

# The Atrial Switch (Mustard or Senning) procedure for Transposition of the Great Arteries

Information for  
patients



Yorkshire and Humber  
Congenital Heart Disease  
Operational Delivery Network

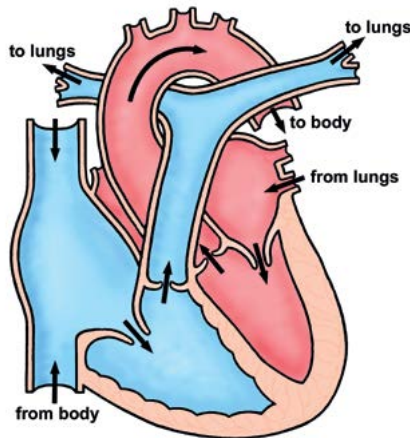
LEEDS CONGENITAL  
**HEARTS**

This leaflet aims to give you an overview of an operation called the Atrial Switch which was commonly performed for a congenital heart condition called Transposition of the Great Arteries.

## The Atrial Switch (Mustard or Senning) procedure for Transposition of the Great Arteries

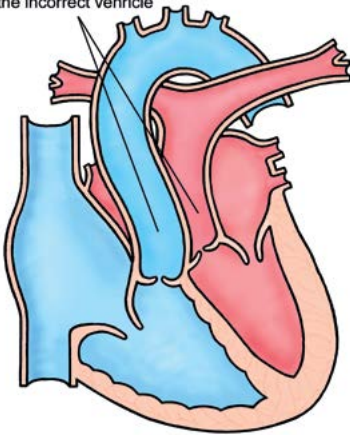
Transposition of the great arteries (TGA) is a serious heart condition in which the two main arteries coming out of the heart are the wrong way round. Babies born with transposition of the great arteries will become blue (low in oxygen) shortly after birth and without heart surgery, the condition is usually fatal in the first year of life.

### *Normal Heart*

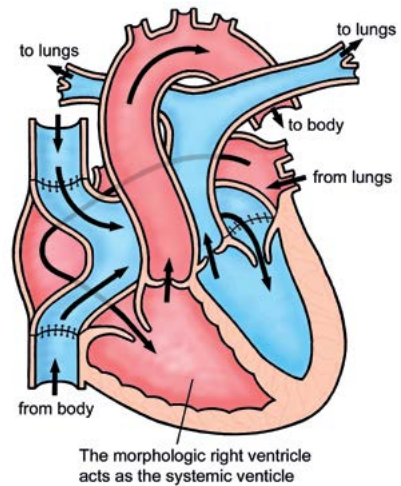


## Transposed Great Arteries

The great arteries arise from the incorrect ventricle



## Atrial Switch Procedure



When you were born, blue blood (low in oxygen) returning to the heart from the body went directly back around the body instead of being pumped around the lungs to pick up oxygen and become red. Red blood returning to the heart from the lungs returned straight back to the lungs instead of being pumped around the body. This deprives the body of the oxygen it requires. This condition is fatal if not treated as a baby.

Between around 1960 and the late 80s, the best treatment for this condition was an operation called the atrial switch - or Mustard or Senning procedure. This involves redirecting the blood via a series of channels sewn into the back of the heart via a baffle (tunnel) sewn inside the heart. This works well, but there are some potential problems which can occur in adult life which you should know about.

## **Pumping problems**

The right sided pumping chamber (right ventricle) was designed to pump blood to the lungs, which only requires low pressures. After the atrial switch operation, the right ventricle is pumping blood to the whole body, so has to work much harder than it was originally designed to. Over many years this extra work can damage the pumping chamber leading to it becoming weak. This can lead to shortness of breath or reduction in the amount of exercise you can manage. This can be helped to a certain extent with medication.

## **Heart rhythm problems**

It is quite common for people who have had an atrial switch operation to have problems with the electric of the heart in adult life. This may cause the heart to beat either too fast or too slow.

If the heart beat is too slow, this can result in dizziness or even collapses. Some people require a pacemaker. Sometimes the heart can beat too fast. Most people will notice this as palpitations will develop. Some people feel quite poorly with their palpitations, they can go dizzy or collapse. We can sometimes treat fast heart beats using medications. Sometimes we need to use more complicated treatments.

## **Problems with the baffles**

The channels that have been sewn into the heart to divert the blood flow can occasionally become narrowed or they can leak (remember, they were sewn in when you were a child, and you have grown quite a lot since then!).

Sometimes these leaks or narrowings can cause your oxygen levels to be low which can cause symptoms such as breathlessness. Sometimes these leaks or narrowings require treatment to fix them. Often this is done via a 'keyhole' technique, but very occasionally requires further surgery.

## Endocarditis

Endocarditis is a rare but very serious infection in the heart caused by bacteria (bugs) in the bloodstream. Bacteria in the bloodstream can come from different places but most commonly it comes from the mouth. It is important to take good care of your teeth and have regular dental check ups every 12 months. **Some people need antibiotic cover for invasive dental treatment.** Please ask your doctor or nurse if this applies to you. We would also advise against tattoos and piercings due to the potential increased risk of infection in the heart.

## Insurance

It can be difficult for people who have had the atrial switch procedure to get some types of insurance. Travel insurance may be more expensive and people who have congenital heart disease often struggle to get any type of life insurance. There are some more sympathetic insurers who can be identified and contacted through the Somerville Heart Foundation. We would recommend seeking advice from a specialist insurance advisor before applying for life insurance.

## Pregnancy, contraception and risk to your children

There are many women who have had successful pregnancies following the atrial switch procedure but the risk to the baby and the mother can be higher. If you are thinking about having a baby you should see your cardiologist before becoming pregnant to discuss this.

Your cardiologist or specialist nurse will be able to give you advice regarding the best form of contraception to use to avoid getting pregnant. The chance of having a child born with a heart problem is slightly higher than normal because you have a heart problem yourself. Your cardiologist will be happy to discuss this with you.

## Exercise

For people who have had an atrial switch operation it is particularly important to stay a healthy weight and remain active to reduce your risk of problems occurring in the future. You are able to exercise within your limitations which will be different for everybody, but exercise to a moderate level is encouraged. It is fine to get out of breath as long as you don't feel unwell. Your doctor or specialist nurse can give you more specific advice so please ask. We also have a specialist physiotherapist who we can ask to contact you too.

## Contact us

For clinical queries, please contact the ACHD Specialist Nurses on **0113 392 8154** or **leedsth-tr.achdnurse@nhs.net**

## Further Support and Advice

### The Somerville Heart Foundation



- [www.sfhearts.org.uk](http://www.sfhearts.org.uk)
- **Helpline: 0300 015 1998**

For young people and adults with congenital heart disease.

Join as a 'friend' to access their benefits including advice around benefits, employment, pensions, will writing and insurance. They also have a counselling service and support groups.

### British Heart Foundation



- [www.bhf.org.uk](http://www.bhf.org.uk)
  - Teen Heart for 13-18 year olds
  - One Beat for 18-30 year olds

### The Children's Heart Surgery Fund



- [www.chsf.org.uk](http://www.chsf.org.uk)

Our fantastic local charity who do loads to support both children and adults being cared for by Leeds Congenital Heart Unit.



## What did you think of your care?

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***Your views matter***



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