

# Umbilical Cord Blood Banking

Umbilical cord blood is the blood remaining in the umbilical cord and placenta after your baby's birth. Cord blood is normally thrown away after birth; however, it can be collected at birth and stored for possible use in the future.

Umbilical cord blood is a rich source of stem cells, which are the building blocks of blood cells in our bodies. Stem cells can be used

in the treatment of a range of blood disorders and conditions of the immune system for both children and adults, or cure a range of diseases, but there is currently insufficient evidence to prove this. In the future, the range of diseases treated using cord blood might be expanded as science and technology advances.

## What can cord blood be used for?

The diseases currently most commonly treated using stem cells are:

- Immune deficiency, when your body is unable to fight disease
- Leukaemias
- Blood diseases, such as aplastic anaemia
- Metabolic disorders, which interfere with the process by which the body gets energy from food
- Thalassaemia, which is an inherited blood disorder that affects the way your body produces haemoglobin and healthy red blood cells.

Some commercial groups claim that cord blood can prevent or cure a range of diseases, but there is currently insufficient evidence to prove this. In the future, the range of diseases treated using cord blood might be expanded as science and technology advances.

It should be noted however, that even if your baby's cord blood is banked, there is no guarantee that the blood will lead to effective treatments. Cord blood banking is something you may want to discuss with your family/whanau to see if there is a cultural viewpoint you need to consider when deciding if this is something you want to undertake. It is important that you discuss your options with your partner, family/whanau and doctor or midwife to make an informed and culturally appropriate decision about cord blood banking before your baby is born as cord blood banking is not available at all hospitals.

## How is cord blood collected?

Cord blood can be collected after the umbilical cord has been cut following either a vaginal or caesarean birth. The type of birth does not affect the



collection of cord blood. The collection process is quick and painless for both mother and baby, and is performed by a trained cord blood collector, obstetrician, or midwife.

A needle is inserted into the umbilical cord vein attached to the placenta and the blood left in the umbilical cord and placenta is drained into a collection bag. The cord blood collection takes about three minutes and can occur either before or after the placenta has been delivered. It will not be possible to combine cord blood collection with delayed cord clamping.

Once collected, the cord blood is stored frozen for future use.

## What are my options to bank my baby's cord blood?

In Australia, there are two options:

1. Donate to a public cord blood bank. If an altruistic non-directed donation is chosen, donated cord blood is made available to all patients in need of a blood stem cell transplant in Australia or overseas. No fee is charged for storage. This cord blood will not be kept specifically for your family's use. In special circumstances, your baby's cord blood will be made available for use by your baby or another family member, if it is still in the bank.
2. Storage in a private cord blood bank for potential use only by your baby or other family members. These banks are private companies and charge a fee for their processing and a fee for storage services. The main idea behind storing your baby's blood in a private cord bank is that one day, your child may become ill and you may be able to use those stem cells for treatment even though the chances of needing to use it are very low. Parents should be aware that many diseases cannot be treated with stem cells, especially if the disease is genetic in origin. This type of banking cannot be viewed as a health insurance policy.

In Aoteroa New Zealand, the only option is to have it banked privately.

All information related to your cord blood donation and your medical and family history is allocated a unique reference number. Only staff at the cord blood bank are able to link this number to your personal details. All information identifying you and your baby is kept confidential and is not passed on to anyone other than you, your doctor and other healthcare professionals involved in your or your baby's care.

## What is required if I wish to donate my baby's cord blood?

Participation in donation programs is completely voluntary. There may be circumstances when cord blood collection cannot be guaranteed. This is because staff priority is to provide optimal care to mother and baby and due to availability of collection staff.

If enough stem cells are collected to bank the cord blood, you will be asked to complete a questionnaire about your personal and family medical history and give a blood sample which is tested to determine eligibility. After a period of six months, you will be contacted to check on the health of your baby since donation. This information is required to ensure the safety of blood and cell products for use in the future.



## Are there any risks involved?

There are no risks to your baby, as cord blood collection does not start until after the umbilical cord has been clamped and cut. The risks to the mother are due to having a blood sample collected and they are minor and may include discomfort, bruising and, rarely, infection at the site.

## Questions you may want to ask your doctor or midwife

- Why should I donate or bank my baby's cord blood?
- Who receives the cord blood I've banked?
- Is there anything I need to do if I wish to donate my cord blood?
- How will my cord blood be collected and stored?
- What are the benefits and risks of delayed cord clamping?

## Useful resources

- <http://www.abmdr.org.au/auscord/>
- <https://www.thewomens.org.au/patients-visitors/clinics-and-services/pregnancy-birth/cord-blood-collection>
- <https://thewomens.r.worldssl.net/images/uploads/fact-sheets/Cord-blood-collection.pdf>
- <https://www.pregnancybirthbaby.org.au/cord-blood-banking>
- <https://www.cordbloodfoundation.org.au/>
- <https://www.schn.health.nsw.gov.au/find-a-service/health-medical-services/sydney-cord-blood-bank>
- <https://www.matermothers.org.au/hospitals/services/queensland-cord-blood-bank>
- <https://www.cordbank.co.nz/>

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