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Aortic Regurgitation

When the valve out of the heart doesn't fully close. How the leak is graded and when surgery makes sense.

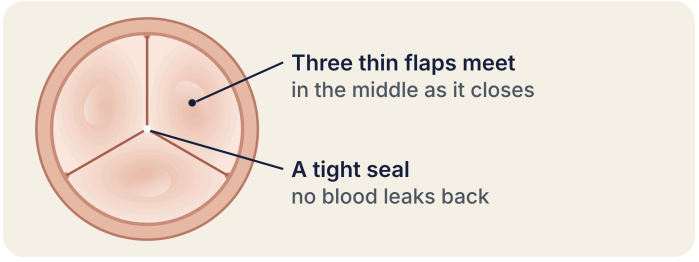
2–3%
of adults have it, roughly, which is more common than you might think

Under 3–5%
typical risk of serious complications at experienced surgical centers

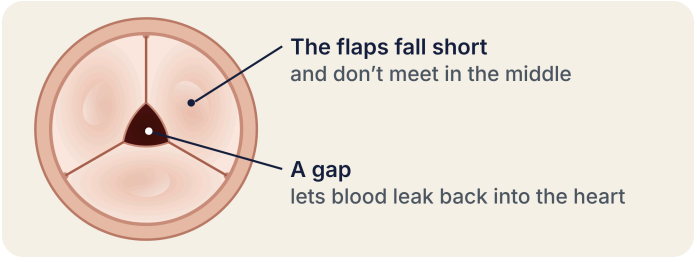
15–20 yrs
that a tissue valve typically works well before it may need replacing

WHAT HAPPENS TO THE VALVE

A door that doesn't quite shut



Healthy: three flaps seal shut between beats



Aortic regurgitation: a gap lets blood leak back

The aortic valve sits between the heart's main pumping chamber (the left ventricle) and the aorta, the body's main artery. It opens to let blood out, then snaps shut. In aortic regurgitation the flaps don't seal completely, so some blood leaks back after each beat. The chamber has to pump that blood plus the normal flow from the lungs, and it responds by enlarging and strengthening, much like a bicep grows with regular weight lifting.

HOW YOUR HEART ADAPTS

Many feel normal for years, even decades

A bigger, stronger pump
The heart adjusts to the leak by pumping more blood with each beat. With a mild to moderate leak, you may never have symptoms.

A stronger pulse
You might notice it, especially in your neck. Your resting heart rate might be slightly lower than average.

A wider blood pressure gap
The bottom number drops more between beats. A typical reading might be 120/80, and a large leak might read 140/60.

With a severe leak, shortness of breath with normal activities, chest pain or fatigue signal that the heart is no longer keeping up. If you're not very active you might miss early symptoms, so a stress test is sometimes used.

Report symptoms

Tell your cardiologist about new shortness of breath, chest pain or fatigue. With a severe leak, symptoms almost always mean surgery is recommended. Call 911 for sudden, severe shortness of breath.

TRACKING AND TREATING IT

How the leak is graded and when to fix it

Mild
Less than 30 mL per beat, under 30%
Check-up typically once a year

Moderate
30 to 59 mL per beat, 30 to 49%
Check-up every six months to yearly

Severe
60 mL or more per beat, 50% or more
Stage C, or Stage D once symptoms start

An echocardiogram (an ultrasound of the heart) measures how many milliliters leak back with each beat and what percentage of the blood that is. It also measures the pumping chamber when it's full. That's normally less than 58 millimeters across, and with a severe leak it often exceeds 65. A normal ejection fraction (the share of blood pumped out with each beat) exceeds 50%. Echo can over- or underestimate a borderline leak, so complex cases sometimes need a cardiac MRI or catheterization.

WHAT POINTS TOWARD SURGERY

Severe leak with symptoms	Surgery is almost always recommended. Without it, many patients develop heart failure or die within 2 to 3 years. With it, most feel dramatically better.
A weakening pump	With a severe leak and no symptoms, an ejection fraction of 55% or lower is a reason for surgery. A steady decline, even while still technically normal, is a warning sign.
A growing heart	With an ejection fraction above 55%, surgery is reasonable once the chamber measures over 50 millimeters across at the end of a squeeze. Over 65 millimeters when full also favors surgery, and steady enlargement is a warning sign.
An exercise test	Limited exercise capacity, or a blood pressure that doesn't rise as it should, can tip the balance toward surgery.

REPAIR OR REPLACE

Valve repair	Possible in some cases, especially when the leak comes from the aortic root (the base of the aorta) more than the flaps. It keeps your own valve and avoids blood thinners.
Mechanical valve	Can last decades, but needs lifelong blood thinners. Home monitoring makes that easier than it was years ago.
Tissue valve	No blood thinners, but it may need replacing in 15 to 20 years, when less invasive options may be available. Your age, lifestyle and feelings about blood thinners guide the choice.

DAY TO DAY

Exercise	Most people with aortic regurgitation can exercise normally. Exercise is restricted only in rare cases of a severe leak with symptoms or heart enlargement.
Blood pressure	High blood pressure adds to the heart's workload and can speed up valve disease, which makes good control especially important.
Dental care	Dental infections can seed heart valves (endocarditis). Some people need antibiotics before dental procedures, depending on their situation.

IS THERE A PILL FOR IT?

No medicine can reverse aortic regurgitation yet, and no supplement or alternative therapy has been proven to improve valve function. Exercise, good nutrition and stress management support your overall health but won't reverse valve disease.

READ THE FULL ARTICLE

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For education only, and not a substitute for advice from your own physician. Sources include the 2020 ACC/AHA and 2014 AHA/ACC valvular heart disease guidelines, the 2021 ESC/EACTS valve guidelines, Bekeredjian and Grayburn (Circulation 2005) and Lancellotti et al. (Journal of the American Society of Echocardiography 2017).

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