

Your Child's Large Ventricular Septal Defect

What is a ventricular septal defect (VSD)?

A normal heart has four chambers. The top chambers are called the atria and the bottom chambers are called the ventricles. The top and bottom chambers are separated by a wall called a septum. A ventricular septal defect (VSD) is a hole (defect) in the wall between the bottom chambers of the heart.

What should I know about a VSD?

- A VSD is a common heart defect.
 - A person who has a VSD was born with it.
 - During the first 8 weeks of fetal development, your baby's heart begins as a hollow tube. It then develops partitions that become the wall dividing the right side of the heart from the left. When the partitioning process does not occur completely, it leaves an opening in the wall between the bottom chambers of the heart, called a VSD.
 - Normally, the left side of the heart only pumps blood to the body, and the right side of the heart only pumps blood to the lungs. In a child with a VSD, blood can travel across the hole from the left pumping chamber to the right pumping chamber and to the lungs. This causes extra blood to be pumped to the lungs.
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What should I know about a large VSD?

- When the extra blood flow to the lungs results in symptoms, we call it pulmonary (lung) overcirculation or heart failure. The heart is not actually failing, it is just working harder.
 - The extra blood being pumped into the lungs can cause heaviness or congestion. This heaviness can make breathing more difficult. Without treatment this can cause permanent damage to the lungs.
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What are the symptoms of a large VSD?

Symptoms can start by the time your child is 2 to 8 weeks old. They include:

- Faster heart rate
 - Breathing that is fast or noisy
 - Difficulty with eating (becomes tired or sweaty)
 - Difficulty gaining weight
 - Pale skin
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How is it diagnosed?

To diagnose this condition, your child's doctor will:

- Examine your child
 - Check your child's heartbeat
 - Use a stethoscope to listen for an unusual sound (murmur)
 - Ask about your child's symptoms and health history
 - Ask about your family's health history
 - Order an echocardiogram (ultrasound)
 - Order an electrocardiogram (to check heart rhythm)
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To Learn More

- Heart Center
206-987-2015
- Ask your child's healthcare provider
- seattlechildrens.org

Free Interpreter Services

- In the hospital, ask your nurse.
- From outside the hospital, call the toll-free Family Interpreting Line, 1-866-583-1527. Tell the interpreter the name or extension you need.



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What kind of treatment will my child need?

- Medicines such as diuretics (water pills) are used to remove excess fluid from the body and lungs. This makes breathing and feeding easier for your child. These medicines help with symptoms, but do not cure the VSD.
- Nutrition to help your child gain weight. This may include using a high-calorie formula (can be added to breastmilk) or supplemental tube feedings.
- Surgery to close the VSD. Closing a large VSD by open-heart surgery is usually done in infancy or childhood, even in patients with few symptoms, to prevent complications later. Usually a patch of fabric or pericardium (the normal lining around the outside of the heart) is sewn over the VSD to close it completely. Later this patch is covered by the normal heart lining tissue and becomes a permanent part of the heart. Some defects can be sewn closed without a patch. It may be possible to close some VSDs in the cath lab.
- Our heart team has extensive experience with the treatment of patients who may require surgery for a VSD. We also have a pediatric cardiac anesthesia team and a cardiac intensive care service ready to care for children who need surgery.

What does follow-up look like?

Your child will need regular checkups by a heart doctor (cardiologist).

Will my child have physical activity restrictions?

No, it is unlikely your child will need any physical activity restrictions.

Where can I learn more?

- Seattle Children's handout "Heart Diagram with Text Labels"
www.seattlechildrens.org/pdf/PE734B.pdf
- American Heart Association "Ventricular Septal Defect (VSD)"
www.heart.org/HEARTORG/Conditions/CongenitalHeartDefects/AboutCongenitalHeartDefects/Ventricular-Septal-Defect-VSD_UCM_307041_Article.jsp
- Kid's Health "Ventricular Septal Defect"
kidshealth.org/parent/medical/heart/vsd.html