Interdisciplinary Consensus on TF-TAVI Indications

Arbeitsgemeinschaft der
Leitenden Kardiologischen Krankenhausärzte (ALKK)
and cooperating Cardiac Surgery Departments

Patient:

Age	≥ 85	80-84		75-79			70 - 74			65 - < 70		
Risk Score	HR, IR, LR	HR, IR	LR	HR	IR	LR	HR	IR	LR	HR	IR	LR
High Risk (HR): STS o. ES II > 8% / ES I >20% / **Int. Risk (IR):** STS o. ES II 4-8% / ES I 10-20% / **Low Risk (LR):** STS o. ES II < 4% / ES I < 10%						*			*			
Contraindication against SAVR												
Active malignant disease (life expectancy >1y)												
Prognosis limiting comorbidity												
Porcelain aorta												
Chest-radiation / -deformity												
Cardiovascular criteria pro TAVI												
Degenerated aortic bioprothesis												
Previous cardiac surgery (e.g. IMA-bypass)												
Additional mitral regurgitation, suited for intervention												
CAD suited for PCI												
Internal carotid stenosis >75%, bilateral												
Additional criteria pro TAVI												
Moderate organ dysfunction (number)			1			1			≥ 2			
Severe organ dysfunction (number)			1			1			1		≥ 2	≥ 2
Frailty												
Multimorbidity												
Contraindication against (TF-)TAVI												
no vascular access	TA-TAVI	TA-TAVI	TA-TAVI	TA-TAVI	TA-TAVI		TA-TAVI	(TA-TAVI)		TA-TAVI		
absolute contraindication												
relative contraindication												
Cardiovascular criteria pro SAVR												
additional cardiac condition requiring surgery												

* = TF-TAVI superior (Partner-3 Study 1y death, stroke, rehospitalisation) or non-inferior (Evolut Low Risk Study 2y death, stroke)

	Decision Heart Team	Patient's preference
TF-TAVI		
first choice TF-TAVI, second choice SAVR		
SAVR or TF-TAVI*		
first choice SAVR, second choice TF-TAVI		
SAVR		

Comments:

Recommendation: ☐ **TF-TAVI** ☐ **TA-TAVI** ☐ **SAVR** ☐ **Conservative**

Valve Type and Size : _____ _____

Date conference: **Heart Surgeon:** **Cardiologist:** **Anesthesiologist**

Date patient visit: **Heart Surgeon:** **Cardiologist:** **Anesthesiologist**

Explanations to the indication matrix

Contraindications against SAVR	
Porcelain aorta	extensive, circumferential calcification of the ascending aorta
Chest-radiation / -deformity	former radiation of the chest, thorax deformity prohibitive for surgery
Active malignant disease	e.g. hematological malignant disorders, solid neoplasms with life expectancy >1 year
Comorbidity, prognosis-limiting	e.g. multiple sclerosis, Parkinson's disease, COPD Gold IV, life expectancy >1 year (individual decision)
Cardiovascular criteria pro TAVI	• Degenerated aortic bioprosthesis and age ≥70 years • Previous cardiac surgery (e.g. IMA bypass) and age ≥70 years • Additional mitral regurgitation suited for intervention and age ≥75 years • CAD suited for PCI (according to heart team evaluation) and age ≥75 years • Internal carotid stenosis ≥75%, bilateral and age ≥70 years

Additional criteria pro TAVI		
Organ dysfunction Heart: Lung: Kidney: Liver: CNS:	Moderate • EF 30-50%, • VC 50-80%, FEV1 50-79% predicted • GFR 30-50 • CHILD A • Mild neurological disease with minimal limitation in daily activities	Severe • EF <30%, • VC <50%, FEV1 <50% predicted • GFR <30 • CHILD > A • Neurological disease with relevant limitation in daily activities
Frailty assessed by EFT (Essential Frailty Toolset)-Test, (Frailty requires at least 3 of 5 possible points) • Preprocedural anemia: Hb f <12 g/dl / m <13 g/dl (1 pt) • Hypalbuminemia < 3,5 g/dl (1pt)		• Lower extremity weakness: 5 sit to stand repetitions >15s (1 pt), not possible (2 pts) • Cognitive impairment: unable to recall 3 out of 3 words after a distractive task or MMT-Score <24 (1 pt)
Multimorbidity (≥2 conditions required) • IDDM • Oxygen dependency • Obesity with BMI > 35 • Cognitive impairment		• Arthritis / arthralgia / degen. spine disease / osteoporosis, with severely impaired mobility • Depression/anxiety disorder requiring therapy

Contraindications against (TF-)TAVI

Absolute contraindications:

- All patients: no vascular access (prohibitive PAD, lack of an alternative access) (probably TA-TAVI possible); Endocarditis.
- Almost all patients (exceptions may be possible in selected cases with no surgical option): too short distance between coronary ostia and aortic valve annulus, aortic annulus size out of range of available TAVI prosthesis sizes, mobile thrombi in left ventricle.

Relative contraindications:

- unfavorable aortic root morphology,
- unfavorable valve morphology (e.g. bicuspid valve, extent of calcification, pattern of calcification),
- mobile thrombi of the aorta

Cardiovascular criteria pro SAVR	
• Additional cardiac conditions requiring surgery, e.g. structural mitral regurgitation, tricuspid regurgitation • aneurysm of the ascending aorta	• CAD not suited for PCI (according to heart team evaluation) • Need for myectomy in LVOT-hypertrophy

Patient information (excerpt)

☐	EuroScore II:			
☐	Symptoms:	NYHA class:	CCS class:	Syncope
☐	ECG:	Rhythm:	Block:	
☐	Aortic stenosis:	AVA:	MPG:	Low Flow:
☐	Concomittant valve disease:	Mitral:	Tricuspid:	PAH (syst. mmHg):
☐	CAD:			
☐	Previous cardiac surgery:			
☐	TAVI-CT (measurements):	Anulus:	Femoral -Diameter:	Distance LCA/RCA:
☐	Vascular access:	PAD:	Kinking:	Calcification:
☐	Additional information:			