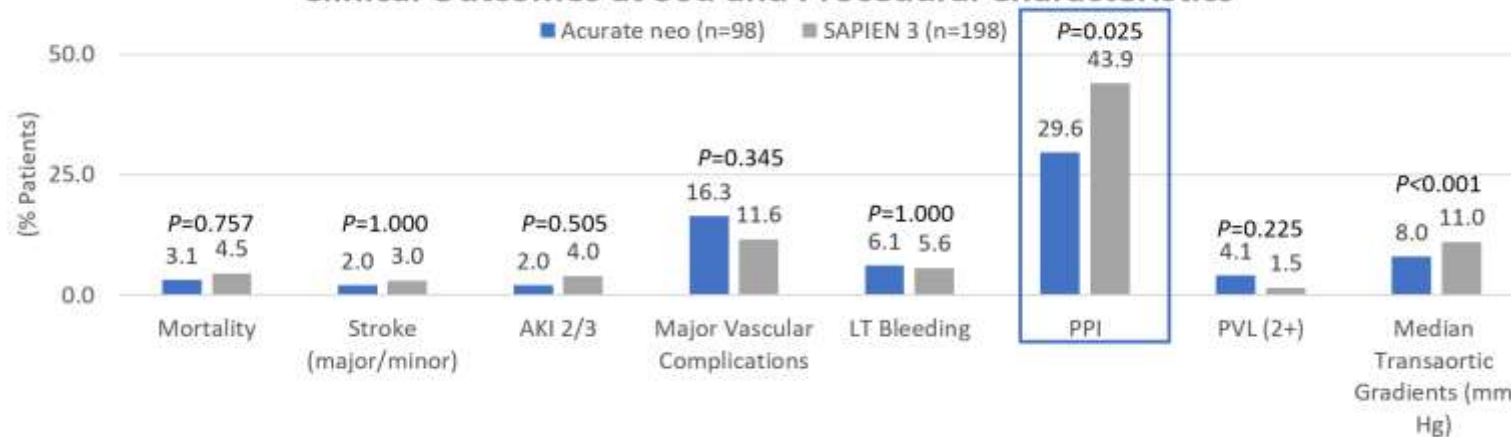
Oliver Husser, MD,<sup>1,\*</sup> Costanza Pellegrini, MD,<sup>1,2</sup> Won-Keun Kim, MD,<sup>3</sup> Andreas Holzamer, MD,<sup>4</sup> Thomas Pilgrim, MD,<sup>5</sup> Stefan Toggweiler, MD,<sup>6</sup> Ulrich Schäfer, MD,<sup>7</sup> Johannes Blumenstein, MD,<sup>8</sup> Florian Deuschl, MD,<sup>9</sup> Tobias Rheude, MD,<sup>10</sup> Michael Joner, MD,<sup>11</sup> Michael Hilker, MD,<sup>12</sup> Christian Hengstenberg, MD,<sup>1</sup> Heide Möllmann, MD<sup>9</sup>

- ✓ The SELECT RBBB (Transcatheter heart valve SELECTION in Patients with Right Bundle Branch Block multicenter registry) registry
- ✓ Patients with Complete RBBB, enrolled from 7 Centers in Germany and Switzerland (January 2014-July 2017, N=296)

TABLE 3 Device Failure

	SAPIEN 3 (n = 198)	ACURATE neo (n = 98)	p Value	SAPIEN 3 (n = 65)	ACURATE neo (n = 65)	p Value
Device failure	13 (6.6)	8 (8.2)	0.792	4 (6.2)	6 (9.2)	0.742
Procedural-related death	3 (1.5)	1 (1.0)	1.000	1 (1.5)	1 (1.5)	1.000
Correct position	196 (99.0)	97 (99.0)	1.000	65 (100.0)	64 (98.5)	1.000
Intended performance	187 (94.9)	91 (92.9)	0.651	62 (95.4)	60 (92.3)	0.718
PVL II+	3 (1.5)	4 (4.1)	0.225	0 (0.0)	3 (4.6)	0.244
Elevated gradient (>20 mm Hg)	6 (3.0)	1 (1.0)	0.431	3 (4.6)	0 (0.0)	0.244
Multiple valves	1 (0.5)	2 (2.0)	0.255	0 (0.0)	2 (3.1)	0.496
Post-procedural mean gradient, mm Hg	11.0 (8.0-13.0)	8.0 (6.0-10.0)	<0.001	11.0 (9.0-13.5)	7.0 (5.0-10.0)	<0.001
Conversion to sternotomy	1 (0.5)	0 (0.0)	1.000	0 (0)	0 (0)	—

Clinical Outcomes at 30d and Procedural Characteristics

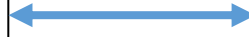


# PVL and conduction disorders



***One important factor that determines PVL and PPI***

Insufficient oversizing can lead to PVL



A high oversizing degree may increase the risk for conduction disturbances and annulus rupture

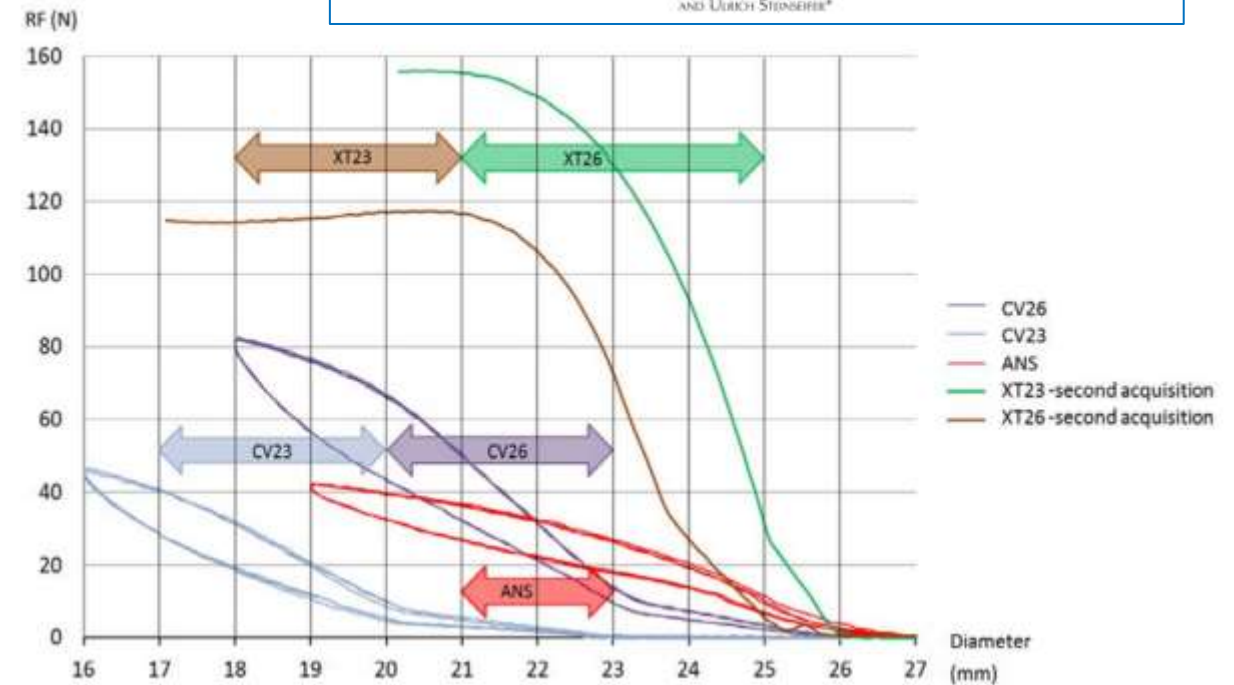
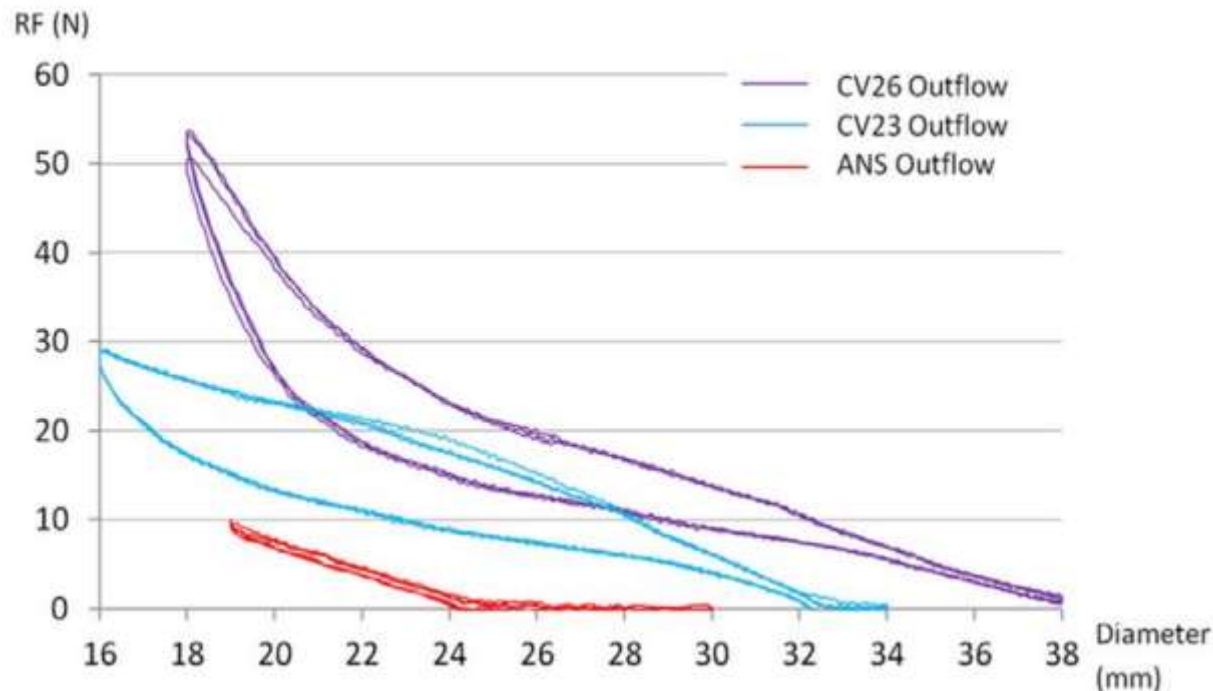
→ A device character, the Radial Force should be considered.

ASAIO Journal 2018

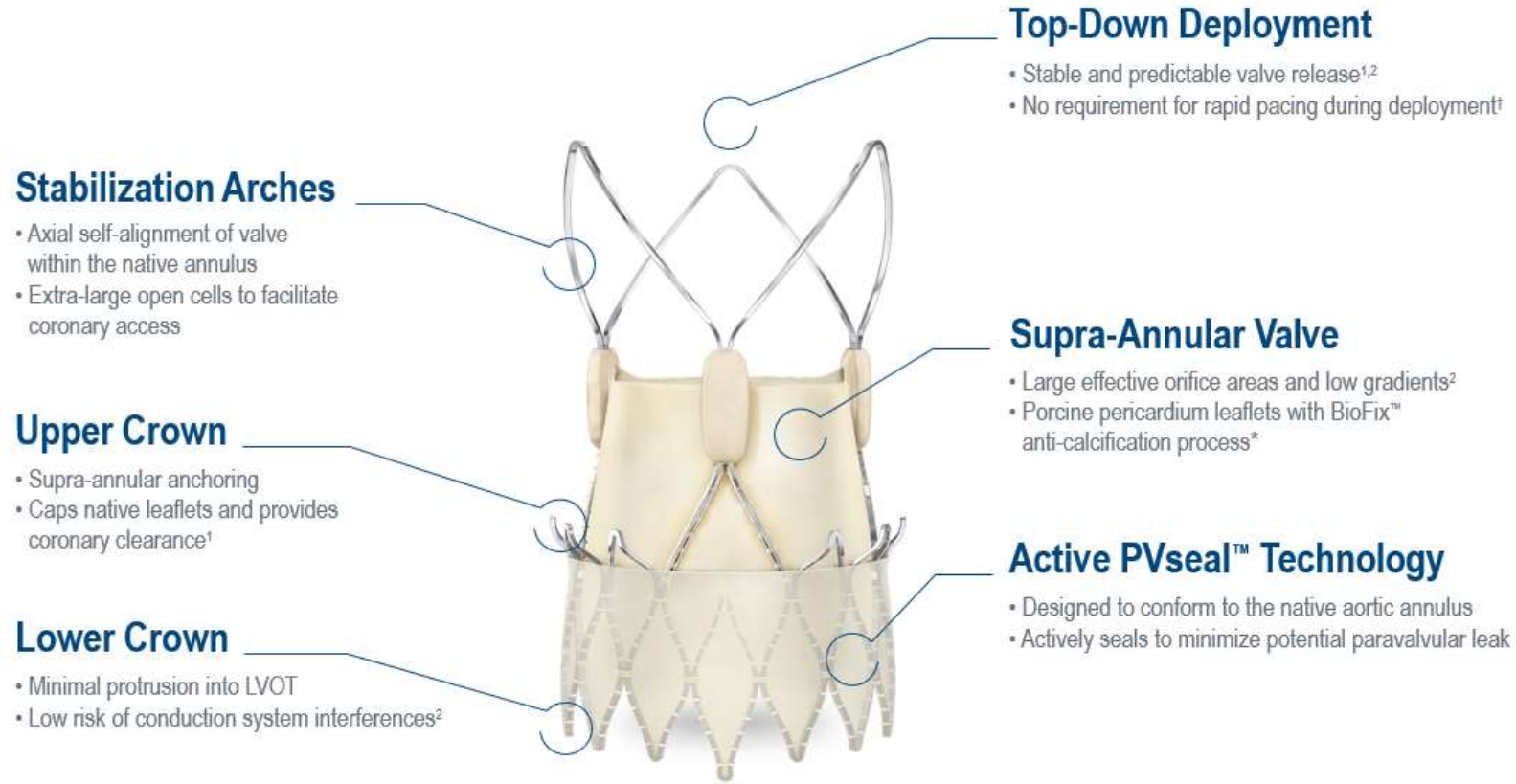
Clinical Cardiovascular

**Radial Force: An Underestimated Parameter in Oversizing Transcatheter Aortic Valve Replacement Prostheses: *In Vitro* Analysis with Five Commercialized Valves**

SANDRINE EGGRON,\* BUNYAKO FUJITA,† LUCÍA GULLÓN,\* DESIRÉE POTT,\* THOMAS SCHMITZ-REDE,\* STEPHAN ENWINGER,‡ AND ULRICH STEINDELER\*



# The ACURATE neo2 valve



## ***In regards of device specific characteristics***

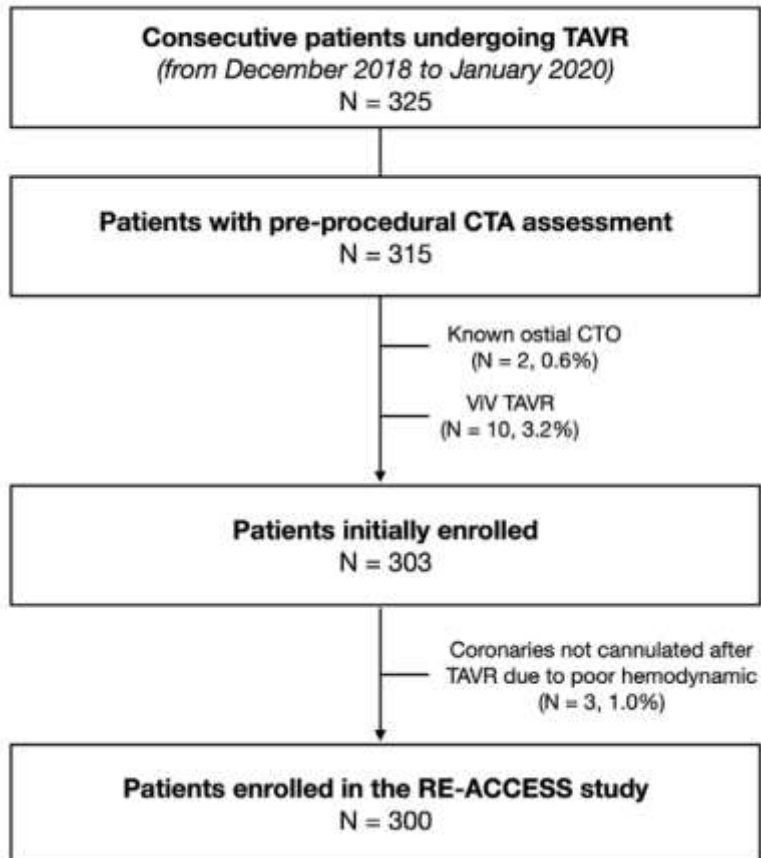
- ✓ Hemodynamics
- ✓ PVL and conduction disorders
- ✓ ***Coronary access and Commissure alignment***

# Coronary access



- ✓ The prevalence of CAD in TAVR patients ranges from 40% to 75%.
- ✓ Post-TAVR CAG, and PCI may increase, particularly among younger patients.

**FIGURE 1** Study Participant Flow



**TABLE 3** Procedural Characteristics

	Overall (N = 300)	Coronary Artery Accessible (n = 277)	Coronary Artery Not Accessible (n = 23)	p Value
Mean TAV implantation depth, mm	-6.2 ± 2.9	-6.2 ± 3.0	-5.0 ± 1.2	<0.01
TAV/annular oversizing by area, %	22.4 ± 19.8	20.1 ± 18.7	36.9 ± 10.9	<0.01
TAV/annular oversizing by perimeter, %	12.3 ± 8.5	11.3 ± 8.1	23.5 ± 4.5	<0.01
TAV-SoV relation, %*	-12.6 ± 9.8	-13.6 ± 9.3	-0.7 ± 7.7	<0.01
TAV-SoV relation, %†	-19.6 ± 7.8	-19.9 ± 7.9	-16.8 ± 6.1	0.03
Medtronic Evolut R/PRO	123 (41.0)	101 (36.5)	22 (95.7)	<0.01
23 mm	0 (0.0)	0 (0.0)	0 (0.0)	
26 mm	78 (26.0)	62 (22.4)	16 (69.6)	
29 mm	36 (12.0)	30 (10.8)	6 (26.1)	
34 mm	9 (3.0)	9 (3.2)	0 (0.0)	
Edwards SAPIEN 3/ULTRA	96 (32.0)	95 (34.3)	1 (4.3)	<0.01
20 mm	0 (0.0)	0 (0.0)	0 (0.0)	
23 mm	24 (8.0)	23 (8.3)	1 (4.3)	
26 mm	45 (15.0)	45 (16.2)	0 (0.0)	
29 mm	27 (9.0)	27 (9.7)	0 (0.0)	
Boston Scientific Acurate neo	72 (24.0)	72 (26.0)	0 (0.0)	<0.01
Size S	21 (7.0)	21 (7.6)	0 (0.0)	
Size M	39 (13.0)	39 (14.1)	0 (0.0)	
Size L	12 (4.0)	12 (4.3)	0 (0.0)	
Abbott Portico	9 (3.0)	9 (3.2)	0 (0.0)	0.38
23 mm	0 (0.0)	0 (0.0)	0 (0.0)	
25 mm	6 (2.0)	6 (2.2)	0 (0.0)	
27 mm	3 (1.0)	3 (1.1)	0 (0.0)	
29 mm	0 (0.0)	0 (0.0)	0 (0.0)	

# Coronary access

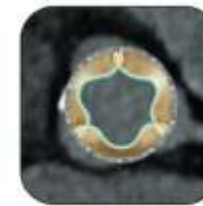
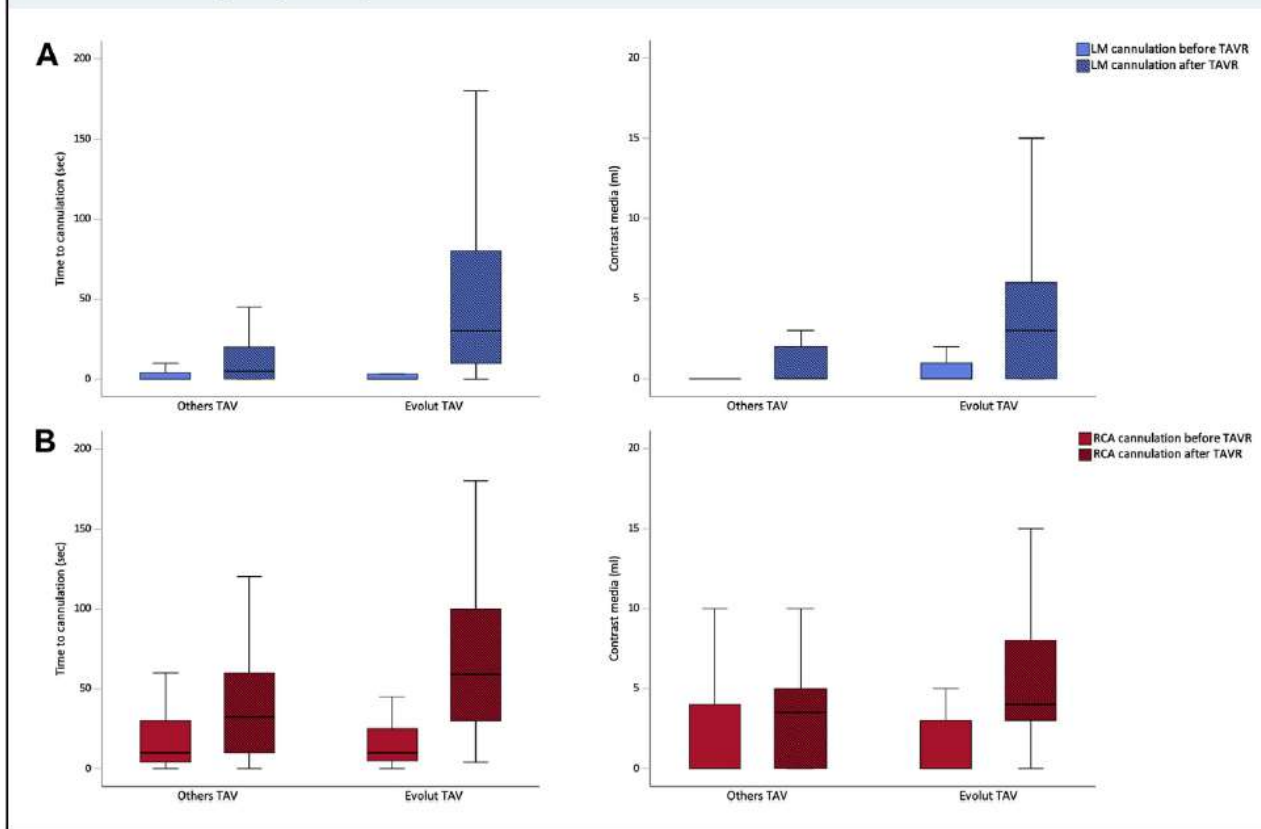


- ✓ In the RE-ACCESS study, a total of 23 TAVR cases (7.7%) with unsuccessful coronary cannulation post-procedure.
- ✓ Predictors of failure for coronary access were...

**TABLE 4** Logistic Regression Analysis of Computed Tomographic Angiographic and Procedural Characteristics With Lack of Feasibility of Selective Coronary Artery Access After Transcatheter Aortic Valve Replacement in the Overall Population

	Univariate Analysis	p Value	Multivariate Analysis	p Value
TAV-SoV relation	1.2 (1.1-1.3)	<0.01	1.1 (1.0-1.2)	<0.01
Mean TAV implantation depth	1.2 (1.0-1.4)	0.05	1.7 (1.3-2.3)	<0.01
Evolut TAV	38.3 (5.1-288.7)	0.01	29.6 (2.6-335.0)	<0.01
LM ostium height	0.9 (0.7-1.0)	0.16		
RCA ostium height	0.9 (0.8-1.1)	0.26		

**FIGURE 2** Data Regarding Coronary Cannulation Before and After TAVR



**Transcatheter Aortic Valve/  
Sinuses of Valsalva Relation**  
Odds Ratio 1.1;  
95% CI: 1.0-1.2; p < 0.01



**Transcatheter Aortic Valve Implant Depth**  
Odds Ratio 1.7;  
95% CI: 1.3-2.3; p < 0.01



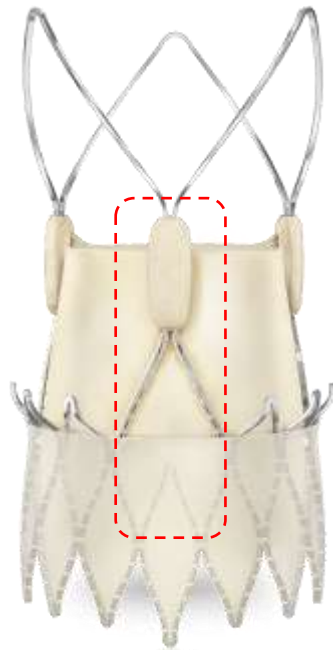
**Evolut Transcatheter Aortic Valve**  
Odds Ratio 29.6;  
95% CI: 2.6-335.0; p < 0.01




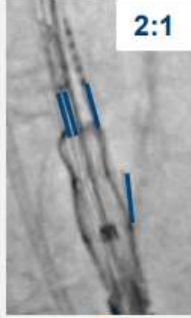
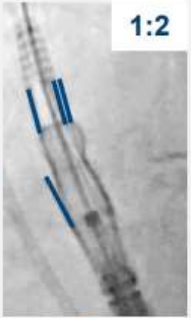
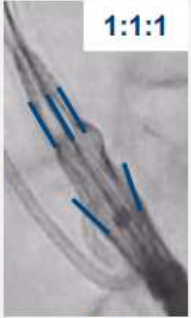




# Coronary access



- ✓ The high rate of successful coronary access is due to the **large opening cells** at the stabilization arches and the **established method of commissural alignment**.
- ✓ Understanding the commissure alignment



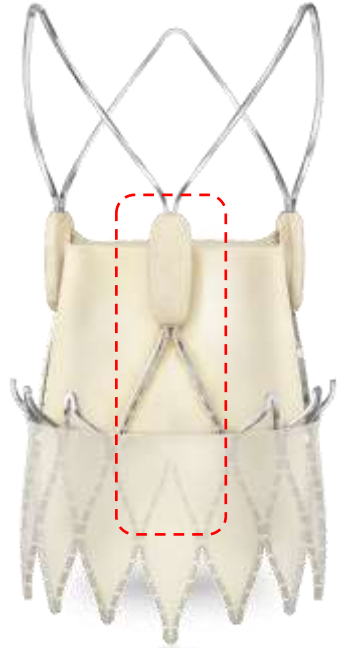
Location of free cells and posts

Step 1 : INSERT	Step 2: ALIGN	Step 3: CONFIRM
	<b>3 Cusp View</b> (ACURATE neo2 marker at top of pigtail)	<b>Cusp Overlap</b>
 <p style="text-align: center;"><b>6 o'clock</b></p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p><b>2:1</b></p> </div> <div style="text-align: center;"> <p>OR</p>  <p><b>1:2</b></p> </div> <div style="text-align: center;"> <p>OR</p>  <p><b>1:1:1</b></p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  <p>Rotate CW away from operator</p> </div> <div style="text-align: center;">  <p>Rotate CCW towards operator</p> </div> <div style="text-align: center;">  <p>No rotation Proceed to Step 3</p> </div> </div>	 <p style="text-align: center;">In cusp overlap <b>one free cell</b> should be on the inner curvature</p>
Position handle with <b>safety button at 6 o'clock</b> facing down	Rotate front part of the handle until two free cells are symmetrical visible in 3 cusp view Most cases alignment achieved between <b>0.5 and 1.5 handle rotations (180° to 540°)</b>	If incorrect - Rotate either CW or CCW and revert to step 2

# Coronary access



Understanding the commissure alignment



Location of free cells and posts

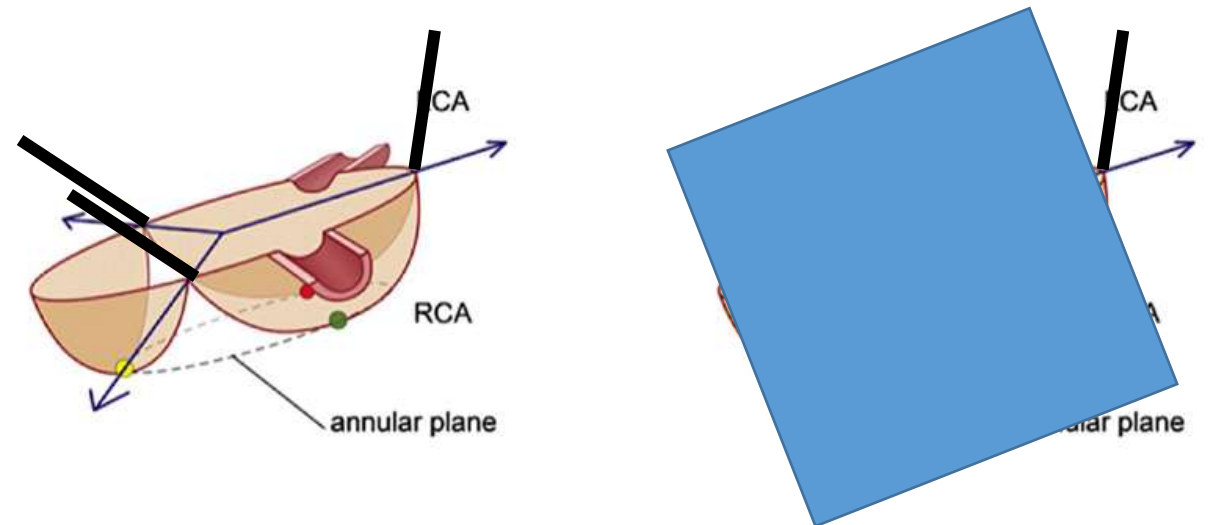
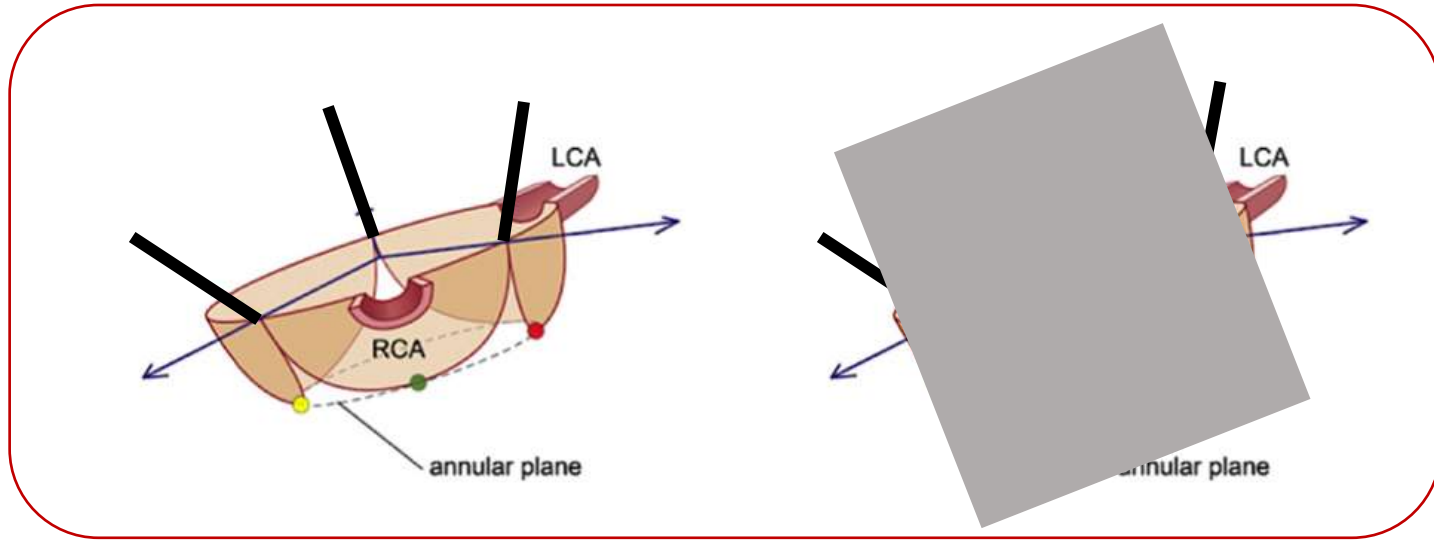
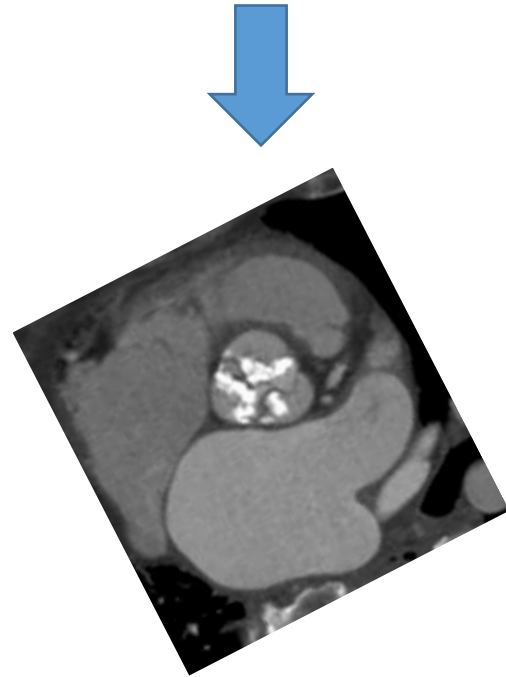
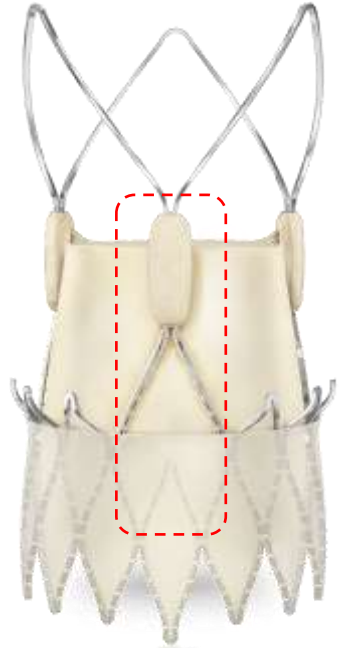


Figure Credits: Bielauskas et al. JACC 2021

# Coronary access



Understanding the commissure alignment



Location of free cells and posts

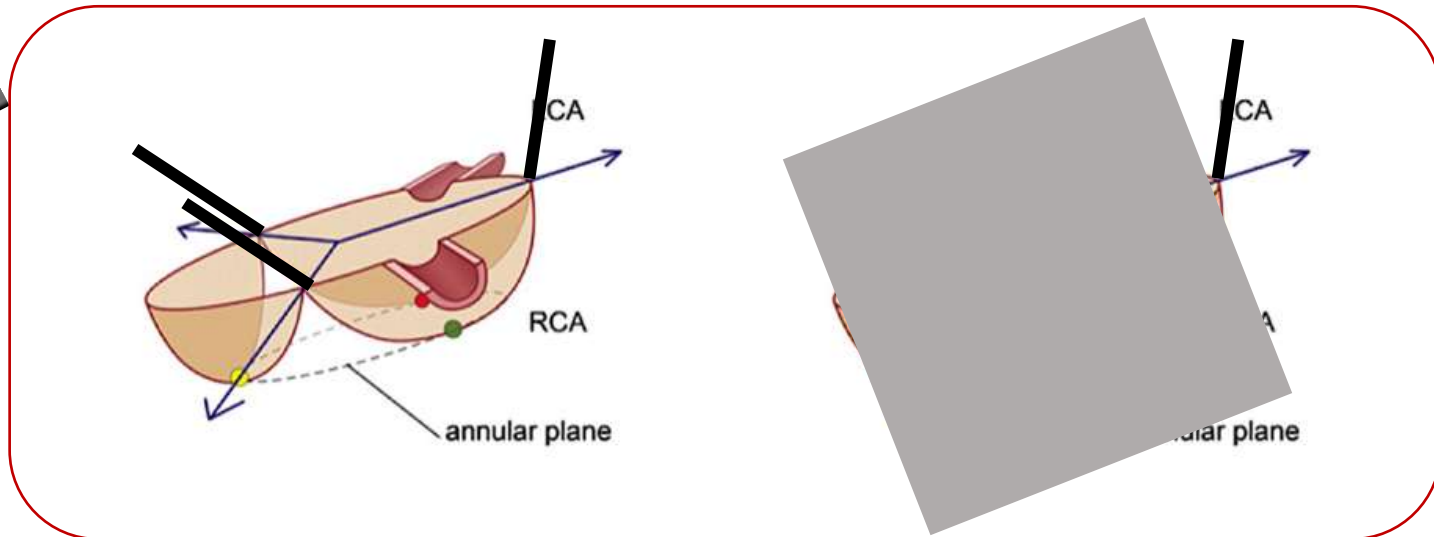
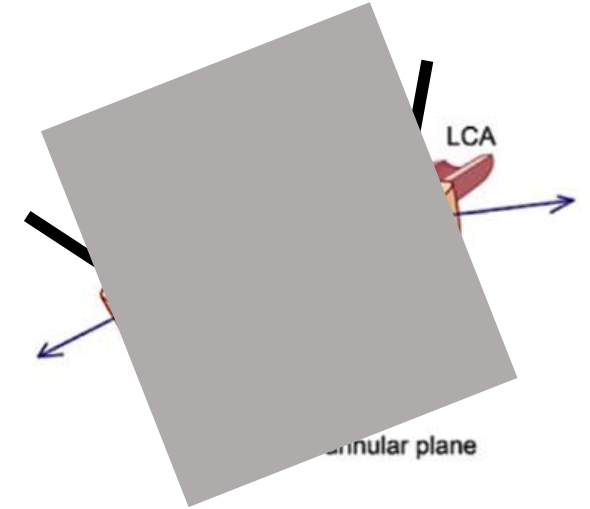
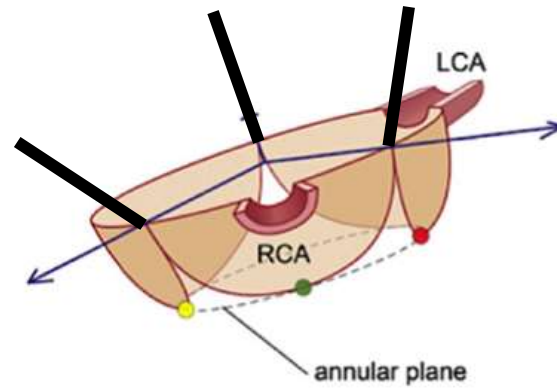
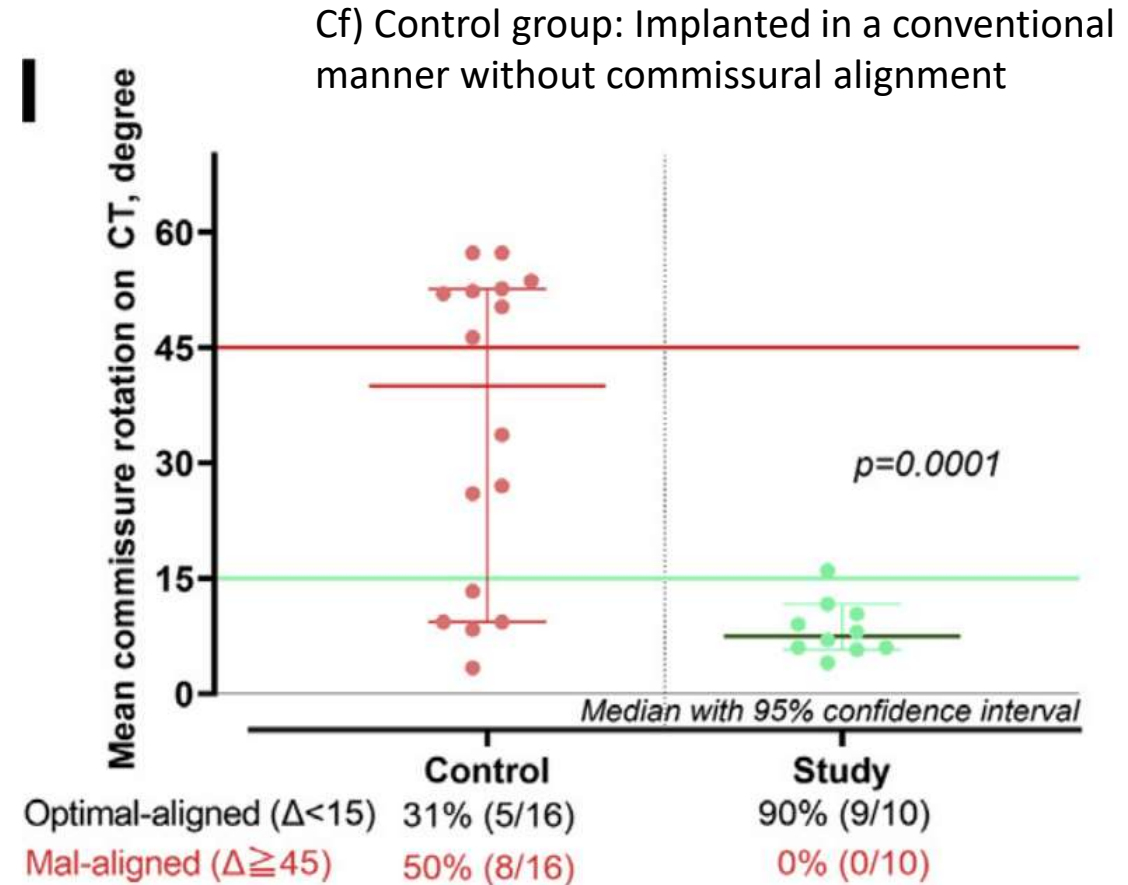
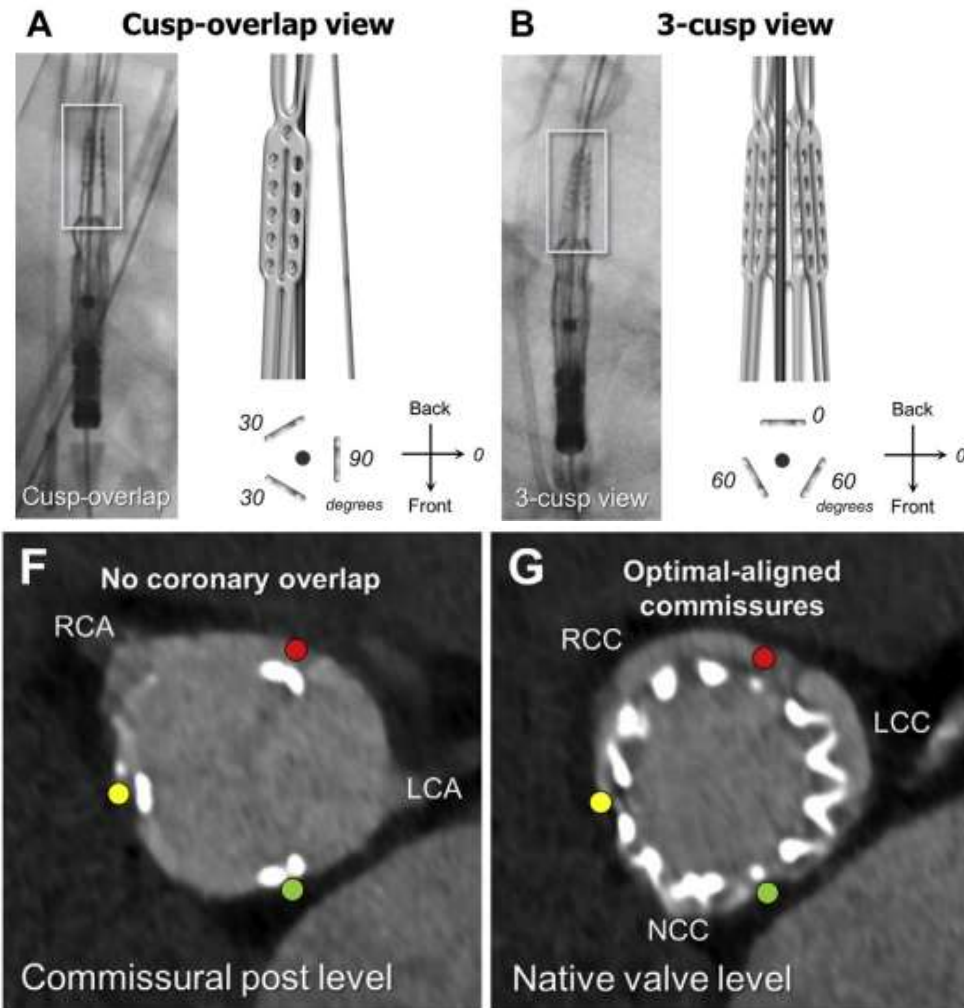


Figure Credits: Bielauskas et al. JACC 2021

# Coronary access



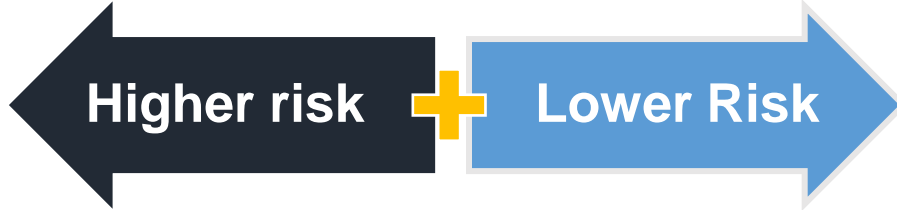
Utility of the cusp-overlap technique in achieving commissural alignment with the ACURATE neo valve.






# Shift in the metrics of *'what matters?'*



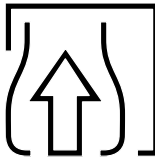
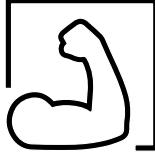
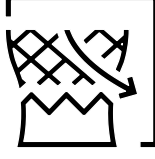
## PROCEDURAL SUCCESS METRICS



## LIFETIME MANAGEMENT METRICS

-  Mortality & Stroke
-  Quality of Life
-  Conduction Disturbance (PPI)

AGE	
80+	65+, CAD
ANATOMY	
Tri-leaflet	More Bicuspid
ACTIVITY	
Low	High(er)

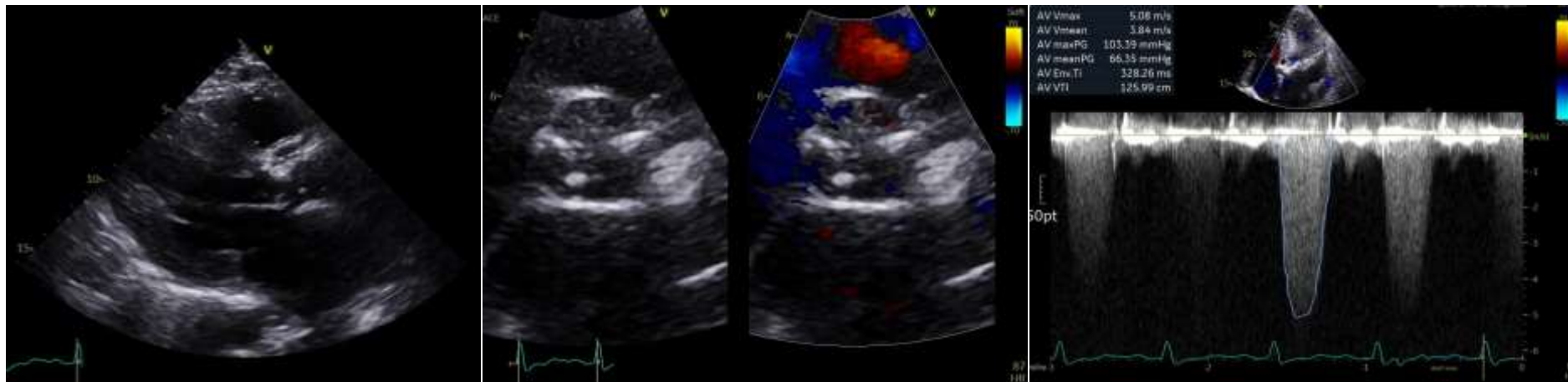
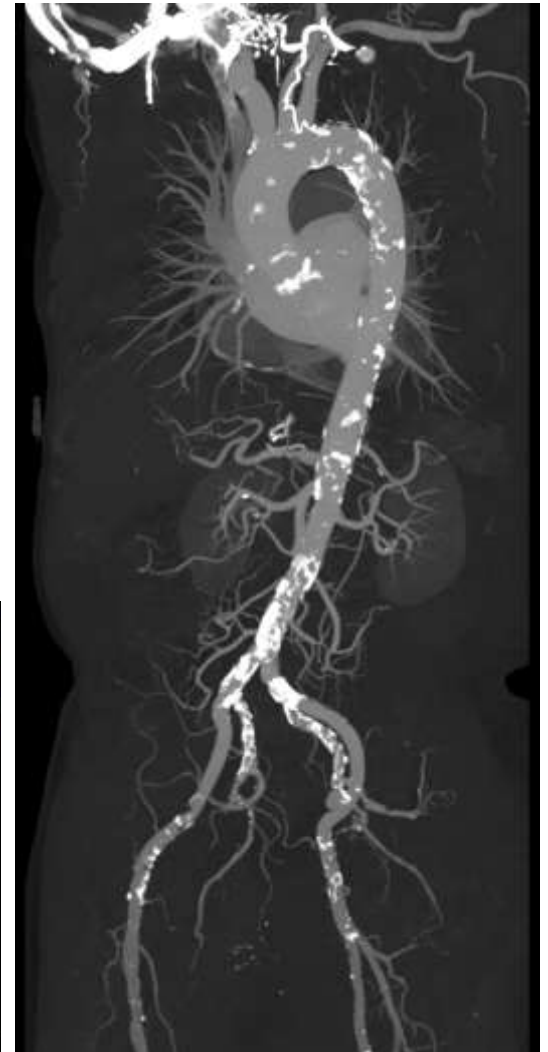
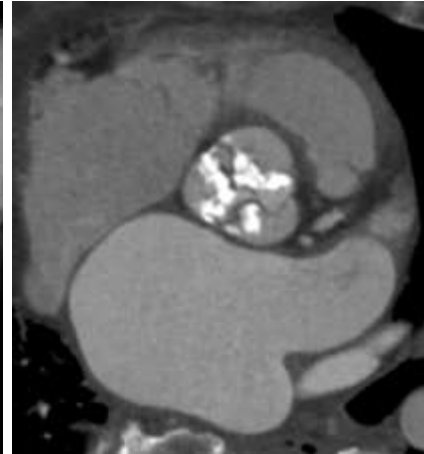
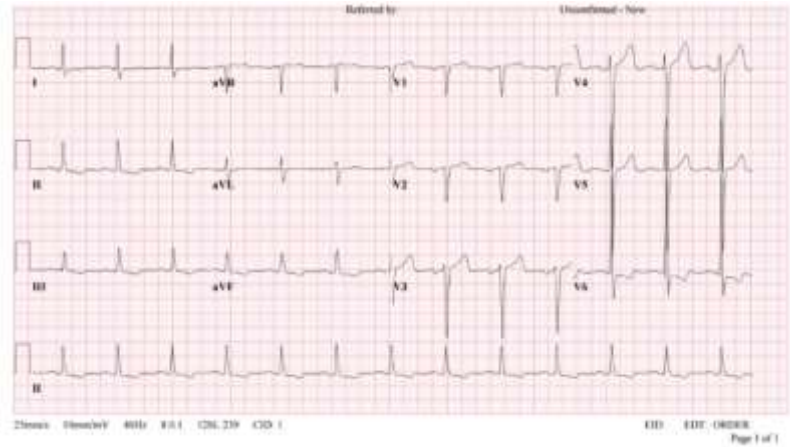
-  Hemodynamics & PPM
-  Durability < Life Expectancy
-  Coronary Access (PCI) & TAV-in-TAV

# Case



81/M

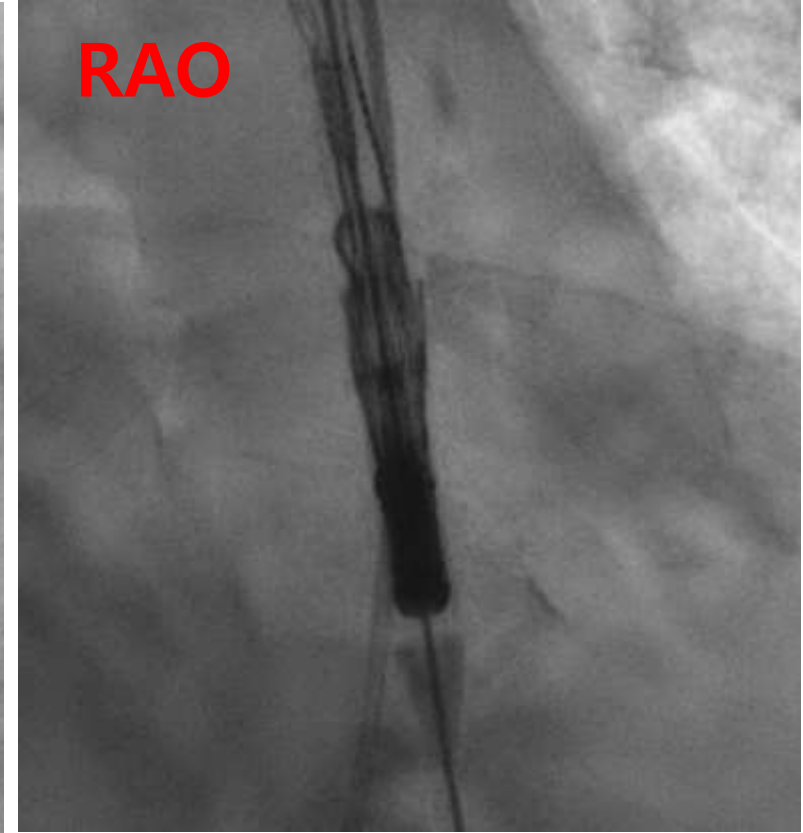
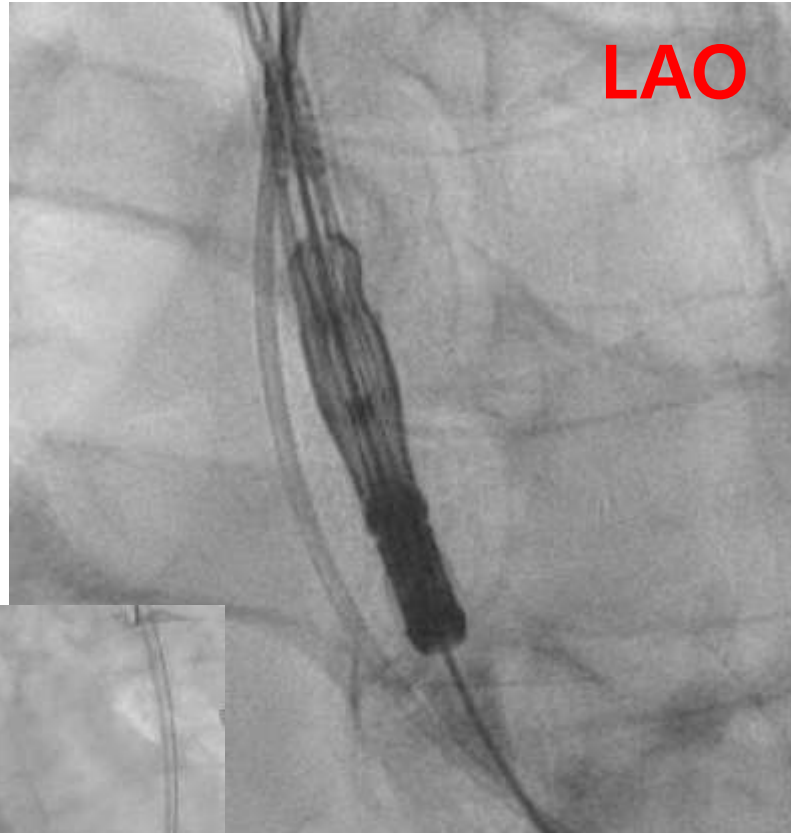
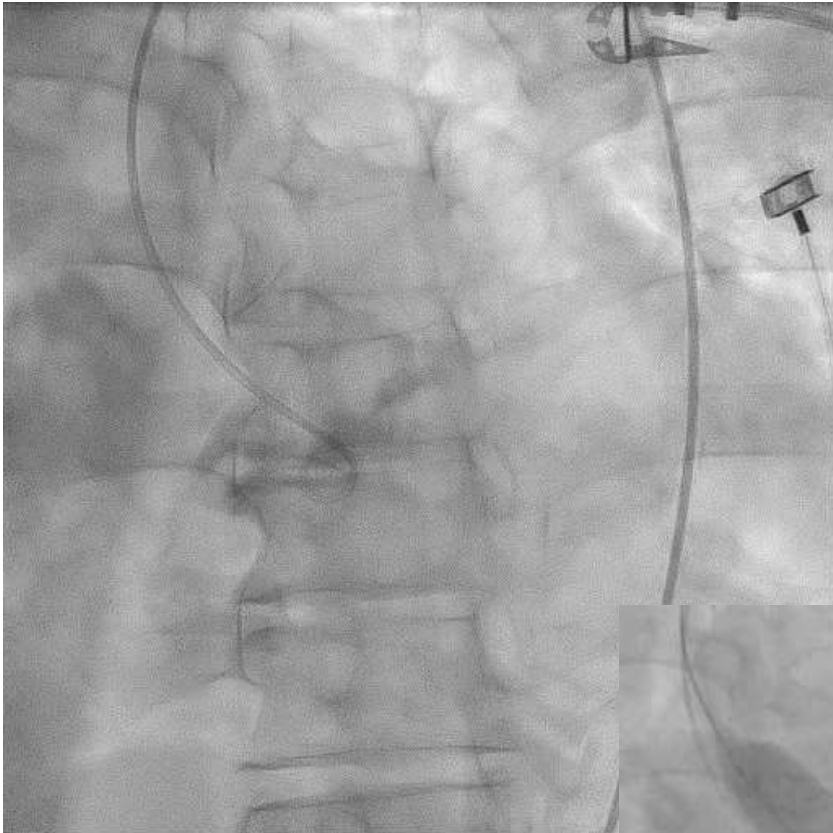
- ✓ Dyspnea Fc II in 2019: moderate to severe AS → Yearly echo f/u.
- ✓ Aggravated dyspnea (NYHA II~III) → TAVI work up in 2023.4.



# Case



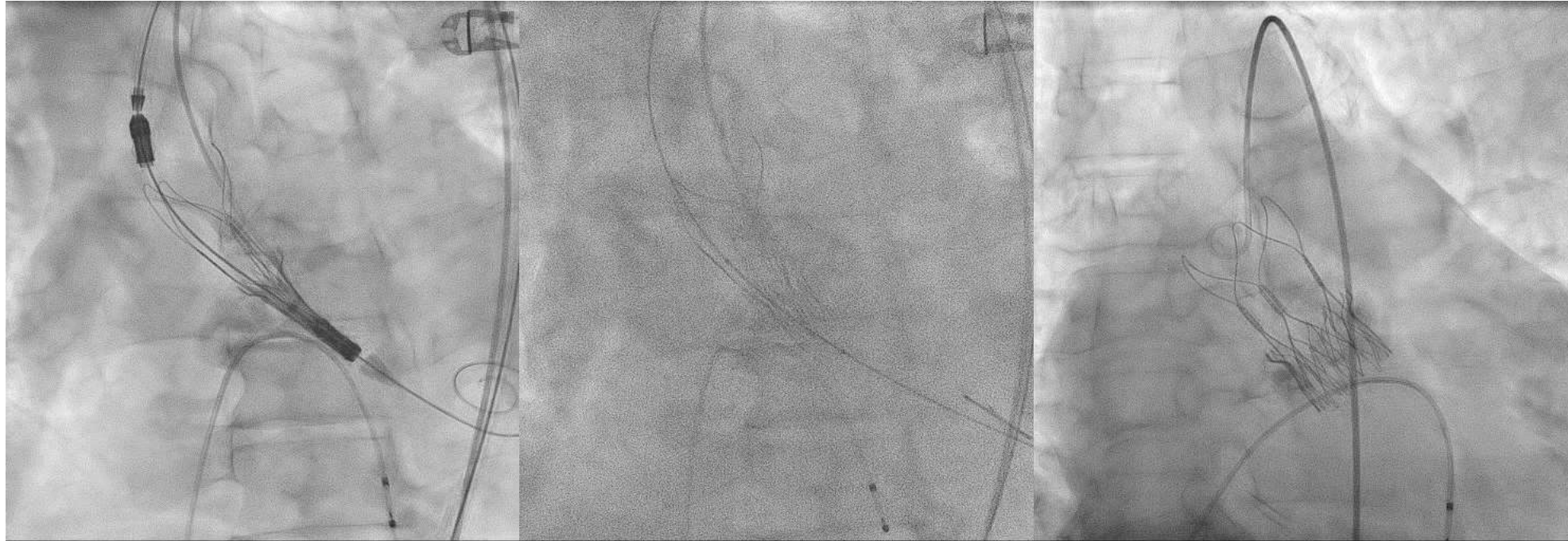
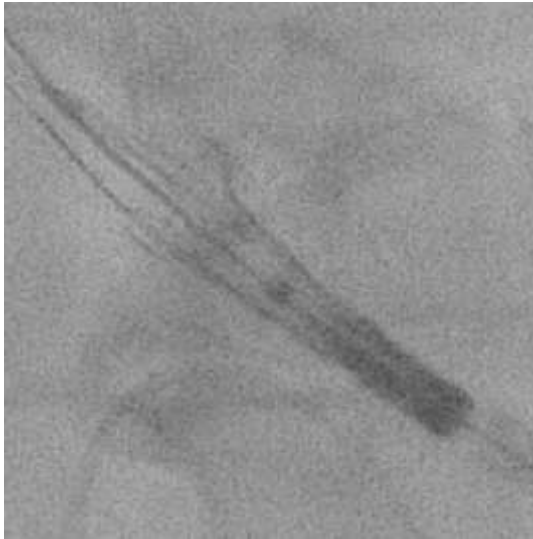
TAVI planned with ACURATE neo2 27mm, 15.1% oversizing index



# Case



TAVI planned with ACURATE neo2 27mm, 15.1% oversizing index



- Successful valve deployment and post-dilatation of the ACURATE Neo2 27mm
- No PVL, No conduction disorder



# Conclusion

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- ✓ The indications for TAVI is expanding, with new devices as treatment options.
- ✓ Unlike current generation coronary stents, each devices have distinct characteristics that lead to unique strong points.
- ✓ Meanwhile, the paradigm of treating Severe AS patients with TAVI have shifted from a ***'procedural success metrics'*** to ***'lifetime management metrics'***.
  - ✓ *Superior hemodynamics*
  - ✓ *Maintaining normal conduction*
  - ✓ *Easier coronary access etc.*
- ✓ ***Understanding the characteristics of the ACURATE Neo2 will provide more options in the Cath Lab.***