Gift your Baby and the entire Family a Lifetime of good Health!

Preserve your baby’s Umbilical Cord Blood with LifeCell’s Community Stem Cell Banking

www.lifecell.in
What are Stem Cells?

Stem Cells are the master cells which act as the basic building blocks of our body. Just like the seed of a plant that gives rise to branches, leaves and fruits, these stem cells have the potential to develop into specialised cells such as blood cells, muscle cells, brain cells, etc., of our body.

How do stem cells work?

Stem cells have the ability to replace affected cells and/or repair the affected parts thus restoring the normal functions of our body.

Where are stem cells used?

Stem cells are currently used in modern day medicine & can help treat over 80+ medical conditions through replacement and repair approaches. For over 50 years, more than 13 lakh transplants have been done using stem cells across the globe. Currently the number is more than 50,000 transplants every year and growing as we speak.

What is the Role of Stem Cells in today's healthcare?

Today, stem cells have the ability to treat over 80+ blood related medical conditions such as Thalassemia, Lymphoma, Leukemia, Multiple Myeloma, Neuroblastoma, etc.3,4

What is the Probability of being Diagnosed for a condition treatable by Stem Cells?

1 in 217 will undergo a stem cell transplant by the age of 70 years.6

Over 500 human clinical trials for conditions such as Autism, Cerebral Palsy, Stroke, Diabetes is currently underway increasing the scope of future treatments5.

Domestic Fire Extinguisher
A precaution to keep homes safe

In-flight Oxygen Mask
Made available for the rarest of the rare situations

Children’s Mediclaim
Very low chance of being used
The Application Of Stem Cells In Medicine
Possibilities Growing Day By Day

What’s Now
Stem cells today are used in the treatment of over 80+ medical conditions including

<table>
<thead>
<tr>
<th>Blood Disorders</th>
<th>Immune Disorders</th>
<th>Metabolic Disorders</th>
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<tbody>
<tr>
<td>Acute Myelofibrosis</td>
<td>Adenosine Deaminase Deficiency (ADD)</td>
<td>Congenital Erythropoietic Porphyria (Gunther Disease)</td>
</tr>
<tr>
<td>Agranulocytic Myeloid Metaplasia (Myelofibrosis)</td>
<td>Acute Lymphocytic Leukemia (ALL)</td>
<td>Gaucher Disease</td>
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<tr>
<td>Amyloidosis</td>
<td>Acute Myelogenous Leukemia (AML)</td>
<td>Hunter Syndrome (MPS-II)</td>
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<tr>
<td>Aplastic Anemia (Severe)</td>
<td>Acute Undifferentiated Leukemia</td>
<td>Hurler Syndrome (MPS-IH)</td>
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<tr>
<td>Beta Thalassemia Major</td>
<td>Acute Monoblastic Leukemia</td>
<td>Kräfte Disease</td>
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<tr>
<td>Blackfan-Diamond Anemia</td>
<td>Chronic Active Epstein Barr</td>
<td>Lesch-Nyhan Syndrome</td>
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<td>Congenital Amegakaryocytic Thrombocytopenia (CAT)</td>
<td>Chronic Lymphocytic Leukemia (CLL)</td>
<td>Marrowoidosis</td>
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<tr>
<td>Congenital Cytopenia</td>
<td>Chronic Myelogenous Leukemia (CMML)</td>
<td>Maroteaux-Lamy Syndrome (MPS-VI)</td>
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<tr>
<td>Congenital Dyserythropoietic Anemia</td>
<td>Congenital Hemolytic Anemia</td>
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<tr>
<td>Dyskeratosis Congenita</td>
<td>Congenital Hypothyroidism</td>
<td>Mucolipidosis II (I-cell Disease)</td>
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<tr>
<td>Essential Thrombocythemia</td>
<td>Congenital Hypothyroidism</td>
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<td>Fanconi Anemia</td>
<td>Congenital Hypothyroidism</td>
<td>Niemann-Pick Disease</td>
</tr>
<tr>
<td>Glanzmann’s Thrombasthenia</td>
<td>Congenital Hypothyroidism</td>
<td>Sandhoff Disease</td>
</tr>
<tr>
<td>Myelodysplastic Syndrome</td>
<td>Congenital Hypothyroidism</td>
<td>Sanfilippo Syndrome (MPS-III)</td>
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<tr>
<td>Paroxysmal Nocturnal Hemoglobinuria (PNH)</td>
<td>Congenital Hypothyroidism</td>
<td>Schene Syndrome (MPS-1S)</td>
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<tr>
<td>Polycythemia Vera</td>
<td>Congenital Hypothyroidism</td>
<td>Sly Syndrome (MPS-VII)</td>
</tr>
<tr>
<td>Pure Red Cell Aplasia</td>
<td>Congenital Hypothyroidism</td>
<td>Tay Sachs</td>
</tr>
<tr>
<td>Refractory Anemia with Excess Blasts (RAEB)</td>
<td>Congenital Hypothyroidism</td>
<td>Wohlen Disease</td>
</tr>
<tr>
<td>Refractory Anemia with Excess Blasts in Transition (RAEB-T)</td>
<td>Congenital Hypothyroidism</td>
<td>X-Linked Adrenoleukodystrophy</td>
</tr>
<tr>
<td>Refractory Anemia with Ringed Sideroblasts (RARS)</td>
<td>Congenital Hypothyroidism</td>
<td>OWN</td>
</tr>
<tr>
<td>Shwachman-Diamond Syndrome</td>
<td>Congenital Hypothyroidism</td>
<td>OWN</td>
</tr>
<tr>
<td>Sickle Cell Disease</td>
<td>Congenital Hypothyroidism</td>
<td>OWN</td>
</tr>
</tbody>
</table>

Cancers
- Acute Biphrenotypic Leukemia
- Acute Leukemic Leukemia (ALL)
- Acute Myelogenous Leukemia (AML)
- Acute Undifferentiated Leukemia
- Adult T Cell Leukemia/Lymphoma
- Chronic Active Epstein Barr
- Chronic Lymphocytic Leukemia (CLL)
- Chronic Myelogenous Leukemia (CML)
- Ewing’s Sarcoma (ES)
- Hodgkin’s Lymphoma (HL)
- Juvenile Chronic Myelogenous Leukemia (ICML)
- Juvenile Myelomonocytic Leukemia (JMML)
- Myeloid/Natural Killer (NK) Cell Precursor/Acute Leukemia
- Medulloblastoma (MB)
- Non-Hodgkin’s Lymphoma
- Polycythemic Leukemia
- Plasmocytoma Leukemia
- Plasma Cell Leukemia (PCML)
- Chronic Myelomonocytic Leukemia (CMML)
- Leukocyte Adhesion Deficiency
- Multiple Myeloma (MM)
- Neuroblastoma (NB)
- Rhabdomyosarcoma (RMS)
- Retinoblastoma (RB)
- Thymoma (Thyroid Carcinoma)
- Waldenström’s Macroglobulinemia (WM)
- Wilms Tumor

Data extracted from American Society for Blood and Marrow Transplantation (ASBMT) and Parents Guide to Cord Blood Foundation

OWN Conditions that require patient’s own stem cells for treatment (Autologous)

OWN The rest of the conditions listed use stem cells from donor for treatment (Allogeneic)
Stem Cell Transplant Facilities
Across India, stem cell transplants are done in the following cities in the below listed hospitals

Ahmedabad
- Apollo Hospital
- The Gujarat Cancer & Research Institute
- Sterling Hospital

Bengaluru
- Manipal Hospital
- St. John’s Medical College & Hospital
- HCG Hospital
- Columbia Asia Referral Hospital
- Narayana Hrudayalaya Multispecialty Hospital
- Kommat Hospital

Chennai
- Global Hospital
- Apollo Specialty Cancer Hospital
- Adyar Cancer Institute
- Sri Ramachandra Medical Centre

Coimbatore
- Siruvanam Medical Centre and Hospital
- Gajipati Narasimharao Memorial Hospital

Chandigarh
- Postgraduate Institute of Medical Education & Research
- Fortis Hospital Mohali

Gurgaon
- Fortis Memorial Research Institute
- Artemis Hospital
- Medanta (The Medicity) Hospital

Hyderabad
- Yashoda Hospital
- American Oncology Institute
- KIMS Hospitals

Indore
- CHL - CBCC Cancer Center

Jaipur
- Birla Cancer Centre
- Sawai Man Singh Medical College & Hospital
- Manipal Hospital

Kerala
- Amrita Institute of Medical Sciences, Kochi
- Malabar Cancer Centre, Kollam

Kolkata
- Tata Medical Centre
- Nil Ratan Sircar Medical College and Hospital
- Institute of Haematology & Transfusion Medicine Medical College
- Siraj Gupta Cancer Centre & Research Institute (SGCC & RI)

Ludhiana
- Christian Medical College and Hospital
- American Oncology Institute at DMCW

Mumbai
- ACTREC
- Tata Memorial Centre
- L H Hiranandani Hospital
- Jaslok Hospital and Research Center
- INHS Asvini
- Prince Aly Khan Hospital
- P. D. Hinduja National Hospital
- Narayani Hospital
- Kokilaben Dhirubhai Ambani Hospital

Madurai
- Meenakshi Mission Hospital & Research Centre

New Delhi
- Army Hospital Research & Referral
- Dr. B.R.A. Institute Rotary Cancer Hospital
- JL Nair Memorial Hospital
- Rajiv Gandhi Cancer Center
- All India Institute of Medical Sciences
- Max Super Specialty Hospital
- Indraprastha Apollo Hospitals
- Sri Ganga Ram Hospital

Nashik
- Lotus Institute of Haematology and Oncology

Nagpur
- Central India Institute of Haematology & Oncology
- National Cancer Institute (NCI), Jamtha

Odisha
- SCB Medical College and Hospital
- Institute of Medical Sciences and SUM Hospital

Pune
- Sahyadri Speciality Hospital
- Armed Forces Medical College (AFMC)
- Command Hospital
- Ruby Hall Clinic

Vellore
- Christian Medical College

Vadodara
- Sterling Hospital
- Bhadil Amin General Hospital (BAGH)

Where are these Stem Cells found?
Stem cells are found and retrieved from various parts of the body such as the peripheral blood, bone marrow and the umbilical cord blood.

Umbilical Cord Blood
Amongst these sources, umbilical cord blood is considered to be a ready source of stem cells. It can be preserved at birth and used for treatments when required. Stem cells extracted from cord blood are used efficiently in the treatment of blood-related conditions such as Beta Thalassemia Major, Leukaemia, Lymphoma, Neuroblastoma, Sickle Cell Disease, Aplastic Anemia and so on. Cord blood stem cells have been used for over 30 years in more than 50,000+ transplants across the world.

Why do we need Stem Cells from a Donor?
Majority (>90%) of the medical conditions would require stem cells from a healthy donor for treatment as our own stem cells contain the same genetic defect that causes the disease, hence they cannot be used for treatment. Stem cell transplant matching (also known as HLA typing) requires 4-6 parameters to be common between a patient and the donor. Hence, the odds of finding a match is significantly lesser than finding, for example, a matching blood unit for transfusion.

Where can you obtain matching donor Stem Cells?
Matching stem cells can be procured from a "Public Stem Cell Bank" where frozen umbilical cord blood stem cells from unrelated donors are available at a cost. However, public cord blood banks have their own challenges in finding matching stem cells when required.
Public Cord Blood Banks:
Cord blood is donated & is available for a cost.

How to find matching donor Stem Cells?

HLA typing is used to find a matching donor for stem cell transplant.

What is HLA?
Human Leukocyte Antigens are special proteins that form HLA Markers. These markers help the immune system identify which cells belong to you. The most successful transplants happen when the patient’s HLA and donor’s HLA closely match.

HLA Matching:
- A test similar to a blood grouping test but much more complex
- Immediate family is the first source of donors as HLA markers are inherited from parents
- 4 out of 6 HLA match (~67%) between the patient & the donor is sufficient for cord blood stem cell transplant

Challenges Of Finding A Matching Donor In Our Own Family

1/2 of your HLA markers are inherited from father and 1/2 from mother, so a match is difficult for any of the parents.

Reasons For Low Stem Cell Transplants In India:

Low Inventory:
India - 6,500 samples & the only public bank has stopped accepting further samples due to lack of funds.
Globally - 750,000 samples

High Cost:
- Cost to purchase 1 sample is ~INR 15-20 lakhs.
- Adult may require 2 samples for a transplant doubling the cost of purchase.
- Additional cost of hospital treatment of ~INR 15-20 lakhs.
- Cost of procurement of 1 sample from abroad is ~ INR 30 lakhs.

Need of the Hour
- Bigger Indian inventory thereby, increasing probability of finding match
- Low cost for sample procurement

"Since HLA is ethnicity dependent, the chances for an Indian to find a matching donor in public cord blood banks outside India is less than 10%."
How does LifeCell Community Stem Cell Bank work?

It works on the concept of sharing preserved stem cells exclusively amongst its community members to find matching donor stem cells. This provides protection to the baby and all the immediate family members against all medical conditions treatable by stem cells.

- Parents preserve their baby’s cord blood stem cells with LifeCell and join the community stem cell bank.
- Qualified cord blood stem cells units collectively become part of a common pool that is shared only between the community members. As the community pool grows with addition of more samples, it will give families the best chance of finding a matching donor stem cells from this pool.
- The preserved cord blood stem cells in this common pool can be accessed by the baby, siblings, parents and maternal & paternal grandparents.
- The parents hold exclusive ownership rights of the baby’s cord blood stem cells for the first 2 years in case the baby requires its own cord blood to treat any medical condition arising due to developmental delays.
- Only LifeCell’s Community Banking Program provides complete protection against all 80+ blood related medical conditions treatable by stem cells through own as well as donor stem cells.
- Community Banking is a cost effective way to support the public health need for unrelated umbilical cord blood transplants in India.
- Not only does Community Banking solve the challenges of low inventory and high costs of the public banking model, it is also a more sustainable business model compared to public banks.

Need for Stem Cells

Every 3 minutes, one person in the USA is diagnosed with blood cancer. 

Current NED is at least 50,000 Cord Blood Transplants every year in India. 

As per WHO, India has the third highest number of blood cancer patients in the world after the US and China. 

In India, about 3 per 1000 live births are diagnosed with Cerebral Palsy. 

Why Should You Bother About Stem Cells 

In India, about 3 children per 1000 live births are diagnosed with Cerebral Palsy. 

I in 217 will undergo a stem cell transplant by the age of 70 years. 

In India, about 3 in 100 children are diagnosed with Autism. 

Every 9 minutes, someone in the USA dies from blood cancer. 

Annually about 120,000 Indians are diagnosed with blood cancers and another 10,000 children are born with Thalassemia.

Current LifeCell Registry Size: 30,000+ qualified samples (5 times of all public banks in India) 

An ICMR study says that a bank with over 25,000 donated cord blood samples provides 96% chance of finding a matching unit for an Indian.

LifeCell’s Community Stem Cell Bank has an exponentially growing cord blood inventory to offer best match rate in the coming years.

In India, Although 1 Lakh New Blood Cancer Patients Are Diagnosed Annually, Only About 2000 Stem Cell Transplants Are Done Every Year.

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Exclusive Benefits
For LifeCell Community Banking Members

- Complete Protection to the Baby against all conditions treatable using stem cells (own & donor)
- Protection to the baby’s siblings, parents and grandparents (maternal & paternal) by providing unrelated donor stem cells
- Unlimited samples retrievals and absolutely free of cost each time for entire family
- Best probability of finding matching donor stem cells
- Exclusive access to LifeCell Registry (already 5 times larger than any public stem cell bank in India)
- India’s Only Stem Cell Bank Offering Dual Storage at Chennai and Gurugram
- Unlimited Disaster Relief of INR 20 lakhs each for every stem cell transplantation in case of natural calamity
- Unlimited Financial Assistance of INR 20 lakhs for every stem cell transplantation for baby, siblings & parents
- Coverage for Bone Marrow and Peripheral Blood Stem Cells Transplant of INR 20 lakhs for every transplantation for baby, siblings & parents
- Unlimited Quality Guarantee of INR 20 lakhs each for every stem cell transplantation in case of quality failure
- Continued Protection Against Rejection of stem cells for the entire family even if baby’s cord blood is of low volume / unfit for processing / storage
- Full Money Refund (except sample collection charges) with continued benefits for family till baby’s 75 yrs of age
- Free CFU Assay on the stored cord blood stem cells
- Free of cost ‘GENOME-SCOPE’ tests for every stem cell transplantation

LifeCell’s Community Banking - Aligns With The Recommendations Of Medical Bodies And Stem Cell Transplant Physicians

Private cord blood banking must be strongly discouraged. Public cord blood banking serves the actual purpose of preservation by providing a common pool of donor stem cells thereby increasing the chances of finding a match and expanding the treatment options for Indian patients.

In majority of blood disorders, the child’s own stored cord blood cannot be used for the same child as they will carry the same genetic defect.
Padma Shri Dr. K. K. Aggrawal, Immediate Past President of Indian Medical Association (IMA) - April, 2018.

Likelihood of using own cord blood is very small (less than 0.04%). Hence, the donation of cord blood to public bank is recommended because there is 100 times more likely chance of release of a unit from public bank compared to a private bank.
Recommendations by ACOG, AAP and ASBMT.

Cord blood transplants in India has been very low mainly due to high cost and limited number of units available. With more than 25,000 cord blood units, the bank shall be able to provide a matched cord blood for 96% of its patients.
Dr. Rahul Bhargava, Director and Head, Hematology and Bone Marrow Transplant, Fortis Memorial Research Institute, Gurugram.

Community cord blood banking is the perfect solution to bring technological capability to the masses - leveraging India’s high birth rate to bring life changing treatments available to patients who have life-threatening illnesses.
Dr. Purvish Parikh, Director, Precision Oncology and Research, Asian Institute of Oncology, Sowbiya Ayurvar Cancer Care Molecular Oncology Society - May 2017.
Why choose Community Bank over Private Bank?

By choosing community banking, you unveil 80 times greater potential of your baby’s stem cells through unmatched benefits such as protection from all conditions treatable by stem cells, complete family protection, unlimited number of samples at no additional cost.


- Protection only for baby
- Covers only 10% of treatable conditions
- Access only to single unit of preserved sample

- Protection for entire family
- Covers all conditions treatable
- Free access to unlimited number of donor samples
Tests Performed on Mesenchymal Stromal/Stem Cells (MSC's) at retrieval for transplant:
- Viable Mononuclear Cell Count
- Sterility
- Mycoplasma
- Endotoxin
- Cell Morphology
- Differentiation Potential
- Potency
- Flow Marker Positives: CD90, CD73, CD105
- Flow Marker Negatives: CD34, CD45, CD14, CD19, HLA-DR

Tests Performed On The Maternal Blood Sample
- Blood Group and Rh Typing
- Anti-HCV
- Anti-HBC
- HBSAg
- HTLV I/II
- Malaria
- CMV-IgM
- CMV-IgG
- HIV I/II
- Syphilis
- Nucleic Acid Testing (NAT) is performed for HIV and HCV viruses

Tests Performed On Cord Blood
- At the time of Storage:
  - Cord Blood Group & Rh Typing
  - Cord Blood Volume
  - Total Nucleated Cell Count
  - Total Stem Cell Viability
  - Hematocrit
- At 2 years from date of birth of the Child:
  - HLA Typing by Next-Generation Sequencing (NGS)
  - Colony Forming Unit (CFU) Assay

Eligibility Criteria For Cord Blood Specimen to Qualify for Listing In LifeCell Registry:
- Total Nucleated Cells: > 500 Million
- Viable CD34+ Cells: > 1.25 Million
- Maternal ID testing: Negative (Except CMV-IgG)
- Sterility testing (bacteria & fungi): Negative
- Hemoglobinopathies: No homozygous
- Maternal blood sample collection: Within 7 days of childbirth
- Infant Health History: Signed by a registered medical practitioner

Preservation Advantage
India’s First & Only Dual Storage Facility:
LifeCell’s Dual Site Storage Stem Cell Bank with preservation facilities at Chennai & Gurugram ensures maximum security against any unforeseen natural disasters.
PrepaCyte-CB®
A premier cord blood processing technology which extracts the maximum number of healthy stem cells and provides superior red blood cell depletion over all other methods.

How Does It Work?

Top layer - plasma
Middle layer - buffy coat
Lower layer - red blood cells

Buffy coat with stem cells are harvested using PrepaCyte-CB® processing technology

Excess plasma is removed using automated plasma expressor

DMSO-Dextran [Cryoprotectant] is added to buffy coat with stem cells to provide safety to cells during cryo-preservation

After homogenization of DMSO
buffy coat with stem cells are transferred to Cryo Bag (25ml)

Frozen under -196°C and preserved

What Are The Benefits of PrepaCyte-CB®?

More Of What Parents Want
PrepaCyte-CB® comparatively extracts highest number of viable stem cells

Less Of What Parents Don’t Want
PrepaCyte-CB® comparatively removes maximum of all unnecessary RBCs

Parameters
PrepaCyte-CB®
Sepax / Sepax 2
AXP / AXP II

PrepaCyte-CB® Benefit To Patient

Days To Recovery* Post Transplant
16 Days27
20 Days28
21 Days29

Earlier engraftment time means the patient will spend less time in the vital stage where they don’t have an immune system capable of fighting pathogens. It can also translate to less time in the hospital and less stress and worry waiting for the patient to feel better.

More the stem cells, higher the chances of successful stem cell transplantation

TNCC Extractions (%) 85 - 90%30
75 - 80%, 8,12,13,14,15
76% 31

More the stem cells, higher the chances of successful stem cell transplantation

RBC Depletion (%) 99%36
84.70% 37
70% 32

Low risk of renal failure. Prevents blood group incompatibility. Prevents loss of precious stem cells by reducing need for ‘washing’ step to remove excess RBCs39

* Recovery time is the median time to reach an absolute neutrophil count (ANC) of 500.
# LifeCell’s Community Bank vs Other Private Banks

## Benefit Differentiators

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<tr>
<th>Features</th>
<th>LifeCell Community Bank</th>
<th>Other Private Banks[^19]</th>
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</thead>
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<tr>
<td>BANKING MODEL SUPPORT FROM MEDICAL BODIES</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>Aligns with Recommendations of IAP, IMA, ACOG, AAP, ASBMT</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>COVERAGE FOR STEM CELL TRANSPLANTS</td>
<td></td>
<td></td>
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<tr>
<td>Baby’s Own Cord Blood (only 10% conditions)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>One additional Umbilical Cord Blood (UCB) when Baby uses own UCB</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Unrelated Donor Stem Cells for Baby (for 90% conditions)</td>
<td>✓</td>
<td>×[^]</td>
</tr>
<tr>
<td>Exclusive access to LifeCell (LC) registry including pre-existing conditions</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>Unlimited Stem Cells from LC registry (Free of cost)</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>Protection to baby’s siblings and parents</td>
<td>✓</td>
<td>×[^^[1]](Maximum upto INR 20 lakh)</td>
</tr>
<tr>
<td>Protection to baby’s grandparents (Maternal and Paternal)</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>Unlimited financial assistance of INR 20 lakhs for every Stem Cell Transplant (SCT)</td>
<td>✓</td>
<td>×[^]</td>
</tr>
<tr>
<td>BM or PB SCT assistance of INR 20 lakhs for every transplant</td>
<td>✓</td>
<td>×[^^[1]]</td>
</tr>
<tr>
<td>Protection against 80+ approved blood conditions for baby and family</td>
<td>✓</td>
<td>×[^^[1]][[^^[1]](Only once upto INR 20 lakhs) &amp; ×[^^[1]](Only for initial 21 years)</td>
</tr>
<tr>
<td>Continued protection even if baby’s UCB is of low volume or unfit for Processing/Storage</td>
<td>✓</td>
<td>×</td>
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<tr>
<td>QUALITY GUARANTEE AND DISASTER RELIEF PROGRAM BENEFITS</td>
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</tr>
<tr>
<td>Unlimited Coverage of INR 20 lakhs for Every SCT</td>
<td>✓</td>
<td>×[^] (Only once upto INR 20 lakhs)</td>
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<tr>
<td>Access to LC Registry for Finding Suitable Replacement Stem Cells</td>
<td>✓</td>
<td>×</td>
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<tr>
<td>Transit Insurance (collected cord blood and processed stem cells)</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>Coverage Tenure</td>
<td>✓ (75 years)</td>
<td>× (Only for initial 21 years)</td>
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<td>STORAGE LOCATIONS</td>
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<tr>
<td>Dual Site Storage</td>
<td>✓</td>
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<td>GenomeScope</td>
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<tr>
<td>Genetic Testing on samples before release for every stem cell transplantation</td>
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<tr>
<td>Features</td>
<td>LifeCell Community Bank</td>
<td>Other Private Banks*</td>
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<tr>
<td>-------------------------------------------------------------------------</td>
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<tr>
<td>FULL MONEY REFUND</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>Full Refund (except CC) with Continued Benefits, if Baby’s Sample Used by Other Community Member</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>CORD BLOOD EXPANSION</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>Cord Blood Expansion for Baby, Siblings and Parents</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>GUARANTEED EXPANDED MESENCHYMAL STROMAL/STEM CELLS (MSC’s)</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>DCGI Approved Product For Use in Clinical Trial</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>In-house, Ready-to-Use MSCs from Donated UCT (subject to approval by regulatory authorities)</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>1000 Million MSC’s For Every Transplant</td>
<td>✓ (Within 7 days)</td>
<td>× (upto 90 days)</td>
</tr>
<tr>
<td>Time</td>
<td>✓ (Free of cost)</td>
<td>× (~ INR 2-4 lakhs for 50Mn to 1000 Mn MSC’s)</td>
</tr>
<tr>
<td>Cost</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIVES SAVED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transplant Experience / Retrievals</td>
<td>57 (*as on August 2019)</td>
<td>25-30 (all other Indian stem cell banks)</td>
</tr>
<tr>
<td>ADVANCED COLLECTION KIT BOX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strong Stainless Steel Box, Vacuum Insulated Temperature Maintenance, Eco-Friendly, Contamination Proof, Compact</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>FREE OF COST HLA TYPING USING NEXT GENERATION SEQUENCING (NGS)</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>Baby, Siblings, Parents and Grandparents (Maternal &amp; Paternal)</td>
<td>✓</td>
<td>× (Not for Grandparents)</td>
</tr>
<tr>
<td>Coverage Tenure</td>
<td>✓ (75 years)</td>
<td>× (Free only during first 21 years)</td>
</tr>
<tr>
<td>PRICING PLANS (ASSUMING APPLE TO APPLE COMPARISON)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Storage Plan (easy on pocket)</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>21 Years Storage Plan (One Time Payment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75 Years Storage Plan (One Time Payment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50,000 (Community) + CC</td>
<td></td>
<td>~INR 1 to 4 lakhs + CC</td>
</tr>
<tr>
<td>65,000 (Community) + CC</td>
<td></td>
<td>~INR 1 to 4 lakhs + CC + ~INR 20,000 (for Lifetime Plan)</td>
</tr>
</tbody>
</table>

*CC: Sample Collection Charges

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^ In Private Banks, it is mandatory to use Baby’s Own UCB to get one additional matching sample from public bank if a match is available. But, in 90% conditions baby CANNOT use Own UCB, hence the baby is deprived of protection from donor stem cells.

^^ Siblings: Only if it matches baby’s cord blood (chances are only 25%) and in such case only 1 additional UCB from public bank. Parents: They cannot use baby’s cord blood due to lack of HLA matching. Since in PrB it is mandatory to use baby’s own UCB to get 1 additional UCB from public bank, Parents don’t get donor stem cells.

^^^^ Baby: Only 8 conditions using own UCB.
LifeCell’s Guaranteed Mesenchymal Stromal/Stem Cells (MSC’s) Program

MSC’s are a type of stem cells that have the potential to differentiate into bones, cartilages and muscles, thereby making them capable of being used in several therapeutic areas in future. Currently, the potential of these stem cells are being checked in several human clinical trials across the world. Since MSC’s are considered to be ‘universal donor cells’ they are being made available off-the-shelf for immediate treatment as they don’t need donor-recipient matching. In India, a biotech company has already received the DCGI approval to market such an expanded MSC’s product developed from donated adult human bone marrow for treatment of Critical Limb Ischemia (CLI) due to Buerger’s Disease.

Factors

<table>
<thead>
<tr>
<th>Regulatory Position</th>
<th>Other Banks</th>
<th>LifeCell’s Guaranteed MSCs Program</th>
<th>Benefits to LifeCell’s Clients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certainty of Expansion for Higher Volume of MSC’s</td>
<td>Commercial banking of baby’s own cord tissue is not licensed and is prohibited in India. to prevent exploitation of parents by banks who charge huge fees</td>
<td>Provide DCGI approved expanded MSC’s product derived from donated adult human bone marrow for immediate access or NAC-SCRT approved MSC’s from donated human cord tissue in future (subject to govt. regulations)</td>
<td>Regulatory Approved and Licensed MSC’s</td>
</tr>
<tr>
<td>Time</td>
<td>90 days</td>
<td>7 days ready-to-use off the shelf</td>
<td>Saves Time</td>
</tr>
<tr>
<td>Quantity</td>
<td>50Mn to Maximum 1000 Mn</td>
<td>1000 Mn MSC’s for Every Transplantation</td>
<td>More Cells - More Protection</td>
</tr>
<tr>
<td>Cost</td>
<td>~INR 2 to 4 lakhs for 50Mn to 1000 Mn MSC’s</td>
<td>Free of cost</td>
<td>Saves Money</td>
</tr>
</tbody>
</table>

Benefits to LifeCell’s Clients

- Regulatory Approved and Licensed MSC’s
- Guaranteed MSC’s
- Saves Time
- More Cells - More Protection
- Free of cost
- Saves Money

DID YOU KNOW? MSC’s are Universal Donor Cells that do not need donor-recipient matching. In fact, almost all the current active human clinical trials related to umbilical cord tissue are using MSC’s obtained from donated sources. In India, the DCGI has already approved the use of donated expanded MSC’s obtained from adult human bone marrow for treatment of CLI due to Buerger’s Disease.

Why LifeCell Discontinued Cord Tissue Banking?

In October 2017, The Indian Council of Medical Research (ICMR) updated the ‘National Guidelines For Stem Cell Research’ in India, prohibiting commercial banking of all other biological materials EXCEPT Cord Blood. As a law-abiding company, LifeCell, therefore, decided to voluntarily stop the collection, processing and storage of umbilical cord tissue.

Many stem cell banks in India still continue to collect and harvest stem cells from cord tissue, placenta, menstrual blood, adipose tissue and dental pulp? Is this allowed? "Right now banks can only store stem cells derived from cord blood. Anyone offering to store stem cells derived from any other sources is indulging in unethical medical practice."

Dr. Geeta Jotwani
Deputy Director General (Sr. Grade) (Scientist ‘F’), Indian Council of Medical Research

What if the baby or my family needs Mesenchymal Stem Cells (MSCs) in the future?

As part of LifeCell’s Guaranteed MSCs Program, we assure all our Clients the protection of mesenchymal stem cells for future therapeutic purposes.
LifeCell
Legacy
Unmatched Experience
Over 15 years of expertise and experience in technological collaboration with CryoCell Inc., (the world’s first private stem cell bank with over 27 years of experience)

Most Accredited
Most Accredited Stem Cell Bank with accreditations from AABB, WHO GMP, NABL, ISMS, CAP and US FDA
Registered

World’s largest ready-to-use inventory of Indian origin
LifeCell is currently the only stem cell bank that holds the world’s largest ready-to-use inventory of cord blood stem cells of Indian origin

Why over 3 Lakh Parents trust LifeCell?
Choosing the right partner to preserve your baby’s precious stem cells is the most important aspect of your decision. LifeCell, by expertise and experience backed by trust, reliability and personalized customer service stands to be your perfect choice.

Over 3 lakh parents have entrusted their baby’s umbilical cord blood stem cells to LifeCell. Having pioneered stem cell banking in India for the first time, LifeCell takes the step towards bringing “Community Stem Cell Banking” to ensure that your baby and entire family stay protected with the power of stem cells.

Simple Steps To Preserve Your Baby’s Stem Cells At LifeCell

Steps you will take

<table>
<thead>
<tr>
<th>Steps you will take</th>
<th>Care that we extend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrol</td>
<td>Collection kit</td>
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<tr>
<td>Get your Kit</td>
<td>Collect sample</td>
</tr>
<tr>
<td>Inform us</td>
<td>Transport</td>
</tr>
<tr>
<td>Carry the kit</td>
<td>Testing &amp; Processing</td>
</tr>
<tr>
<td>Handover the kit</td>
<td>Preservation</td>
</tr>
</tbody>
</table>

Collection kit
After enrollment, we will send you a collection kit

Collect sample
Organize collection of your baby’s umbilical cord blood at birth

Transport
Our logistics chain will organize to transit your sample to the lab safely

Testing & Processing
Our specialists will test & process your samples in the lab

Preservation
Extracted stem cells are preserved & the certificates are dispatched

Care that we extend

Choosing the right partner to preserve your baby’s precious stem cells is the most important aspect of your decision. LifeCell, by expertise and experience backed by trust, reliability and personalized customer service stands to be your perfect choice.

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Unmatched Preservation Benefits

Free Stem Cell Expansion: Clinical expansion of stem cells to provide higher volume of stem cells if required at the time of transplant at no additional cost.

Free Worldwide Shipment: Shipment of stem cells to any part of the globe during transplant at no additional cost.

Medical Concierge: Medical guidance on stem cell treatment options and recommended transplant centres with their specialisation will be shared during transplants.

Transplant Related Tests: Sample testing for transplant at no additional cost.

Annual Preservation Status Report: Preservation status report with details of monthly temperatures track record shared once every year.

Still have questions?
We understand that you would require additional information. We want to help you by offering detailed answers to the most common queries that you may have.

1. Why are umbilical cord blood stem cells preferred over other sources of stem cells?
   Stem cells can treat more than 80+ blood related medical conditions. Cord blood cells can be modified and does not have to be exactly matched to the patient like transplants from an adult donor thereby offering better transplant outcomes. Also, they can be easily collected at birth with no harm to mother or baby.

2. When stem cells are available in other parts of our body and can be retrieved when required, why should I preserve my baby’s umbilical cord blood stem cells?
   OR
   If I can use my own stem cells then why should I go for Community Banking?
   Stem cells from our own body sources such as bone marrow and peripheral blood or even own cord blood can be used to treat only 10% of all blood conditions treatable by stem cells. In 90% of the treatments, we need stem cells from a matching donor. LifeCell’s Community Banking offer the best chances to procure matching cord blood stem cells from another member of the community. Also, the entire family can retrieve unlimited stem cells from the LifeCell registry, absolutely free of cost.

3. What is difference between private banking and community banking?
   Private stem cell banking preserves your baby’s stem cell exclusively for your baby’s use only and in some cases for the sibling too. This offers protection only against conditions that can use your baby’s own stem cells, which is only 10% of all conditions treatable by stem cells. For the treatment of the remaining 90% of the condition, your baby’s preserved stem cells cannot be used and you would require stem cells from a healthy donor from external sources. Hence, medical bodies in India and abroad do not recommend Private Banking.

   Community stem cell banking works on the concept of sharing baby’s stem cells amongst a community of parents. While your baby’s own stem cells can be accessed for protection against conditions requiring own stem cells, stem cells from the common pool serve as a source of donor stem cells offering protection against remaining conditions. Hence your baby is protected against all conditions treatable by stem cells. LifeCell’s Community Banking aligns with the recommendations of medical bodies in India and abroad.

Did You Know?
LifeCell has successfully facilitated 57 cord blood transplants of which 12 were using child’s own stem cells and 45 using sibling’s matched stem cells. This includes 14 international shipments (USA, Singapore and Thailand). This clearly is a testimony of LifeCell’s service quality and global acceptance. (data as on August 2019).
5. When will my baby’s cord blood stem cells get listed on the LifeCell Registry?
Some baby’s may require their own cord blood stem cells within the first 2 years to treat certain medical conditions like Autism, Cerebral Palsy, etc. that arise due to developmental delays. For this purpose, your baby’s own stem cells are preserved with exclusive rights to access only by you during the first 2 years. It will be moved to LifeCell Registry only after this period. In the event the baby is diagnosed of medical condition that requires the use of own cord blood stem cells, the Parents may exclusively reserve the Child’s own stem cells without exiting the LifeCell Community Banking Program by providing documentary evidence from the treating transplant physician to LifeCell.

6. What if my baby’s stem cells are released to some other member in the community and later on my baby requires its own stem cells?
There is no risk to sharing your baby’s stem cells. Similar to blood, our body’s stem cells also regenerate continuously. If required, own stem cells can be easily retrieved from the blood or bone marrow of our body. For instance, Actor Lisa Ray did not have the facility to preserve her umbilical cord blood stem cells at birth. However, in order to treat her Multiple Myeloma, a type of blood cancer, her own peripheral blood stem cells came to her rescue and gave her a new lease of life.

7. If my child’s stem cells are released to other community member, will my child continue to have access to stem cells from the community pool?
Yes. Not only your baby but your entire family (Parents, Siblings, Maternal and Paternal Grandparents) will also continue to have access to community donor stem cells during the duration of the contract with unlimited access to matching stem cell units and all other benefit programs as applicable.

8. How much cord blood is needed for a transplant?
When treating blood related medical conditions, the stem cells transplant dose should be at least 25 million TNC per kilogram of patient body weight. As per our published data on our in-house cord blood processing, the median size of our cord blood collections is 98 ml. This corresponds to 650 to 750 million Total Nucleated Cells (TNC) or around 2 million cells that test positive for the stem cell marker CD34. The median RBC depletion achieved was 95.4%.

9. If community stem cells banking is highly beneficial, why did my doctor not advise me on the same?
As per the India Academic of Pediatrics (IAP), there is lack of awareness regarding the utility of cord blood stem cells and its uses amongst the obstetricians and pediatricians. A study suggested that 58% Indian doctors were unaware of the indications of cord blood stem cells; another alarming study showed that 90% doctors felt that umbilical cord blood from a child can be used to treat thalassemia in the same child, which is also incorrect. These studies highlight the need for awareness among the Indian doctors regarding the established and approved indications of cord blood in own and donor stem cell transplantation.

This service provides the following...

LifeCell is proud to introduce

Genome-Scope

LifeCell is the 1st and only stem cell bank globally to perform genomic profiling of stem cell units before transplant at NO EXTRA COST!

1. Introduction of Genetic Tests on the cord blood units before release would provide doctors and families of patients additional assurance regarding the quality of the samples that can be utilised for stem cells transplant. If the cord blood unit to be used is free from the risk of carrying cancers or inherited diseases, it is a big advantage.

2. Provides protection against several transplant-related disorders such as Donor Derived Leukemia

What Doctors have to say about Genome-Scope

"It’s very reassuring to know that LifeCell performs genetic profiling of the cord blood units to ensure that the samples are free from any risk of carrying cancers or inherited diseases." - Dr. Purnima Parikh, Director (Genetics)

"The introduction of genetic profiling before release provides an additional layer of protection for patients, ensuring they receive the highest quality stem cells for their treatment." - Dr. Shreya Shah, Consultant Hematologist
LifeCell’s Sign-in Benefits

For the first time, LifeCell brings you a rich user experience once you enrol for Stem Cell Banking.

Sign in to the LifeCell website with your CRM number & track your plan details (Storage plan, Payment details & options, Sample storage temperature, Download reports) in real-time.