

The ‘Reality’ of Redo TAVR

Procedural Considerations

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TRANSCATHETER
CARDIOVASCULAR
THERAPEUTICS®

Disclosure of Relevant Financial Relationships

Within the prior 24 months, I have had a relevant financial relationship with a company producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients:

Nature of Financial Relationship

Lecture Fees

Company

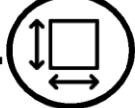
Abbott, Edwards Lifesciences,
Medtronic, GADA, Abiomed, Boston
Scientific, Microport, SMT

HOW TO PLAN AND EXECUTE?



2° THV

-  **THV Type**

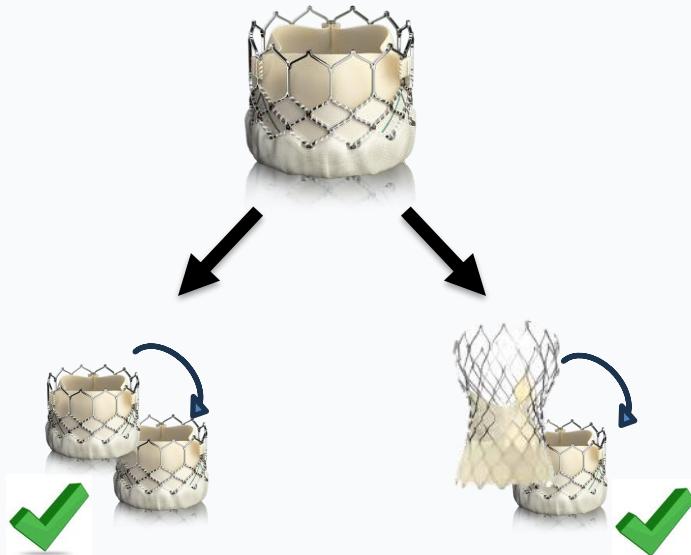
-  **Sizing # 2 THV**

-  **Positioning #2 THV**



Translating New CONCEPTS into PROCEDURAL STRATEGY in TAV-TAV

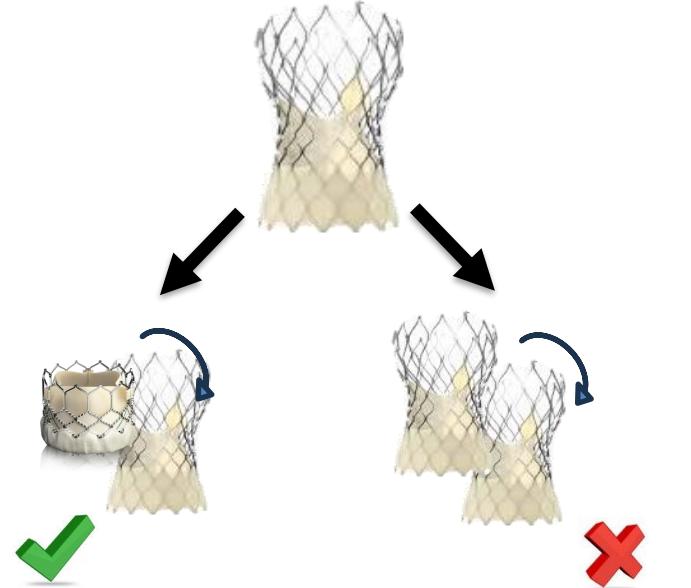
1° THV short frame



Bapat et al. JACC INT 2024, 17: 1631-1651

Tarantini G et al. JACC Intv 2022;15:1777–1793

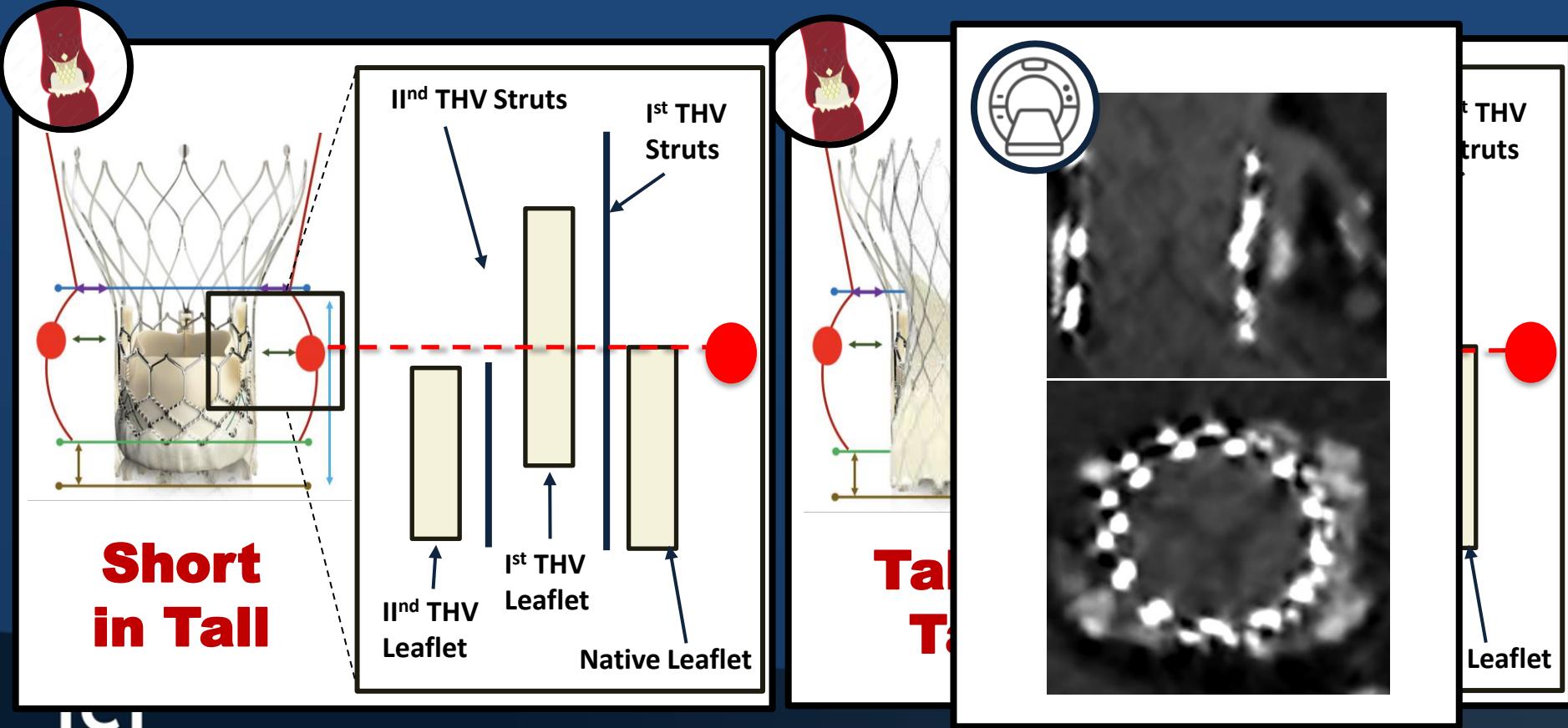
1° THV tall frame



Tarantini et al. Am J Cardiol. 2023

Tarantini et al. JACC Intv. 2023 Apr, 16 (8) 954–957

1st THV choice MATTER : *NEOSINUSES structures*



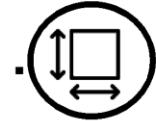
HOW TO PLAN AND EXECUTE?



2° THV



· THV Type



Sizing # 2 THV



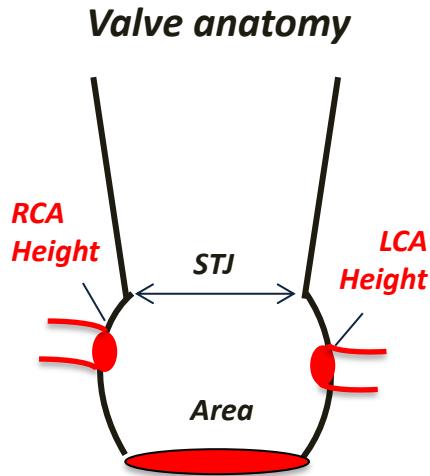
Positioning #2 THV

2nd THV SIZING: CT BASED

CT scan

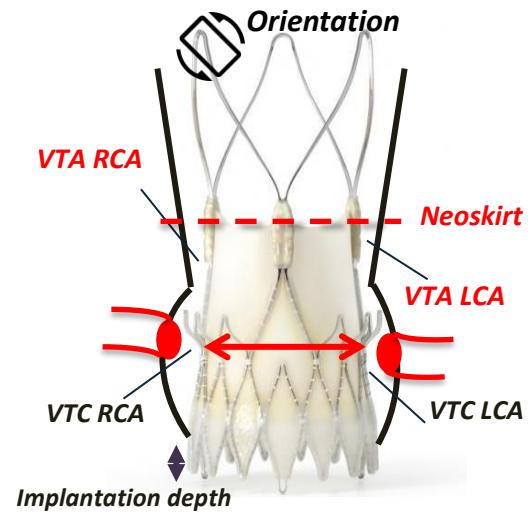
#1 Before index TAVR

- Valve anatomy
- Annulus /VBR
- Coronary height
- STJ
- SOV



#2 Before TAV in TAV

- 1°THV metrics
- Orientation
- VTA
- VTC
- Neoskirt



2nd THV SIZING: 1° *THV BASED*

Balloon Expandable Valves (BEV)									
Edwards Lifesciences									
Sapien		Sapien XT			Sapien 3 / Ultra				
23mm	26mm	23mm	26mm	29mm	20mm	23mm	26mm	29mm	
Frame Height (mm)	14	16	14	17	19	15.5	18	20	22.5
Skirt Height (mm)	7.7	8.6	6.7	8.7	11.6	7.9	9.3	10.2	11.6
Outflow (mm)	23	26	23	26	29	20	23	26	29
Center/Waist (mm)	-	-	-	-	-	-	-	-	-
Inflow (mm)	23	26	23	26	29	20	23	26	29

Self Expanding Valves (SEVs)									
Medtronic					Boston Scientific				
Corevalve				Evolut R/Pro		ACURATE neo(2)			
23mm	26mm	29mm	31mm	23mm	26mm	29mm	34mm	23mm	25mm
45	55	53	52	45	45	45	45	48	49
-	-	-	-	13	13	14	14	13.5	14.5
34	40	43	43	34	32	34	38	28	30
20	22	24	24	20	22	23	24	23	25
23	26	29	31	23	26	29	34	26	28



First THV size

23 mm	26 mm	29 mm	34 mm
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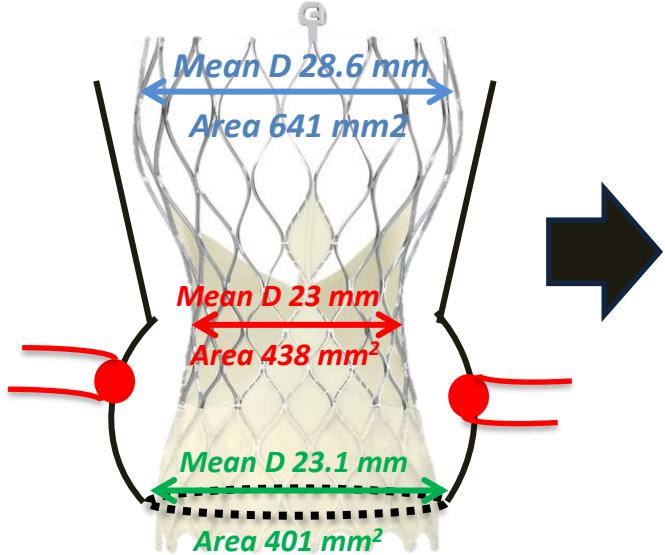
20 mm	23 mm	26 mm	29 mm
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Second THV size

SIZING: Failure mechanism is key

CV 29



Stenosis

**HIGH Implant
(no overhanging)**
**Core valve
waist 23 mm**



**Sapien Ultra 23
THV in THV**

Regurgitation

Low implant (coronary risk)
**No calcification (proxy of
pure AR)**
Oversize 10-20%
CV metric inflow 29 mm



**Sapien Ultra 26
THV in THV**

HOW TO PLAN AND EXECUTE?



2° THV

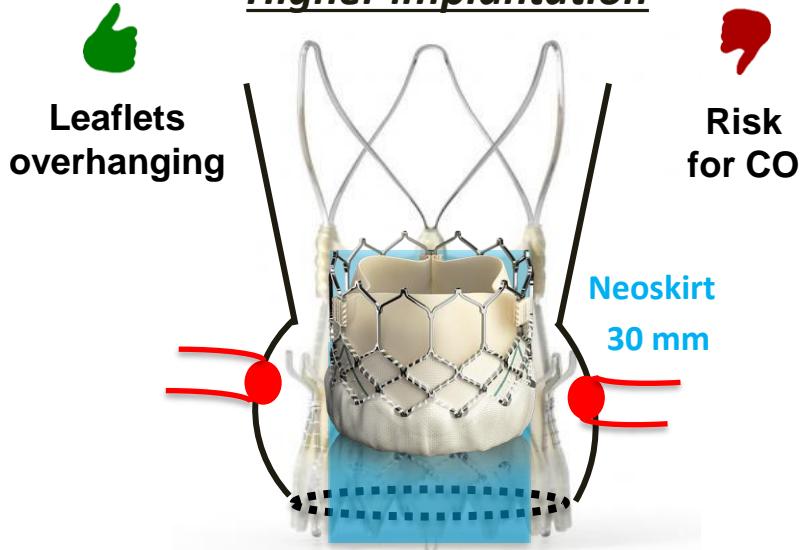
-  **THV Type**
-  **Sizing #2 THV**
-  **Positioning #2 THV**

2nd THV POSITIONING

Mechanism of failure is pivotal

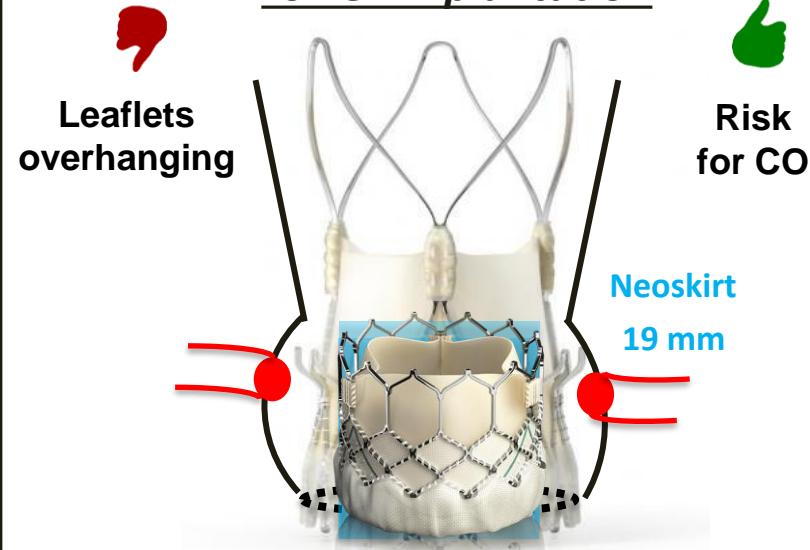
Prevalent Stenosis

Higher impiantation

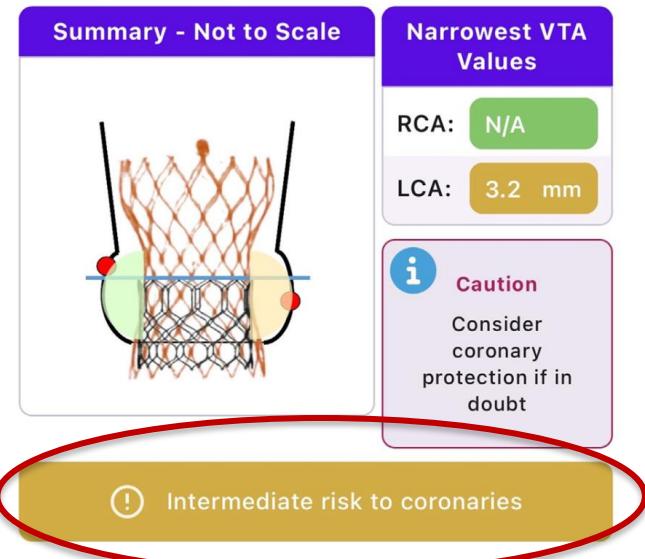
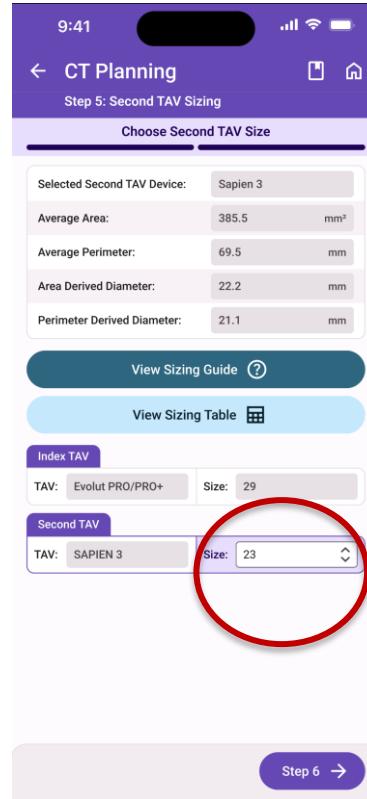
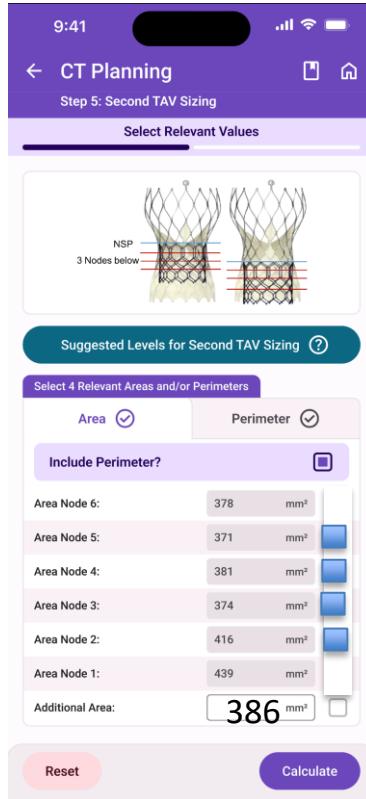
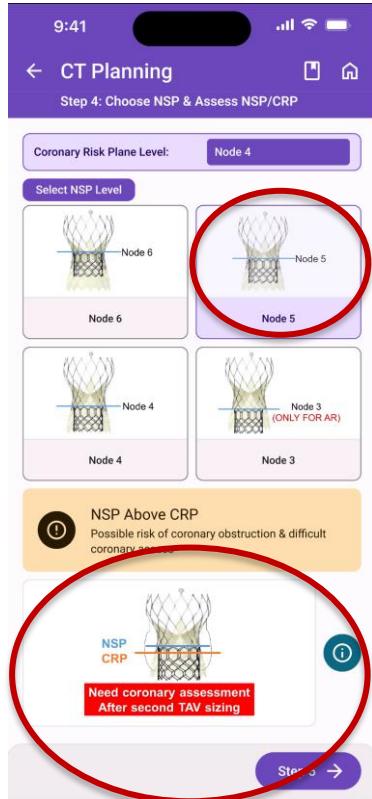


Prevalent Regurgitation

Lower impiantation



Iphone APP for Redo-TAV



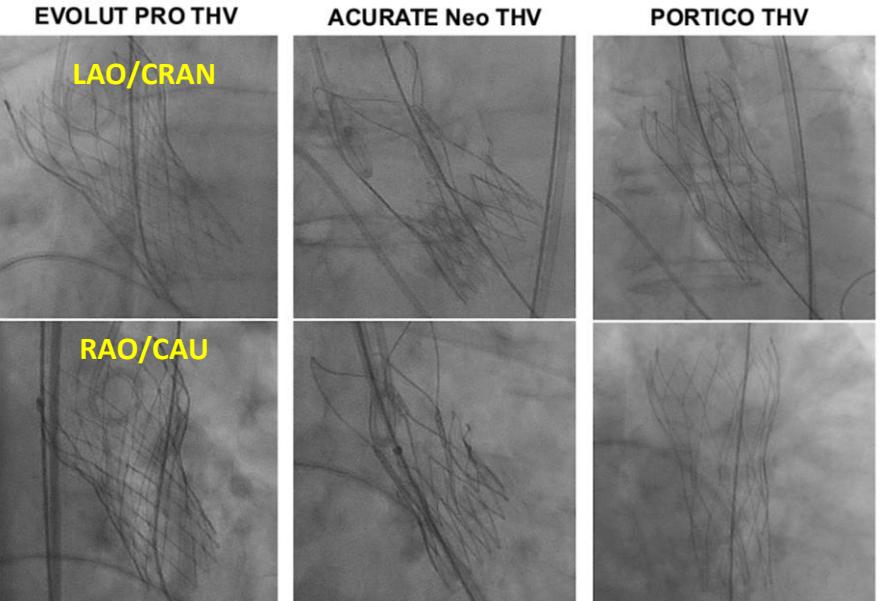


The Unmet Need in Assessment and Optimization:

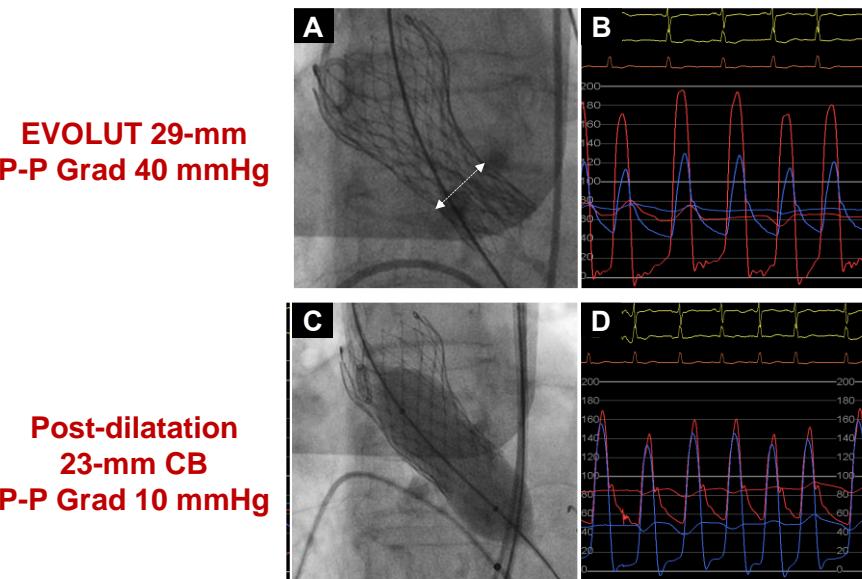
**“0” Papers, Big
Impact**

THV expansion assessment

FLUOROSCOPIC

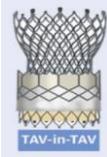


INVASIVE



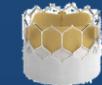
ViV Evidences: Re-TAVI Registry

TAVR in TAVR Evidences



Tot Pts
2390

- TRANSIT reg.
(Circ Card Interv 2021)
- TVT Registry
(Lancet 2023)
- German Registry
(EuroIntervention 2016)
- Multicenter worldwide
registry
(Circ Card Interv 2016)
- Redo TAVR Registry
(J Am Coll Cardiol 2020)
- U.S. Medicare
(JACC Card Interv 2021)



Key Metric	TAVR-in-TAVR	ReTAVI	TAVR-in-SAVR
Procedural Success Rate	80% – 90%	95.1%	93% – 99%
30-Day Mortality	3% – 11%	3.5%	3% – 8%
30-Day Stroke Incidence	1% – 5%	0.7%	1% – 3%
Mean Post-Implant Gradient	10 – 15 mmHg	14 mmHg	16 – 18 mmHg
Permanent Pacemaker Rate	7% – 10%	6.7%	3% – 11%

TAVR in SAVR Evidences



Tot Pts
> 10000

- PARTNER 2 ViV
(JACC 2019)
- VIVA post-market Reg.
(JACC Card. Interv 2019)
- VIVID Registry
(JAMA 2014)
- Multicenter ViV Acurate
(JACC Card Interv 2019)
- STS/ACC reg
(JACC 2018)
- Multicenter US Reg.
(JACC Card. Interv 2019)
- Etc. (More than 26 studies)

TAKE HOME MESSAGES

- **TAV-in-TAV is not just a repeat procedure — it requires a forward-thinking strategy from the very first implant.**
- **CT-based planning and understanding of valve metrics are key to correct sizing, positioning, and preserving future intervention possibilities.**
- **A short-frame THV with the risk plane below the coronaries keeps future options open; a tall-frame limits options and often calls for a short-frame in redo procedures.**