

Lifeline



Τράπεζα Αίματος Ομφάλιου Λώρου
Umbilical Cord Blood Bank



The science of cryopreservation

Lifeline

The **first** Stem cell bank in Europe

Lifeline was established in the UK in 1994 and has been operating in Cyprus as a regional bank providing cord blood banking services to residents of Cyprus, Greece, the neighbouring European countries and the Middle East.

The establishment of Lifeline's state-of-the-art facility in Cyprus enables parents to benefit from the rapid delivery of cord blood to the bank which in turn contributes to the banking of more **viable** cells.

Lifeline Family Cord Blood Banking service includes:

- Receiving blood seven days a week
- Fully qualified scientific personnel
- Approved and accredited processing and cryopreservation methods for the handling of blood
- Rapid response for banking cells with maximum viability
- LIFE-KIT: a novel blood transportation kit that preserves the viability of cells during transit

Lifeline: First in Europe, First in Cyprus





Lifeline's Profile

Lifeline was established by prominent scientists with a shared vision to achieve the best in cryopreservation services for the banking of umbilical cord blood stem cells of newborns.

Lifeline's International Scientific Advisory Board

Renowned Professors of international calibre constitute Lifeline's Scientific Advisory Board which gives direction to all of our scientific activities.

Regulations and Processing Protocol

The activities of collection, processing, testing and cryopreserving of cells are governed by an approved and validated UK public bank protocol. A large number of grafts processed and banked using the same protocol have been transplanted to patients so far.

Code of Ethics

The briefing of parents is governed by a code of ethics and any information provided is based on scientific facts.

Accreditation

Lifeline has been approved by the Ministry of Health and operates according to national legislation deriving from EU directives regarding standards for handling of human tissues and cells. In addition, the scientific operations are approved and accredited by international organisations. Lifeline opted to conform to the strict regulations of the European Organisation "NETCORD" in order to provide the highest quality of cord blood banking services.

Family Banking or Public Donation

Parents who do not wish to proceed to family banking are advised to donate their newborns umbilical cord blood to a public bank instead of discarding it.

Professional Indemnity Insurance

Lifeline carries professional indemnity insurance by a leading specialist in professional risk. This constitutes recognition and assurance of Lifeline's professionalism and quality of the service offered.

Stem cell banking - **a lifeline** between the child and the whole family

The Haematopoietic progenitor (stem) cells are situated in the liver of every embryo. Prior to labour, these cells begin to migrate from the liver through the blood stream towards the bones for the formation of the bone marrow. Blood that is entrapped in the placenta and umbilical cord is rich in stem cells; collecting this blood gives the opportunity to harvest the stem cells and bank them for possible future need. Haematopoietic progenitor cells are responsible for the formation of blood components:

- The red blood cells that carry oxygen to the body
- The white blood cells that constitute the immune system
- The platelets involved in the clotting of blood

One out of three patients in need of a transplant will be unable to find a suitable donor with a compatible graft. Umbilical cord blood, rich in haematopoietic progenitor cells, is considered an alternative graft. Banking of a family graft offers:

- Full compatibility with the donor child
- Immediate availability during the early stage of a disease or illness
- Highest chances for compatibility with siblings
- Increased possibilities for compatibility with other family members

The umbilical cord or the life line connects the infant to the mother for the 9-month duration of the pregnancy. Family cord blood banking maintains and extends this lifeline to the rest of the family members.

It's better to have them and never need them,
rather than need them and not have them

“Unlike bone marrow cells, umbilical cord blood cells can be administered to a patient who is not fully compatible with the donor, whereas full compatibility with bone marrow cells is considered a prerequisite”

Professor Aliko Maniatis, Professor of Haematology
Director of Haematology “Ericos Dynan” Hospital Athens



Conditions for which Haematopoietic progenitor cell transplantation could be part of the treatment

Transplantation could be an option for the treatment for the conditions listed in the Table below. Each case is evaluated individually to consider the type of transplantation, whether autologous (patient's own cells) or allogeneic (donor's cells) and the source of the graft, that is, bone marrow, peripheral blood or umbilical cord blood stem cells. The criteria used to evaluate transplantations are constantly changing along with the experience gained through some 50 thousand transplants that take place worldwide every year.

The number of transplantations using umbilical cord cells is rising every year. Since 2005 allogeneic umbilical cord transplants in children outnumber the transplantations of bone marrow cells.

TABLE OF CONDITIONS

Different types of malignancies, leukaemia and lymphoma:

- Acute myelogenous leukemia
- Acute lymphocytic leukemia
- Chronic myelogenous leukemia
- Chronic lymphocytic leukemia
- Juvenile myelomonocytic leukemia
- Hodgkin's lymphoma
- Non-Hodgkin's lymphoma
- Multiple myeloma and other plasma cell disorders
- Neuroblastoma

Severe aplastic anaemia and other marrow failure states, including:

- Severe aplastic anaemia
- Paroxysmal nocturnal hemoglobinuria (PNH)
- Pure red cell aplasia
- Amegakaryocytosis / congenital thrombocytopenia

Myelodysplastic and myeloproliferative disorders, including:

- Refractory anaemia (all types)
- Chronic myelomonocytic leukaemia
- Agnogenic myeloid metaplasia (myelofibrosis)

Stem cells deriving from a person with a congenital (inherited) condition cannot be used in a transplant. However, inherited conditions (like the ones listed below) can be treated using stem cells from a healthy individual such as a sibling. There is 25% chance for a perfect match between siblings, although cord blood stem cells are routinely used with reduced compatibility. Grafts deriving from siblings are preferred as they have increased chances for successful engraftment.

Haemoglobinopathies including:

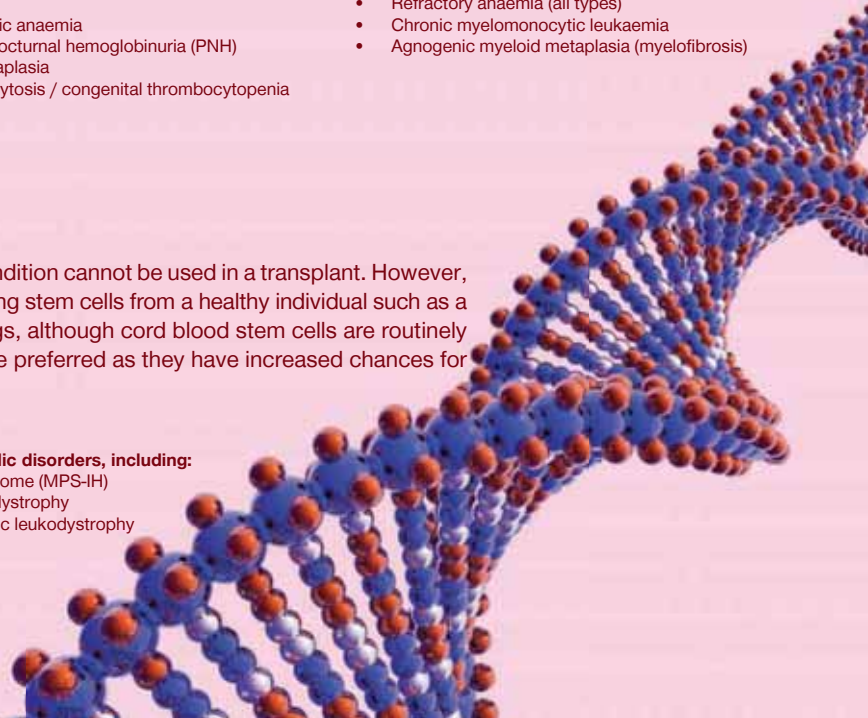
- Beta Thalassaemia major
- Sickle cell disease
- Fanconi's anaemia

Inherited metabolic disorders, including:

- Hurler's syndrome (MPS-IH)
- Adrenoleukodystrophy
- Metachromatic leukodystrophy

Inherited immune system disorders, including:

- Severe combined immunodeficiency (SCID, all sub-types)
- Wiskott-Aldrich syndrome





Research for future applications

The positive outcomes from cord blood research and applications have led to new experimental applications for the treatment of other serious conditions. Researchers and scientists accept that future therapies will be based on stem cells from various sources including cord blood. Research is ongoing in numerous centres for therapies of:

- Parkinson's Disease
- Multiple Sclerosis
- Alzheimer's Disease
- Restoration of brain damage
- Heart conditions
- Restoration of heart vessel to avoid by-pass operations
- Nerve restoration following spinal injuries
- Diabetes types I and II
- Restoration of vision and hearing
- Gene therapies

Further research is focused on the laboratory proliferation and expansion of umbilical cord stem cell population in an effort to increase the cell dosage of a graft. Higher stem cell numbers would mean:

- Increased possibilities of successful engraftment
- Increased possibilities for applications in adults
- Increased number of patients who would benefit from such a transplant
- Multiple usage of the same cord blood unit

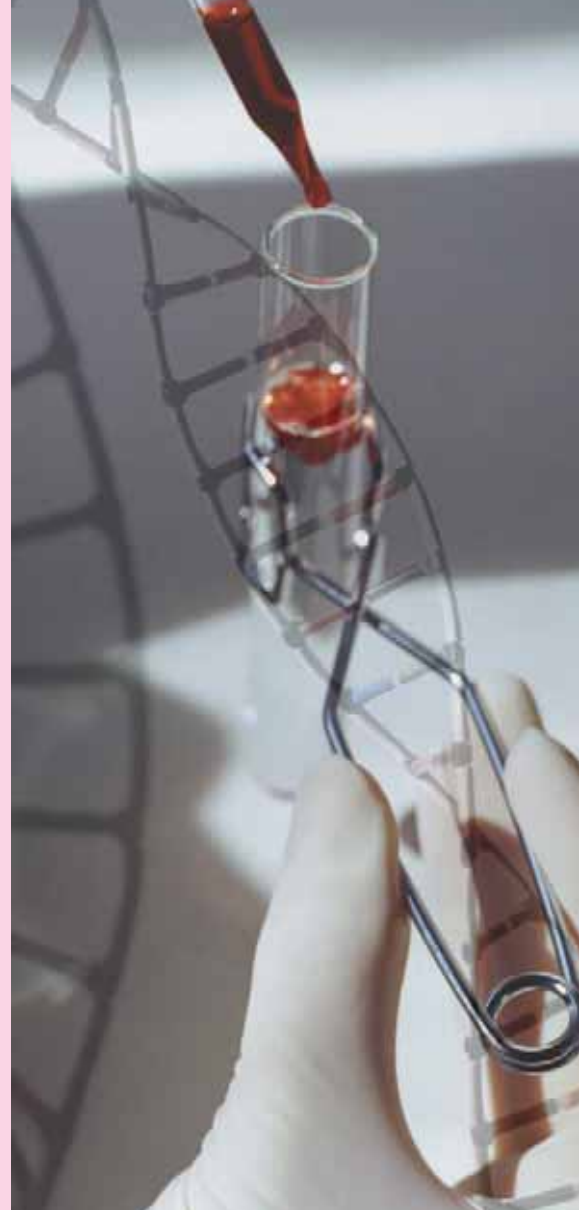


The collection procedure simple and painless

Lifeline supplies expectant parents with the LIFE-KIT upon registration, which enables the collection of the cord blood. Each LIFE-KIT has a unique code number that links all following procedures directly to the parents and their newborn. It is advised that parents are informed ahead of time and have obtained the LIFE KIT well before their due date. On the day of labour parents must deliver the LIFE KIT to their doctor who will be responsible for collecting the newborns' cord blood.

The collection procedure:

- Does not interfere with the labour process
- Is performed without any contact with the newborn
- Lasts for less than 10 minutes
- Is performed by your gynaecologist





LIFE-KIT - the cord blood collection kit

The quality of a banked cord blood unit is defined by the number of viable cells that it contains. Apoptosis or the countdown of the cells starts as soon as the cells are removed from the body and cell death increases with time. In addition, temperature fluctuations during transit increase the rate of cell death. According to scientific research, temperatures above 30°C may have a devastating effect on the cells.

Lifeline, through its extensive experience has developed the LIFE KIT which maintains the integrity of stem cells. Using the LIFE KIT according to the instructions will secure maximum possible cell viability during transportation.

Life-Kit

LIFE-KIT TRACKING CODE



The advantages of using the LIFE-KIT

- Ensures more viable cells
- Provides a controlled environment during transit even under extreme weather conditions
- Ensures continuous recording of temperature during transit
- Made of thermally insulating non-toxic material suitable for the transportation of biological samples
- Bears a unique identification number linking parents and the newborn with all procedures that will follow.

LIFE-KIT is designed to provide an optimum tool for the collection and transportation of blood. The use of the LIFEKIT also ensures the safe keeping of blood when labour takes place at night and enables parents to place their full attention on their newborn and not worry about the umbilical cord blood.





Lifeline

International standards for

Blood processing

Upon receiving the LIFE-KIT at Lifeline, the unit will be checked to verify the identity of the donor and parents and will be inspected to establish the suitability for further processing and stem cell isolation.

Cell separation and banking

Cell separation is conducted under strictly sterile conditions in a closed system using modern technology. Lifeline uses the first automated method for the separation of haematopoietic progenitor cells to be approved by the FDA organization, the Foundation for the Accreditation of Cellular Therapies (FACT) and the European equivalent NETCORD. Separation is followed by airtight sealing of the blood in a double bag. This is placed in a predefined slot in liquid nitrogen banks for long term storage. Only the family has access to the banked unit and it is readily available for issue once a request is received.

International regulations

Lifeline has always banked blood units in blood bags (cryobags) instead of vials. The international regulatory and accreditation bodies impose the use of cryobags. The regulations state, among other issues, that a cord blood unit should be banked in a single cryobag system whereby a small sample for future testing prior to use should be physically attached to the bag. Regulations deter the segregation of a blood unit into two or more independent parts to be banked separately.

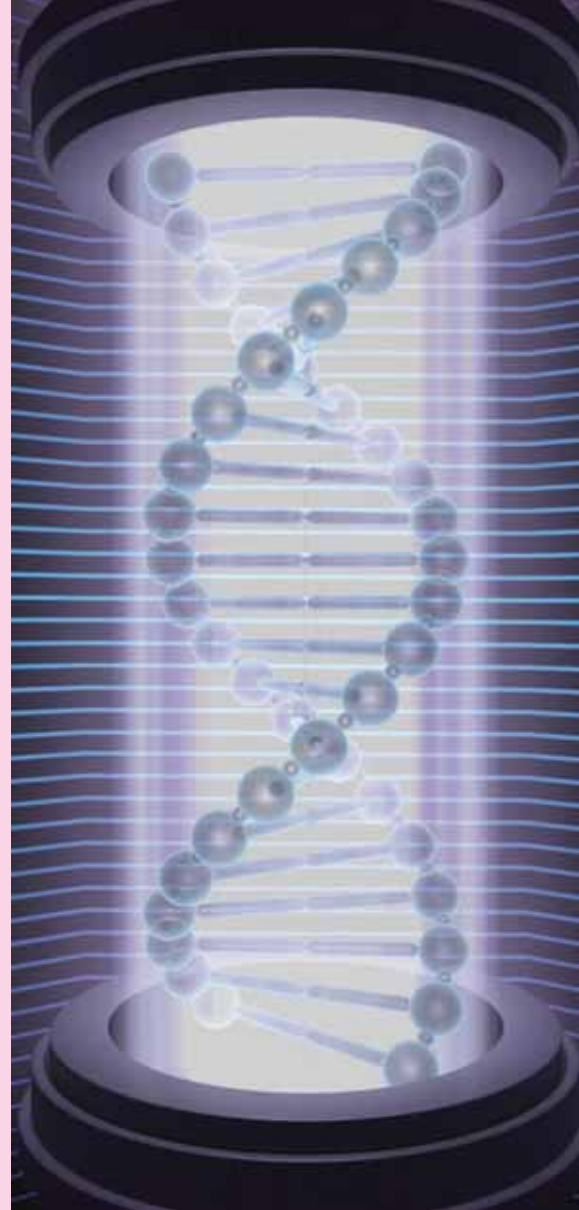
processing and storage

Testing of blood and laboratory quality

Several tests are performed to establish the blood units' suitability for banking. Lifeline's clinical laboratory bears an ISO15189:2007 accreditation for a specified scope and is closely associated with the University College London Hospital. Additionally the laboratory participates in an independent external quality control assessment program whereby all laboratory procedures are regularly monitored by the UKNEQAS (United Kingdom National External Quality Assessment Service) for their accuracy.

Scientific protocol

Lifeline's scientific protocol defines the minimum quality and safety criteria for the banking of blood units, therefore a number of units are rejected and not sent for banking. However, successful banking does not necessarily guarantee future use. Transplant centres will evaluate each available unit prior to use and the decision for using a blood unit will depend on several parameters, namely, the compatibility with the patient, the nature of the disease, the weight of the patient and the number of cells in the banked unit. Lifeline offers a technologically advanced service with the ultimate aim of increasing the possibilities for suitability and use of cord blood units for the widest possible range of conditions.



Lifeline

First in Europe
First in Cyprus

Why choose Lifeline

Blood units receivable on a daily basis

Lifeline receives blood units seven days a week, 365 days a year with the aim of achieving good quality banked units.

LIFE-KIT for more viable cells

The pioneering collection and transportation package, LIFE-KIT, ensures the banking of more viable cells.

Proven banking methodology

All units are processed and banked with state-of-the-art fully automated technology, approved by international bodies.

Quality assurance

Laboratory procedures are performed in ISO accredited laboratories validated through external quality control schemes.

Lifeline - an international bank close to home

Directed by an International Scientific Board, following regulations of international regulatory and accreditation bodies, serving parents in South Eastern European and Middle Eastern countries.

Direct Communication

No reps or middle men involved; personal communication directly with the bank personnel; real opportunity for visits, personal briefing and touring of the facilities.

One in nine parents choosing Lifeline is a professional in the health or medical field!



Cord Blood Banking Fees

LIFE-KIT – Collection & Transportation

Includes:

- Enrolment to the programme
- LIFE-KIT which is essential for the blood collection and transportation to the bank

€85 inclusive of VAT

If the unit is rejected for banking there will be no further charges. Once the collected blood is successfully banked there are two payment plans for parents to choose from, either plan A or B.

Plan A - One-off payment

Covers:

- Processing and clinical testing
- Storage for 20 years

Plan A fees: **€1660 inclusive of VAT**

There are options available for finance through your bank for up to 48 monthly instalments or for up to 4 monthly interest free instalments directly with Lifeline.

Plan B - Annual Storage

Covers:

- Only processing and clinical testing at a cost of **€510 inclusive of VAT**
- This is followed by subsequent yearly payments of **€115 inclusive of VAT** by direct debit with any banking institution to cover the annual storage fee

In the case of twins, a 50% discount is given for the second child. Lifeline's contract for the service is for 20 years. Once the child (essentially the legal owner) reaches majority of age, the contract can be renewed in its name. Since its establishment, Lifeline offers to families who have a member that suffers from a disease treatable by stem cell transplantation the storage of this service absolutely free of charge. Payment is performed only for the processing of the unit (€510), providing suitability for storage.

Enrol in time. Don't forget that many babies arrive before their due date.

Lifeline

Για περισσότερες πληροφορίες
επικοινωνήστε με τη Lifeline
στον παγκύπριο αριθμό:

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Το παρόν ενημερωτικό έντυπο έχει εγκριθεί από την αρμόδια αρχή του κράτους, βάση των προνοιών του νόμου περί προτύπων ποιότητας και ασφάλειας ανθρωπίνων ιστών και κυττάρων.

The current brochure - information package has been approved by the state authorities in line with the relevant legislation regarding the standards of quality and safety of human tissues and cells.



Lifeline

 **7777 2000**

www.lifelinecordblood.com