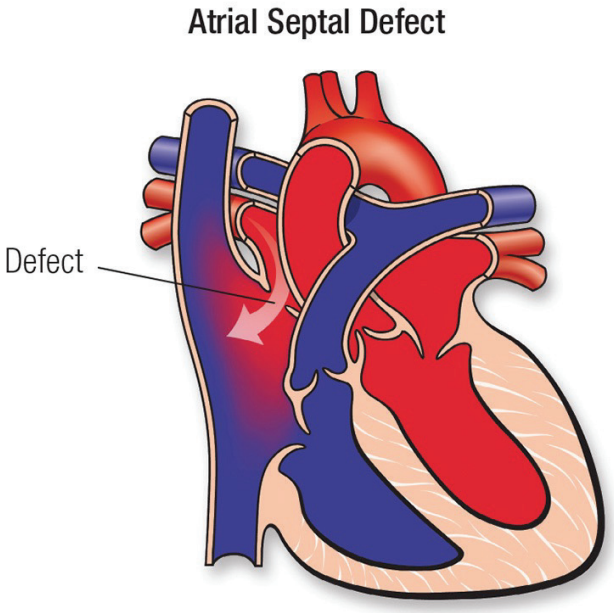
Atrial Septal Defect

What is it?

ASD is a hole in the septum between the heart's two upper chambers. The septum is a wall that separates the heart's left and right sides.

This defect allows oxygen-rich blood to leak into the oxygen-poor blood chambers in the heart.



What causes it?

Every child is born with an opening between the upper chambers of the heart. This opening is normal and allows blood to detour away from the lungs before birth. After birth, the opening is no longer needed and usually closes, or becomes very small, within several weeks or months. Sometimes the opening is larger than normal and doesn't close after birth. In most children, the cause of this isn't known. Some children can have other heart defects along with ASD.

How does this affect the heart?

Normally, the left side of the heart pumps blood only to the body, and the right side pumps blood only to the lungs. In a child with ASD, blood can travel across the hole from the left upper heart chamber (left atrium) to the right upper chamber (right atrium) and out into the lung arteries.

If the ASD is large, the extra blood pumped into the lung arteries makes the heart and lungs work harder, and these arteries can gradually become damaged. If the hole is small, it may not cause symptoms or problems. Many healthy adults still have a small leftover opening in the wall between the atria, sometimes called a patent foramen ovale (PFO).

How does an ASD affect my child?

Children with an ASD often have no symptoms. If the opening is small, it won't cause symptoms because the heart and lungs don't have to work harder. If the opening is large, the only abnormal finding may be a murmur (noise heard with a stethoscope) and other abnormal heart sounds. In children with a large ASD, the main risk is to the blood vessels in the lungs because more blood than normal is being pumped there. Over time, usually many years, this may cause permanent damage to the lung blood vessels.

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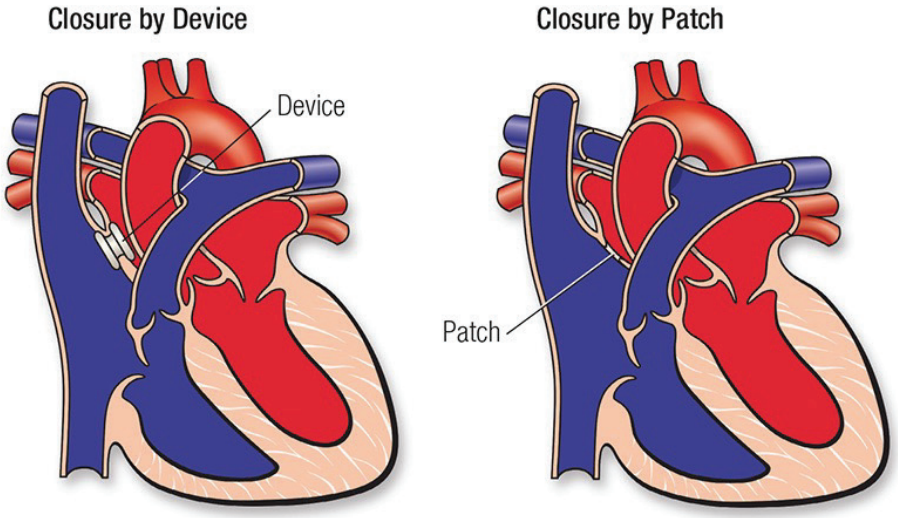
Can the ASD be repaired?

If the opening is small, it doesn't make the heart and lungs work harder, so surgery and other treatments may not be needed. Small ASDs discovered in infants often close or narrow on their own. No medicine will make the ASD get smaller or close any faster than it might do naturally.

If the ASD is large, it can be closed with open-heart surgery or a less invasive procedure called cardiac catheterization, using a device inserted into the opening to plug it. Sometimes, if the ASD is in an unusual position within the heart or if there are other heart defects present, such as abnormal connections of the veins bringing blood from the lungs back to the heart (pulmonary veins), the ASD can't be closed with the catheter technique. Then surgery is needed. Closing a large ASD by open-heart surgery is usually done in early childhood, even in patients with few symptoms, to prevent complications later. Many defects can be sewn closed without using a patch.



What activities can my child do?

After surgery or catheter closure, your child's pediatric cardiologist may advise some activity changes for a short time. But after successful healing from surgery or catheter closure, no restrictions are usually needed, and your child may be able to participate in normal activities without increased risk. Sometimes medicines to prevent blood clots and infection are used for a few months after ASD closure.

What will my child need in the future?

Depending on the type of ASD, your pediatric cardiologist may examine your child periodically to look for uncommon problems. For a short time after surgery to close an ASD, a pediatric cardiologist must regularly examine the child. The long-term outlook is excellent, and usually no medicines and no additional surgery or catheterization are needed.