

feature

Blood insurance

Blood is truly thicker than water. We asked the Resident Consultant Paediatrician specialising in Oncology & Haematology at Kinder Clinic Pte Ltd to answer some frequently asked questions about cord blood banking.

Mdm Melissa Lim, a former clerk turned fulltime housewife, recently decided to have her newborn baby's cord blood stored in case her youngest son's leukemia relapsed. A beneficiary of CordLife Pte Ltd's CordLife Cares program, her second son, Marcus, had contracted childhood leukemia at the age of only two.

Says Mdm Lim, "When Marcus was about 2 years old, I noticed that he had a swelling on his forehead so I brought him to see a GP, and the doctor advised me to observe if the lump goes away after 2 weeks. Following the next consultation at a polyclinic, she was reprimanded by the new doctor for waiting so long to seek medical treatment. Marcus was admitted immediately into KKH for further check-ups. Tests carried out on Marcus' head and chest over 2 weeks revealed the diagnosis to be leukaemia.

Mdm Lim told LiveWell Baby, "We were shocked when we heard the diagnosis because there has been no such ailment in our family histories. To think the symptom was a swelling which is a common occurrence for any child".

Says the doctor... Cord blood better than bone marrow

In the early 80s, the same type of stem cells as those found in bone marrow was discovered in umbilical cord blood. And in 1988, the first umbilical cord blood transplant was performed for a blood disease known as "Fanconi's Anemia". Since that first transplant, the understanding and experience of cord blood transplantations has grown tremendously. This has led to an increase in the number of diseases being treated by cord blood transplants rather than bone marrow.

The illnesses which are treatable with cord blood can be inherited (hereditary) or non-hereditary. Examples of hereditary diseases that are treatable using cord blood transplants include metabolic disorders, immune system disorders, platelet abnormalities, thalassemia major, and more. In fact, there are over 80 diseases currently treatable using cord blood.

The long road to recovery

KKH started Marcus on chemotherapy - which lasted for 2 years, with additional drug treatments whenever Marcus had a fever (fever is a sign of infection). As a result of his weakened immune system due to chemo, Marcus would get infected very easily. Says Mdm Lim, "Sometimes we had to stay 5 days at the hospital as the doctor tried different treatment to bring down the fever and complications. The hospital was like our second home, and we hardly went out and could not take public transport. Especially during drug treatments, Marcus would get depression and extreme mood swings - it was a very difficult time for us."

"We were lucky to have the support and counseling from the social worker and medical staff from KKH and the families we got to know from the Chemo Unit."

Seeing other children stricken with similar illnesses and the courage shown by the young children and their families also enabled Mdm Lim and her family to accept the harsh reality, and gain the strength necessary to cope with their situation.

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Says the doctor... Cord blood is blood insurance because...

Conventional chemotherapy will cure 40% of acute lymphoblastic leukemia in children. However, when these patients relapse, stem cell transplantation is their best option for a cure. The chances of obtaining a matched sibling bone marrow transplant are slim (1 in 4). Cord blood is thus a better choice when a matched sibling donor is not available. Before the advent of cord blood transplants, the chances of success were limited.

Cord blood is useful for treating a wide variety of diseases, predominantly diseases which were previously been treated with bone marrow transplantation, such as leukemias, lymphomas, anemias and other hematological disorders. This is because the theoretically effective hematopoietic stem cells found in cord blood are similar to those found in bone marrow. Due to the wide acceptance of the clinical utility and ready accessibility of banked umbilical cord blood, there are numerous studies being carried out around the world on its use for non-hematological disorders. Most notably at late, is the program in Duke University which uses autologous (the child's own) cord blood for curing cerebral palsy, as well, its use in treating Type I Diabetes is being carried out in the University of Florida.

CordLife steps in...

When Mdm Lim became pregnant for the third time, her gynaecologist recommended that she stored her newborn baby's cord blood.

"She mentioned that there were 2 cord blood banks, and I contacted both to find out more. After doing much research and speaking to people, it was suggested by a CordLife consultant to apply for 'CordLife Cares' which was just launched then," recalls Mdm Lim (see box).

Today, Marcus's leukemia is in remission. He will be turning 9 years old soon, and his newborn baby brother is 4 months old. He also has a 14 year old older brother.

Mdm Lim is optimistic about the future, but she is also cautiously optimistic.

"The doctors said that if the leukemia does not relapse within 5 years, there is hope that he will not get a relapse in the future. His

remission commenced in 2004," says Mdm Lim.

Marcus has been going for regular check-ups, and there has been no relapse so far. 2009 will be his 5th year since remission.

But should he have a relapse, at least he now has the option being treated with his baby brother's cord blood. And if this does come to pass, Mdm Lim and family will realise that for them, blood is indeed, truly thicker than water.

CordLife Cares - for those who need it

We spoke to CordLife, whose first beneficiary of the CordLife Cares program was Mdm Lim's family.

1. What are the costs of storing cord blood?

The one-time enrollment fee is normally S\$1,600 (before GST), including first year storage), and the subsequent storage fee is S\$320 per year. As a CDA approved institution, parents can use their baby's Baby Bonus account to pay the amount which is deductible one month after the baby's delivery. You can call 6226 0808 for promotional prices and other details.

2. How many cord blood centres are there in Singapore?

There is currently one public cord blood bank (Singapore Cord Blood Bank) and two private cord blood banks in Singapore (CordLife and Stemcentry). CordLife is the first and only AABB accredited (American Association of Blood Banks) facility in Singapore and Southeast Asia. Listed on the Australian Stock Exchange, CordLife operates the largest network of cord blood banks in the world, with facilities in Singapore, Australia, Indonesia, India and Hong Kong, as well as a marketing presence throughout Asia.

3. Tell us more about the CordLife Cares program - who is eligible and how to go about contacting CordLife?

At CordLife, we recognise that there are families who may benefit from private cord blood banking but are financially challenged to do so. We hope that the CordLife Cares programme can make a meaningful contribution to the community and are especially grateful to the Obstetrical & Gynaecological Society of Singapore (OGSS) and its President for rendering their support to this cause.

The only one of its kind programme in Singapore, families accepted into the CordLife Cares programme shall have their baby's cord blood stem cells collected, processed and stored at CordLife's facility with all costs absorbed by us. The programme admission criteria are listed below:

- Singapore citizens or Singapore permanent residents
- Household monthly income below S\$2,000
- Impending delivery of their baby in Singapore
- Has an immediate family member diagnosed with a disease currently treatable with cord blood stem cells.

Should you know of a family who may benefit from this programme, or wish to apply, please call 6226 0808 or email care@cordlife.com for more information.

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Says the doctor... How long is cord blood viable for? Who can be treated using cord blood?

Cord blood that has been properly cryogenically preserved at below -195°C can theoretically be stored indefinitely with no loss of therapeutic function. Studies have shown that cord blood that has been stored for 15 years has no loss of therapeutic effect when used in transplantation. Researchers have estimated that stem cells stored under liquid nitrogen temperatures remain viable even after 1,000 years of storage.

Umbilical cord blood can be used in treatment as long as there are 3 matches out of 6 markers. The percentage of such matches can range up to 75% among the baby's siblings, or up to 50% among the parents. So, by storing the cord blood of your newborn baby, you're not only providing blood insurance for him or her, but for all her siblings, and even to a lesser extent, yourself.

Article Highlights:

- "We were shocked when we heard the [leukemia] diagnosis because there has been... no family history... and to think the symptom was a swelling which is a common occurrence for any child".
- Luckily the leukemia is in remission after 2 years of chemo and drug therapy.
- Mdm Lim's gynae advised her to bank her 3rd baby's cord blood in case Marcus has a relapse. She chose CordLife.

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