This booklet will help you understand what aortic stenosis (AS) is and what treatment options are available. You, your family, and your clinicians can begin to discuss which treatment option is best for you.

Along the way, we want you to think about:

- What your goals are for treating your AS
- What concerns you have about your treatment options
- What additional questions you have for your clinician
Aortic Stenosis (AS) is tightening of the aortic valve in the heart. This can get worse over time. AS makes it harder for the heart to do its job.

**Symptoms of Severe AS Include:**
- feeling dizzy like you might pass out
- feeling tired
- trouble breathing
- chest pain
- swelling of the legs

You may be experiencing some of these symptoms. They may make it harder to do the things you want to do. If left untreated, these symptoms usually get worse over time and can lead to death. **Prior to the decision, you may need to have additional testing to help your clinician understand what your options are.**

**What options do I have to fix my valve?**

**This is the big question!**

**Fixing Your Valve:** Most people decide between two different procedures: TAVR and SAVR. The rest of this brochure will help you understand these options.

**Sometimes people do not fix their valve right away, often because:**

1. They aren’t sure their symptoms are from AS. Other common problems share a lot of symptoms with AS, including:
   - Being out of shape
   - Cancer
   - Depression
   - Arthritis
   - Kidney disease
   - Lung disease
   - Other heart disease
   - Alzheimer’s

2. They have more urgent health care needs, such as:
   - Serious infections
   - Cancer
### TREATMENT OPTIONS

<table>
<thead>
<tr>
<th><strong>TAVR</strong></th>
<th><strong>SAVR</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WHAT:</strong></td>
<td><strong>WHAT:</strong></td>
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<tr>
<td>TAVR is a procedure where a new valve is placed in the heart through a small tube (called a “catheter”) typically in the leg.</td>
<td>SAVR is open-heart surgery where a new valve is placed in the heart directly, replacing the old valve.</td>
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<tr>
<td><strong>HOW:</strong></td>
<td><strong>HOW:</strong></td>
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<tr>
<td>This procedure involves a small incision where a catheter is inserted to access the heart to replace the valve.</td>
<td>This surgery usually involves an incision along the breastbone to access the heart to replace the valve.</td>
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<tr>
<td><strong>WHO:</strong></td>
<td><strong>WHO:</strong></td>
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<tr>
<td>This method is an option for both patients who are and those that are not candidates for open-heart surgery.</td>
<td>Those without other severe health problems are good candidates for open-heart surgery.</td>
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<tr>
<td><strong>HOSPITAL STAY:</strong></td>
<td><strong>HOSPITAL STAY:</strong></td>
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<tr>
<td>On average, 2-3 days</td>
<td>On average, 1 week</td>
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<tr>
<td><strong>RECOVERY TIME:</strong></td>
<td><strong>RECOVERY TIME:</strong></td>
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<tr>
<td>On average, 1-2 weeks</td>
<td>On average, 6-8 weeks</td>
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<tr>
<td><strong>VALVE TYPE:</strong></td>
<td><strong>VALVE TYPE:</strong></td>
</tr>
<tr>
<td>A bioprosthetic valve is used</td>
<td>A bioprosthetic valve or mechanical valve is used</td>
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</tbody>
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Every patient is different, and we cannot see into the future to know how long your new valve will last. At this time, we know more about how long surgically replaced valves last than we do about TAVR valves. While valve replacements are durable, eventually your new valve may need to be replaced. The timing of this is different for every patient. Talk to your clinician about any concerns you have about how long your valve might last, and what your options might be if it ever needs to be replaced.
THE RISKS & BENEFITS OF YOUR OPTIONS

TAVR vs. SAVR: Which is the best decision for me?*


<table>
<thead>
<tr>
<th>TAVR</th>
<th>SAVR</th>
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<tr>
<td><strong>BENEFITS:</strong></td>
<td><strong>BENEFITS:</strong></td>
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<tr>
<td>- Helps you live longer</td>
<td>- Helps you live longer</td>
</tr>
<tr>
<td>- Helps you feel better</td>
<td>- Helps you feel better</td>
</tr>
<tr>
<td>- Less invasive procedure</td>
<td>- Over 50 years of experience with procedure</td>
</tr>
<tr>
<td>- Shorter recovery time</td>
<td></td>
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<tr>
<td>Nearly 9 in 10 patients are still living within two years and just over 1 in 10 patients will die.</td>
<td>Just over 9 in 10 patients are still living within two years and just over 1 in 10 patients will die.</td>
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<tr>
<td><img src="image" alt="86% live 14% die" /></td>
<td><img src="image" alt="85% live 15% die" /></td>
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<tr>
<td><strong>RISKS:</strong></td>
<td><strong>RISKS:</strong></td>
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<tr>
<td>Nearly 1 in 10 patients suffer from a stroke within 2 years</td>
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<td><img src="image" alt="8%" /></td>
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<tr>
<td>Nearly 1 in 10 patients suffer from serious injury to blood vessels</td>
<td>Less than 1 in 10 patients suffer from serious injury to blood vessels</td>
</tr>
<tr>
<td><img src="image" alt="9%" /></td>
<td><img src="image" alt="6%" /></td>
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<tr>
<td>2 in 10 need a pacemaker within 2 years</td>
<td>1 in 10 need a pacemaker within 2 years</td>
</tr>
<tr>
<td><img src="image" alt="20%" /></td>
<td><img src="image" alt="10%" /></td>
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</table>

Both TAVR and SAVR have POTENTIAL PROCEDURAL RISKS including:
- Death
- Heart attack
- Bleeding
- Infection
- Stroke
- Blood clots

These risks are different for different patients. Talk to your doctor about your individual risks.

IN SUMMARY:
- TAVR and SAVR are each effective options for helping your aortic valve
- TAVR is a less invasive procedure
- The risk for needing a pacemaker implanted is higher after TAVR
- More is known about how long mechanical valves last (used in SAVR)
TREATMENT SCENARIO 1

JANE IS AN 80-YEAR-OLD WOMAN WITH SEVERE AS.

She also has moderate lung disease and diabetes.
She has shortness of breath when she walks across a room.
Her clinician thinks it might be related to her aortic valve. Jane talked to her clinician to better understand the risks and benefits involved with her options.

Option 1: Choose TAVR

- TAVR is less invasive.
- The recovery time is shorter.
- Jane can expect similar results.

After talking to her clinician, Jane decided the TAVR procedure was the best option for her. She is concerned her other illnesses will make recovering from open-heart surgery more difficult.

Option 2: Choose SAVR

- TAVR is a newer procedure, while SAVR has been around for a long time.
- Jane knows people who have had open-heart surgery.

Treatments Options for Severe Aortic Stenosis for patients deciding between TAVR and Surgery INTERMEDIATE OR HIGH SURGICAL RISK

CardioSmart American College of Cardiology
TREATMENT SCENARIO 2

ELROY IS A 78-YEAR-OLD MAN WITH SEVERE AS WHOSE SYMPTOMS ARE STARTING TO GET IN THE WAY OF HIS DAILY ACTIVITIES.

- He also has diabetes and history of a heart attack.
- He talked to his clinician to better understand the risks and benefits of his treatment options.

Option 1: Choose TAVR

- TAVR is less invasive.
- The recovery time is shorter.
- Elroy can expect similar results.

Option 2: Choose SAVR

- TAVR is a newer procedure, while SAVR has been around for a long time.
- Elroy knows people who have had open-heart surgery.

Elroy decided the SAVR procedure was the best choice for him. He wanted a valve that is known to last and he wasn’t concerned about the longer recovery time.
MAKING YOUR DECISION

TAVR and SAVR are each effective options for helping your aortic valve; the choice is ultimately a very personal one based on your overall health, values and individual preference.

There is a lot to think about when trying to decide which path is right for you. Take some time to consider what you have learned about treatments for AS. If you’re still not sure what the best choice is for you, ask yourself these questions.

What do you hope for with TAVR or SAVR?

What concerns do you have with TAVR or SAVR?

What questions do you have for your clinician?

What questions do you have for your family and loved ones?

DISCLOSURES: Updated: May 2017 (This decision aid will be reviewed annually) | Funded by: American College of Cardiology | Authors: Christopher Knoepke, PhD, LCSW; M. Pilar Ingle, MSW; Larry A. Allen, MD, MHS; TACC; Amy Jenkins, MD; Javier Valle, MD; MS; Kristy Gama MSN, APRN, NP-BC; John Carroll, MD, TACC; Daniel O. Matlock, MD, MPH | Conflicts of Interest: Christopher Knoepke: none; M. Pilar Ingle: none; Larry A. Allen: Novartis, Janssen, PCORI, AHA, NIH, (employer CU); Javier Valle: None; Kristy Gama: None; John Carroll: Local investigator for the Medtronic clinical trial of TAVR versus SAVR for low risk aortic stenosis patients; local investigator for the Edwards LifeSciences PARTNER II clinical trial; Dan Matlock: None

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