

Heart murmurs

Overview

A heart murmur is an abnormal sound made by the heart. In most cases it can only be heard with a stethoscope. Heart murmurs can be present from birth (congenital heart disorder) or develop later in life.

Normally the heart makes two heart sounds: the classic 'lub-DUB'. The two sounds correspond to heart valves closing during each heart beat ensuring blood flows through the heart in one direction only.

A heart murmur usually occurs when the valves do not shut properly and blood leaks back in the wrong direction (regurgitation) or when the valves are too narrow or stiff (stenosis).

Sometimes murmurs can be heard when blood flows through abnormal connections between heart chambers or when blood flow is increased across heart valves by other medical conditions such as anaemia or an overactive thyroid.

Innocent heart murmurs

Importantly murmurs can be 'innocent' and heard in individuals without heart or medical conditions as in pregnancy and childhood. Instead of the normal lub-dub sounds, the turbulent flow of blood produces whooshing or rasping sounds likened to the turbulent flow of water down a rocky stream. In some cases third and fourth heart sounds are heard (galloping heart sounds).

Often they cause no real problem but sometimes they may indicate a range of heart problems that will need to be monitored and/or treated.

Causes

Heart murmurs can be caused by a range of conditions including:

- Congenital heart disorders
- Regurgitation - blood flowing backwards.
- Stenosis - thickening of artery causing turbulent blood flow
- Artificial or 'prosthetic' heart valves
- Diseases affecting the cardiac muscle
- Anaemia
- Hyperthyroidism
- Stress.

Heart murmurs can be benign or 'innocent' and not require treatment. About 30-60% of all children and babies have innocent heart murmurs. However, heart murmurs may also be pathological and indicative of a range of heart problems.

Innocent heart murmurs can be caused by conditions that increase the heart rate and blood flow such as:

- Exercise
- Pregnancy
- Fever
- Anaemia (low iron in the blood)
- Hormone imbalances (such as hyperthyroidism)
- Heart surgery.

Children commonly develop innocent heart murmurs at some point during infancy or childhood and these are usually harmless and go away as the child gets older. Abnormal heart murmurs during childhood are often caused by congenital heart disease and are present from birth. The most common congenital heart defect is a ventricular septal defect (VSD) - a hole in the heart. Sometimes this can correct itself over time, but in other cases it may require surgery.

In adults, abnormal heart sounds may be caused by one of the following:

- Regurgitation (backflow of blood)
- Stenosis (narrowing of blood vessels)
- Hypertrophic cardiomyopathy (enlargement of the heart).

Problems with the valves in the heart can result from a variety of conditions including rheumatic heart disease, connective tissue disease and ageing.

Symptoms

People may not notice they have a heart murmur. However, a doctor will be able to hear abnormal heart sounds when listening to the heart with a stethoscope. There may be a heart murmur even though the structure and function of the heart are normal.

Doctors categorise the heart murmur based on its loudness, the type of sound (whooshing, hum, extra beats) and the phase or phases of the heart beat cycle in which the murmur occurs. A systolic murmur occurs during systole or the phase of the heart cycle when the heart is contracting. A diastolic murmur occurs during diastole - the phase of the cycle when the heart is filling with blood.

With an innocent heart murmur (a heart murmur that is harmless) it is very unlikely that any other signs or symptoms will be noticed, but if the murmur is abnormal some of the following symptoms may be present:

- Shortness of breath either when you are resting or moving about.

- Dizziness or light-headedness.
 - Difficulty performing, or feeling breathless when conducting, normal daily activities such as climbing the stairs, gardening or making the bed.
 - Chest pain.
 - Blue skin colour, particularly of the lips or fingernail beds.
 - A feeling that the heart is beating irregularly or faster than normal.
 - Swelling of your feet and/or legs.
- If you experience any of these symptoms, make an appointment to see your GP.

Diagnosis

A doctor will diagnose a heart murmur by listening to heart sounds using a stethoscope. In very rare cases the doctor may be able to detect a very loud heart murmur directly by feeling tremors or vibrations through chest wall. This is known as a palpable thrill.

A more accurate diagnosis can be made by:

- Electrocardiogram (ECG) - a recording of the heart's electrical activity.
- Chest x-ray - this will show if the heart is bigger than normal, if the heart muscle is damaged or if there are any birth defects.
- Echocardiogram - a heart ultrasound; also called a cardiac echo.
- Cardiac catheterisation - an injection of dye into the heart that improves visualisation of the heart on x-ray.
- Cardiac Magnetic Resonance Imaging (CMR)/MRI of the heart - this is a noninvasive scan of the heart which provides accurate imaging of the structure of the heart.
- Blood tests.

Treatment

An innocent heart murmur requires no treatment.

The course of action your GP will take to treat an abnormal heart murmur will depend on the underlying cause.

If the murmur is caused by stress, high blood pressure or a treatable disorder such as hyperthyroidism the murmur will resolve once the underlying condition is treated. In other cases treatments may include pharmacological therapy (drugs) or surgery.

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Drugs treatments may include:

- Blood pressure lowering drugs such as angiotensin-converting enzyme (ACE) inhibitors or diuretics.
- Statins to lower cholesterol.
- Anticoagulants to prevent blood clotting.
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Surgical treatment includes:

- Valve replacement or repair.
- Repair of congenital conditions such as a hole in the heart.
- Valvuloplasty - balloon expansion across narrowed valves.
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Lifestyle and diet

If the heart murmur is caused by an underlying heart disease, there are major risk factors that can be dealt with.

These include:

- Quitting smoking.
- Reducing high blood pressure.
- Reducing high blood cholesterol levels.
- Getting more exercise.
- Losing weight.
- Eating well.

Support and resources

- For additional support and resources, visit: The Heart Foundation:
www.heartfoundation.org.au.

ItsMyHealth.com.au