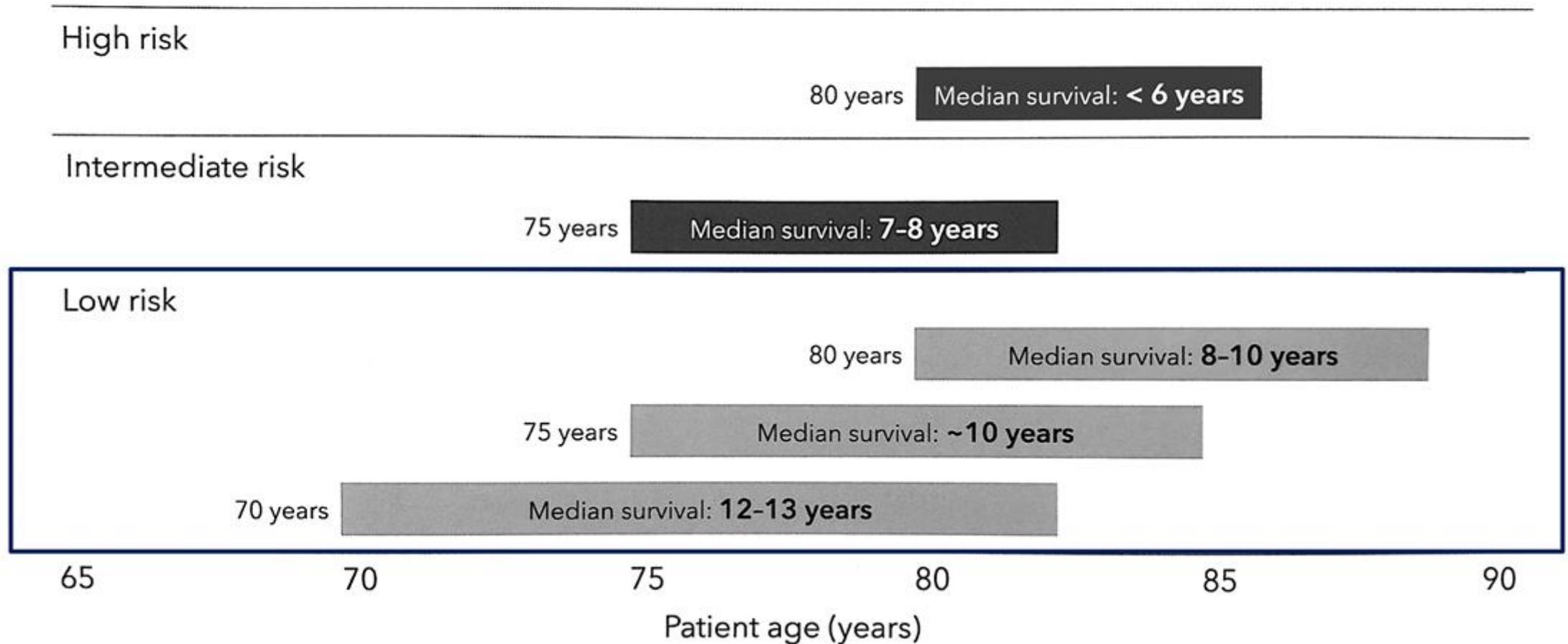


Doživotní strategie v léčbě aortální stenózy



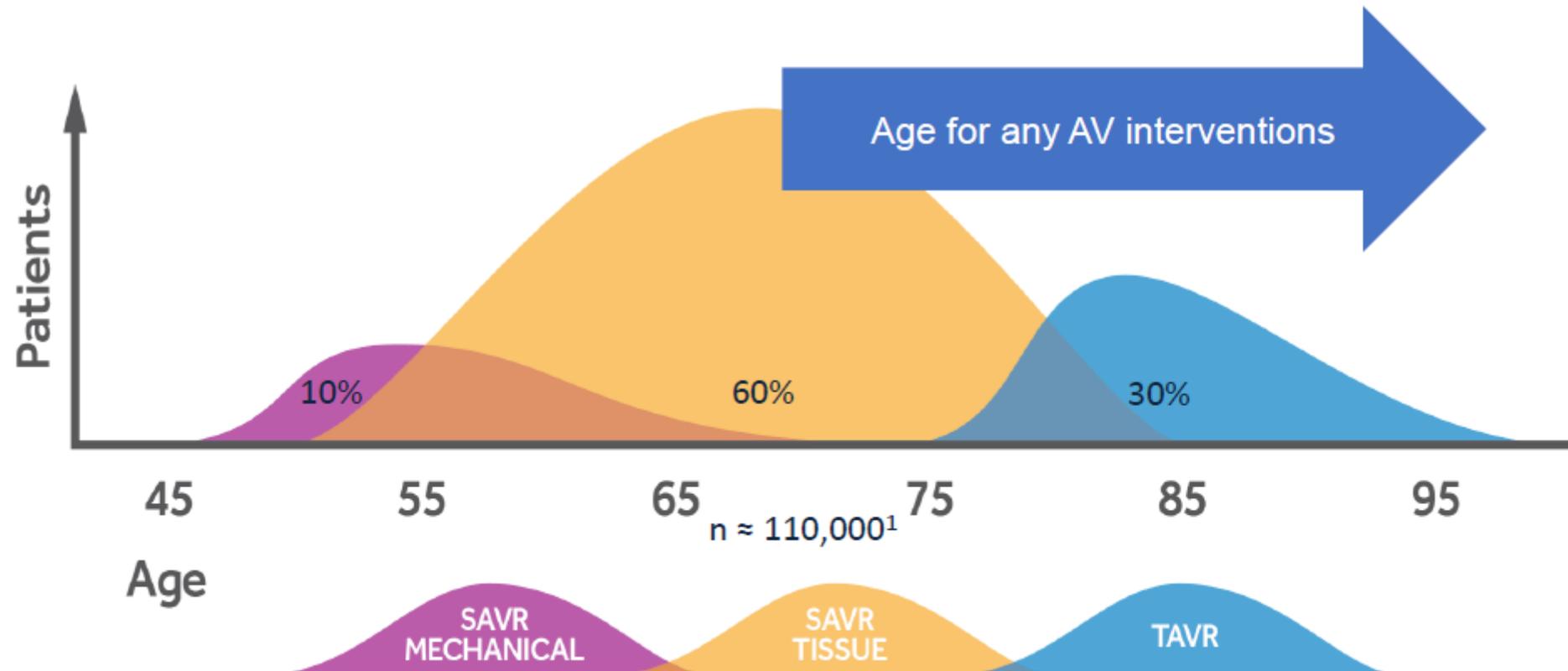
Michael Želízko
Klinika kardiologie IKEM

Valve durability – an index valve for a lifetime...

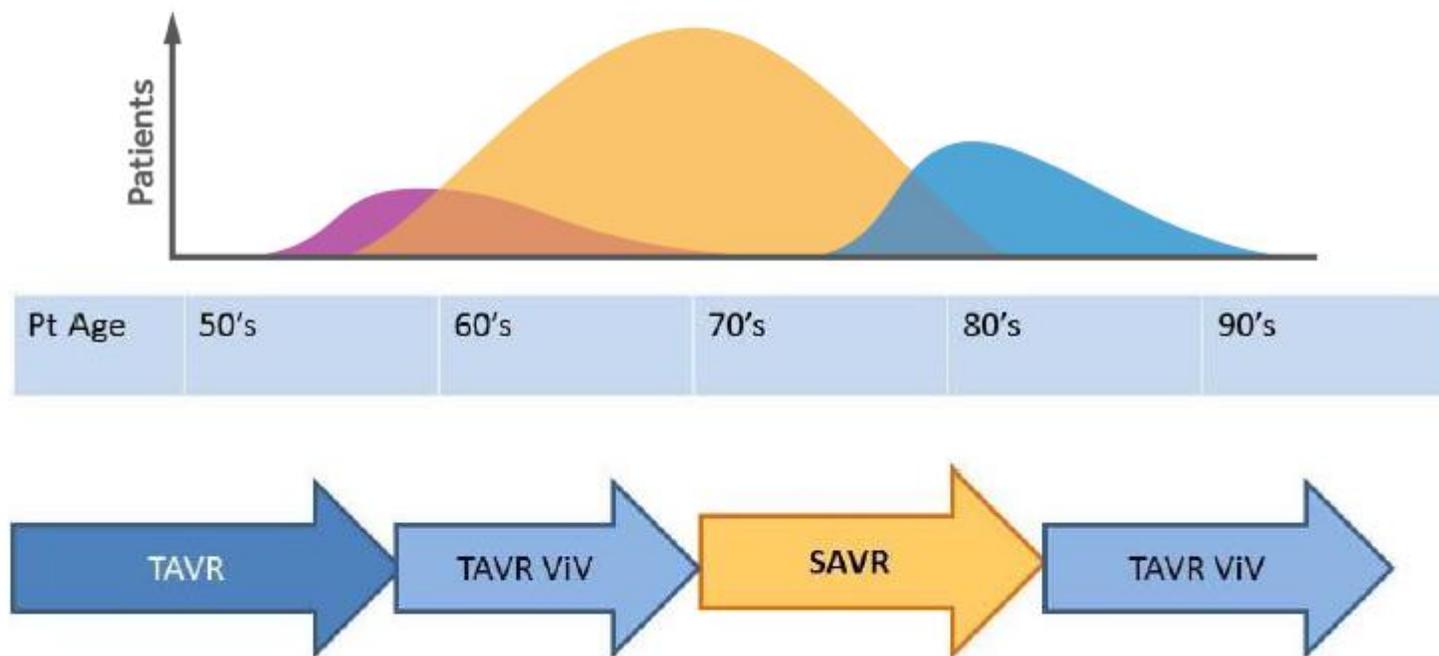


Současná guidelines

A lot of people will need repeat procedures!



Očekávaný vývoj



Doživotní strategie v léčbě aortální stenózy

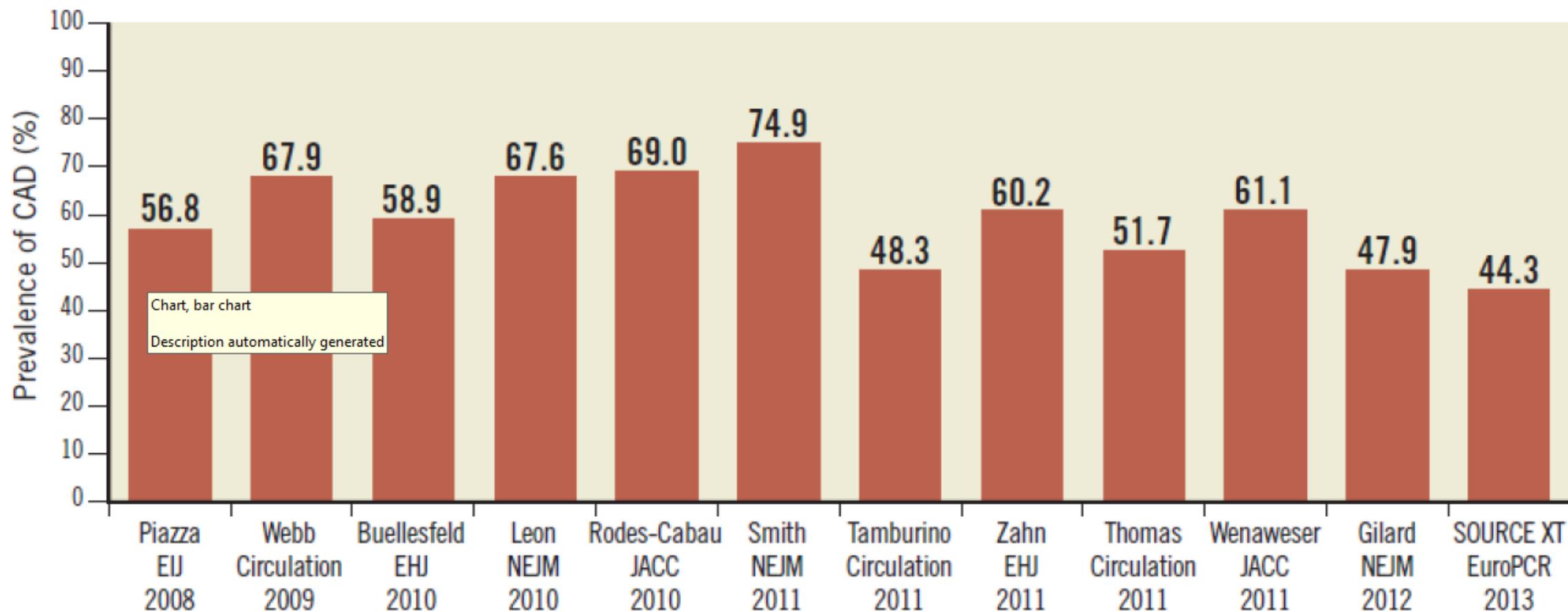
Klíčové parametry

- ✓ **Přístup ke koronárním tepnám**
- ✓ **Životnost implantované chlopně**
 - ✓ Trombóza chlopně
 - ✓ Redo – TAVI / SAVR

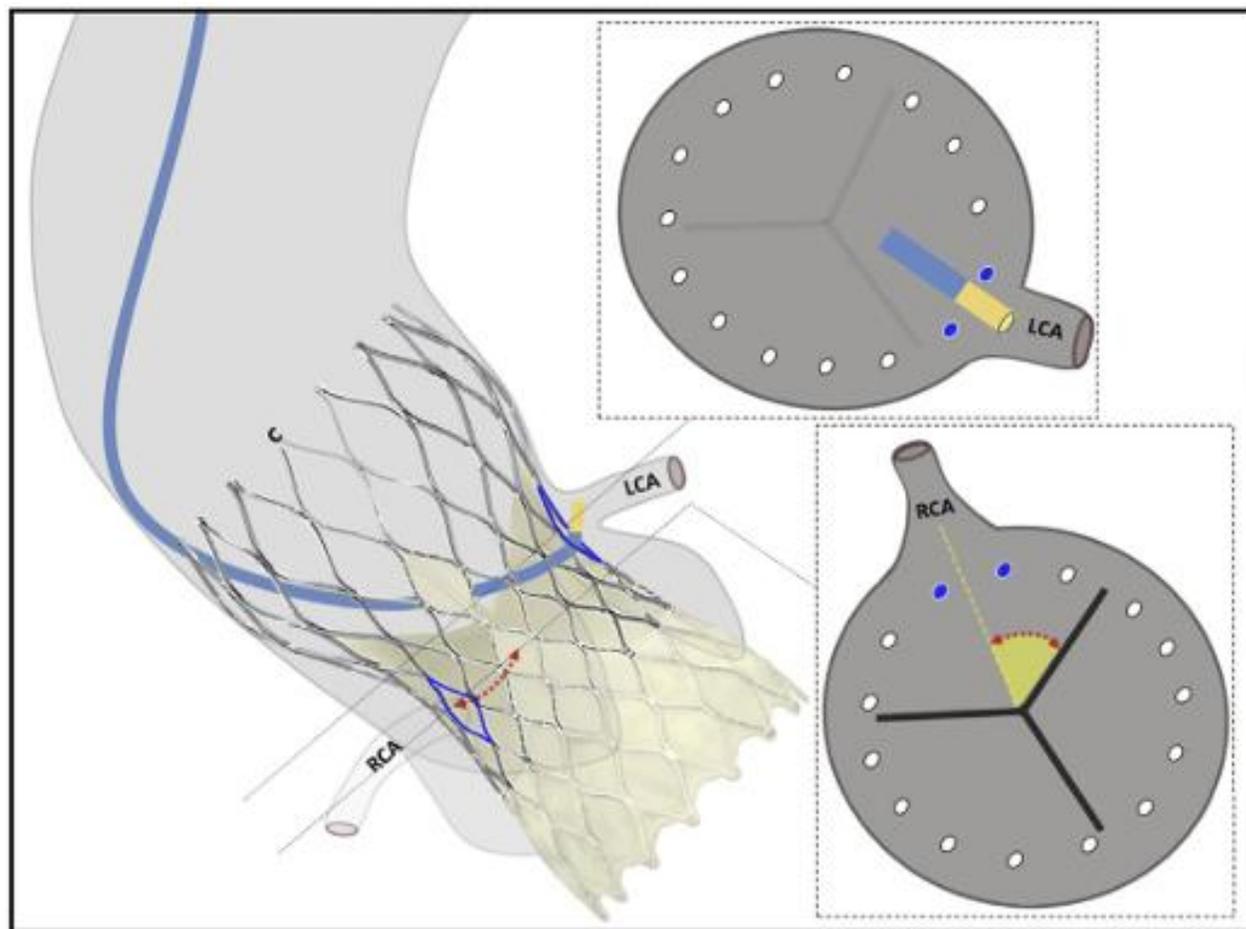
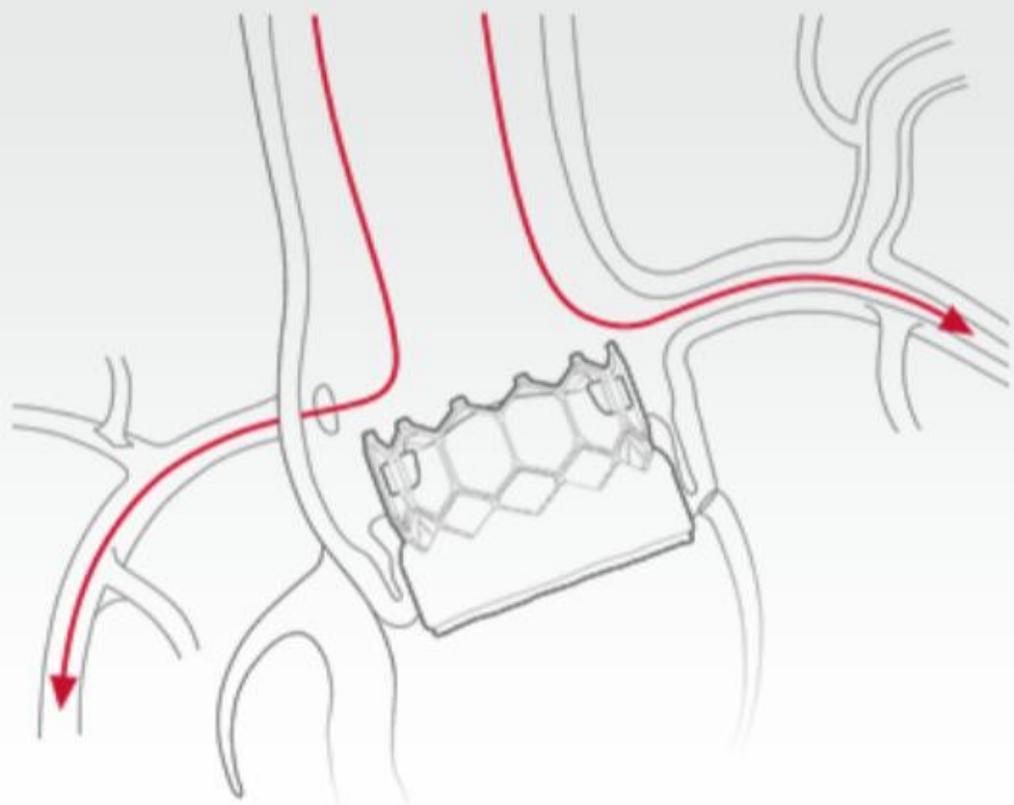
Prevalence of Coronary Artery Disease in Major TAVR Studies

The prevalence of CAD among severe AS patients is extremely high, ranging from **44 % to 75%**

- Consider the potential for reintervention and coronary access



The need for post-TAVI coronary access is expected to increase in patients with longer life expectancies

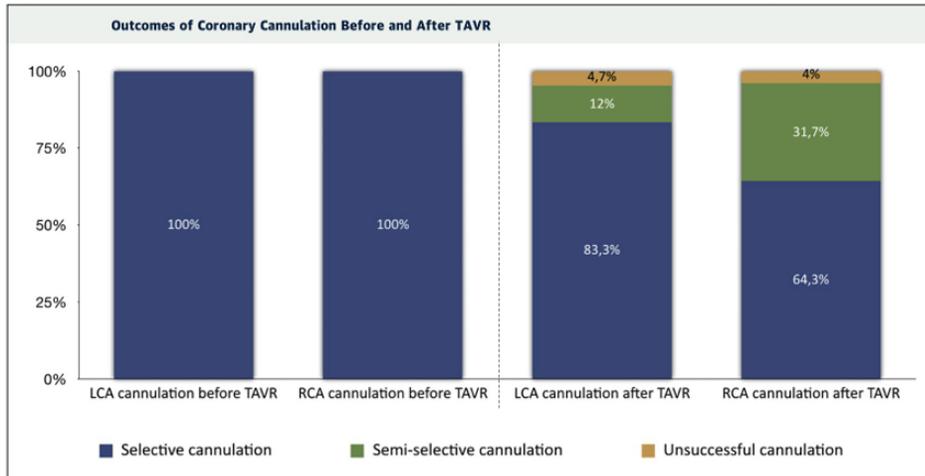


Re-ACCESS Study:

N= 300, consecutive TAVI
(Sapien, Evolut, Portico, Accurate)

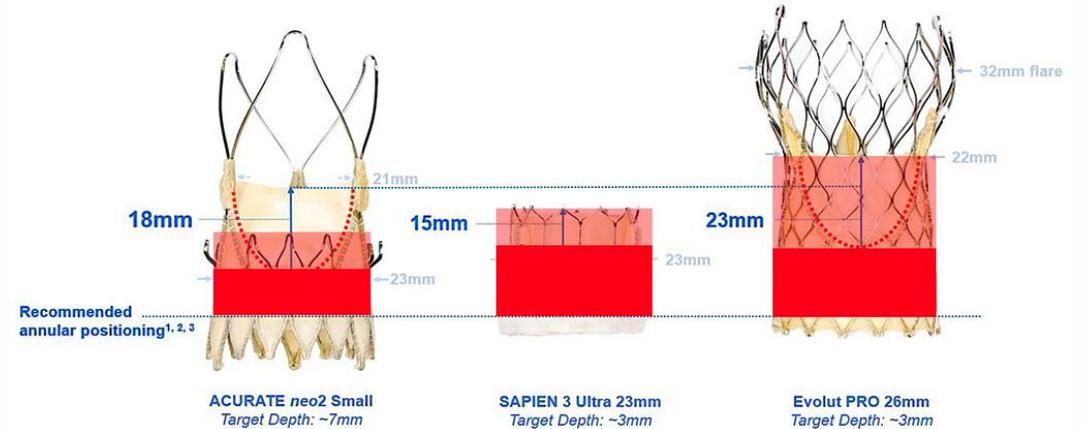
Coronary access after TAVR

The RE-ACCESS Study

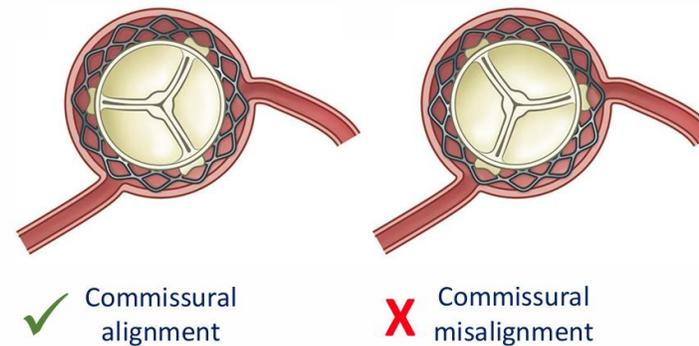


Barbanti M et al. JACC Cardiovasc Interv. 2020;13(21):2542-55.

TAV design – Impact on coronary accessibility



Commissural alignment



Doživotní strategie v léčbě aortální stenózy

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Factors that significantly impact valve durability*4

1. Structural Valve Deterioration (SVD)

Intrinsic, permanent changes



2. Non-Structural Valve Dysfunction (NSVD)

Abnormalities, not intrinsic

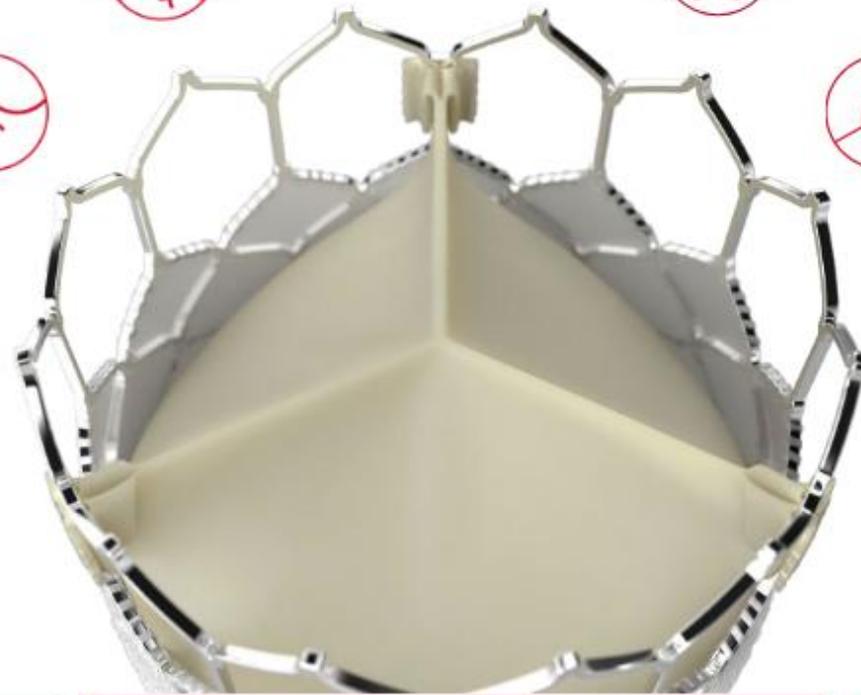


3. Thrombosis

Imaging findings of HALT/RLM

4. Endocarditis

Morphologic and hemodynamic valve deterioration



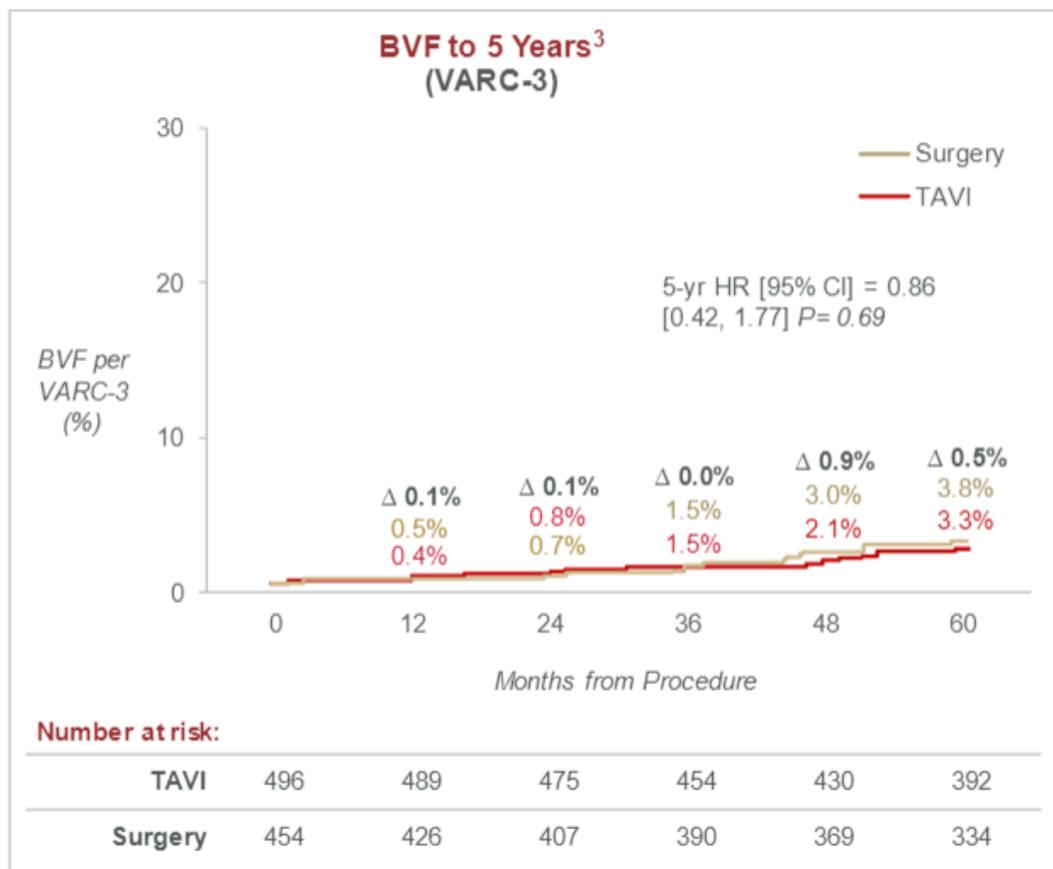
*VARC-3 Criteria

Life

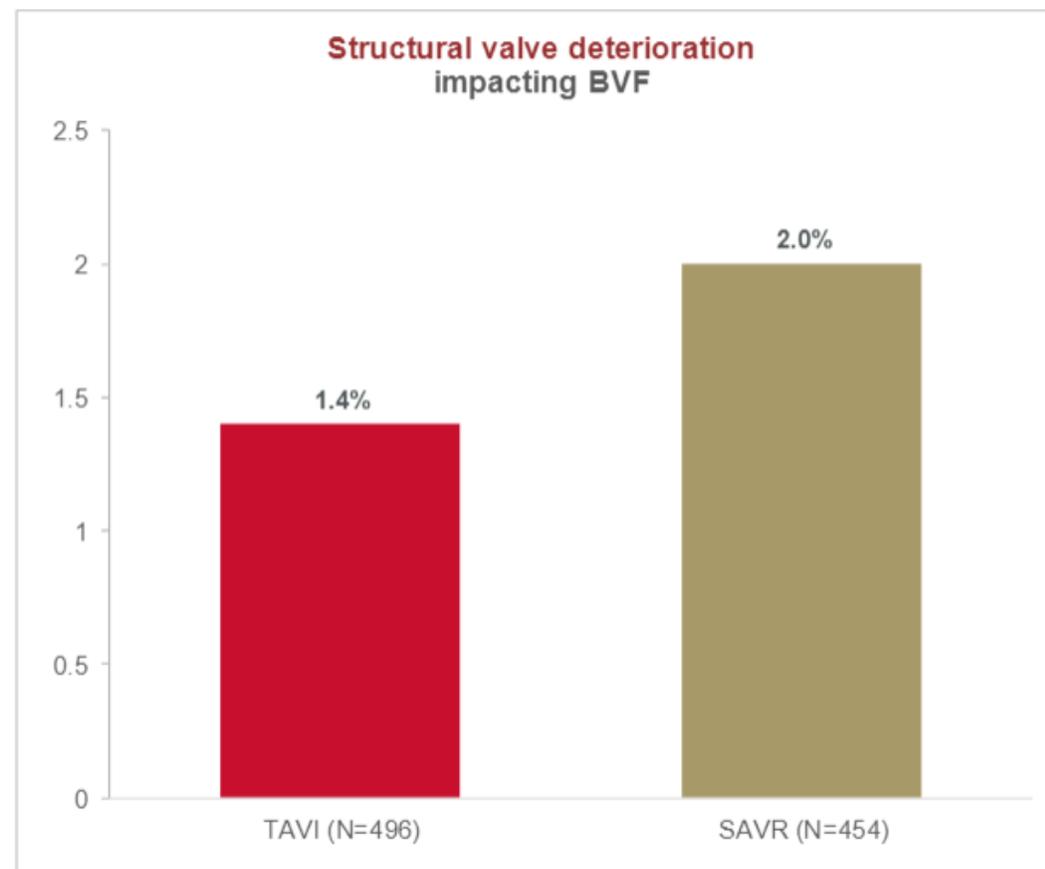
Time

Management

SAPIEN 3 valve data demonstrates low and similar rates to SAVR in SVD* related BVF⁺ out to 5 years³



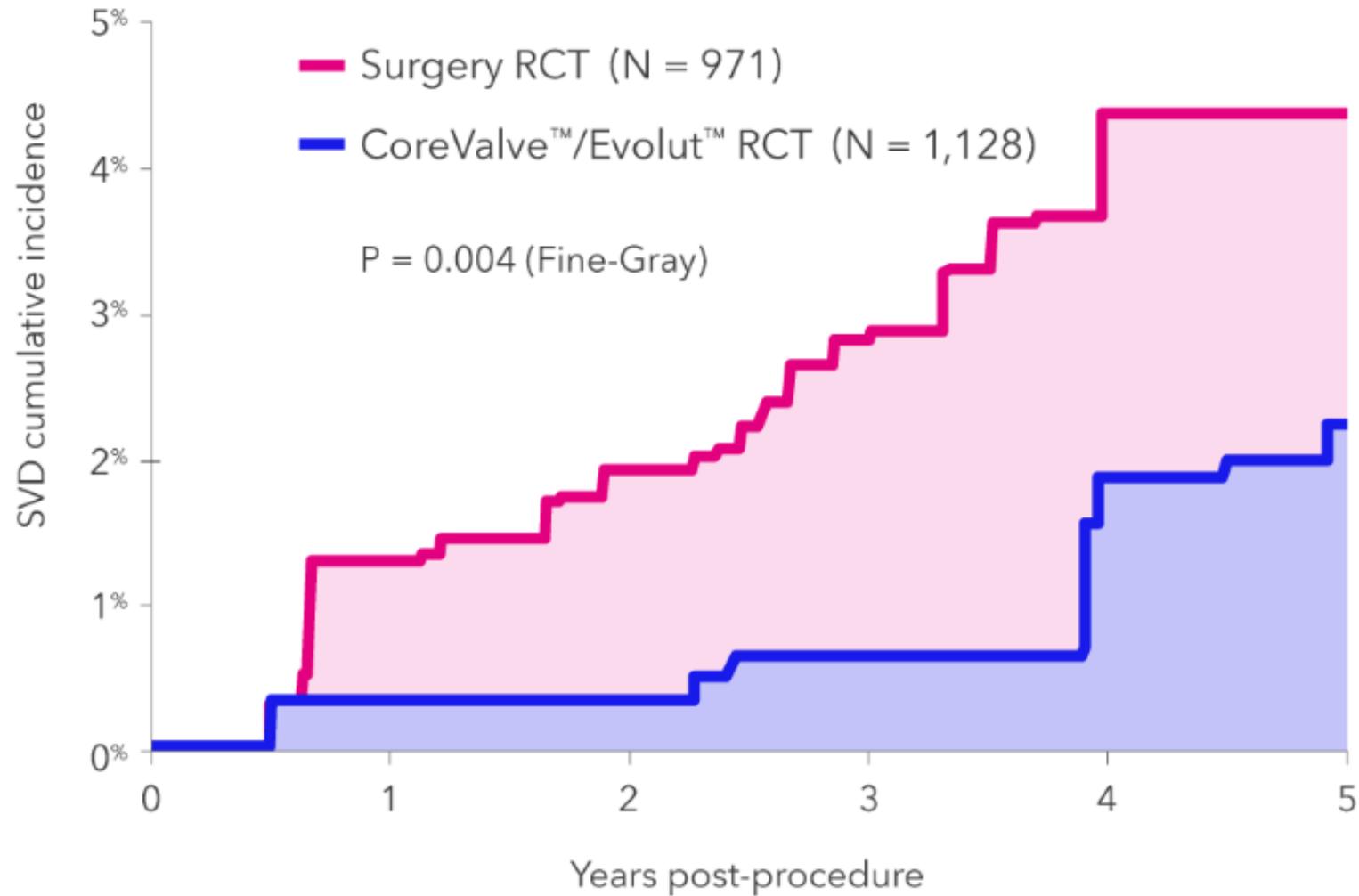
Low rate of BVF at 5yr



Only 1.4% due to SVD in the TAVI arm

*SVD: Structural valve deterioration; +BVF: Bioprosthetic valve failure

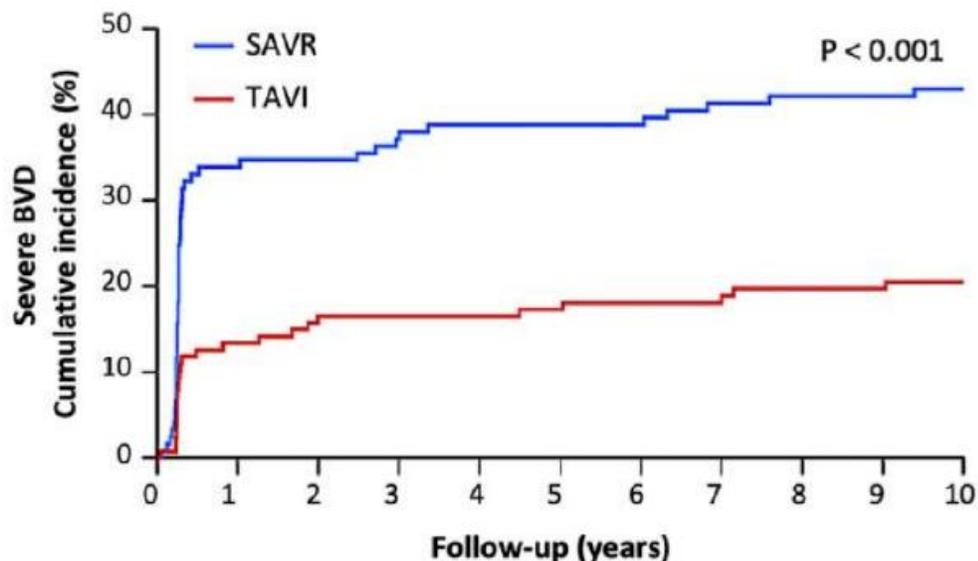
Structural valve deterioration out to 5 years



4.38%

2.20%

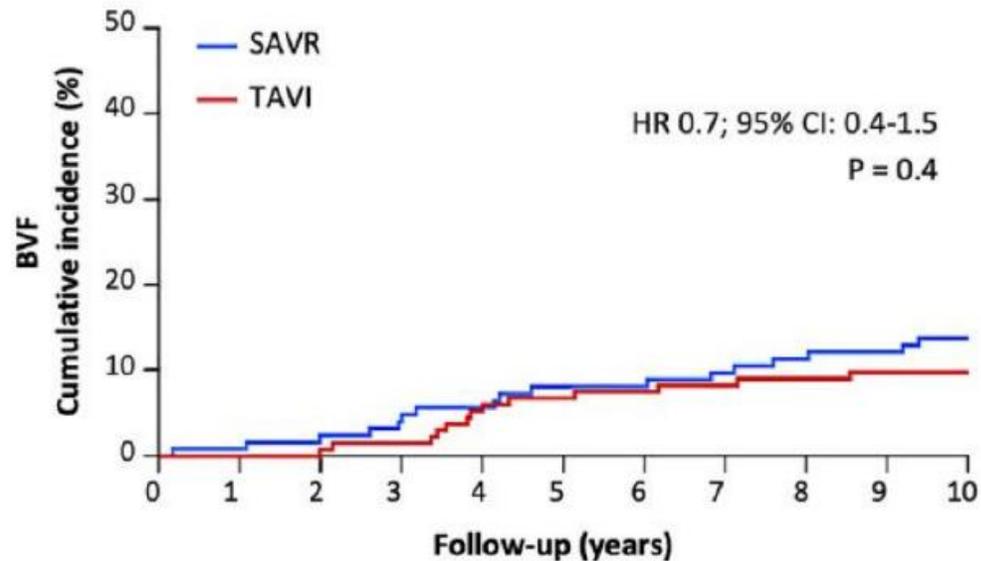
NOTION trial: 10 years



Patients at risk

TAVI	127	108	102	95	91	79	69	62	53	46	40
SAVR	121	80	79	74	68	65	58	50	42	37	33

	TAVI	SAVR	p value
Severe BVD	20.5%	43.0%	<0.001
Severe SVD	1.5%	10.0%	0.004
Severe non-SVD	12.6%	31.9%	<0.001
Severe paravalvular leak	2.6%	0	0.08
Severe patient-prosthesis mismatch	10.2%	31.9%	<0.001
Clinical valve thrombosis	0	0	-
Endocarditis	7.2%	7.4%	0.95



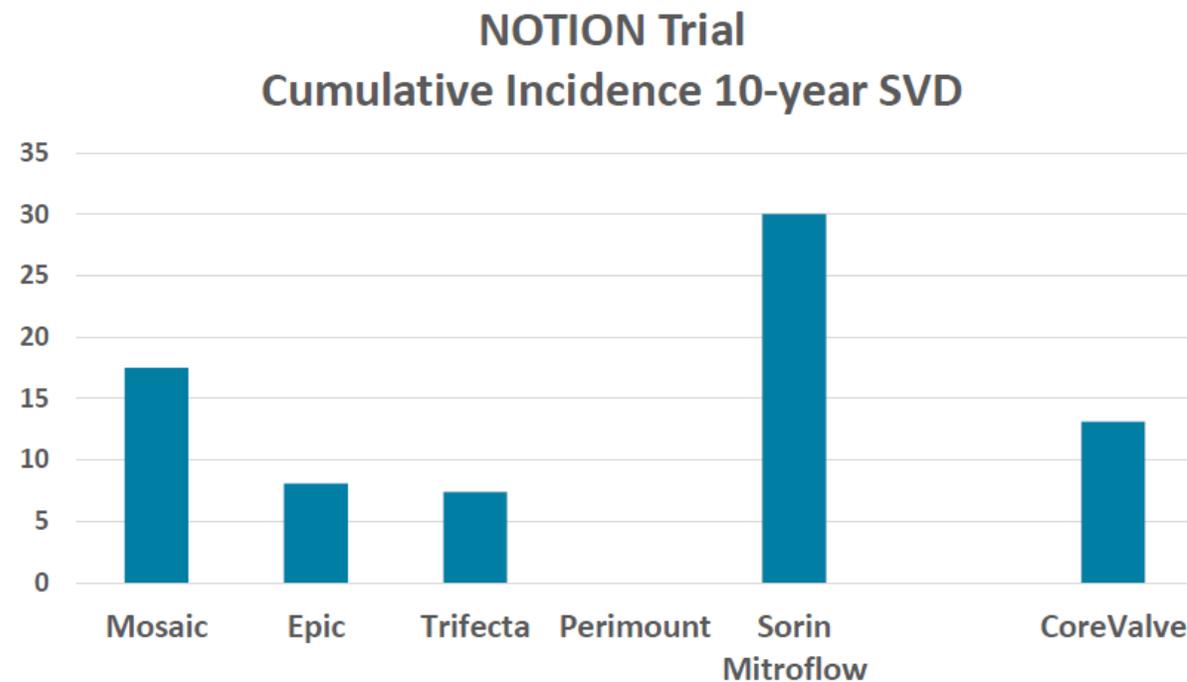
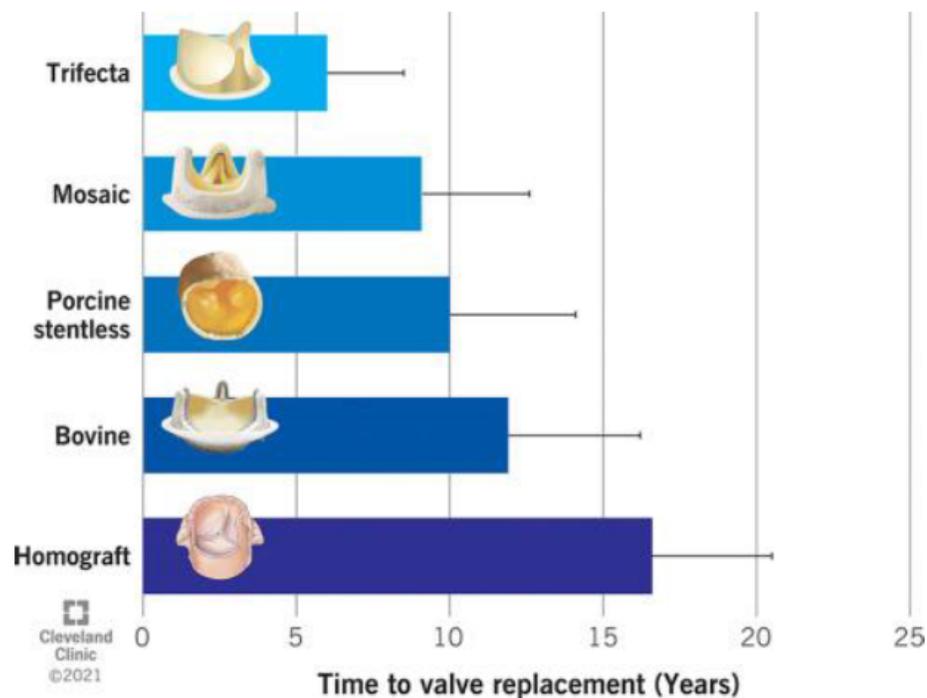
Patients at risk

TAVI	134	132	128	118	109	96	82	73	63	54	47
SAVR	124	123	120	111	102	93	81	72	60	52	44

	TAVI	SAVR	p value
BVF	9.7%	13.8%	0.3
Valve-related death	5.0%	3.7%	0.6
Severe SVD	1.5%	10.0%	0.004
Aortic valve re-intervention	4.3%	2.2%	0.3

Do we really know what durability of TAV or SAV will be?

All valves are not created equal!



The comparison of TAVR vs SAVR durability is erroneous.

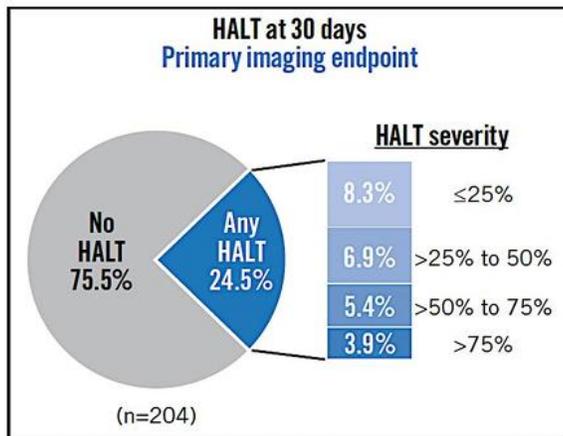
Valve durability must be considered in the context of a specific valve type.

Doživotní strategie v léčbě aortální stenózy

Klíčové parametry

- ✓ Přístup ke koronárním tepnám
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 - ✓ **Trombóza chlopně**
 - ✓ Redo – TAVI / SAVR

Subclinical leaflet thickening – valve thrombosis

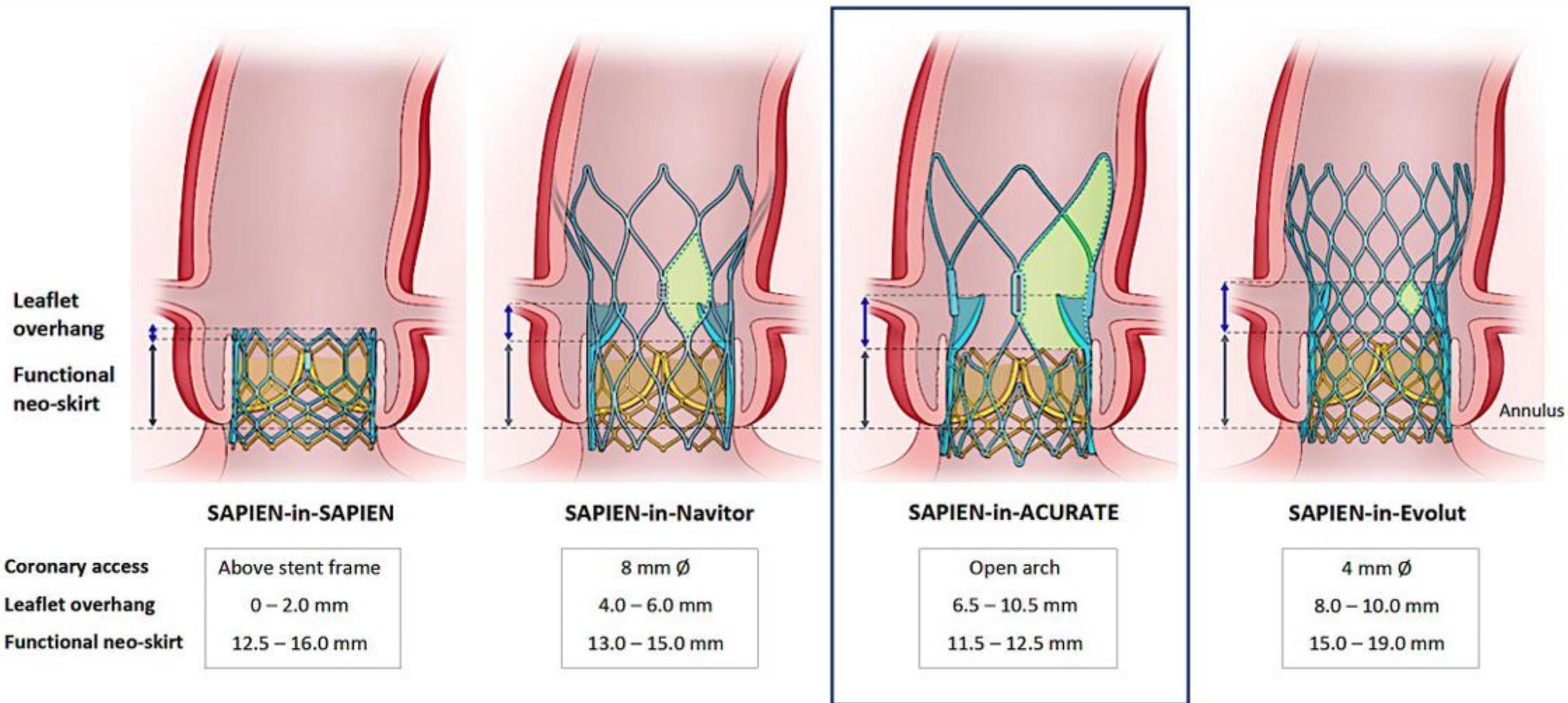


Doživotní strategie v léčbě aortální stenózy

Klíčové parametry

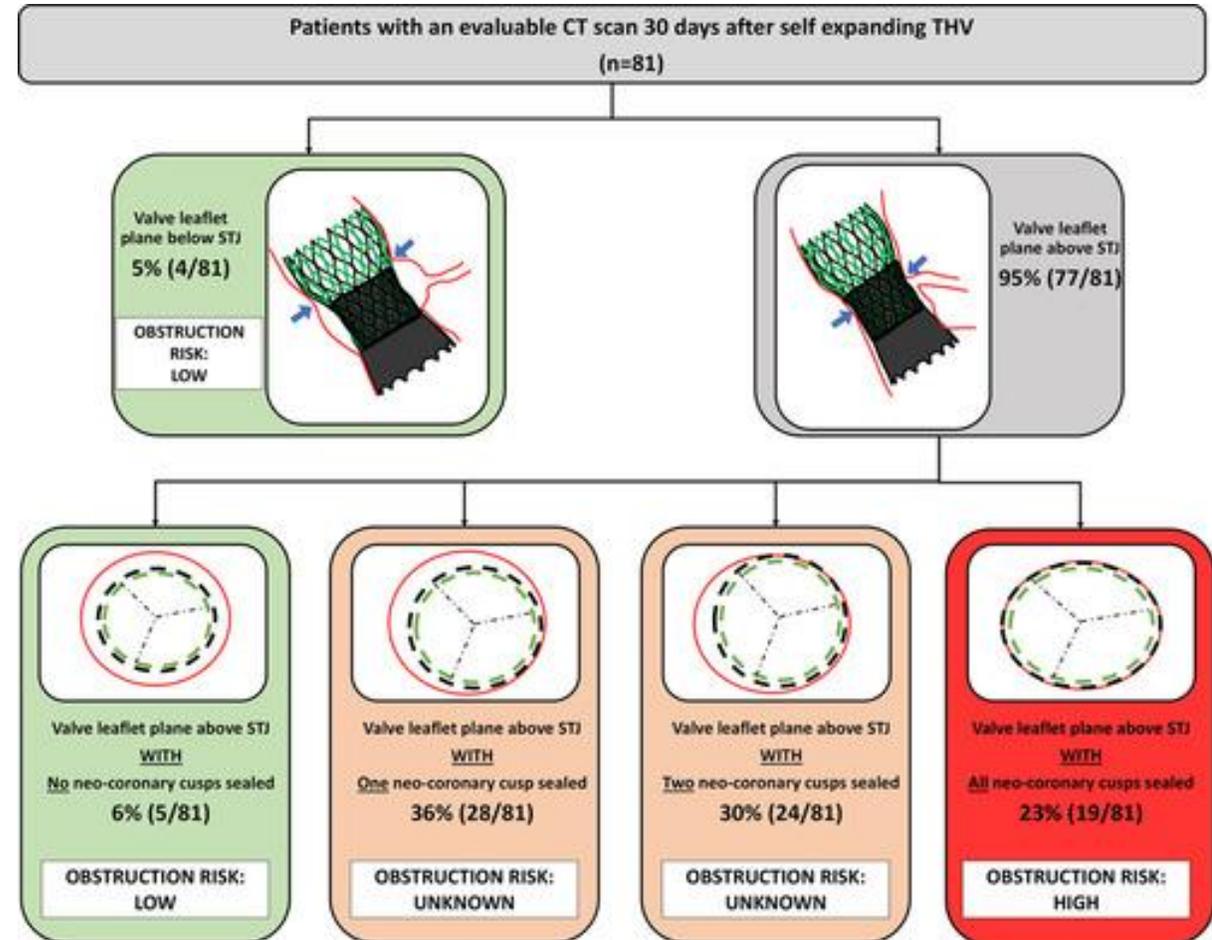
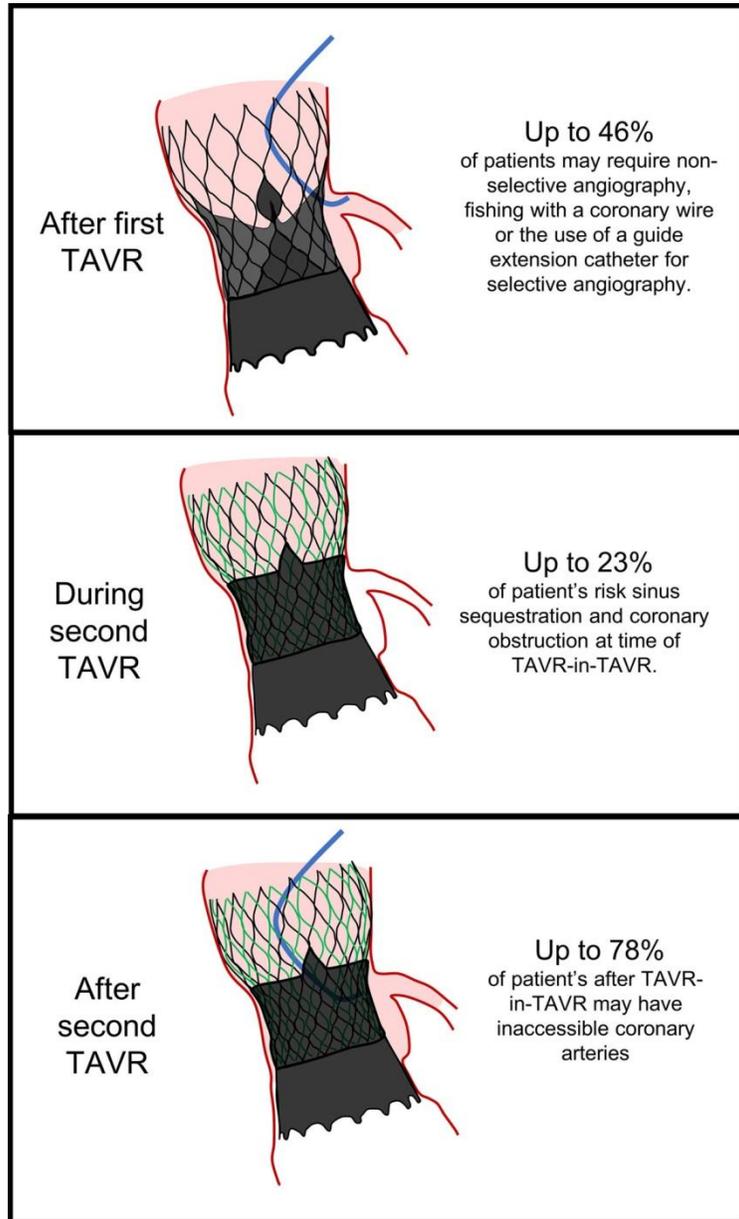
- ✓ Přístup ke koronárním tepnám
- ✓ Životnost implantované chlopně
 - ✓ Trombóza chlopně
 - ✓ **Redo – TAVI / SAVR**

Low SAPIEN implant in different TAVs



THV-in-THV (Evolut in Evolut)

20-50% risk of coronary obstruction



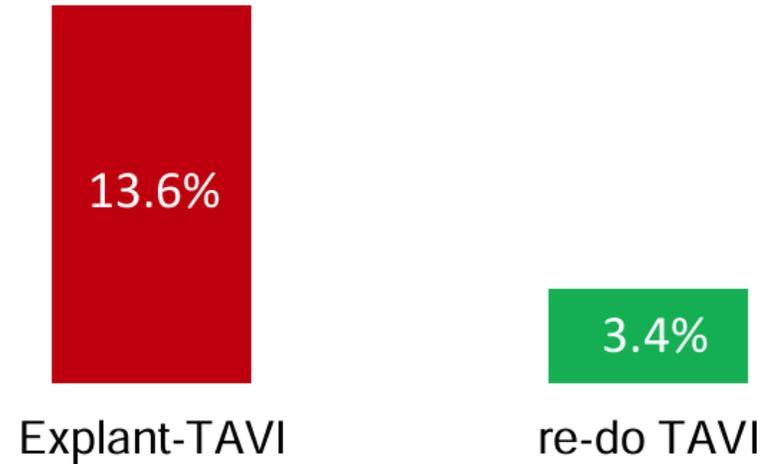


EXPLANT or REDO TAVI registry
n=66 760 TAVI pts., THV failure 0,6%
n=503, 2009-2022

Death	Surgery vs redoTAVI
In hospital	11,8% vs 2,3%
30-day	14,2% vs 3,5%
1 year	35,5% vs 14,6%

Surgical explant or re-do TAVI

30-day mortality



Tang et al. JACC Interv. 2023;16:927-41

Right now, the TAVR explant is a high-risk operation, it's a more complex operation, and you can see that from the data.

J Am Coll Cardiol Interv. 2023;16:942-953.



***«The first Cut is the Deepest»
TAVR will likely be the most frequent 2nd intervention
in a lifetime management of a patient***