

Protect Your Family's Future
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CBB & DCC Info Booklet

Miracles held in your Umbilical Cord

Only possible at the time of birth

Delayed Cord Clamping (DCC)

What is DCC?

Delayed Cord Clamping is exactly what it says... delaying the clamping of your new-born's umbilical cord when they are born. This does not happen as standard practice and you will need to inform your doctor and midwife that you do not want them to clamp or cut the cord immediately.

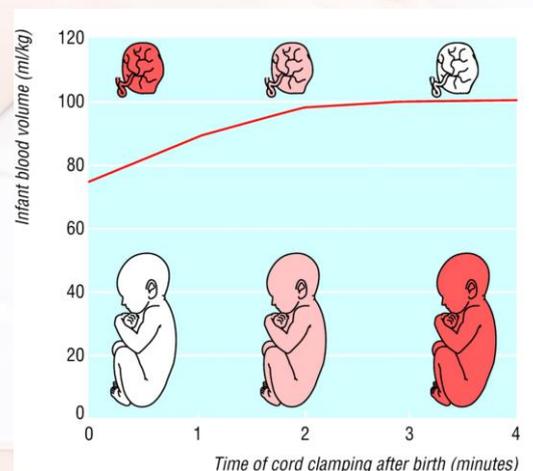
Why DCC?

By delaying clamping of the umbilical cord for just 2-3 minutes your baby can receive an additional 100ml of cord blood which is packed with life-saving stem cells. This can give your child the best start in life and will drastically reduce the risk of iron deficiency within their first 6 months.

The blood in the umbilical cord is different to the blood in our bodies. It has all the nutrients we expect but also has stem cells – cells which create your child's bloodstream and which can fight off serious diseases. By allowing some of these cells into your child through DCC they are able to reproduce red and white blood cells, keeping your child safe and healthy at a time when they are the most at risk.

Why only 2 – 3 Minutes?

The easiest way to explain this is to look at the image below, from the British Medical Journal, showing the volume of blood transferred from the umbilical cord to the new-born (when the cord has not been clamped).



As you can see, over 80ml of blood is transferred in the first minute and a further 20ml over the next 2 minutes. After the third minute very little will transfer to your child. This is the time when we would advise collecting the rest of the blood for private storage – a service known as Cord Blood Banking.

Delayed cord clamping will give your child the best start in life. Storing their stem cells ensures they also have the best protection for the future.

Umbilical Cord Stem Cells – Know Your Options

Every parent's strongest instinct is to protect their children from harm and disease. While we may not have a crystal ball to see what future illnesses may await our children, there is now a way to protect them against over 85 diseases ranging from cancers to neurological disorders.

Your baby's umbilical cord is one of the richest sources of stem cells and preserving these cells is known as Cord Blood banking.

What are Stem Cells?

Stem cells are cells which create all the different cell types in our bodies (i.e. blood, muscle, organ, skin cells etc.). They repair diseased or damaged cells throughout our lives to keep us healthy.

The most common stem cell used in modern medicine is a bone marrow cell – currently used to treat Leukaemia and other blood conditions. The stem cells found in your baby's umbilical cord blood are a safer, more useful and valuable source of stem cells than bone marrow. They are the cells which create bone marrow and can therefore create exact copies of your child's blood cells - providing a 100% transplant match to your child and great possibility of a 100% match to other family members.

What can they Create and Treat?

The umbilical cord contains two distinct types of stem cell: Blood Stem Cells (HSCs) and Tissue Stem Cells (MSCs). Blood stem cells create all the different cell types in the bloodstream, while tissue stem cells can create bone, tissue, muscle, organ, nerve and skin as well as many more cell types.

There are currently 85 conditions cured using cord blood stem cells including Cancer, Leukaemia, Sickle Cell, SCID, Anaemia and Thalassaemia. There are also hundreds of treatments in trial stages including Diabetes, Multiple Sclerosis, Parkinson's, Alzheimer's, Huntingdon's disease and most recently HIV.

The first cord blood transplant occurred in 1988 and there have been over 30,000 successful transplants to date. Cord Blood banking is standard practice in many countries across the world and in Singapore 1 in 4 newborns have their cells stored every year.

Collected cells are preserved for an initial 25-year period and can be delivered to a patient within 24 hours of request. This can mean the difference between life and death as finding a donor from the public registry can take months and isn't always possible.

Who is this important for?

The potential for a bone marrow transplant relies on the availability of a cell match. In order to have a successful match, millions of genetic combinations between the donor and recipient must be identical. It is very rare to find two people with exactly the same tissue type and a match is more likely to be successful if the donor and patients are of the same ethnic background.

Although everyone's families can benefit from preserving their children's stem cells, it is especially important for those from an ethnic or mixed heritage background as there is much less chance to find a donor from the registry with matching DNA.

Families with a history of hereditary conditions which can be cured with cord blood are also at risk and should consider private storage.

Also parents surrogate children and IVF treatments find this service very important as their genetic make-up will not necessarily match their child and so preserving cord blood guarantees a transplant match, should it be required.

It is also worth noting that genetic conditions, such as sickle cell, cannot be treated with the child's own blood but can be treated successfully with preserved blood from an unaffected sibling.

Your Options Explained

[Public Donation](#) is available at 10 hospitals in the UK and is completely free. Call us to find the hospital closest to you. Donating your cells means you are furthering medical research or could help treat someone else around the world. Please note that you are unlikely to have access to them should a family member need treatment in the future

[Private Storage](#) is available in 99% of UK Hospitals and birth centres. It is a paid service but this option means you own the stem cells and they will only be used to treat your family members in the future. Call us to discuss your options and take advantage of our exclusive discounts

[Discarding as Medical Waste](#) is literally throwing away a life-saving treatment and we would only advise considering this option if neither of the two options above are possible for you.

How your Baby's Cord Blood is Collected

A special licensed phlebotomist will collect your baby's cord blood a few minutes after you deliver. Collection will not hurt you or your baby in any way, regardless of whether you have a vaginal or Caesarean delivery.

The entire process takes fewer than ten minutes. The procedure involves clamping the umbilical cord on both sides and cutting it (ideally after delivery of the placenta). Cord blood is then gathered with a needle and a gravity bag and cord tissue is also collected. From there, the blood and tissue are sent to a lab where they are blood-typed, tested for infection and preserved.

The important thing to remember is that the science is new and developing – there are no guarantees of treatment, but you are in the best position you can be in by preserving your child's cells.

4 Things You Need to Discuss with Your Partner about Cord Blood Banking

There's a good chance that before you became pregnant, you'd never heard of cord blood. There even a chance that you hadn't heard of it before you read this article. Hopefully we've now given you some added knowledge but we understand that while you may be learning more about cord blood banking now, your partner may still never have heard of it.

This is one of the most important decisions you should make in regards to your child's health in the future. It should be discussed with as much thought as your birth plan and even the name of your child. Here's how to approach the subject with your partner and the big-picture information both of you need to know.

1. [Start with the basics](#)

When you first bring up cord blood banking with your partner, you'll want to make sure they know what it's all about. Explain that cord blood is rich in stem cells, which have the unique ability to transform into almost any type of human body cell. Then show them the list of cured conditions.

2. [Decide whether you want to store privately or publicly](#)

Private Preservation is available in 99% of UK Hospitals and birth centres. It is a paid service but this option means you own the stem cells and they will only be used to treat your family members in the future.

Public Donation is available at 10 hospitals in the UK and is completely free. Donating your cells means you are furthering medical research or could help treat someone else around the world. Please note that you are unlikely to have access to them should a family member need treatment in the future

Benefits of Private Storage:

- Your baby's stem cells are a guaranteed 100% match to them and can also provide a match to siblings and other family members.
- Collection is painless and risk free. The umbilical cord is not attached to the mother or baby when cells are collected.
- Collection can occur alongside your Delayed Cord Clamping, and we won't interfere with your birth plan.
- Collection is available at over 99% of UK hospitals and birth centres
- After 25 years further storage is possible and you will be informed of your options

Drawbacks of Private Storage:

- Price – 25-year storage plans start from £2000 and go up to £2500. Most banks offer payment plans.
- The sample will not be used if your child (or another family member) is not diagnosed with a treatable condition during your storage term
- Collection is painless and risk free. The umbilical cord is not attached to the mother or baby when cells are collected

Benefits of Public Donation:

- You are helping to further medical research
- There is a chance that your cells could be used to help someone else suffering from a disease
- It's completely free

Drawbacks of Public Donation:

- Donation is only available at 10 hospitals in the UK
- You will not have priority access to a sample in the future if your family member requires a transplant
- You are giving away the only chance your child will have of a 100% match
- In most circumstances, you will not be allowed to delay cord clamping and donate your cells

3. Discuss the costs

Once you're both clear on the basics, make sure you're on board with the costs and have a plan to pay for it. If you decide to preserve your cells privately (which means only your family can access baby's cord blood if you need it), you can choose to pay up front or over 12 months. Annual storage plans usually end up costing a lot more and so we would advise to go for an up-front or payment plan cost structure.

Donating to a public cord blood bank is free.

4. Write down any questions you both have

Bear in mind that your partner may not have much time to discuss the details with the bank directly so make sure you both discuss the service and write down any fears, thoughts or questions. This will help you feel at ease with the service and you can then go and make your final decision on whether to store or not.

Some good questions you may want to think about asking:

- Does the bank interfere with your birthing method? Also ask if they are compatible with delayed cord clamping and whether the phlebotomist will enter your birthing room (many people find this uncomfortable).
- What is the bank's preferred method of processing? There are two options in this scenario and we would always recommend volume reduced processing.
- How many samples have been released into the UK and worldwide? Of these how many resulted in successful transplants.
- Are all their processing and storage procedures in house or contracted to another company?
- What steps are taken to ensure your child's blood is securely transported to the laboratory and what is the timeframe by which it will be received at the laboratory?

- I'm sure you will think of many more than this but this is a good start for you to both start the ball rolling. Bear in mind cord blood storage is a medical service. So if you shop for a provider based solely on price, for example, the bank you select may not meet the highest quality standards.
- All of this can make a massive difference to your storage and if in doubt you can always discuss your question with the Stemology Cord Blood Consultants to get an unbiased opinion.

For more information, get in touch with Stemology –
the UK's Cord Blood Advisory Service.

We've helped hundreds of couples choose the best storage option
and got them the best prices for the services they chose.



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