

Media	Asia Pacific Biotech News	Date	4 Aug 03
Section	Singapore News		

Singapore

Industry Watch

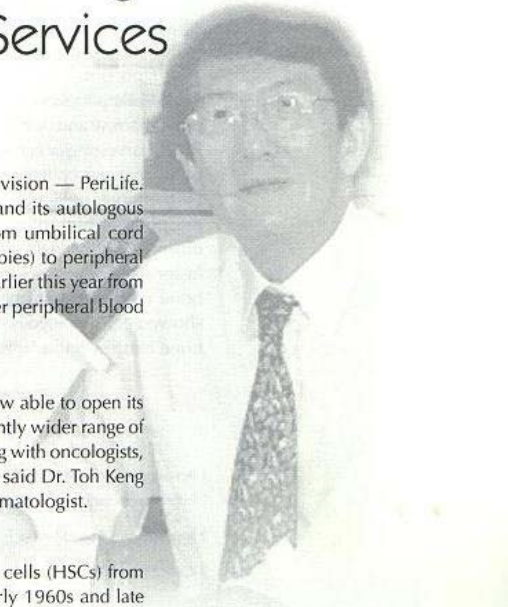
CordLife Launches Peripheral Blood Stem Cell Processing and Banking Services

CordLife has announced the launch of a new division — PeriLife. The launch of PeriLife allows CordLife to expand its autologous stem cell processing and banking services from umbilical cord blood (which can only be collected from newborn babies) to peripheral blood. This announcement follows approval received earlier this year from Singapore's Ministry of Health, allowing CordLife to offer peripheral blood stem cell (PBSC) processing and banking services.

"By launching the PeriLife division, CordLife is now able to open its stem cell processing and banking services to a significantly wider range of patients. 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 practising hematologist.

Harvesting and transplanting hematopoietic stem cells (HSCs) from the bone marrow and umbilical cord began in the early 1960s and late 1980s, respectively. Both the bone marrow and umbilical cord contain high concentrations of HSCs. In addition, HSCs can also be isolated from peripheral blood (blood circulating in the body), although in significantly lower concentrations. In order to obtain sufficient quantities of HSCs from the peripheral blood, it is necessary to mobilize the cells out of the bone marrow into the peripheral blood. The stimulation of these HSCs is achieved through the use of drugs administered to the patient.

CordLife will work with oncologists in identifying and collecting PBSCs from patients. After which, the HSCs will be tested, processed and cryogenically stored until required for therapeutic treatment. When stored at cryogenic temperatures, HSCs are believed to have an indefinite lifespan.



*Dr. Toh Keng Kiat,
Medical Director of CordLife and
Practising Hematologist.*



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

An autologous stem cell transplant involves mobilizing and harvesting the PBSCs from a patient. This is followed by the transplantation of PBSCs back into the same patient, with the objective of boosting the immune system. Research on the procedure of PBSC harvesting began in the 1970s, and resulted in 27,000 autologous and more than 4000 allogeneic¹ transplants in the United States in 1998 alone.²

While peripheral blood may contain lower concentrations of stem cells than bone marrow and umbilical cord blood, the ease of its collection is advantageous. PBSC harvesting occurs in an outpatient setting. It is less painful and invasive than bone marrow collection, and does not require anesthesia or hospitalization. Furthermore, unlike umbilical cord blood collection, which can only be done at the point of birth of a newborn child, PBSC collection can be done any time during an individual's life span. Another advantage is that PBSC transplants have faster rates of hematological recovery and show better platelet engraftment than bone marrow transplants. A study done on patients with Hodgkins Lymphoma, showed that autologous PBSC transplants had better survival rates than autologous bone marrow transplants.³

¹ An allogeneic transplant is when the stem cells are harvested from one individual and transplanted into another individual.

² International Bone Marrow Transplant Registry / Autologous Blood and Marrow Transplant Registry

³ *Cancer*, 15 May 2003.





About CordLife

CordLife Pte Ltd is a leading stem cell biotechnology company. It operates American Association of Blood Banks (AABB) compliant umbilical cord blood banking facilities in Singapore, Malaysia and China. From its Singapore headquarters, and from its Cytomatrix R&D Division in Boston USA, the company engages in cutting-edge adult stem cell research in conjunction with leading institutions.

One of the company's core technologies is a unique cell growth platform called, "The Cytomatrix[®]," a platform that enables cells to grow in three dimensions. Utilizing this platform, the company is working on stem cell expansion, and provides R&D products to researchers around the world.

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Annex – Hematopoietic Stem Cells

Hematopoietic stem cells (HSCs) are stem cells with the unique ability to replicate and differentiate into blood cells. They are necessary for replenishing the body's blood, which consists of:

- white blood cells for defending the body,
- red blood cells for carrying oxygen, and
- platelets for clotting of blood.

Sources of HSCs include the bone marrow, umbilical cord and peripheral blood. For decades, doctors have been using HSC transplants as a life-saving therapy. HSC transplants can be used to treat more than 72 diseases, including certain blood disorders, immuno-deficiencies, metabolic disorders and malignancies. Upon transplant, the infused HSCs migrate to the patients' bone marrow, thereby regenerating the blood and immune system.

With rapid technology advancements, new applications for stem cells are expected to become available, positioning stem cells as one of the most promising therapies of the future.

Further reading on PBSC:

- Alternative to Marrow Transplant Eases Donation, Recovery Time — the National Marrow Donor Programs view on PBSC transplants
http://www.nih.gov/news/NIH-Record/10_21_97/story01.htm
- Transfusion Medicine Update – Peripheral Blood Stem Cell Transplantation
<http://www.itxm.org/Archive/tmu9-93.htm>