



What happens when your baby needs an exchange blood transfusion

This leaflet is for the parents and carers of babies who need an exchange blood transfusion on Buscot Ward. It explains the reason why your baby needs the transfusion, how it is carried out and the possible risks of the procedure. If you do not understand anything or have any questions, please speak to your doctor or nurse.

Why does my baby need an exchange blood transfusion?

Most babies need an exchange transfusion because they are too jaundiced. Very high jaundice levels can cause serious and permanent damage to a baby's brain. An exchange transfusion can help to prevent this from happening to your baby.

The doctor will discuss with you the reasons why your baby will benefit from an exchange transfusion.

What is jaundice and why does my baby have it?

Jaundice is a common condition in newborn babies that causes yellowing of the skin and the whites of their eyes. Jaundice is caused by the build-up of bilirubin in the blood. Bilirubin is a yellow substance produced when red blood cells are broken down.

The liver should filter the bilirubin from the blood, and change it into a form that allows it to be passed through the gut. It is then excreted (passed out) from the body in faeces (stools). In newborn babies, the bilirubin builds up too fast for the liver to filter it all out, causing jaundice. This can occur because:

- Newborn babies have more red blood cells than adults, and the red blood cells have a shorter lifespan.
- In a very few cases, this is because antibodies from the mother's blood attack the baby's blood cells.
- The breakdown and removal of bilirubin is slower in newborn babies than in adults.

Jaundice is very common, occurring in around 60% of newborn babies during their first week of life. This figure rises to 80% in pre-term babies (babies born early).

Severe jaundice, such that a baby needs an exchange transfusion, is much rarer.

What is an exchange transfusion?

During an exchange transfusion some of your baby's blood is replaced by donated human blood. A small quantity of your baby's blood is taken from a vein or an artery. Donated blood is then given back to your baby to replace the blood that has been taken. This process is repeated until a sufficient amount of your baby's blood has been exchanged for donated blood.

How is an exchange transfusion carried out?

An experienced doctor or nurse practitioner will carry out the exchange transfusion. They will often use fine plastic tubes placed in the blood vessels in your baby's umbilical cord. This will not hurt your baby because the cord has no feeling in it. An X-ray will be taken to make sure that the tubes are in the best position. Sometimes, the tubes are put in veins or arteries in your baby's arms or legs.

The exchange can take up to two hours to complete. During the procedure your baby will be carefully monitored. The doctor and nurse will carry out tests to be sure that the blood chemistry remains normal.

Sometimes babies need more than one exchange transfusion over a series of days.

What are the possible risks?

The risk of your baby having an exchange transfusion must always be balanced against the risk to your baby of not having an exchange transfusion. The doctor will explain the balance of risks for your baby.

The risk of complications from the procedure tends to be more serious in babies who are smaller and already unwell. Some of the complications are temporary and can be treated by the doctor carrying out the procedure. These include low sugar levels, slowing of your baby's heart rate or pauses in breathing.

More serious complications can also occur. These include blood clots forming that may stop blood flowing smoothly to important parts of the body or may cause damage to the intestine. Changes in the blood chemistry can cause the heart to beat irregularly. A serious complication may happen one time in every one hundred times that doctors carry out this procedure and may cause permanent damage. Occasionally, babies die because of these serious complications.

Now you have read this, we will meet you and discuss any questions you might have.

Contact us

Buscot Ward 0118 322 7430

Further information

www.nhs.uk/conditions/Jaundice-newborn

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

Lead Neonatal Consultant, RBFT Paediatric Unit, December 2025.

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