

Congenital Heart Disease Factsheets:

ASD (Atrial Septal Defect)

What is congenital heart disease?

Congenital heart disease is the term used to describe a number of different problems that affect how well the heart works. The word “congenital” means the problem occurs while the fetus is being formed, meaning the condition is present at birth.

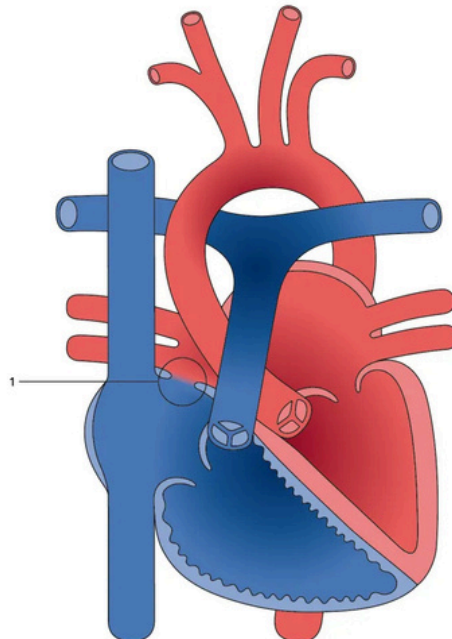
There are a large number of different defects, some are mild and don’t need treatment, while some are life-threatening and need open heart surgery or other medical interventions. Sometimes the term congenital heart “defects” is used instead of “disease” – either way, the name is commonly shortened to CHD.

CHD is the most common congenital birth defect – affecting around 1 in every 100 babies – and around 3,000 surgeries or catheter procedures take place on babies under one year of age in the UK every year.

What is an ASD?

An atrial septal defect (or ASD for short) is a hole in the heart – specifically in the atrial septum (the dividing wall between the right and left atria of the heart).

The atria are the upper chambers of the heart.



There are four types of ASD:

- **ostium secundum:** the most common ASD. It is caused when a part of the atrial septum fails to close completely while the heart is developing
- **ostium primum:** part of atrioventricular canal defects (AVSD)
- **sinus venosus:** occurs at the junction of the right atrium and the superior vena cava
- **coronary sinus:** located within the wall of the coronary sinus, where it passes behind the left atrium

Normally, blood flows from the left atrium into the left ventricle but when there is a hole between the atria, some of the blood flows through this into the right atrium. This means that more blood goes to the right side of the heart and to the lungs rather than to the rest of the body.

ASDs can vary in size and small ones may require no treatment (if the heart function is good) and may close on their own. If the ASD is medium or large, then there will be more blood that goes through the hole and this results in the heart working harder. This can lead to heart and lung damage. These ones will need to be treated.

How can ASD be spotted?

ASDs can be exceedingly difficult to spot during pregnancy. This is because there is already a small 'flap-like' opening between the atria called the Foramen Ovale. It allows blood to flow from the right atrium into the left atrium for it to bypass the lungs.

This opening closes shortly after birth. If this fails to close, then a hole is left called a Patent Foramen Ovale (PFO).

After birth, an ASD can be suspected due to the sound of a heart murmur. This murmur is the extra blood moving through the right side of the heart and the pulmonary artery.

To confirm the presence of an ASD, an echocardiogram (or echo) is usually conducted. This is an ultrasound scan of the heart – which can show the pattern of blood flow through the ASD and determine how large the opening is.

Babies with large defects may be breathless and struggle to feed and gain weight. Those with a smaller atrial septal defect may only show mild symptoms of having a heart condition or may not have any symptoms at all. Frequent chest infections can be a sign that the oxygenation process is not working efficiently due to extra blood flow to the lungs.

How can ASD be treated?

Small ASDs often do not require treatment and will usually close naturally over a period of time.

Larger ASDs will need surgery to prevent permanent damage to the lungs and, ultimately, heart failure. The hole is closed using open heart surgery or through a catheter intervention.

If surgical closure is required, it is usually performed at 2 to 4 years of age but can be performed at a younger age in symptomatic patients.

For most babies, the heart surgery is low risk but it does depend on the general wellbeing of the child. The length of time in hospital will usually be about a week, depending on how well the child is otherwise.

The catheter intervention uses a catheter (tube), which is passed through a vein into the heart. The ASD is then sealed by inserting a device through it and withdrawing the catheter. When the catheter is withdrawn, the device opens on both sides of the hole to close it.

This procedure is not regarded as surgery and they would probably spend only two or three days in hospital afterwards.

General advice & information for the future

Your cardiologist will advise you about any restrictions on activity that you should be aware of as your baby grows up, but they should be able to live a full and active life, with occasional check-ups.

If your baby had open heart surgery, they will have a scar down the middle of the chest, and there will be small scars where drain tubes were used, but these will fade over time.

How Tiny Tickers can help you

Finding out that your baby has CHD (congenital heart disease) is an incredibly difficult experience. Tiny Tickers is here to help – we provide information to parents-to-be and parents whose babies have been diagnosed, and signpost them to appropriate support services and groups.

Our website – www.tinytickers.org – has lots of information and experiences of other families. You can also order our family support pack through our website. We have a private Facebook group where heart parents can share their stories, concerns and support for each other at various stages of their baby or child's journey.

Tiny Tickers is a charity supporting families affected by CHD. For more information about CHD and how we help, please visit www.tinytickers.org or contact us via info@tinytickers.org. Registered charity 1078114.

The ability to speak to others going through or who have been through a similar situation is often a very valuable source of support for a lot of heart parents of babies and children with CHD. Tiny Tickers offers free, virtual peer support sessions and groups for heart parents, parents-to-be and carers.

Please contact us via our website or info@tinytickers.org if you need further information or support.

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