Aortic Stenosis Identification Tool

This tool is intended to help people with aortic stenosis better understand the disease and the way it is treated.

As a doctor, you can use this information to support discussions during a consultation.

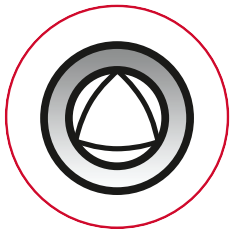
Patients
Aortic Stenosis Identification Tool

Step 1
What is aortic valve stenosis?

- Aortic valve stenosis is a common and serious problem with part of your heart[1,2]
- It happens when the aortic valve stiffens and narrows, meaning blood cannot flow properly[1,2]
- If you have been diagnosed with severe aortic stenosis, it is important that you are treated quickly[3]

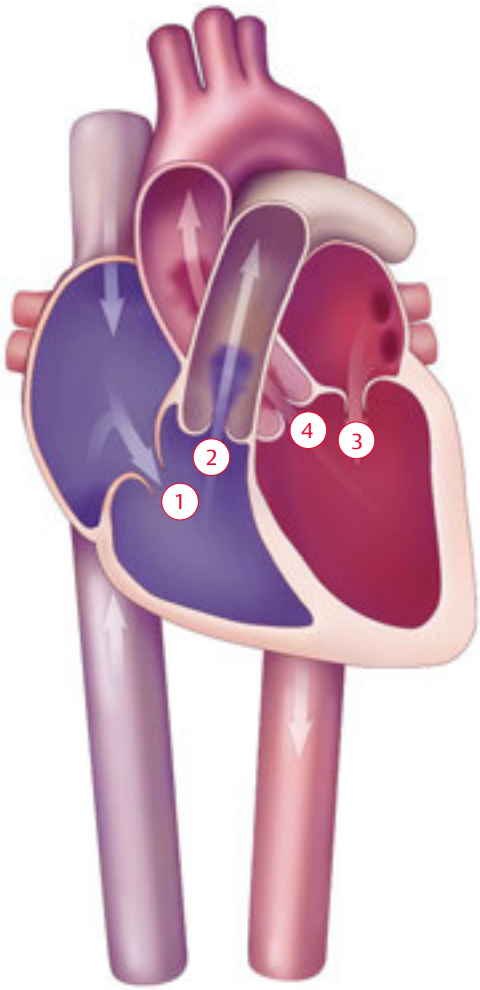
Healthy: closed

Aortic stenosis: closed



Healthy: open

Aortic stenosis: open

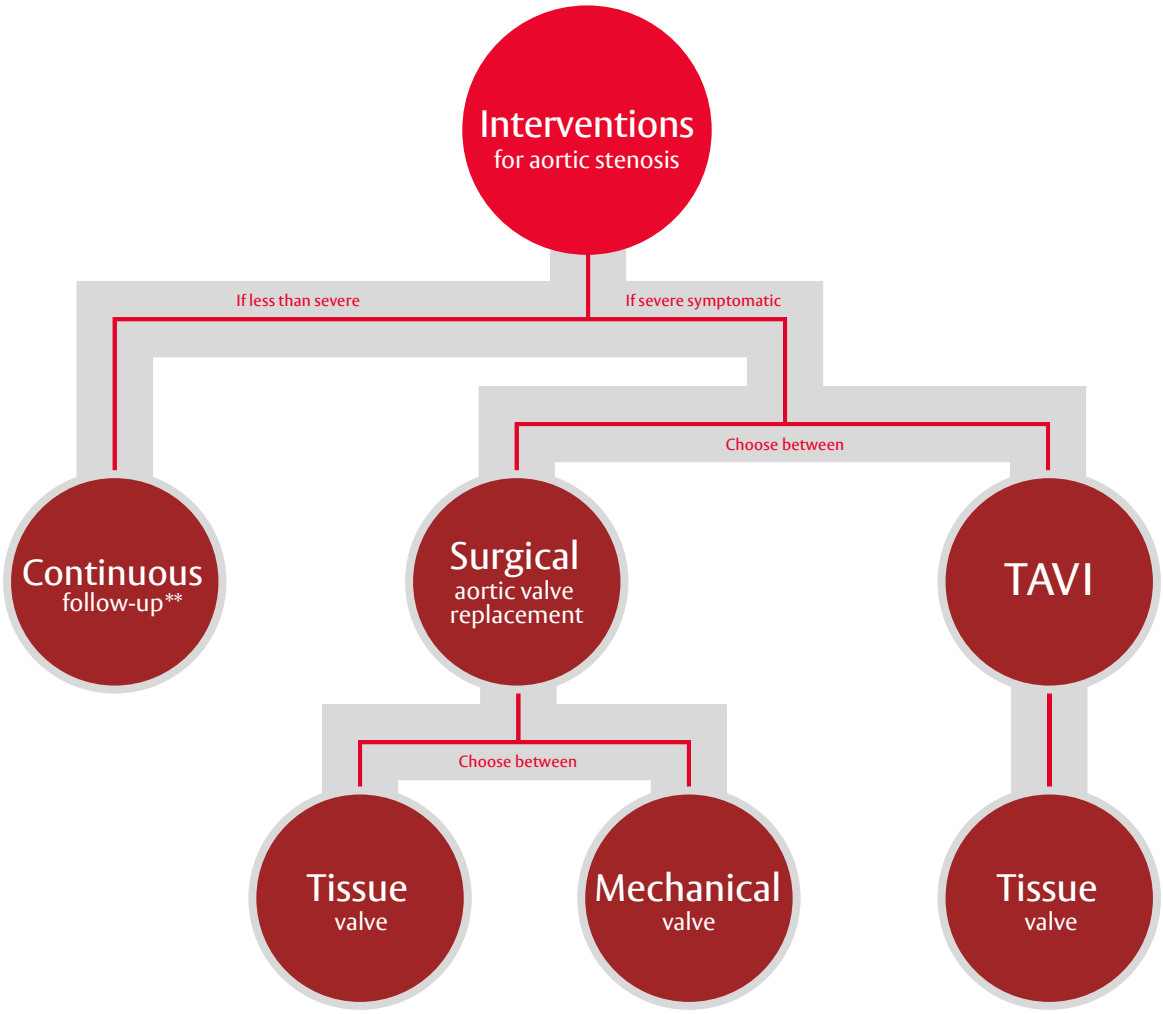


1. Tricuspid valve
2. Pulmonary valve
3. Mitral valve
4. Aortic valve

These images show how narrow the aortic valve can get

Step 2
How is aortic stenosis treated?

- Severe aortic valve stenosis can be treated by replacing the diseased heart valve[3]
- This can mainly be done with surgery (known as surgical aortic valve replacement, SAVR) or with a procedure called TAVI, which stands for transcatheter aortic valve implantation*
- The final decision on your treatment will be made with your doctor
- Your heart team will choose which option is most suitable for you based on things such as:[3]
  - Your age
  - Whether you've had previous heart surgery
  - Whether the structure of your body suits the procedure
  - If you have any other cardiac conditions to consider



*There are other surgical approaches that your doctor might offer
**Continuous follow-ups are based on your symptoms. Your doctor may advise treatment

Step 3 Choosing a valve

Following the previous chart, if you are suited to surgery – which is a well-established treatment that has been used successfully for many years[4–7] – you can usually choose between a mechanical or tissue valve with your doctor*[3]

You may want to consider the below factors with your doctor when deciding between a mechanical or tissue valve:

	Mechanical	Tissue
Survival after surgery[3]	Similar	
Probability of re-operation due to valve durability[3,8]	Lower	Higher
Risk of thrombosis/bleeding[3,8]	Higher	Lower
Need for lifelong anticoagulation therapy[3,8]	Yes	No
Quality of life impact: • Dietary restrictions[9] • Lifestyle/activity limitations[9] • Routine blood tests[9] • Frequent doctor's appointments[9] • Awareness of valve presence e.g. audible clicking sound[10]	Greater impact on lifestyle	Lesser impact on lifestyle

*This is a list of critical, but not exhaustive factors

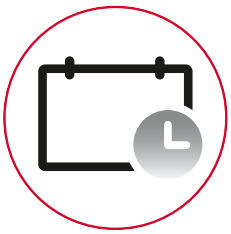
Step 4
After your surgical aortic valve replacement

Recovery from heart surgery depends on things such as your age and your health[11]

Any aches and pains you experience should ease as your wound heals. Talk to your doctor if you have any concerns[11]

Your strength will return gradually, don't try to do too much too soon.[11] Check with your doctor what you can and can't do and make sure you ask for help when you need it – there are no rewards for getting through this alone

You'll probably stay in an intensive care unit (ICU) for the first day or two after your operation before moving to a general ward[11]



You'll probably stay in hospital for about a week, and when you get home it will take a couple of months until you feel like yourself again[11]

If you have been given medication to take, make sure you follow the instructions carefully. If you have any questions, ask your doctor or nurse

Speak to your doctor if you need any advice.[11] You can also find support groups in your area by visiting websites such as the British Heart Foundation (you can search "BHF support groups")

Patients
Aortic Stenosis Identification Tool

Speak to your doctor if you need any advice[11]

For more information, please visit:
https://www.nhs.uk/conditions/aortic-valve-replacement
or search NHS aortic valve replacement.

References

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Aortic Stenosis Identification Tool

This part of the identification tool contains in-depth information for doctors, to support the information listed in the patient side.

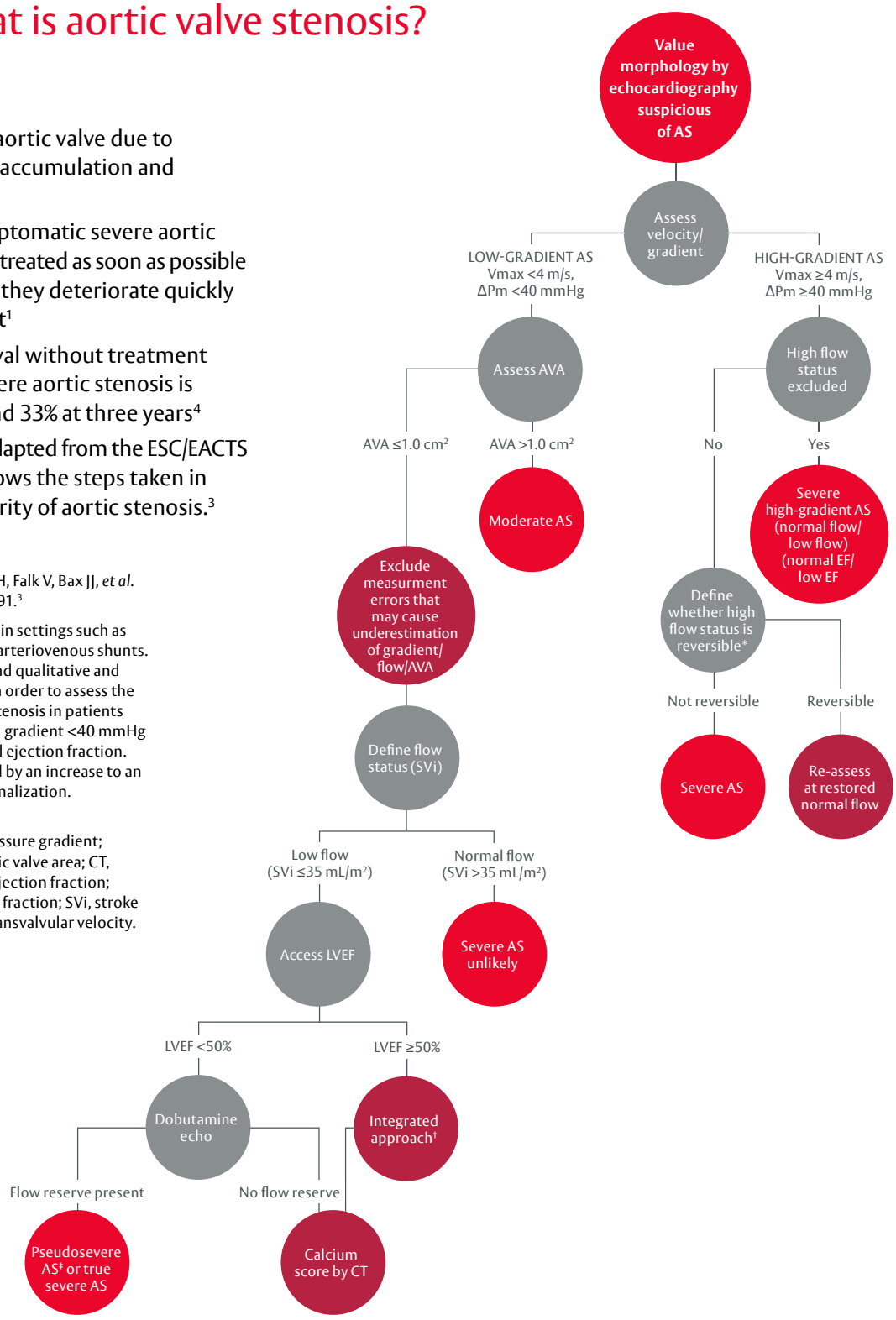
It highlights key points that you might want to discuss in more detail with your patient, and can also help you identify which of your patients are more suited to specific treatment options.

This material is not for patient-only use.

Healthcare Professionals
Aortic Stenosis Identification Tool

Step 1 What is aortic valve stenosis?

- Narrowing of the aortic valve due to calcification, lipid accumulation and inflammation[1,2]
- Patients with symptomatic severe aortic stenosis should be treated as soon as possible after diagnosis,[3] as they deteriorate quickly without treatment[1]
- The average survival without treatment for those with severe aortic stenosis is 60% at one year and 33% at three years[4]
- The flow chart is adapted from the ESC/EACTS guidelines and shows the steps taken in assessing the severity of aortic stenosis.[3]



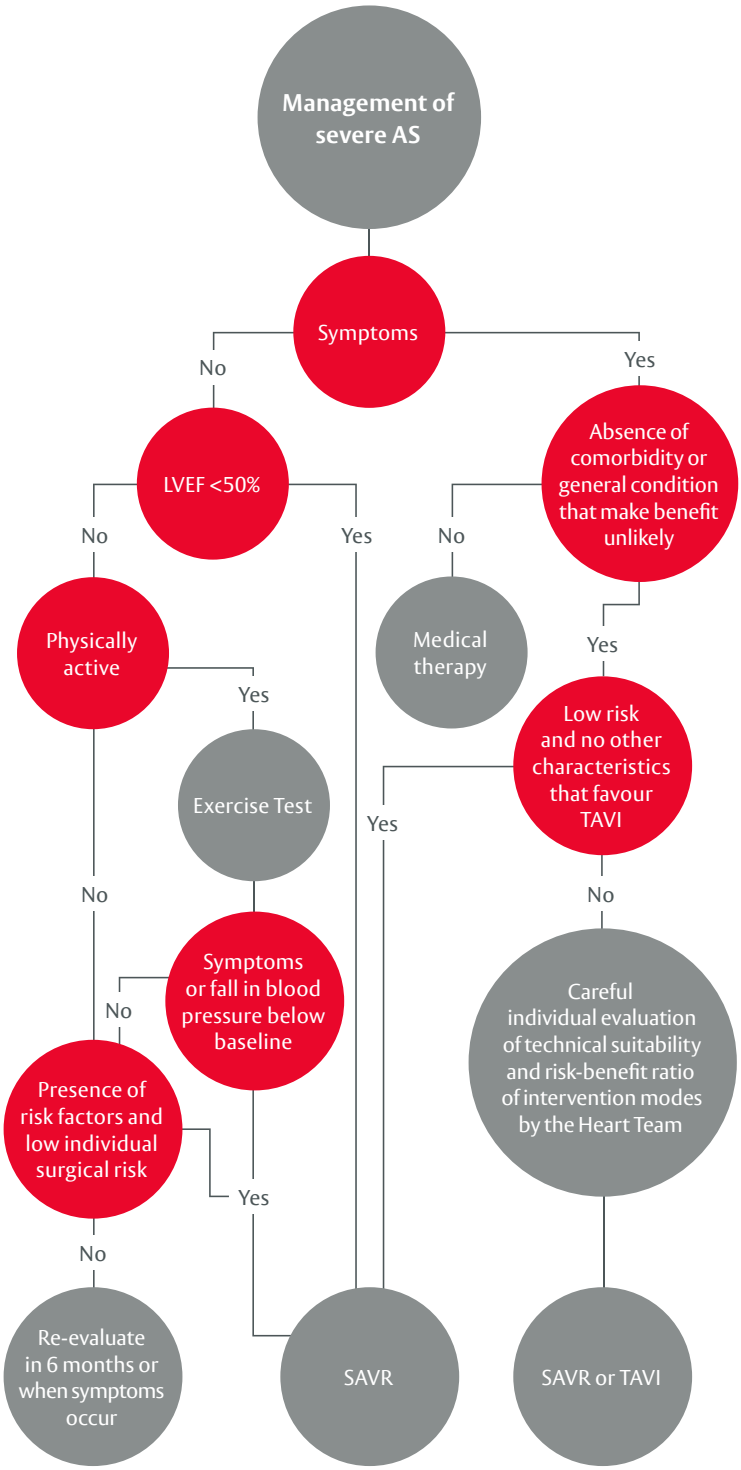
Adapted from Baumgartner H, Falk V, Bax JJ, *et al.* *Eur Heart J*. 2017;38:2739–2791.[3]

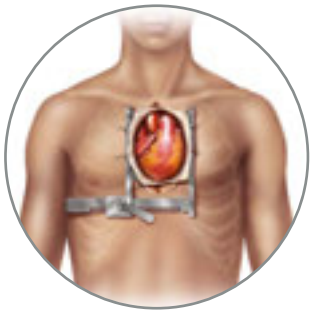
*High flow may be reversible in settings such as anaemia, hyperthyroidism, arteriovenous shunts.
†Includes clinical criteria, and qualitative and quantitative imaging data in order to assess the likelihood of severe aortic stenosis in patients with AVA<1.0cm2 and mean gradient <40 mmHg in the presence of preserved ejection fraction.
‡Pseudosevere AS is defined by an increase to an AVA >1.0cm2 with flow normalization.

Abbreviations:
ΔPm, mean transvalvular pressure gradient; AS, aortic stenosis; AVA, aortic valve area; CT, computed tomography; EF, ejection fraction; LVEF, left ventricular ejection fraction; SVi, stroke volume index; Vmax, peak transvalvular velocity.

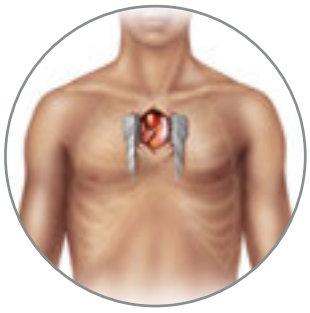
Step 2 How is severe aortic stenosis treated?

- The below chart is adapted from the ESC/EACTS guidelines and shows when to consider intervention such as surgical aortic valve replacement (SAVR) or transcatheter aortic valve insertion (TAVI)[3]
- If surgery is recommended, there are three main approaches for aortic valve replacement[5,6]
- Surgical valve replacement is a well-established treatment that has been used successfully for many years[7–10]

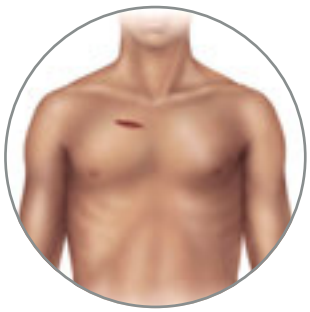




Median sternotomy



Mini–sternotomy



Right anterolateral thoracotomy (RAT)

Adapted from Baumgartner H, Falk V, Bax JJ, *et al. Eur Heart J.* 2017;38:2739–2791.[3]

Step 3 Choosing a valve

- Both European and US guidelines recommend that valve choice should be discussed with the informed patient, taking many factors into consideration
- 89% of patients think it is important to be involved in choosing their valve[11]

	Mechanical	Either	Tissue
One of the factors to consider is age, but European and US guidelines differ in their recommendations[3,12]			
Age range (Europe)[3]	<60 years	60–65 years	>65 years
Age range (US)[12]	<50 years	50–70 years	>70 years

- However, data show a 33% increase in tissue valves usage in younger patients (18–50 years old) between 1997 and 2014[13]
- Age is not the only factor to consider when it comes to valve choice:*

	Mechanical	Tissue
Survival after surgery[3]	Similar	
Probability of re-operation due to valve durability[3,14]	Lower	Higher
Risk of thrombosis/bleeding[3,14]	Higher	Lower
Need for lifelong anticoagulation therapy[3,14]	Yes	No
Quality of life impact: • Dietary restrictions[12] • Lifestyle/activity limitations[12] • Routine blood tests[12] • Frequent doctor appointments[12] • Awareness of valve presence e.g. audible clicking sound[15]	Greater impact on lifestyle	Lesser impact on lifestyle

*This is a list of critical, but not exhaustive factors

Step 4 After your surgical aortic valve replacement

- Patients' recovery process will vary based on their overall health and the type of treatment they received[16]

Procedure	Recovery time[17]
• Median sternotomy[18]	Longer  Shorter
• Minimally invasive surgery[5] (mini-sternotomy and RAT)	
• TAVI[19]	

Some patients might like to know that they can access local support groups through official websites such as the British Heart Foundation.

Patients can search "BHF support groups" for more information.

Healthcare Professionals
Aortic Stenosis Identification Tool

For more information, please visit: Edwards Education

References

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