



About Next Biobank

Next Biobank is the cryopreservation division of Next Biosciences. The facility uses advanced technologies to store and preserve a wide range of human biological material for potential life-saving treatments in the development of ground-breaking medical therapies.

Despite being highly technical in nature, we never lose sight that our business is about families and **safeguarding** their future health. We, therefore, continually strive to deliver a **personalised service** that gives clients direct access to our **in-house Medical Team** to inform, guide, and reassure them every step of the way.

As part of the Next Biosciences group, Next Biobank has access to all the resources needed to remain at the **leading edge of scientific, medical and technical advancements**. We also benefit from Next Biosciences' international partnerships and collaborations. Next Biosciences is committed to proving the highest quality standards and is internationally **accredited by the AABB** for the banking of cord blood.

In line with the stated purpose of Next Biosciences, we believe in making the world a better place and serving humanity. To this end, we have launched a **community-based** umbilical cord stem cell storage service, giving more South Africans in need of life-saving transplants, a better chance of finding a match.

About South African Bone Marrow Registry

Established in 1991, the South African Bone Marrow Registry (SABMR) is a non-profit organisation which conducts highly specialised searches to find matching bone marrow donors for critically ill South African children and adults. These patients need a stem cell transplant to survive and often do not find a suitable match within their own family.

SABMR is based at Groote Schuur Hospital in Cape Town but works closely with national collection, harvest

and medical centers and laboratories, in identifying matching donors for patients and is responsible for making all logistical arrangements to have bone marrow cells collected ("harvested") from a donor and safely delivered to the patient.

"SABMR is here to save lives. That is the ultimate goal. If we give stem cells to a patient, it is often a life-saving intervention." Dr Charlotte Ingram (SABMR CEO and Medical Director).

SABMR is the only Donor Registry in Africa accredited by the World Marrow Donor Association: <https://www.wmda.info>

This brochure gives more information to help you make an informed decision about signing up with the Netcells Community Bank. **SABMR and Netcells encourages you to sign up only if you are 100% sure that you are able and willing to do this.**

What are stem cells?

Expectant parents are faced with many decisions during pregnancy and at the birth of their baby. One of the most important decisions is whether to bank your baby's stem cells or not? The collection and storage of cord blood and tissue taken from the umbilical cord of a baby at birth is becoming increasingly common.

We like to think of stem cells as the original building blocks of life. They are the cells that make up the embryo and develop into different cell types in your body such as skin, blood cells, muscle, bone, nerves and cartilage. After birth, stem cells are found all over our bodies and they serve to repair and maintain our body's cells throughout our lives.

Your baby's umbilical cord blood is rich in blood-

forming stem cells (haematopoietic stem cells), which can be used to help treat over 80 blood-related diseases. These stem cells make it possible to rebuild a person's blood and immune system. Cord blood is a valuable source of stem cells for a bone marrow transplant and can be used to replace diseased cells with healthy new cells and rebuild an individual's blood and immune system.

What can cord blood stem cells be used to treat?

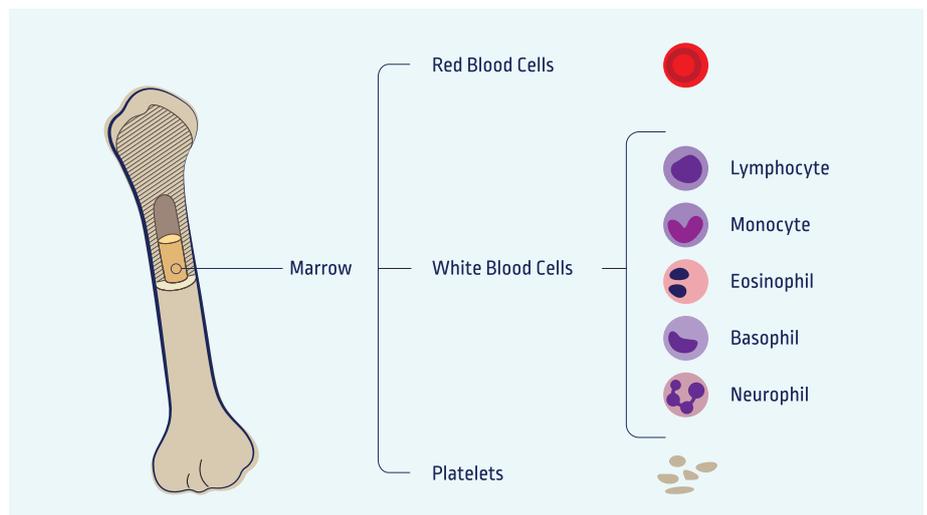
In our bodies, bone marrow is the source of all blood cells. It is considered to be the factory for producing red blood cells (which carry oxygen in our bodies), white blood cells (which help the body fight infection) and platelets (which help our bodies stop bleeding). Bone marrow stem cells, also called haematopoietic stem cells, continuously make new blood cells to replace old ones, ensuring our bodies can fight infection, carry oxygen to tissues and stop bleeding. If bone marrow is damaged by disease or medication, it cannot make these essential blood cells, leading to fatal consequences. Therefore, haematopoietic stem cells must be replaced as part of the treatment. This is done via a whole bone marrow or stem cell transplant.

During a transplant, doctors use drugs and radiation to destroy the diseased bone marrow. Healthy stem cells, from a donor, are infused into the patient in the same way as a blood transfusion. Stem cells, from a healthy donor, travel to the large bones and proceed to produce normal, healthy blood cells.

Bone marrow or stem cell transplants can help treat and even cure some life-threatening illnesses, including:

- Leukaemia (cancer of the white blood cells).
- Non-Hodgkin's Lymphoma (cancer of the lymphatic system).
- Bone Marrow Failure (severe aplastic anaemia).
- Some genetic **blood and immune system disorders**

These illnesses can affect anyone, no matter their age, gender, religion, race or nationality. Although bone marrow transplants are not always successful, they often give someone their only chance of recovery.



How does the Community Bank work?

- The cord blood and cord tissue will be stored at the Next Biosciences Laboratory
- Parents will have personal access to the cord blood and tissue samples; however the cord blood sample will be listed on the South Africa Bone Marrow registry, making it available to others in need of lifesaving transplants. As a result, this type of cord banking is offered at a subsidized rate, by Next Biosciences and SABMR.
- If the cord blood unit is used by a recipient, the parents will be reimbursed the value that they paid for stem cell banking.
- The parents will be contacted should a match be identified to inform them that the sample will be used.

The Process

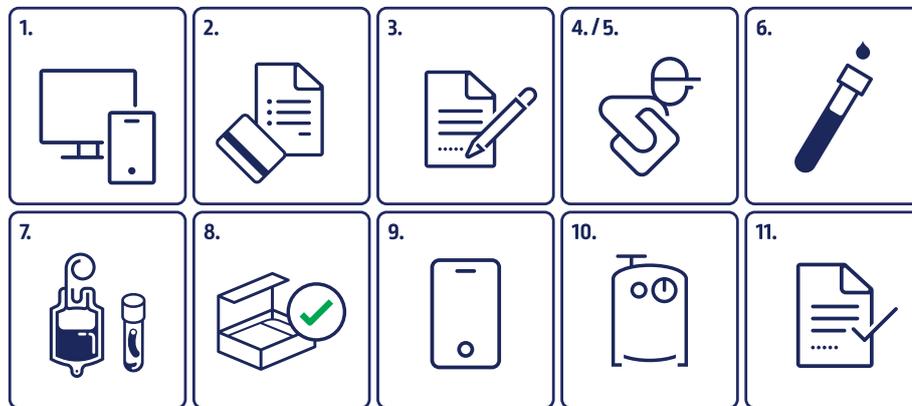
1. **Ensure you meet the donation criteria** – this can be found on our website.
2. **Register on-line** via the easy to use on-line registration platform and make payment.
3. Complete the **Family Health Questionnaire** and return it to our client services team.
4. **We will deliver** a Collection Kit to you.
5. You **take the Collection Kit with you** to the hospital for your Gynae/Midwife to do the collection.
6. When arriving at the hospital for the birth, ensure the **maternal bloods are drawn**, by a nurse.
7. At the birth your **Gynae/Midwife will do the collection** (there are collection protocols in the collection kit).

The umbilical cord is cut and clamped and a needle is inserted into the umbilical cord vein and the blood is collected into a sterile bag. 100 – 150ml of cord blood needs to be collected for it to be successfully stored, and a 10 – 15cm piece of the umbilical cord is cut and placed in a sterile tube with saline solution.

8. Ensure everything has been **packaged correctly** and documents have been completed.
9. You must then call the Netcells Client Services Team on **084 664 4646** to arrange for the collection kit to be collected and brought to the lab for processing.
10. The stem cells are **processed, cryogenically frozen and stored** in the vapour phase of liquid nitrogen in our state-of-the-art storage tanks.
11. You will receive an email with your **results certificate** and a **storage certificate** once full payment has been received.

If your Gynaecologist, Doctor or Midwife is not familiar with the process, we are happy to send them a video that takes them through the process in detail.

The collection process causes no harm or pain to the mother or baby. However, if there is any complication with the birth **the doctor will prioritize the health and wellbeing of the mother and baby** over the collection of the cord blood and tissue. Therefore, there are rare circumstances where collection cannot happen, for which no one is at fault.



Criteria

In order to qualify for being a cord blood donor on the SABMR registry the following criteria needs to be met:

- The biological mother and father of the child **cannot be related by blood** (by being 1st cousins or closer)
- The biological mother **cannot currently be infected** with one of the following;
 - **blood transmissible diseases:** Hepatitis B or C, Syphilis, HIV, Cytomegalovirus (CMV) Human T-lymphotropic virus I or II or Epstein–Barr virus.
 - **Viruses:** Zika virus or West Nile virus

- **Tuberculosis** (an infectious bacterial disease).
- **disease caused by a parasite:** Toxoplasmosis or Malaria.

- The biological mother or father of the child cannot have/had a blood related cancer, an inherited blood, bleeding or haematological disorder, an autoimmune disease, neurological disorder or an inherited metabolic/storage disorder. **A total family history for these conditions will also be taken in order to understand the risk of them affecting the cord blood unit.**

Your Privacy: The SABMR Policy is to ask all patients and donors to keep information about the donation process confidential. This means that patients and donors, or their family members, should not give any information about the timing and location of the procedure to newspapers, television stations or any other media including social media platforms.

The reason for the confidentiality is that SABMR does not want any assumptions made about the donor or patient since this would break the right to anonymity especially for the donor or patient.

However, should patients wish to write a Thank You letter to their donor, this is permitted and facilitated by SABMR.

Disclaimer: The contents of this brochure do not constitute medical advice. Anyone considering becoming a donor or needing medical advice prior to application should consult with his/her Healthcare Professional first.



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2013/152553/08
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