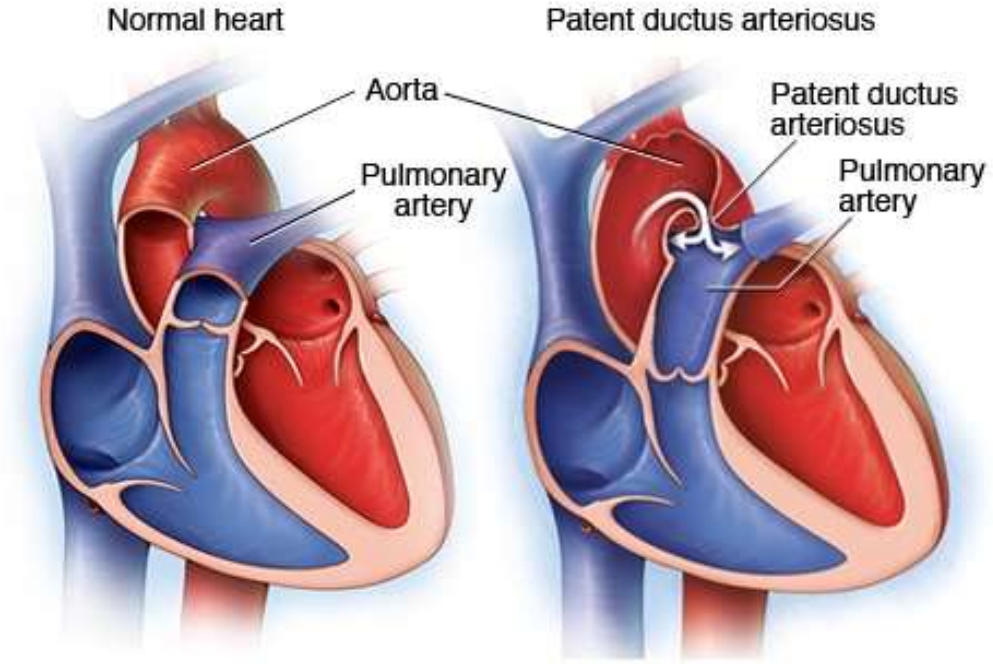
Patent Ductus Arteriosus

The heart is made up of four chambers, two **atria** on the top, and two **ventricles** on the bottom. The right ventricle pumps blood through a large blood vessel called the **pulmonary artery** to the lungs, where the blood gets full of oxygen. The left ventricle pumps that oxygenated blood through a large blood vessel called the **aorta** to all the organs.

A Patent Ductus Arteriosus (PDA) is a connection between the pulmonary artery and the aorta. This connection is normal in the fetal circulation (before birth) and usually closes during the first week of life. However, in some people the connection does not close on its own. The extra flow of blood to the lungs can cause damage to the blood vessels in the lungs.

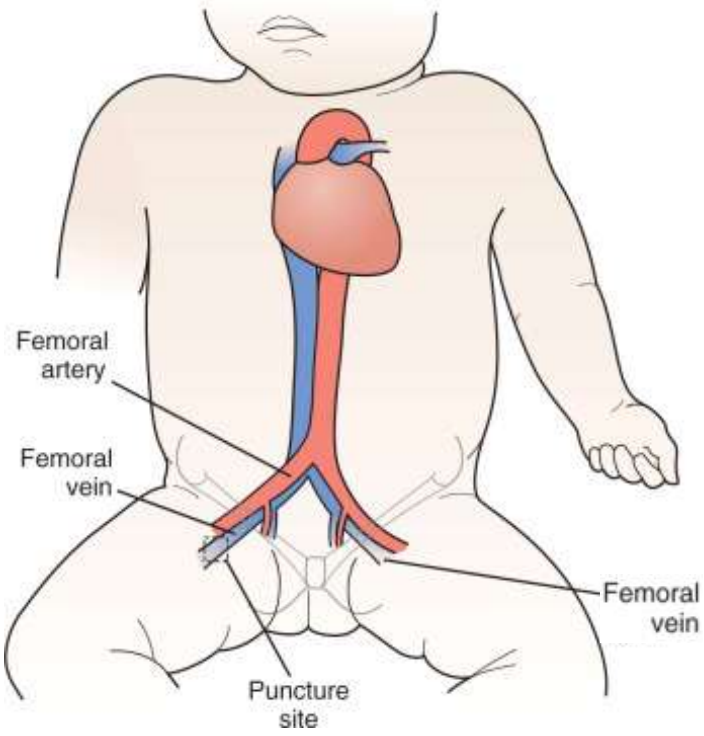
If left untreated, a PDA may cause any of the following issues: difficulty breathing, failure to thrive, heart failure, pneumonia or risk of blood vessel infection. A procedure may be required to close this hole.



Ann & Robert H. Lurie
Children's Hospital of Chicago®

How Do We Access the Heart?

- An ultrasound machine is used to help identify the correct blood vessel in the groin
- A local anesthetic (numbing medicine) is given to the access site
- A needle is used to get access to the blood vessel, where a sheath is placed for the rest of the procedure
- Various catheters are used throughout the procedure to close the PDA



Tools Used During a Procedure

Sheath

A sheath is a short hollow tube that allows different catheters to go in and out of the body

Catheter

A catheter is a long, thin, flexible tube

Ann & Robert H. Lurie Children's Hospital of Chicago

What Happens DURING the Procedure?

- A catheter is passed up through a sheath from the groin into the heart, with the end of the catheter near the PDA
- Contrast dye is injected into the catheter, passing through the PDA, showing up dark on the x-ray in order to see the shape and size of the PDA clearly
- The x-ray image of the PDA is used to determine which closure device will be used
- The selected device is moved into position across the PDA using the catheter
- Detailed images and measurements are taken to choose the best device to close the PDA
- Once the team confirms that the device is in correct position, the device is released from the catheter
- The catheters are removed, and the device is left behind closing the PDA
- The team then observes for about 10 minutes and takes another x-ray to confirm the device has not moved
- At the end, all catheters and sheaths are removed from the groin and manual pressure is held by a team member to stop the access site from bleeding

What Happens AFTER the Procedure?

Short Term

- Your child must lie flat for 4 to 6 hours but will be able to eat and drink.
- Your child will be on antibiotics for ~24 hours.
- A chest x-ray will be done before you can go home.

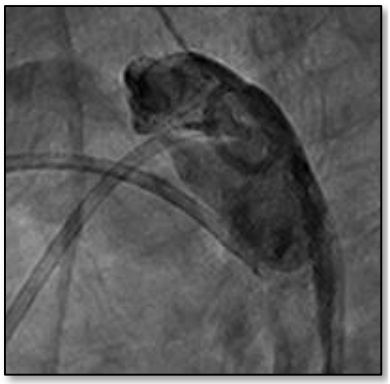
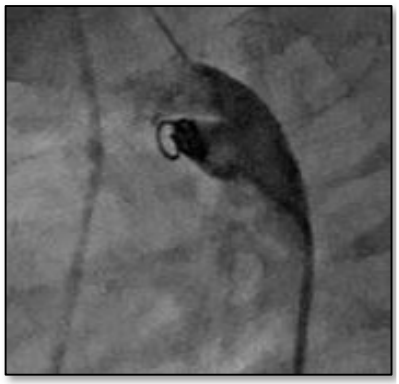
Long Term

- Follow up clinic visits with your child's primary cardiologist at: 1 month; 6 months (echocardiogram will be done); 12 months; and, 24 months post procedure
- For the next 6 months, one dose of antibiotics will need to be taken one hour before any dentist appointments

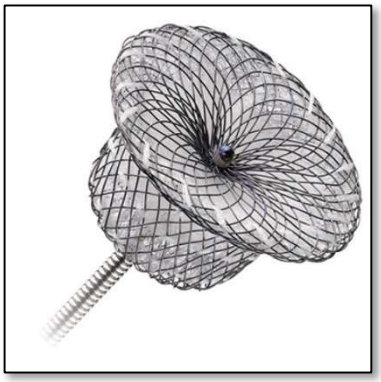
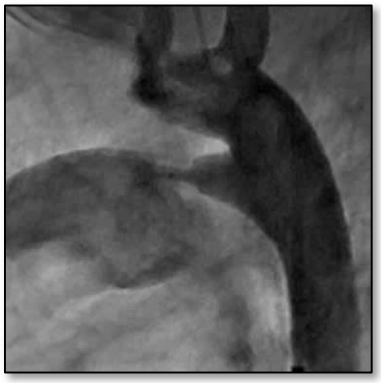
*Post procedure plan of care will be individually tailored and may change from plan outlined here

What do These Closure Devices Look Like?

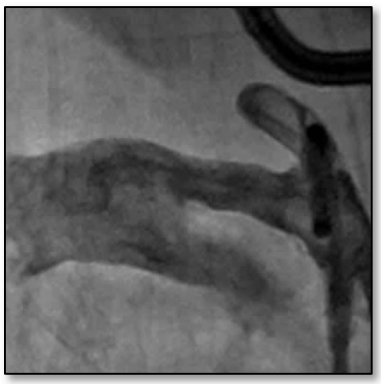
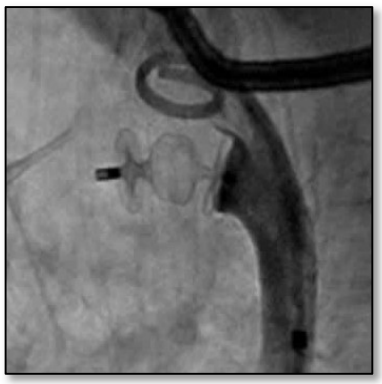
Coil

Amplatzer Ductal Occluder


Amplatzer Type II Vascular Plug

Ann & Robert H. Lurie
Children's Hospital of Chicago®