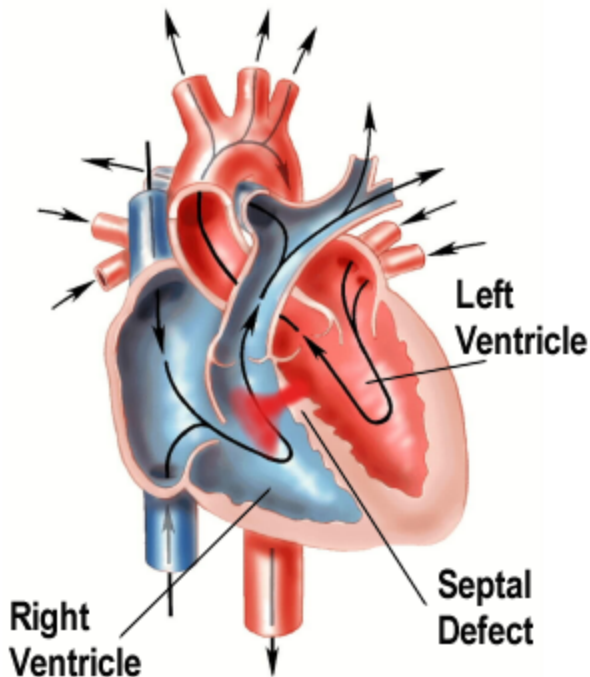


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Ventricular Septal Defect

What is a ventricular septal defect?

The ventricular septum is a partition that divides the right and left ventricles, the bottom two chambers of the heart. The formation of the intraventricular septum is a complicated process. In some babies, the septum is incompletely developed and a hole exists. This is known as a septal defect. Its importance is largely determined by the amount of blood that travels across the defect. The shunting of blood across the septal defect leads to an increased workload for the heart - the heart can dilate, the muscle can become weak, and the pressures in the pulmonary arteries can increase (pulmonary hypertension) due to the increase in blood flow. If the defect is closed, these consequences can be avoided.



What are the symptoms of a ventricular septal defect?

Unless the defect is very large, there may be few symptoms. In fact, many people may live their entire lives with small ventricular septal defects and be unaware that any abnormality exists. For those with ventricular septal defect, the most common symptom is shortness of breath with activity. In most people, this does not happen until their 20's or 30's. As outlined above, the blood pressure in the lungs can increase. This can

ultimately lead to congestive heart failure.

How is ventricular septal defect diagnosed?

A physical examination performed by your doctor may suggest the diagnosis. A chest x-ray may be helpful in showing an enlargement of the right heart and an increase in lung blood flow. An electrocardiogram (ECG) is sometimes helpful. An ultrasound of the heart (echocardiogram) is a very helpful test to assess the size of the defect and its effects on the heart. The definitive study is a cardiac catheterization. This is a hospital test that provides a precise measurement of the blood flow through the defect, measures pressure within the heart and helps plan surgical therapy.

How is it treated?

Small ventricular defects do not require therapy. Larger defects require surgical closure. Surgical closure involves a patch of pericardium, a dacron patch, or primary closure. More recently a catheter based approach has been developed by which a clamshell-like device is used to close the defect.

The decision as to which defects should be closed is often difficult. The amount of blood flow through the defect, the age of the patient, the symptoms produced, the likelihood of complications and the chances of symptom improvement are all important variables.