

CORD LINING BANKING

INFORMATION & FACTS

Why expectant parents choose Cordlife to store their baby's cord lining:

1 First and only family cord blood bank in Singapore with experience in releasing cord lining units for transplant and therapies.



4 **Purest Processing Method** – Cord lining stem cells are cryopreserved in its original form to retain the pure characteristics of the cells as per US-FDA guidelines. This serves as a source for other types of useful cells that may be discovered in future. Cord lining stem cells must also be processed by a cGMP certified laboratory in order to be accepted for transplantations.



2 **Listed on the Singapore Exchange Mainboard** – Cordlife Technologies Pte Ltd is a wholly owned subsidiary of Cordlife Group Limited that provides our clients full transparency of our financial health.



5 **Flexible Storage Method** – Uses multiple cryovials to store the segmented umbilical cord lining for the flexibility to withdraw one cryovial at a time without affecting the other cryovials.



3 **CellOptima™ Patented Technology** – Exclusively available at Cordlife Technologies to harvest two cell lines: Mesenchymal Stem Cells and Cord Lining Epithelial Stem Cells present in your baby's umbilical cord lining.



6 **Largest network in Asia** with fully owned facilities in Singapore, Hong Kong, India, Indonesia, Malaysia, Philippines and presence in Myanmar, Brunei, Bangladesh, Thailand, Cambodia and Vietnam.



What is the Umbilical Cord?

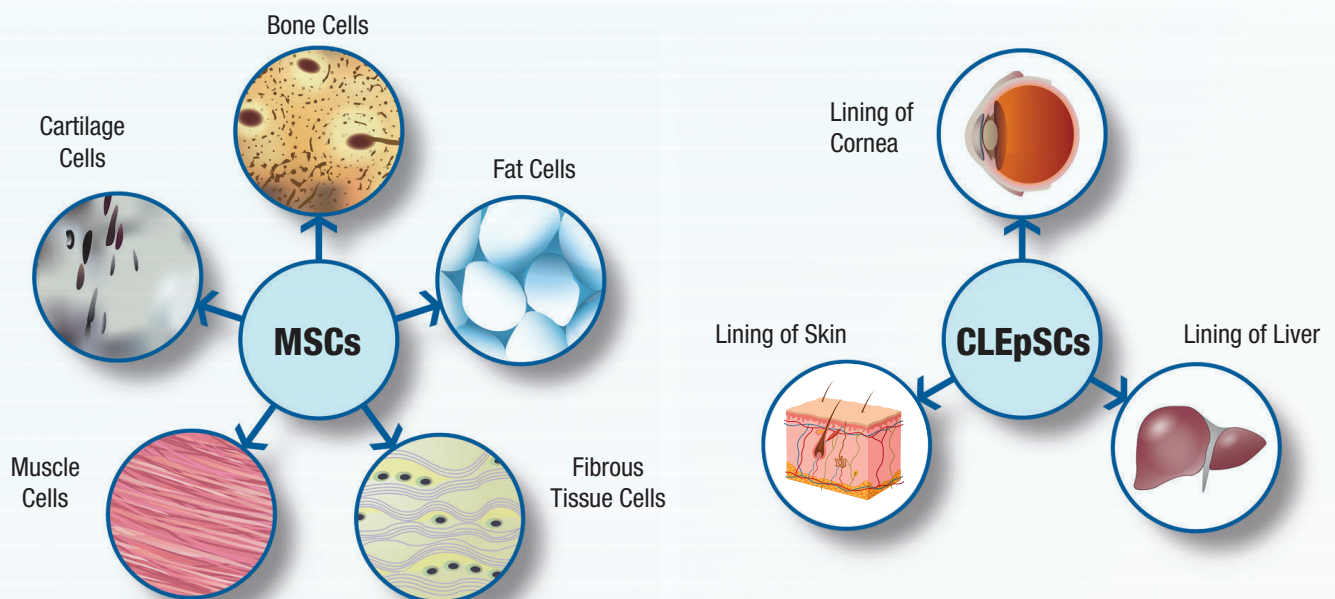
The umbilical cord is the connecting cord from the developing embryo or fetus to the placenta which allows blood to carry oxygen and nutrition to the baby in the womb. After the baby is delivered, the umbilical cord is cut and usually discarded with the placenta as medical waste until researchers became aware of its medical potential.

What are Umbilical Cord Lining Stem Cells?

The umbilical cord lining contains a high concentration of Mesenchymal Stem Cells (MSCs) and Cord Lining Epithelial Stem Cells (CLEpSCs) which can only be harvested and expanded using a patented CellOptima™ technology.

These stem cells have shown immense potential in aiding the repair of injured tissues and organs, as well as for the treatment of various diseases. MSCs are the building blocks of structural tissues in our body such as bone, cartilage, muscle, fibrous tissues and fat. On the other hand, CLEpSCs form the soft tissues that connect, support, or surround certain structures and organs in the body such as the cornea, skin, and liver.

Scientists believe that the umbilical cord lining also contains other types of stem cells which may be useful, but have yet to be discovered.



Why store Umbilical Cord Lining?

Storing the umbilical cord lining refers to the storage of the stem cells found in the outermost layer of the umbilical cord. Cordlife is the first company in Singapore to hold an exclusive licence for CellOptima™, a technology for the harvesting and expansion of two types of progenitor stem cells that can be collected from the umbilical cord lining – MSCs and CLEpSCs.

In comparison, storing the umbilical cord blood refers to the storage of Haematopoietic Stem Cells (HSCs) which are primarily responsible for replenishing blood and regenerating the immune system.

By storing a combination of HSCs, MSCs and CLEpSCs, you will be availing your child and family to be part of a medical revolution with access to the growing applications of these stem cells and the therapeutic potential they hold. These cells can only be collected at birth, and are the youngest and most potent cells available.

Applications using MSCs and CLEpSCs

Did you know...



Every day, **23** people die from cardiovascular disease (heart disease and stroke) in Singapore. This accounted for **30.9%** of all deaths in **2023**, which equates to **1 in 3** deaths in Singapore being caused by heart disease or stroke.¹



Diabetes is **1 of 5** major health conditions in Singapore² where **more than 440,000** Singaporeans have been diagnosed with the condition.³



The most common form of arthritis, Osteoarthritis (OA) affects an estimated **40%** of the adult population in Singapore. Of these, only **10%** seek medical advice, and **1%** are severely disabled.⁴

The table below outlines some of the potential applications of umbilical cord lining stem cells in more than 1,820⁵ (as of October 2024) clinical trials to date.

For some patients, clinical trials represent an avenue for receiving promising new therapies that would not otherwise be available. Patients with difficult to treat or currently “incurable” diseases, such as HIV or certain types of cancer, may wish to participate in clinical trials if standard medical treatments are not effective. Clinical trials have occasionally proven to be life-saving.⁶

Umbilical Cord Lining⁷

Mesenchymal Stem Cells (MSCs)

Tissue Repair

- Orthopaedic applications (osteoarthritis, cartilage and tendon repair)
- Stroke
- Spinal cord injury
- Liver regeneration from liver failure
- Neurodegenerative disease:
 - Alzheimer's disease
 - Parkinson's disease
- Heart failure

HSCs Engraftment Support

- Shorten time of engraftment
- Reduce immune system complications

Immune Modulation or Reconstitution

- HIV
- Type 1 Diabetes
- Prevention and treatment of Graft vs Host disease (GvHD)

Cord Lining Epithelial Stem Cells (CLEpSCs)

Wounds/Soft Tissue Repair

- Disorder of upper respiratory system (repair & regeneration of bronchial epithelium for smokers)
- Surface ulcer (diabetic)
- Various types of burns
- Tissue trauma
- Skin wounds
- Epidermal reconstitution

Organ Regeneration

- Liver lining
- Pancreatic lining
- Gastrointestinal lining

Eye

- Corneal ulcers and other corneal-related indicators
- Dry eye syndrome
- Eye injuries
- Limbal deficiency
- Macular degenerative diseases
- Aged-related myopia
- Ocular surface disease
- Limbal Corneal Insufficiency Syndrome
- Stargadt's Macular Dystrophy
- Pterygium
- Ocular damage due to Stevens Johnson Syndrome

References:

1. Singapore Heart Statistics page. Singapore Heart Foundation website. <https://www.myheart.org.sg/health/heart-disease-statistics/>. Accessed October 22, 2024.
2. Disease Burden page. Ministry of Health website. <https://www.moh.gov.sg/resources-statistics/singapore-health-facts/disease-burden>. Accessed October 22, 2024.
3. Diabetes in Singapore page. Health Hub website. <https://www.healthhub.sg/a-z/diseases-and-conditions/kidney-failure>. Accessed October 22, 2024.
4. Osteoarthritis: Pain and Inflammation of the Joints page. HealthXchange website. <https://www.healthxchange.sg/bones-joints/arthritis/osteoarthritis-pain-and-inflammation-of-the-joints>. Accessed October 22, 2024.
5. Mesenchymal search results page. Clinical Trials website. <https://clinicaltrials.gov/search?term=mesenchymal&aggFilters=studyType:int&viewType=Table>. Accessed October 22, 2024.
6. Clinical research trials page. MedicineNet website. <https://www.ccstexas.com/frequently-asked-questions>. Accessed October 22, 2024.
7. For the full list of potential applications and references, please refer to <https://www.cordlifetech.com/sg/potential-applications>.

Easy Steps to Get Started

Step 1 Enrol with Cordlife

Contact us on our 24-Hour Hotline (65) 6238 0808 to make an appointment with our consultant.
**If you are due within the next 4 – 6 weeks, we will strongly recommend you to contact us immediately to ensure all the necessary steps are completed before your baby's arrival.*

Step 2 Receive Your Collection Kit

Once your enrolment has been completed, we will provide you with a personalised cord lining collection kit which will contain the necessaries for the collection of your baby's umbilical cord. Kindly store your collection kit in a sheltered environment under room temperature.

Step 3 Inform Your O&G Doctor

Inform your O&G doctor that you have enrolled with Cordlife for the collection of your baby's umbilical cord.

Step 4 Bring Your Collection Kit

Bring your personalised cord lining collection kit to the hospital on the day of your delivery, and pass it to the nurse/caregiver after admission. After both mother and baby are safe, the doctor/caregiver will proceed to collect the umbilical cord.

Step 5 Call Us after the Delivery of Your Baby

After the birth of your baby, please call us at **(65) 9388 0567** and provide us with your full name, NRIC number, contact number and hospital of delivery.
Your baby's umbilical cord will be collected by our medical courier within 24 hours.

For more information, please contact Cordlife at:

24-Hour Hotline
6238 0808

Email Address
info@cordlife.com

Consultation Centres

Mount Elizabeth Novena Hospital

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Mon – Fri (9am - 4pm), Sat (9am – 1pm)

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The banking and storage of umbilical cord lining is not licensed by MOH as this is provided on a research/clinical trial basis.