The Association of Eye Banks of Asia

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President, Association of Eye Banks of Asia
Past President, Cornea Society
Chairman, Asia Cornea Foundation
I have the following financial interests or relationships to disclose:

- Carl Zeiss Meditec
- Santen, Inc.
- Eye-Lens Pte Ltd
- Network Medical Products
The Magnitude of Corneal Blindness in Asia

- **Asia** carries the largest burden of corneal blindness – **2.8 million** out of the 10 million corneal blind.

- The vast majority of corneal blindness cases in Asia do not receive any form of corneal surgery due to inadequate eye banking initiatives in Asia.
Problems with Eye Banking in Asia

- Major problem: Severe lack of donor corneal tissue resulting from underdeveloped health care systems, Asian religious, cultural and social impediments.

- Adopting general eye banking standards developed in the west may not be appropriate in developing countries.

- Wide variation exists in legal frameworks in Asian countries with regards to organ donation and transplantation.

Our own offering to burn: Eye caps for in-situ corneal removal.
Challenges faced by Eye Banks in Asia

- Large patient waiting lists for corneal transplantation
- Long waiting times – increasing corneal morbidity
- Too many small “eye banks” serving individual institutions
- Inadequate financial support
- Inadequate corporate governance
- Inadequate quality standards in procurement, tissue processing etc.
- Inadequate focus on local donation – “cupboard is always empty”
Board of Asia Cornea Society Council Members

12 countries in Asia-Pacific region

- Donald TAN
- Shigeru KINOSHITA
- Virender SANGAWAN
- Lixin XIE
- Choun-Ki JOO
- Fung-Rong HU
- Gerard SUTTON
- Zuguo LIU
- Alvin YOUNG
- Venkatesh PRAJNA
- Johan HUTAURUK
- Kohji NISHIDA
- Ma Dominga PADILLA
- Vilavun PUANGSRICHARERN
- PHAM Ngoc Dong

- Singapore
- Japan
- India
- China
- Korea
- Taiwan
- Australia
- China
- Hong Kong
- India
- Indonesia
- Japan
- Philippines
- Thailand
- Vietnam

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- Vice President
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- Honorary President
- Honorary Secretary
- Treasurer
- Council Member
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- Council Member
- Council Member
- Council Member
- Council Member
- Council Member

- Registered in Singapore in April 2007
- Over 600 members from 15 countries

“Dedicated to advance the development of the corneal subspecialty in Asia, with the ultimate aim of alleviating corneal blindness”
The **Association of Eye Banks of Asia (AEBA)** was formed under the auspices of the **Asia Cornea Society** in January 2009

### Board of AEBA Council Members

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<th>Role</th>
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<td>Singapore</td>
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<td>India</td>
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<td>Charith FONSEKA</td>
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<td>Fung-Rong HU</td>
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Specific AEBA Objectives include:

- Affiliation of eye banks throughout Asia, and affiliations with other international organizations

- Aid in the Establishment of Model Eye Banks in Asia

- Formulation of Asian Standards and Guidelines in Eye Banking with Council Member Eye Banks to provide for certification of Member Eye Banks

- Donor exchange initiatives to cope with elective and emergency demands in cornea tissues between Asian nations

- Establishment of eye banking and transplantation clinical, educational and research programs within member Asian countries
AEBA Council Member Eye Bank (India) – Dr Samar Basak
Prova Eye Bank

- **Prova Eye Bank** started in the Disha Eye Hospital with 1 Corneal Surgeon & 1 Technician in 1997

- Commenced Hospital Cornea Retrieval Program in 2004 with the Government Medical College & Hospital, Kolkata

- Started with whole globe enucleation until August 2005 switching to C/S buttons in September 2005

- Fast growing, today Prova Eye Bank in the **third largest Eye Bank in India**
AEBA Council Member Eye Bank (India)

Prova Eye Bank

Utilization maintained at 80% over last four years

2014
• Operating with 14 FTE
• Procured 1,502 Corneas
• 1,244 Transplants Materialized
• The Santa Lucia International Eye Bank of Manila started operations in 1995

• Provides corneal and scleral tissues to the whole Philippines and some Asian countries since 1995

• Achieved ISO 9001-2008 in 2012

• Eye Bank waives processing fees for indigents and provides 50% to 75% discounts for various categories of patients on charity
Legislation allows for:

- Presumed consent for medico-legal decedents under defined circumstances
- Technicians and nurses to retrieve corneal tissue and eyeballs
- International sharing of tissues

Department of Health directive in 2004 enjoining DOH Hospitals to participate in Hospital Retrieval Program (HRP)

Average number of tissue processed in the last 5 years: 1,529 corneas per year
Major Limiting Factors to Development of Eye Banks in China

• Lack of formal laws and regulations on organ donation and transplantation

• Lack of unified management agencies and standards in eye bank establishment

• Lack of cornea donor sources

• Lack of quality, and standards

• Lack of financial support structures
Other Major Obstacles / Issues

• Organ donation is limited due to the influences of feudal traditional beliefs which are in existence for over thousands of years – limited public awareness
• Prisoners...
• Many small eye banks perform whole globe wet storage
• Only 90% of eye banks perform serological assessment such as Hepatitis B, Hepatitis C and HIV
• Only 78% of eye banks offer quality assessment reports for corneal tissue
AEBA Council Member Eye Bank (Taiwan) – Hu Fung-Rong
National Eye Bank of Taiwan (Northern Branch)

- Set-up in August, 2013

- Located at National Taiwan University Hospital

- Affiliated with Taiwan Organ Registry and Sharing Center and receives funding from the Ministry of Health and welfare of Taiwan.
Singapore Eye Bank

- Singapore’s national eye bank, formally opened in 1995 within the SNEC – **Hospital Eye Donation Programs** established with 4 largest government hospitals

- Adapts EBAA and international standards and SOPs, SightLife (Seattle, WA) engaged as consultants

- To date, tissue procured for over 4,700 transplants for all institutions and gazetted corneal surgeons in Singapore (400 transplants a year) – no significant waiting list

- Singapore Corneal Transplant Study: 95% 1 year graft survival (DSAEK)

- Elevation to Centre for Excellence for eye banking training: Lee Kong Chian International Centre for Excellence in Cornea, Eye banking and Eye Diseases - EXCEED
Singapore Eye Bank
Donor Cornea Sources in Singapore
(1991 – 2014)

- Legislation does not permit use of local corneas for foreign patients
- Over 50% of our patients come from neighbouring Asian countries

No of transplants

Sri Lanka Queensalnd USA Manila Singapore

446 tplts in 2014
The National Eye Bank of Sri Lanka (NEBSL)

A Special AEBA Project and collaboration between the Singapore Eye Bank and Sri Lanka
Sri Lanka has one of the highest eye donation rates in the world as its form of Buddhism strongly promotes eye donation as a meritorious act (second only to the USA).

Since the 1960s, the old Sri Lanka International Eye Bank in Colombo has been providing corneas to many countries in Asia and beyond.

However, in the last decade, SLIEB standards have fallen, and SLIEB and its tissue does not meet international standards.

SLIEB is not sanctioned by the Sri Lanka Health Ministry, nor the general ophthalmic community.

**Strong relationship with Singapore:**
Singapore was the first country to receive corneas imported from Ceylon in 1964.
Establishment of the National Eye Bank of Sri Lanka

- The establishment of a new Sri Lanka Health Ministry-sanctioned National Eye Bank of Sri Lanka (NEBSL) was initiated through the government-to-government Singapore-Sri Lanka Strategic Eye Banking Alliance.

- Funds were obtained through donations from the Asia Cornea Foundation (ACF) with support from the AEBA Council and SightLife.

- Modeled after and trained by the Singapore Eye Bank, the NEBSL sited next to the National Sri Lanka Hospital adopted SEB’s HEDP Program and began operations in January 2011.

- NESBL was declared officially opened on 27 February 2011 by then-President, HE Mahinda Rajapaksa.

- NEBSL adopts a modification of EBAA guidelines as its medical standards for eye-banking and was been validated by SightLife in 2011.
Establishment of NEBSL Collection Centre in Kandy

- Located 124km from Central Colombo, Kandy Teaching Hospital (KTH) is the second largest hospital in Sri Lanka with a mortality rate of 3,520 in 2011

- NEBSL was invited to set up an NEBSL Collection Centre at KTH by Dr Saman Senanayake, Consultant Ophthalmologist) at Centre for Sight, KTH

- Renovation works, co-funded by the Asia Cornea Foundation and NEBSL, commenced in May 2014

- The NEBSL Collection Centre was declared officially opened on 3 October 2014 by then-Minister for Health, currently President of Sri Lanka, His Excellency Maithripala Sirisena
NEBLS Corneas Recovered and Utilization 2009 - 2014

- **2011**: 304 corneas
  - Transplanted in Sri Lanka: 295
  - Transplanted Overseas: 9

- **2012**: 615 corneas
  - Transplanted in Sri Lanka: 507
  - Transplanted Overseas: 108

- **2013**: 857 corneas
  - Transplanted in Sri Lanka: 547
  - Transplanted Overseas: 310

- **2014**: 1,072 corneas
  - Transplanted in Sri Lanka: 633
  - Transplanted Overseas: 439
Future Projection of NEBSL-SEB-SightLife Alliance...
DSAEK Grade Tissue from NEBSL

- DSAEK grade tissue from NEBSL flown to Singapore (2 hr flight)
- SEB precuts tissue, performs full evaluation (donor lenticule thickness, post-cutting endothelial cell count)
- SEB forwards tissue to surgeon or eye bank in Asia
- One extra day in tissue transfer process
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BM Hemapriyantha
HMNM Karunarathna
Susil Jayarathe
Samantha Kumara
Siribaddana
AA Nishantha
GG Nilantha Roshan
YTP Yalage
DMJS Dissanayake
GHS Gaminda
Nishantha Samarasinghe

Singapore Eye Bank
Heng Wee Jin
Lim Li
Howard Yu
Pang Chia Li
Kapricia Pang
Tina Ho
Djoni Agahari
Selvam Sethuraman
Johnny Lee
Zhang Jia Qin
Jenny Zeng
Darren Sai Kyauk

Prova Eye Bank
Samar Basak

Eye Bank of Shandong Institute
Xie Lixin

Santa Lucia International
Eye Bank of Manila
Minguita Padilla

National Eye Bank of Taiwan
Hu Fung-Rong
The 5th Biennial Scientific Meeting

ASIA CORNEA SOCIETY 2016

in Conjunction with
the 5th Asia Orthokeratology and Specialty Lens Conference (AOSLC 2016)

SEOUL, KOREA

December 9(Fri) – 11(Sun), 2016
Lotte Hotel Seoul, Korea