
The purpose of this information sheet is to provide you with clear information about how your cord blood collection will take place and how it is handled after donation.

Cord blood is the blood that remains in the placenta and umbilical cord following the birth of your baby. Usually, following the birth of a baby the placenta and umbilical cord would be thrown away, however the cord blood that they contain is known to be rich in stem cells, which can help to cure many life-threatening diseases. It is for this reason that we have been asked to collect and store your cord blood for possible use in the treatment of a member of your family.

Your doctors will assess whether you have any medical conditions that affect your eligibility to donate your baby's cord blood. If you have any blood-borne infections such as hepatitis or have been exposed to anything that could put you at risk of having recently acquired such an infection, this may affect your eligibility. You should let your doctor know if you were born in an area with malaria and of any recent travel or travel planned before your delivery.

On your arrival at the delivery suite, one of the midwives will phone the collection team that National Health Service Blood and Transplant (NHSBT) have arranged to collect your cord blood. A trained cord blood collector will attend to perform the cord blood collection.

After your baby is born, the midwife will take the placenta and cord to a designated area within the delivery suite. The cord blood collector will ensure the cord blood is collected safely and in a way that minimises contamination and infection using a specially designed sterile collection kit.

All babies are different, so the volume of cord blood collected can vary, but we would hope to collect more than 50ml to allow processing and possibly up to 150ml. After collection, the cord blood will be sent to the NHSBT laboratory for testing, processing and storage.

Testing:

Samples of the cord blood and your blood will be tested in the same way as NHSBT tests blood donors. These tests include Hepatitis, Syphilis, HTLV, HIV and some other blood borne infections. Some of these are not done as part of the routine antenatal screening tests that you will have already had. By agreeing to testing as part of the cord blood donation process it is possible that an infection that you were not previously aware of could be revealed. Such an infection could impact on your health or that of your baby and could need treatment. We have to do these tests in order to ensure that the cord blood is safe to be given to the intended patient. In the unlikely event that any test result is positive, your doctor will inform you and decide if any follow up is needed and whether the cord blood donation is appropriate to use.

If the baby has the same father as your affected child, there is a 1 in 4 chance that the cord blood will be a tissue type match. However, even if the cord blood is a match, your doctor will decide if it is appropriate for use.

Collection:

The safe delivery of your baby is the main priority; therefore, cord blood collection will only be attempted once your own and your baby's well-being are assured. If your baby arrives before 34 weeks gestation the decision to collect will be based on a medical assessment.

If you have consented to cord blood collection, we will attempt to make a collection even if the delivery is by Caesarean section. NHSBT cannot guarantee that a cord collection will be possible or that any cord blood collected will be suitable for use. However, every effort will be made to ensure a successful donation is made and stored. Delayed clamping of the cord will influence the volume of cord blood that can be collected and affect whether the donation is sufficient to use for a transplant. However, NHSBT does not seek to influence local obstetric practices – the wellbeing of you and your baby is the priority. Some collections are not possible because of clotting in the placenta, and some may contain bacteria from the birth canal. If the donation is unsuitable for transplant to the intended recipient, it may be discarded.

Storage and Discard:

If the collection is successful, the cord blood will initially be stored for one year. The need for continued storage of matched donations is kept under continuous review with the potential recipient's transplant team and, if a clinical need is identified then cells may be retained for longer.

Cord blood, samples and products which are unsuitable for transplant to the intended recipient or are no longer required may be discarded. The decision to store, continue to store or discard the cord blood is made by the referring clinician. Although cryopreserved cells can survive for a long time, storage space is limited. Discarding cells that are no longer needed or suitable for transplants means that we will maintain our capacity for storing cells for our current patients.

a) Disposal of cells still in storage

At the time of review of need for continuing storage, the transplant physician responsible for your child's care will review the status of your child and their illness to decide whether there is any possibility they will need the cells in the future. Where cord blood has been collected for family history the transplant physician will review the need for ongoing storage with you.

Circumstances where cells will not be needed include:

- if a disease appears to be cured
- if a disease has progressed such that further treatment with the stored cells will not be helpful.
- If the intended recipient has become unsuitable for further treatment with the cells for any reason, for example significant health problems
- the cells are not a tissue match for the intended recipient
- If the intended recipient has died
- where cord blood has been collected for family history of an illness and the transplant physician and the family agree there is no need for ongoing storage.

Cells will usually be discarded in these circumstances but, if a clinical need is identified then cells may be retained for a longer period.

b) Disposal of cells unsuitable for clinical use

Sometimes cells that are stored are not suitable for the planned use. Examples of such circumstances include:

- If the child who donated the cord blood has been diagnosed with a disease rendering their donation unsuitable to be used for a transplant
- If the cells cannot clearly be identified so it is unclear who donated them. This can happen with cells stored for long times
- Damaged storage bags. The bags are very brittle in storage and can crack. There could be a risk of cell loss or leakage
- Very low number of cells that are insufficient for a transplant
- Cord blood that is contaminated by bacteria
- Cells that do not appear to be capable of growing when laboratory tests are done on them.

If any issue affecting the suitability of cells is identified, the transplant physician responsible for your child's care would review the information on the donation and, in conjunction with the medical director of the cell storage facility, decide whether the cells could be used or not.

Please **keep this information sheet in your medical notes**. In this way the midwives on the delivery suite will know that your cord blood has been requested for collection.