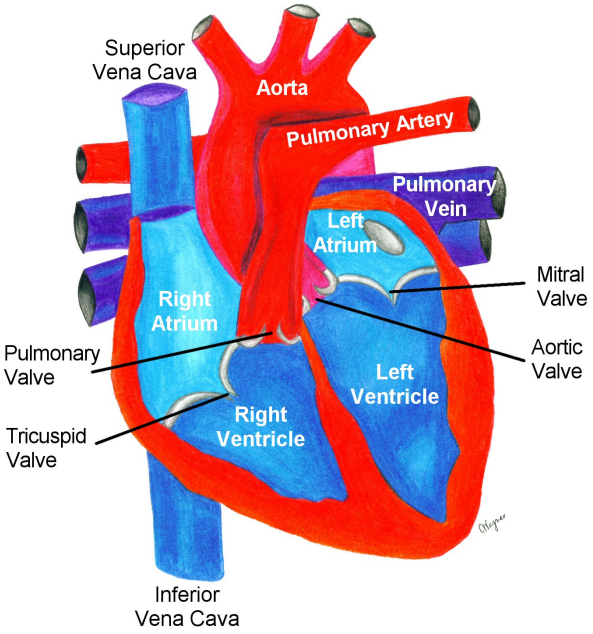
Atrial Septal Defect, Brief Version

An atrial septal defect (ASD) is a hole in your heart. This hole is located in the thin tissue (*septum*) which separates the top two chambers of the heart (*right and left atria*). We all have this hole while we are growing inside the womb because it is necessary for our development. Shortly after birth, in most of us, this hole closes up.



For your heart to work efficiently, blood flow in the heart has a regular pathway. Normally, blood from the right side of the heart is pumped to the lungs where the blood is oxygenated. The oxygenated blood from the lungs is then pumped to the left side of the heart. From the left side of the heart, blood is pumped out to the rest of your body.

When an atrial septal defect occurs, your blood takes an abnormal path in the heart. The ASD allows blood from the left side of the heart (*left atrium*) to mix with blood in the right side of the heart (*right atrium*). The blood is then recirculated to the lungs and left side of the heart. In other words, the blood makes the trip twice. An ASD makes the heart work harder by increasing the amount of blood into the right side of the heart. This causes heart overload and eventually weakens the hearts ability to pump.

SYMPTOMS

- The symptoms of ASD vary depending upon the size of the hole and the amount of blood that goes into the right atrium. These may include:
  - No symptoms at all.
  - Tiredness or fatigue.
  - Trouble breathing or shortness of breath.
  - Heart *murmurs* ("swishing" type heart sounds).
  - Irregular heart beats.

DIAGNOSIS

In order to diagnose ASD, tests will need to be performed. There are three different areas on the septum where ASD may occur. Tests can show where the ASD is on the septum. Your caregiver can explain these tests to you.

TREATMENT

- If the ASD is small, no treatment may be required if only a small amount of blood is *shunting* (moving back and forth) from the left to right atrium.
- **Nonsurgical closure** may be done depending on the type and location of the ASD. This type of procedure is done in the cardiac catheterization lab. The ASD is repaired by inserting a *catheter (*small plastic tube) into your groin. The catheter is advanced to the ASD in the heart and a special patch that resembles an umbrella is placed in hole of the ASD. The patch is "opened up", thereby closing the hole.
- **Open heart surgery** may be necessary if nonsurgical closure cannot be done. If the ASD is small, the hole can be closed with stitches. If the ASD is large, patch is sewn over the defect so the hole is closed.

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