

SAVR vs. TAVR Strategy Trials (PARTNER 3 and RHEIA)

Therapeutic Strategies in Small Annulus AS

Marvin H. Eng, MD

Vincent Miscia Chair and Section Chief of Interventional Cardiology

Structural Heart and Catheterization Lab Director

University of Nebraska Medical Center



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

Nature of Financial Relationship

Consultant Fees/Honoraria

Ineligible Company

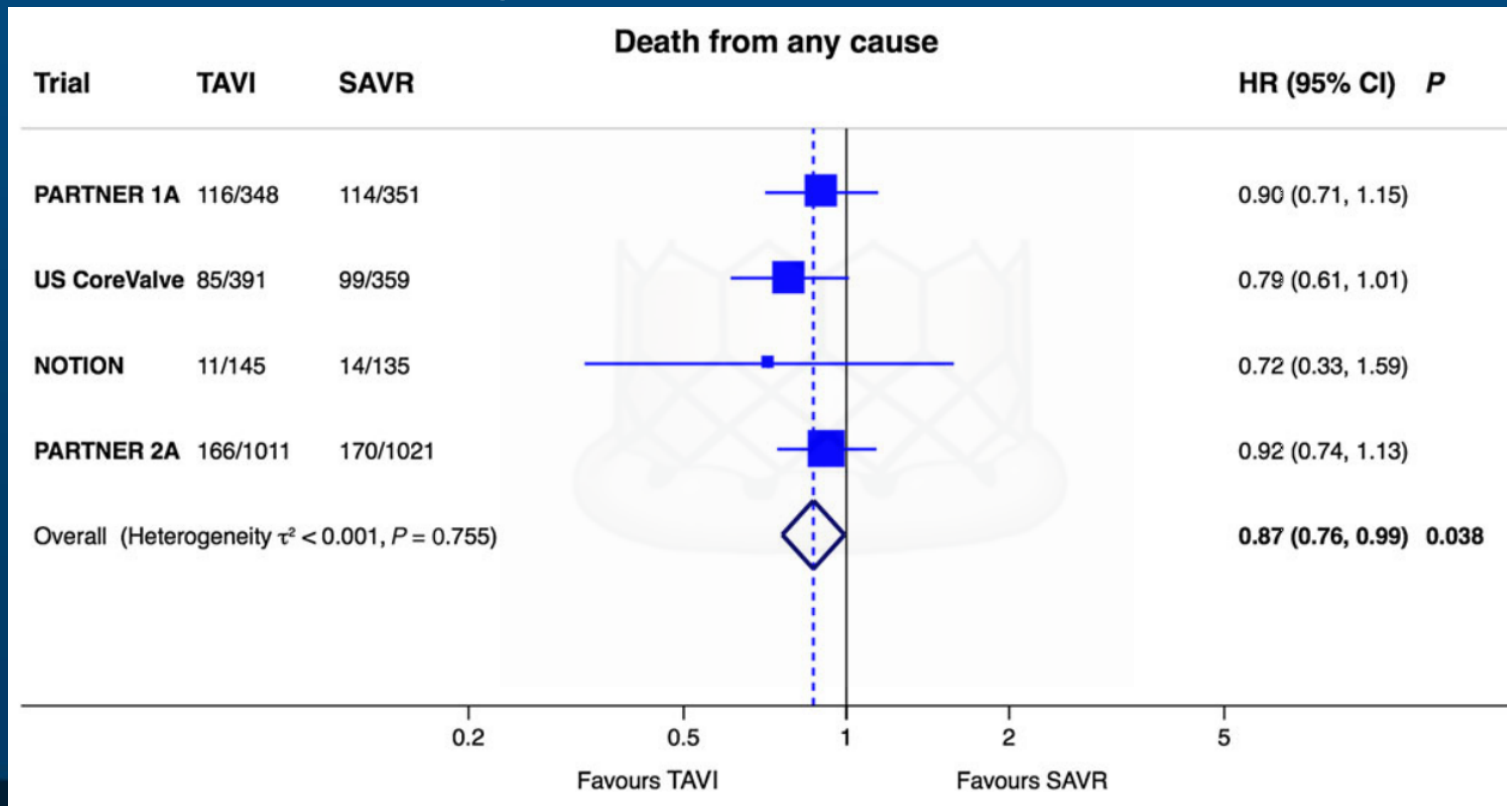
Edwards Lifesciences

Medtronic

Angiodynamics

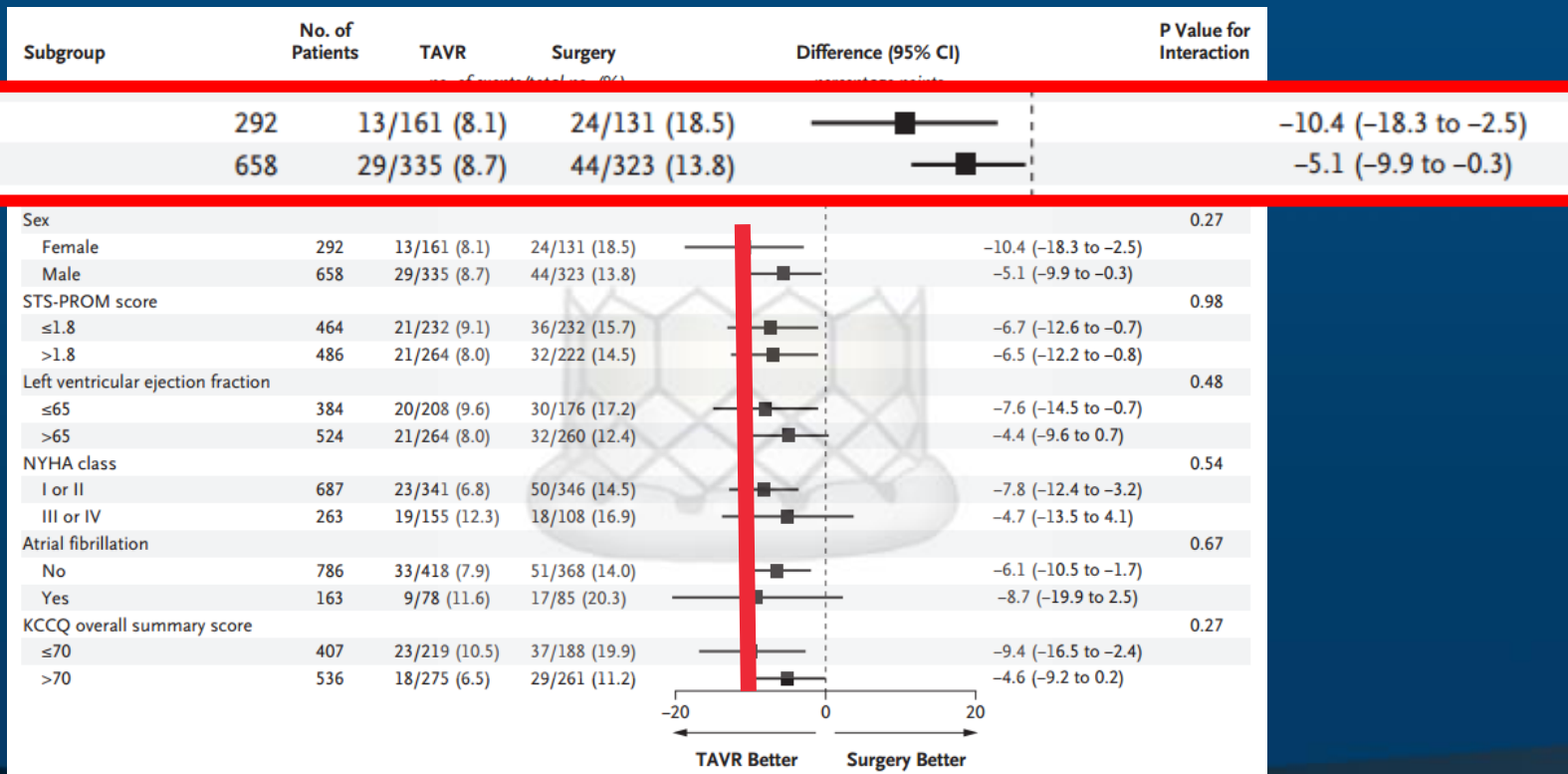
Mortality benefit for TAVR in women

Early Randomized Trials



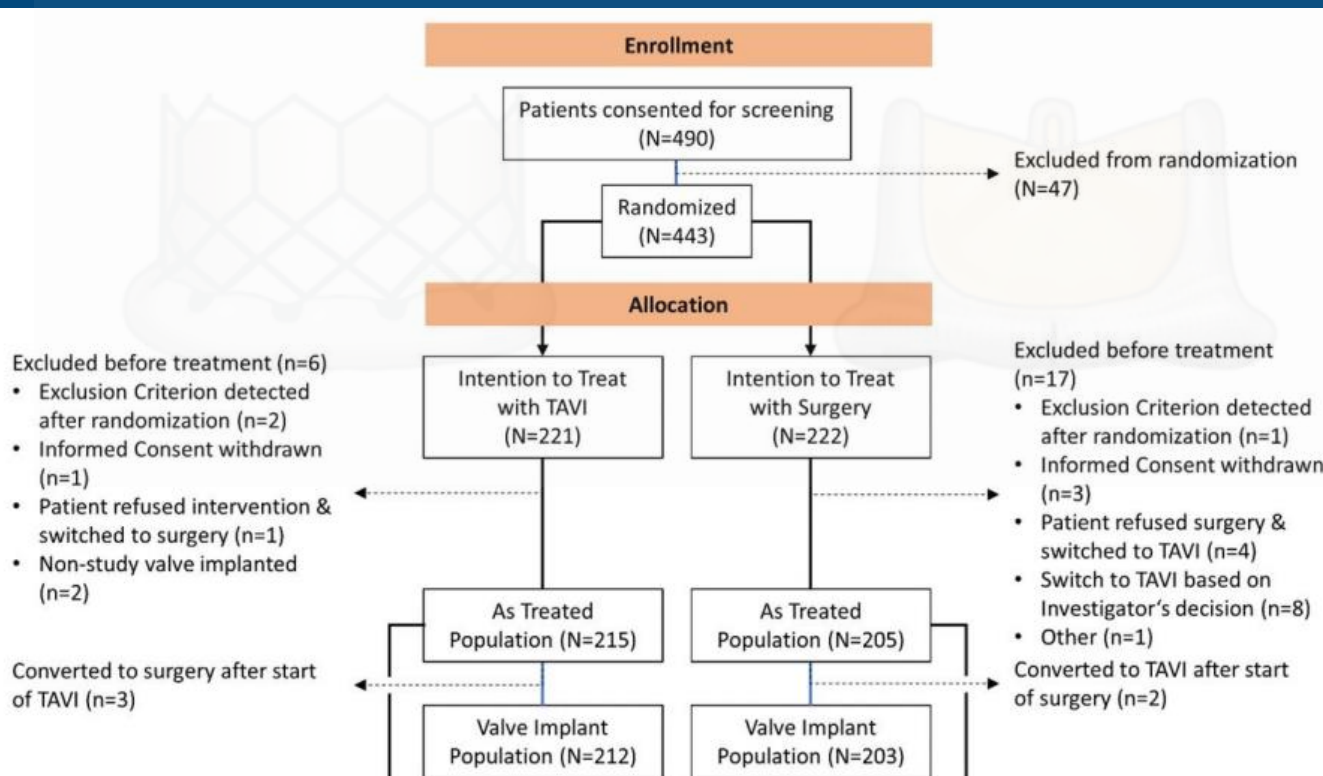
PARTNER III 1-Yr

Women saw benefit with TAVR vs SAVR



RHEIA 1-YR

1° EP Death, Stroke, Rehospitalization



STS- Female sex 64% of S-PPM

Smaller valves, higher gradients

	SAVR
Patients, <i>n</i> (%)	82 (17.7)
Patients with valve size ≤ 23 mm, <i>n</i> (%)	54 (65.9)
Post-operative AG ^a (mmHg), mean \pm SD	14.3 \pm 8.2
AG in valve size ≤ 23 mm, mean \pm SD	16.3 \pm 9.1
AG in valve size > 23 mm, mean \pm SD	10.6 \pm 3.6
Post-operative mild AG, <i>n</i> (%)	73 (89.0)
Post-operative moderate/severe AG, <i>n</i> (%)	9 (11.0)

STS
Female sex
64% S-PPM

RHEIA

Surgical EOAi and gradients better with surgery?

Size	N (%)
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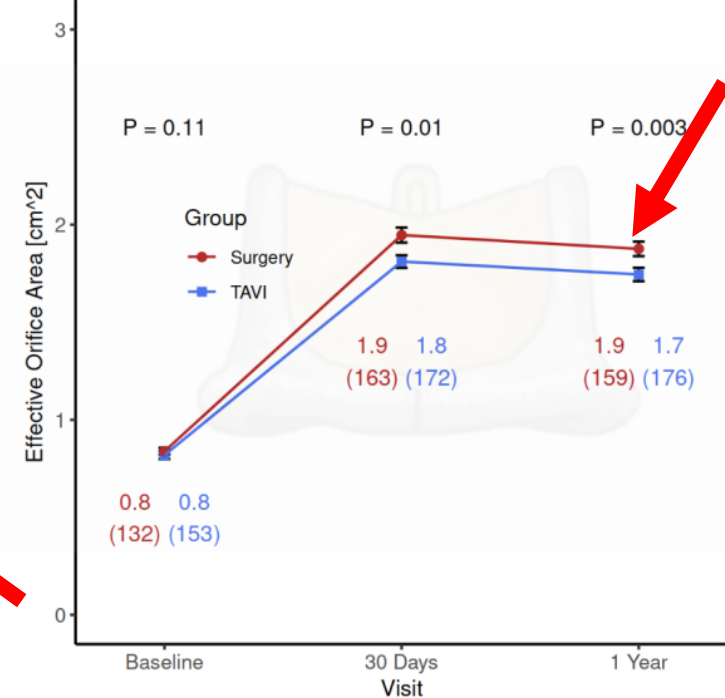
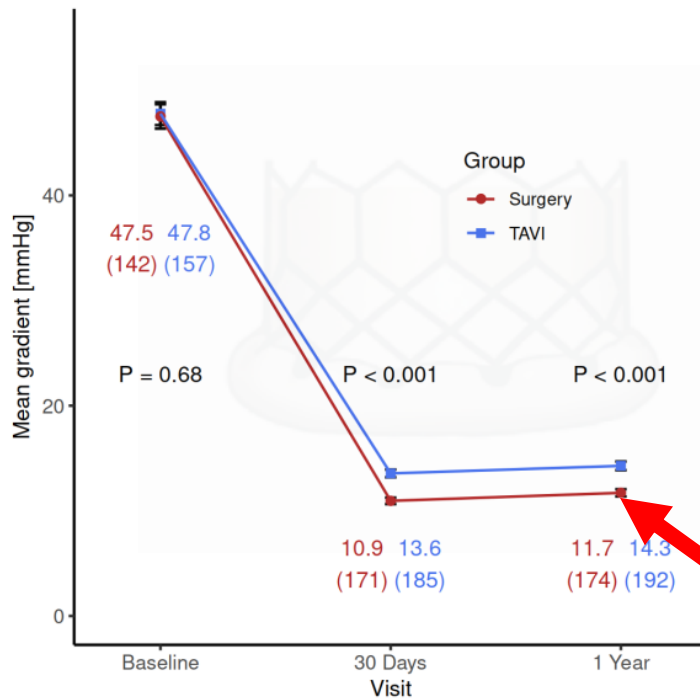
19 mm	10.9%
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21 mm	34.3%
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23 mm	42.8%
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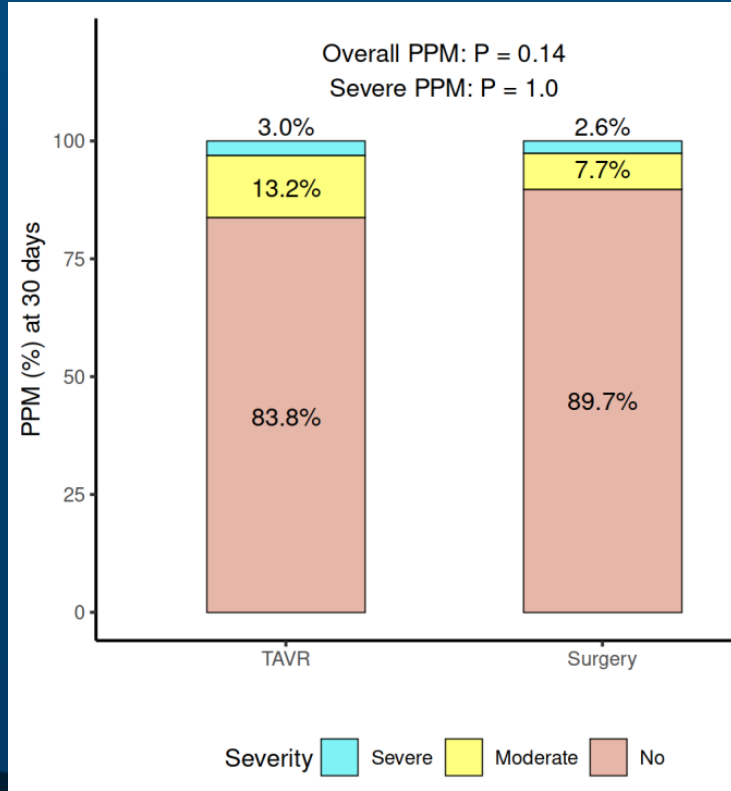
25 mm	10.9%
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27 mm	1%
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RHEIA 30-D ECHO

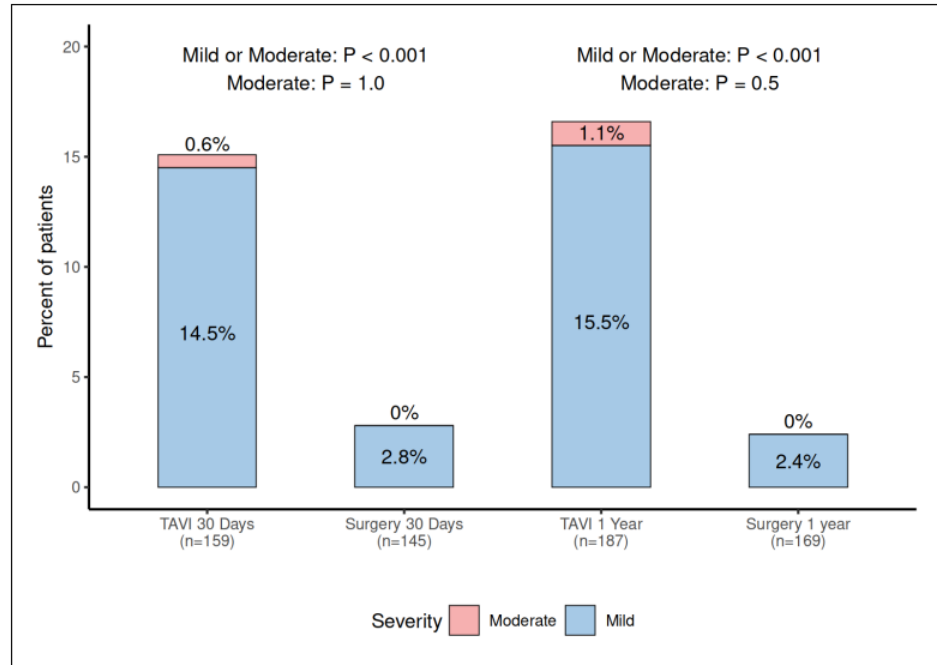
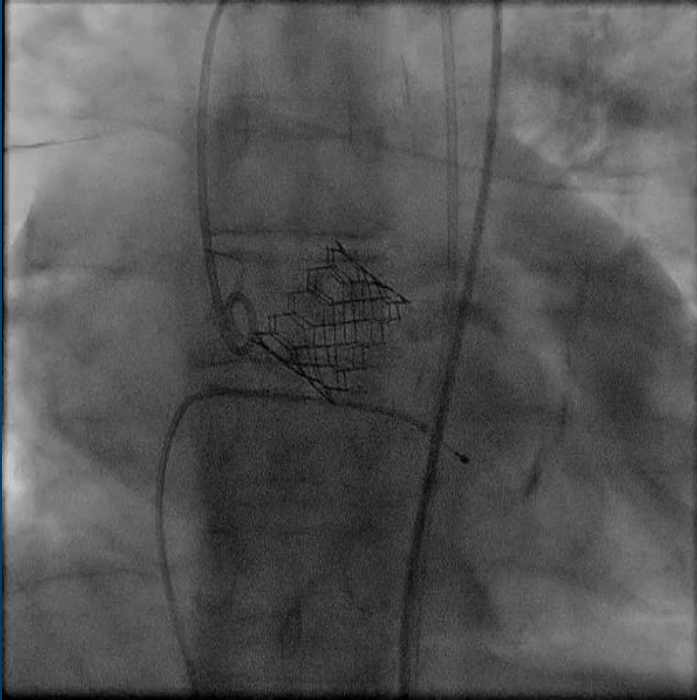
PPM rates



	TAVR	SAVR	P-value
≥ 20 mmHg	10.8%	2.9%	0.004

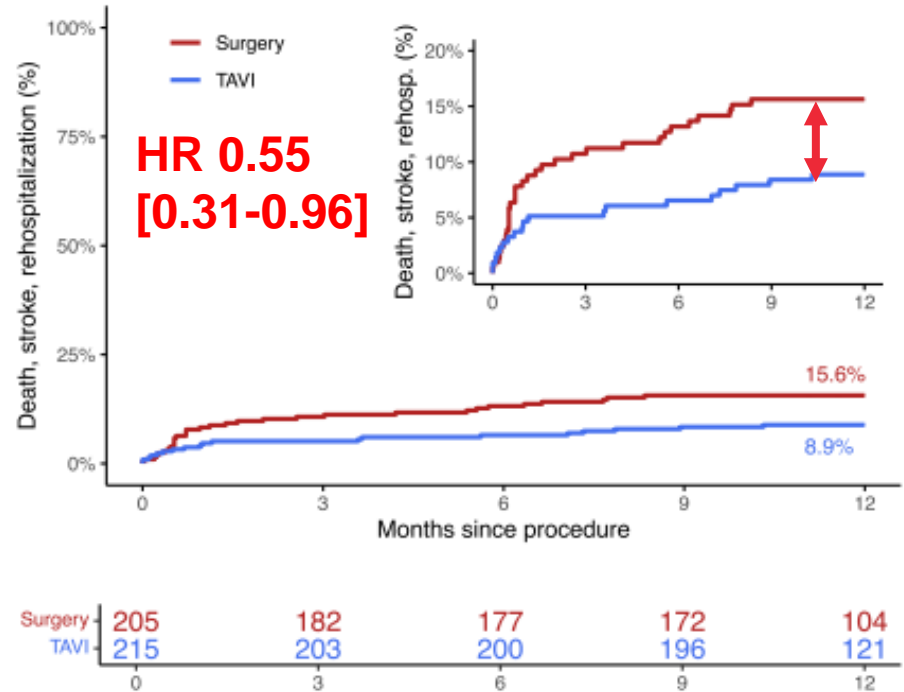
RHEIA 30-D ECHO

PVL Rates



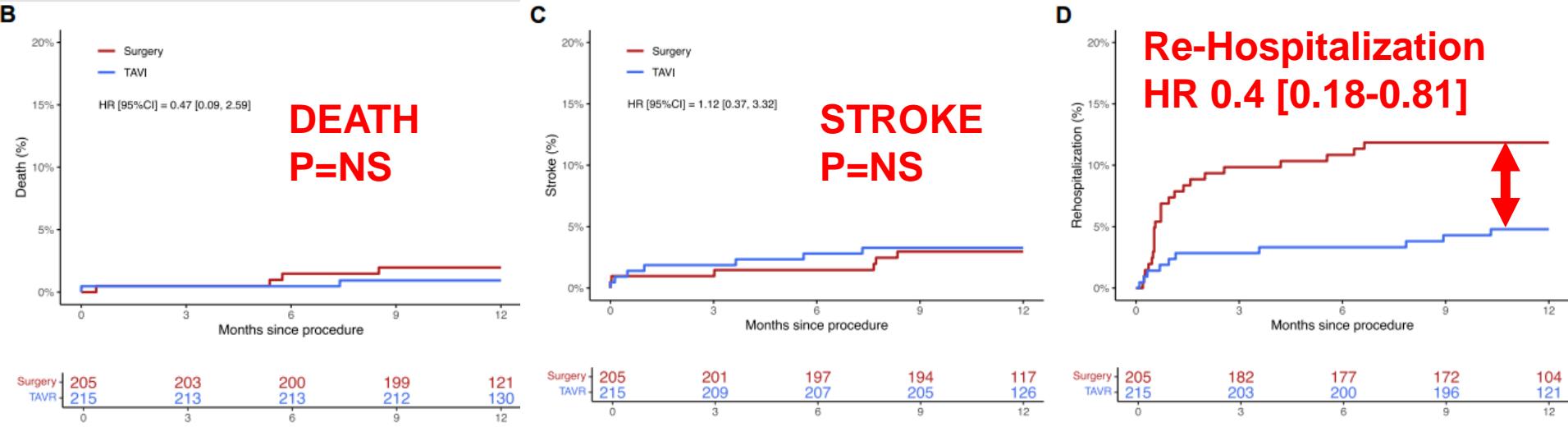
RHEIA

1° Endpoint: Death, Stroke, Rehospitalization



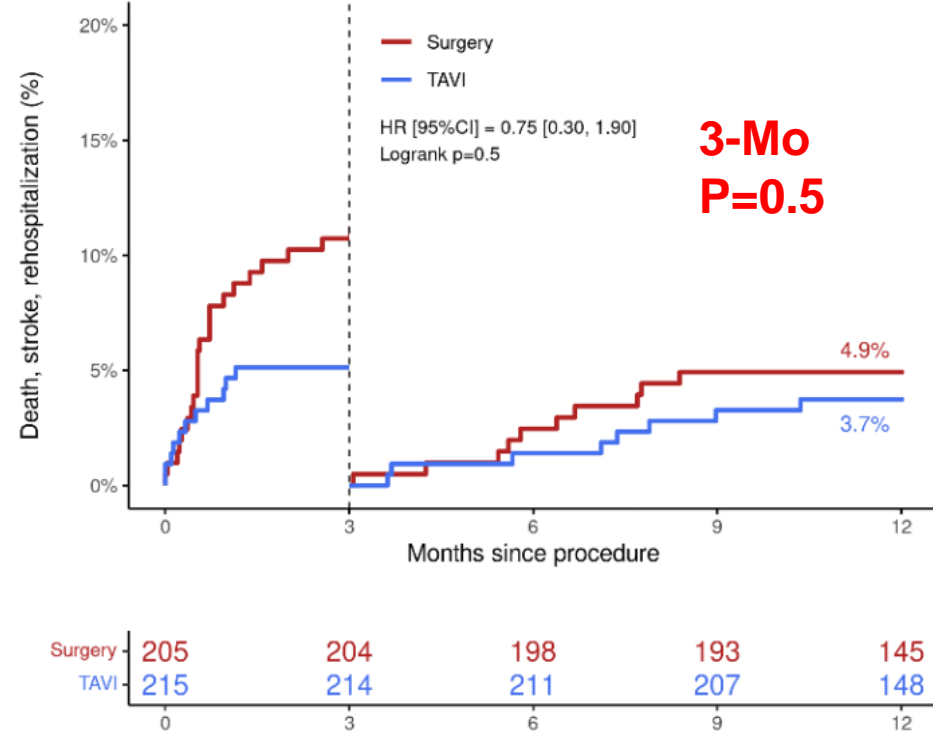
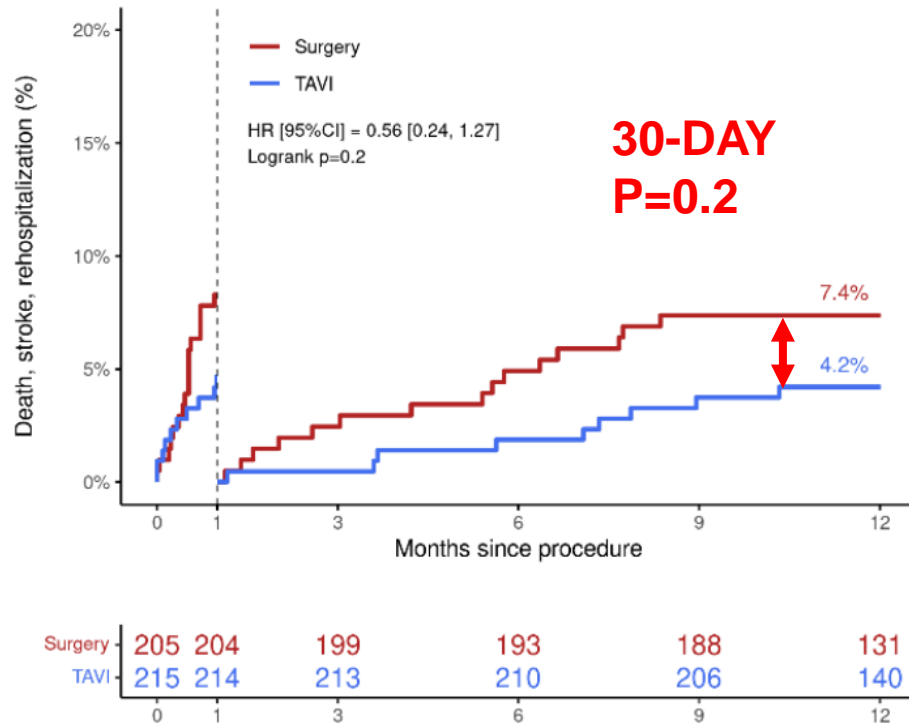
RHEIA

1° Endpoint Driven by Re-Hospitalization



RHEIA

Most of Benefit of TAVR is EARLY

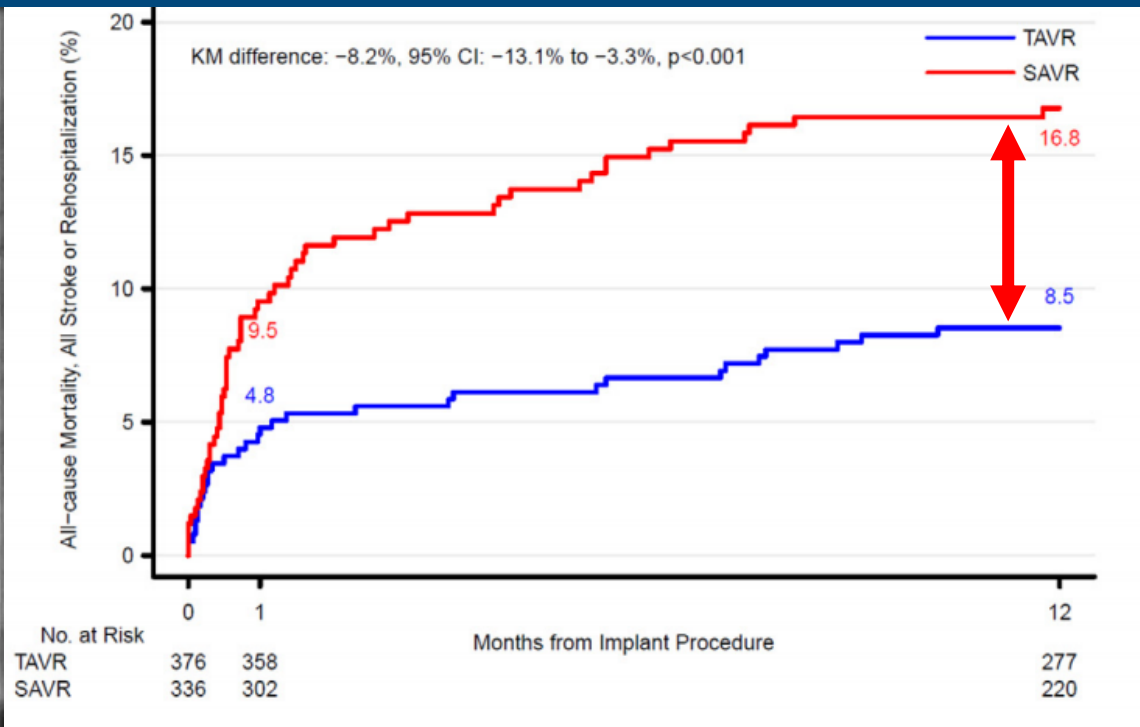
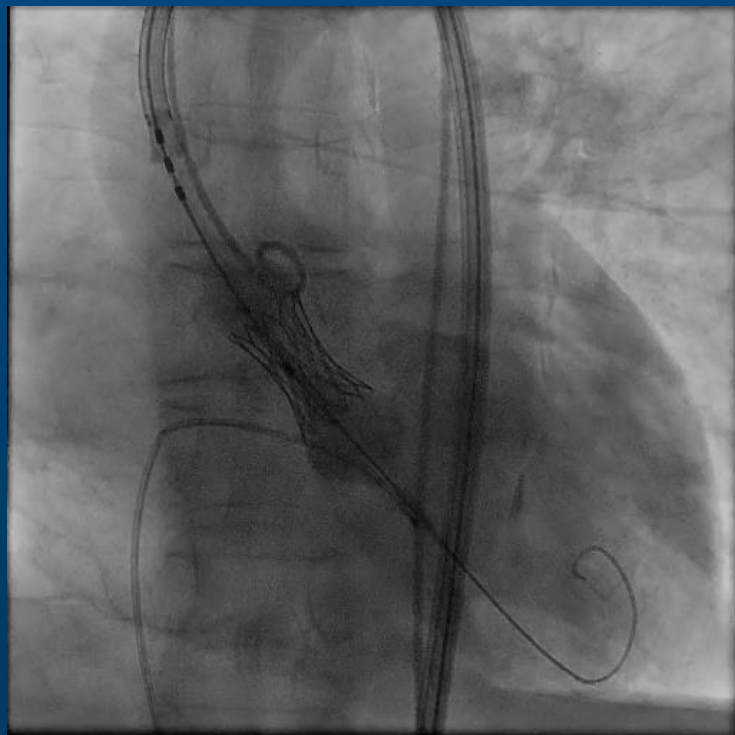


RHEIA

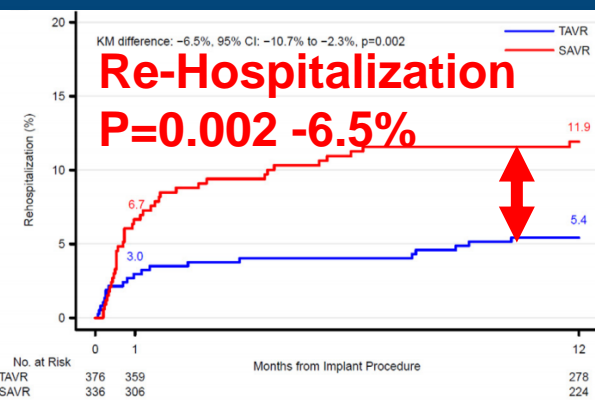
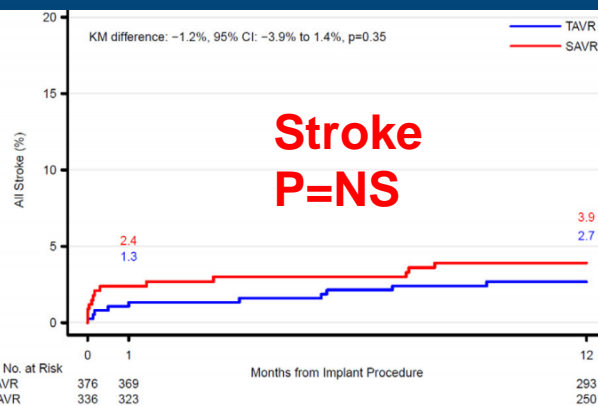
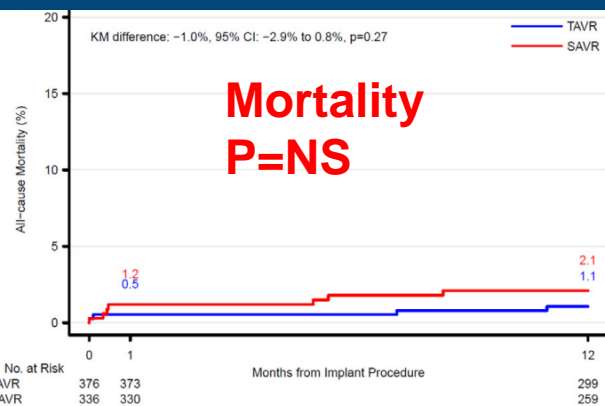
Notable Endpoints

	TAVR	SAVR	CI
<i>Major Vascular</i>	3.3%	> 0.5%	[0.2-5.3]
Bleeding (LT, major)	6%	10.7%	[-10-0.6]
AKI (Stage II/III)	0.9%	2.9%	[-4.6-0.6]
<i>New pacemaker</i>	8.8%	> 2.9%	[1.5-10.4]
<i>New Atrial Fib.</i>	3.3%	< 28.8%	[-32.2- -18.8]
<i>Discharge to Home</i>	90.2%	> 49.8%	[32.6-48.4]

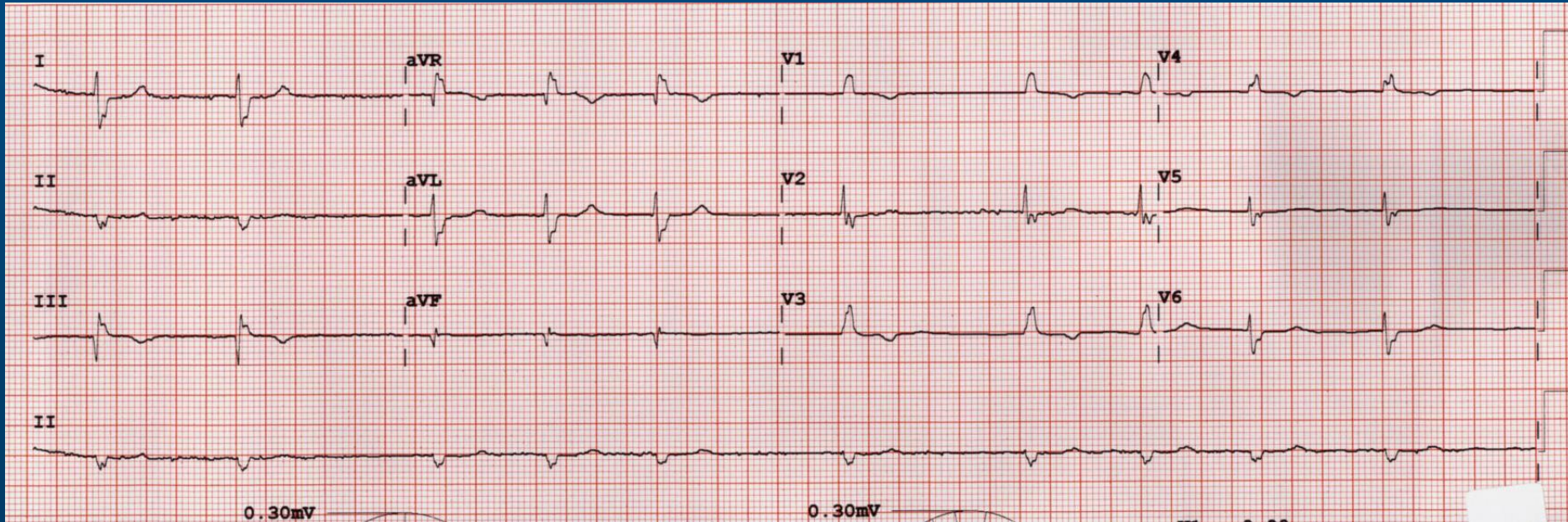
Pooled analysis PARTNER III and RHEIA



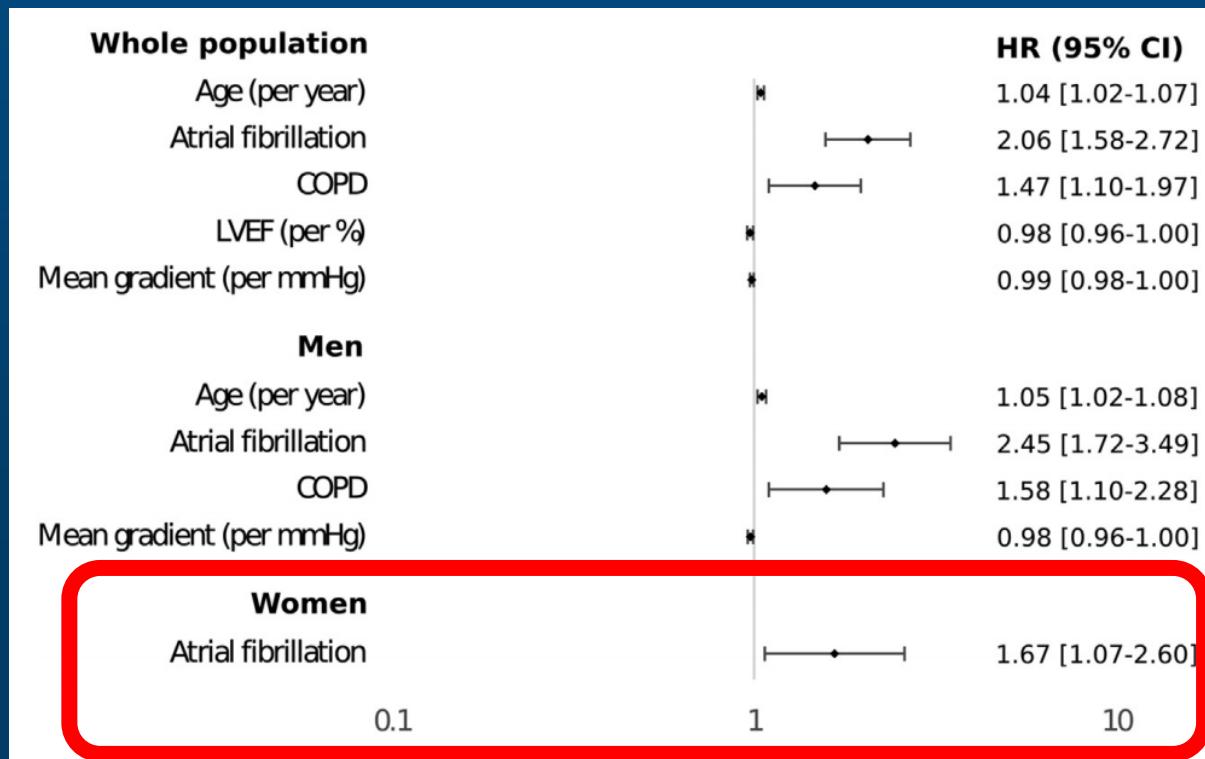
Pooled analysis PARTNER III and RHEIA 1-Yr 1° Endpoint Driven by Re-Hospitalization



What is driving rehospitalization?

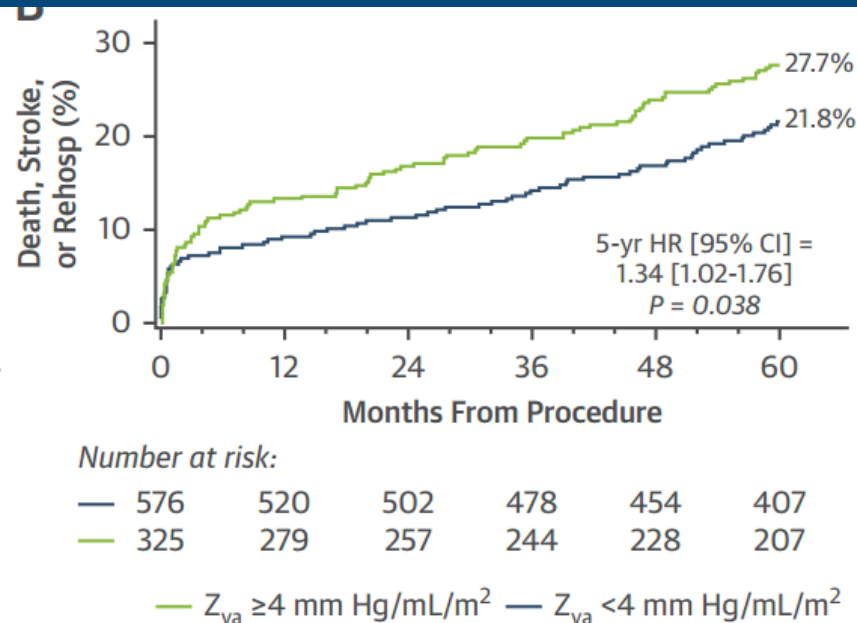
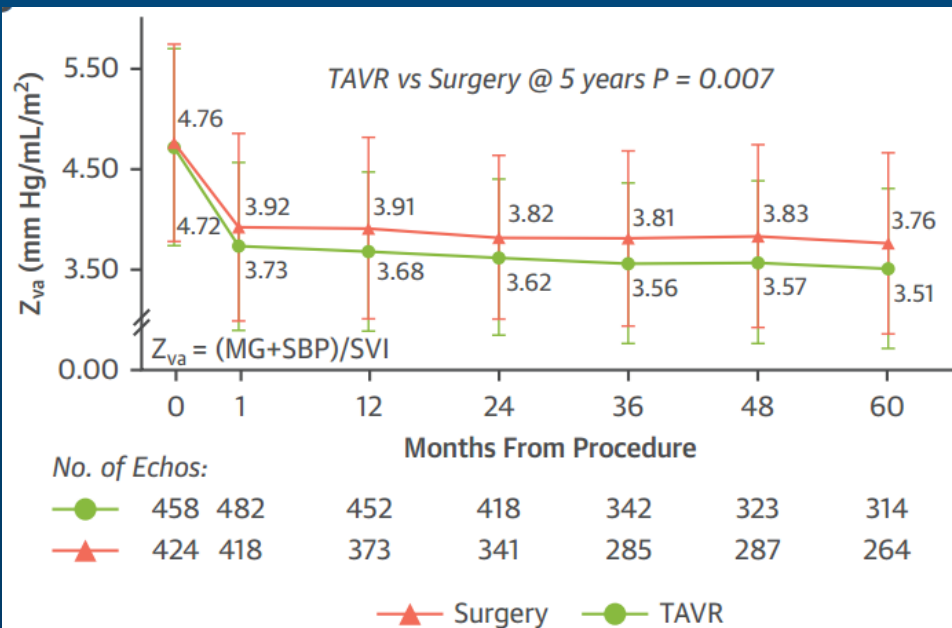


Predictors of Death or Rehospitalizations PARTNER II + III (2 Yr)

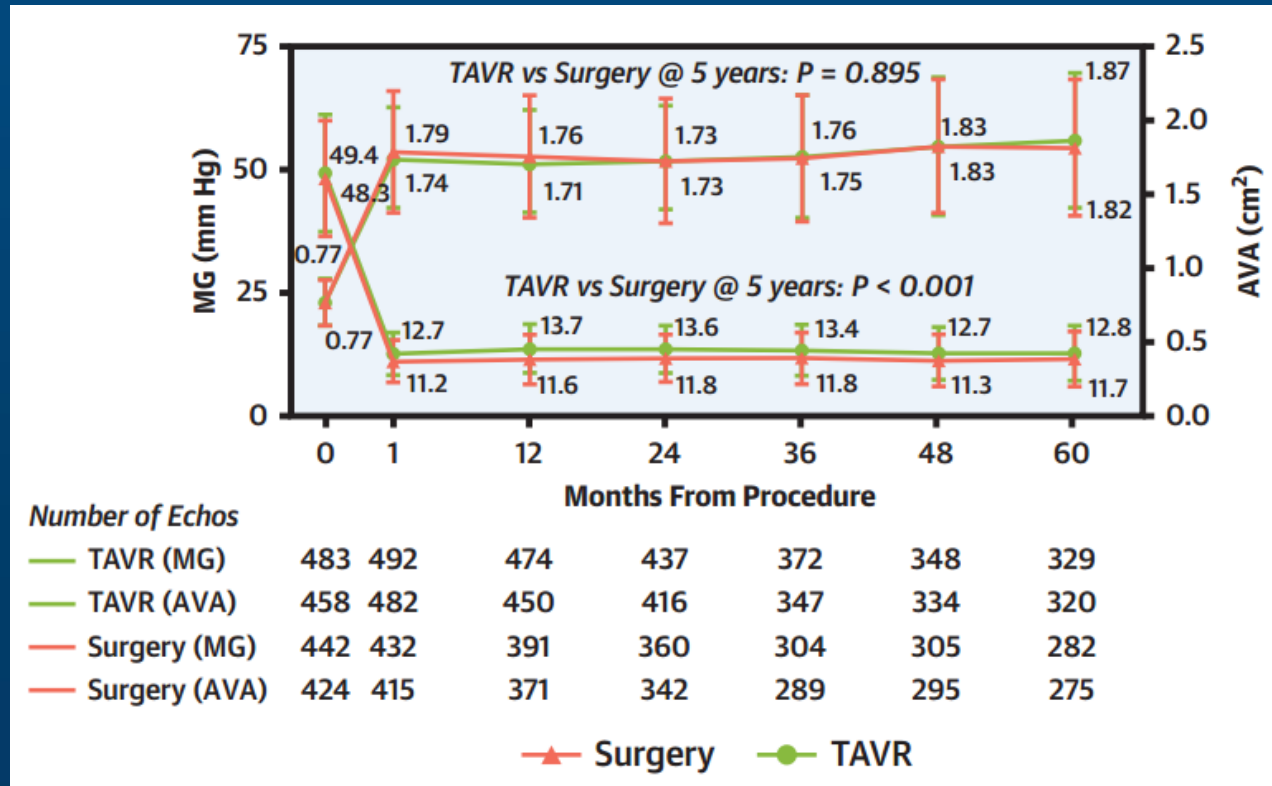


Valvulo-arterial impedance → higher in SAVR

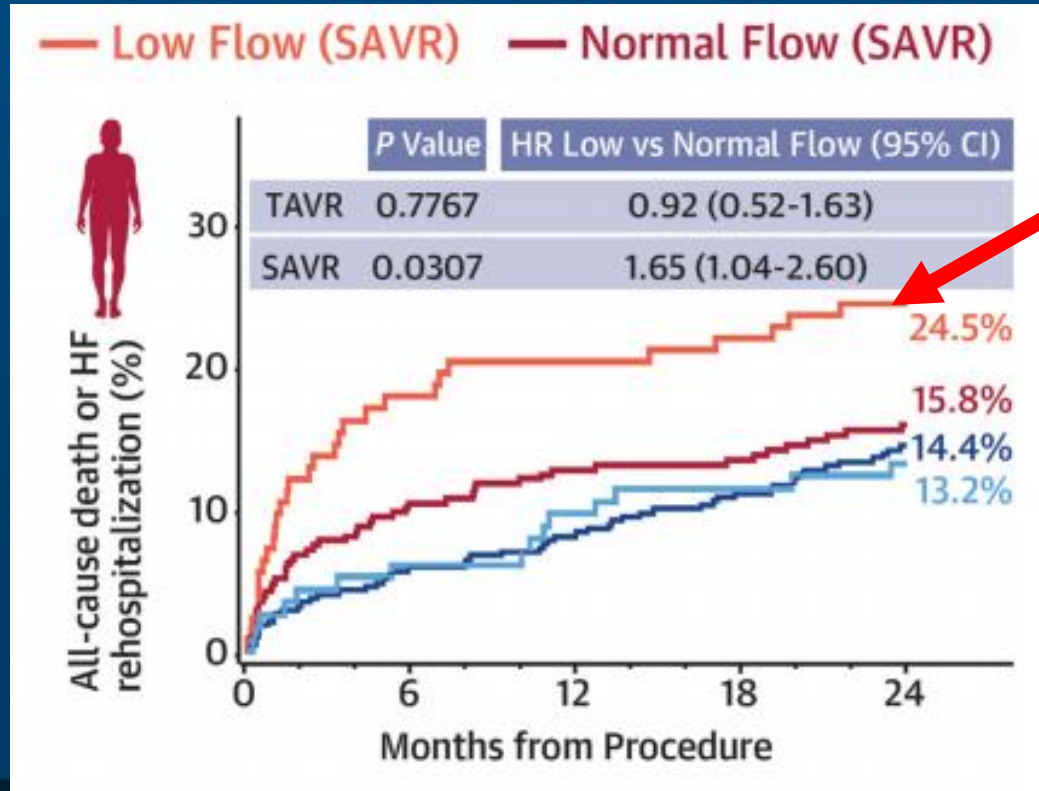
Higher Impedance → combined endpoint



TAVR and SAVR gradients/EOA stable over 5 yrs



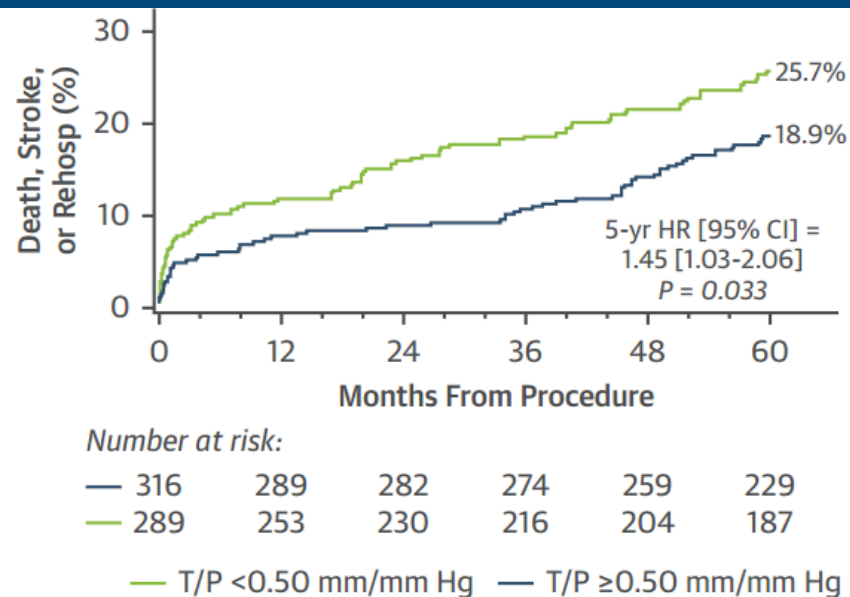
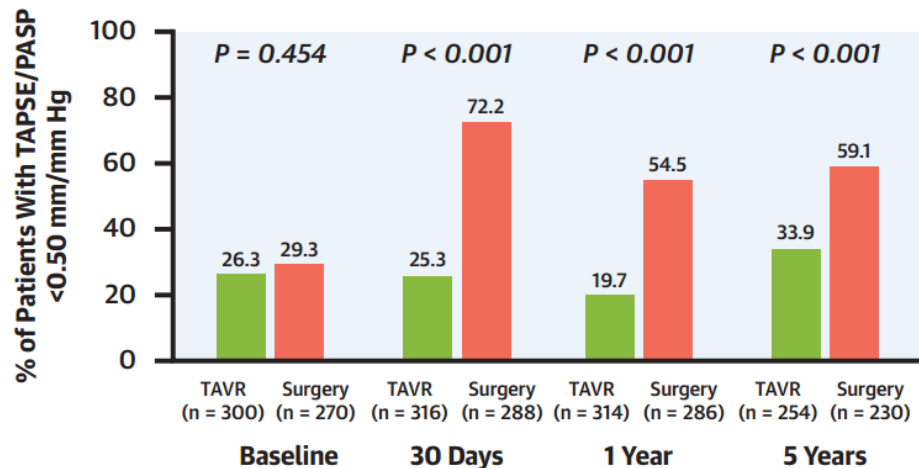
Low Svi- higher mortality/rehospitalization in Women with SAVR



Higher rates of poor RV/PA coupling in SAVR

Survival according to RV/PA coupling

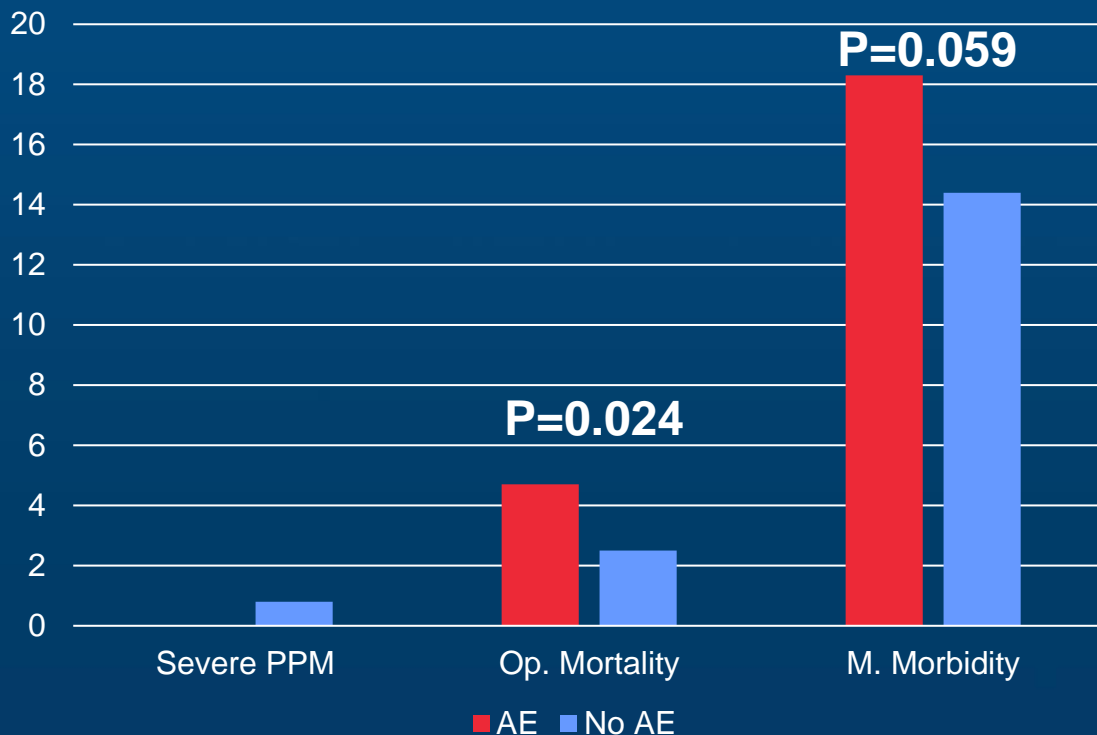
TAPSE/PASP <0.50 mm/mm Hg Through 5 Years by Treatment



Annular Enlargement- can it help?

STS Data AE

- 5% NET rate of AE
- ↑Mortality OR 2 ($p=0.016$)
- ↑Morbidity OR 1.4 ($p=0.016$)



SAVR+ Women: Re-Hospitalization Variables

- Atrial fibrillation
- Low-Flow
 - Atrial fibrillation
 - Chronic myocardial damage
 - RV dysfunction?
- Increased Valvuloarterial impedance
 - Net resistance of valve + vascular system
 - **Or lower SVi**
- Compromised RV-PA coupling
 - RV dysfunction/damage?
 - Pulmonary hypertension

