

Ramayamma
International
Eye Bank



L V Prasad Eye Institute

Copyright © 2014

All rights reserved

Department of Communications

L V Prasad Eye Institute

Kallam Anji Reddy Campus

L V Prasad Marg, Banjara Hills

Hyderabad - 500034, India

Ph: +91 40 30612445, +91 40 30612446

Email: KAR-Communications@lvpei.org

Ramayamma International Eye Bank (RIEB):

Tel: 91 40 30612514 / 1919 [BSNL Toll free], 91 9849545822

E-mail: rieb@lvpei.org

This book is distributed on the condition that it shall not, by way of trade or otherwise, be lent, resold, hired out, or otherwise circulated without LVPEI's prior written consent in any form of binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser and without limiting the rights under copyright reserved above, no part of this publication may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording or otherwise), without the prior written permission of the copyright owner.



Eye Banking in India

Blindness has devastating effects on individuals, families and communities, impacting education, economic development and child mortality rates, and India is home to the greatest magnitude of blindness from corneal problems. Of the 12 million blind in India, 1.1 million are blind in both eyes due to corneal disease, injury or infection.

The only known cure for corneal blindness is corneal transplantation, using healthy corneas donated by individuals upon their death. But despite the heightened awareness regarding eye donation during the past two decades, India still lags in meeting the demand for donor cornea tissues. The supply of donor tissues falls short of the needs for sight restoration surgery for various social and religious reasons. According to the Eye Bank Association of India (EBAI), against the annual requirement of 100,000 donor corneas in India, in 2012-13 the corneas collected were 44,806 and the corneas utilized for transplantation were 20,632.

There is a need for a more systematic and multi-tiered approach to eye banking in order to bridge the gap between the need and availability of quality donor corneas. The establishment of RIEB in 1989 was primarily aimed at overcoming the challenge and creating a Centre of Excellence in eye banking not only in terms of quantity but also the quality of donor cornea tissues.



Chronology of Events

From an Eye Bank to a Centre of Excellence in Eye Banking

1989

Establishment of the Ramayamma International Eye Bank (RIEB) with initial support from the Gunnam Subba Rao Trust and technical support from the International Federation of Eye and Tissue Banks (IFETB), Baltimore, USA.

1990

Initiation of Hospital Cornea Retrieval Programme (HCRP).

1994

Established Mc Carey-Kaufman (MK) Medium preparation laboratory.
Switched over from whole globe enucleation to corneal excision procedure.

1995

Initiated training program for Eye Bank professionals with support from Eyesight International, Canada.

1999

Contributed to development of 'Medical Standards of Eye Banking in India' document.

2001

Installation of Specular Microscope.
Community Distribution commenced in addition to taking care of the supply to LVPEI surgeons as also corneal surgeons across the country.

2003

Established international training and resource centre for eye banking and corneal transplantation, with support from Orbis International, USA, and Eyesight International, Canada, the first of its kind in India.



RIEB awarded 'Centre of Excellence in Eye Banking' by SightLife, Seattle, USA.



RIEB awarded Accreditation by National Accreditation Board for Hospitals and Health care Providers (NABH) and Eye Bank Association of India (EBAI).



Inaugurated 'SightLife Advanced Tissue Preparation Centre', the first eye bank in the Asia Pacific region to have a pre-cutting facility.



Joined SightLife Cornea Distribution System (CDS), a single point of contact for corneal surgeons to request corneal tissue across the country.



Celebrates Silver Jubilee Year.

Late Mrs Ramayamma



Inauguration of RIEB in 1989

Mr Frederick Griffith
of IFETB, Baltimore, USA



RIEB was established in 1989 with initial funding from the Gunnam Subba Rao Trust of Mrs Ramayamma's family, technical support from the International Federation of Eye and Tissue Banks (IFETB), Baltimore, USA.

Ramayamma International Eye Bank (RIEB)

Healthy corneas are scarce and an active eye bank that harvests and distributes this precious resource offers a cure to blindness – a lifeline – to hundreds of people. The RIEB was established in 1989 as a dedicated eye bank that collects, medically evaluates, stores and distributes donor eyes for the purpose of corneal grafting. Since its inception, RIEB has focused on setting high quality standards and being innovative, while rapidly increasing its supply of transplantable corneas. RIEB has actively promoted and supported the networking and development of eye banks throughout the region.

At the time that the RIEB was established, it made a very humble beginning with just two personnel on its rolls - an Administrative Assistant and a Coordinator - harvesting 20 corneas in its first year. In the initial days, Mr Mahmood Farazdaghi of the IFETB was instrumental in developing and ensuring basic standards of eye banking protocols. Later, he also helped with providing technical expertise for the eye bank training programs and also in making the Specular Microscope available to the RIEB. Thanks to the endeavours of the RIEB's enterprising staff and supporters, it has now grown to be the largest eye bank in Asia, harvesting nearly 4,500 corneas this past year. In the past 25 years, it has cumulatively harvested nearly 50,000 corneas. It has greatly increased the collection of transplantable donor corneas and elevated eye banking performance standards in India, and other parts of Asia and the developing world through continued support from Eyesight International, Canada, and SightLife, USA.

Today, as a Centre of Excellence, RIEB is a leading global eye bank with the highest transplant volume in South East Asia and a model for best practices.

HCRP helps in harvesting more number of donor corneas and ensures quality tissues. As a result of the newer customized corneal lamellar procedures now possible with better quality of tissues, surgical and visual results have improved dramatically.

Hospital Cornea Retrieval Program

In order to accomplish the goal of bridging the gap between the demand and supply of quality donor tissues, RIEB initiated the first Hospital Cornea Retrieval Program (HCRP) in Asia in 1990, beginning with the Nizam's Institute of Medical Sciences (NIMS), a large multispecialty hospital in Hyderabad, and has in its record a high yield of donor tissues recovered through the HCRP. Of the tissues recovered from 13,012 donors by RIEB between 1991 and 2014, 67% was achieved through the motivational approach of eye donation counsellors.

Prior to initiating HCRP, encouraging voluntary donation was the only means of procuring donor corneas. Voluntary eye donation is a result of realization of one's social responsibility towards the corneal blind. However, in moments of grief, it is hard for grieving relatives to remember their social responsibility and make emotional decisions such as donating the eyes of the dear departed. In such time, eye donation counsellors step in to speak to the family and motivate them for making an eye donation.

The RIEB has initiated the HCRP program in large multispecialty hospitals where the volume of death is relatively higher. The counsellors are trained for grief counselling and motivating the family of the deceased to follow through with their social responsibility. Such a proactive approach vis a vis waiting for calls from families of the deceased, has resulted in significantly higher yields of donor corneal tissues for the eye bank. The other distinct advantages of the HCRP program are: availability of medical history of the deceased donor since this can be procured from the hospital directly, availability of younger and healthier tissues, reduction in time interval between death and corneal excision and cost effectiveness of the process.

The eye bank also accepts pledges from individuals who wish to donate their eyes in the future. Thanks to HCRP, the waiting period for any keratoplasty in Andhra Pradesh has reduced to zero and this was achieved within a very short time after introducing HCRP.

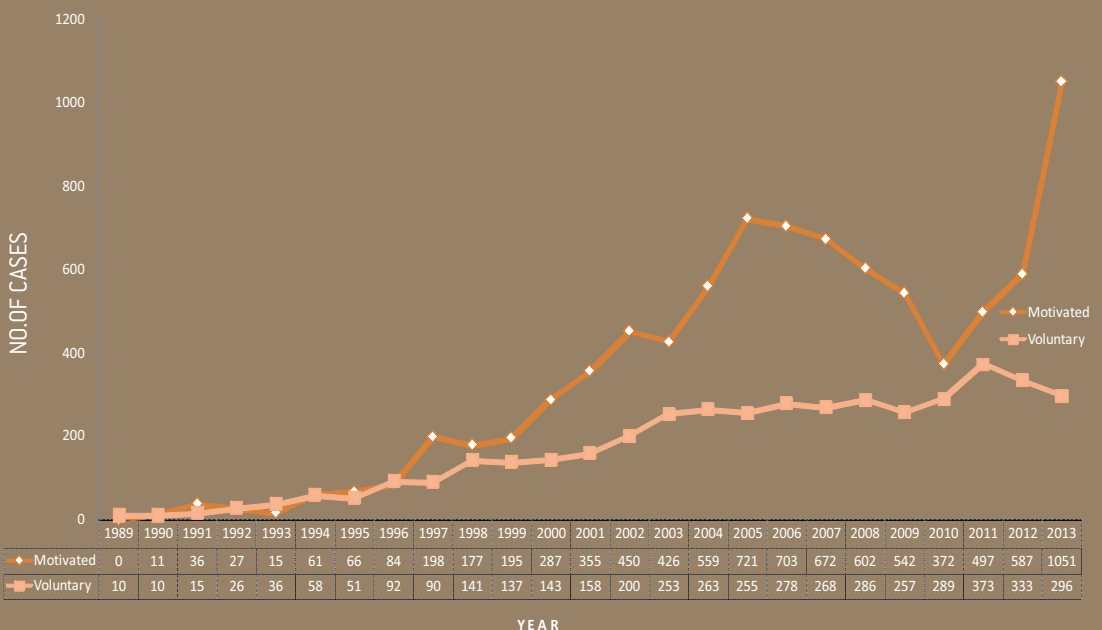


An Eye Opener

On 27th October 2013, the Ramayamma International Eye Bank (RIEB) tried a new initiative. Their field staff took a young cornea recipient Master Ashray to visit the Osmania General Hospital. The purpose was for the hospital staff to see for themselves their coordinated efforts paying off to give sight to a blind person, and to motivate them on the good work they were doing in helping the blind patients.

For young Ashray too, it was an eye opening experience literally to see the value chain responsible for his gift of sight. Expectedly, his reaction was overwhelming when the hospital staff wished Ashray a happy and a prosperous life.

Voluntary (V) Vs Motivated (M) 1989 – 2013 (25 Yrs)
M – (67%) ; V – (33%)



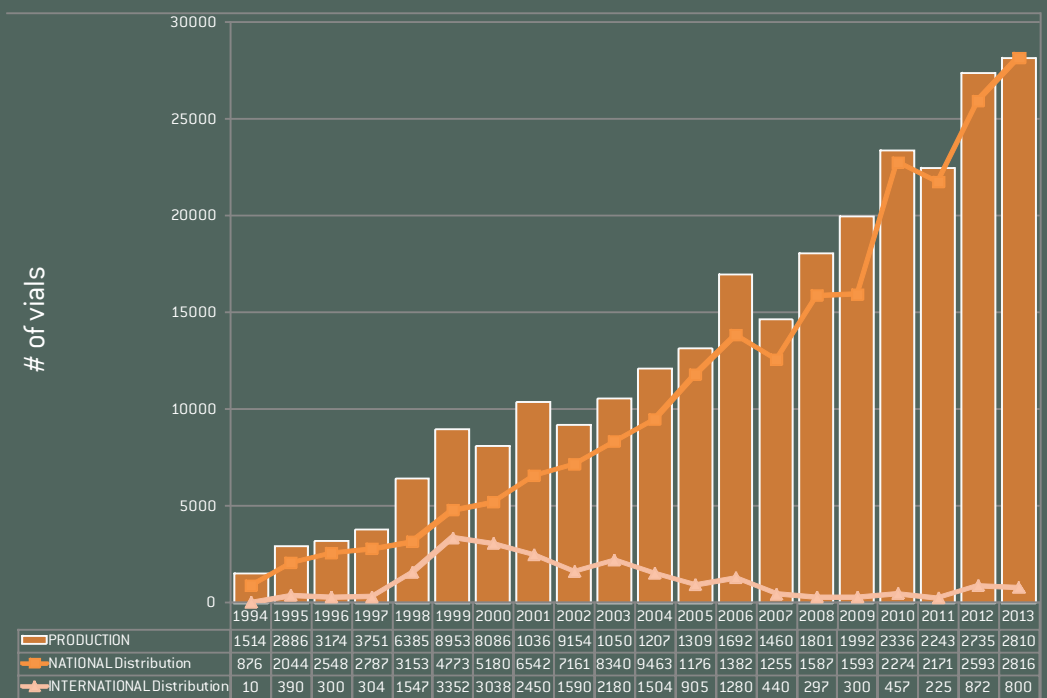
M K Medium

One of the challenges of preserving donor corneas is the storage of the retrieved corneas in an appropriate medium that supports the life of the cornea in the time that it takes to be made available for keratoplasty or corneal transplantation surgery. Developed countries use storage mediums that preserve the corneas for longer durations. Earlier, such a preservative medium was imported from the US at a prohibitive cost. But India needed a more cost-effective solution, something that could be manufactured in the country and could have a shorter storage time (4 days) as the demand for donor corneas in India far exceeded the supply. In 1994, The Corneal Preservation Media Centre was established at RIEB, with the support of the Rotary Club of Hyderabad, CBM of Germany and Sightsavers of UK, and with technical support from the International Federation of Eye and Tissue Banks (IFETB) of Baltimore, USA. RIEB is the only centre that manufactures the MK Medium and distributes it to all the eye banks in the country - about 250 eye banks and eye donation centres in India. RIEB is also helping neighbouring countries like Nepal, Bangladesh, Myanmar, Mangolia and Kenya.





MK Media Production & Distribution - 1994 - 2013 (20 Years)
 Total # Produced – 2,60,683; Total # Distributed – 2,43,615
 (National - 2,21,374; International - 22,241)



A corneal storage medium such as the MK medium is essential to maintain the tissue viability so that an efficient use of the donor corneas can be made.

Training Programs

Training programs were initiated at the RIEB in 1995 with technical support from the International Federation of Eye and Tissue Banks (IFETB), Baltimore, USA. Later, structured training programs were evolved for various cadres of eye bank professionals with the support of Eyesight International, Canada; SightLife, USA, and Orbis International, USA.

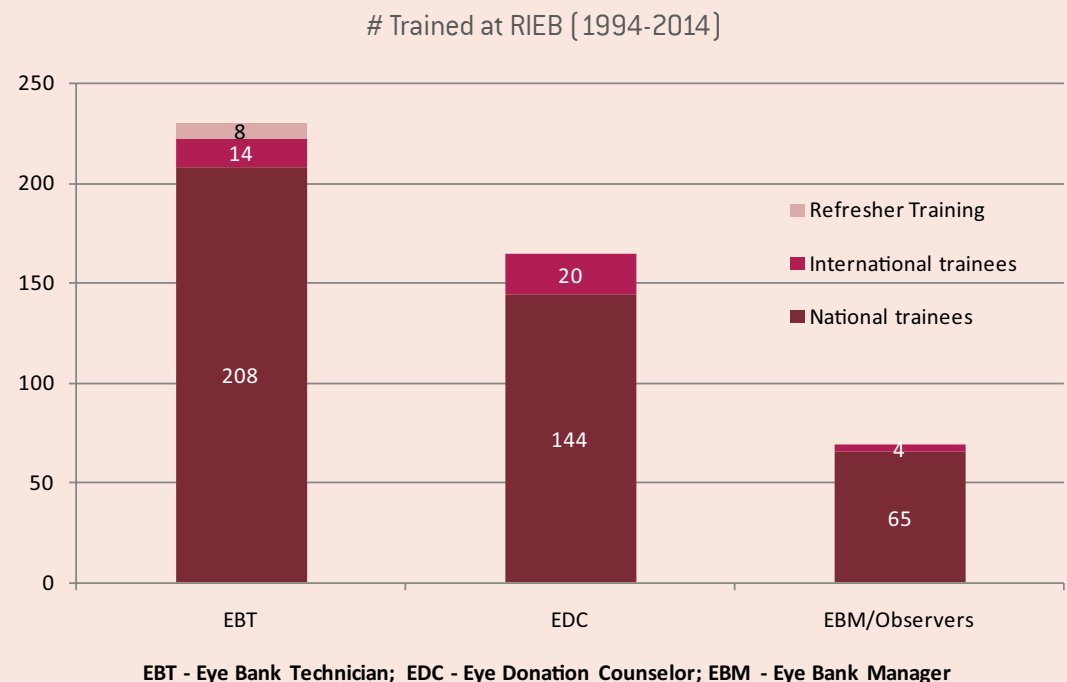
Eye Bank Training Programs and their duration:

- ◆ Eye Bank Technician (EBT) – 3 months
- ◆ EBT Refresher course (Refresher training) – 15 days
- ◆ Eye Donation Counselor (EDC) – 10 days
- ◆ Eye Bank Manager / Observer (EBM/Observer) – One week

Additionally, the cornea fellowship program offered by LVPEI is completely supported by Eyesight International, Canada, and includes eye banking as one of its courses:

- ◆ Long Term Fellowship – 24 months (15 months for international trainees)
- ◆ Short Term Fellowship – 3 months

In addition to formal structured programs, the RIEB conducts continuous professional development programs, workshops and seminars on various aspects of eye banking, collaboratively with SightLife, USA and Eyesight International, Canada.



RIEB offers certificate courses to different cadres of eye bank personnel from India and other countries on the planning, policy making and techniques in eye banking services, besides 'Refresher' programs on the latest advancements in eye banking.



T Lalhriattira
Eye Bank Technician trainee at the Ramayamma
International Eye Bank from Aizawl, Mizoram

Tira the Trainee

T Lalhriattira, or Tira in short, has a B Sc in Physics, and is an ophthalmic assistant at the eye bank in the Civil Hospital in Aizawl. He has been sent to LVPEI to be trained as an eye bank technician. Now two months into his training, he says, "With this kind of quality training, I will not be able to forget what I learned here at LVPEI even after 10 years!"

He is confident of applying the practical hands-on training right away: screening potential donors, retrieving the corneas from the deceased, processing and evaluating the corneas, distribution of suitable corneas to needy surgeons, and ensuring quality for the cornea meant for transplantation, besides taking care of laboratory and equipment maintenance, cleaning and sterilization of equipment, and proper documentation of the donor corneas.

He also had the opportunity to work with eye donation counselors trained by LVPEI as part of the HCRP [Hospital Cornea Retrieval Program].

Tira is grateful and proud of this exposure. He looks forward to coming back for the one week refresher training. He aspires to work for the people of Mizoram in particular, and India at large.

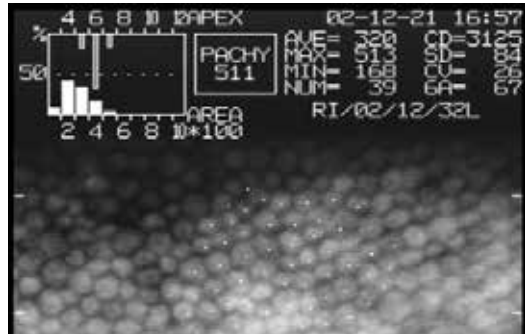


Dr Paul Dubord at one of the earliest training programs

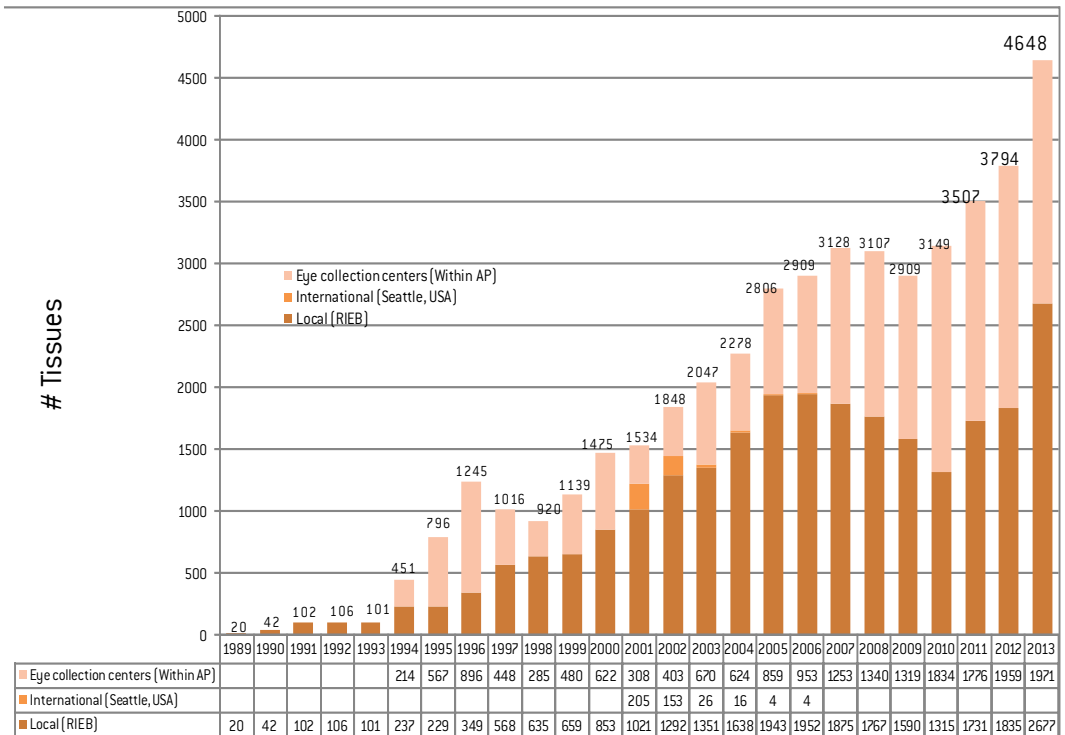
Installation of Specular Microscope

The Eye Bank Kerato Analyzer, also known as Specular Microscope, was installed at RIEB in 2001 with support from Rotary International, Rotary Club of Hyderabad, and International Federation of Eye and Tissue Banks, Baltimore, USA.

The Specular Microscope is an instrument used to visualize the innermost and the most critical layer of the cornea, the endothelium, and thereby determine the human donor cornea's suitability for corneal transplantation. This is a reliable method of screening of donor tissues and helps maximize the utilization of tissues for sight restoration. The installation of the Specular Microscope has sufficiently increased the utilization rate of cornea tissues evaluated at the RIEB.



No. of Corneas Procured – 45,077
 (Local - 25,888; Other Eye Banks & Eye Donation Centres - 18,781; SightLife, US - 408)
 1989 – 2013 (25 yrs)



NATIONAL PROGRAMME FOR CONTROL OF BLINDNESS (NPCB)



Standards of Eye Banking in India

2009

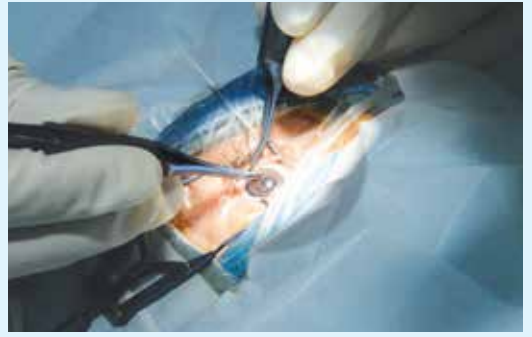


Directorate General of Health Services
Ministry of Health & Family Welfare
Government of India
New Delhi - 110108
www.mohfw.nic.in / www.npcb.nic.in



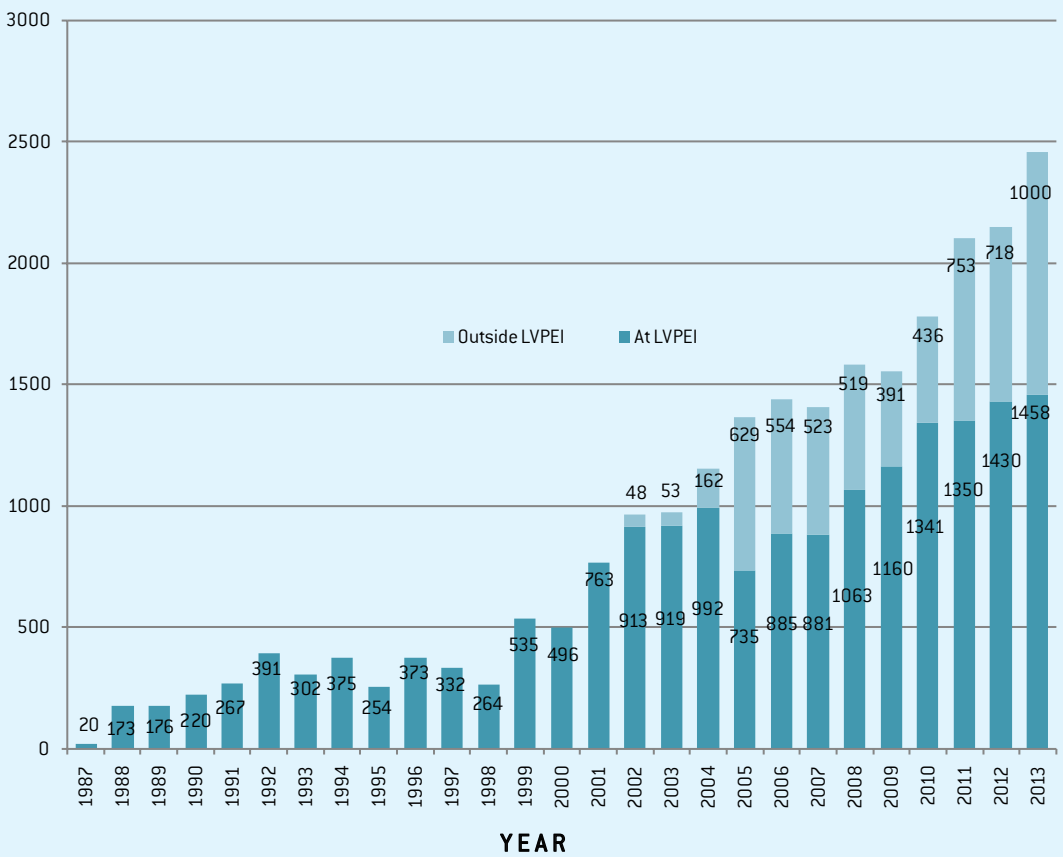
The national Programme for Control of Blindness (NPCB) under the Ministry of Health and Family Welfare, Government of India, created the first document on 'Standards of Eye Banking in India', with the RIEB as a contributor to the development of this document.

Eye Banking is governed by the Transplantation of Human Organs Act of 1994. Some of the provisions of the act required modification and new provisions were required to be introduced to promote eye donation and eye banking. Whereas the original Parliament Act stipulated that only a registered medical practitioner could enucleate the eyes following a person's death, the amendment allows trained technicians to enucleate or do the corneal excision.



It is because of its very active, international standards that RIEB has been able to perform the largest number of keratoplasties done by a single centre in the world.

Corneal Transplants – 23,854
1987 - 2013 (27 years)



As of April 2014, RIEB has harvested over 46,000 donor corneas, and transplanted over 24,500 of them to needy patients.

Geographical distribution of Corneas to Surgeons



- ▲ LVPEI Tertiary Care Centres
- ★ LVPEI Alumni and Other Surgeons

RIEB's work includes sourcing, evaluating and preserving donor corneas, and subsequently distributing them to scheduled patients within LVPEI, as well as to other eye banks in India and nearby countries.



1. Smt. R.R. Lions Eye Hospital [LVPEI affiliate] [Nidadavolu]
2. Modern Eye Hospital [Nellore]
3. Regional Eye Hospital [Warangal]
4. Lions Club of Karimnagar [Karimnagar]
5. Lions Club of Suryapet [LVPEI affiliate] [Suryapet]
6. Dhanvanthari Eye Donation Center [Tenali]
7. Mohsin Eye Bank [Visakhapatnam]
8. RR Lions Eye Hospital [Palakollu]
9. Badam Balakrishna Eye Bank [Kakinada]
10. Sadharam Eye Hospital [Hyderabad]
11. Pushpagiri Eye Institute [Secunderabad]
12. Sneha Seva Samiti [Proddutur]
13. Yanam Eye Bank Yanam [UT of Pondicherry]
14. Sri KVB Reddy IRCS Eye Bank [Kurnool]
15. Lions Club of Mahabubabad [Mahabubabad]
16. Sudarsani Eye Hospital [Guntur]
17. Govt. General Hospital [Guntur]
18. Regional Eye Hospital [Kurnool]
19. MVR Eye Center [Tanuku]
20. District Hospital [Janagaon]
21. District Hospital [Red Cross Eye Bank] [Eluru]
22. SVRRG Gen. Hospital [Tirupati]
23. Lions Club of Vemulawada [Vemulawada]
24. Jnanananda Eye Bank [Bhimavaram]
25. Kamineni Educational Society [Narketpally]
26. Surya Swatchanda Sewa Trust [Mahabubabad]
27. Chiranjeevi Eye Bank [Hyderabad]
28. Lions Club of Cherial [Cherial]
29. Lions Club of Orugallu [Warangal]
30. Rajiv Gandhi Superspecialty Hospital [Raichur] [Karnataka]
31. Lions Club of Bejanki [Karimnagar]
32. District Hospital [Nandyal]
33. Pavani Eye Hospital [Jagityal]
34. The Khammam Eye Bank [Khammam]
35. Sri Y Balaramamurthy Konaseema Eye Bank [Ambajipet]
37. Lions eye Hospital [Bodhan]
38. Lions Club of Sircilla [Sircilla]
39. Rotary Eye Bank [Vuyyur]
40. Nayana Eye Care [Nandyal]
41. Akbar Eye Hospital [Anantpur]
42. Lions Club of Thorrur [Thorrur]
43. Lions Eye Hospital [Nizamabad]
44. Sreelatha Modern Eye Hospital [Chittoor]
45. Siloam Eye Hospital [Madanapalle]
46. Lions Club of Korutla [Korutla]
47. Lions Club Diamond Nizamabad [Nizamabad]
48. Amar Hospital [Mahabubabad]
49. Lions Club of Hanamkonda [Warangal]
50. Ram Reddy Lions Eye Hospital [Mahabubnagar]
51. Sadasaya Foundation [Godavarikhani]
52. Modern Eye Hospital [Ongole]

To complement RIEB's effort are the community eye banks at Visakhapatnam (Mohsin Eye Bank) and Bhubaneswar (Drushti daan Eye Bank).

Centre of Excellence in Eye Banking

SightLife, Seattle, USA, has recognized RIEB as a 'Centre of Excellence in Eye Banking' in 2010.

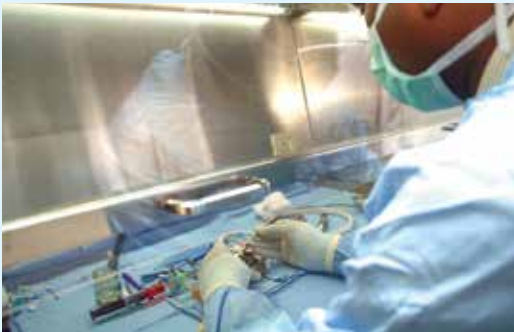
RIEB's staff makes use of state-of-the-art equipment and infrastructure and continuous improvement through training to execute all aspects of community eye banking which include:

- Recovery, evaluation and preservation of donor tissues
- Distribution of tissues for corneal transplantation
- Research in cornea preservation methods
- Public awareness programs

RIEB has been closely associated with The Eye Bank Association of India (EBAI) in providing training to eye bank professionals, developing training modules, developing medical standards for eye banking and also in making the MK Medium available to eye banks in the country. EBAI is a national organization acting as a resource center for all eye banks and organizations involved in the eye donation movement. It was founded in the year 1989 by Dr Gullapalli N Rao, Founder-Chair - LVPEI, who has been instrumental in evolving eye banking policies and medical standards. Dr Usha Gopinathan, Executive Director – LVPEI, and Technical Advisor to RIEB, served EBAI as Vice President and President for 6 years - 2007-12. Under her leadership, EBAI has initiated the process of accreditation of Eye Banks in the country and an MoU has been signed with the National Accreditation Board for Hospitals and Health care Providers (NABH) towards the initiation of the Accreditation program.



Washington State Governor Chris Gregoire inaugurating the 'pre-cut' tissue centre, funded by SightLife, at RIEB on October 3, 2012.



'Pre-cut' Donor Corneas

The last decade has seen path breaking innovation in cornea transplant surgery in the form of lamellar keratoplasty. In this form of keratoplasty, only the diseased layers of cornea are replaced by healthy tissues. The procedure not only improves the outcome of surgery but also results in improved tissue utilization.

Descemet's Stripping Endothelial Keratoplasty (DSEK) is one such procedure wherein the diseased endothelium of the patient is replaced by a tissue of partial thickness carrying healthy endothelium. However, this requires cutting or preparing the donor corneal tissue, requiring special instruments and training. In most places, corneal surgeons either do not have the necessary equipment or lack the expertise in pre-cutting precious donor tissue. The RIEB decided to overcome these challenges by establishing the facility of 'pre-cutting' donor corneal tissues in 2012. This makes it the first centre in the Asia Pacific region to have such an advanced facility that not only reduces the overall cost of the surgery for both the patients and the surgeons but also standardizes the procedure.

Some Recipients

Pranathi

Pranathi, who is 9 years old suffered an injury while playing near her house. It was an ordinary fall. But as the injury led to an infection, it threatened to leave her blind in the right eye. Fortunately, at LVPEI's eye bank, she was able to get the corneal transplant required to save her sight.



Aashrith

Aashrith is a 10 year old boy who suffered an injury while playing near his school. He was injured in the right eye and was likely to be blind for the rest of his life. However, he came to L V Prasad Eye Institute where he got the corneal transplant necessary to restore his vision.

Sukh Dev

Sukh Dev, a college student was diagnosed with keratoconus, a degenerative condition resulting in distorted vision. His ability to study slipped away and he became increasingly depressed and listless. But after the surgery at LVPEI, he thanked God for giving him a new lease of life. He now urges people suffering from corneal disease not to lose hope and prods all those he meets to become eye donors.



