



Cardiac Defects: Ventricular Septal Defect

A *ventricular septal defect* (VSD) is an opening in the tissue (the septum) between the heart's lower chambers (the ventricles). A VSD is one of the defects referred to as "a hole in the heart."

When the VSD is large, the heart may have to pump harder to deliver enough oxygen to the body. Patients with a small VSD usually do not have any symptoms.

Sometimes children with a VSD also have other heart abnormalities.

What are the symptoms of a VSD?

If the hole is large, a child might exhibit symptoms including

- rapid heartbeat
- difficulty feeding
- heart murmur—the heart sounds abnormal when a doctor listens with a stethoscope.

How is a VSD diagnosed?

A VSD might be diagnosed before birth with a fetal echocardiogram. In this case, your baby's providers will prepare a plan for care after birth.

In some cases, a VSD might be diagnosed soon after birth if the newborn exhibits symptoms or a doctor notices a heart murmur. Sometimes a VSD isn't diagnosed until the child is older.

Diagnosis of a VSD may require some or all of these tests:

- echocardiogram (also called echo or ultrasound)—sound waves create an image of the heart
- electrocardiogram (ECG)—a record of the electrical activity of the heart
- chest X ray
- cardiac catheterization—a thin tube (catheter) is inserted into the heart through a large vein in the leg
- cardiac magnetic resonance imaging—a three-dimensional image that shows the heart's abnormalities.

It is important that a VSD be diagnosed and treated, as needed, or the heart and the arteries between the heart and lungs might be damaged.

What are the treatment options for a VSD?

Treatment will depend on your child's health and on the size of the VSD. Doctors may wait to see if the VSD will close on its own. Many small VSDs will do so before the child is 2 years old.

If the VSD requires surgery, doctors might wait until your baby is older and stronger. During that time, your baby may have to take medicines as well as have higher calorie intake to help with the symptoms. If surgery is needed, surgeons will place a patch or stitches to close the hole during open-heart surgery.

What kind of follow-up care is required for a VSD?

Through Age 18

After VSD repair, many children recover quickly and don't experience additional cardiac problems. They must see a pediatric cardiologist for checkups, and some remain on medicine. Rarely, additional surgery is required.

If the child has other heart abnormalities, more follow-up care will be required.

Pediatric cardiologists follow patients until they are young adults, coordinating care with primary care providers.

Into Adulthood

It's important that adults who were born with a VSD continue to see a cardiologist. The pediatric cardiologist will help your child transition to adult cardiologists.

Because of enormous strides in medicine and technology, today most children with heart conditions go on to lead healthy, productive lives.

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