REDUCING RISK OF PATIENT-PROSTHESIS MISMATCH

Through Valve Design and Device Selection

EFFECT ON SURVIVAL AFTER TAVR WITH PPM†

STS/ACC TVT Registry™ data** indicate patient outcomes may improve when steps are taken to reduce and limit PPM.

PREDICTORS OF SEVERE PPM¹

23 mm valves and smaller are independent predictors of mismatch.

Significant predictors of severe PPM in a multivariate logistic regression model are shown in a forest plot (values are odds ratios and p values). BSA = body surface area.

¹The analysis set for this data included all patients enrolled in the registry between January 1, 2014 and March 31, 2017 and included all U.S. commercial valves.

²The views or opinions presented in this document are solely those of Medtronic and do not represent those of the American College of Cardiology, The Society of Thoracic Surgeons, or the STS/ACC TVT Registry.

³TAV-in-SAV only.

DESIGN MATTERS

Evolut™ R valve

Sapien™ 3 valve

Evolut™ TAVR commissure positioning outside the orifice allows for a less constrained flow pattern.

DEVICE SELECTION MATTERS

Odds Ratio (95% CI) for Severe PPM

<table>
<thead>
<tr>
<th>Factors</th>
<th>Odds Ratio</th>
<th>P values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>1.463</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Valve-in-valve procedure†</td>
<td>2.775</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Valve size ≤ 23 mm</td>
<td>2.773</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>BSA (per 0.2 unit increase)</td>
<td>1.710</td>
<td>&lt; .001</td>
</tr>
</tbody>
</table>

Significant predictors of severe PPM in a multivariate logistic regression model are shown in a forest plot (values are odds ratios and p values). BSA = body surface area.

INDICATIONS

The Medtronic CoreValve™ Evolut™ R and CoreValve™ Evolut™ PRO devices are indicated for use in patients with symptomatic heart disease due to severe native aortic stenosis who are judged by a heart team, including a cardiac surgeon, to be at high or greater risk for open surgical therapy (e.g., STS predicted mortality score > 15% at mortality risk of more than 30 days). Based on the Society of Thoracic Surgeons (STS) risk scores and other clinical considerations unmeasured by the STS risk calculator.

The CoreValve Evolut™ R and CoreValve™ Evolut™ PRO devices are indicated for use in patients with symptomatic heart disease due to severe native aortic stenosis who are judged by a heart team, including a cardiac surgeon, to be at high or greater risk for open surgical therapy (e.g., STS predicted mortality score > 15% at 30 days).

CONTRAINDICATIONS

The CoreValve Evolut™ R and CoreValve™ Evolut™ PRO devices are contraindicated for patients presenting with any of the following conditions:

- Known hypersensitivity or contraindication to aspirin, heparin (HIT /HITTS) and bivalirudin, ticlopidine, clopidogrel, Nitinol (titanium or nickel-titanium) material or any other material in the prosthesis.
- Calcium content of 8% or more. Known increase in resistance to calcium. Edema or limited calcium treatment.
- Vascular access-related complications (e.g., vessel dissection or rupture). Persistent force on the catheter by the patient without the ability to disengage. Potential risks of calcium treatment may cause the patient to lose control, which could result in the risk of vascular complications.
- Accelerated deterioration of the bioprosthesis may occur in patients presenting with an altered calcium metabolism.

WARRIORS

General Implantation of the CoreValve Evolut™ R and CoreValve™ Evolut™ PRO systems should be performed only by physicians who have received Medtronic CoreValve Evolut™ R or PRO training. The procedure should only be performed where emergency aortic valve surgery can be performed promptly. Mechanical failure of the delivery catheter system and/or accessories may result in patient complications. Accelerated deterioration of the bioprosthesis may occur in patients presenting with an altered calcium metabolism.

PRECAUTIONS

The safety and effectiveness of the CoreValve Evolut™ R and CoreValve™ Evolut™ PRO systems have not yet been evaluated in the pediatric population. The safety and effectiveness of the bioprosthesis for aortic valve replacement have not been evaluated in the following patient populations: Patients who do not meet the criteria for symptomatic severe native aortic stenosis as defined: (1) Symptomatic severe high-gradient aortic stenosis — aortic valve area ≤ 1.0 cm² or aortic valve area index ≤ 0.6 cm²/m² or a mean aortic valve gradient ≥ 40 mm Hg, or peak aortic jet velocity > 4.0 m/s; (2) Symptomatic severe low-flow, low-gradient aortic stenosis — aortic valve area ≤ 1.0 cm² or aortic valve area index ≤ 0.6 cm²/m² or a mean aortic valve gradient < 40 mm Hg, and a peak aortic jet velocity < 4.0 m/s; (3) who are at low surgical risk (predicted perioperative mortality risk of < 5%), with untreated, clinically significant coronary artery disease requiring revascularization; with a pre-existing prosthesis with severe aortic insufficiency; with aortic root angulation (angle between the plane of aortic valve annulus and horizontal plane) of > 30° for right subclavian/axillary access or > 70° for femoral and left subclavian/axillary access. Use caution when inserting the bioprosthesis into or through the valve. This procedure should only be performed where emergency aortic valve surgery can be performed promptly. Mechanical failure of the delivery catheter system and/or accessories may result in patient complications. Accelerated deterioration of the bioprosthesis may occur in patients presenting with an altered calcium metabolism.

Potential risks associated with the implantation of the CoreValve Evolut™ R or CoreValve™ Evolut™ PRO transcatheter aortic valve may include, but are not limited to, the following:

- Major or minor bleeding that may require transfusion or intervention (including life-threatening or disabling bleeding)
- Stroke or transient ischemic attack (TIA), or other neurological deficits
- Major or minor cardiac arrest
- Major or minor valve embolization
- Valve dysfunction (including device malfunction, embolization, stroke, and/or emergent surgery)
- Death
- Major or minor aortic regurgitation with predominant aortic regurgitation (3-4+); moderate to severe (3-4+) or severe (4+) mitral or aortic regurgitation
- Procedural time
- Major or minor infection
- Major or minor procedural time
- Major or minor access complications (e.g., vessel dissection or ruin)