2014 TCTAP

Wrap-Up Interview

Transcatheter Aortic Valve Implantation

Moderator

Alain G. Cribier

Interviewees

Eberhard Grube, Martin B. Leon, Ian T. Meredith

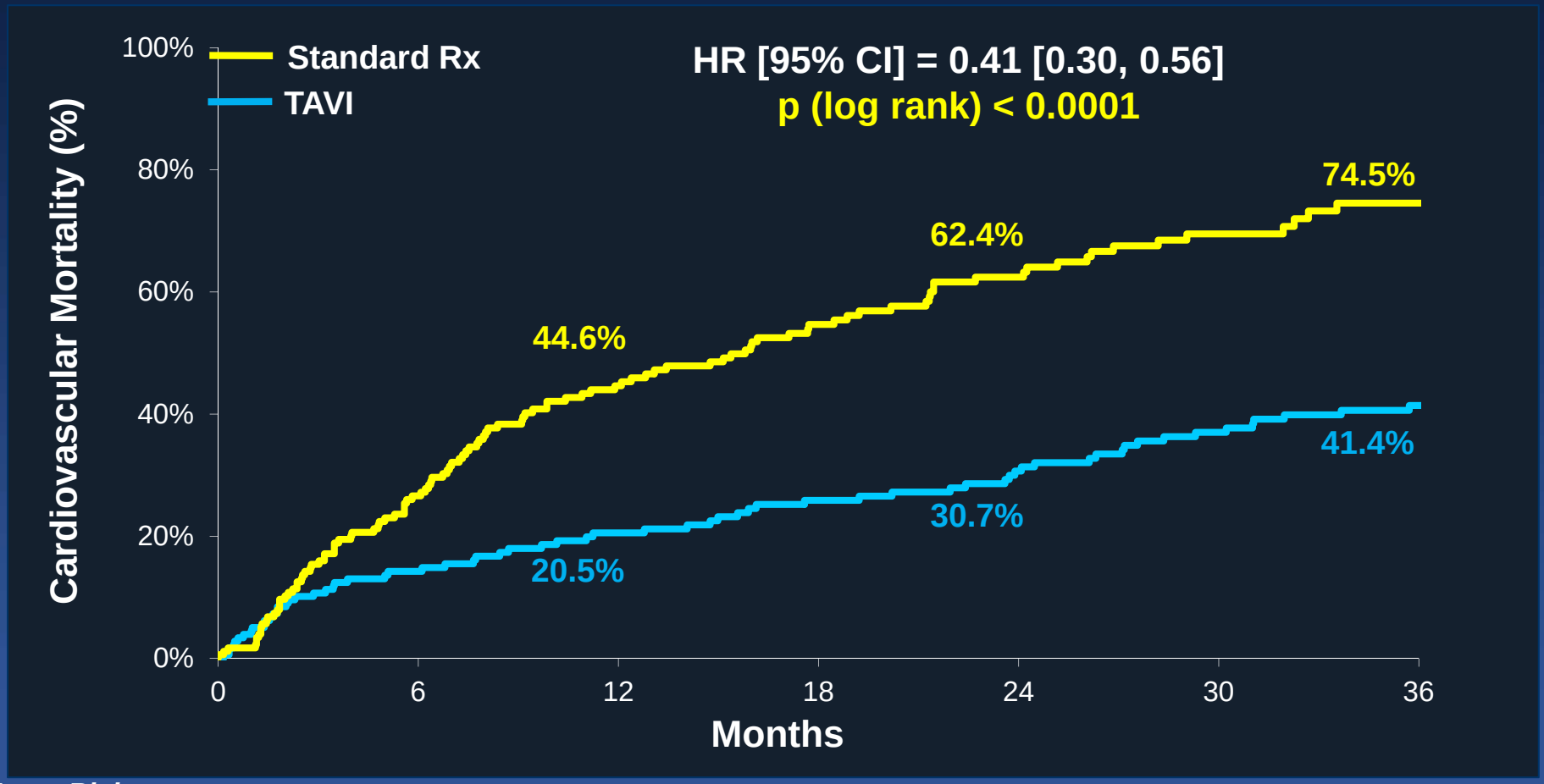
Issues in Brief

Transcatheter Aortic Valve Implantation

1. **Updated Evidence and Guideline**
2. **Indication for Intermediate Risk Patients**
3. **Valve in Valve for Failed Prostheses**
4. **Complications**
5. **New Devices**

Edward Valve: PARTNER B

TAVI vs. Standard Tx

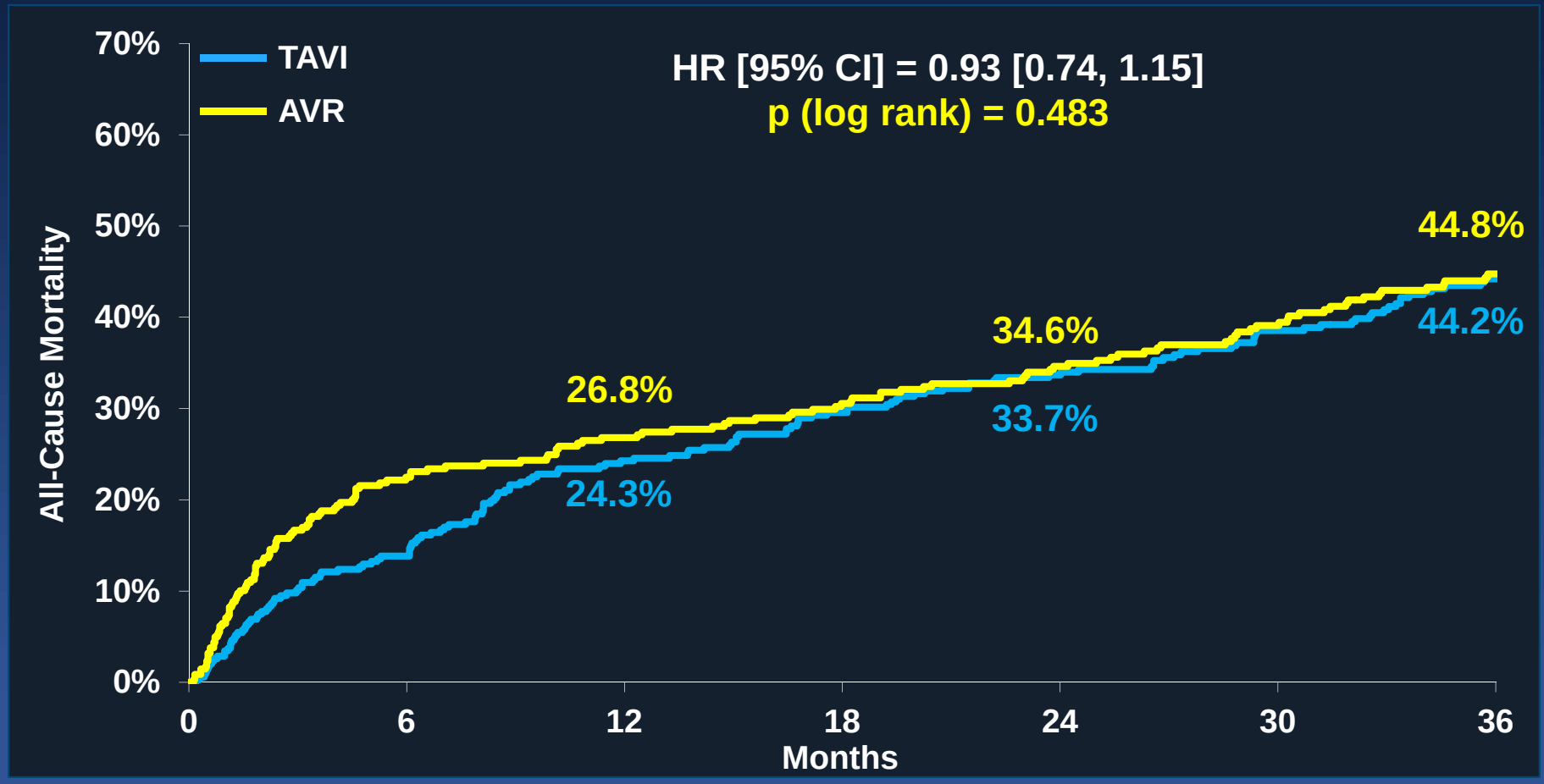


No. at Risk

Standard Rx	179	121	85	62	46	27	17
TAVR	179	138	124	110	101	88	70

Edward Valve: PARTNER A

TAVI vs. AVR

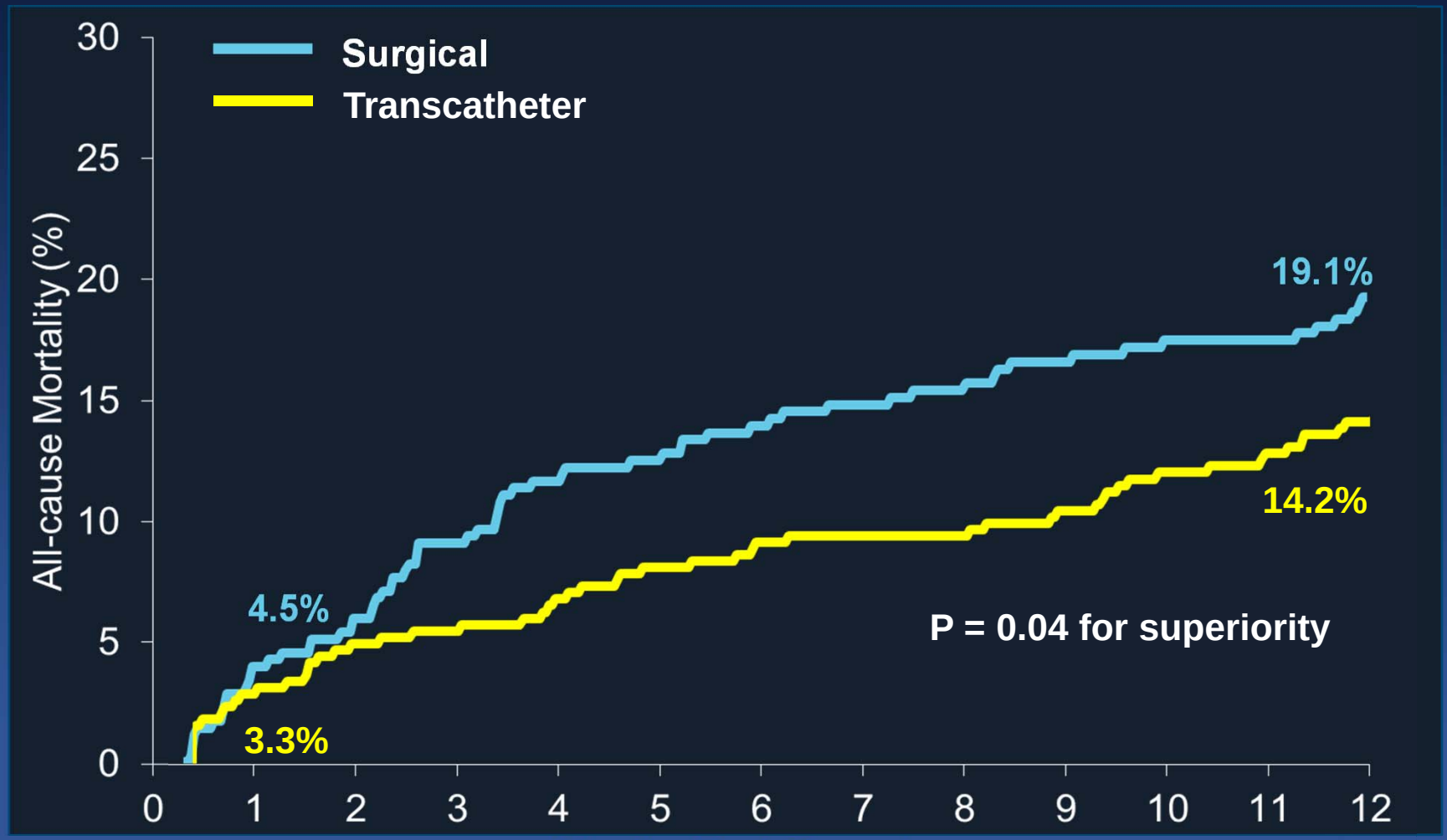


No. at Risk

TAVI	348	298	261	239	222	187	149
AVR	351	252	236	223	202	174	142

CoreValve: Pivotal Trial

TAVI vs. AVR



No. at Risk					
Surgical	357	341	297	274	
Transcatheter	390	377	353	329	

CHOICE Trial

Edward Valve vs. CoreValve

	Balloon-expandable Valve (N=121)	Self-expandable Valve (N=120)	P Value
Device success (primary endpoint)	95.9	77.5	< 0.001
30-day clinical outcomes			
All-cause death	4.1	5.1	0.77
Cardiovascular death	4.1	4.3	0.99
Stroke	5.8	2.6	0.33
Life threatening bleeding	8.3	12.0	0.35
Vascular complications	14.0	12.8	0.78
Rehospitalization for heart failure	0.0	4.3	0.02
NYHA class improvement	94.3	86.7	0.06
New permanent pacemaker	17.3	37.6	0.001

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Current Guideline for TAVI

Class I:

- **Heart Team Required**
- **On-Site Cardiac Surgery**
- **Patients Not Suitable for AVR (PARTNER B)**

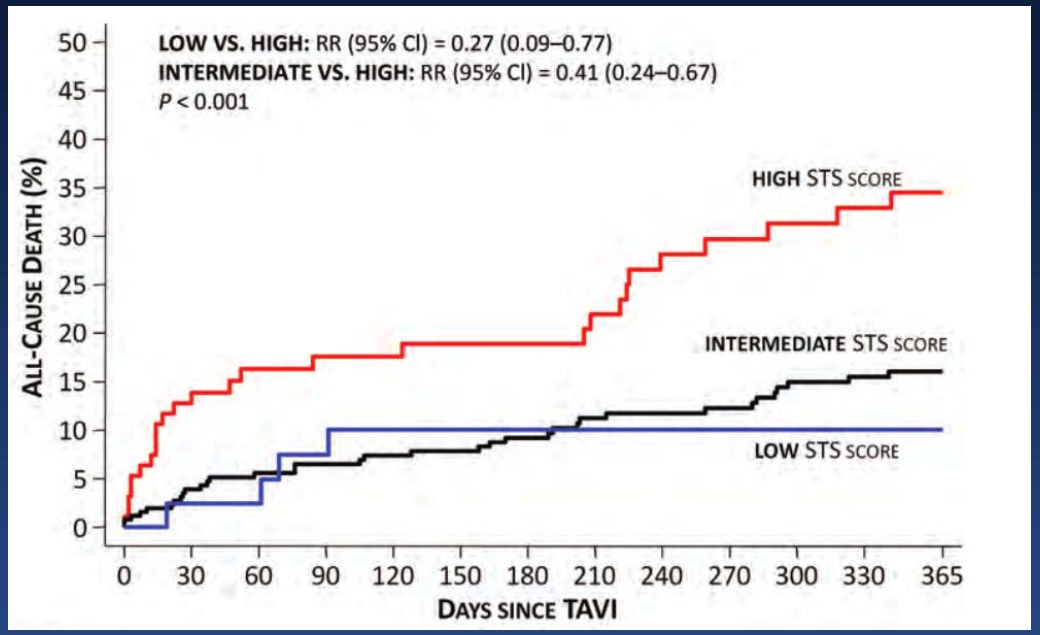
Class IIa:

- **High-Risk Operable as an Alternative to Surgery; Determined by Heart Team and Case-Based Decisions (PARTNER A)**

Patient Risk and Indication for TAVI

Surgery (AVR) | **?** | **TAVI or AVR** | **TAVI**

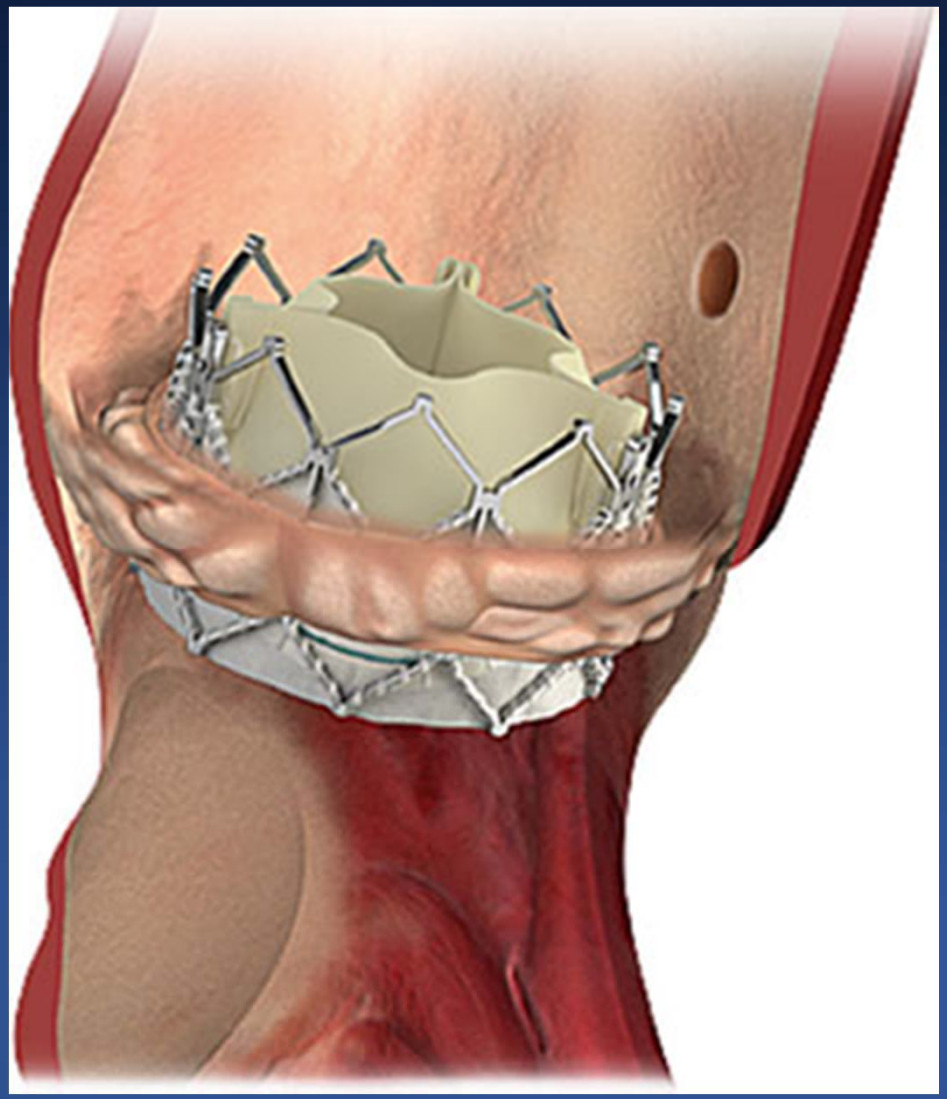
TAVI in Low/Intermediate Risk Patients

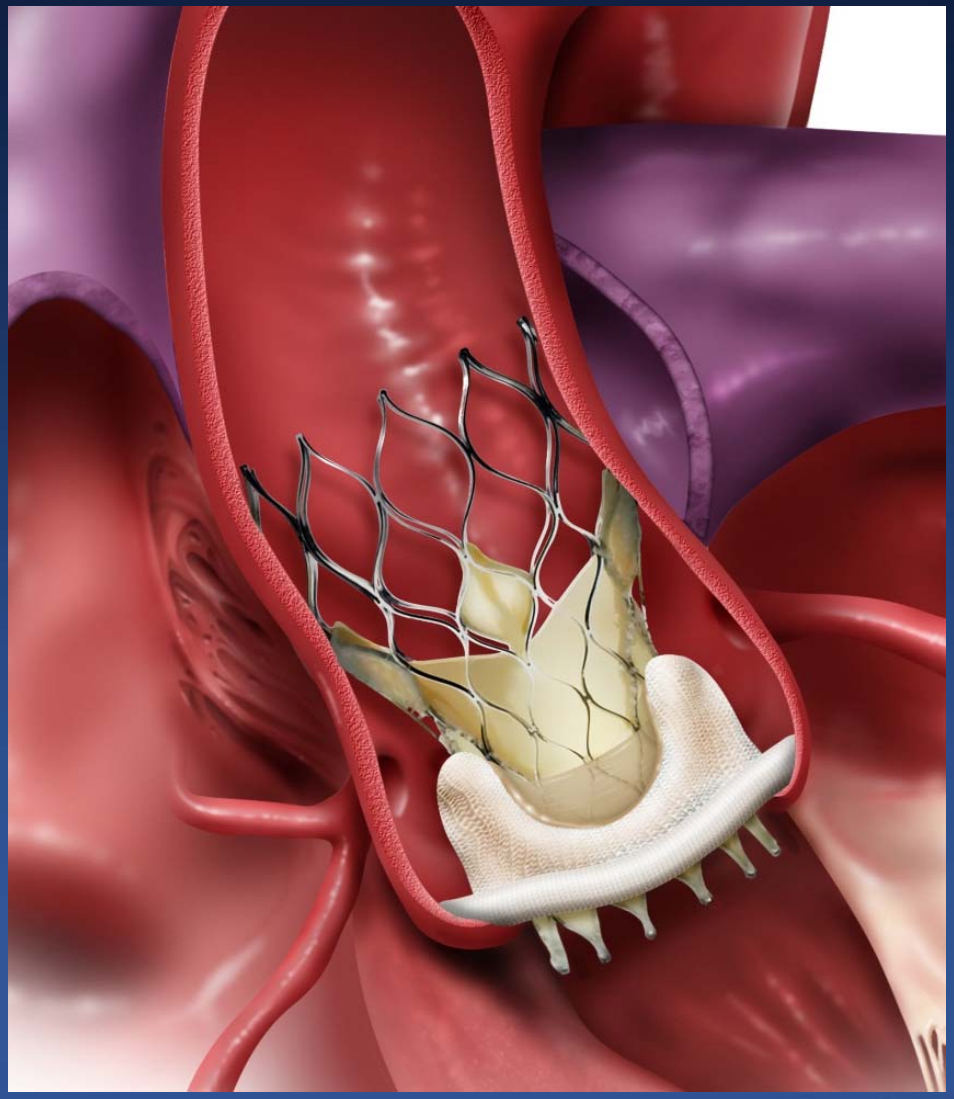


Outcomes at 1 Year: RR (95% CI)	Low vs. High Risk	Intermediate vs. High Risk	Overall *P* value
All-Cause Death	0.27 (0.09-0.77)	0.41 (0.24-0.67)	0.0003
Major Stroke	2.00 (0.36-11.11)	1.07 (0.29-3.99)	0.42
MI	0.56 (0.05-6.31)	0.12 (0.01-1.04)	0.023

Wenaweser P et al. Eur Heart J. 2013; 34:1894-1905

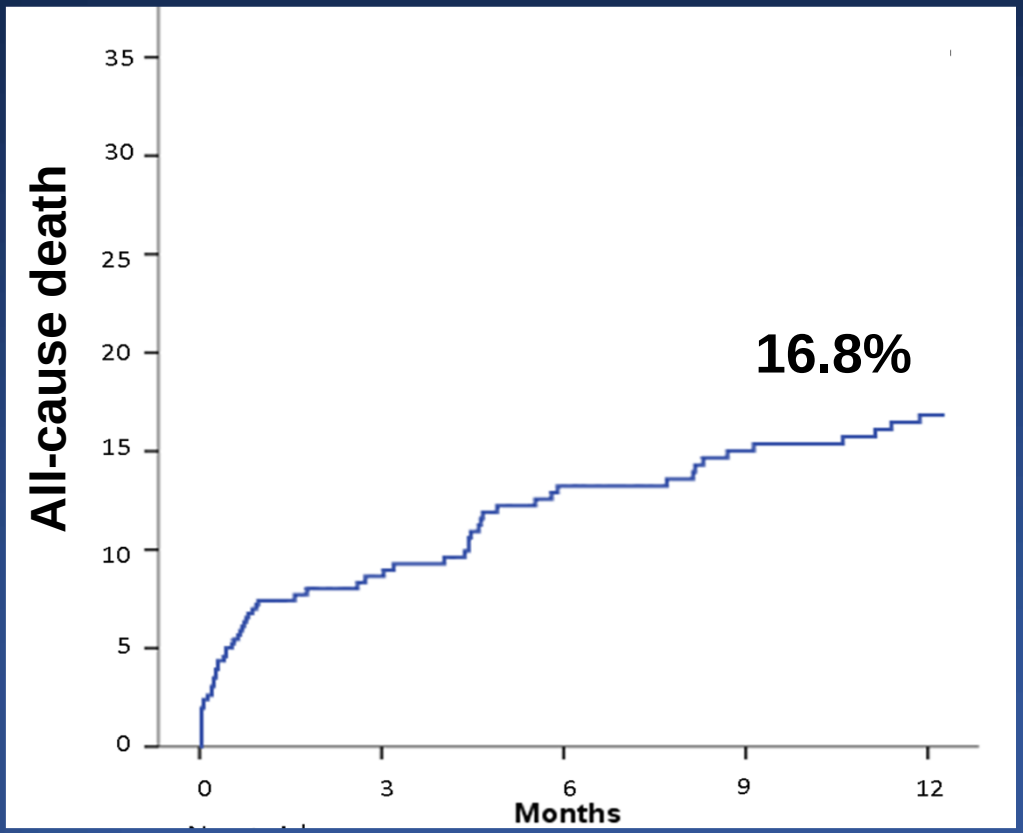
Valve in Valve for Failed Bioprostheses



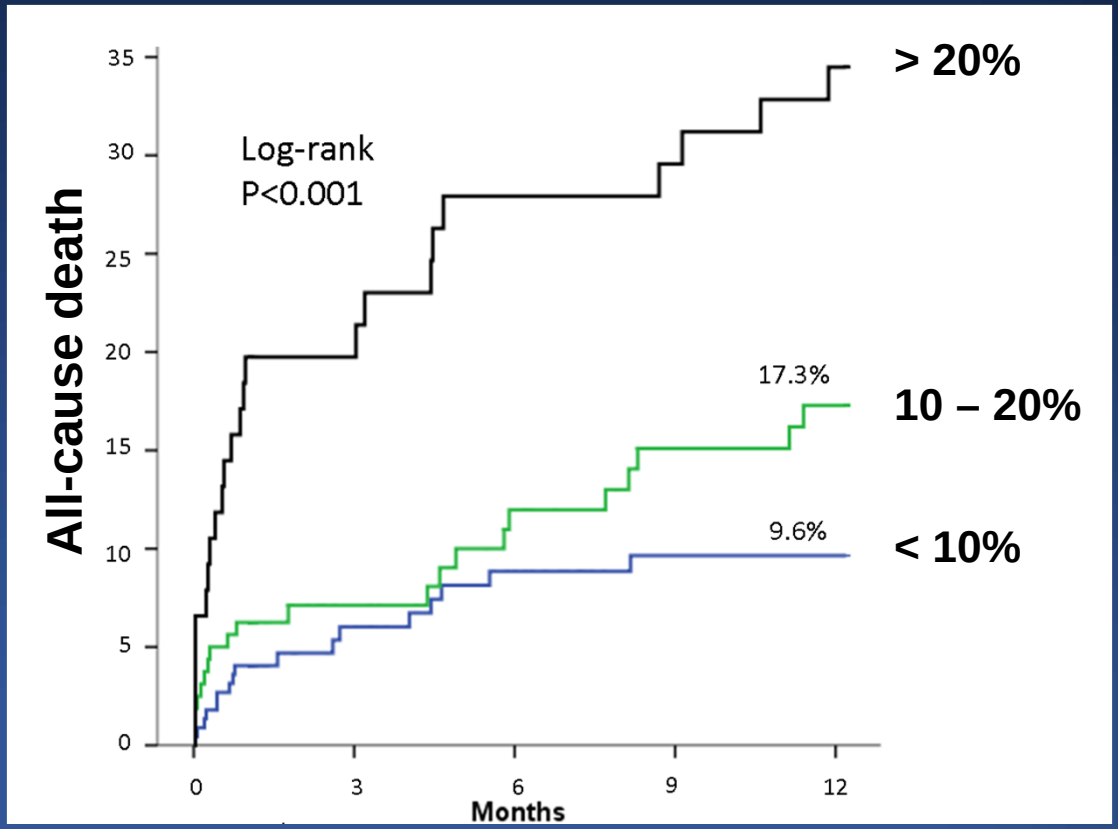


Global Valve in Valve Registry

All-Cause Death



Stratified by STS Score



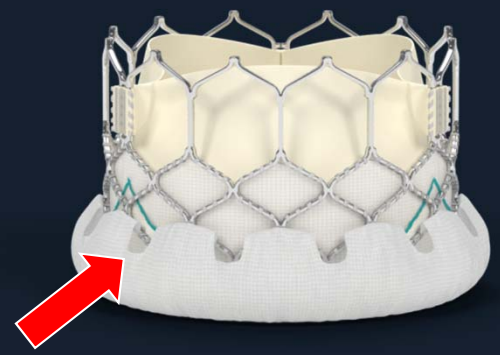
Dvir D et al. Circulation. 2012;126:2335-2344.

Current Limitations of TAVI

- **Paravalvular Aortic Regurgitation**
- **Stroke**
- **New Permanent PaceMaker Implantation**
- **Vascular Complications**

New Valve Designs

EDWARDS



Para-valvular sealing cuff

Sapien 3

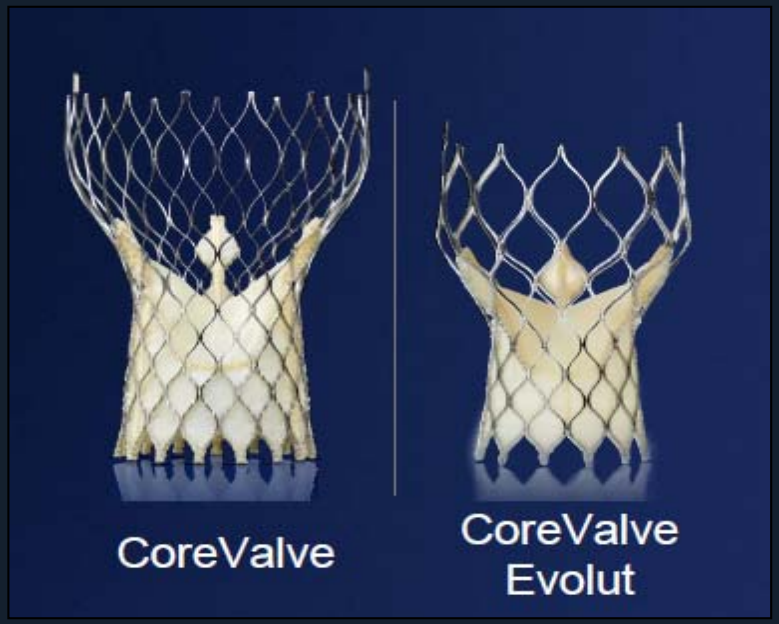
Balloon expandable

Centera

Self expandable

e-sheath 14F-16F

COREVALVE



CoreValve Evolut™

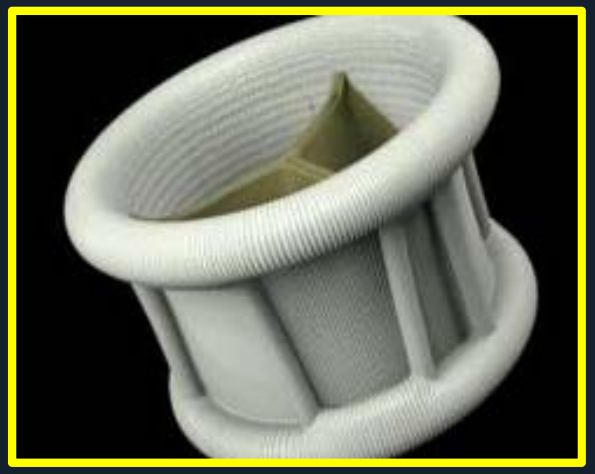
Better fitting with annulus structures

New Devices

SJ Portico

Medtronic Engager

Direct Flow



BS Sadra

Jena Valve

Symetis

Discussion

- **Current Trend Toward Low to Intermediate Risk Patients**
- **Durability of Transcatheter Heart Valve**
- **Other Complications (PPM, Coronary Obstruction, Stroke, Vascular, Aortic Regurgitation)**
- **Future Perspectives (for AR, Mitral Valve, V-in-V, etc)**