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The vision of CordLife has been to build a world class, new generation stem cell biotechnology company,” says Mr Steven Fang, CEO of the Singapore-based company that started as the first stem cell bank in the territory and has since grown into an international therapeutic stem cell service and research force.



Cordlife's Stem Cell Processing Lab

The idea for CordLife occurred in 1995 when Steven – then working in the US for Baxter Inc - learned that a friend's 3-year old son was diagnosed with leukemia. The Vietnamese-American family was unable to find a suitable bone marrow match (a conventional source of the required haematopoietic stem cells). Fortunately, the child's mother was expecting their second child, and the family decided to use the second child's cord blood, also rich in haematopoietic stem cells, with success.

“When I returned to Singapore in 1996, I searched to see if there was a similar cord blood bank here, there were none, so began the foundation of CordLife,” remembers Steven.

Today, for a nominal one-time fee and subsequent annual storage fee, CordLife provides the full service of cryogenic preservation of umbilical cord blood. The company is targeting to achieve 300 clients per month region wide.

These haematopoietic stem cells continually replenish the supply of our essential blood cells, from oxygen-carrying erythrocytes and blood-clotting platelets to the infection-fighting lymphocytes and myeloid cells. As a result, these cells are invaluable as a potential treatment for someone who develops certain blood related diseases such as severe anaemias and blood related cancers.

Currently, less than 1% of the 40,000 newborns in Singapore store their cord blood. Given the US acceptance rate of 10-11%, Cordlife believes its revenue stream has significant upsides.

“I have always been careful to ensure that CordLife has a strong focus on Quality, credible Scientific/Clinical expertise, and revenue, right from day one,” says Steven.

Still, with Singapore's low birth rate, Cordlife recognized early on the need to grow using a multiple strategy—expand its services, expand to other markets, and ensure long-term growth through R&D.

PeriLife: For Adults

Earlier this year, Cordlife started PeriLife – a new division that offers peripheral blood stem cell (PBSC) processing and banking. In this way, using a simple outpatient procedure, haematopoietic stem cells banking is available to people at all ages. And the cells collected could be valuable immune system boost in the fight against blood related cancers.

Currently, PBSC transplants are being used either actively or in clinical trials for the treatment of both haematological and non-haematological malignancies. This includes acute leukaemia, chronic myelogenous leukaemia, non-Hodgkin's lymphoma, breast cancer, ovarian cancer, and childhood neuroblastoma.

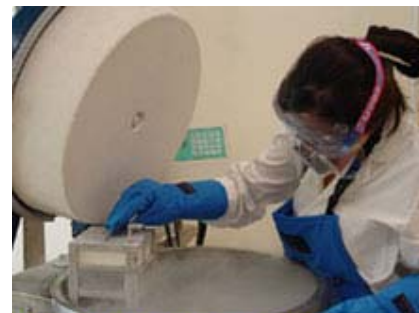
“By launching the PeriLife division, CordLife is now able to significantly expand the availability to autologous (for self use) sources of stem cell for potential life-saving therapeutic procedures. We look forward to reaching out to and working with oncologists, by providing PBSC services to hospitals in Singapore,” said Dr. Toh Keng Kiat, Medical Director of CordLife, and a practicing haematologist.

More than a Bank: The Focus on Innovation

Successful treatment using cord blood depends on an adequate number of hematopoietic stem cells (HSCs) in the collected sample but in most instances, the amount collected from an infant's cord blood is limited. Also, if more cells are available, multiple therapeutic treatments will be possible. Not surprisingly, finding ways to expand the number of stem cells in cord blood is therefore the primary goal in current research and the key means to unlocking the full potential of the stem cell therapeutic markets.

To strengthen this area of expertise, Cordlife recently acquired Boston-based Cytomatrix LLC in a share-swap deal worth US\$11million.

Cytomatrix has developed a unique, patented, three-dimensional cell growth bimetallic matrix. This material is a proven platform for cell growth, enabling the multiplication of much greater numbers of high quality cells. In the case of stem cells, pre-clinical trials show that stem cells can be made to multiply, while still retaining their original functionality.



Cordlife's Cryo-Storage Facility

Moreover, preliminary studies on Cytomatrix's artificial thymus have found it to stimulate production of T-cells – a critical component of the immune system and a particularly fastidious cell to grow. This ability to produce T cells has implications in treatments for cancers, immune disorders, viral or bacterial infections, and other conditions that are today proving drug resistant.

"The ability to 'expand' the quantity of stem cells is the industry's Holy Grail," said Mark Pykett, CEO, Cytomatrix.

"Separately, both CordLife and Cytomatrix have their own expertise and patents in stem cell expansion. Together, our combined expertise holds out the promise of breaking this barrier. We're very excited with what the future has to offer together as one company."

Based on the same core technology, Cytomatrix has developed a range of commercial R&D products. These devices are used with existing laboratory equipment, enabling researchers and clinicians to undertake new directions in cellular work. CordLife is currently expanding this range of products for worldwide distribution.

In just these few years, Steven Fang identified an opportunity and invested financially, emotionally and started Cordlife. Today, Cordlife is a fully integrated international stem cell company, with cellular banking services, research & development, and therapeutics. The company operates one of the most advanced stem cell banking facilities in world, compliant to the highest international standards.

"We are pleased with this development and will strongly support the efforts of promising local biotechnology companies like CordLife to strengthen their capabilities and become globally competitive players in Biomedical Sciences," said Mr. Philip Yeo, Chairman of the Agency for Science, Technology & Research (A*STAR) and Co-Chairman of the Singapore Economic Development Board (EDB).

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