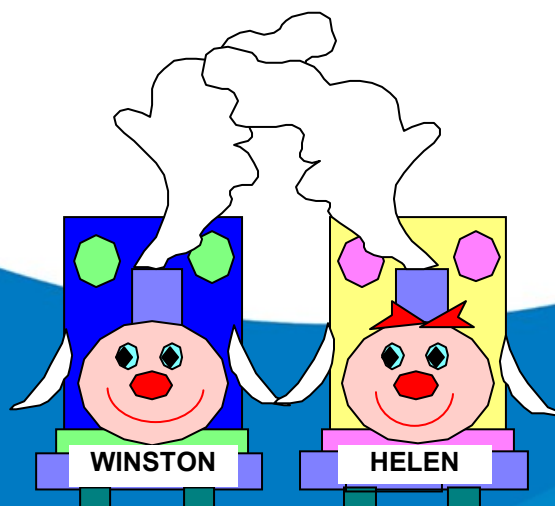


Atrial Septal Defect (ASD) 'Hole in the Heart'

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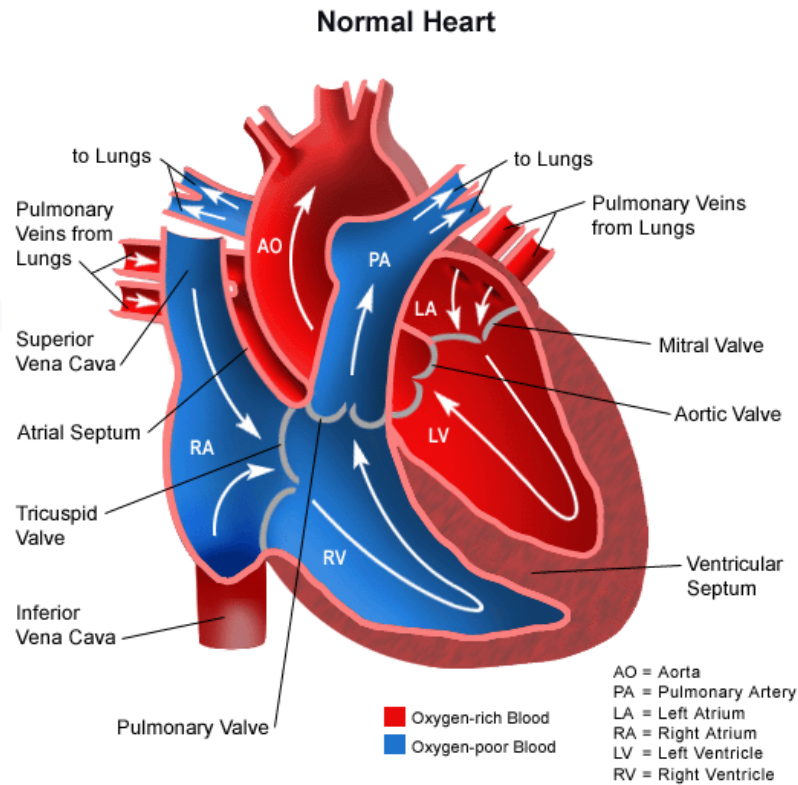
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The Normal Heart

The Heart is made up of four chambers: the upper two chambers are called the atrium and the lower two are known as ventricles. Muscular walls, called septum, divide the heart into two sides. On the right side of the heart, the right atrium and ventricle work to pump deoxygenated blood to the lungs; on the left side, the left atrium and ventricle combine to pump oxygenated blood to the body.



Medicines are often used to treat heart problems and reduce symptoms.

Many infants will not require any medications at all. For those who do, here are just a few of the more common drugs used. It may be necessary for blood tests to be carried out on your infant/child from time to time if they are on certain types of medication. Your specialist will advise you if blood tests are required.

Frusemide & Hydrochlorothiazide

These are diuretics (water medicine) which make the kidneys pass more urine.

Infants and children on these drugs lose sodium, chloride and potassium (different salts in the blood stream) and water. When the heart is not working very well, water and salt accumulate in the body, liver and the lungs, making particularly the lungs rather heavy. When these drugs are given, the lungs become somewhat lighter, easier to expand and, less energy is used in breathing, thus helping the infant to breathe.

Spironolactone/Amiloride

These are weaker diuretics (water medicine) which make the kidneys pass more urine. They hold on to potassium (salt) and are often used with other diuretics.

Captopril & Hydralazine

These drugs dilate (open) the blood vessels and as a result reduce blood pressure. They can be used to restore normal blood pressure. They can also be used in those infants and children with normal blood pressure and a weak heart. By reducing the blood pressure this reduces the work of the heart.

Propranolol

This reduces the rate and force of contraction of the heart muscle. It is useful in treating fast heart rates, high blood pressure and also relieving spasm of heart muscle with other more complicated heart problems.

Giving high calorie feeds less often will also reduce the effort your infant needs to feed thus you may be advised to see a Paediatric Dietician for on-going advice.

What about surgery?

The specialist in charge of your child's care may decide that it may be more appropriate for your child to have an elective repair of the (ASD) using open heart surgery.

The defect is usually closed either directly with a suture (stitch) or patched. If closed by a stitch. Your specialist will explain the operation in detail if an operation is needed.

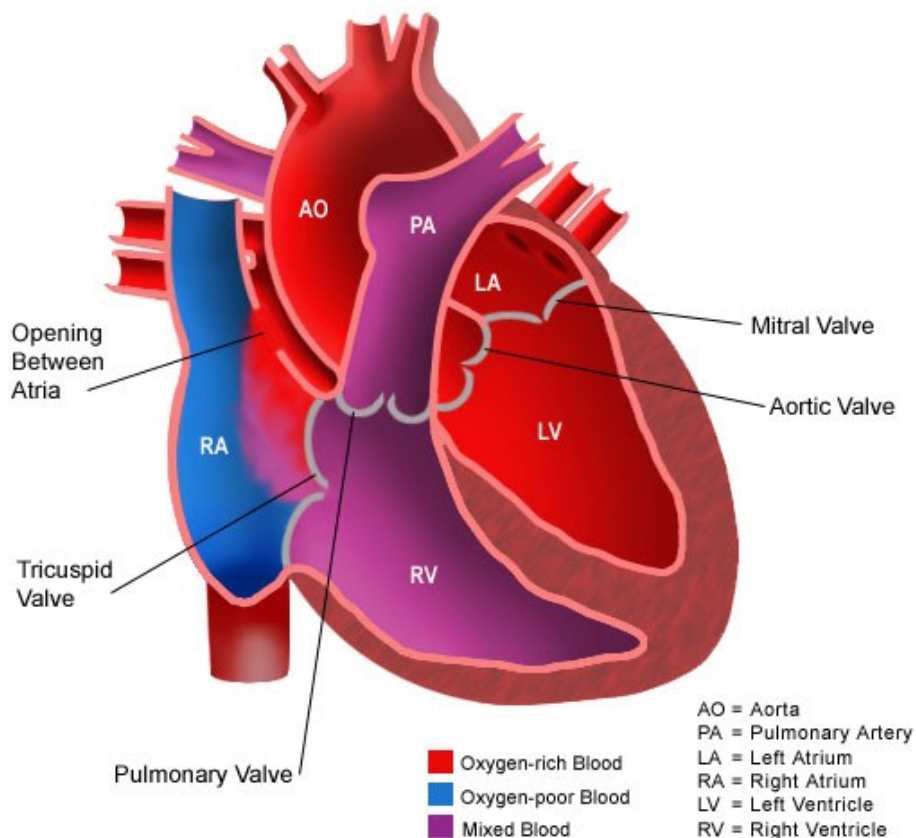
If the mitral valve is involved, this is usually repaired with sutures (stitches) at the same time as the hole is closed and in this case antibiotic prophylaxis (preventative antibiotics) are required for life. Follow up appointments with a Cardiologist (heart specialist) will be required long term.

Nature and reasons for the condition

Atrial Septal Defect (ASD)

- The heart is divided into four separate chambers. The upper chambers, or atrium, are divided by a wall called the septum. An atrial septal defect (ASD) is a hole in the septum. ASD's are one of the commonest heart defects seen. 2 out of every 1,000 babies born will have an ASD. Girls are slightly more likely to have the problem than boys.
- When an ASD is present, blood flows through the hole primarily from the left atrium to the right atrium. This shunting increases the blood volume in the right atrium which means more blood flows through the lungs than would normally.
- If left untreated, the ASD may cause problems in adulthood. These problems may include pulmonary hypertension (which is high blood pressure in the lungs), congestive heart failure (which is weakening of the heart muscle), atrial arrhythmias (abnormal rhythms or beating of the heart) and an increased risk of stroke.

Atrial Septal Defect (ASD)



What are the signs and symptoms of ASD

In most children, ASD's cause no symptoms. A very large defect may allow so much blood flow through it to cause congestive heart failure with symptoms such as shortness of breath, the infant becoming easily tired and poor growth.

How is the diagnosis of ASD made?

Most often an atrial septal defect is diagnosed when a doctor hears a heart murmur during a chest examination. The murmur itself doesn't actually come from blood going across the hole, but rather from the pulmonary valve area because the heart is forcing an unusually large amount of blood through a normal sized valve.

Hearing the murmur on a physical examination is the most common reason an ASD is suspected. An Echocardiogram (a scan of the heart) is usually carried out to confirm the diagnosis.

X-rays may show enlargement of the heart and an ECG (a heart tracing) may show evidence of thickening of the heart muscle.

The usual form of treatment

Small defects that allow a little blood to shunt from one side of the heart to the other often cause no problem. Such defects in the middle portion of the septum may close spontaneously in young children. Moderate and large defects do not close, and the extra work on the heart over many years into adult life causes strain on the right side with enlargement of the receiving chamber and pump chamber. As a result the heart gets tired.

If you have any further questions, please contact your child's consultant via their secretary via the hospital switchboard. The secretaries are available Monday to Friday 9.00 am to 5.00 pm

If you need to contact the Department outside of these hours please phone either:

Ward 3F 0151 430 1616

Ward 4F 0151 430 1791

Whiston Hospital
Warrington Road,
Prescot, Merseyside, L35 5DR
Telephone: 0151 426 1600

 /sthknhs  @sthk.nhs

www.sthk.nhs.uk