The Role of TAVI in Current Era.

Cheol Woong Yu, MD, PhD
Korea University Anam Hospital
Division of Cardiology
From invasive to non-invasive is a general trend

Valve Repair Options

- Requires Cardiopulmonary Bypass
  - Open Surgical Valve Repair
  - Minimally Invasive Valve Repair
  - Robotic Valve Repair
  - Transcatheter Valve Repair

More Invasive

Direct Access

Less Invasive

Limited Access
Current Status: *What about guidelines for TAVI?*


- The corresponding *2014 U.S. Guidelines* define similar indications.
Both recommend

• TAVI in patients with severe symptomatic AS who are not suitable to undergo conventional AVR as assessed by a heart team, if they are likely to gain improvement in their quality of life (QoL) and if they have a life expectancy >1 year given their comorbidities [Class of Recommendation (COR) I, Level of Evidence (LOE) B].

• TAVI should also be considered in high-risk patients with severe symptomatic AS who are suitable for surgery but in whom TAVI is favoured by a Heart Team as a COR IIa LOE B recommendation.
<table>
<thead>
<tr>
<th>Recommendation</th>
<th>COR</th>
<th>LOE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAVR is recommended in patients who meet an indication for AVR with low or</td>
<td>I</td>
<td>A</td>
</tr>
<tr>
<td>intermediate surgical risk.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For patients in whom TAVR or high-risk SAVR is being considered, members of</td>
<td>I</td>
<td>C</td>
</tr>
<tr>
<td>a Heart Valve Team should collaborate to provide optimal patient care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAVR is recommended in patients who meet an indication for AVR for AS who</td>
<td>I</td>
<td>B</td>
</tr>
<tr>
<td>have a prohibitive surgical risk and a predicted post-TAVR survival &gt;12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>months.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAVR is a reasonable alternative to SAVR in patients who meet an indication</td>
<td>IIa</td>
<td>B</td>
</tr>
<tr>
<td>for AVR and who have high surgical risk.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percutaneous aortic balloon dilation may be considered as a bridge to SAVR or</td>
<td>IIb</td>
<td>C</td>
</tr>
<tr>
<td>TAVR in severely symptomatic patients with severe AS.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAVR is not recommended in patients in whom existing comorbidities would</td>
<td>III</td>
<td>B</td>
</tr>
<tr>
<td>preclude the expected benefit from correction of AS.</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>benefit.</td>
<td></td>
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</table>
Under these current treatment indications, a significant clinical unmet need still exists worldwide

Annual number of elderly patients with severe AS who are potential TAVR candidates in different countries under current treatment indications; from Osnabrugge et al.
Currently, 8 transcatheter aortic valve replacement (TAVR) systems are commercially available in Europe (A-H), whereas 2 TAVR systems are approved by the U.S. Food and Drug Administration in the United States (A, B). (A) Edwards Lifesciences Sapien 3 Valve (Edwards Lifesciences, Irvine, California); (B) Medtronic CoreValve Evolut R (Medtronic, Minneapolis, Minnesota); (C) Symetis Acurate neo Valve (Symetis, Ecublens VD, Switzerland); (D) JenaValve (JVT Research & Development Corporation, Irvine, California); (E) St. Jude Medical Portico Valve (St. Jude Medical, St. Paul, Minnesota); (F) Direct Flow Medical Valve (Direct Flow Medical, Inc., Santa Rosa, California); (G) Medtronic Engager Valve (Medtronic, Minneapolis, Minnesota); and (H) Boston Scientific Lotus Valve (Boston Scientific, Marlborough, Massachusetts).
Optimal patient selection is best accomplished by a Heart Team, who must consider all of the patient’s comorbidities (COR 1, LOE C)
Transcatheter Aortic Valve-In-Valve Implantation for Severe Bioprosthetic Stenosis after Bentall Operation Using a Homograft in a Patient with Behçet’s Disease

Hyung Joon Joo, Soon Jun Hong, Cheol Woong Yu

Department of Cardiology, Cardiovascular Center, Korea University Anam Hospital, Seoul, Korea
How should we treat this patient?

M/80
CC. : NYHA Fc IV dyspnea and mental change
Past Hx; HTN, HBsAg(+)
Transfer to our hospital due to severe AS with pul edema.
V/S : unstable..

Total bilirubin; 3.1
AST/ALT 3592/2938
BUN/Creatinine 72/2.23
Uric acid 13.0

Severe AS with multiorgan failure!
Severe LV systolic dysfunction and moderate to severe MR

Logistic Euroscore: 46.7%
STS score: 17.1%
Diagnostic and therapeutic BAV!

Total bilirubin; 1.2
AST/ALT 28/17
BUN/Creatinine 25/1.17
Uric acid 7.3
Post BAV Echo

The problems are from AS, not comorbidities with AS
Elective TAVR
FIGURE 1 Effect of TAVR on Mortality Over Time

Kaplan-Meier analysis of all-cause mortality for the intention-to-treat population from the PARTNER 1B (Placement of Aortic Transcatheter Valve Trial 1B) cohort, comparing transcatheter aortic valve replacement (TAVR) versus standard therapy over 5 years. CI = confidence interval; HR = hazard ratio.
PARTNER 1A cohort, comparing TAVR vs SAVR over 5 years

TAVR vs SAVR in the CoreValve U.S. Pivotal Trial
Indications of TAVR are frozen in the past

ESC Guidelines 2012 / ACC/AHA Guidline 2014

Decision confirmed by a « Heart Team »

Cardiac Surgery On-site

Low and Intermediate Risk Patients Are Not Candidates to TAVR

PARTNER US:

TAVR: New technology, 1st generation devices (Edwards SAPIEN)
Early experience of teams

SAVR: Most experienced cardiac surgeons
Well established treatment for 50 years
Estimated operative risk for AVR
180,000 surgical patients in the US

Patients (%)

STS Score (%)  
≤1%  1-2%  2-3%  3-4%  4-5%  5-6%  6-7%  7-8%  8-9%  >9%

Personal communication with M. Mack
Elements required to expand the indications to lower risk patients

- Improved devices and strategies making TAVR SAFER, simpler
- Clinical evidences

- Evidence-based trials
  - PARTNER II: SAPIEN XT
  - SURTAVI: CoreValve
- Cost-effectiveness

Assessment of Valve + Platform durability on longterm

5 years~ upto 9 years
PARTNER SAPIEN Platforms
Device Evolution

<table>
<thead>
<tr>
<th>Valve Technology</th>
<th>SAPIEN</th>
<th>SAPIEN XT</th>
<th>SAPIEN 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheath Compatibility</td>
<td>22-24F</td>
<td>16-20F</td>
<td>14-16F</td>
</tr>
<tr>
<td>Available Valve Sizes</td>
<td>23 mm, 26 mm</td>
<td>23 mm, 26 mm, 29 mm*</td>
<td>20 mm, 23 mm, 26 mm, 29 mm</td>
</tr>
</tbody>
</table>

*First Implant Oct 30, 2012*
Temporal Trends in Mortality and Stroke After TAVR
Trend to treat lower risk patients in most recent series

<table>
<thead>
<tr>
<th></th>
<th>2007-2009</th>
<th>2010-2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Log EuroScore</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRANCE</td>
<td>25.6%</td>
<td>↓ 21.9%</td>
</tr>
<tr>
<td>SOURCE</td>
<td>25.8%</td>
<td>↓ 20.5%</td>
</tr>
<tr>
<td>ADVANCE</td>
<td>23.0%</td>
<td>↓ 19.2%</td>
</tr>
<tr>
<td><strong>STS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>PARTNER 1</td>
<td>11.8%</td>
</tr>
<tr>
<td>2011-13</td>
<td>Post Market US</td>
<td>7.0%</td>
</tr>
<tr>
<td>2013</td>
<td>CHOICE</td>
<td>6.0%</td>
</tr>
<tr>
<td>2013</td>
<td>US CoreValve Pivotal</td>
<td>7.4%</td>
</tr>
</tbody>
</table>
Treating lower risk patients

• It happens!
• What is the evidence?
• What is needed?
  • RCT
  • Better risk scores
  • Decrease complications
  • Longer follow-up
  • More data on specific subgroups
  • Better technology
Higher Survival in Lower Risk Patients

Lange et al, JACC 2012

Global Mortality

Wenaweser et al. EHJ 2013

STS

Low vs High

p<0.001

CV Mortality

Low vs High

p<0.001

Gilard et al, NEJM 2012

FRANCE 2 3915 Pts 2007 - 2012

Global Mortality

Low vs High

p<0.001

CV Mortality

Low vs High

p<0.001
Op risk assessment except for unoperable conditions

STS score

Mean: 5.6 ± 4.1

Korean Sapient Valve registry data
Clinical Outcomes at 12 months (n=50)

MACCE (n=9/50, 18%)
3 CV death
3 ischemic stroke
1 hemorrhagic stroke

2 infective endocarditis: 6~7 months after TAVR
1 underwent SAVR
1 underwent medical therapy

Mortality (n=7/50, 14%)
3 CV death
4 non-CV death

Korean Sapient Valve registry data
Intermediate or low risk patients are already being treated.....
What is needed for treating lower risk patients?

RCT
The PARTNER 2A Trial
Study Design

Symptomatic Severe Aortic Stenosis

ASSESSMENT by Heart Valve Team Operable (STS ≥ 4%)

Randomized Patients
n = 2032

Yes

Transfemoral (TF)

1:1 Randomization (n = 1550)

TF TAVR (n = 775) VS. Surgical AVR (n = 775)

No

ASSESSMENT: Transfemoral Access

Transapical (TA) / TransAortic (TAo)

1:1 Randomization (n = 482)

TA/TAo TAVR (n = 236) VS. Surgical AVR (n = 246)

Primary Endpoint: All-Cause Mortality or Disabling Stroke at Two Years
Primary Endpoint (ITT)
All-Cause Mortality or Disabling Stroke

HR [95% CI] = 0.89 [0.73, 1.09]
\( p \) (log rank) = 0.253

Number at risk:

- **Surgery**
  - 1021
  - 838
  - 812
  - 783
  - 770
  - 747
  - 735
  - 717
  - 695

- **TAVR**
  - 1011
  - 918
  - 901
  - 870
  - 842
  - 825
  - 811
  - 801
  - 774
TF Primary Endpoint (ITT)
All-cause Mortality or Disabling Stroke

HR: 0.79 [95% CI: 0.62, 1.00]
p (log rank) = 0.05

TF Surgery
TF TAVR

All-Cause Mortality or Disabling Stroke (%)

<table>
<thead>
<tr>
<th>Months from Procedure</th>
<th>All-Cause Mortality or Disabling Stroke (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>4.9%</td>
</tr>
<tr>
<td>3</td>
<td>7.7%</td>
</tr>
<tr>
<td>6</td>
<td>12.3%</td>
</tr>
<tr>
<td>9</td>
<td>15.9%</td>
</tr>
<tr>
<td>12</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>20.4%</td>
</tr>
</tbody>
</table>

Number at risk:
TF Surgery 775 643 628 604 595 577 569 557 538
TF TAVR 775 718 709 685 663 652 644 634 612
### Other Clinical Endpoints (ITT)
#### At 30 Days and 2 Years

<table>
<thead>
<tr>
<th>Events (%)</th>
<th>30 Days</th>
<th></th>
<th></th>
<th>2 Years</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TAVR (n = 1011)</td>
<td>Surgery (n = 1021)</td>
<td>p-value*</td>
<td>TAVR (n = 1011)</td>
<td>Surgery (n = 1021)</td>
<td>p-value*</td>
</tr>
<tr>
<td>Rehospitalization</td>
<td>6.5</td>
<td>6.5</td>
<td>0.99</td>
<td>19.6</td>
<td>17.3</td>
<td>0.22</td>
</tr>
<tr>
<td>MI</td>
<td>1.2</td>
<td>1.9</td>
<td>0.22</td>
<td>3.6</td>
<td>4.1</td>
<td>0.56</td>
</tr>
<tr>
<td>Major Vascular Complications</td>
<td>7.9</td>
<td>5.0</td>
<td>0.008</td>
<td>8.6</td>
<td>5.5</td>
<td>0.006</td>
</tr>
<tr>
<td>Life-Threatening / Disabling Bleeding</td>
<td>10.4</td>
<td>43.4</td>
<td>&lt;0.001</td>
<td>17.3</td>
<td>47.0</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>AKI (Stage III)</td>
<td>1.3</td>
<td>3.1</td>
<td>0.006</td>
<td>3.8</td>
<td>6.2</td>
<td>0.02</td>
</tr>
<tr>
<td>New Atrial Fibrillation</td>
<td>9.1</td>
<td>26.4</td>
<td>&lt;0.001</td>
<td>11.3</td>
<td>27.3</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>New Permanent Pacemaker</td>
<td>8.5</td>
<td>6.9</td>
<td>0.17</td>
<td>11.8</td>
<td>10.3</td>
<td>0.29</td>
</tr>
<tr>
<td>Re-intervention</td>
<td>0.4</td>
<td>0.0</td>
<td>0.05</td>
<td>1.4</td>
<td>0.6</td>
<td>0.09</td>
</tr>
<tr>
<td>Endocarditis</td>
<td>0.0</td>
<td>0.0</td>
<td>NA</td>
<td>1.2</td>
<td>0.7</td>
<td>0.22</td>
</tr>
</tbody>
</table>

*Event rates are KM estimates, p-values are point in time.
## Echocardiography Findings (VI)

### Aortic Valve Area

<table>
<thead>
<tr>
<th>No. of Echos</th>
<th>Surgery</th>
<th>TAVR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>861</td>
<td>899</td>
</tr>
<tr>
<td>30 Day</td>
<td>727</td>
<td>829</td>
</tr>
<tr>
<td>1 Year</td>
<td>590</td>
<td>695</td>
</tr>
<tr>
<td>2 Year</td>
<td>488</td>
<td>567</td>
</tr>
</tbody>
</table>

**Graph:**
- **Surgery**
- **TAVR**

- **Valve Area (cm²)**
  - Baseline: 0.70
  - 30 Day: 1.47
  - 1 Year: 1.42
  - 2 Year: 1.40

- **Significance:**
  - p < 0.001 for all time points
  - p = NS for baseline

- Error bars represent ± Standard Deviation.
Paravalvular Regurgitation (VI)
3-Class Grading Scheme

- P < 0.001
- ≥ Moderate 8.0%
- Mild 26.8%
- ≥ Moderate 0.6%
- Mild 3.5%

No. of echos
TAVR 30 Days: 872
Surgery: 757

TAVR 2 Years: 600
Surgery: 514

Legend:
- Red: Severe
- Yellow: Moderate
- Green: Mild
- Blue: None/Trace
Severity of PVR at 30 Days and All-cause Mortality at 2 Years (VI)

Overall Log-Rank $p = 0.001$

Mod/Sev (reference = None/Trace)
$p$ (Log-Rank) < 0.001

Mild (reference = None/Trace)
$p$ (Log-Rank) = 0.82

Number at risk:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>3</th>
<th>6</th>
<th>9</th>
<th>12</th>
<th>15</th>
<th>18</th>
<th>21</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate/Sev</td>
<td>36</td>
<td>32</td>
<td>32</td>
<td>26</td>
<td>26</td>
<td>24</td>
<td>22</td>
<td>22</td>
<td>21</td>
</tr>
<tr>
<td>Mild</td>
<td>210</td>
<td>204</td>
<td>199</td>
<td>194</td>
<td>188</td>
<td>184</td>
<td>182</td>
<td>180</td>
<td>175</td>
</tr>
<tr>
<td>None/Trace</td>
<td>701</td>
<td>678</td>
<td>664</td>
<td>647</td>
<td>628</td>
<td>621</td>
<td>612</td>
<td>605</td>
<td>585</td>
</tr>
</tbody>
</table>

All-Cause Mortality (%) vs. Months from Procedure

- None/Trace
- Mild
- Moderate/Severe

0% to 50% scale for All-Cause Mortality (%)
Expandable Skirt Technology
Highly-conformable, on-demand seal technology
Elimination of paravalvular regurgitation

In vitro testing

Test Model
Expandable Skirt Technology
No change in device profile

Unexpanded state  Expanded state

EXPANDABLE Skirt
Expandable Skirt Technology
No change in device profile

EXPANDABLE Skirt
The PARTNER 2A and S3i Trials
Study Design

**Intermediate Risk Symptomatic Severe Aortic Stenosis**

**Intermediate Risk ASSESSMENT by Heart Valve Team**

**P2 S3i**
- **n = 1078**
- ASSESSMENT: Optimal Valve Delivery Access
  - Transfemoral (TF)
    - TF TAVR SAPIEN 3
  - Transapical / Transaortic (TA/TAo)
    - TA/TAo TAVR SAPIEN 3

**P2A**
- **n = 2032**
- ASSESSMENT: Transfemoral Access
  - Yes
    - Transfemoral (TF)
      - TF TAVR SAPIEN XT
  - No
    - Transapical / Transaortic (TA/TAo)
      - 1:1 Randomization
        - Surgical AVR

**Primary Endpoint:** All-Cause Mortality, All Stroke, or Mod/Sev AR at One Year
(Non-inferiority Propensity Score Analysis)
Unadjusted Time-to-Event Analysis
All-Cause Mortality and All Stroke (AT)

1077 1012 987
962 930
944 805 786
757 743

All-Cause Mortality / Stroke Rate (%)

SAPIEN 3 TAVR
P2A Surgery

Number at risk:
P2A Surgery 944
S3 TAVR 1077
805 1012 786
757 962 930

Months from Procedure

0 3 6 9 12
The PARTNER 2A Trial
Clinical Implications

• The results from PARTNER 2A support the use of TAVR as an alternative to surgery in intermediate risk patients, similar to those included in this trial.

• In patients who are candidates for transfemoral access, TAVR may result in additional clinical advantages.

• Long-term durability assessments of transcatheter bioprosthetic valves are still lacking and extrapolation of these findings to low-risk patients requires further clinical trial validation.
SAPIEN Platform Has Now Demonstrated Durability to 9 Years

Valves explanted after 7 years

Webb at ACC 2014: New Balloon Expandable Aortic Valves
Minimalism: Procedural Considerations for TAVR

Strong trend to maximally simplify TAVR procedures in real world practice

- Preferential percutaneous transfemoral access,
- Reduced use of general anesthesia,
- Less intra-procedural TEE,
- Eliminating pre-dilatation,
- Decreased use of complex and costly hybrid cath lab/OR
- Early discharge programs.
Change in Strategy: Minimalist TF-TAVR approach
SAPIEN XT – Edwards SAPIEN

- Conscious sedation
- No TEE
- Percutaneous access
- Preclosing
- Procedure: 60 min
- Discharge: Day 1 to 3
- Back home

TF > 80%

Dr David Wood from St Paul Hospital: Same day discharge after TAVR!

A 97 years old women discharged the same day after a TAVR procedure stretching while waiting for the bus to get home… read more on page 3.

The 3MM strategy in Vancouver

• Multidisciplinary
• Multimodality
• Minimalist
  ✓ TF access
  ✓ next day discharge

• Carefully selected TF pts
• 60% (31/52) discharged in 1 d (mean LOS 1.8 d)
• Final 17 cases w/o GA
• 30-day mortality 1.9%
• 2 pts (3.8%) readmitted within 30 days
Under the only sedation
Valve deployment using Heart Navigating system for Quadricuspid aortic valve stenosis
Valve in-valve guided by heart navigation system
Bicuspid Aortic Valve disease and TAVR

- Bicuspidy is regarded as a relative CI to TAVR due to the risk of uneven expansion of the bioprosthesis.
- Exclusion criteria in clinical trials
- Procedural outcomes were comparable btw bicuspic & tricuspid, in terms of successful implantation, significant AR after TAVI, 30-day combined safety endpoint
Transcatheter Aortic Valve Implantation for Patients With Severe Bicuspid Aortic Valve Stenosis

Kentaro Hayashida, MD, PhD, FESC; Erik Bouvier, MD; Thierry Lefèvre, MD, FSCAI, FESC; Bernard Chevalier, MD, FSCAI, FESC; Thomas Hovasse, MD; Mauro Romano, MD; Philippe Garot, MD, FESC; Yusuke Watanabe, MD; Arnaud Farge, MD; Patrick Donzeau-Gouge, MD; Bertrand Cormier, MD; Marie-Claude Morice, MD, FESC

Background—Bicuspid aortic valve (BAV) is regarded as a relative contraindication to transcatheter aortic valve implantation attributable to the risk of uneven expansion of the bioprosthesis. The purpose of this study was to evaluate the efficacy and safety of transcatheter aortic valve implantation in patients with BAV.

Methods and Results—Of 470 patients included in our prospective transcatheter aortic valve implantation database (October 2006–January 2012), 229 consecutive patients undergoing both echocardiography and multidetector computed tomography were analyzed. We compared clinical outcomes in patients with vs patients without BAV. In this series of 229 patients, BAV was detected by multidetector computed tomography in 21 patients (9.2%). BAV was identified by transthoracic and transoesophageal echocardiography in only 9 of these 21 patients. Patients were 83.1±6.6 years old, and European system for cardiac operative risk evaluation score was 20.0±11.4%. The BAV group was similar to the non-BAV group except for diabetes mellitus (4.8% vs 24.0%; \(P=0.05\)). The aortic annulus diameter in BAV patients was not significantly larger by multidetector computed tomography (24.7±3.0 vs 23.7±1.9 mm; \(P=0.07\)). The CoreValve was used more frequently in the BAV group (47.6% vs 16.3%; \(P=0.002\)). There was no significant difference in device success (100% vs 92.8%; \(P=0.37\)), risk of annulus rupture (0% vs 1.4%; \(P=1.00\)), or valve migration (0% vs 1.4%; \(P=1.00\)) in BAV patients compared with non-BAV patients. Postprocedural mean gradient (10.0±3.4 vs 9.7±4.1 mmHg; \(P=0.58\)), aortic regurgitation ≥2 of 4 (19.0% vs 14.9%; \(P=0.54\)), 30-day mortality (4.8% vs 8.2%; \(P=1.00\)), and 30-day combined safety end point (14.3% vs 13.5%; \(P=1.00\)) were also similar in both groups.

Conclusions—In selected BAV patients, transcatheter aortic valve implantation may be associated with low complication rate, efficacy, and acceptable outcomes similar to those in non-BAV patients. (Circ Cardiovasc Interv. 2013;6:284-291.)
Performance of transcatheter aortic valve implantation in patients with bicuspid aortic valve: Systematic review

Altayyeb Yousef a,1, Trevor Simard a,1, Ali Pourjabbar a, John Webb b, Derek So a, Aun-Yeong Chong a, Christopher Glover a, Michel Le May a, Benjamin Hibbert a, Marino Labinaz a,∗

a Division of Cardiology, University of Ottawa Heart Institute, Ottawa, Ontario, Canada
b Division of Cardiology, St. Paul’s Hospital, University of British Columbia, Vancouver, British Columbia, Canada

- Literature Review – 92 patients
- 56% self expanding, 77% TF
- 8.6% 30 day mortality
  - 2 from aortic dissections
- PVL moderate to severe in 31%
- Long term survival good
Bicuspid Aortic Valve, Type O no Raphe
Post TAVI
Heart Valve Team

• The role of the Heart Team cannot be limited to pre-operative assessment and choices regarding valve type and access route

• The Heart Team is essential to the management of intraoperative complications as well as postoperative care

• This includes cross-training—that is a cardiologist performing TA-TAVI (after exposure of the apex by the surgeon) or a cardiac surgeon performing TF-TAVI (assisted by an interventional cardiologist)—further promotes the ideal cooperation and collaboration of the Heart Team.
In Summary

• Less invasive strategy is a general trend not to go against.
• TAVI is already and actively performing for the lower risk patients by virtue of increased experiences, improved device and strategy making TAVI safer and simpler.
• There are increasing data about clinical outcomes of TAVI for the lower risk patients.
• Efforts for Innovation and creation to resolve TAVI-associated problems are still ongoing
• The results from RCT support the use of TAVR as an alternative to surgery in intermediate risk patients.
• Long-term durability assessments of transcatheter bioprosthetic valves are still lacking and and more data is needed to expand TAVI indication to younger patients
• It cannot be emphasized enough that the role of heart valve team is very important for managing the AS patients.
• In the future, TAVI may be a gold standard for AS patients.
Change the topic:
How to collaborate on TAVI very well
Thank you for your attention!!