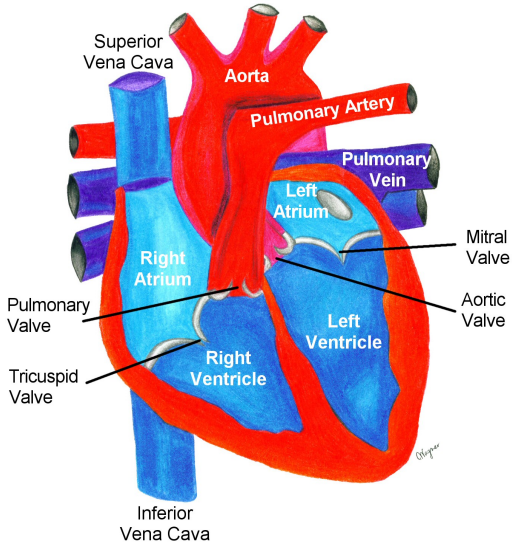
Ventricular Septal Defect (VSD), Brief Version

Your caregiver has diagnosed you or your child as having ventricular septal defect (VSD). A ventricular septal defect is a hole in the heart which is located in the *septum* (wall) between the *ventricles* (the large muscular chambers) of your heart. This is something you are born with. It is often found during the first couple months of life during a routine exam. The size of the hole and where it's located in the heart will determine if there are symptoms of VSD. Most teens with VSD probably do not remember having it because it either goes away on its own or is discovered so early in childhood that there's no memory of any surgery or recovery.



Your heart is made up of four chambers: the right and left *atria* (the top chambers of the heart), and the right and *left ventricles* (bottom chambers).

Usually, blood from the body is returned to the right atrium. This acts like a holding tank and pumps it into the right ventricle. The right ventricle then, pumps blood through the lungs. In the lungs the blood picks up oxygen from the air in your lungs and leaves behind a waste (carbon dioxide). This blood from the lungs then empties into the left atrium. Again, this is like a holding tank. The blood is then pumped into the left ventricle. The large muscular left ventricle then pumps blood to the rest of the body.

SYMPTOMS

Young people who have small VSD's that have not closed yet often do not notice problems. The only problem may be a heart murmur their caregiver hears when listening to the heart. A heart murmur is a little extra sound your heart makes while it is beating. Your child may need to see their caregiver on a regular basis for followup.

The very small number of teens with moderate and large VSD's that have not been treated in childhood may notice some symptoms which may include:

- Shortness of breath.
- Poor appetite.
- A feeling of tiredness or weakness which is greater during exercise.
- Trouble gaining weight.

Improvements in treatment now allow most people to be treated before the VSD ever causes problems.

DIAGNOSIS

Your caregiver or *cardiologist* (heart doctor) may perform specialized tests to find out what is wrong.

TREATMENT

Once a person is diagnosed with a VSD, treatment will depend on:

- Age
- The size of the hole.
- Where the hole is located.

VSD's do not enlarge with time. They may close by themselves without treatment or stay the same. Following are some treatments or suggestions:

- Young people with a small defect and no problems may simply need to visit a *pediatric cardiologist* (heart doctor specializing in children) regularly to make sure that there are no problems.

- In young people where a small defect often closes on its own without surgery, the problem may be watched with no activity limitations.
- For people with medium to large VSD's, surgery may be necessary to close the defect. In most cases, this surgery takes place in young children, and usually in the first two years of life.
- Occasionally, surgery for a ventricular septal defect is done during adolescence. Until their VSD's are corrected, some people with larger VSD's may need to take medication to help the heart pump more efficiently or to help the body get rid of extra fluids. VSD surgery involves making a cut in the chest so a surgeon can stitch the hole closed or sew a patch over the hole. Eventually, the tissue of the heart heals over the patch or stitches, and by 6 months after the surgery, the hole will be completely covered with tissue.
- Instead of surgery, some people with VSD's may have a procedure known as cardiac catheterization. A thin, flexible tube called a catheter is inserted into a blood vessel. A surgeon then guides the tube into the heart and inserts a device that helps to close off the VSD permanently. After healing from surgery or having catheterization, teens with VSD's are considered cured and should have no further problems.
- People who have their VSD's corrected will need to take antibiotics to protect against *bacterial endocarditis* (an infection of the inner surface of the heart) for 6 months following surgery or catheterization closure. Six months to a year after surgery, though, most VSD patients are considered cured and no longer need to worry about bacterial endocarditis.

HOME CARE INSTRUCTIONS

- People with uncorrected VSD's need to take antibiotics before having dental work or other surgical procedures (called prophylactic antibiotic treatment). These drugs help to prevent bacterial endocarditis, which is an infection of the inner surface of the heart. If you need to have dental work or other surgeries, be sure to let your dentist and your doctor know that you have a VSD so that they can take precautions.
- Avoid getting body piercings. Because piercing increases the possibility that bacteria can get into the body and infect the heart, body piercing puts people with VSD's at risk of developing bacterial endocarditis. If you're considering a piercing and you have a heart defect, talk to your caregiver before you do it.

SEEK MEDICAL CARE IF YOU DEVELOP:

- Poor eating.
- Shortness of breath.
- An unexplained oral temperature above 102º F (38.9º C).
- *Malaise* (feelings of depression or unease).
- Poor weight

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