

A guide for cord blood banking (UCB) in India.

What is cord Blood Banking?

Cord blood is the residual blood which is remaining in the cord at the time of delivery of the child. Typically around 100-120 ml is collected at the time of delivery.

What are the uses of Cord Blood?

Typically, and traditionally UCB was geared towards using stem cells derived from the cord blood to treat hematological disorders like:

- *Acute Leukemias*
- *Chronic Leukemias*
- *Thalassemia*
- *Fanconi's Anemia*
- *Sickle Cell Anemia*
- *Hodgkin's Lymphoma*
- *Non-Hodgkin's Lymphoma*
- *Multiple Myeloma*

One must realize that treating hematological disorders must be done in an ALLOGENIC manner, as the child's stem cells may not be useful in MOST cases. This brings about forth the paradox which the modern day cord blood banking is based on. Many companies in India, are offering to store stem cell (autologous) in a single bag to treat hematological conditions, which cannot be done so in an autologous manner. The very paradigm of cord blood banking is lopsided as the clients are not given the right picture.

What must a parent do if the child has a hematological disorder treatable with stem cell?

The parent must go to a PUBLIC AUTOLOGOUS BANK which will look for a HLA match and transplant into the baby .This form of stem cell transplant is for TOTAL HEMATOPOIETIC RECONSTITUTION. OTHERWISE THE PARENT HAS TO BANK WITH A COMPANY WHICH OFFERS SIBLING DONOR PROGRAM, WHEREIN THE EFFECTED CHILD'S SIBLING SHOULD DONATE EITHER ITS

BONE MARROW OR THE PARENT CAN PLAN ANOTHER CHILD AND BANK ITS CORD BLOOD.

WHY DO WE HAVE PRIVATE CORD BLOOD BANKING?

The system of autologous banking is to facilitate the concept of REGENERATIVE MEDICINE. Autologous banking system is geared to offer treatment options in several diseased conditions which could afflict the child in his life.

WHAT ARE THE DISEASES?

- Osteoarthritis
- Late stage peripheral occlusion (Ischemic Limb)
- Diabetic Foot Ulcer
- Diabetic Neuropathy
- Non healing wounds
- Non healing fractures
- Chronic Liver Failure; Liver cirrhosis
- Spinal Cord Injury
- Ischemic heart disease.

- Chronic Kidney Disease
- Cancer therapy
- Muscular dystrophy
- Diabetes I and II (Insulin dependent)

HOW DO I CHOOSE THE CORD BLOOD BANKING PROVIDER?

As a client you must choose a company which offers banking and therapy options to you.

HOW DO I KNOW THAT THEY ARE DOING THE THERAPY?

- Stem cell therapy has to be done in a systematic manner.
- The provider must have an Institutional Ethics Committee and a Monitoring committee in other words an Institutional Committee for Stem Cell Research and Therapy and (ICSCRT).
- All trials on stem cells have to be passed through them and after the establishment of safety and efficacy, they can be offered to the patients.
- ICMR classifies stem cell therapy as experimental, but classifies adult stem therapy as permissible.

ARE THERE ARE FORMAL APPROVALS NECESSARY?

As long as the provider is following the ICMR rules, it does not need any formal approval. It must have a Class 10,000 cGMP facility for handling the stem cells.

WHY IS STEM CELL THERAPY IMPORTANT?

If the stem cell banking company **does not** provide therapy options, then the purpose of banking it is defeated. If the company does not invest in trials and does not take definite steps towards the stem cell therapy, then the clients are getting misled. There is a gamut of stem cell banking companies, which provide banking options but do not have any therapy options.

Recent ruling in the European Union, banning the running of stand alone cord blood banking facility without treatment options, has made it almost mandatory for banking companies to offer therapy options to their clients.

By,

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