HERZCHIRURGISCHE HERAUSFORDERUNGEN

Lars Englberger
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HERZCHIRURGIE-VERBUND AARAU-BERN

Hirslanden Klinik Aarau – Prof. Dr. med. Englberger, Dr.med. Gisler
Hirslanden Klinik BeauSite Bern – Frau Dr. med. Roost, Dr. med. Hurni

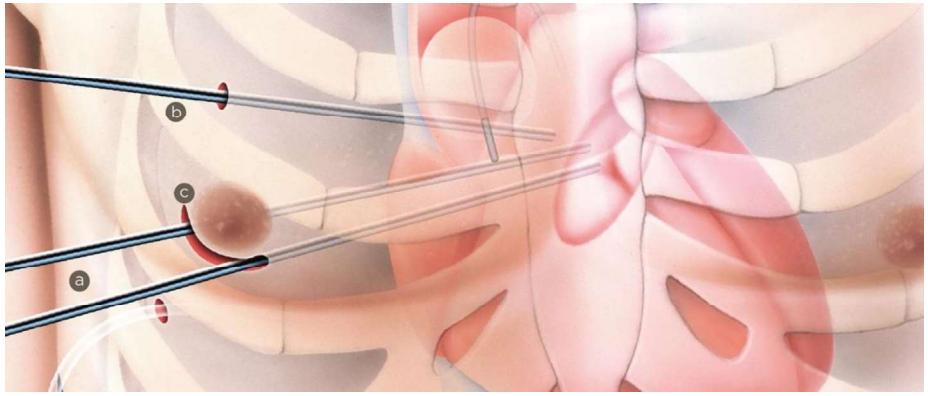
& 2 Assistenten in Ausbildung

Operatives Volumen (total): 600-650 Herz-Ops, 220-250 TAVI

Herzzentrum Hirslanden Zentralschweiz, «Relevantes für die Praxis», Luzern , 21. Okt. 2021

Innovatives, Neues in der Herzchirurgie…..?

- **Devices**
- **Surgical tools**
- **Surgical access**



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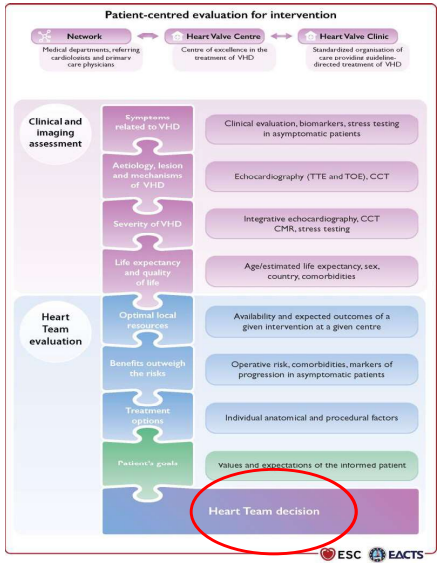

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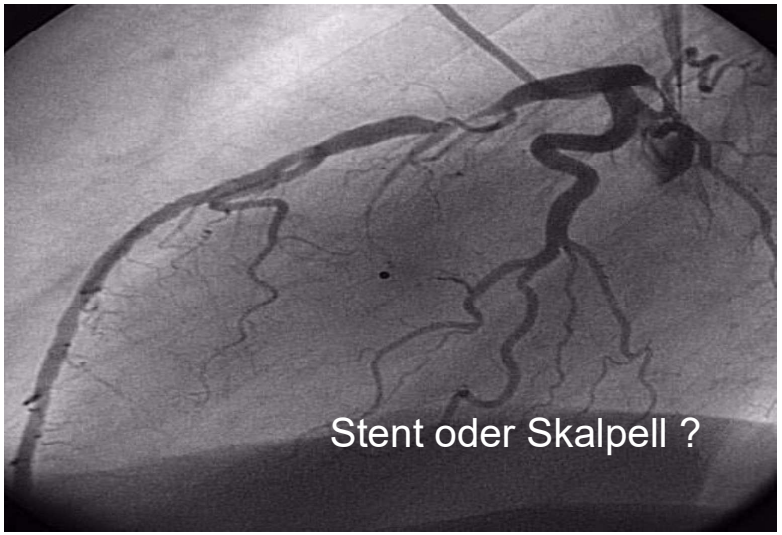
2021 ESC/EACTS Guidelines for the management of valvular heart disease

Developed by the Task Force for the management of valvular heart disease of the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS)

ESC
European Society of Cardiology

Patient-centered evaluation for intervention



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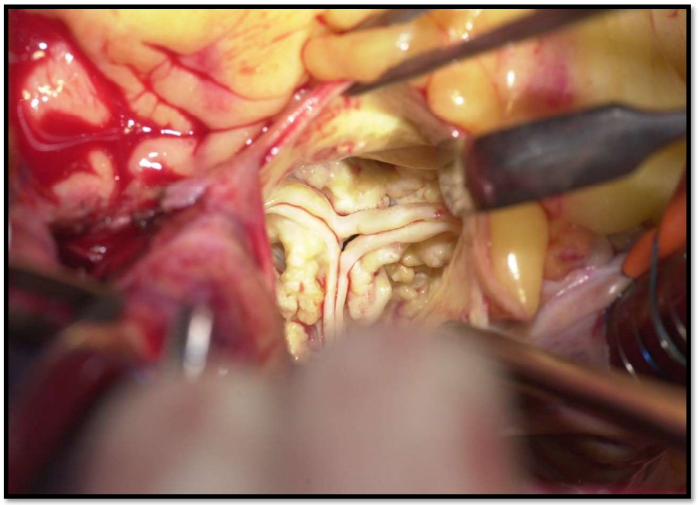

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Schwer verkalkte Aortenklappe

- **TAVI** – Indicated for patients with moderate to high risk profile (age > 75 years, STS score > 8%)

- **MitraClip** – Indicated for patients with high risk profile for surgery, advanced age, especially patients with severely impaired LVEF

HEART TEAM

- Guideline Recommendation
- BAG (mandatory condition, reimbursement)
- Position paper (SGC, SGHC)

Questions remaining

HEART TEAM – questions (formal aspects)

- Needed for ALL patients?
- Required Participants?
- Documentation of decision
- How to proceed if there is no uniform opinion?

(How is this influenced by local, institutional factors?)

(Conflicting aspects in the heart team meeting)

MITRA swiss – newsletter 03. Jan. 2017

Site	Status	1st patient	Recruited	Monthly average
Basel	Recruiting	02/2012	66	1.14
Bern	Recruiting	12/2012	78	1.62
Cardiocentro Lugano	Recruiting	09/2011	74	1.17
Lucerne	Recruiting	11/2011	63	1.03
Klinik im Park Zürich	Recruiting	11/2012	127	2.59
University Hospital Zürich	Recruiting	09/2011	232	3.68
Heart Clinic Hirslanden	Recruiting	11/2012	94	1.92
Aarau KS	Recruiting	05/2014	35	1.13
HUG	Recruiting	10/2014	17	0.65
CHUV	Recruiting	08/2014	15	0..54
Total patients		09/2011	**801**	**12.71**

ECHO report – post TAVI

Biologische Aortenklappenprothese (CoreValve Evolut R 29mm) in orthotoper Position und mit normaler Funktion (dp mean/max 11/19 mmHg), physiologische Protheseninsuffizienz paravalvulär.

HEART TEAM – questions (contentual aspects)

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- **Which information is needed?**

(STS score, geriatric assessment, personal impression)

- **Weighting of the different aspects?**

(age, comorbidities, patients wish, preference of reffering physician)

- **Which questions should be asked?**

Absolute contraindications
Absence of a 'heart team' and no cardiac surgery on the site
Appropriateness of TAVI, as an alternative to AVR, not confirmed by a 'heart team'
Clinical
Estimated life expectancy <1 year Improvement of quality of life by TAVI unlikely because of comorbidities Severe primary associated disease of other valves with major contribution to the patient's symptoms, that can be treated only by surgery
Anatomical

HEART TEAM – decision making

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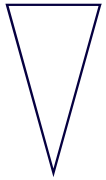
TAVI **AVR**

Age, comorbidity, life expectancy, formal risk assessment

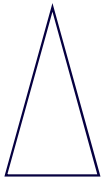


Anatomic condition, access

Procedural safety, surgical risk

Procedural result (PVL)

Major complication rate (MI, stroke, death)



Rehabilitation time

Result durability

RISK PROFILE AND AGE IN TAVI STUDIES OVER TIME

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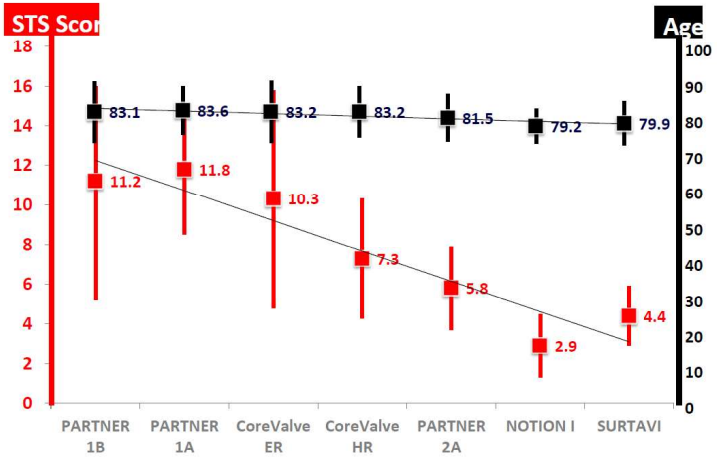

TAVI EXPANSION TO LOWER RISK PATIENTS?

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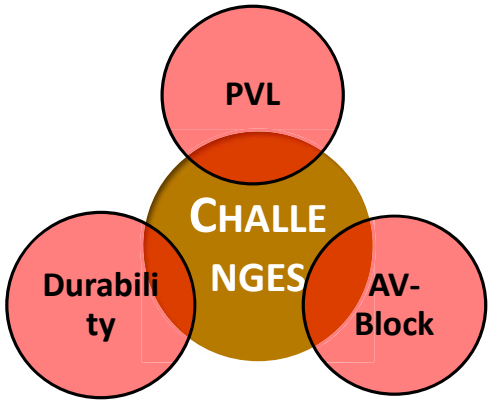

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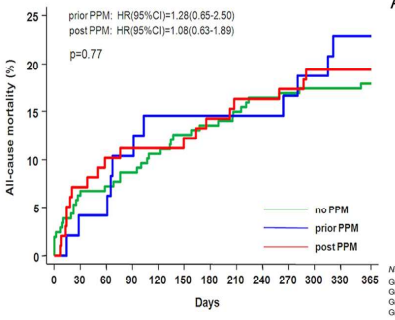
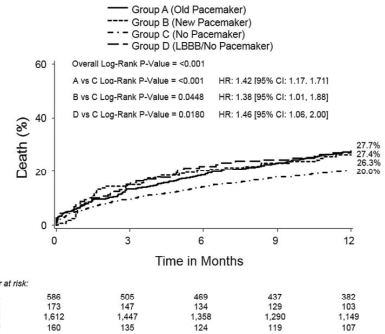
Impact of Permanent Pacemaker Implantation On Clinical Outcomes After TAVI: Conflicting Evidence

Buellesfeld L et al. J Am Coll Cardiol 2012;60:493-501



Dizon JM et al. Heart 2015;101:1665-71



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Durability

TABLE 2

Selection of biological (tissue) prostheses with confirmed long term results*1

Bioprosthesis	Number of patients	Average age of patients	Length of follow-up; up to:	Rates of patients without reoperation after 10 years or SVD*2	Rates of patients without reoperation after 15 years or SVD*2	Rates of patients without reoperation after 20 years or SVD*2
Perimount (e5)	2659	70.7 ± 10.4	24 years	93.2 ± 0.8	81.5 ± 1.9	51.5 ± 4.6
Mitroflow (e6)	1516	75.6 (16–92)	19 years	79.2 ± 2.4	63.4 ± 5.3	Not available
Hancock II (e7)	1134	67 ±11	25 years	97.6 ± 0.6*2	86.6 ± 1.8*2	63.4 ± 4.2*2
Biocor (e8)	1518	70.8 ± 10.9	20 years	Not available	Not available	61.1 ± 8.5
Freestyle (e9)	725	71.7 ± 7.9	18 years	92.3 ± 1.8	80.7 ± 5.0	Not available
Mosaic (e10)	1005	74.7 ± 6.8	18 years	97.9 ± 0.6*2	86.3 ± 3.9*2	Not available

*1 The selection shows only some of the available bioprostheses and the available literature; other articles have reported different results for the long term durability of bioprostheses. The hemodynamic characteristics in the form of gradients are not evaluated in this table. *2 SVD, structural valve deterioration.

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Rekonstruktion vs MK-Ersatz – Vergleich Reoperationen

- **Reoperationsrate bei 840 pts mit degenerative disease und <u>Rekonstruktion</u> nach 15 Jahren** (Circulation paper 2013 , T. David)
  - **- 5.1%**
- **Reoperationsrate bei 1328 pts mit <u>MKE</u> (mechanisch oder biologisch) nach 15 Jahren** (JAMA paper 2015, J. Chikwe)
  - **- 5.6%**

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Shift in Heart Team discussions

71 year old male, severe AS, STS score 1.7 → TAVI

82 year old female, degenerative MR, CAD, STS score 4.6 → Surgery

Technical feasibility versus clinical benefit

If catheter intervention is possible – than better

«Let us try catheter intervention first»

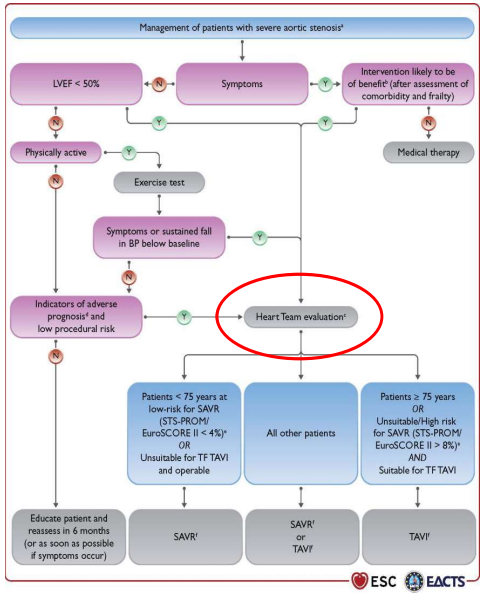
Rescue Surgery
After Transcatheter Therapy

TAVI – annular rupture, ventricular laceration, migration, endocarditis

MitraClip – remaining/recurrent MR, MS

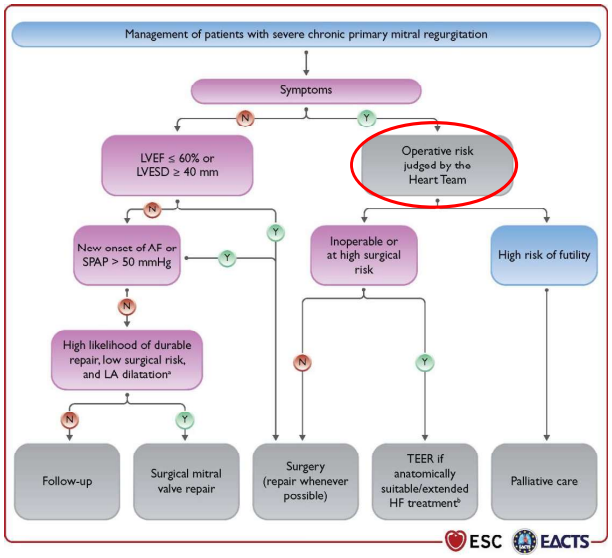
PCI – instent-restenosis, progression of disease

Occluders – migration, functional failure



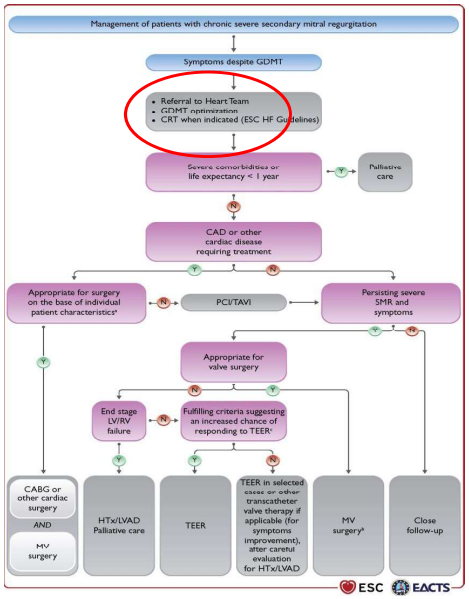
Management of patients with severe aortic stenosis

Eur Heart J, Guidelines for Valvular heart Disease 2021



Management of patients with severe chronic primary mitral regurgitation

Eur Heart J, Guidelines for Valvular heart Disease 2021



Management of patients with chronic severe secondary mitral regurgitation

Eur Heart J, Guidelines for Valvular heart Disease 2021

Message

- **Heart-Team Meetings sind etabliert**
- **(Fast) Alle Patienten sollten interdiszipilär besprochen werden**
- **Funktionierendes Heart-Team (fomale und persönliche Voraussetzungen)**
- **Guideline Indikationen beachten, Anpassung auf den individuellen Patienten**
- **Ausdehnung der Kathetertechniken (TAVI und MitraClip) nicht auf alle Patienten**
- **Do not delay re-evaluation after interventional therapy !**

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