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Congenital heart disease in adults

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Overview

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Congenital heart disease (congenital heart defect) is one or more abnormalities in your heart's structure that you're born with. This most common of birth defects can alter the way blood flows through your heart. Defects range from simple, which might cause no problems, to complex, which can cause life-threatening complications.

Advances in diagnosis and treatment mean most babies who once died of congenital heart disease survive well into adulthood. However, signs and symptoms of the condition can occur in adults later in life, even those who had treatment as a child.

If you have congenital heart disease you might need care throughout your life. Check with your doctor to determine how often you should be seen as an adult.

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Types

Atrial septal defect (ASD)

Atrioventricular canal defect

Bicuspid aortic valve

Coarctation of the aorta

Congenital mitral valve anomalies

Double-outlet right ventricle

Ebstein anomaly

Eisenmenger syndrome

Hypoplastic left heart syndrome

Long QT syndrome

Partial anomalous pulmonary venous return

Patent ductus arteriosus (PDA)

Patent foramen ovale

Pulmonary atresia

Pulmonary atresia with intact ventricular septum

Pulmonary atresia with ventricular septum defect

Pulmonary valve stenosis

Tetralogy of Fallot

Total anomalous pulmonary venous return

Transposition of the great arteries

Tricuspid atresia

Truncus arteriosus

Vascular rings

Ventricular septal defect (VSD)

Wolff-Parkinson-White (WPW) syndrome

Symptoms

Some congenital heart defects cause no signs or symptoms. For some people, signs or symptoms occur later in life. They can recur years after you've had treatment for a heart defect.

Common congenital heart disease symptoms you might have as an adult include:

- Abnormal heart rhythms (arrhythmias)
- A bluish tint to the skin, lips and fingernails (cyanosis)
- Shortness of breath
- Tiring quickly upon exertion
- Swelling of body tissue or organs (edema)

When to see a doctor

If you're having worrisome symptoms, such as chest pain or shortness of breath, seek emergency medical attention.

If you have signs or symptoms of congenital heart disease or were treated for a congenital heart defect as a child, make an appointment to see your doctor.

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Causes

Researchers aren't sure what causes most congenital heart disease, which develops in the womb. Heredity might play a role in some congenital heart disease.

How the heart works

The heart is divided into two chambers on the right and two on the left. To pump blood through the body, the heart uses its left and right sides differently.

The right side of the heart moves blood to the lungs through certain blood vessels (pulmonary arteries). In the lungs, blood picks up oxygen and then returns to the left side through the pulmonary veins. The left side of the heart then pumps the blood through the aorta and out to the rest of the body.

Congenital heart disease can affect any of the heart's structures, including valves, chambers, the wall of tissue that separates the chambers (septum) and arteries.

Why congenital heart disease resurfaces in adulthood

For some adults, problems with their heart defects arise later in life, even if treated in childhood. Repairing defects improves heart function, but might not make the heart completely normal.

Even if the treatment you received in childhood was successful, a problem can occur or worsen as you age. It's also possible that problems in your heart, which weren't serious enough to repair when you were a child, have worsened and now require treatment.

Then there are complications of childhood surgeries to correct congenital heart disease that can occur later, such as scar tissue in your heart that contributes to an abnormal heart rhythm (arrhythmia).

Risk factors

Certain environmental and genetic risk factors might play a role in the development of your heart defect, including:

- **German measles (rubella).** Your mother having had rubella while pregnant could have affected your heart development.
- **Diabetes.** Your mother having type 1 or type 2 diabetes might have interfered with the development of your heart. Gestational diabetes generally doesn't increase the risk of developing a heart defect.
- **Medications.** Taking certain medications while pregnant can cause congenital heart and other birth defects. They include isotretinoin (Amnesteem, Claravis, others), used to treat acne; and lithium, used to treat bipolar disorder. Drinking alcohol while pregnant also contributes to the risk of heart defects.
- **Heredity.** Congenital heart disease appears to run in families and is associated with many genetic syndromes. For instance, children with

Down syndrome often have heart defects. Genetic testing can detect Down syndrome and other disorders during a baby's development.

- **Smoking.** A mother who smokes while pregnant increases her risk of having a child with a congenital heart defect.

Complications

Congenital heart disease complications that might develop years after the initial treatment include:

- **Abnormal heart rhythms (arrhythmias).** Arrhythmias occur when the electrical impulses that coordinate heartbeats don't function properly, causing your heart to beat too fast, too slowly or irregularly. In some people, severe arrhythmias can cause sudden cardiac death if not treated.
- **Heart infection (endocarditis).** Your heart comprises four chambers and four valves, which are lined by a thin membrane called the endocardium. Endocarditis is an infection of this inner lining, which generally occurs when bacteria or other germs enter your bloodstream and lodge in your heart. Untreated, endocarditis can damage or destroy your heart valves or trigger a stroke.

  If you have an artificial (prosthetic) heart valve or your heart was repaired with prosthetic material, or if your heart defect wasn't completely repaired, your doctor might prescribe ongoing antibiotics to lower your risk of developing endocarditis.
- **Stroke.** Stroke occurs when the blood supply to a part of your brain is interrupted or severely reduced, depriving brain tissue of oxygen. A congenital heart defect can allow a blood clot to pass through your heart and travel to your brain.

  Certain heart arrhythmias also can increase your chance of blood clot formation leading to a stroke.
- **Heart failure.** Heart failure, also known as congestive heart failure, means your heart can't pump enough blood to meet your body's needs. Some types of congenital heart disease can lead to heart failure.

  Over time, certain conditions such as coronary artery disease or high blood pressure gradually sap your heart of its strength, leaving it too weak or too stiff to fill and pump efficiently.
- **Pulmonary hypertension.** This is a type of high blood pressure that affects the arteries in your lungs. Some congenital heart defects cause more blood to flow to the lungs, causing pressure to build and making your heart work harder. This eventually causes your heart muscle to weaken and sometimes to fail.

- **Heart valve problems.** In some types of congenital heart disease, the heart valves are abnormal.

By Mayo Clinic Staff

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