Year 2006 - Thirteen Issue. Mita (P) 119/11/2002 • **A Newsletter from CordLife**

THE GUARDIAN

Message from the Chairman

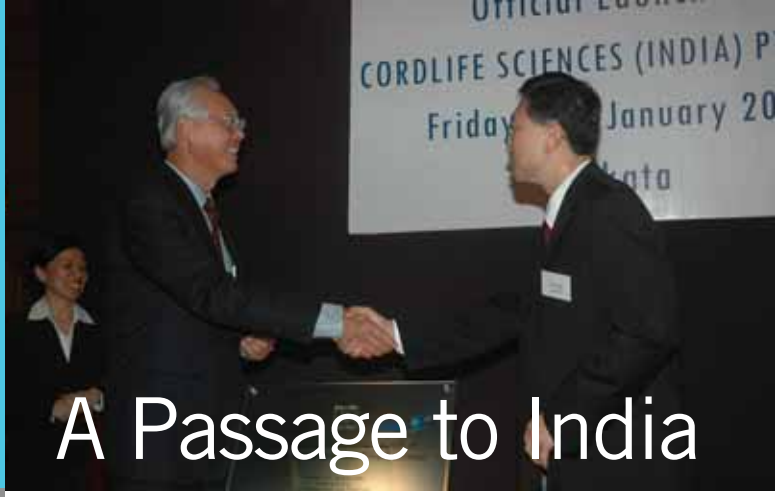
The past year has been busy and challenging for the CyGenics team. Against a background of sound growth, we have reviewed our various businesses and have decided to strengthen our focus on our core revenue-generating tissue and cord blood banking businesses.

In this issue of The Guardian, you will read of some of these exciting developments: from setting up operations in India, to acquiring a majority stake in a cord blood bank in Australia, to establishing a presence in Europe, to new international scientific collaborations. Most recently we have formed a joint venture with Kalbe Farma, the giant, Indonesian pharmaceutical company, to greatly expand our cord blood banking business in that country. I'm very pleased indeed to welcome Kalbe Farma, BioCell Pty Ltd and Pharmacell NV to the growing CyGenics family.

The group today is very much focused on its core business of tissue and cord blood banking. With a cord blood processing and storage facility in Hong Kong covering North Asia, and one in Singapore (AABB accredited) covering Southeast Asia, we now have a facility in Sydney to cover the Australian market. Soon, this network of banks will be expanded even further when facilities in Kolkata and Jakarta come on line. Further, we are actively seeking opportunities in other major Asian centers. To my knowledge, no other cord blood bank in the world has the geographical reach that we currently manage.

With about 6% of live births in Singapore alone banking with CordLife, the company can lay claim to being the industry leader both in terms of market share and delivering a real value proposition in cell therapy. The team looks forward to updating you on more exciting CyGenics and CordLife news in the months ahead.

Chris Fullerton
Chairman



A Passage to India

In January this year, CordLife played host to a very, very important person – none other than His Excellency, Singapore's ex-Prime Minister and current Senior Minister, Mr Goh Chok Tong. And did so in a unique and historic location – the ancient city of Kolkata, India. The occasion? The formation of CordLife Sciences (India) Private Limited, CordLife's latest company. Kolkata, the nearest city in India to Singapore, and with a population of 13.2 million, promises to be a big market for the company. Indeed, the population of West Bengal, of which Kolkata is the capital, has a population of over 80 million.

The company is deeply honoured that Mr Goh was able to take time off from his very packed schedule, to help us formally launch the company. Mr Goh's presence was made possible with the kind and valued assistance of the Confederation of Indian Industry, IE Singapore, the Prime Minister's Office, and the Singapore Indian High Commission.

CordLife is building a cord blood processing and storage facility in the city, planned for the end of the year. This will be the lead facility taking care of India, alongside its facility in Singapore taking care of Southeast Asia, and in Hong Kong, taking care of North India. In time, the company plans to open offices in other major Indian cities, bringing quality cord blood banking to the subcontinent.

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CordLife's parent, CyGenics, is the majority shareholder of the new company in an equity-partnership venture with leading local pharma company, Strassenburg Pharmaceuticals. “We are very pleased to have as our partners, Strassenburg Pharmaceuticals, to help us develop the key India market, which has the potential to be as large and important as the China market,” said Susan Kheng, Chief Operating Officer, CordLife. “Just as Hong Kong is our base of operations and starting point in China, Kolkata, the historic capital of India, is our base of operations and our starting point for India.”

Insurance with **NTUC**

In an industry first for Singapore, CordLife has partnered with NTUC Income to provide existing and future CordLife customers with medical coverage for a stem cell transplant using cord blood, should the child or immediate family require it. NTUC Income Insurance Cooperative Ltd is one of the largest insurance companies in the country, with 1.8 million policy holders, and total assets of S$16 billion.

Called MediCord, the exclusive policy gives CordLife customers the option of selecting insurance coverage at the point of signing up for cord blood collection, processing and storage. Should the parents require a transplant in the future, this policy can go a long way in covering the costs involved. The policy's Plan A, costing S$100 a year, provides for hospital, surgical and transplant costs associated with stem cell transplants, subject to a cap of S$100,000. There is also a Plan B policy, at $50 a year, for a coverage of $50,000. Currently, the various available healthcare schemes and other insurance policies can defray only part of the cost of such a transplant. MediCord is the first policy to directly address and meet this growing need. While MediCord is a Singapore initiative, it is hoped that the success of such policies will lead to similar policies in other countries.

Helping to kick off the programme was NTUC's CEO, Mr Tan Kin Lian. "Singaporeans are becoming aware of the usefulness of umbilical cord blood stem cells," he said. "As more treatments are discovered and cord blood stem cell therapy becomes more widely available, the number of such transplants using cord blood is expected to rise in the years ahead. We are pleased to be the insurer of choice to introduce a medical insurance plan to help parents defray the expensive medical costs related to stem cell transplant."

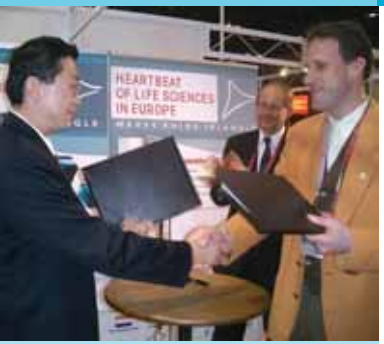
Calling on
Prof Patrick Tan

In March, CordLife played host to a delegation of doctors and journalists from Thailand. In addition to giving them a thorough explanation on stem cells and cord blood banking and a good look at our AABB accredited facility in Singapore, CordLife also arranged for them to call on Professor Patrick Tan. Professor Tan is one of Asia's leading transplant physicians, and a member of CordLife's medical advisory panel, as well as Director of the Haematopioetic Stem Cell Transplant Programme and the Haematology Service at Mt. Elizabeth Hospital.

Among his achievements are the first successful case of unrelated blood stem cell transplant for Thalassaemia major; the first unrelated cord blood transplant for Thalassaemia major; the first non-myeloablative double cord blood transplant for acute myeloid leukemia and the first unrelated non-myeloablative cord blood stem cell transplant for multiple myeloma.

CordLife is very appreciative that Professor Tan took time from his demanding schedule to speak to us. He gave our Thai guests a thorough insight into what a transplant doctor wants from a cord blood sample, as well as how important cord blood is, for now and for the future.

Going Dutch



It was a marriage sealed over sushi. Some months later, in June this year, CyGenics purchased 20% of Dutch-based Pharmacell, with an option to purchase the remaining 80%.

Pharmacell has ongoing collaborations with a number of companies, including Bioheart, a cell therapy company based in Florida that focuses on the treatment of cardiovascular diseases. Pharmacell's cGMP facility in Maastricht is producing skeletal myoblast cells for heart patients, prior to their insertion back into the patient's heart. The results have been promising and Phase III trials are planned, after which it is expected that this technology will enter into widespread use globally.

In a ceremony witnessed in Maastricht by Mr Martin Eurlings, Deputy Commissioner of the Province of Limburg, the deal was signed by Pharmacell CEO, René Lardenoije, and CyGenics Group CEO, Steven Fang. This investment and partnership strengthens CyGenics focus on developing cell therapies with potential worldwide applicability.

"CyGenics, with its investment in Pharmacell, is repositioning itself as an integrated cell therapy company, one of the first such companies in the world," said Mr Fang. "With the range of services and products CyGenics can now offer, combined with its presence in four continents, the company is now ideally positioned to focus on cellular-based healthcare solutions."

"CyGenics, a globally focussed company, now has a European arm," said Mr Lardenoije. "Pharmacell, which is well placed in Europe, together with CyGenics, is now in a stronger managerial, financial, and technological position to drive more clinical trials towards cell therapies. It is our hope that in the near future, with initiatives such as that with Bioheart, we will be able to help save many lives around the world."

International Collaboration

CyGenics has helped form a new international collaborative effort to develop new treatments for cancer. This will be done via the novel approach of developing and mobilising immune cells outside the human body. Called PACRIMA, the project brings together leading organisations from four countries: Division Haemato-Oncology of University Hospital Maastricht (AZM), the Netherlands, CyGenics, Maia-Scientific NV of Belgium, Pharmacell BV of the Netherlands, and a leading stem cell research institute in Japan.

In June, during BIO 2006 in Chicago, the PACRIMA collaboration received an initial funding of €1,000,000 from the Director of the Netherlands Foreign Investment Agency, Jochum Haakma. It was a event witnessed by Consul General Willem Schiff from the Dutch side, and Philip Yeo, Chairman A*STAR, from the Singapore side.

The PACRIMA Project seeks to stimulate the patient's own immune system to fight against cancer. PACRIMA seeks to explore whether CyGenics patented three-dimensional cell culture platform, the Cytomatrix, is a suitable platform for growing antigen specific T cells (T cells activated for a specific disease by dendritic cells) and NK cells, and whether these cells are suitable for therapeutic use. CyGenics, from its pool of stem cells that have been donated for research, will also supply some of the stem cells from which all these cells – dendritic cells, T cells, NK cells – may be derived. If successful, this project would be a significant improvement over the current T cell culture platform.

"PACRIMA serves as a further validation of the efficacy of CyGenics technology as a growth platform for various cell cultures," said Steven Fang, Group CEO of CyGenics. This follows upon other collaborations such as with Johns Hopkins University, announced earlier this year. These collaborations are fully in line with our corporate goal of realising the commercial potential of our technologies without the associated risks. The PACRIMA Project holds out the possibility of a truly elegant cure for many indications, without side effects, and has the potential of replacing many current treatment regimes.

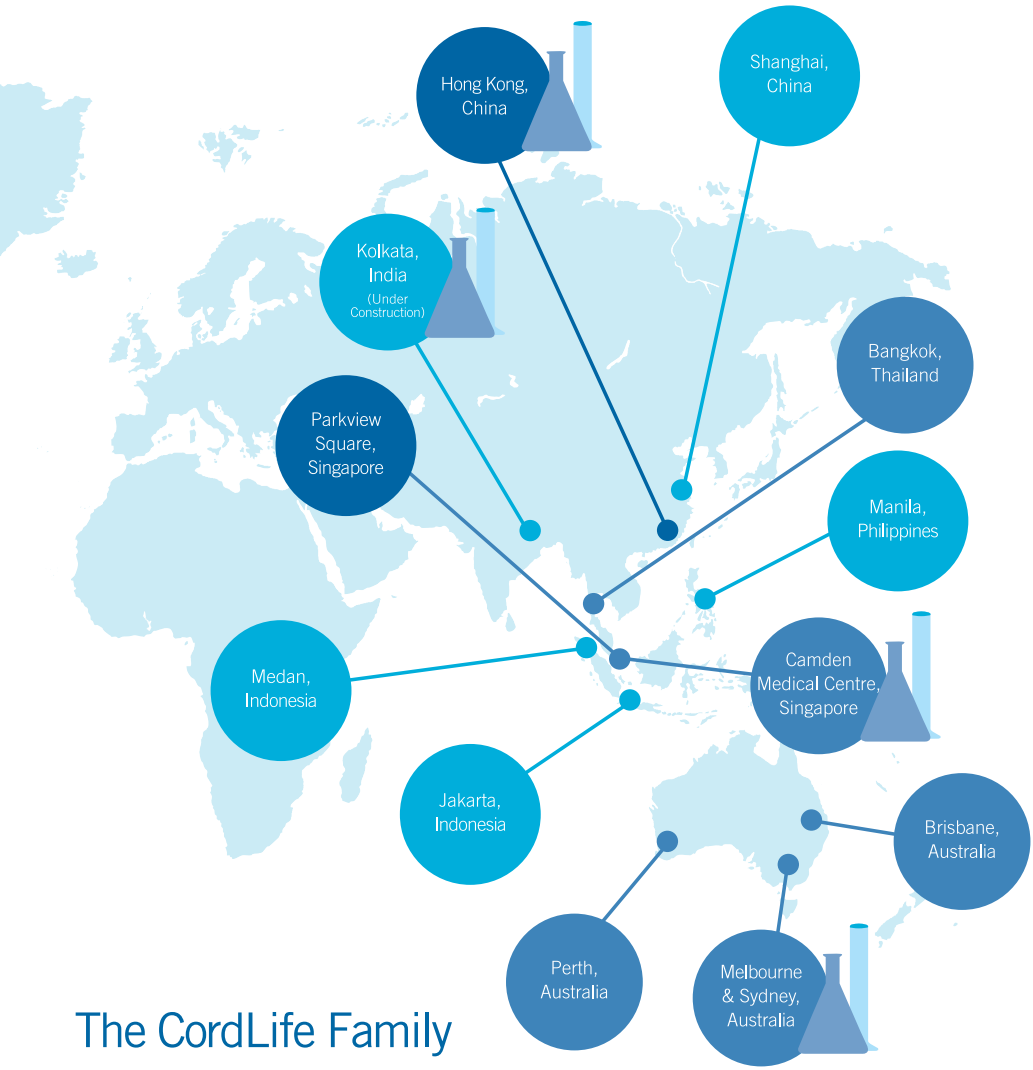
The Family Grows

CyGenics has expanded its cord blood banking business into Australia by buying a 51% majority stake in one of the established players. Melbourne-based BioCell Pty Ltd is now part of the family.

BioCell started in August 2004 and is now the second largest cord blood banking business in Australia. It now has operations across Australia, with representatives in each state. It enjoys a strategic relationship with the Sydney Adventist Hospital, which provides Therapeutic Goods Administration (TGA) approved laboratory services in Sydney.

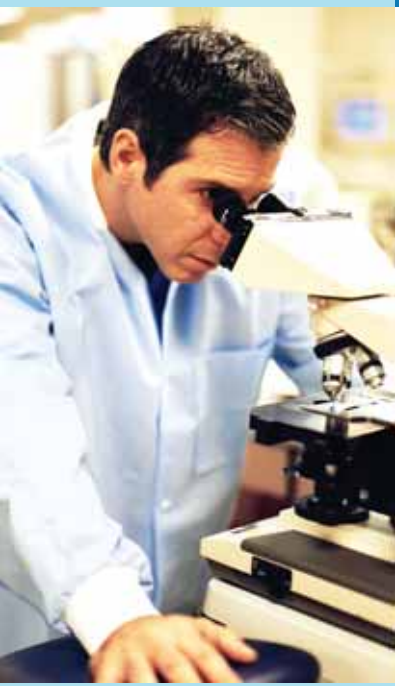
"We have developed a solid position in the Australian cord blood market in a very short period, and expect Biocell to achieve an annual growth rate of more than 30%. Now, with CyGenics, we will be able to accelerate that growth," said A/P Mark Kirkland, Medical Director, BioCell. A/P Kirkland has also now undertaken the role of Chief Scientific Officer for the CyGenics group.

With a facility in Singapore for Southeast Asia, one in Hong Kong for North Asia, one in Sydney for Australia, and soon one in Kolkata for India, when it comes to cord blood banking, CyGenics today already enjoys an unparalleled geographical reach.



The CordLife Family

Regenerative Medicine



In the *X-Men* movies, Wolverine has the ability to heal himself from virtually any injury. Wouldn't it be nice if we can do this too? Wishful thinking? Well, not completely.

Although we cannot heal ourselves on the spot, using our own cells to heal a damaged organ may soon become a reality. Indeed, in the past decade, rapid advances in stem-cell research have shown that stem cells have the potential to repair or rebuild human organs.

In recent years, there have been reports of stem cells being used to treat spinal cord injury and heart disease, among others. Is this too good to be true? Just hype? To answer that and to truly appreciate the value of regenerative medicine requires a basic understanding of how stem cell biology works.

Stem cells are cells that can self-renew for indefinite periods – often throughout the life of the individual. These are simply how these cells work. The traditional view is that they give rise to specific cell types; eg, blood stem cells will give rise to red blood cells, white blood cells and platelets. The emerging view is that given the right signals or conditions, they can also give rise to many different cell types, such as heart cells, skin cells, or nerve cells.

Stem cells can be found in many parts of the body, in very minute quantities. The trick is how to get enough good ones – quality and quantity issues. Sources of stem cells include the human embryo, umbilical cord blood, the bone marrow, normal blood and skin. At the moment, while embryonic stem cells are generally considered to be the best, there are major ethical considerations in how these cells can be obtained. The next best source is usually considered umbilical cord blood, however cord blood can only be collected once, at the point of birth, and the quantity is limited.

Stem cells do hold the promise of replacing parts worn out by age, injury, or infirmity. However, as attractive as this promise and the success stories may be, we have still got a long way to go before regenerative medicine can help large numbers of patients. At the moment, regenerative medicine is still experimental as scientists continue to research and develop renewable, contaminant-free sources of human stem cells. Once these stem cells are available, there remains the need to prove the safety and efficacy of such treatments in the clinic and obtain regulatory approvals before such therapy becomes widespread.

Hope for Cystic Fibrosis

Clinical history was made at The Mercy Hospital in Werribee, Australia, on 16 April 2006. Baby Aiden Brundell donated his cord blood in the hope that his precious stem cells could one day rejuvenate sister Mikaela's lungs, which are failing from cystic fibrosis (CF), and save her life. This first collection of cord blood from the sibling of a child with CF is a major step towards treating the deadly effects of Australia's most common severe genetic condition among children, for which there is no cure. Aiden's cord blood collection and storage was free of charge, thanks to a generous donation by private cord blood bank, BioCell Pty Ltd and its parent company CyGenics Ltd. The company plans to extend this to other families with CF in Australia and New Zealand.

Professor Bob Williamson, spokesperson for Cystic Fibrosis Victoria, applauded the fantastic generosity of BioCell and CyGenics and said, "Everyone agrees that the use of cells from cord blood poses no ethical problems. They are adult stem cells, but because they are taken at birth they are far more flexible and grow more easily than most such cells."

"The latest research in Australia, Germany and the United States shows that stem cells from cord blood can give cells that are very similar to lung cells. In a mouse model for CF, the cells help to cure the disease. And here in Melbourne, at The Alfred Hospital, it has been shown that when lungs are transplanted into patients, they appear to take up stem cells from the recipient and integrate them into the airways."

Mr Ian Brown, Managing Director of BioCell and Chief Operating Officer of CyGenics said, "This is an exciting initiative for BioCell to be involved in. The therapeutic potential for stem cells are looking very promising."

CyGenics On Show

While CordLife has been taking out in baby and parenting shows in the region, in Hong Kong, Indonesia and Singapore, its parent company, CyGenics, has been taking part in international scientific and networking events. These are excellent opportunities to keep abreast of biotech/pharma developments around the world, and in particular, in cellular therapy and cord blood banking.

CyGenics was at BioPartnering Europe (BPE 2005), held in London, and in BIO 2006 in Chicago. BPE was a good avenue to find like-minded companies in Europe. CyGenics took up exhibit space and showcased some of its products and services. It's cord blood banking service drew a lot of attention, as cord blood banking is relatively new in Europe.

At BIO, CyGenics was part of the Singapore Pavilion, and this is the fourth year that we have taken part. As one of the premier biotech companies in Singapore, CyGenics takes part every year, helping the nation showcase what we can offer the world. For the company it is of course a good way to maintain and grow its network of contacts with the global biotech community.

Reaching Out

In The Fragrant Harbor

CordLife Hong Kong has had a busy year. In addition to its regular schedule of public talks and its engagement with the medical community, the team has been busy with a number of high profile events.

The team took part in the Baby Expo 2006 in August, a three day mega show of all things baby related. CordLife Hong Kong took up two booths at the show and received an overwhelming number of expectant parents inquiring and enrolling for our services. A lucky draw was conducted for parents who signed up during the event. There were three prize winners with the big prize of 18 years free storage!

In September, CordLife Hong Kong and Wyeth Pharmaceutical held a joint prenatal seminar at the Science Museum. The team was indeed grateful and privileged to have leading obstetrian and gynaecologist Dr. Cora Ngai as our guest speaker that evening. A specialist at Matilda International Hospital, she spoke about the difference between natural delivery and cesarean delivery. Dr Ngai also kindly consented to give away the prizes for the Baby Expo Lucky Draw Winners.

Eye Check for Babies?

5 - 10% of children suffer from some sort of visual disorders and these visual disorders can retain beyond infancy into adulthood.

At birth, a baby's vision is not fully developed yet. Over the first few years of his life, his vision slowly improves and matures. The visual system needs stimulation from the environment such as colors and moving objects to develop and grow to its mature stage.

Vision contributes greatly to an infant's perception and knowledge of the world in their early growing years. It is also during this time that eye problems such as **Lazy Eye** (amblyopia) and **Crossed Eye** (squints) can impede his normal visual development, hence, resulting in a lifetime of irreversible visual impairment.

Eye Check for Babies?
Babies can have eye problems. Hence early baby eye screening is highly recommended as it would enable detection and early treatments for vision disorders. PediaOptix offers a fast and fun baby eye screening service for babies from 6 to 48 months.

"Early baby eye screening is very important. I would recommend this screening to be done compulsory for every baby."
- Dr Kumaran P, Paediatrician, Kinder Clinic Paragon

"Early detection of any vision disorders such as lazy eyes and squints will facilitate early treatments."
- Dr Gerard Chuah


Dr Kumaran P


Dr Gerard Chuah

Ophthalmologist, Total EyeCare

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Contact Us!

Should you wish to contribute any articles, comments or pictures to The Guardian, please contact our editor, Ronald Hee at **rhee@cordlife.com**

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