NATIONAL PROGRAME 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

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NATIONAL RURAL HEALTH MISSION
राष्ट्रीय ग्रामीण स्वास्थ्य मिशन

सत्यमेव जयते

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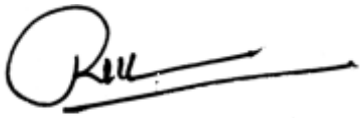
FOREWARD

I am happy to announce that National Programme for Control of Blindness [NPCB], Directorate General of Health Services, Ministry of Health and Family Welfare, New Delhi has conceptualized and produced this module on "Standards of Eye Banking in India, 2009" so as to establish & communicate quality standards to all stakeholders involved at various level of eye care services.

With the implementation of Eleventh five year plan period of NPCB, a new thrust and vigor has been infused for improvement of eye donation, collection, processing, maintenance of quality standards, equitable distribution of scarce tissue, strengthening of institutional capacity for undertaking corneal transplantation, community awareness and training of health personnel.

I hope that the valuable information given in the module will guide the programme managers, eye surgeons, and health personnel in establishing, strengthening, maintaining and delivering highest level of quality services in eye banking activities.

I appreciate the efforts & contributions of the entire team from governmental and non-governmental sector efficiently led by Dr. [Mrs.] R Jose, Additional DG in producing this visionary document.



[Dr. R.K. Srivastava]

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Date : 01 October 2009

PREFACE

Over the last three decades, country has seen a phenomenal rise in socio-economical, industrial, manufacturing, information-technology, infrastructural development, human resource management, service sector, so on and so forth with far reaching consequences on health. Today, we have reached a very commendable stage of Cataract Surgical Rate and the momentum thus generated would continue in future also. In this context, National Programme for Control of Blindness [NPCB] has taken a lead in addressing other issues of blindness as well in a comprehensive manner.

Eleventh plan [2007-12] of NPCB has attempted to cover and address emerging eye diseases other than cataract like Diabetic Retinopathy, Glaucoma, Childhood blindness, Low Vision and ocular injuries in a mission mode through successful Public Private Partnership. The endeavor of -the programme is to eliminate all causes of avoidable blindness and to reach a sustainable level where people have access to level appropriate eye care service.

Corneal blindness is one of the eye diseases that is being covered under the global initiative of VISION 2020: The Right to Sight Initiative to which India is also signatory. Eye banking activities becomes a critical component and pillar for managing this disease wherein infrastructure, human resource, logistics & service delivery should match international quality standards and the needs of patients in effective and efficient manner.

Eye Banking Standard manual would not have been possible without constant supervision, encouragement and direction from Dr. R.K. Srivastava DGHS and Ms. Shalini Prasad, Joint Secretary, to Government of India. I would also like to place on record my appreciation to my team members especially Dr. A.S. Rathore, Additional Director General [0], Dr. V. Rajshekhar, Dy. Assistant Director General [0], Dr. V.K. Tewari,. Education Health Officer and Dr. Sandeep Sachdeva, National Consultant in supporting and contributing immensely in program activities.

The outcome was spearheaded by various consultative processes and deliberation with stakeholders from Government and Non-Governmental Organization working closely with NPCB since inception. I extend my gratitude to representative from All India Institute of Medical Sciences [New Delhi], Guru Nanak Eye Centre [New Delhi] Eye Bank Association of India [Hyderabad], Arvind Eye Hospital [Madurai], LV Prasad Eye Institute [Hyderabad], Disha Eye Hospital [Barrackpore], HV Desai Hospital [Pune], International Eye Bank [Bangalore], Venu Eye Institute Research Centre [New Delhi], All India Ophthalmic Society [New Delhi], ORBIS [New Delhi] in supporting the larger platform of critical discussion, deliberation and producing the template of Eye Banking Standard.

I strongly believe that implementation of these standards in letter and spirit will pave way to amelioration of corneal blindness from our country in near future.

[Dr. (Mrs.) R. Jose]
Additional Director General
Directorate General of Health Services

भारत सरकार
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ACKNOWLEDGEMENTS

The production of the module “Standards of Eye Banking in India” has been a collective effort of all stakeholders including non-governmental organization especially Eye Bank Association of India [EBAI]. Nevertheless, constant support and sustained guidance has been made available from Dr. R.K Srivastava, DG, HS and Dr. [Mrs.] R. Jose, Additional DG.

The standard for eye banking though existed in the past however it was urgently felt that it required updation. The outcome in the present format was realized over a period of time through intense consultative processes, deliberations and meetings. Every attempt has been made while compiling keeping in view international eye banking protocols & standards and suitably adapted to meet local regulations so as to be applicable and relevant in the Indian context. We look forward to suggestions and feedback for improvement by our learned colleagues and readers.

The language used in the module has been kept simple, lucid and at the same time comprehensive to cover all aspect on Eye Banking activities. Module has been divided into chapters and sub-section for easy reference, clarity and understanding. It covers aspects relating to type of facilities, infrastructure, human resource, equipment, instruments, infection control practices; standard operating procedures [SOP]; cornea tissue/preservation/evaluation standards; retrieval procedures, screening of donors, contraindications, quality control, procedures for storage, labeling and equitable distribution of cornea for Keratoplasty.

The exercise was made possible by active contribution of experts especially Dr. Ritu Arora [New Delhi], Dr. Radhika Tandon [New Delhi], Dr. M. Srinivasan [Madurai], Dr. Usha Gopinathan [Hyderabad], Dr. Samar Basak [Barrackpore], Dr. Ayan Mohanta [Barrackpore], Dr. Gobinda Mukherjee [New Delhi], Dr. AVN Chetty [Vishakhapatnam], Dr. Bageshri Gogate [Pune], Dr. Prashant Garg [Hyderabad], Dr. Rekha Gyanchand [Bangalore], Ms. Tanuja Joshi [New Delhi], Mr. G Ganesh [Hyderabad], Dr. GV Rao [New Delhi], Dr. Preeti Singh [New Delhi] and Ms. Deepti Bajaj [New Delhi].

I extend my heartiest appreciation to all the people who contributed directly of indirectly in our journey of achieving this endeavour.

[Dr. A.S. Rathore]

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Chapter-1

FACILITIES, EQUIPMENT & MAINTENANCE

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CHAPTER-1

1.1 Facilities, Equipment & Maintenance

1.1.1. Facilities (Organization and Infrastructure)

For an efficient eye banking system, a three tier organization structure has been recommended. At the top of the pyramid is the Eye Bank Training Center followed by Eye Banks and at the base of the pyramid is the eye donation center. Activities, responsibilities, manpower required for each of the above viz., Eye Bank Training Center (EBTC), Eye Bank (EB) and Eye Donation Center (EDC) has been dealt in detail under section A1.100 to section A1.300

1.2.2. Procedures manual

Each eye bank shall maintain its own procedures manual (SOP) that details all aspects of its specific retrieval, processing, testing, storage, distribution and quality assurance practices. Each procedure must be initially approved signed and dated by the Medical director or Officer-in-charge of the eye bank. An annual review of each eye bank's procedures manual with signing and dating by the Medical director or Officer-in-charge is required. Each eye bank must maintain copies of each procedure it uses and the length of time the procedure was in use. The current standards of eye banking document can be used as the procedures manual with a document detailing any deviations or modifications with justification as required.

The following facilities and infrastructure is required

1.1.3. Physical Space

A minimum area of 600 Sq.Ft is required which accommodates a serology lab, tissue processing lab and evaluation, storage & shipping lab.

INFRASTRUCTURE	EBTC	E B	EDC
Instrument Cleaning Lab:			
1. Sink – For washing instruments	**Required**	**Required**	**Required**
2. Autoclave for sterilizing	**Required**	**Access**	**Access**
3. Counter top & storage space for storing instruments & supplies	**Required**	**Required**	**Required**
Serology Lab			
1. Sink for washing	**Required**	**Access to accredited testing lab or all facilities are required. Accredited lab should have all the mentioned facilities and would be inspected before accreditation is given to eye bank.**	**Serology lab is not required. However, sink for washing and facility for storing blood samples in refrigerator should be available.**
2. Refrigerator – For storing blood samples & kits	**Required**		
3. Counter tops, cabinets & drawers for workspace and storing supplies	**Required**		
4. Centrifuge & Serum testing equipment like ELISA Reader, Rapid test etc.	**Required**		
Tissue Processing Lab			
1. Sterile counter / table top for processing (Laminar Flow Hood / Bio-Hazard Cabinet)	**Required**	**Required**	
2. Counter tops, drawers and cabinets for storage	**Required**	**Required**	
Evaluation, Storage & Shipping Lab			
1. Slit Lamp and Specular Microscope for Tissue Evaluation.	**Required**	**Required, but access to a specular microscope is also acceptable.**	**Not required**
2. Counter Tops and Cabinets for Storage of Supplies Packing and Shipping.	**Required**	**Required**	**Required**
3. Refrigerator for Storing Donor Tissue	**Required**	**Required**	**Required**

1.1.4. Equipment & Other Facilities

Each eye bank must have the following equipment and facilities to perform the volume of laboratory services with optimal accuracy, efficiency, sterility, timelines, and safety.

EQUIPMENT	EYE BANK TRAINING CENTRE	EYE BANK	EYE DONATION CENTRE
Slit Lamp	Required	Required	Not required
Refrigerators for storing blood sample, tissues and storage media	Required	Required In case the Eye Bank has tie up with accredited lab for testing, one Refrigerator is sufficient	Preferable For storing blood sample, ice packs, storage media, eye or tissue collected etc
Serology Equipment	Required	Yes Required. Access to an accredited lab is also acceptable	Not required
Specular Microscope	Required	Yes required if collection is >200 per year. Access to specular microscope is also acceptable	Not required
Sufficient sets of instruments for corneal excision and enucleation	Required. Numbers to be decided on level of collections	Required. Numbers to be decided on level of collections	Required Numbers to be decided on level of collections
Autoclave or gas sterilizer	Required	Required/or access to sterilizing facility For accreditation, sterilizing facility practice and procedure shall be reviewed	Should have access to sterilizing facility
Laminar Flow Hood (Class II) (This is required for the preservation of ocular tissue in the laboratory in case of whole globe removal (enucleation) and for processing scleral tissue)	Required	Required	Not required
OTHER FACILITIES			
Transportation Facility	24 Hours 365 days	24 Hours 365 days	Should have access
Furniture	Required	Required	Preferable
Computer with email facility	Required	Required	Preferable
Two exclusive lines (one with 1919 or public service number allotted and another for outgoing calls	Required	Required	Universal public service number to be alloted
Audio visual equipment for publicity	Required	Required	Preferred

1.1.5. Eye Bank Maintenance

The room including walls, floor and sink must be kept clean at all times. Appropriate documentation of regular laboratory cleaning schedules must be maintained and kept on file for a minimum of three years. For cleaning procedure refer Section III.

Each eye bank laboratory must have an adequate, stable electrical source and sufficient number of grounded electrical outlets for operating laboratory equipment.

1.1.6. Equipment maintenance and cleaning

Refrigerator

Each eye bank laboratory shall have a refrigerator with a device, internal or external for recording temperature variations. Temperature variations must be recorded twice daily and should remain within the range of 2° – 6° C.

The refrigerator should be maintained exclusively for use by the eye bank. It must contain clearly defined and labeled areas for all tissues stored e.g. surgical tissue, awaiting distribution, quarantined tissue, tissue for research etc.

The refrigerator should be calibrated once a year.

Laminar Airflow Hood / Cabinet

The cleaning schedule should be maintained.

Particle counts should be performed once a year.

Appropriate maintenance and accreditation records must be maintained for each piece of equipment. The eye bank must include in its procedure manual, the monitoring, inspection and cleaning procedures and schedules, for laboratory equipment. These must be kept on file for a minimum of three years.

In the event of power failure there must be provision for immediate notification and action to be taken, which may include an emergency power supply to maintain essential refrigeration.

1.1.7. Instruments and reagents

Adequate instruments must be available to provide for sterile removal of whole eye and corneas. Instruments must be inspected frequently enough to assure that they function properly.

All sterilized instruments, supplies and reagents, such as corneal preservation medium, must contain expiry dates that are current at all times.

1.1.8. Infection control and safety

All eye bank personnel must operate under the universal precautions for health care workers. These written procedures must be included in the eye bank's procedure manual. All technical personnel should receive Hepatitis B vaccination and any other recommended vaccination that may be announced from time to time.

1.1.9. Waste disposal

Human tissue and waste items shall be disposed off in such a manner as to minimize any hazard to eye bank personnel and the environment and comply with applicable regulations. Dignified and proper disposal procedures shall be used to obviate recognizable human remains.

1.2 Donor Cornea / Eye Retrieval Related Standards

1.2.1. Donar eye / cornea retrieval

Care must be taken that eye bank resources are utilized optimally and eye bank personnel are not exposed to any health hazards. The following guidelines ensure that resources are put to optimum use and that eye bank personnel are not exposed to any health hazards.

1.2.2. Personnel authorized to retrieve eyes / corneas

A registered medical practitioner trained in enucleation / excision from an Eye Bank Training Center is only allowed to retrieve eyes / corneas from the donor after satisfying self that life is extinct, in the absence of a death certificate.

1.2.3. Pre Recovery Procedure

Before proceeding for recovery eye bank personnel should ascertain the following details:

a) Location
b) Age of the donor
c) Cause of death
d) Time of death

1.2.4. Retrieval Procedure

- Retrieval procedure could be either Enucleation or Corneal scleral rim excision. The retrieval procedures for both of the above mentioned techniques are given in detail in Section III H8.340 under Donor Ocular Tissue Recovery.
- Eye Bank team should carry only validated sterile instruments for retrieval.
- Eye Bank Team on arrival at the location should locate the next of kin and convey condolence and obtain death certificate.
- In the absence of a death certificate the registered medical practitioner should satisfy self that life is extinct as per procedures laid down in Section III H 8.320,330 and Appendix II.
- The eye bank team should obtain consent on a consent form from the legal custodian of the donor.
- After obtaining consent the donor should be identified either through a tag or through the next of kin
- The eye bank team should then proceed to prepare the site as per guidelines in Section III H8.340
- Gross physical examination should be conducted with utmost respect for observations regarding build: average / healthy / emaciated
- Eye bank team should look out for needle marks on the arm, skin lesions etc
- Eye Bank Team should look out for Ulcers / gangrene in exposed areas
- Ocular examination should be conducted as per guidelines in Section III, H8.340
- Medical records / Medical information should be obtained as per guidelines in Section III, H8.350
- Information for hemodilution should be obtained as per guidelines in Section III, H8.300, H8.400
- Social history of the donor should be obtained wherever possible from the next of kin
- Once all the above are completed the retrieval can be started. The retrieval procedure should be as per guidelines in Section III, H8.500

1.2.5. Screening of donors

Tissue from donors with the following is potentially hazardous to eye bank personnel and harvesting eyes should be strictly avoided.

Contraindications for Retrieval:

Active viral Hepatitis

Acquired immunodeficiency syndrome (AIDS) of HIV

Active viral encephalitis or encephalitis of unknown origin

Creutzfeldt-Jakob disease

Rabies

1.2.6. Contraindications

Tissue from donors with the following are potentially health threatening and also affects the success of the surgery and shall not be offered for surgical purposes. In conditions considered absolute contraindications for transplantation (marked with an asterix*), donor family should be informed clearly and made fully aware of this fact. Eyes should not be harvested unless the donor family is fully aware of this and still wishes to donate

(I) Conditions with potential risk of transmission of local or systemic communicable from donor to recipient

a Death of unknown cause*

b Death with neurologic disease of unestablished diagnosis*

c Subacute sclerosing panencephalitis

d Progressive multifocal leukoencephalopathy

e Active meningitis or encephalitis*

f Encephalopathy of unknown origin or progressive encephalopathy*

g Active septicemia* (bacteremia, fungemia, viremia, parasitemia)

h Active viral hepatitis*

i Creutzfeldt-Jakob disease*

j Congenital rubella

k Reye's Syndrome

l Rabies*

m Active miliary tuberculosis or tubercular meningitis*

n Patients on ventilator for > 72 hrs

o Hepatitis B surface antigen positive donors*

p HTLV-I or HTLV-II infection*

q Hepatitis C Seropositive donors*

r HIV seropositive donors*

s HIV or high risk for HIV corneas from: persons meeting any of the following criteria should not be offered for transplantation.*

t Active ocular or intraocular inflammation conjunctivitis, sclerits, iritis, uveitis, vitreitis choroiditis and retinitis (at the time of death)

(II) Conditions with potential risk of transmission of non-communicable disease from donor to recipient.

a Death due to cyanide poisoning

b Instrinsic eye disease

c Retinoblastoma

d Malignant tumours of the anterior ocular segment or known adenocarcinoma in the eye of primary or metastatic origin

e Leukemias*

f Active disseminated lymphomas*

(III) Conditions that will affect graft outcome.

a Congenital or acquired disorders of the eye that would preclude a successful outcome for the intended use e.g., a central donor corneal scar for an intended penetrating keratoplasty preserve of keratoconous and keratoglobus. Corneas which have undergone refractive surgical procedures etc.

b patients on ventilator for >72 hrs.

Behavioral / History, Laboratory and Medical Exclusion Criteria.

a. Men who have had sex with other men in the preceding 5 years (homosexual behaviour)

b. Persons who report nonmedical intravenous, intramuscular, or subcutaneous injection of drugs in the preceding 5 years. (IV drug abusers)

c. Persons with hemophilia or related clotting disorders who have received human-derived clotting factor concentrate.

d. Men and women who have engaged in sex for money or drugs in the preceding 5 years (commercial sex workers)

e. Persons who have had sex in the preceding 12 months with any person described in item a-d above or with a person known or suspected to have HIV infection.

f. Persons who have been exposed in the preceding 12 months to known or suspected HIV-infected blood through percutaneous inoculation or through contact with an open wound, or mucous membrane.

g. Children meeting any of the exclusionary criteria listed above for adults should not be accepted as donors.

h. Children born to mother with HIV infection or mothers who meet the behavioral or laboratory exclusionary criteria for adult donors regardless of their HIV status should not be accepted as donors unless HIV infection can be definitely excluded in the child as follows:

(i) Children >18 months of age who are born to mothers with or at risk for HIV infection, who have

not been breast fed within the last 12 months, and whose HIV antibody tests, physical examination and review of medical records do not indicate evidence of HIV infection can be accepted as donors.

(ii) Children < 18 months of age who are born to mothers with or at risk for HIV infection or children of mothers with or at risk of HIV infection who have been breast fed within the past 12 months should not be accepted as donors regardless of their HIV tests results.

i. Persons who cannot be tested for HIV infection because of refusal, inadequate blood samples (e.g. haemodilution that could result in false-negative tests), or any other reasons.

j. Persons with a repeatedly reactive screening assay for HIV-1 or HIV-2 antibody regardless of the results of supplemental assays.

k. Persons whose history, physical examination, medical records, or autopsy reports reveal other evidence of HIV infection or high-risk behaviour, such as diagnosis of AIDS, unexplained mucous membranes hemorrhages kaposi's sarcoma, unexplained lymphadenopathy lasting > 1 month, unexplained temperature> 100.5 F (38.6C) for > 10 days, unexplained persistent diarrhea, male-to-male sexual contact, sexually transmitted diseases, or needle tracks or other signs of parental drug abuse.

Donor tissue will be harvested and transported to the eye bank for further processing, evaluation, storage and distribution. Surgical use of tissue for transplantation will be determined by technical considerations as decided by the medical director and operating surgeon. Tissues can be used for penetrating keratoplasty, lamellar keratoplasty, stem cell culture and/or transplantation and scleral transplantation and any residual parts can be used for educational or research purpose as appropriate.

1.2.7. Donor age

Since no definite relationship has been established between the quality of donor tissue and age the upper and lower age limit is left to the discretion of the medical director.

1.2.8. Interval between death, enucleation, excision and preservation

Acceptable time intervals from death, enucleation or excision to preservation may vary according to the circumstances of death and interim means of storage of the body. It is generally recommended that corneal preservation should occur as soon as possible after death. All time intervals for each donor, e.g., the time of death to the time of enucleation and preservation and/or the time to corneal excision, shall be recorded. If the donor has been refrigerated prior to enucleation or in situ corneal excision, this information shall be noted.

1.2.9. Recovery Procedure

1.2.10. Donor Blood Sample

The authorized personnel retrieving the tissue should obtain an adequate blood sample. Please refer Section III, for detailed procedure.

1.3 Donor Tissue Preservation Standards

1.3.1 In situ and laboratory removal of the corneoscleral rim

Individuals specifically trained for in situ retrieval and/or laboratory removal of the corneal scleral segment shall perform removal of the corneal scleral rim using sterile technique. If the procedure is done in a laboratory the removal must be performed in a laminar flow hood, cabinet or in an operation room. For cornel scleral removal, the eye shall be examined with the use of a penlight preferably and a slit lamp prior to excision.

1.3.2. Use of short or intermediate term preservation medium

Eye Bank shall use approved corneal storage medium (such as MK, Optisol GS, EUSOL, etc) from a reliable source. The medium shall be used and stored according to the manufacturer's recommendations for temperature, date and other factors. The manufactured medium purchased and shipped to the eye bank shall be inspected for damage upon arrival and the lot number of medium used for each cornea shall be recorded on the tissue tracking and recall.

1.3.3. Long term preservation

Some eye banks employ long-term preservation of corneal tissue, such as glycerine preservation or organ culturing. An eye bank that use long-term preservation shall carefully document the procedure in their procedure manual, and adhere to rigid aseptic technique.

1.3.4. Whole globe preservation

Eye Banks that store whole eye shall employ aseptic practice. The selected preservation method must be documented in the eye bank's own procedures manual.

1.3.5. Sclera preservation

Eye banks shall preserve scleral tissue aseptically. The selected preservation method must be documented in the eye bank's own procedure manual.

A preservation date for scleral tissue shall be indicated.

1.4 Tissue Evaluation Standards

The ultimate responsibility for determining the suitability of the tissue for transplantation rests with the transplanting surgeon.

1.4.1. Gross examination

The corneal-scleral segment shall be initially examined grossly for clarity, epithelial defects, foreign objects and contamination and scleral color. e.g., jaundice. Refer Section III, H8.800 for details.

1.4.2. Slit-lamp examination

The cornea shall be examined for epithelia and stromal pathology and in particular endothelial disease. Enucleated globes shall be examined in the laboratory prior to distribution and/or corneal excision. If in situ corneal excision is performed, examination of the donor eye anterior segment with a penlight or a portable slit lamp is required. After corneal excision, the corneal-scleral rim shall be evaluated by slit lamp

biomicroscopy, even if the donor eye has been examined with the slit lamp prior to excision of the corneal-scleral rim, to ensure that damage to the corneal endothelium or surgical detachment of Descemet's membrane did not occur.

Information obtained with slit lamp biomicroscopic examination must be documented.

1.4.3. Specular Microscopy:

Determination of endothelial cell density via specular microscopy shall be a standard method of corneal tissue evaluation for all Eye Banks. When it is impossible to obtain an endothelial cell count this requirement may be waived on a case-by-case basis by the MD.

1.5. Donor Blood Screening

The following sections specify the required serologic tests, which must be performed for each donor. Refer Section III, H8.900 for details and procedures.

1.5.1 HIV Screening

All eye banks must have an operational HIV screening programme using an approved test for all donors of surgically designated tissue. A negative screening test must be documented prior to release of tissue for transplantation.

1.5.2. Hepatitis B & C screening

All eye banks must have operational hepatitis B & C screening programme using approved tests for hepatitis B & Hepatitis C antigen for all donors of surgically designated tissue. A negative screening test or neutralization or confirmatory test must be documented prior to release of tissue for transplantation.

1.5.3. HTLV-I and HTLV-II screening

Donor Screening for HTLV-I and HTLV-II is not required. However, if donor screening for HTLV-I and/or HTLV-II has been performed, a negative screening test must be documented prior to release of tissue for transplantation.

1.5.4. Syphilis screening

All eye banks must have operational syphilis screening programme using an approved test for all donors. If the screening test is positive, a negative confirmatory test must be documented before tissue is released.

1.5.5. Non-required laboratory results

If laboratory results of non-required test for infectious disease are available for tissue, for transplantation, they must be taken into account and/or acted upon by the MD. Any relevant information shall be provided to the transplanting surgeon.

1.6 Quality Assurance

1.6.1 Quality Assurance (QA)

Each eye bank shall have a formally established quality assurance programme. This program shall include ongoing monitoring and development of plans for corrective action. These standards shall provide the basis for development of the QA programme. Each eye bank shall document all aspects of its QA programme and maintain record of all QA activities for a minimum of ten years. These include any corrective or remedial action taken for detected deficiencies. These records shall be available for review.

The eye bank's quality assurance programme shall include a method for the receiving surgeon to report adverse reactions from the transplantation of corneal, scleral or other ocular tissue to the source eye bank. The Eye Bank in turn must forward the adverse reaction information within a reasonable time to the EBAI or MOH for review by the Medical Standards Policy sub-committee. An adverse reaction file shall be available for review by the accreditation team at the time of inspection and must be kept for minimum of three years.

1.7 Quality Control

The MD shall prescribe tests and procedures for measuring, assaying or monitoring properties of tissues essential to the evaluation of their safety for transplantation, e.g., hepatitis B surface antigen and human immunodeficiency virus (HIV) antibody, and conform with legal and regulatory requirements. Results of all such tests or procedures, together with evaluations based on these findings, shall become part of the permanent record of all tissue processed.

1.7.1 Testing

If an eye bank performs its own microbiologic or serologic testing it must meet applicable accreditation requirements.

1.7.2. Microbiologic Culturing

Culturing of Eye Bank donor eyes is advised despite the recognition by many that bacteriologic contamination of donor eyes does not necessarily lead to infection and that pre-surgical or surgical cultures may not correlate with postoperative infection if it should occur. Cultures may be performed either before and/or at the time of surgery.

A. Pre-surgical cultures (Optional)

Eye Banks may elect to perform corneal-scleral rim cultures at the time of corneal preservation in tissue culture medium. Positive culture reports shall be reported to the receiving surgeon or recipient eye bank.

B. Surgical culturing

Each eye bank shall recommend culturing of the corneal scleral rim for corneal transplantation, or a piece of sclera for scleral implantation at the time of surgery. Positive results in cases of postoperative infection shall be reported to the eye bank/or eye donation centre that procured the tissue as well as to the eye bank that distributed the tissue.

1.8 Non-Surgical Donor Tissue

1.8.1. Non-Surgical Donor Tissue

If donor tissue is provided for purposes other than surgery, e.g., research, practice surgery, etc., that donor tissue should also have been screened for HIV or Hepatitis. In case the donor has not been screened for some unavoidable reason and the tissue has to be sent for research or other purpose, then a label stating that screening for HIV-antibody, Hepatitis B or Hepatitis C has not been carried out or stating "Potentially hazardous biological material" or some other indication must be attached to the container used for the donor tissue storage and/or transport.

1.9 Storage

1.9.1. Storage

All surgical tissue shall be stored in quarantine until results of HIV, HbsAg, HCV, and any other relevant donor screening tests have been recorded as non-reactive.

All tissue shall be stored aseptically at a temperature appropriate to the method of preservation used. Eye banks must precisely document their procedures for storage of corneal tissue, whether it is in the form of the whole eye or the cornea only in an appropriate medium.

1.10 Labeling

1.10. Labeling

Each corneal or scleral tissue container shall be clearly and indelibly labeled to include at least the information below:

- Name of source eye bank
- Tissue identification number. There must be unique identification number for each ocular tissue or fraction there of that is distributed for surgical use.
- Type of tissue
- Date and time of donor's death
- Date and time of Cornea/scleral preservation
- Preservation date for scleral tissue and long-term preserved tissue
- A statement that the tissue is intended for single patient application only and that it is not to be considered sterile and culturing or re-culturing is recommended.
- Type of preservation medium

1.11 Distribution of Tissue

1.11.1. Review of donor medical history

Prior to distribution of tissue for transplantation, the MD or his/her designee shall review and document the medical and laboratory information in accordance with medical standards.

1.11.2 Receivers of tissue

Tissue shall be distributed only to ophthalmologists, institutions and other eye banks who are registered under applicable laws like Transplantation of Human Organs Act.

All tissues sent from an accredited eye bank must comply with the recommended medical standards.

1.11.3. Fair and equitable system

Eye banks shall establish and document a system of distribution that is just, equitable and fair to all patients served by the eye bank. Documentation of distribution time and date of requests and delivery of eye tissue to be maintained. Access to tissue shall be provided without regard to recipient sex, religion, race, creed, colour or caste.

1.11.4. Returned tissue

For corneas returned and redistributed, tissue transportation and storage information must be documented and made available to the transplanting surgeon.

1.11.5. Tissue recalls

Eye banks must have a policy and procedure for potential recall of tissue

Chapter-2

STANDARDS FOR NON-TECHNICAL ACTIVITIES OF EYE BANKS

CHAPTER - 2

Standards for Non-Technical Activities of Eye Banks

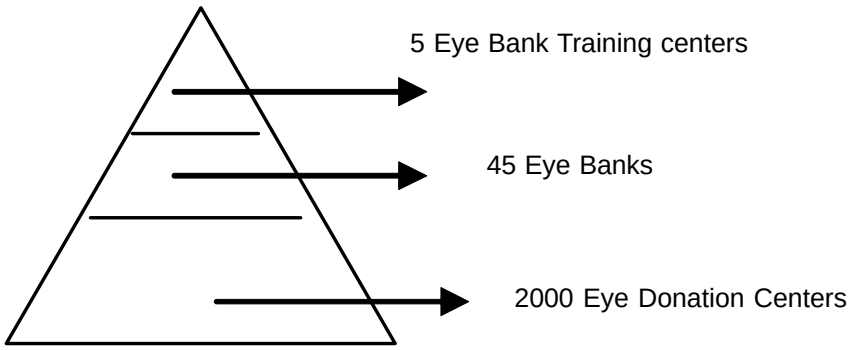
2.1. Eye Banking System

Objective

The objective of this section is to standardize all non technical activities of eye banking like administration, awareness and Human Resource development so that management becomes simple. This section also clearly defines the ideal and preferred eye banking system and lays down specific responsibilities and scope of each of the component of the eye banking system.

2.1. Eye Banking System

For efficient functioning of eye banking system a three tier structure has been developed. At the top are Eye Bank Training Centers numbering five, one each for the five zones in the country, followed by 45 eye banks. These 50 eye banks and eye bank training centers are networked with 2000 eye donation centers.



In developing countries such as India, one has to develop a system that is effective, efficient and financially relevant. A 3-tier structure encompassing all activities of eye banking will address this issue rather well and the determinants will be the infrastructure and manpower available with a profile of functions covered.

2.1.1. Eye Donation Center (EDC)

Eye Donation Center is affiliated to a registered eye bank, which should provide

(1) public and professional awareness about eye donation

(2) co-ordinate with donor families and hospitals to motivate eye donation

(3) to harvest corneal tissue and collect blood for serology

(4) to ensure safe transportation of tissue to the parent eye bank.

2.1.2. Eye Bank (EB) is an institution that should

Provide a round-the-clock public response system over the telephone and conduct public awareness programmes on eye donation.

Co-ordinate with donor families and hospitals to motivate eye donation Hospital Cornea Retrieval Pgramme – (HCRP)

To harvest corneal tissue

To process, preserve and evaluate the collected tissue

To distribute tissue in an equitable manner for Keratoplasty

To ensure safe transportation of tissue.

2.1.3. Eye Bank Training Centre (EBTC)

All of the eye bank functions plus training for all levels of personnel in eye banking and research.

2.2. Awareness

The main activity of an eye donation center, eye bank or eye bank training center is to create awareness about eye donation and also educate public about the need for eye donation. In the present scenario awareness campaigns have to be planned in such a way that the overall objective is achieved.

Awareness campaigns can be **General awareness campaigns** and **Focused awareness campaigns**.

2.2.1. General Awareness

In general awareness various media like Print, Electronic and Movie are used and the message about eye donation is spread among the general public. This form of awareness though does not yield immediate results, helps in changing the mindset of the people gradually. EBTC, EB and EDCs in all their awareness programs and campaigns should ensure that:

1. Public are educated about magnitude of corneal blindness, cure for corneal blindness and the need for eye donation.
2. Only published statistics of NPCB or EBAI should be quoted so that there is consistency.
3. Education for formalities related to eye donations. Public is educated about precautions to be taken after death and after decision for eye donation is made, till the eye bank team reaches the spot
4. Public are educated that eyes cannot be removed in certain medical contraindications.
5. Families are educated about the need to arrange for death certificate etc before the eye bank team arrives.

2.2.2. Focussed Awareness Campaigns

Voluntary eye donation is a result of realization of ones social responsibility towards the corneal blind. However, in moments of grief this realization may not materialize into actual eye donation. Eye donation counselling or grief counselling is a motivational approach whereby the family members of the deceased are directly motivated for an eye donation. This process provides direct access to the family members of the deceased to attempt counselling. Moreover, several advantages follow tissue retrieval from hospitals. Availability of medical history, availability of tissues from younger individuals, reduction in the time interval between death and enucleation / corneal excision and cost effectiveness are some of these. The program also allows the EDCs to get to know of potential eye donors within the hospital.

Only Eye Banks shall have the Hospital Cornea Retrieval Program. In cases where the hospital is far from the eye bank and is closer to an eye donation center, the eye donation center shall offer all necessary assistance like retrieve eyes and transport to the eye bank but nevertheless the Eye Donation Counselor shall be under direct control of the eye bank.

2.2.3. Choice of hospitals

An important step in the initiation of HCRP is identification of the hospitals to be included in the program. Ideally the hospitals to be chosen are

Large multispeciality hospitals with a high mortality rate (3 to 4 per day or more) >3000/year.

Medium multispeciality hospitals with moderate mortality rate (of 1 to 2 per day or more)> 2000/year.

2.2.4. Link between the hospital and the eye bank

Role of the Director of the Eye Bank or equivalent designee

The Director of the Eye Bank shall initially meet the Hospital management and sign a memorandum of understanding. The eye bank Directors or equivalent committee members shall meet the hospital authorities (Administrators, Public Relations Officer, Medical Officer and Nurses) and educate them on the basics of eye banking and the HCRP.

They shall seek permission for the display of publicity materials and posters about eye donation in the wards and patient lounges in the hospitals.

The administrative and medical staff of the hospital shall be requested to cooperate well with the eye donation counsellor (EDC), and provide information regarding the potential eye donor.

The eye bank Directors shall periodically meet the hospital authorities to make enquiries about the progress / problems encountered during counselling and to strengthen the bond between the eye bank and the hospital.

The eye bank Management to make arrangements for training the eye donation counsellor on grief counselling techniques.

The eye bank Directors shall periodically verify the records of EDCs and advise the counsellor on improving the counselling techniques.

2.2.5. Attributes of an Eye Donation Counsellor (EDC)

The EDC shall be initially told and taught the concept of eye banking through classes comprising of both theory and demonstration. He/She shall also be instructed about the dress codes while on duty.

A candidate selected to the post of eye donation counsellor shall be committed to the cause of eye donation.

The EDC shall have good communication skill and shall be well conversant with the regional language.

The EDC shall be dressed professionally.

The EDC shall wear a white apron and an identity card.

The EDC shall attend the following classes (theory and demonstration) (On job training of at least 1 month).

Ocular anatomy (Theory & demonstration).

Corneal anatomy and physiology (Theory & demonstration)

Corneal blindness (Theory).

Corneal transplantation (Theory & Video demonstration).

Eye bank and its level of operation (Theory).

Corneal excision (Theory & demonstration).

Grief counselling (Theory).

The EDC shall initially be posted in the Eye Bank for one week in order to acquaint himself/herself with all aspects of eye bank functioning.

2.2.6. Grief counselling techniques

The EDC shall approach the family members of the deceased at an appropriate time. The EDC shall not present the matter in a hurry to the family member. He/she shall wait until the family members are found mentally relaxed.The EDC shall initially introduce himself/herself by name and the eye bank he/she belongs to.

The EDC shall talk to limited family members in an ideal surrounding.

The EDC shall only talk to those who are found supportive to the cause.

The EDC shall provide comfort, moral support and sympathy to the family members while attempting to motivate them for an eye donation.

The EDC shall respect the feelings of the family members.

The EDC shall listen to the bereaved family members patiently.

The EDC shall address the fears and queries raised by the family members **(Frequently Asked Questions – Appendix – 14)**.

The EDC shall have adequate knowledge about the myths and facts about eye donation **(Facts & Myths About Eye Donation – Appendix - 15)**.

The EDC shall be aware of the procedure to be followed in Medico-legal cases. It is important that the EDC gets written approval from the police personnel before alerting the eye bank.

The EDC shall assure the family members that there will be no delay caused in making funeral arrangements.

The EDC shall give adequate time for the family members to discuss and decide about eye donation.

The EDC shall only suggest eye donation to the family members and not force them to make an eye donation.

The EDC shall express his/her gratitude to the family member upon obtaining consent. The EDC shall express gratitude to the family members of the deceased even in the absence of obtaining consent for eye donation.

2.2.7. Alerting the eye bank team

The EDC shall alert the eye bank soon after obtaining consent for eye donation. He/She shall inform the eye bank team where exactly the body is placed so as to enable the team to reach the site without delay. The EDC shall keep a copy of the death certificate ready before the eye bank team reaches the site as it is mandatory to have a death certificate prior to proceeding for corneal excision.

2.2.8. Expression of gratitude

The EDC shall express gratitude to the family members of the deceased after obtaining the consent for eye donation as well as after performing corneal excision.

2.2.9. Documentation of case reports

On a daily basis, the EDC shall document relevant details of every case approached and motivated during the work period in the form designed for the purpose **(HCRP Daily Report – Appendix – 16)**. The daily reports will be analyzed at the closure of every month and recorded **(HCRP Monthly Report – Appendix – 17.)**

2.3. Manpower Requirements

Eye Bank Training Centers, Eye Banks and Eye Donation Centers should have the following personnel. Government eye banks should also set up a team within their administrative framework and designate the responsibilities as per the requirements and at the discretion of the head of the hospital or institute as applicable.

MANPOWER*	EBTC	EB	EDC
Board of Directors or equivalent Committee	Yes	Yes	No
Medical Director (MD) or equivalent	Yes	Yes	No
Executive Director (ED) or equivalent such Officer-in-charge	Yes	Yes	No
Eye Bank Manager (EBM) or equivalent	Yes	Yes	No
Eye Bank Technicians (EBT)	Yes	Yes	Yes
Eye Donations Counselors (EDC)	Yes	Yes	No
Administrative Secretary cum telephone operator	Yes	Yes	No
Driver	Yes	Yes	No
Panel of Registered Medical Practitioners to enucleate round the clock	Yes	Yes	Yes

***An eye bank can designate and delegate multiple responsibilities to a person as appropriate if necessary.

2.3.1 Responsibilities of various eye banking personnel

2.3.2 Board of Directors

All EBs and EBTCs need to have a board of directors or equivalent committee composed of medical professionals and other professionals who could contribute to the smooth functioning of the organization. In case of Eye Banks & Eye Bank Training Centres attached to Government hospitals, Director of Eye Hospital, Main Hospital with administrators from Health Department of the State to serve as board of directors

2.3.3. Medical Director / Eye Bank Incharge

The Medical Director (MD) must be an Ophthalmologist who has completed a corneal fellowship or who has demonstrated expertise in external eye disease, corneal surgery, research or teaching in cornea and/or external disease or has an experience in corneal transplantation. If the eye bank does not have such a person it should have a consulting relationship with an ophthalmologist who satisfies the above criteria.

All policies and procedures of each eye bank shall be under the supervision of the MD.

The MD shall be providing all staff members with adequate information to perform their duties safely and completely.

The MD shall oversee and provide advice on all medical aspects of the Eye Bank operations. These include but are not limited to:

Formulation, approval, and implementation of medical policies and procedures. Participation in training and oversight of technical staff with regard to tissue procurement, preservation, and its evaluation. Participation in establishment and operation of a quality assurance programme.

The MD may delegate responsibility for tissue procurement, preservation, and tissue evaluation to qualified eye bank personnel; however, the MD shall ensure that the eye bank operates in compliance with the "Existing Medical Standards". Ultimate responsibility of determining the suitability of donor tissue for transplantation is of the transplanting eye surgeon.

2.3.4. Executive Director or Designated Equivalent

Will be responsible for managing the entire operations of the eye bank. It is the responsibility of the Executive Director to follow the policies of the Board or committee and wherever necessary shall consult the Medical director/Eye Bank incharge or other specialists for discharging the responsibilities.

2.3.5. Eye Bank Manager or Designated

Eye bank manager will be responsible for the day to day functioning of the eye bank and ensure compliance with the set standards. Non- compliance should be noted and brought to the attention of the MD.

2.3.6. Eye Bank Technicians

Shall be responsible for the entire activities of eye banking like retrieval, processing, evaluation, documentation, distribution of tissue and maintenance of the laboratory and instruments and equipment. He / She shall be Higher Secondary qualified with Science or Higher Secondary education with experience in a diagnostic or similar lab or experience in operation theatre procedures. He / she shall undergo training and qualify from designated training centers for Eye Bank Technicians.

2.3.7. Eye Donation Counselor or Designate

Shall be responsible for counseling families at Hospitals and coordinate with eye bank and hospital for retrieval of cornea. Shall also be responsible for awareness campaigns both within the hospital and outside the hospital. Trained Eye Bank Technicians trained in counselling can also perform these duties if the situation warrants.

2.3.8. Administrative Secretary cum telephone operator or Designate

To perform the routine office work.

2.3.9. Training & Human Resource Development

It is essential that the eye bank personnel are abreast of the latest developments in eye banking and corneal transplantation. Each eye bank shall ensure that their personnel are adequately trained and their skills are constantly upgraded.

2.3.10. Medical Director

The Medical Director shall undergo regular continuing education in Eye Banking and related issue. The eye bank shall provide written documentation of such attendance at the time of the eye bank site inspection.

2.3.11. Executive Director & Eye Bank Manager

The Executive Director and / or Eye Bank Manager shall undergo a refresher training module at an eye bank training center at least once a year. The eye bank shall provide written documentation of such attendance at the time of eye bank inspection.

2.3.12. Eye Bank Technician

Eye Bank Technician shall undergo a refresher training module at an eye bank training center at least once a year. The eye bank shall provide written documentation of such attendance at the time of eye bank inspection.

2.3.13. Eye Donation Counselor

Every eye bank shall have a specially designed counseling cum training module for the eye donation counselor. This is necessary because the EDC deals with morbidity continuously. The frequency of such training & counseling sessions shall be atleast once in four months. The eye bank shall provide written documentation of such attendance at the time of eye bank inspection.

HR Policy

The eye bank training center, eye bank and eye donation center should have a HR policy for regular appraisal of performance, in house skill upgrading & training programs, recruitment policies, incentives for performance and counseling of all personnel.

2.4. Documentation

Every EBTC, EB and EDC shall follow uniform documentation protocol as described in this section.

2.4.1. Length of storage

All records shall be kept for a minimum of ten years (or comply with appropriate laws) from the date of transplantation/implantation.

2.4.2. Confidentiality

All eye bank records and communications between the eye bank and its donors and recipients shall be regarded as confidential and privileged.

2.4.3. Documents & Logbooks

The following documents, logbooks and records are to be maintained by EBTC, EB and EDCs:

Name of the document / log book	EBTC	EB	EDC
Donor initial information form (Appendix 1)	Yes	Yes	Yes
Death Certificate / Eye Donor Medical Particulars (Appendix 2)	Yes	Yes	Yes
Consent form (Appendix 3)	Yes	Yes	Yes
Donor Information Sheet (Appendix 4)	Yes	Yes	Yes
Serology Report (Appendix 5)	Yes	Yes	No
Tissue Evaluation Report (Appendix 6)	Yes	Yes	No
Haemodilution form (Appendix 7)	Yes	Yes	Yes
Tissue distribution form (Appendix 8)	Yes	Yes	No
Surgeons' adverse finding report form (Appendix 9)	Yes	Yes	Yes

Name of the document / log book	EBTC	EB	EDC
Instrument cleaning log (Appendix 10)	Yes	Yes	Yes
Sterilisation log (Appendix 11)	Yes	Yes	Yes
Lab cleaning log (Appendix 12)	Yes	Yes	Yes
Equipment cleaning log (Appendix 13)	Yes	Yes	No
Equipment maintenance log (Appendix 14)	Yes	Yes	No
Equipment calibration records	Yes	Yes	Yes
Eye Bank Personnel training records and qualification certificates	Yes	Yes	Yes

The recommended formats for the above are given in appendices 1-14.

2.5. Registration & Accreditation

Each eye bank unit, should be registered under Transplantation of Human Organs Act and also should undergo the Accreditation appraisal.

2.5.1. Registration

Eye Bank Training Centers, Eye Banks and Eye Donation Centers should apply to their respective state government health authorities and get registered under Transplantation of Human Organs Act 1994. They should perform their activities as prescribed in the applicable law like Transplantation of Human Organs Act until the registration is completed.

2.5.2 Accreditation

After registration the eye bank units should offer themselves for appraisal by an Accreditation Authority (AA) within one year to obtain valid accreditation documents before they are declared as fully operational to the public.

Accreditation will include evaluation of the following:

- Demonstrate compliance with Medical Standards
- Demonstrate compliance of all requirements during site inspection.
- Demonstrate proficiency in all aspects of eye banking viz. procuring, processing and distributing corneal tissue. The eye bank should collect at least 25 surgical grade tissues (i.e. tissues for optical keratoplasty) annually and provide documentation of their performance.
- Certify compliance with applicable laws and regulation. Once accredited, an eye bank must be inspected and reaccredited at a frequency as defined by the accreditation authority.
- In cases of non compliance a reasonable time period will be given to rectify deficiencies and satisfy accreditation requirements.
- If the eye bank does not meet the standards within the deadline it may not receive accreditation as

an eye bank and may be re-designated as an eye collection center. The State Registration Authority shall be informed about failure to meet accreditation requirements and to cancel registration under Transplantation of Human Organs Act.

2.5.3. Accreditation Authority

Shall be a body comprising of nominees by Government of India, State Government, any other nominated by NPCB and EBAI.

2.6. Eye Bank Inspection

The Accreditation Committee shall be responsible for inspecting each Eye Bank as outlined in the written procedures of the EBAI and the Government of India.

Accreditation and reaccreditation site inspections shall be scheduled following written notification of the impending inspection. Unannounced inspections may be conducted in case of receipt of any allegation of violation of “Medical Standards” by any eye bank. Failure to permit an inspection will result in suspension or revocation of an eye bank’s accreditation and registration under Transplantation of Human Organs Act.

2.6.1. Procurement of Eye Bank Essentials

The Eye Bank should have a policy and procedure for maintaining sufficient stocks of essential eye bank supplies and also a procedure for procuring eye bank supplies. Procurement procedure has to be documented and produced at the time of site inspection.

Chapter-3

STANDARD OPERATING PROCEDURES OF EYE BANKS

CHAPTER - 3

Standard Operating Procedures of Eye Banks

3.7. Pre Recovery Procedures

3.8. Donor Preparation

3.9. In Situ Corneal Excision Materials

3.10. Sclera Processing & Preservation Serological Testing of Donor Blood Sample

Chapter-3

Standard Operating Procedures of Eye Banks

3.1 Scope of the Manual

The Eye Bank manual on 'Policies and Standard Operating Procedures' is structured to comply with the laws, regulations and prescribed standards in eye banking so that the information contained in the manual will contribute to the establishment, application and maintenance of effective, efficient and safe technical and medical standards in eye banking.

The manual is subject to change, to allow acceptable variation within the scope of eye bank policies and ophthalmologic practice. The Medical Director/Eye Bank Incharge and the Executive Director or Designate will review the manual once a year.

The manual describes i). policies related to recruitment of staff, trainees (from eye donation centers for CME), HCRP, accreditation, data documentation and reporting, and ii). procedures related to maintenance of eye bank laboratories, instruments and equipment, infection control and safety, identification and screening of donors, donor cornea recovery, tissue evaluation, preservation & distribution and scleral tissue processing.

Personnel

3.1.1. Recruitment

The staff requirement of the organization is initially discussed between the Directors (Medical Director and the Executive Director or Designate) of the eye bank. A written request is then submitted to the Board or competent authority after whose approval, it is forwarded to the Personnel department for releasing an advertisement. In the Eye Banks attached to Govt. Institutions the staff available from Govt. source to be designated and trained specifically for Eye Bank purpose.

All recruits shall be under observation for the first 6 months. They are required to submit their bio data along with copies of educational and experience certificates to the Personnel department.

3.1.2. Personnel & Responsibilities

3.1.3. Medical Director/Officer Incharge Eye Bank

The Medical Director of the eye bank shall be an Ophthalmologist appointed by the Management and as per the Standards of Eye Banking in India.

1. The Medical Director shall provide advice for all medical aspects of the eye bank operations.
2. He/She shall be responsible for the formulation, approval, and implementation of medical policies and procedures.
3. He/She shall ensure that the medical issues are in compliance with the existing Medical standards.
4. The final responsibility for determination of suitability of each tissue for transplantation is with the corneal transplant surgeon. In cases of discrepancies, the Medical Director shall be consulted.
5. He/She shall contribute to the training and CME programs of the eye bank.
6. The Medical Director shall work in close association with the Executive Director or Designate of the eye bank in all administrative and scientific matters concerning eye banking.

3.1.4. Executive Director or Designate

The Executive Director shall be a qualified and experienced person with experience in a laboratory atmosphere or hospital management, appointed by the Board or competent authority, and trained in all technical, administrative, and scientific aspects of eye banking.

1. All administrative policies and procedures of the eye bank shall be under the supervision of the Executive Director or designate.
2. He/She shall be responsible for the day to day administrative, medical and scientific operations of the eye bank under the supervision of the Medical Director.
3. He/She shall devise and implement systems for quality assurance at all levels of eye bank operations.
4. He/She shall be responsible for delegating responsibilities to the technical and other staff of the eye bank.
5. He/She shall train and supervise technical staff in operations related to donor cornea procurement, tissue storage and distribution.
6. He/She shall be responsible for conducting the annual appraisals of the technical staff of the eye bank.
7. He/She shall organise training and CME programs of the eye bank..
8. He/She shall be responsible for organising the accreditation procedures as per requirements.
9. He/She shall be responsible for monitoring the Cornea Retrieval programs in various hospitals.
10. He/She shall be responsible for providing donor tissue utility reports/project reports to the eye donation centers, funding agencies, EBAI, Government and other agencies.

3.1.5. Technical Staff

An eye bank technician shall be qualified (who has undergone certification course in eye banking techniques from certified training centers) and appointed by the Board as per " Standards of Eye Banking In India" document.

1. He/She Shall carry out work related to donor cornea procurement, donor cornea storage & distribution, screening of donor blood, data documentation, cleaning and maintenance of instruments and equipment, scleral tissue.
2. He/She shall maintain the daily log forms and laboratory log books as presciibed in the "Standards of Eye Banking In India" .
3. He/She shall generate daily, monthly, quarterly and annual reports and submit to the Executive Director or Designate of the eye bank.
4. He/She shall report to the Medical Director / Executive Director or Designate of Eye Bank in all matters related to eye banking.

3.1.6. Eye Donation Counselors

An eye donation counselor shall be selected by the Directors of the eye bank selection committee of GOI who shall be familiar with all issues related to eye banking, and trained in the art of grief counseling.

1. He/She shall work in a multi specialty hospital to motivate family members of the deceased to make an eye donation.

2. He/She shall generate daily and monthly reports and submit it to the Executive Director or Designate.

3. He/She shall report to the Executive Director or Designate in all matters related to HCRP.

3.1.7. Secretary

The Secretary shall be appointed by the board or competent authority and provides full time secretarial service to the eye bank as per the requirements of the organization.

1. He/She shall handle work related to donor call, pledge cards, providing certificate of appreciation to donor families, all correspondence, reports, monthly statement of expenditure, purchase, documentation of donor data entry in the system, leave status of eye bank staff

2. He/She shall report to the Executive Director or Designate of Eye Bank in all matters.

3.2. Appraisal & Promotion

Annual appraisal for all recruits of the eye bank (technical staff and the Secretary) is held by an appraisal committee consisting of the Nominees from the Board, Executive Director or Designate and Medical Director of the Eye Bank. The appraisal letters are issued to the staff through the Executive Director or Designate of Eye Bank.

Skill Enhancement

The Eye Bank Directors (Medical Director and the Executive Director or Designate) are required to participate in meetings and workshops related to eye banking. The technical staff members are required to regularly attend CME programs.

TRAINING & CERTIFICATION (In case of an Eye Bank Training Center)

3.2.1 TRAINING CENTRE (Applicable for Eye Bank Training Centers Only.)

The center shall strive to offer certification course to different cadres of eye bank personnel, and shall be a pioneer in setting standards of excellence in the field of eye banking. Eye bank professionals from India and other countries shall be educated in the planning of eye banking services, policy making in eye banking and eye banking techniques. The eye bank shall conduct workshops periodically to update eye bank professionals in the basics and advances in eye banking. The eye bank training PROSPECTUS shall be made available to all members of EBAI. The details of different training courses/Observership offered at the training center, admission and certification procedures etc shall be provided.

3.3 EYE BANK FACILITIES

The eye bank is away from areas that are open to unrestricted traffic flow and has area for carrying out its operations. The eye bank has a reception room and 4 eye bank laboratories, each separated from the other by a self- closing door. All laboratories are fitted with UV lamps.

3.3.1. Eye Bank Laboratories & Operations

3.3.2. Laboratory 1 – Handling Contaminated Materials

All materials for decontamination are handled in this laboratory. The laboratory has a, sink and a work bench.

3.3.3. Laboratory 2 - Laboratory Corneal Excision

Laboratory 2 is used for i). laboratory corneal excision from whole globes received from other eye banks/ eye donation centers ii). processing of sclera . The laboratory houses a Laminar Flow Hood and a work bench.

3.3.4. Laboratory 3 – Cornea evaluation

This laboratory houses the specular microscope for the evaluation of donor corneas. The donor corneas (in storage medium) are also stored in a refrigerator kept in this laboratory.

3.4. Cleaning, Maintenance & Calibration

3.4.1. Cleaning of Laboratories

The floor is first cleaned with a disinfectant (phenyl 1:100) before and after work. The floor is then mopped with a clean dry cloth. The work- benches are wiped with Dettol or equivalent before and after work and then mopped with a clean dry cloth. Any spill is first wiped with absorbent cotton soaked in the disinfectant (70% ethanol or 0.5 to 1.0% sodium hypochlorite). The surface is wiped twice again with fresh cloth soaked in the disinfectant.

3.4.2. Cleaning, Packing and Sterilization of Instruments

Used instruments are placed in a tray containing 1% ACEPTIK (Chlorhexidine gluconate (7.5%), cetrimide (15%), isopropyl alcohol 7%) for 15 minutes. After soaking the instruments for 15 minutes, instruments are scrubbed with a soft bristled brush. Instruments are brushed under tap water flow to avoid splashing of contaminated material with foam water. After scrubbing, each instrument is rinsed thoroughly. The procedure is repeated to ensure sterility.

The rinsed instruments are placed on a fresh washed cloth to allow the instruments dry. No instrument should be wiped with a cloth.

Wrapping Instruments for Sterilization

The washed instruments are placed in a clean washed cloth before placing them in a washed steel tray. The cloth is laid to protect the instruments. Then the instruments are covered with 2 cotton pads to give extra security for the instruments. A SIGNALOC indicator is placed inside the tray before wrapping the instrument tray. The tray is then double wrapped. A label giving the item number, contents, mode of sterilization, date and time of packing, signature of the technician, along with another SIGNALOC indicator is stuck on the outside of the wrapped instrument tray before sending for sterilisation to the Operation Theatre.

Corneal excision set

- Drapes, torch, loupe
- Disposable Syringes (5 ml-1, 10 ml - 1) with disposable needles (21 G & spinal needle) with 2 test tubes or plain vials to collect blood sample.
- Conjunctival Scissors
- Corneal scissors (Right & Left)

- Fixation forceps
- Iris forceps
- Spring or Wire Speculum
- Bard Parker handle with sterile surgical blade (no. 11 or 15)

Enucleation set

- Torch
- Disposable Syringes (5 ml-1, 10 ml - 1) with disposable needles (21 G & spinal needle) with 2 test tubes or plain vials to collect blood sample.
- Conjunctival Scissors
- Fixation forceps
- Artery forceps
- Muscle hook
- Enucleating spoon
- Strabismus Scissor
- Wire or Spring Speculum
- Bard Parker Handle with sterile surgical blade (no. 11 or 15)

3.4.3. Cleaning, maintenance and calibration of equipment

The following equipment are maintained in the eye bank

- Refrigerators
- Laminar Flow Hoods
- Specular Microscope
- Slit Lamp Microscope

3.4.4. Equipment cleaning

The outside and inside of the equipment is wiped with 70% alcohol once daily. When there is a spill of infected material on any of the equipment, the surfaces are wiped with absorbent cotton or gauze piece soaked in 70% alcohol or sodium hypochlorite solution.

3.4.5. Equipment maintenance & calibration

The equipment is maintained as per the instruction manual supplied along with the equipment by the manufacturer. It is calibrated by the manufacturer or manufacturer authorized representative once a year.

An **EQUIPMENT INSTRUCTION MANUAL** is maintained on each equipment with the following details pertaining to the equipment.

- Name of the equipment

- Date of purchase/Model Number
- Supplier/Service Agent (Name & Address)
- Calibration certificate
- Service report
- Instruction manual
- Performance record
- List of authorised users

A tag is displayed on each of the equipment, mentioning the following details

- Date of calibration
- Calibration due on
- Service due on

6. Refrigerators

In house calibration for the Refrigerator.

Laminar Flow Hood: An external agency has to be used for calibration and maintenance. The LFH calibration using a “Laser Particle Counter (0.5 and 5.0µ size) velocity is measured by velometer and the results and date is to be recorded.

3.5. Complaints

A **COMPLAINT/ACCIDENTS/ERRORS LOG** for documenting the following information is maintained at the Eye Bank.

- Date of complaint
- Complaint made by
- Complaint recorded by
- Corrective measure taken
- Date of corrective action
- Complaint closed on
- Signature of the Medical Director

Complaints (errors, accidents) are brought to the notice of the Executive Director or Designate who deputes a person to take corrective action.

New Work (Applicable for Eye Bank Training Centers)

New work/test is undertaken or any modification in the methodology is introduced based on the feasibility and the logistics of introducing new tests. Once a decision is made for introducing the new work, SOP will

be prepared, technician will be trained and new records will be introduced. The **NEW WORK LOG** is maintained in the eye bank for the documentation of all details pertaining to the work initiated.

Waste Disposal

Sharps (needles and blades) are discarded in puncture proof containers (containing 1% sodium hypochlorite solution) through a hole in the lid of the container.

Bio Medical Waste is segregated in color coded bags as followed by local regulations:

Yellow Bag (Infectious)

Discarded eye balls

Used cotton

Massage pads

Red or Blue Bag (Infectious)

Gloves

Disposable syringes

Swabs

Saline bottle

Black Bag (Non infectious)

Paper

Stationary

Separate plastic bins containing thick yellow and red plastic covers are placed in all the Laboratories of the eye bank. Plastic bins with black bags are placed in the reception room.

All waste bags depending upon the classification are handled by authorised personnel and disposed in appropriate manner as prescribed in the Transplantation of Human Organs Act.

All waste bags placed at a designated place for the pick up by Biomedical waste collection agency. The records of disposable material are maintained by the eye bank.

WASTE DISPOSAL LOG is maintained in the eye bank for recording daily activities related to waste disposal.

Infection Control & Safety

The laboratory personnel are required to be trained to minimise the risk of contracting infectious disease and accidents.

3.5.1. Infection

1. The eye bank shall be away from areas that are open to unrestricted traffic flow.
2. The eye bank laboratory doors and windows shall be kept closed all the time.
3. The laboratory furnishings shall be cleaned and disinfected immediately after use.

4. Universal precautions shall be followed while dealing with donor samples.

    i. Attire: Confine long hair and loose clothing, wear shoes and not sandals, wear front opening laboratory coats.

    ii. Handling of clinical samples: Handle clinical samples only with gloved hands while working in serology laboratory, avoid contaminating ungloved hands, skin or eyes while handling clinical samples, remove gloves and wash hands with soap and water after handling clinical samples, avoid dropping clinical samples, avoid spillage.

5. UV lights shall be provided in the eye bank.

6. Donor materials shall be handled in biosafety cabinets.

7. Surfaces of LFH shall be decontaminated after a spill.

8. Eye bank personnel shall be vaccinated against Hepatitis B.

9. Pipette aids shall be used.

10. Protective clothing such as gloves, gown and mask shall be used by the eye bank technician while dealing with donor material.

11. Hands shall be washed before and after handling infected materials.

12. No drinking and eating shall be allowed inside the eye bank.

13. Air sampling shall be performed at regular intervals and recorded.

14. Particle count of the LFH shall be performed at regular intervals.

15. LFH filters shall be replaced if particle count is beyond the acceptable limit.

16. UV lamps shall be replaced as per the manufacturers' specifications.

17. Proper system of waste disposal shall be followed.

3.5.2. Accidents

1. Smoke detectors shall be provided in the eye bank.

2. A safety station with showers and an eye wash facility shall be provided close to the eye bank

3. Open cuts shall be bandaged while working in the eye bank

4. First aid kit shall be placed in a reachable place in the eye bank laboratory.

3.5.3. Immunisation

Eye bank technicians who comes in contact with needles, blood or blood products are immunized for Hepatitis B.

3.5.4. Training

The eye bank personnel are trained in the following

1. to follow the instructions of the manufacturer for using the equipment
2. to follow SOPs in the cleaning of laboratories, equipment and instruments.
3. to report to the Executive Director or Designate of the eye bank if equipment is found non functional.
4. to maintain the log on a daily basis.
5. to use the **FIRST AID KIT** which is placed in strategic position in the laboratory.
6. to check the contents of the first aid kit expiry dates and replace the items.
7. to manage cuts and bruises (Clean the foreign body, clean the area with a disinfectant, bandage adequately, and to consult a physician if required)
8. to manage burns (Plunge the affected part in cold water to soothe the pain, dry the surface, apply burn ointment, cover the part loosely with a dry gauze piece, consult a physician if required.
9. to manage eye injuries (wash out the chemical with large quantity of clean water, rush the subject to safety station for eye wash, apply antibiotic drops, consult a physician if there is foreign matter to be removed.

Standards in Eye Banking Medical Standards - Manual

This manual is a document based on the Medical Standards of Eye Banking, prescribed by Ministry of Health & Family Welfare, Government of India and EBAI. This is to serve as a guideline and each eye bank should maintain procedures and follow regulations as mentioned in the Standards document.

3.6. Donor Tissue Recovery & Screening of Donor Blood

3.6.1. Introduction

This manual describes the standard operating procedures followed at the Eye Bank:

1. Pre recovery procedures
2. In situ corneal excision & preservation
3. Cornea evaluation
4. Scleral processing & preservation
5. Drawing of blood sample from the donor
6. The screening of donor blood sample for HIV, Hepatitis B surface antigen, Hepatitis C and Syphilis.

3.6.2. Objectives

To provide comprehensive uniform eye donor screening, a standard method for the aseptic removal of human donor corneas for surgical use (in situ and laboratory excision) that would minimise the endothelial cell loss, to describe the donor cornea evaluation procedures (slit lamp & specular microscopy), preparation and storage of sclera, procedure for obtaining blood sample from a donor for the purpose of serological testing, and serological screening methods.

3.7. Pre Recovery Procedures

3.7.1. Pre Recovery Review and Donor Preparation

- Check expiration dates on sterile instrument kits and other supplies before traveling to the donor site
- Pack necessary instruments kits as well as all necessary supplies into a clean transport case (steel bin) for transport to the donor site.
- Transport supplies to the donor site
- The following documentation forms are required for all donor recoveries:
  - Donor call - initial information sheet
  - Consent form
  - Donor information sheet
  - Eye donor medical particulars
  - Hemodilution Assessment sheet

3.7.2. Consent for Ocular Tissue Recovery

Ensure documentation of consent is consistent with existing policy as prescribed by EBAI.

Ensure that the consent has been obtained from the correct individual according to hierarchy of persons who may make an anatomical gift specified by state law.

Ensure that the consent clearly authorizes recovery of the specific tissues for which the recovery is planned.

Ensure that the consent gives authorization to obtain blood specimen for infectious disease screening, including HIV, Hepatitis B, and syphilis

If legislative consent is applicable, ensure that all required conditions are met.

Review the donor's medical history before proceeding with the recovery.

Verify the accuracy of any verbally reported information.

Complete medical history in the Eye Donor Medical Particulars sheet.

Complete Hemodilution form.

3.7.3. Identify the donor

- Match the name on the consent form to the name on the donor's ID tag, toe tag, bracelet, etc.
- Do not presume the identity of the donor or rely on a nurse or morgue attendant to point out the donor.
- Institutional staff shall participate in documentation of steps taken to confirm the ID of an untagged or unidentified potential donor.

3.7.4. Worksite Preparation

- Identify a suitable workplace (counter space near the donor on which to set up your paperwork and sterile fields).
- Clean this area with a suitable disinfectant and wipe it dry with paper towels.
- Wear gloves and mask

3.7.5. Gross Inspection of the Donor

- Examine the donor's entire body for evidence of high risk behaviour and infectious disease including physical evidence for risk of sexually transmitted disease such as herpes simplex, Syphilis, physical evidence of non medical percutaneous drug use such as needle tracks, disseminated lymphandenopathy, oral thrush, blue or purple spots consistent with Kaposi's sarcoma, unexplained jaundice, hepatomegaly or icterus.

  If the body was rejected for routine autopsy due to infectious criteria or if the autopsy was done in an infectious disease control room or under any special precautions obtain reasons for these procedures.

  If evidence of high risk behaviour or infectious disease is identified **DO NOT proceed with the recovery.**
- Perform a penlight examination of the donor's eyes and periorbital area.
- Obtain a suitable blood sample for serological testing (See section H8.520)

3.8. Donor Preparation

3.8.1. Donor face cleaning

The following steps should be performed only when gross debris is observed on the donor's face during the periocular exam.

- Don non-sterile examination gloves.
- Irrigate the donor's eyes and face with a sufficient quantity of sterile balanced salt solution to remove all visible debris from the eyes and to moisten the face.
- Use non-sterile 4 x 4 inch cotton squares to remove residual debris from the moistened face.
- Remove the non-sterile exam gloves and place them in an appropriate biohazard waste container.

3.8.2. Application of 5% Povidone-Iodine Solution Preparation

3.8.3 Lid Margin and Lash Prep

Use a Cotton Tip Applicator (CTA) to open the upper lid and roll the lid margin and lashed away from the globe.

Use a second CTA dipped in 5% povidone-iodine solution to scrub the upper lid margin and lashes one time across in a circular motion for approximately 20 seconds.

Next, use a CTA to open the lower lid and roll the lid margin and lashes away from the globe.

Use another CTA dipped in 5% povidone-iodine solution to scrub the lower lid margin and lashes one time across in a circular motion for approximately 15 seconds.

Repeat the povidone-iodine solution scrubbing of the upper and lower lid margin and lashes two more times with fresh CTAs.

Repeat this procedure for the other eye.

3.8.4. Conjunctiva Prep

Dip a cotton tipped applicator (CTA) in the 5% povidone-iodine solution and sweep the lower conjunctival fornix from the lateral canthus towards the nose on time.

The bulb of the CTA should be fully immersed since dry cotton will stick to the eye. Be careful not to rub the CTA across the cornea.

Holding the CTA perpendicularly to the donor will make the sweep easier to perform correctly. If necessary, a CTA may be used to open the eye.

Dip a second CTA in 5% povidone-iodine solution and sweep the upper conjunctival fornix from the lateral canthus towards the nose one time.

Repeat this procedure for the other eye.

3.8.5. Globe Prep

Fill the sterile syringe with approximately 1.5cc of the 5% povidone-iodine solution.

Use a CTA to gently roll back the upper lid and slowly drip approximately 0.75 cc of the 5% povidone-iodine solution on the eye.

Gently roll back the lower lid with a CTA and slowly drip the rest of the povidone-iodine solution on the eye.

Repeat this procedure for the other eye.

3.8.6. Lids and Face Prep

Prep the skin and facial area extending from the scalp to baseline of the nose by swabbing with folded sterile 4 x 4's dipped in 5% povidone-iodine solution.

Blot off the excess 5% povidone-iodine solution on the side of the plastic tray to avoid dripping on the work area.

The prep begins at the lid margins and works in a circular pattern outward.

Repeat this procedure for each eye two more times alternating eyes.

It is very important that the povidone-iodine is left on the eyes and skin for at least three to five minutes before irrigating the eyes. Irrigation will be performed after opening sterile supplies for the appropriate surgical procedure performing a 3 – 5 minute surgical scrub, and donning sterile gloves and sleeves.

Carefully place the bottle of balanced salt solution off the sterile field in an upright position.

Discard remaining prep supplies in a biohazard waste container.

Remove sterile prep gloves and discard them in an appropriate biohazard waste container.

3.8.7. Sterile Field Preparation

Open the outside packages of two pair of sterile gloves then open the inner envelopes using aseptic technique and leaving gloves on their sterile fields.

Use a dry foam skin disinfectant product on hands and forearms to reduce microbial flora prior to gloving and sleeving.

Open the outer wrap of the appropriate surgical instrument pack taking care to avoid contaminating the sterile field being created by touching anything other than the wrapper edges or reaching over the field.

Carefully open and aseptically drop sterile 4 x 4 inch gauze squares, sterile cotton tipped applicators, and sterile rubber bands on to the sterile portion of the outer wrap of the surgical instrument pack.

Open the sterile eye drape, taking care to avoid contaminating the sterile field being created by touching anything other than the wrapper edges or reaching over the field and leave the drape on its sterile field.

Label the eye jars or corneal storage media vials (a unique number specific to the donor, or the donor's name, and whether the specimen is left or right), loosen the caps to the top thread and place the jars or vials adjacent to a top corner of the instrument sterile field.

Place labeled containers for blood and/or vitreous samples near the sterile field along with hypodermic equipment and cosmetic restoration materials.

3.8.8. Attire of Field Personnel

Don sterile gloves taking care to fully extend the cuffs and to avoid contaminating the outer surface of the gloves.

Open the inner wrap of the instrument kit taking care to avoid contaminating gloves by contact with unsterile surfaces while handling the edges of the instrument wrapper. If necessary, place a sterile rubber band over each cuff of the sterile sleeves to ensure a good seal.

Irrigate the povidone-iodine solution from the eyes then drape the donor.

Use one hand to pick up the balanced salt solution bottle and the other hand to pick up a sterile CTA from the sterile instruments.

The hand used to pick up the balanced salt solution is now contaminated. Do not use the contaminated hand to retrieve items from the sterile field or to touch the donor.

Gently open the lids with the sterile CTA, then flush the povidone-iodine solution off the glove and conjunctiva. Be certain to irrigate off all povidone-iodine solution.

Pick up a sterile CTA with the sterile hand and repeat the irrigation procedure for the other eye.

Using the hand that was used to open the lids (clean hand) pick up the sterile 4 x 4 inch gauze and gently blot dry the lid of the first eye to remove excess moisture from the lid skin. Take care not to touch the cornea with the 4 x 4 inch gauze.

Perform the same blotting procedure on the other eye.

Remove outer pair of gloves being careful not to contaminate the inner pair of gloves and ensure that they are discarded in an appropriate biohazard container.

Carefully position the sterile bilateral eye drape on the donor.

3.9. In Situ Corneal Excision Materials

1.	Corneal excision set	(autoclaved)
2.	Enucleation set	(autoclaved)
3.	Linen pack	(autoclaved)
4.	Other materials	
1.	**Corneal Excision set**	
	i. S.S. Tray (Small)	1
	– Disposable Syringes (5 ml, 10 ml)	1 (each with disposables needles (21 G)
	– Test tubes or plain vials	2
	ii. Spring Scissors	1
	iii. Castro-veijo Corneal scissors (L&R)	1 (each)
	iv. Fixation forceps	2
	v. Iris forceps	1
	vi. Spring Speculum	1
	vii. Wire Speculum	1
	viii. B.P. Blade Handle	1
	ix. Lens Spoon	1 (optional)
	x. Surgical Blades (11 & 15)	1 (each)
2.	**Enucleation set**	
	i. S.S. Tray	1
	– Disposable Syringes (5 ml, 10 ml)	1 (each with disposables needles (21 G)
	– Test tubes or plain vials	2
	ii. Spring Scissors iii. Strabismus Scissors	1 1
	iv. Enucleating Scissors	1
	v. Fixation forceps	1
	vi. Artery forceps	1
	vii. Enucleating spoon	1

	viii. Muscle Hook	1
	ix. Needle holder	1
	x Sutures	1
	xi. Moist Chambers (Eye Jars)	2
	xii. Speculum	1
3.	**Linen set**	
	i. Eye Towel	1
	ii. Small Drapes	4
	iii. Body Drape and Head Drape	1 (each)
	iv. Sponge Holder	1
	v. S.S. Bowl with 4 Cotton Balls	1
	vi. Gown	1
4.	**Other materials**	
	i. Betadine	1 Bottle
	ii. Surgical Spirit	1 Bottle
	iii. Normal Saline	1 Unit
	v. Gentamicin eyedrops	2 Vials
	v. Bandage Rolls	4 nos.
	vi. Meditape	1 Roll
	vii. Cotton Massage Pads	Sufficient
	viii. Gloves - 6, 6 ½, 7, 7 ½, 8	Each size 2 pairs
	ix. Surgical Blades Nos.11&15	Sufficient
	x. Scissors	1 no.
	xi. Disposable Syringe – 10 cc	4 nos.
	xii.. Vaccutainer	2 or 3 nos.
	xiii. Polythene Bags (Biohazard receptacles)	2 nos.
	xiv. Reusable Caps	2 nos.
	xv. Disposable Masks	2 nos.
	xi. Soap Solution	1 bottle
	xii. Artificial Eyes	4 pairs (Different sizes)
	xiii. Transparent Eye Caps	10 nos.
	ix. Torch with fresh Batteries	1nos.
	xx. Sterile Cotton swabs	Sufficient
	xxi. Pledge forms	10 or 15
	xxii Visiting cards	25

3.9.1. Corneo scleral rim excision

Removal of the corneal-scleral rim requires rigid sterile technique employing accepted aseptic practice. The potential for endothelial cell damage, contamination and infection are greatly increased and this procedure therefore shall be performed by individuals specifically trained in in-situ retrieval by RMPs trained in removal.

Open the eyelids using a sterile cotton tipped applicator or a muscle hook and insert a spring/wire speculum. Take care to avoid scratching the cornea.

Use small clawed forceps and iris or tenotomy scissors to lift and cut the conjunctiva at the limbus 360 degrees. Any adhesion between the conjunctiva and the anterior globe is separated using blunt and sharp dissection technique to ensure that the conjunctiva is not in contact with the anterior globe within 5 mm of the limbus. It may be necessary to make several relaxing cuts in the conjunctiva radially to accomplish this.

The exposed sclera is carefully scraped from the limbus outward with a scalpel blade (#11 or #15) to remove all remaining conjunctival tissue. It is important to remove all conjunctiva flush to the limbus because the conjunctival tissue may contain microbial contaminants which should not accompany the cornea to the storage media.

Isolate the scalpel and other instruments used to scrape the conjunctiva from the other instruments on the sterile field. These instruments should be placed mid peripherally on the sterile field and never placed centrally on top of the sterile instruments, which have not been contaminated by conjunctiva. Use the instruments which have touched conjunctiva only for the conjunctival removal on the other eye.

Use a second scalpel with a #15 blade and small clawed forceps to make an incision through the sclera 2 mm to 4 mm from the limbus and parallel to the limbus approximately 5 mm in length. Care must be taken to cut all the way through the sclera without perforating the choroid, as, this would cause vitreous leakage which may cause collapse of the globe including the anterior chamber and compromise the cornea.

Continue the scleral incision 360 degrees using corneal section scissors (Castroviejo or Abeli) and small tissue forceps to stabilize the posterior aspect of the scleral incision if necessary. Take great care to avoid perforating the choroid breaking into the anterior chamber or causing any deformation of the cornea's normal curvature.

Trauma to the cornea during scissoring due to bending, loss of the anterior chamber or collapse of the globe through vitreous loss would severely compromise its suitability for surgical use. If such trauma is suspected to have occurred, make a note on the recovery form,carefully. Evaluate the cornea with a slit lamp,and if damage cannot be ruled out the corneal shall not be offered for penetrating keratoplasty. If the incision has been made properly, the corneal-scleral button should be attached to the ciliary body-choroid only at the scleral spur.

Complete the corneal removal by using one pair of small smooth dressing forceps to hold the scleral rim stationary and a second set of small smooth dressing forceps or an iris spatula to gently push the ciliary body-choroid downward and away from the corneal-scleral button. Aqueous fluid should escape from the anterior chamber at this point assuring that the anterior chamber was indeed intact.

Remaining adhesions should be pushed gently away from the corneal-scleral button working side to side and taking great care to avoid pulling on the cornea and creating folds. The corneal-scleral button may be rolled side to side but never pulled in such a way as to cause cross cornea tension. Do not contaminate the cornea by allowing it to touch the eyelids or other facial skin. In the event that this occurred, make a note on the tissue recovery form.

Continue to hold the cornea by the scleral rim with the small smooth dressing forceps and aseptically transfer it to a labeled vial of storage media.

Lift the pre-loosened cap off the corneal media vial using a plastic backed sterile 4 x 4 inch gauze sponge immediately prior to placing the cornea in the media and replace the cap immediately after placing the cornea in the media. Do not touch the threads on the media vial with the contaminated underside of the plastic backed gauze square. Remove the speculum and place it with the conjunctiva instruments on the mid peripheral area of the instrument field.

After the second cornea is placed in storage media, remove contaminated surgical gloves, dispose of the gloves in a bio hazardous waste container, don non sterile exam gloves, then tighten the caps on both media vials.

Gently palpate the iris and pupil of each remaining posterior segment with a blunt instrument to rule out aphakia or pseudophakia. Do not tear the iris or remove the lens.

Insert eye caps in front of the remaining posterior poles and gently close the eyelids. Do not use forceps to close the lids, use only cotton tipped applicators or gloved fingers.

Place the corneal media vials in an ice box to which ordinary ice (NOT DRY ICE) has previously been added.

Discard all used disposables in a biohazard bag and all sharps in sharps container.

Rewrap instruments for transport, cleaning and sterilization.

Place a biohazard label on the contaminated instrument pack.

Replace the instrument pack in the bin until such time as it may be cleaned and re sterilized.

Clean the work area with disinfectant solution.

Discard personal protective attire in a biohazard bag.

Record information about the recovery (time of recovery, recovered by, etc.) on the donor recovery form and also on a form to leave in the donor's medical record to document the donation.

Place a garland before the donor as a mark of respect.

Thank the donor family before leaving the donor site (hospital or residence).

3.9.2. Lab Corneal excision

Removal of the corneal-scleral rim requires rigid sterile technique employing accepted aseptic practice. The potential for endothelial cell damage contamination and infection are greatly increased and this procedure therefore shall be performed by individuals specifically trained in corneal excision.

The corneal excision from a whole eye donor shall be done in a laminar flow hood.

Don hair cover, surgical mask, and non sterile exam gloves then wipe down the work surface of the laminar flow hood and any side tables which will be used to set up supplies with disinfectant solution.

Remove exam gloves and dispose of them in a suitable biohazard waste container.

Turn the laminar flow hood blower on and allow it to run for 15 minutes prior to beginning the procedure.

Place the sterile instrument pack, jars containing the donor eyes, labeled corneal storage medium vials, two 5 or 10cc syringes, two sterile specimen cups, 10% povidone-iodine solution, a non sterile hemostat, and balanced salt solution in the work area.

Open the outer wrap of the instrument pack on the work surface of the laminar flow hood taking care to avoid reaching over the field or touching anything except the outside edges.

Open two sterile 5 or 10 cc syringes and drop them on to the sterile field.

Place sterile specimen cups with the lids removed adjacent to the sterile field.

The eye jars are positioned so that they are adjacent to the top corner of the sterile field. Eye jars and media vials should be positioned to insure that left and right specimen identification remain correct. The eye jar lids are removed and placed with the inner side up next to their respective jars.

The labeled storage media vials are positioned so that they will be next to one side of the sterile field and the caps of the vials are removed and placed with the inner side up next to their respective vials.

Don sterile gloves.

Use the first sterile syringe to obtain 2.5 – 5.0 cc of the 5% povidone-iodine solution. The solution is carefully dropped on to the eye making sure to coat the entire globe. In order to ensure complete coating of the globe it may be necessary to move or tilt the eye cage using a sterile cotton tipped applicator (CTA). Repeat steps for the other eye. It is very important that the povidone-iodine solution is left on the eyes for at least five minutes before irrigation.

Discard sterile gloves in appropriate biohazard container.

Don sterile gloves taking care to fully extend the cuffs and to avoid contaminating the outer surface of the gloves.

Pick up the second sterile syringe and draw up at least 5cc of balanced salt solution.

Irrigate the eyes until all the povidone-iodine is rinsed off.

Aseptically open the inner wrap of the instrument kit.

Unfold a sterile 4 x 4 gauze sponge then refold it to form a long strip of gauze.

Aseptically lift the eye cage from the jar with a sterile hemostat, CTA, or plastic backed sterile gauze. Be sure to allow excess povidone-iodine and balanced salt solution to drip off the globe and eye cage (if applicable) before bringing the globe on to the sterile field, to avoid wetting the sterile field. If eye jar does not have an eye cage, use a sterile forceps to lift the eye from the jar to the sterile field and allowing excess fluid to drip off to avoid wetting the sterile field.

Remove the eye from the cage or dental roll using a small clawed forceps to grasp the rectus muscle then wrap the eye securely several times around the equator with the long strip of gauze.

Use small clawed forceps and iris or tenotomy scissors to lift and cut any remaining conjunctiva at the limbus and extending out 5 mm from the limbus.

Scrape the exposed sclera carefully from the limbus outward with a scalpel blade (#11 or 15) to remove all remaining conjunctival tissue.

It is important to remove all conjunctiva flush at the limbus because the conjunctival tissue may contain microbial contaminants that should not accompany the cornea to the storage media.

The scalpel and any other instruments used to remove the conjunctiva should be isolated from the other instruments on the sterile field. Place these instruments mid peripherally on the sterile field (not on top of the centrally located instruments which have not been contaminated by conjunctiva).

These instruments should not be used again except to remove the conjunctiva of the second eye.

- Use a second scalpel with a #15 blade to make an incision through the sclera 2 mm to 4mm from the limbus and parallel to the limbus approximately 5 mm in length.
- Place the wrapped eye down near the center of the sterile field.
- Gently separate the corneal-scleral button from the posterior segment of the globe.
- After the second cornea is placed in storage media, remove contaminated surgical gloves and non sterile exam gloves, then replace and tighten the caps on both media vials.
- Replace and tighten the lids on both eye jars.
- Discard all used disposables in a biohazard bag and all sharps in a sharps container.
- Rewrap instruments for cleaning and sterilization.
- Place a biohazard label on the contaminated instrument pack until such time as it may be cleaned and re sterilized.
- Leave the hood blower motor on for 15 minutes following completion of the procedure.
- Clean the hood and work area with a suitable disinfectant solution.

Discard personal protective and surgical attire in a biohazard bag.

3.9.3. Donor Cornea Evaluation

3.9.4. Slit lamp examination

An Ophthalmologist is responsible for performing this procedure. Allow the cornea in storage media vial or whole globe in eye jar to reach room temperature to make the endothelium easier to visualize. Cornea or whole globe shall not be allowed to remain in room temperature for more than 1 hour. Limit the number of warming and cooling cycles no more than 3 times.

The slit lamp examination shall be an orderly and stepwise examination of the different layers of the cornea. Each layer of the cornea shall be evaluated from front to back, and from back to front.

A wide slit of light is directed on the cornea with a 20 to 30 degree angle of incidence and moved to scan the entire cornea.

Epithelium: Examine the epithelium for integrity and overall condition.

The location, extent, and depth of any epithelial defect should be fully examined and described on the Cornea Evaluation Form.

Note any abrasions, lacerations, foreign bodies, microcystic edema, or severe drying.

Note any epithelial haze, exposure, or sloughing if present.

If epithelium is missing, it is necessary to carefully rule out underlying stromal injury.

Note the degree, location, type, and amount of epithelial haze, exposure and sloughing on the Cornea Evaluation Form.

Bowman's layer

Examine the Bowman's layer for any defect.

Examine the Bowman's layer for corneal lacerations and scars by focusing a hairline slit on the epithelium and carefully observing the defect margin for reflection off the Bowman's layer.

If the hairline slit reforms at a deeper level, the depth of the defect is apparent and is usually minimal.

If the hairline slit does not reform at a deeper level, the Bowman's layer may have been injured and the cornea would not be suitable for transplant.

Stroma

Examine the stroma to determine overall clarity and rule out marked edema.

Stromal edema may be evaluated by directing a hairline slit on the cornea at a 15 to 20 degree angle of incidence, and observing the distance between the epithelial and endothelial reflexes.

Corneas without significant stromal edema results with the two reflexes to converge centrally and diverge peripherally.

Corneas with significant stromal edema results with the two reflexes nearly parallel or will diverge centrally.

Examine for imbedded foreign bodies, old scars, or stromal infiltrates.

At high magnification use a narrow slit beam to define the extent, depth, location and appearance of stromal opacities.

A central stromal opacity would rule out a cornea for transplant surgery.

- Small peripheral stromal opacity (extending no more than 1-2 mm from the limbus) may or may not rule out a cornea for transplant surgery depending on whether or not the stromal opacity is determined to be an infectious stromal infiltrate.
- Stromal scars generally have a more gray appearance without adjacent stromal edema.
- Examine for degenerative conditions such as arcus senilis.
- The presence of moderate to heavy arcus senilis that is evident within the central 8 mm of the cornea should be described and may disqualify the cornea for elective penetrating keratoplasty.

- Note the degree, location, type, and amount of stromal arcus, stretch lines, cloudiness, and opacities on the Corneal Evaluation Form.

Descemet's membrane

- Examine the Descemet's membrane for the presence, location and severity of Descemet's folds (striae).
- The presence of Descemet's folds are determined by directing a narrow slit on the mid-peripheral cornea at an angle of 30 to 40 degrees, and focusing on the endothelial reflex at a medium power of magnification.
- The endothelial mosaic may be observed in the light colored areas, while the Descemet's folds may appear like dark lines, which transect the illuminated areas of the endothelium.
- The severity of the folds may generally be determined by the width of the folds and the amount of endothelial area that they obscure from view.

The degree, location, type, and amount of folds shall be noted on the Corneal Evaluation Form.

Endothelium

Examine the overall integrity of the endothelial cell layer.

Examination of the endothelial cell layer is done by directing a narrow slit on the mid-peripheral cornea at an angle of 30 to 40 degrees, and focusing on the endothelial cell layer.

The endothelial layer is examined to rule out major defects or missing areas of the endothelium.

General appearance of the endothelium shall be compared from one area to another.

Examine the limbal area of excised corneas on the endothelial side with a broad slit at low to medium magnification to rule out delamination of the Descemet's membrane.

Examine the endothelial layer using specular illumination at high power magnification with a narrow slit directed on the mid-peripheral cornea at a 30 to 40 degree angle of incidence.

Note the uniformity of cell size, estimated cell population, overall health of the cells, and uniformity of cell shape.

Look for presence of guttata, that occur with Endothelial Dystrophy. The presence of guttata shall rule out the cornea for surgical use.

Examine for vacuolated cells that may be precursor to Decemet's folds or striae due to trauma during recovery. The presence of vacuolated cells must be considered to be a degenerative condition of the endothelium and whether or not the cornea would be suitable for penetrating keratoplasty would depend on the relative number observed and their location.

A cornea with less than 15 or 20 vacuolated cells located mainly in the peripheral area may be entirely suitable whereas a cornea with numerous bodies centrally located would not.

Examine for keratic precipitates, which appear as opaque and white piles of debris on the endothelial surface.

The presence of significant number of keratic precipitates maybe the result of inflammatory response and may exclude the cornea for penetrating keratoplasty procedure.

Determine an overall rating of the endothelium based on the estimated cell population, overall health of the cells, uniformity of the cell size and shape.

The rating is expressed in terms of Excellent, Very Good, Good, Fair or Poor.

The rating of less than Good renders the cornea unsuitable for elective penetrating keratoplasty.

A final endothelial rating shall be established after a specular examination is performed.

3.9.5. Specular examination

Eye bank personnel are responsible for performing this procedure.

Corneas may be examined in standard corneal storage media vials when the Konan eye bank keratoanalyser is used.

Allow the cornea in viewing chamber or storage media vial to reach room temperature to make the endothelium easier to visualize.

Cornea shall not be allowed to remain in room temperature for more than 1 hour prior to viewing.

- Limit the number of warming and cooling cycles no more than 3 times.

If corneas are brought to the Eye Bank laboratory within 1 hour of recovery, corneas may be examined prior to refrigeration.

Secure the viewing chamber or storage media vial on the holding device of the specular microscope.

Examine Endothelium

Methods of bringing the endothelium into focus may vary for different specular microscopes. Refer to the manufacturer's handbook for proper focusing procedure.

View endothelial cells.

Adjust the focus knob on the specular microscope to move the objective lens until it almost contacts the bottom of the viewing chamber window or storage media vial. Avoid touching the media vial or viewing chamber with the objective lens.

Turn the knob slowly to move the objective lens away from the media vial or viewing chamber until dark cells come into focus and scan the cornea for light areas.

Once light areas are in view, slowly move the focus knob or use the fine focus to reveal the endothelial mosaic.

Examine the central endothelium in focus for the following:

Uniformity of the endothelial cell shapes and sizes.

Density of the cells.

Presence of ghost vessels in the stroma.

Vacuolated cells.

The presence of inflammatory cells, bacteria, or debris on the endothelial surface.

Select a representative area on the central endothelium for cell counts.

When the endothelial mosaic is in view, scan the entire central endothelium to select the most representative area for the cell count.

Perform cell count according to equipment specific protocol found in the manufacturer's instruction manual.

Cell counts are expressed in cells per square millimeter.

Save the image of the representative area of the central endothelium in focus.

The image of the representative area of the central endothelium shall be archived by a printed photo, video, or electronic photo image. The image may be included in the donor chart.

Photos may be provided to surgeons routinely except by special order at time of tissue request.

Criteria for Penetrating keratoplasty

The following criteria eliminates the cornea for penetrating keratoplasty procedure:

- Cell density less than 2000 cells per square millimeter. Corneas with cell density less than 2000 cells / sq. mm may be suitable for lamellar procedures.
- Extreme polymegathism or pleomorphism.
- Presence of significant guttata.
- Presence of many non-hexagonal or abnormally shaped cells.
- Presence of inflammatory cells, bacteria, or debris on endothelial surface.
- Numerous vacuolated cells.
- Never to base decision for suitability for the use of cornea purely or specular microscope report combine with clinical examination.

3.10. Sclera processing & Preservation

Eye bank personnel are responsible for performing this procedure.

Preparation of Alcohol Tissue Storage Units

Aseptically set up a sterile field in the HEPA hood using a sterile moisture impermeable table drape or similar.

Place the vials, sterile 30 ml syringe and sterile beaker on the sterile field using aseptic technique.

Don sterile gloves and place the beaker upright near the side of the sterile field.

Remove sterile gloves and pour 95% ethyl alcohol in the beaker ensuring not to contaminate the sterile field.

Don surgical mask, hair cover, eye protection and surgical gown or similar.

Open the outer and inner wrap of sterile gloves and sterile sleeves using aseptic technique and set aside.

Perform surgical hand scrub and don sterile gloves and sterile sleeves using aseptic technique.

Create alcohol storage units for sclera preservation.

Draw 20 ml of alcohol from the beaker using the syringe and add the 20 ml of alcohol to each vial.

Cap the alcohol storage vials tightly.

Label the vial “ALCOHOL PRESERVATION UNIT” along with the date of manufacture, an expiration date 3 years after the date of manufacture, and initials of technician preparing units.

Store the alcohol preservation units at room temperature.

Scleral Processing

- Processing of sclera shall be performed in the HEPA hood using aseptic technique.
- Clean the HEPA hood before use. Refer to the HEPA Hood Cleaning, Operation and Maintenance standard operating procedure in the Laboratory & Facilities Module.
- Aseptically set up a sterile field in the HEPA hood using a sterile moisture impermeable table drape or similar.
- Aseptically open sterile 4 x 4 gauze pads, Ocular Donor Surgical Instrument Kit, cotton tipped applicators, and a #10 scalpel blade and present them onto the sterile field.
- Remove the specimen cups or eye jars containing the scleral tissue from the “Quarantine” area of the tissue storage refrigerator and place in the HEPA hood near the sterile field.

Verify the tissue identification number on the specimen cups or eye jars.

Remove the specimen cup covers and place near the cup away from the sterile field.

- Label the alcohol vials with the unique tissue identification number and fraction of sclera, which will be in the vial after processing.
- Remove the caps of the alcohol vials and place near outside the sterile field. Ensure not to contaminate the inside of the vials.

Set up the sterile ocular irrigation solution (i.e. AK Rinse) and the antibiotic solution (i.e. Gentamycin or Neosporin).

- Pour one 10ml bottle of the sterile ocular antibiotic into each of the specimen cups containing irrigating solution.
- Pour one half of the sterile ocular irrigation solution into two specimen cups. Ensure to not contaminate the inside of the specimen cup.
- Label the specimen cups with the tissue identification number and indicate right or left sclera.

Don surgical mask, hair cover, eye protection and moisture impermeable apron.

Open the outer and inner wrap of sterile gloves and sterile sleeves using aseptic technique and set aside.

Perform surgical hand scrub and don sterile gloves and sterile sleeves using aseptic technique.

Processing Procedure

Pick up one of the posterior poles with a tissue forceps and place on sterile 4 x 4 inch gauze in the sterile field.

Remove remaining conjunctiva and cut the remaining ocular muscles attachments at their insertion point using iris forceps and scissors.

Remove remaining intra-ocular material using sterile gauze and forceps.

Clean the inside of the posterior pole with cotton tipped applicators and gauze to remove all choroids and tissue fragments.

Pick up the posterior pole with tissue forceps and place into the appropriate specimen cup containing the

sterile ocular irrigation and antibiotic solution mix. Ensure the posterior pole is completely filled with the solution and let soak for 5 minutes.

Remove the first posterior pole from the antibiotic solution using forceps and allow solution to drain before transferring to a clean sterile 4 x 4 gauze in the sterile field.

Dissect the posterior pole into halves, quarters, and eights or leave whole as directed by supervisor.

Remove all pigments and blood vessels from both surfaces of the sclera by scraping the sclera with the scalpel blade. Ensure sclera surfaces are clean, smooth and free of any pigmentation and blood vessels.

Presence of pigmentation may cause inflammation when transplanted.

If the sclera is stained with pigments return into the antibiotic solution for additional soak.

If the pigmentation or blood vessels cannot be removed after second attempt of scraping with scalpel blade, discard the scleral tissue.

Scleral Preservation

Alcohol Fixation of Scleral Tissue

Transfer a piece of processed scleral tissue into appropriately labelled alcohol storage vials using aseptic technique.

Assure each piece of scleral tissue is placed into a vial which specifies whether the sclera is a whole, half, quarter, or eighth.

Each piece of scleral tissue shall have a unique identification number.

Post-Processing and Preservation

Remove the sterile gloves and don new pair of non-sterile examination gloves.

Place the caps on the eye jars ensuring not to contaminate the inside of the eye jar.

Discard non-biohazard waste in the waste receptacle and biohazard waste in the biohazard waste receptacle.

Document appropriate processing information on the Ocular Tissue Processing Record form.

Serological testing of donor blood sample

3.10.1. Blood sample for serological testing

All eye tissue that is used for transplantation shall be screened for HIV Ab, HBs Ag, and Syphillis Ab.

Never draw blood downstream from an IV site to avoid hemodilution.

Draw blood only from intact vasculature.

Angle the needle the same direction as the vessel flows to avoid puncturing all the way through the vein.

As soon as the tip of the needle is under the skin, apply a slight back pressure on it by withdrawing the plunger about one half inch.

This creates suction to draw in blood when the vessel is found, indicated by the sudden flow of blood into the syringe.

When this occurs, withdraw the plunger enough to fill the syringe completely.

It usually takes gentle probing with the needle to locate the vessel.

3.10.2. Drawing of donor blood sample

1. Subclavian Vein

Use a 10cc syringe with a 18 gauge x 1½ inch needle.

Turn the head in the opposite direction of the blood vessel being used.

Feel for the notch one-third of the way away from the midline of the body along the clavicle (collarbone).

Insert the needle at a 30 degree angle into the vein toward the sternum.

2. Cardiac Puncture

Cardiac puncture shall not be used on a coroner's or medical examiner's case except when specific permission for the cardiac puncture has been given by the coroner or medical examiner.

Use a large gauge 3 ½ inch spinal needle and a 50 – 60 cc syringe.

From the left clavicle count down four ribs and over two inches from the sternum (breast-bone).

Puncture the chest wall between the ribs at the nipple line just left of the sternum. You will need to use quite a bit of force.

Angle the needle toward the midline in a slightly upward direction.

If the flow does not begin, try repositioning the needle until you feel it puncture the wall of the heart.

Aspirate the syringe as the needle is slowly withdrawn.

3. Femoral vein

This vein is found in the groin region and is usually the easiest site to obtain the blood sample.

Use a 10cc syringe with an 18 gauge x 1 1/2 inch needle.

Palpate the groin crease for a soft area-this area is the femoral ring.

Insert the needle into this area, aspirate the syringe and slowly withdraw the needle.

When blood appears in the syringe, hold the needle in place and aspirate the syringe intermittently, this allows blood to fill the collapsed vessel and reach the needle opening.

It is understood that sometimes it is not possible to obtain a proper blood sample, however, every effort must be made, since without a proper blood sample a donor ocular tissue is not suitable for transplant. If you are unable to obtain blood after reasonable attempts (it may take several sticks), note it on the Donor Work-up Sheet and advise your supervisor right away. All donor eyes must be accompanied by a 10 cc, standard clotted blood sample or serum.

Ensure that the blood sample obtained has not been diluted by transfusion or infusion to a degree sufficient to affect test results. Check with the hospital laboratory to see if any blood samples from the donor available. Verify the time and site of the draw to rule out serodilution. A sample of 10 cc or more is preferred-minimum acceptable sample size would be 2 cc of serum.

Either serum or plasma may be used for testing. Record if the sample is serum or plasma. Anticoagulants typically used for blood collection do not interfere with the tests; however, it must be recognized that

serum from heparinized patients may be incompletely coagulated and could cause falsely reactive results for the HBs Ag test. If it is known that the patient had heparin therapy, the specimen should be treated with thrombin or protamine sulfates to assure complete clotting. The serum or plasma should be removed from the clot or red cells as soon as possible to avoid hemolysis.

Specimens may be stored, prior to testing, in a refrigerator at 2°C to 8°C for up to 7 days or frozen at –15°C or colder for short term storage. For frozen specimens multiple thaws should be avoided.

3.10.3. Transferring blood from syringe to vacutainer tubes

Hold the plunger of the syringe firmly as the needle is withdrawn from the skin and also as the rubber stopper of the vacutainer is pierced to prevent blood from escaping the syringe.

When the needle point enters the tube, the vacuum within the tube draws the blood in.

Hold the plunger firmly between tubes.

Discard the syringe in a safe manner. Never attempt to replace the sheath that covered the needle in its original wrapper since many needle stick injuries have occurred while attempting to do this.

The needle and syringe must be placed in a sharps container. Never dispose of needles in an ordinary trash container or in a biohazard bag.

3.10.4. Blood tube labeling and handling

All tubes must be labeled with the corresponding donor number. If the donor received transfusions, the blood tubes must be labeled as pre or post transfusion.

Upon return to the laboratory , blood samples are centrifuged, a serum separator is pushed into the spun tube, separated serum is placed in a new labeled tube, then the separated serum sample is refrigerated (2°C to 8°C) until tested.

Used test tubes and serum separators are disposed in a biohazard sharps container.

3.10.5. Screening of Human Donor Blood Sample for HIV, Hepatitis B, Surface Antigen, Hepatitis C & Syphilis

ELISA methodology is followed using the ELISA kits, as per the instructions of the manufacturer.

NACO approved Rapid test kits can also be used as per the instructions of the manufacturer.

Appendix - 1

DONOR CALL – INITIAL INFORMATION

Time _____ Date _____

Name of the donor

Age of the donor | Sex of the donor

Time of death | Cause of death

Name of the caller

Relationship with the donor | Contact Phone

Body availability

Placed at: ☐ House ☐ Hospital ☐ Mortuary ☐

Will be taken away to the house from Hospital / mortuary in about mins./hrs.

Address (where the body is available)

Specific landmarks & detailed directions to reach the above address:

Death Certificate ☐ Available ☐ Not available

Comments & additional remarks

Receiver's Name | Designation

Case# _____ Month _____ Year _____

Signature

Appendix - 2

EYE DONOR MEDICAL PARTICULARS

1. Name of the Deceased :

2. Age & Sex :

3. Permanent address :

4. Date of Death :

5. Time of Death :

6. Place of Death :

7. Manner of Death : ☐ Natural ☐ Accident ☐ Suicide ☐ Homicide ☐ Pending investigation

8. Cause of Death :

9. Secondary Causes :

10. Visible Identification Marks :

11. Information given by next-of-kin & Relationship with the donor :

12. Death Certificate : Available Not Available

Reason for not obtaining death certificate copy:

13. The certificate is under process & will be submitted later

Signature

Name of Next-of-kin

I hereby certify the death of Mr. / Mrs. / Ms.

Signature

(Doctor attending Eye donation call)

Date:

Name:

Place:

Regn. No.

Appendix - 3

FAMILY PLEDGE FORM FOR EYE DONATION

In the hope that I/We may help others. I/We hereby make this anatomical gift, if medically acceptable, to take effect upon my/our death. The statement below indicates my/our desire (s).

I and the following members of our family give my / our eyes for the purposes of transplatation, theraphy, medical research or education.

Relationship / Witnesss	Name in Block Letters	Date of Birth	Signature
Self	Mr./Ms _____		
_____	Mr./Ms _____		
_____	Mr./Ms _____		
_____	Mr./Ms _____		
_____	Mr./Ms _____		
_____	Mr./Ms _____		
_____	Mr./Ms _____		
_____	Mr./Ms _____		
_____	Mr./Ms _____		
_____	Mr./Ms _____		
_____	Mr./Ms _____		
_____	Mr./Ms _____		

Addres_____

_____City _____

Pin Code _____ District _____ State _____

Tel. (O/R) _____ Date _____/____ /_____

Appendix - 4

DONOR INFORMATION SHEET

Eye Bank No: _____ / _____ / _____ / _____ / (Right / Left)

Name of the donor _____

Institution _____

Autopsy / History Number _____

Medical Examiner / Attending Physician _____

Age : _____ Religion : _____ Sex : _____

Date of injury / Admittance : _____

Death : Date_____ Hours_____

Enucleation / In situ Excision : Date_____ Hours_____

Type of Tissue : _____ _____

Type of Preservation : _____ _____

Lot Number : _____ _____

Death to Preservation : _____ _____

Immediate cause of death : _____ _____

Medical / Case History : _____ _____

_____

Physical Appearance of Body _____

PATHOLOGIST'S COMMENTS concerning autopsy & Date of Interview _____

If Pathologist observed signs of IV drug use or infection? Yes / No _____

Donor visited a hospital? Yes / No if yes, length of stay _____

Hospital chart available to examine : Yes / No _____

Donor on a respirator? Yes / No if Yes, how long _____

Donor received blood products within 48 hours of death? Yes / No _____

If yes : Number of Units : _____ Last date / time obtained_____

In Situ Observation : _____

Check / If any of the following apply : DO NOT USE FOR SURGERY

AIDS OR HIGH RISK GROUP _____ LYMPHOMAS / LYMPHOSARCOMA_____

ACTIVE HEPATITIS _____ INTRINSIC EYE DISEASE_____

BACTEREMIA / SEPTICEMIA _____ BLAST FORM S _____

CONGENITAL RUBELLA _____ RABIS

_____

CNS DISEASE OF UNKNOWN ETIOLOGY _____ REYES SYNDROME _____

CREUTZFELD / JACOB DISEASE _____ ACTIVE SYPHILLIS _____

ENCEPHALITIS _____ CONJUNCTIVITIS _____

MULTIFOCAL LEUKOENCEHALOPATHY_____ DEMENTIA _____

JAUNDICE / except when due to non-infectious causes / _____

SUBACUTE SCLEROSING PANENCEPHALITS _____

Donor refrigerated? Yes / No, If Yes : Date & Time of refrig _____

NA : NOT APPLICABLE **NRA : NO REPORT AVAILABLE**

DEATH TO REFRIGERATION TIME : _____

LAB TEST RESULTS : _____

WBC / DATES / COUNT : _____

Temp, trends : _____

CULTURE TYPE : Blood_____ Date_____Growth _____

CULTURE TYPE : Blood_____ Date_____Growth _____

MEDICATIONS : _____

_____

Name & Signature of fellow

HARVESTED DONOR EYE DATE

EYE DONATION Voluntary [ ]

Motivated [ ] Motivated by :_____

Designation : _____

DONOR DATA

Consent taken at : _____ a.m. / p.m.

Consent given by : _____

Position of body : _____

Phakic : _____ Aphakic : _____

# of tissues : [ ] Blood sample obtained : Yes / No [ ]

During the procedure : Problems :_____

: Solutions :_____

Procedure done by : _____ Time_____a.m./ p.m.

Procedure done at : _____

Assisted by : _____

Team members : _____

Mode of transport: Eye Bank to donor site_____

Donor site to Eye Bank_____

Case # _____ Month _____ Year_____

Date received _____ Time received_____

Appendix - 5

IMMUNOLOGY LABORATORY SEROLOGY REPORT

Name : _____ Date : _____

MR. No : _____ Serology No : _____

Age & Sex : _____ Category : Eye Bank _____

Nature of specimen : Blood :

Referring Eye Bank :

Reference No. :

Tests Done Report

1. HIV :
2. HBs Ag :
3. VDRL :

Date :

Note :
1. The results relate only to items tested
2. This report shall not be reproduced except in full without written approval of the laboratory.

Technician :

Microbiologist :

Appendix - 6

TISSUE EVALUATION REPORT

Eye Bank No : _____ / _____ / _____ / _____ / (Right / Left) Size of cornea _____mm

1. Intact surface : Yes / No
2. Haze : Yes / No
   Degree : Light / Moderate / Heavy
3. Exposure Keratitis: Yes / No
   Amount _____% (of surface)
   Degree Light / Moderate / Heavy
   Location Central / Periphery / Mid-periphery
   Type Diffuse / Band
4. Sloughing : Yes / No
   Amount _____% (of surface)
   Degree Light / Moderate / Heavy
   Location Central / Periphery / Mid-periphery
5. Other defects Yes / No
   Type _____
   Location Central / Periphery / Mid-periphery
   Dimension _____mm

STROMA

1. Clear : Yes / No
2. Cloudiness: Yes / No
   Degree : Light / Moderate / Heavy
3. Arcus Senilis: Yes / No
   Amount _____mm (form limbus
4. Opacities : Yes / No

Comments _____

DESCEMET'S MEMBRANE

1. Folds
   Amount : None / Few / Several / Numerous
   Degree : Light / Moderate / Heavy
   Location : Periphery / Central / Mid-periphery/ Diffuse (total surface)

ENDOTHELIUM

Excellent / Very Good / Good / Fair / NSFS

Comments _____ Cells per mm_____

_____

OVERALL RATING OF TISSUE

EXCELLENT / VERY GOOD / GOOD / FAIR / POOR (Reseason fro rejection-Preventable / Partly preventable / Non-preventable)

Suitability for Surgical Use < Yes

No Reason_____

Particles in Medium Yes / No Medium (if transferred) _____

Ratings changed Yes / No Media changed Yes / No

Lables Very Good / Adequate / Poor

Scleral Rim Very Good / Adequate / Poor

Checked by Technician _____ Date & Time_____

Fellow _____ Date & Time_____

Consultant _____ Date & Time _____

DONOR DATA FOR CORNEAL TRANSPLANTAITON

1. Consignment No: _____ No. of tissues received Eyes Corneas
   Blood Sample / Report received
2. Name of Eye Bank / Place / Code_____
3. Time lapse between Enucleation & Receipt of Consignment_____Hours ____Minutes
4. Age of the Donor / Initials _____
5. Time of Death / Date _____
6. Time of Enucleation / Date _____
7. Time lapse between Death and Enucleating_____ Hours _____Minutes
8. Cause of Death _____
9. Method of Preservation:

   Moist Chamber : Medium Preserved :

   Condition of bottle _____ Name of Medium _____

   Condition of Cap _____ Lot No. _____

   Bottle had _____1/4 ½ ¾ Full_____Water Condition of Vial _____

   Colour of the water present _____ Colour of Medium _____

   Trimming of conjunctiva Yes / No Any foreign body present in medium_____

   Discolouration of sclera _____ Position of cornea _____

   Presence of foreign matter _____
10. Condition of thermocol box _____
11. Position of ice in the thermocol box _____
12. General Evaluation of Eye Ball _____
13. Aphakia : Yes / No
14. Lens ..... Slit Lamp Evaluaion :

    Nuclear Sclerosis _____

Posterior Sub Capsular_____

Cortical Cataract _____

Total Cataract _____

Clear _____

Lens No. _____

Appendix - 7

Hemodilution Assessment		Donor Name or Number	
Sample Drawn	Date	Time	By

START

Was donor infused or transfused prior to sample collection?

Yes → Is the donor >12 years old?

Yes → Has extravascular blood loss occured (internal or external bleeding)? Blood is not lost in the event of closed head injuries.

No → **TEST SAMPLE** Initial ____ Date ____

Yes

No → **TEST SAMPLE** Initial ____ Date ____

No

Record volume of blood products transfused during the 48 hours before the sample was drawn (or cardiac death if drawn post cardiac death)		
Blood Product	Date/Time	Volume
Total blood products transfused in 48 hours (A)		
Record volume of colloids transfused during the 48 hours before the sample was drawn (or cardiac death if drawn post cardiac death)		
Colloid	Date/Time	Volume
Total colloids transfused in 48 Hours (B)		
Record volume of crystalloid infused during the 1 hour before the sample was drawn (or cardiac death if drawn post cardiac death)		
Crystalloid	Date/Time	Volume
Total crystalloid infused in 1 hour (C)		
Calculate Donor Plasma Volume (PV) & Donor Blood Volume (BV) (lbs + 22 = kg)		
PV = Donor wt. (kg)_____	+0.0225= _____	ml
BV = Donor wt. (kg) _____	+0.0015= _____	ml

B+C= _____ Is B+C>PV?

Yes → **REJECT SAMPLE** Initial ____ Date ____

No

A+B+C= _____ Is A+B+C>BV?

Yes → **REJECT SAMPLE** Initial ____ Date ____

TEST SAMPLE Initial ____ Date ____

Final Review
Hemodilutionhas been reviewed and determined acceptable

Signature _____ Date _____

Appendix - 8

Case # _____ Month _____ Year_____

TISSUE DISTRIBUTION INFORMATION

ORIGINAL
Should be filed and kept in the eye bank

Eye Bank No :_____/ _____ / _____ / _____ / (Right / Left)

Age :_____ Religion :_____ Sex :_____

Injury / Admittance Date _____ Hour _____

Death : Date _____ Hour _____

Enucleation / Excision : Date _____ Hour _____

Preservation : Date _____ Hour _____

Cause of Death : _____

_____

Medical History : _____

_____

Ocular History : _____

Medications : _____

TISSUE PRESERVATION AND CORNEAL STATUS INFORMATION

Death – Preservation : (Time) _____ Hrs. _____ Mins.

Tissue Type :_____ Storage Method:_____

Lot Number: _____

Status: _____

Corneal Rating : _____

Epithelium : _____

Stroma : _____

Desceme't : _____

Endothelium : _____

Count : _____ Cells / mm

Serology test for : HIV Antibody
(Performed –Yes / No) Results _____
(Hepatitis B surface Antigen test
(Performed – Yes / No) Results_____

Test for : HCV
(Performed – Yes / No) Results _____

Test for : Syphilis
(Performed – Yes / No) Results _____

General Comments : _____

_____

Research only –

Name & Signature of EB Tech

RECIPIENT DATA (TO BE FILLED AT THE TIME OF SURGERY)

M.R. No: _____ Name: _____Age: _____

Eye / Diagnosis _____

Time lapse between Enucleation and Utilization _____ Hours

Date of Surgery / Time _____

Operating Surgeon's Name _____

Surgical Procedure _____

Name & signature of the surgeon

(Duplicate form of Appendix - 8)

Case # _____ Month _____ Year_____

TISSUE DISTRIBUTION INFORMATION

Eye Bank No :_____/ _____ / _____ / _____ / (Right / Left)

DuplicateShould be kept in the patient folder

Duplicate
(Should be kept in the patient folder)

Age :_____ Religion :_____ Sex :_____

Injury / Admittance Date _____ Hour _____

Death : Date _____ Hour _____

Enucleation / Excision : Date _____ Hour _____

Preservation : Date _____ Hour _____

Cause of Death : _____

Medical History : _____

Ocular History : _____

Medications : _____

TISSUE PRESERVATION AND CORNEAL STATUS INFORMATION

Death – Preservation : (Time) _____ Hrs. _____ Mins.

Tissue Type :_____ Storage Method:_____

Lot Number: _____

Status: _____

Corneal Rating : _____

Epithelium : _____

Stroma : _____

Descement : _____

Endothelium : _____

Count : _____ Cells / mm

Name & Signature of Doctor / Technician

Serology test for : HIV Antibody

(Performed –Yes / No) Results _____

(Hepatitis B surface Antigen test

(Performed – Yes / No) Results_____

Test for : HCV

(Performed – Yes / No) Results _____

Test for : Syphilis

(Performed – Yes / No) Results _____

General Comments : _____

_____

Research only –

Name & Signature of EB Tech

Appendix - 9

DONOR TISSUE TENTATIVE UTILITY DATA & ADVERSE REPORT FORM

ID # : _____ Date : _____ Time : _____

Age : _____ Death : _____

Sex : _____ Preservation : _____

Received : _____

ORIGINAL
(Should be sent back to the eye bank)

Tissue sent by : _____

Proposed date to use the tissue : _____

Name of the Surgeon : _____

Name of the Patient : _____

Hospital registration /Medical records I.D. no. of Patient : _____

Date of Surgery : _____

Date :

_____

COUNSELLOR'S SIGNATURE & NAME

ADVERSE REPORT

Details of adverse findings:

Likely Reasons for adverse findings:

Suggestions:

Signature of Operating Surgeon / Team

ID # : _____ Date : _____ Time : _____

Age : _____ Death : _____

Sex : _____ Preservation : _____

Received : _____

Tissue sent by :

DONOR TISSUE TENTATIVE UTILITY DATE & Adverse Report Form

Proposed date to use the tissue :

Name of the Surgeon :

Name of the Patient :

Hospital Registration No. /Medical Record No. of Patient :

Date of Surgery :

Date :

_____

COUNSELLOR'S SIGNATURE & NAME

ADVERSE REPORT (to be sent back to the eye bank)

Details of adverse findings:

Likely Reasons for adverse findings:

Suggestions:

Signature of Operating Surgeon / Team

Appendix - 10

INSTRUMENT CLEANING LOG

DATE	INSTRUMENT SET	# OF BATCHES	INSTRUMENT CLEANED BY	INSTRUMENT PACKED BY	INITIALS

Appendix - 11

INSTRUMENT STERILIZATION LOG

STERILIZATION RUN CONTENTS			BIOLOGICAL INDICATOR TESTING PERFORMED? ☐ YES ☐ NO			

Appendix - 12

LABORATORY CLEANING LOG

Month :_____ / **Year :_____**

	Week 1	Week 2	Week 3	Week 4
Initials of person (s) performing cleaning				
Cleaning Agent Used				
Date of Cleaned				
Counters				
Sink (s)				
Light Switches / Donor and Cabinet Handles				
HEPA Hood / Biosafety Cabinet				
Floors Mopped				
Instrument Lubricant Solution Changed				
Other_____				
Other_____				
Cabinets		**Monthly cleaning only**		
Centrifuge		**– do–**		
Slit Lamp Microscope		**– do–**		
Specular Microscope		**– do–**		
Centrifuge		**– do–**		
Refrigerator (Internal & External)		**– do–**		
Freezer (External)		**– do–**		
Other _____				
Other _____				

Refer to the Laboratory and Facilities Module for SOPs regarding Laboratory Cleaning and Maintenance

Appendix - 13

Human Organs Transplantation Act (HOTA)

रजिस्ट्री सं० डी० एल०-33004/99

REGD. NO. D. L.-33004/99

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The Gazette of India

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स्वास्थ्य और परिवार कल्याण मंत्रालय

(स्वास्थ्य और परिवार कल्याण विभाग)

अधिसूचना

नई दिल्ली, 31 जुलाई, 2008

सा.का.नि. 571(अ).—केन्द्रीय सरकार, मानव अंग प्रतिरोपण अधिनियम, 1994 (1994 का 42) की धारा 24 की उप-धारा (1) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, मानव अंग प्रतिरोपण नियम, 1995 का संशोधन करने के लिए निम्नलिखित नियम बनाती है, अर्थात् :—

1. संक्षिप्त नाम और प्रारंभ.—(1) इन नियमों का संक्षिप्त नाम मानव अंग प्रतिरोपण (संशोधन) नियम, 2008 है ।

(2) ये राजपत्र में प्रकाशन की तारीख को प्रवृत्त होंगे ।

2. मानव अंग प्रतिरोपण (संशोधन) नियम, 2008 (जिन्हें इसमें इसके पश्चात् उक्त नियम कहा गया है) में,—(i) उसके खंड (घ) को खंड (च) के रूप में पुनर्संख्यांकित किया जाएगा और इस प्रकार पुनर्संख्यांकित खंड (च) के पूर्व और खंड (ग) के पश्चात् निम्नलिखित खंड अंत:स्थापित किए जाएंगे, अर्थात् :—

(i) नियम 2 के उप-नियम (ग) के पश्चात् निम्नलिखित अंत:स्थापित किया जाएगा, अर्थात् :—

(घ) "राष्ट्रीय प्रयोगशाला प्रत्यायन बोर्ड" से कोई ऐसा बोर्ड अभिप्रेत है जो अंतर्राष्ट्रीय मानकों आईएसओ/आईईसी 17025 और आईएसओ 15189 के अनुसार प्रयोगशालाओं की परीक्षण और अंशशोधन को निर्धारित और प्रत्यायन करने के लिए गुणवत्ता प्रत्यायन परिषद् (भारत सरकार द्वारा स्थापित) द्वारा स्थापित किया गया है;

(ii) (ङ) मानव अंग प्रतिरोपण अधिनियम, 1994 की धारा 2 के खंड (ङ) में यथा परिभाषित रजिस्ट्रीकृत चिकित्सा व्यवसायी के अंतर्गत भारतीय चिकित्सा परिषद् अधिनियम, के अधीन एमबीबीएस या समतुल्य डिग्री के साथ कोई एलोपैथिक डाक्टर भी है।

3. उक्त नियमों के नियम 3 में "प्ररूप-1" शब्द और अंक के स्थान पर "प्ररूप-1(क), 1(खं) और 1(ग)" शब्द, अंक और अक्षर रखे जाएंगे ।

4. उक्त नियमों में,—(i) नियम 4 के उप-नियम (i) में निम्नलिखित उप-नियम रखा जाएगा, अर्थात् :—

"(i) चिकित्सा व्यवसायी का कर्तव्य :

(1) कोई रजिस्ट्रीकृत चिकित्सा व्यवसायी किसी दाता के शरीर से उसकी मृत्यु के पूर्व कोई मानव अंग निकालने से पूर्व अपना यह समाधान कर लेगा कि —

(क) दाता ने अपना प्राधिकार समुचित प्ररूप 1(क) या 1(ख) या 1(ग) में दिया है;

(ख) दाता स्वास्थ्य की समुचित व्यवस्था में है और अंग का दान करने के लिए योग्य है और रजिस्ट्रीकृत चिकित्सा व्यवसायी प्ररूप-2 में यथा विनिर्दिष्ट प्रमाण-पत्र पर हस्ताक्षर करेगा;

प्रारूप 10 [पृष्ठ 2]

1. प्रारूप 10 पूरे किए हुए प्रारूप 1(क), या प्रारूप 1(ख) या प्रारूप 1(ग) जैसा भी लागू हो, के साथ प्रस्तुत किए जाने चाहिए ।
2. यथास्थिति लागू होने वाले प्रारूप, जैसे प्रारूप 1(क), या प्रारूप 1(ख) या प्रारूप 1(ग) के साथ लागू प्रारूप में वर्णित सभी दस्तावेजें होनी चाहिए और लागू प्रारूप में दी गई सभी सुसंगत पृच्छाओं का प्रयाप्त रूप से उत्तर दिया जाना चाहिए ।
3. पूरा किया हुआ प्रारूप 3 प्रयोगशाला रिपोर्ट के साथ प्रस्तुत किया जाए ।
4. आवेदन के साथ प्रतिरोपण की सिफारिश करने संबंधी चिकित्सक की सलाह संलग्न की जानी चाहिए ।
5. उपर्युक्त के अतिरिक्त यदि प्रस्तावित प्रतिरोपण गैर नातेदार व्यक्तियों के बीच है तो दाता और प्राप्तिकर्ता की कम से कम गत तीन वर्ष हो के व्यवसाय और आय का समुचित साक्ष्य आवेदन के साथ संलग्न किया जाना चाहिए यह स्पष्ट किया जाता है कि इस बात को ध्यान में रखते हुए कि दिए गए मामले में आवेदक/आवेदकों ने आयकर विवरणियां फाईल नहीं किए हैं, आय का साक्ष्य से आवश्यक रूप से आय-कर विवरणियों का सबूत अभिप्रेत नहीं है ।
6. प्राधिकार समिति द्वारा विचार के लिए आवेदन केवल तभी स्वीकार किया जाएगा यदि वह सभी बाबत पूर्ण है और ऊपर वर्णित प्रारूप में अपेक्षित किन्ही दस्तावेजों या जानकारी का लोप आवेदन को अपूर्ण बना देगा ।
7 उच्चतम न्यायालय के तारीख 31.03.2005 के निर्णय के अनुसार संबद्ध राज्य/संघ राज्यक्षेत्र शासन या प्राधिकार समिति से अनुमोदन/अनापत्ति प्रमाणपत्र दाता और प्राप्तिकर्ता के अधिवास राज्य/संघ राज्यक्षेत्र से प्राप्त करना अनिवार्य है । यह समझा जाता है कि प्रतिरोपण के लिए अंतिम अनुमोदन (यथास्थिति) प्राधिकारी समिति/ रजिस्ट्रीकृत चिकित्सा व्यवसायी अर्थात् प्रतिरोपण केन्द्र के भार सांयक, जहां प्रतिरोपण किया जाना चाहिए, द्वारा अनुदत्त किया जाना चाहिए ।

हमने उपयुक्त अनुदेशों को पढ़ और समझ लिया है ।

भावी दाता के हस्ताक्षर	भावी प्राप्तिकर्ता के हस्ताक्षर
तारीख	तारीख
स्थान	स्थान

MINISTRY OF HEALTH AND FAMILY WELFARE

(Department of Health and Family Welfare)

NOTIFICATION

New Delhi, the 31st July, 2008

G.S.R. 571(E).— In exercise of the powers conferred by sub-section (1) of section 24 of the Transplantation of Human Organs Act, 1994 (42 of 1994), the Central Government hereby makes the following amendments to the Transplantation of Human Organs Rules, 1995, namely:-

1. Short title and Commencement

(1) These rules may be called the Transplantation of Human Organs (Amendment) Rules, 2008.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Transplantation of Human Organs (Amendment) Rules, 2008 (hereinafter referred to as the said rules) - (i) clause (d) shall be renumbered as clause (f), thereof and before clause (f) as so renumbered the following clauses shall be inserted, after clause (c), namely

(i). after sub-rule (c) of Rule 2, the following shall be inserted:

"(d) "National Accreditation Board for Laboratories" (NABL) means a Board set up by the Quality Council of India (set up by the Government of India) for undertaking assessment and accreditation of testing and calibration of laboratories in accordance with the international standard ISO / IEC 17025 and ISO 15189;

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(ii) (e) the Registered Medical Practitioner, as defined in clause (n) of section 2 of Transplantation of Human Organs Act, 1994 includes an allopathic doctor with MBBS or equivalent degree under the Medical Council of India Act.

3. In the said rules, in rule 3, for the words and figure "Form.1" the words, figures and letters "Forms 1(A), 1(B) and 1(C) shall be substituted:

4. In the said rules, - (i) in rule 4 for sub-rule(1) the following sub-rule shall be substituted, namely:-

"(i) Duties of the Medical Practitioner:

(1) A registered medical practitioner shall, before removing a human organ from the body of a donor before his death, satisfy himself –

(a) that the donor has given his authorization in appropriate Form 1(A) or 1(B) or 1(C).

(b) that the donor is in proper state of health and is fit to donate the organ, and the registered medical practitioner shall sign a certificate as specified in Form 2.

(c) that the donor is a near relative of the recipient, as certified in Form 3, who has signed Form 1(A) or 1(B) as applicable to the donor and that the donor has submitted an application in Form 10 jointly with the recipient and that the proposed donation has been approved by the concerned competent authority and that the necessary documents as prescribed and medical tests, if required, to determine the factum of near relationship, have been examined to the satisfaction of the Registered Medical Practitioner i.e. Incharge of transplant centre.

(d) that in case the recipient is spouse of the donor, the donor has given a statement to the effect that they are so related by signing a certificate in Form 1(B) and has submitted an application in Form 10 jointly with the recipient and that the proposed donation has been approved by the concerned competent authority under provisions of sub-rule(2) of rule 4A.

(e) In case of a donor who is other than a near relative and has signed Form 1(C) and submitted an application in Form 10 jointly with the recipient, the permission from the Authorisation Committee for the said donation has been obtained.

(ii) In rule 4 in sub-rule(2) for clause (b) the following clause shall be substituted, namely:-

"(b) that then person lawfully in possession of the dead body has signed a certificate as specified in Form 6 "

(iii) the existing Form 7 shall be omitted.

5. In the said rules, after rule 4 the following rule shall be inserted, namely:-

"4-A Authorisation Committee

(1) The medical practitioner who will be part of the organ transplantation team for carrying out transplantation operation shall not be a member of the Authorisation Committee constituted under the provisions of clauses (a) and (b) of sub-section(4) of section 9 of the Act.

(2) Where the proposed transplantation is between a married couple, the Registered Medical Practitioner i.e. Incharge of transplant centre must evaluate the factum and duration of marriage and ensure that documents such as marriage certificate, marriage photograph etc. are kept for records along with the information on the number and age of children and family photograph depicting the entire immediate family, birth certificate of children containing particulars of parents.

(3) When the proposed donor or recipient or both are not Indian Nationals/citizens whether 'near relatives' or otherwise, Authorisation Committees shall consider all such requests.

(4) when the proposed donor and the recipient are not 'near relatives', as defined under clause(i) of section 2 of the Act, the Authorisation Committee shall evaluate that,-

(i) there is no commercial transaction between the recipient and the donor and that no payment or money or moneys worth as referred to the Act, has been made to the donor or promised to be made to the donor or any other person;

(ii) the following shall specifically be assessed by the Authorisation Committee:-

(a) an explanation of the link between them and the circumstances which led to the offer being made;

(b) reasons why the donor wishes to donate;

(c) documentary evidence of the link, e.g. proof that they have lived together, etc.;

(d) old photographs showing the donor and the recipient together;

(iii) that there is no middleman or tout involved;

(iv) that financial status of the donor and the recipient is probed by asking them to give appropriate evidence of their vocation and income for the previous three financial years. Any gross disparity between the status of the two must be evaluated in the backdrop of the objective of preventing commercial dealing;

(v) that the donor is not a drug addict or known person with criminal record;

(vi) that the next of the kin of the proposed unrelated donor is interviewed regarding awareness about his or her intention to donate an organ, the authenticity of the link between the donor and the recipient and the reasons for donation. Any strong views or disagreement or objection of such kin shall also be recorded and taken note of.'

6. In the said rules:-

(i) For rule 6 the following rules shall be substituted, namely:-

"6. The donor and the recipient shall make jointly an application to grant approval for removal and transplantation of a human organ, to the concerned competent authority or Authorisation Committee as specified in Form 10. The Authorisation Committee shall take a decision on such application in accordance with the guidelines in rule 6-A."

(ii) after rule 6, the following rule shall be inserted, namely:-

"6A. Composition of Authorisation Committees:

1. There shall be one State level Authorisation Committee.

2. Additional authorisation committees may be set up at various levels as per norms given below, namely:-

(i) no member from transplant team of the institution should be a member of the respective Authorisation Committee. All Foreign Nationals (related and unrelated) should go to 'Authorisation Committee' as abundant precaution needs to be taken in such cases;

(ii) Authorisation Committee should be Hospital based in Metro and big cities if the number of transplants exceed 25 in a year at the respective transplantation centres. In smaller towns, there are State or District level Committees if transplants are less than 25 in a year in the respective districts.

(A) Composition of Hospital Based Authorisation Committees: (To be constituted by the State Government and in case of Union territory by the Central Government)

(a) the senior most person officiating as Medical Director or Medical Superintendent of the Hospital;

(b) two senior medical practitioners from the same hospital who are not part of the transplant team;

(c) two members being persons of high integrity, social standing and credibility, who have served in high ranking Government positions, such as in higher judiciary, senior cadre of police service or who have served as a reader or professor in University Grants Commission approved University or are self-employed professionals of repute such as lawyers, chartered accountants and doctors (of Indian Medical Association) etc : and

(d) Secretary (Health) or nominee and Director Health Services or nominee.

(B) Composition of State or District Level Authorisation Committees: (To be constituted by the State Government and in case of Union territory by the Central Government).

(a) a Medical Practitioner officiating as Chief Medical Officer or any other equivalent post in the main/major Government Hospital of the District.

(b) two senior medical practitioners to be chosen from the pool of such medical practitioners who are residing in the concerned District and who are not part of any transplant team.

(c) two senior citizens, non-medical background (one lady) of high reputation and integrity to be chosen from the pool of such citizens residing in the same district, who have served in high ranking Government positions, such as in higher judiciary, senior cadre of police service or who have served as a reader or professor in University Grants Commission approved University or are self-employed professionals of repute such as lawyers, chartered accountants and doctors (of Indian Medical Association) etc.; and

(d) Secretary (Health) or nominee and Director Health Services or nominee.

(Note: Effort should be made to have most of the members' ex-officio so that the need to change the composition of committee is less frequent.)

6B. The State level committees shall be formed for the purpose of providing approval or no objection certificate to the respective donor and recipient to establish the legal and residential status as a domicile state. It is mandatory that if donor, recipient and place of transplantation are from different states, then the aporoval or 'no objection certificate' from the respective domicile State Government should be necessary. The institution where the transplant is to be undertaken in such case the approval of Authorisation Committee is mandatory.

6C. The quorum of the Authorisation Committee should be minimum four. However, quorum ought not to be considered as complete without the participation of the Chairman. The presence of Secretary (Health) or nominee and Director of Health Services or nominee is mandatory.

6D. The format of the Authorisation Committee approval should be uniform in all the institutions in a State. The format may be notified by respective State Government.

6E. Secretariat of the Committee shall circulate copies of all applications received from the proposed donors to all members of the Committee. Such applications should be circulated along with all annexures, which may have been filed along with the applications. At the time of the meeting, the Authorisation Committee should take note of all relevant contents and documents in the course of its decision making process and in the event any document or information is found to be inadequate or doubtful, explanation should be sought from the applicant and if it is considered

necessary that any fact or information requires to be verified in order to confirm its veracity or correctness, the same be ascertained through the concerned officer(s) of the State/ Union territory Government."

6F. The Authorisation Committee shall focus its attention on the following, namely:-

(a) Where the proposed transplant is between persons related genetically, Mother, Father, Brother, Sister, Son or Daughter above the age of 18 years),

the concerned competent authority shall evaluate:-

(i) results of tissue typing and other basic tests;

(ii) documentary evidence of relationship e.g. relevant birth certificates and marriage certificate, certificate from Sub-divisional magistrate/ Metropolitan Magistrate/or Sarpanch of the Panchayat;

(iii) documentary evidence of identity and residence of the proposed donor e.g. Ration Card or Voters Identity Card or Passport or Driving License or PAN Card or Bank Account and family photograph depicting the proposed donor and the proposed recipient along with another near relative;

(iv) If in its opinion, the relationship is not conclusively established after evaluating the above evidence, it may in its discretion direct further medical tests as prescribed as below:

(a) the tests for Human Leukocyte Antigen (HLA), Human Leukocyte Antigen-B alleles to be performed by the serological and/or Polymerase chain reaction (PCR) based Deoxyribonucleic acid (DNA) methods.

(b) test for Human Leukocyte Antigen-DR beta genes to be performed using the Polymerase chain reaction (PCR) based Deoxyribonucleic acid (DNA) methods.

(c) the tests referred to in sub-rules (i) and (ii) shall be got done from a laboratory accredited with National Accreditation Board for Laboratories (NABL)."

(d) where the tests referred to in (i) to (iii) above do not establish a genetic relationship between the donor and the recipient, the same tests to be performed on both or at least one parent, preferably both parents. If parents are not available, same tests to be performed on such relatives of donor and recipient as are available and are willing to be tested failing which, genetic relationship between the donor and the recipient will be deemed to have not been established.

(b) The papers for approval of transplantation would be processed by the registered medical practitioner and administrative division of the institution for transplantation, while the approval will be granted by the Authorisation Committee.

(c) Where the proposed transplant is between a married couple (except foreigners, whose cases should be dealt by Authorisation Committee):

The concerned competent authority or authorisation committee as the case may be must evaluate all available evidence to establish the factum and duration of marriage and ensure that documents such as marriage certificate, marriage photograph is placed before the committee along with the information on the number and age of children and a family photograph depicting the entire immediate family, birth certificate of children containing the particulars of parents.

(d) Where the proposed transplant is between individuals who are not "near relatives". The authorization committee shall evaluate:-

(i) that there is no commercial transaction between the recipient and the donor. That no payment of money or moneys worth as referred to in the sections of the Act, has been made to the donor or promised to be made to the donor or any other person. In this connection the Authorisation Committee shall take into consideration:-

(a) an explanation of the link between them and the circumstances which led to the offer being made;

(b) documentary evidence of the link e.g. proof that they have lived together etc.;

(c) reasons why the donor wishes to donate; and

(d) old photographs showing the donor and the recipient together.

(ii) that there is no middleman/out involved;

(iii) that financial status of the donor and the recipient is probed by asking them to give appropriate evidence of their vocation and income for the previous three financial years. Any gross disparity between the status of the two, must be evaluated in the backdrop of the objective of preventing commercial dealing;

(iv) that the donor is not a drug addict or a known person with criminal record;

(v) that the next of kin of the proposed unrelated donor is interviewed regarding awareness about his/her intention to donate an organ, the authenticity of the link between the donor and the recipient and the reasons for donation. Any strong views or disagreement or objection of such kin may also be recorded and taken note of and

(e) When the proposed donor or the recipient or both are foreigners:-

(i) a senior Embassy official of the country of origin has to certify the relationship between the donor and the recipient.

(ii) Authorisation Committee shall examine the cases of Indian donors consenting to donate organs to a foreign national (who is a near relative), including a foreign national of Indian origin, with greater caution. Such cases should be considered rarely on case to case basis.

(f) In the course of determining eligibility of the applicant to donate, the applicant should be personally interviewed by the Authorisation Committee and minutes of the interview should be recorded. Such interviews with the donors should be videographed.

(g) In case where the donor is a woman greater precautions ought to be taken. Her identity and independent consent should be confirmed by a person other than the recipient. Any document with regard to the proof of residence or domicile and particulars of parentage should be relatable to the photo identity of the applicant in order to ensure that the documents pertain to the same person, who is the proposed donor and in the event of any inadequate or doubtful information to this effect, the Authorisation Committee may in its discretion seek such other information or evidence as may be expedient and desirable in the peculiar facts of the case.

(h) The Authorisation Committee should state in writing its reason for rejecting/ approving the application of the proposed donor and all approvals should be subject to the following conditions:-

(i) that the approved proposed donor would be subjected to all such medical tests as required at the relevant stages to determine his biological capacity and compatibility to donate the organ in question.

(ii) further that the psychiatrist clearance would also be mandatory to certify his mental condition, awareness, absence of any overt or latent psychiatric disease and ability to give free consent.

(iii) all prescribed forms have been and would be filled up by all relevant persons involved in the process of transplantation.

(iv) all interviews to be video recorded.

(i) The authorisation committee shall expedite its decision making process and use its discretion judiciously and pragmatically in all such cases where the patient requires immediate transplantation.

(j) Every authorised transplantation centre must have its own website. The Authorisation Committee is required to take final decision within 24 hours of holding the meeting for grant of permission or rejection for transplant. The decision of the Authorisation Committee should be displayed on the notice board of the hospital or institution immediately and should reflect on the website of the hospital or institution within 24 hours of taking the decision.' Apart from this, the website of the hospital or institution must update its website regularly in respect of the total number of the transplantations done in that hospital or institution along with the details of each transplantation. The same data should be accessible for compilation, analysis and further use by respective State Governments and Central Government.

7. In the said rules, in rule 7, after clause(2) the following clause shall be inserted, namely:-

"7(3) before a hospital is registered under the provisions of this rule, it shall be mandatory for the hospital to nominate a transplant coordinator."

8. In the said rules, for rule 9 the following rule shall be substituted, namely:-

"9. Conditions for grant of Certificate of Registration:

No hospital shall be granted a certificate of registration under this Act unless it fulfils the following requirement of manpower, equipment, specialized services and facilities as laid down below:-

A General Manpower Requirement Specialised Services and Facilities:

(1) 24 hours availability of medical and surgical, (senior and junior) staff.

(2) 24 hours availability of nursing staff, (general and speciality trained).

(3) 24 hours availability of Intensive Care Units with adequate equipments, staff and support system, including specialists in anaesthesiology, intensive care.

(4) 24 hours availability of laboratory with multiple discipline testing facilities including but not limited to Microbiology, Bio-Chemistry, Pathology and Hematology and Radiology departments with trained staff.

(5) 24 hours availability of Operation Theater facilities (OT facilities) for planned and emergency procedures with adequate staff, support system and equipments.

(6) 24 hours availability of communication system, with power backup, including but not limited to multiple line telephones, public telephone systems, fax, computers and paper photo-imaging machine.

(7) Experts (Other than the experts required for the relevant transplantation) of relevant and associated specialties including but not limited to and depending upon the requirements, the experts in 'internal medicine, diabetology,

2945 GI/08-4

gastroenterology, nephrology, neurology, paediatrics, gynaecology immunology and cardiology etc. should be available to the transplantation centre.

B Equipments:

Equipments as per current and expected scientific requirements specific to organ or organs being transplanted. The transplant centre should ensure the availability of the accessories, spare-parts and back-up/maintenance/service support system in relation to all relevant equipments.

C Experts and their qualifications:-

(A) Kidney Transplantation:

M.S. (Gen.) Surgery or equivalent qualification with three years post M.S. training in a recognised center in India or abroad and having attended to adequate number of renal transplantation as an active member of team.

(B) Transplantation of liver and other abdominal organs

M.S. (Gen.) Surgery or equivalent qualification with adequate post M.S. training in an established center with a reasonable experience of performing liver transplantation as an active member of team.

(C) Cardiac, Pulmonary, Cardio-Pulmonary Transplantation:

M.Ch. Cardio-thoracic and vascular surgery or equivalent qualification in India or abroad with at least 3 years experience as an active member of the team performing an adequate number of open heart operations per year and well-versed with Coronary by-pass surgery and Heart-valve surgery.

(D) Cornea Transplantation:

M.D./M.S. ophthalmology or equivalent qualification with one year post M.D./M.S training in a recognised hospital carrying out Corneal transplant operations.

[F. No. S-12011/12/2007-MS]
VINEET CHAWDHRY, Jt. Secy.

Note :— The principal rules were published in the Gazette of India *vide* notification No. S-12011/2/1994-MS, dated the 4th February, 1995, Extraordinary, under G.S.R. No. 51(E).

FORM 1(A)
(Page 1 of 2)
(To be completed by the prospective related donor)
(See Rule 3)

My full name is .....

and this is my photograph

Photograph of the Donor
(Attested by Notary Public)

To be affixed and attested by Notary Public after it is affixed.

My permanent home address is

.....

.....Tel: .....

My present home address is

.....

..... Tel:.....

Date of birth .....(day/month/year)

- Ration/Consumer Card number and Date of issue & place:.....
  (Photocopy attached)

and/or

- Voter's I-Card number, date of issue, Assembly constituency.....
  (Photocopy attached)

and/or

- Passport number and country of issue.....
  (Photocopy attached)

and/or

- Driving Licence number, Date of issue, licensing authority.....
  (Photocopy attached)

and/or

- PAN.....

and/or

- Other proof of identity and address .....

I hereby authorize removal for therapeutic purposes/consent to donate my ..... (state which organ) to my relative ..... (specify son/daughter/father/mother/brother/sister), whose name is ..... and who was born on .....(day/month/year) and whose particulars are as follows:

Photograph of the Recipient
(Attested by Notary Public)

To be affixed and attested by Notary Public after it is affixed.

FORM 1(A) [Page- 2]

- Ration/Consumer Card number and Date of issue & place:.....
(Photocopy attached)

and/ or

- Voter's I-Card number, date of issue, Assembly constituency.....
(Photocopy attached)

and/or

- Passport number and country of issue.....
(Photocopy attached)

and/ or

- Driving Licence number, Date of issue, licensing authority.....
(photocopy attached)

and/or

- PAN.....

and/or

- Other proof of identity and address .....

I solemnly affirm and declare that:

Sections 2, 9 and 19 of The Transplantation of Human Organs Act 1994 have been explained to me and I confirm that:

1. I understand the nature of criminal offences referred to in the sections.
2. No payment of money or money's worth as referred to in the sections of the Act has been made to me or will be made to me or any other person
3. I am giving the consent and authorisation to remove my ..... (organ) of my own free will without any undue pressure, inducement, influence or allurement.
4. I have been given a full explanation of the nature of the medical procedure involved and the risks involved for me in the removal of my ..... (organ). That explanation was given by ..... (name of registered medical practitioner).
5. I under the nature of that medical procedure and of the risks to me as explained by that practitioner.
6. I understand that I may withdraw my consent to the removal of that organ at any time before the operation takes place.
7. I state that particulars filled by me in the form are true and correct to my knowledge and nothing material has been concealed by me.

....

Signature of the prospective donor Date

Note: To be sworn before Notary Public, who while attesting shall ensure that the person/persons swearing the affidavit(s) signs(s) on the Notary Register, as well.

* √ wherever applicable

FORM 1(B)
(Page 1 of 2)
(To be completed by the prospective spousal donor)
(see Rule 3)

My full name is .....
and this is my photograph

Photograph of the Donor
(Attested by Notary Public)

To be affixed and attested by Notary Public after it is affixed.

My permanent home address is

.....
..... Tel: .....

My present home address is .....
..... Tel: .....

Date of birth .....(day/month/year)

I authorize to remove for therapeutic purposes/consent to donate my ..... (state which organ) to my husband/wife..... ..... whose full name is .... and who was born on ..... (day/month/year) and whose particulars are as follows:

Photograph of the Recipient
(Attested by Notary Public)

To be affixed and attested by Notary Public after it is affixed.

- Ration/Consumer Card number and Date of issue & place:.....
(Photocopy attached)
and/or
- Voter's I-Card number, date of issue, Assembly constituency.....
(Photocopy attached)
and/or
- Passport number and country of issue.....
(Photocopy attached)
and/or
- Driving Licence number, Date of issue, licensing authority.....
(Photocopy attached)
and/or
- PAN.....
and/or
- Other proof of identity and address .....

FORM 1(B) (Page-2)

I submit the following as evidence of being married to the recipient:-

(a) A certified copy of a marriage certificate

OR

(b) An affidavit of a 'near relative' confirming the status of marriage to be sworn before Class-I Magistrate/Notary Public.

(c) Family photographs

(d) Letter from member of Gram Panchayat / Tehsildar / Block Development Officer/ MLA/ MP certifying factum and status of marriage.

OR

(e) Other credible evidence

I solemnly affirm and declare that:

Sections 2, 9 and 19 of The Transplantation of Human Organs Act 1994 have been explained to me and I confirm that

1. I understand the nature of criminal offences referred to in the sections.
2. No payment of money or money's worth as referred to in the Sections of the Act has been made to me or will be made to me or any other person.
3. I am giving the consent and authorisation to remove my ..... (organ) of my own free will without any undue pressure, inducement, influence or allurement.
4. I have been given a full explanation of the nature of the medical procedure involved and the risks involved for me in the removal of my ..... (organ). That explanation was given by ..... (name of registered medical practitioner).
5. I under the nature of that medical procedure and of the risks to me as explained by that practitioner.
6. I understand that I may withdraw my consent to the removal of that organ at any time before the operation takes place.
7. I state that particulars filled by me in the form are true and correct to my knowledge and nothing material has been concealed by me.

....

Signature of the prospective donor Date

Note: To be sworn before Notary Public who while attesting shall ensure that the person/persons swearing the affidavit(s) signs(s) on the Notary Register, as well.

* √ wherever applicable.

FORM 1(C)

(Page 1 of 2)

(To be completed by the prospective un-related donor)

(See Rule 3)

My full name is .....
and this is my photograph

Photograph of the Donor
(Attested by Notary Public)

To be affixed and attested by Notary Public after it is affixed.

My permanent home address is
..... Tel .....
.....

My present home address is .....
..... Tel .....

Date of birth ..... (day/month/year)

- Ration/Consumer Card number and Date of issue & place:.....
(Photocopy attached)

and/or

- Voter's I-Card number, date of issue, Assembly constituency.....
(Photocopy attached)

and/or

- Passport number and country of issue.....
(Photocopy attached)

and/or

- Driving Licence number, Date of issue, licensing authority.....
(Photocopy attached)

and/or

- PAN.....

and/or

- Other proof of identity and address .....

Details of last three years income and vocation of donor .....
.....
.....

I hereby authorize to remove for therapeutic purposes/consent to donate my ..... (state which organ) to a person whose full name is ..... and who was born on ..... (day/month/year) and whose particulars are as follows:

Photograph of the Recipient
(Attested by Notary Public)

To be affixed and attested by Notary Public after it is affixed.

FORM 1(C) [Page-2]

- Ration/Consumer Card number and Date of issue & place:.....
(Photocopy attached)

and/or

- Voter's I-Card number, date of issue, Assembly constituency.....
(Photocopy attached)

and/or

- Passport number and country of issue.....
(Photocopy attached)

and/or

- Driving Licence number, Date of issue, licensing authority.....
(Photocopy attached)

and/or

- PAN.....

and/or

- Other proof of identity and address .....

I solemnly affirm and declare that:

Sections 2, 9 and 19 of The Transplantation of Human Organs Act 1994 have been explained to me and I confirm that

1. I understand the nature of criminal offences referred to in the Sections.
2. No payment of money or money's worth as referred to in the Sections of the Act has been made to me or will be made to me or any other person.
3. I am giving the consent and authorisation to remove my ..... (organ) of my own free will without any undue pressure, inducement, influence or allurement.
4. I have been given a full explanation of the nature of the medical procedure involved and the risks involved for me in the removal of my ..... (organ). That explanation was given by ..... (name of registered medical practitioner).
5. I under the nature of that medical procedure and of the risks to me as explained by that practitioner.
6. I understand that I may withdraw my consent to the removal of that organ at any time before the operation takes place.
7. I state that particulars filled by me in the form are true and correct to my knowledge and nothing material has been concealed by me.

....

Signature of the prospective donor Date

Note: To be sworn before Notary Public, who while attesting shall ensure that the person/persons swearing the affidavit(s) signs(s) on the Notary Register, as well.

- √ wherever applicable.

FORM 2

[See rule 4(1) (b)]

(To be completed by the concerned Medical Practitioner)

I, Dr..... possessing qualification of ..... registered as medical practitioner at serial no. ..... by the .... Medical Council, certify that I have examined Shri/ Smt./ Km. ..... S/o, D/o, W/o Shri ..... aged ....., who has given informed consent about donation of the organ, namely (name of the organ) ..... to Shri/Smt./Km ..... who is a 'near relative' of the donor/other than near relative of the donor, who had been approved by the Authorisation Committee/ Registered Medical Practitioner i.e. Incharge of transplant centre (as the case may be) and that the said donor is in proper state of health and is medically fit to be subjected to the procedure of organ removal.

Place: .....

Date: .....

.....

Signature of Doctor

Seal

To be affixed (pasted) and attested by the doctor concerned. The signatures and seal should partially appear on photograph and document without disfiguring the face in photograph.

Photograph of the Donor
(Attested by doctor)

To be affixed (pasted) and attested by the doctor concerned. The signatures and seal should partially appear on photograph and document without disfiguring the face in photograph.

Photograph of the recipient
(Attested by the doctor)

FORM 3

[See Rule 4(1)(c)]

I, Dr./Mr./Mrs. ..... working as ..... at ..... and possessing qualification of ..... certify that Shri/ Smt./ Km. ..... S/o, D/o, W/o Shri/ Smt. ..... aged ..... the donor and Shri/ Smt. ..... S/o, D/o, W/o Shri/Smt..... aged ..... the proposed recipient of the organ to be donated by the said donor are related to each other as brother/sister/mother/father/son/daughter as per their statement and the fact of this relationship*has been established / not established by the results of the tests for Antigenic Products of the Human Major Histocompatibility Complex. The results of the tests are attached.

Place .....

Date .....

Signature
(To be signed by the Head of the Laboratory)

Seal

FORM 10

(Page 1 of 2)

APPLICATION FOR APPROVAL FOR TRANSPLANTATION (LIVE DONOR)

(To be completed by the proposed recipient and the proposed donor)

[See Rule 4 (1) (c)(d)(e)]

To be self attested across the affixed photograph	To be self attested across the affixed photograph
Photograph of the Donor (Self-attested)	Photograph of the recipient (Self-attested)

Whereas I ..... S/o, D/o, W/o, Shri/Smt. ..... aged ..... residing at ..... have been advised by my doctor ..... that I am suffering from ..... and may be benefited by transplantation of ..... into my body.

And whereas I ..... S/o, D/o, W/o, Shri/Smt. ..... aged ..... residing at ..... by the following reason(s):-

a) by virtue of being a near relative i.e. .....

b) by reason of affection/attachment/other special reason as explained below :-

.....

.....

.....

I would therefore like to donate my (name of the organ) ..... to Shri/Smt. .....

We .... and ....
(Donor) (Recipient)

hereby apply to Authorization Committee for permission for such transplantation to be carried out.

We solemnly affirm that the above decision has been taken without any undue pressure, inducement, influence or allurement and that all possible consequences and options of organ transplantation have been explained to us.

FORM 10 (Page 2)

Instructions for the applicants:-

1. Form 10 must be submitted along with the completed Form 1(A), or Form 1(B) or Form 1(C) as may be applicable.
2. The applicable Form i.e. Form 1(A) or Form 1(B) or Form 1(C) as the case may be, should be accompanied with all documents mentioned in the applicable form and all relevant queries set out in the applicable form must be adequately answered.
3. Completed Form 3 to be submitted along with the laboratory report.
4. The doctor's advice recommending transplantation must be enclosed with the application.
5. In addition to above, in case the proposed transplant is between unrelated persons, appropriate evidence of vocation and income of the donor as well as the recipient for the last three years must be enclosed with this application. It is clarified that the evidence of income does not necessarily mean the proof of income tax returns, keeping in view that the applicant(s) in a given case may not be filing income tax returns.
6. The application shall be accepted for consideration by the Authorisation Committee only if it is complete in all respects and any omission of the documents or the information required in the forms mentioned above, shall render the application incomplete.
7. As per the Supreme Court's judgement dated 31.03.2005, the approval/ No Objection Certificate from the concerned State/ Union Territory Government or Authorisation Committees is mandatory from the domicile State/ Union Territory of donor as well as recipient. It is understood that final approval for transplantation should be granted by the Authorisation Committee/ Registered Medical Practitioner i.e. Incharge of transplant centre (as the case may be) where transplantation should be done.

We have read and understood the above instructions.

Signature of the Prospective Donor	Signature of Prospective Recipient
Date :	Date :
Place :	Place :

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Appendix - 14

LABORATORY EQUIPMENT CLEANING LOG

Year_____

EQUIPMENT	DATE OF MAINTENANCE	STATUS (Pass or Fail)	PERSON PERFORMING MAINTENANCE
Laminar Air Flow hood / Biosafety Cabinet Requires annual re-certification			
Transplant Tissue Storage Refrigerator. Check Temperature recorder device for accuracy against an NIST calibrated thermometer. De-ice and clean interior and exterior			
Non-Transplant tissue storage Refrigerator and Freezer. clean refrigerator (internal and external) and de-ice freezer. Check the working condition			
Specular Microscope. Requires annual re-calibration			
Centrifuge. Inspect for proper function ability according to manufactures handbook			
Serology equipment to be certified by the manufacturer. (In case of ELISA) Incubator . Reader			
UV Lights. Inspect the effectiveness of all UV lights in lab. Or change annually			
Transplant Tissue Storage Freezer. Cheque the working condition. De-ice and clean interior and exterior			

Appendix - 15

FREQUENTLY ASKED QUESTIONS ABOUT EYE DONATION

Q. What is an eye bank?

A. It is the link between donor and recipient/eye surgeon. It is an organization recognized by the government to collect and distribute human eyes to those requiring corneal transplantation.

Q. Who can be an eye donor?

A. Anyone can be a donor irrespective of age, sex or blood group.

Q. Do religious authorities approve of donating one's eyes?

Yes, all religious faiths support this vital sight restoration program.

Q. Is the whole eye used for transplant?

No. Only the thin transparent layer in front of the iris called the cornea is used for transplant.

Q. What is a cornea?

A. Cornea is a transparent tissue without any blood vessels. A clear cornea enables one to have a good vision.

Q. How is the tissue harvested from a donor?

A. Tissue is retrieved either through enucleation (whole eye ball removal) or corneal excision. Presently many eye banks in the country, retrieve cornea by IN SITU CORNEAL EXCISION PROCEDURE. This procedure involves removing just the cornea from the whole eye of the deceased/donor.

During corneal excision, the cornea along with the white part of the eye known as the sclera is excised out. Two to three mm scleral rim is excised 360 degrees. The procedure takes 20 to 30 minutes.

The excised cornea is introduced into a preservative medium, the Mc Carey Kaufman medium (MK medium) which is prepared by the Rotary Club of Hyderabad, Cornea Preservation Center of the RIEB and distributed to all eye banks in the country and South East Asian countries. The MK medium allows preservation of the cornea for a period of 4 days.

Q What is meant by corneal transplantation?

A It is a surgical procedure whereby an impaired cornea of the patient is replaced by a healthy cornea from a donor for gaining the lost vision.

Q How quickly should the corneas/eyes be removed after death?

Corneas/eyes should be removed within 6 hours of demise.

Q Is it necessary to transport the donor to the hospital after death for donating eyes?

A No. The eye bank personnel will go to the donor's residence and remove the eyes. The procedure takes approximately 20 to 30 minutes.

Q Do cataracts or the use of spectacles render the corneas unfit?

A. No. Both these conditions relate to the lens of the eye and not the cornea.

Q. Does eye donation disfigure the donor's face?

A. No. The removal of corneas/eyes does not cause disfigurement.

Q. Is there any delay in funeral arrangements?

A. No. Tissue procurement is performed within 20 to 30 minutes. Therefore family members of the deceased may proceed as planned with funeral arrangements.

Q. What conditions render corneas unfit for donations?

A. Corneas of persons suffering from AIDS, jaundice, rabies, syphilis, tetanus, septicemia and viral diseases are considered unfit for donation.

Q. What about diabetes or hypertension?

A. Even donors with these conditions can donate their eyes.

Q. Does the human body reject the transplanted donor cornea?

A. A cornea does not have direct blood supply. Therefore the risk of rejection is very low. If rejection occurs, it can be suppressed by timely medication.

Q How will the donated eyes be used?

A. After the cornea is removed from the whole eye, it is evaluated and then supplied to the eye surgeon for use in a patient.

Q. Is there any use of corneas that are for some reason not utilised for surgery?

A. Corneas that are rejected for technical reasons may be used for research or education purposes.

Q. Will the donor or recipient family be told who donated or received the cornea?

A. No. The Donor - recipient information is maintained confidential.

Q. Will the donor family be given fees?

A. No. It is illegal to buy or sell human eyes, organs or tissues. Any cost involved with cornea retrieval is borne by the eye bank.

Appendix - 16

FACTS AND MYTHS ABOUT DONATING EYES

Myth - Eyes can be removed out of living human beings.

Fact - Eyes are removed only after death.

Myth - Eyes can be donated even by a live person.

Fact - Eyes can only be pledged by a live person. Eyes can be donated only after death.

Myth - Removal of eyes causes disfigurement of the face.

Fact - Removal of eyes does not produce any disfigurement of the face.

Myth - Eye donation interferes with, or delays customary final rites.

Fact - Eye donation does not interfere with or delay final rites, as the corneal excision procedure takes less than 20 minutes.

Myth - Eyes of aged donors are not acceptable.

Fact - All donor eyes are acceptable irrespective of the donor's age, including eyes of premature/ still-born babies.

Myth - Indian eyes are not good to be used for corneal transplantation.

Fact - Eyes of any deceased person anywhere in the world can be used for corneal transplantation following evaluation.

Myth - An entire eye can be transplanted.

Fact - Only the cornea is used for transplantation.

Myth - Corneal transplantation is an experimental procedure.

Fact - Corneal transplantation is a proven, routinely performed surgery and is a successful procedure.

Myth - Corneal transplantation is not effective and successful in Indian eyes.

Fact - Corneal transplantation is effective in all eyes, if performed under optimal conditions.

Myth - Human eyes can be bought or sold.

Fact - Selling or buying of human eyes is illegal.

Myth - Only those who have pledged their eyes can donate them after death.

Fact - Pledging of eyes is not important, because even in the case of a pledgee, the consent of the family member is essential, without which an eye cannot be removed.

Appendix - 17

Eye Donation Counsellor (EDC)

DAILY REPORT FORM

1. DATE/MONTH/YEAR : _____

2. HOSPITAL ATTENDED : _____

3. PLACE : _____

4. NO. OF HRS WORKED : _____

FROM : TO: _____

5. NO. OF DEATHS DECLARED : _____

FROM 6.00 AM TO 6.00 PM : _____

FROM 6.00 PM TO 6.00 AM : _____

6. NO. OF DEATHS DECLARED WITHIN THE WORK PERIOD : _____

7. NO. OF CASES APPROACHED : _____

8. NO. OF CASES NOT APPROACHED (Give reasons) : _____

9. NO. OF CASES SUCCEEDED : _____

10. NO. OF CASES NOT SUCCEEDED : _____

11. Donors: Male: Nos Female: Nos

NAME OF THE EDC/TRAINEE : _____

SIGNATURE WITH DATE : _____

SIGNATURE OF THE EYE BANK : _____

MANAGER / DIRECTOR

Appendix - 18

Eye Donation Counsellor (EDC) Report

CASE SUMMARY

1. Date / Month / Year : _____

2. Case No : _____

3. **Particulars of the Donor :**

   Name : _____

   Religion : _____

   Age & Sex : _____

   Cause of death : _____

   Pledge : Yes _____ No _____

4. **Particulars of the Donor Family:**

   No. of family members present at The time of motivation : _____

   Family Educated : Yes _____ No. _____

   Awareness about eye donation : Yes _____ No _____

   Encountered difficulty in convincing : Yes _____ No _____

Questions raised by the family members:

_____

_____

_____

_____

5. Time Lapse Between death and Motivation : _____

6. Time taken for motivation : _____

7. Motivation outcome : _____

8. Consent Given by : _____

9. Briefly describe how motivation was carried Out : _____

10. Reasons for getting the consent (Describe) : _____

_____

_____

11. Reasons for not getting the consent (Describe): _____

_____

Appendix - 19

Eye Donation Counsellor (EDC)

MONTHLY REPORT FORM

01. MONTH/YEAR : _____

02. HOSPITAL ATTENDED : _____

03. PLACE : _____

04. NO. OF DAYS WORKED : _____

05. NO. OF HOURS WORKED PER DAY : _____

06. NO. OF DEATHS DECLARED _____

IN THE MONTH (DAY & NIGHT) : _____

07. NO. OF DEATHS DECLARED

WITHIN THE WORK PERIOD : _____

08. NO. OF CASES APPROACHED : _____

09. NO. OF CASES NOT APPROACHED (Give reasons) : _____

10. PARTICULARS OF THE CASES APPROACHED : _____

Religion :Hindu: __ ; Muslim: __ ; Christian: __

Age Group :0 – 9 _____; 10 – 19 _____;

20 – 29 _____; 30 – 39 _____;

40 – 49 _____; 50 – 59 _____;

60 – 69 _____; 70 – 79 _____;

80 and above _____.

Sex **:** Male _____; Female _____

Cause of Death : **Heart Disease** _____

Cancer _____

Trauma _____

Brain Disease _____

Infectious Disease _____

Others _____

Pledgees : No. of Pledgees _____

Not pledgees _____

Family educated : _____

Awareness about eye donation : _____

Encountered difficulty in counselling : _____

11. AVERAGE TIME LAPSE BETWEEN DEATH & MOTIVATION : _____

12. AVERAGE TIME TAKEN FOR MOTIVATION : _____

13. NO. OF CASES SUCCEEDED (DONORS) : _____

14. NO. OF CASES NOT SUCCEEDED :_____

15. PARTICULARS OF DONORS : _____

Religion :Hindu: __ ; Muslim: __ ; Christian: __

Age Group :0 – 9 _____; 10 – 19 _____;

20 – 29 _____; 30 – 39 _____;

40 – 49 _____; 50 – 59 _____;

60 – 69 _____; 70 – 79 _____;

80 and above _____.

Sex : Male _____; Female _____

Cause of Death : Heart Disease _____

Cancer _____

Trauma _____

Brain Disease _____

Infectious Disease_____

Others _____

Pledgees : No. of Pledgees _____

: Not pledgees _____

Family educated : _____

Awareness about eye donation : _____

Encountered difficulty in counselling:

Utilisation: Op.PK Th.PK L.K Others

Miscellaneous

TEMPERATURE RECORD REFRIGERATOR No.

Month : _____ Year : _____

Date	7.00 A.M.	1.00 P.M	7.00P.M
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Appendix - 20

Financial Assistance available under NPCB

II Non-recurring grant-in-aid for Eye Banks in Government/Voluntary Sector (upto maximum Rs. 15.00 lakhs);

The objective of this scheme is to promote Eye banking activity in the country through Government facilities, NGOs and other stake holders to get adequate tissue for corneal transplantation for treatment of corneal blindness.

1. **Financial assistance :** Under the scheme, financial assistance will be provided up to a maximum of Rs. 15 Lakh for purchase of equipment, furniture and fixtures (list attached)
2. **Eligibility criteria :** The organization should:
   - i. Satisfy general eligibility conditions mentioned.
   - ii. Should fit into the definition of Eye Bank as mentioned.
   - iii. Organizations having experience in providing eye care services will be given preference.
   - iv. Should have collected at-least 100 Eye Balls in any of the preceding two years of application. In case of difficult terrain (eg. North eastern states), relaxed criteria of 25 Pair of Eyes shall be applicable

     OR
   - v. Should have conducted at least 600 cataract operations including other eye disease operations in the proceeding two years. In case of difficult terrain (eg. North eastern states), relaxed criteria of 300 cataract operation including other eye disease operations shall be applicable.

3. Infrastructure Requirement:

a. Manpower Requirement:

Ophthalmic Surgeons (Full time / on Panel)	1
Ophthalmic Technician	1
Eye Donation Counselor / Social Worker / Health Educator / Clerk	2

4. Expected Output NGOs receiving non-recurring grants shall:

- i. Utlize the entire grant within period of 12 months from receipt of grant after following due procedures
- ii. Provide & maintain detailed records of Eye Balls collected and utilized in the prescribed fomat and submit monthly report to the District Health Society.
- iii. The NGO should be committed to collect at-least 200 eye balls in the next two years. In case of difficult terrain (eg. North eastern states), relaxed criteria of 100 cataract operation including other eye disease operations shall be applicable.

5. Procedure for Approval of Grants

Two copies of application in prescribed formats would be submitted by applicant NGO along with

necessary documents in support of qualifying criteria to the State Programme Officer (SPO), NPCB. The SPO would examine the proposal in terms of eligibility criteria, and depute a team of expert(s) (2-3) from the State to visit the NGO for assessing present facilities and requirements. This entire work should be completed within maximum of three months from the date of receipt of applications complete in all respects. The SPO may thereafter, forward his recommendation to the competent authority for final disposal.

S.No	Equipment/Furnishing
1.	Slit Lamp Microscope
2.	Specular Microscope
3.	Laminar Flow
4.	Serology Equipment
5.	Instruments for corneal excision and enucleation including containers
6.	Autoclave
7.	Keratoplasty instruments
8.	Transport Facility (One 2 Wheeler)
9.	Refrigerator
10.	Computer & Accessories
11.	Telephone Line
12.	Air-Conditioner
13.	Renovation, Repair, Furniture & Fixtures
	Maximum Assistance = Rs. 15 Lakh

III Non-recurring grant-in-aid for Eye Donation Centres (EDC) in Government/ Voluntary Sector (upto maximum Rs. 1.00 lakh)

1. Eye Donation Centre: For the purpose of the above scheme, an Eye Donation Centre will mean an organization that is:

   i) Is affiliated to a registered Eye Bank
   ii) Harvest corneal tissue and collect blood for serology;
   iii) Ensure safe transportation of tissue to the parent eye bank
   iv) Provide a round the clock public response system for eye donation;
   v) Coordinate with donor families and hospitals to motivate eye donation;
   vi) Conduct Public and professional awareness on eye donation;

2 Financial Assistance:

Under the scheme, financial assistance will be provided up to a maximum of Rs. 1 Lakh (Rupees One Lakh Only) for the purchase of equipment.

3 Eligibility criteria:

(a) Should satisfy general eligibility conditions mentioned. (except the 2 year clause, i.e. new organization can also apply)

(b) The organization should have the following staff as a minimum requirement:

Sl. No	Personnel	Number
1	Ophthalmic Technician	1
2	Eye Donation Counselor/ Social Worker / Health Educator	1

4 Expected Output: NGOs receiving non-recurring grants shall:

i. Utilise the entire grant within period of 12 months from the receipt of grant after following due procedures

ii. Provide & maintain detailed records of Eye Balls collected and deposited in linked Eye Bank in the prescribed format and submit monthly report to the District Health Society.

iii. The NGO should be committed to collect at-least 20 eye balls in the next two years.

Appendix - 21

Eye Banks* in India

ANDHRA PRADESH

• **Netra Eye Bank Rotary Netra Eye Hospital,** Saripalli, Pendurthi, **Visakhapatnam** - 531173 , Ph.: 2763574 • **Ongole Eye Bank,** Kurnool Road, Near RTC Bus Stand, **Ongole**-523002 , Ph.: 233767 • **Aravind Eye Bank,** Aravind Eye Hospital, Venkataratnam Street, Suryaraopet **Vijayawada**-520002, Ph.: 866433018 • **L.V. Prasad Eye Institute,** L.V. Prasad Marg, Road No-2, Banjara Hills, **Hyderabad**-500034, Ph.: 30612345 • **Swetcha Gora Eye Bank,** C/o Vasaya Mahila Mandali, Benz Circle, **Vijayawada**-520010, Ph.: 2472370 • **S.L. Mishra Memorial Eye Bank Lions Club of Hyderbad,** Sadhuram Eye Hospital Charitable Trust & P.G. Inst. of Ophthalmology, 1-2-8 Gagan Mahal Road, Domalguda, **Hyderabad**-500029, Ph.: 23221094 • **Chiranjeevi Eye & Blood Bank Research and Development Centre,** D.No. 8-2-293/82/A/CEBB, Road No-1, Jubilee Hills Check Post **Hyderabad**-500033, Ph.: 23554849 • **Sarojini Devi Eye Hospital,** T.L. Kapadia Eye Bank, Hymayun Nagar, **Hyderabad**-500028, Ph.: 23317274 • **The Khammam Eye Bank,** Near Munneru Bridge, Ranganayakulagutta Road, **Khammam**, Ph.: 223756 • **V.T. Thakur Memorial Lions Hospital & Eye Bank ,** Godown Road, **Kamareddy** - 503111 , Ph .: 225888 • **Mohsin Eye Bank,** C/o. L.V. Prasad Eye Institute, GMR Varalakshmi Campus, D.No. 11-113/1, Hanumanthuwaka Junction, **Visakhapatnam**-530040, Ph.: 2714000 • **Lions Citizens Eye Bank-ONGOLE,** C/o. Urban Health Centre, Papa Colony, **ONGOLE**, Ph.: 82835 • **Khammam District Police Eye Bank,** Distt. Police Office, **Khammam**. Ph.: 25333 • **Eye Bank,** Govt. General Hospital, **Guntur**, Ph.: 2221818 • **Eye Collection Centre,** District Hospital, **Cuddapah**, Ph.: 242152 • **Eye Collection Centre,** District Hospital, **Mahaboob Nagar**, Ph.: 243032 • **Eye Collection Centre,**District Head Quarters Hospital, **Karim Nagar**, Ph.: 2262478 • **Dr. Smita Sriman Memorial Eye Bank,** Sudarsani Eye Hospital, Kothapet Main Road, **Guntur**-522001, Ph.: 2220028 • **Indian Red Cross Society Eye Bank,** Near Govt. General Hospial, Opp. Ravi Talkies **Kurnool**-518002, Ph.: 255347 • **N.J.R. Eye Bank,** Rose Trust, QTR. No-98-B, Sector-I, Ukkunagaram, **Visakhapatnam**-530032 • **Badam Balakrishna Eye Bank,** 34-1-8, Temple Street, **Kakinada**-533001, Ph.: 2379184 • **Lions Manibai Bhagathram Guptha Eye Bank,** Lions Dundoo Eye Institute, 10-1-254, West Marredpalli, **Secunderabad** - 500026, Ph . : 27802124 • **Narayana Medical College Hospital & Eye Bank,** Narayana Medical Institutions, Chintareddypalem, **Nellore**-524002, Ph.: 2317966 • **Jnanananda Eye Bank Association,** Jnanananda Ophthalmic Institute, Mayur Town, Railway Station Road, P.O. Siva Rao Pet, **Bhimavaram**-534202, Ph.: 223321 • **Swargdham Cornea Collection Centre,** A unit of Lions Club of Medchal Charitable Trust, B/H-Job bank, Madhavi Nagar Colony , Alwal, **Secunderabad** • **Red Cross Society Eye Donation Center,** IRCS & INTAC BUILDING, BESIDE-I-Town P.S. Potti Sriramulu Jn. Old Bus Stand **Srikakulam**, Ph.: 226555

ASSAM

• **Jeuti Eye Bank,** Chandra Prabha Eye Hospital, K.K. Handigue Road, Jorhat-785001, Ph.: 2304500 • **Lions Drishti Eye Bank,** Amolapatty Railway Gate, Dibrugarh-786001, Ph.: 2320507

ANDAMAN & NICOBAR

Department of Ophthalmology, DBCS DHS G.B. Pant Hospital, **Port Blair**-744104

BIHAR

• **Piyush Eye Bank,** Pujya Tapaswi Sri Jagjeevanjee Maharaj Chakchu Chikitsalaya, **Petarbar-Post**-829121, Ph.: 265609 • **Dr. Kashyap Memorial Eye Bank,** C/o Kashyap Eye Hospital, Purulia Road, **Ranchi**-834001, Ph.: 651301198

CHANDIGARH

• **Department of Ophthalmology P.G. Institute of Medical Education & Research Centre, Chandigarh**-160012, Union Territory of **Chandigarh**, Ph.: 2747837 • **Command Hospital,** Western Command, **Chandigarh**-160022, Ph.: 867549 • **Department of Ophthalmology,** Govt. Medical College & Hospital, Sector-32, Level-IV, B-Block, **Chandigarh**-160022, Ph.: 2607707 • **Eye Bank Society,** Eye Department, P.G. Institute of Medical Education & Research Centre, Ph.: 172544589 • **Chandigarh Eye Bank,** C/o Grewal Eye Institute, SCO 166-169, Madhya Marg, Sector 9C, Ph.: 2747118 • **City Eye Bank Chandigarh,** SCO-833-834, Sector-22A, Ph.: 3099731

DELHI

• **Delhi Central Rotary Eye Bank,** Sir Ganga Ram Hospital, Rajinder Nagar, **New Delhi**-110060, Ph.: 42251356, 25861463, Extn. 1356 (M) 9811771213 • **Rotary Regency Gift of Sight Co-ordination & Processing Centre,** Venu Eye Institute & Research Centre, 1/31, Sheikh Sarai Phase-II Institutional Area, **New Delhi**-110017, Ph.: 29250952/1155/1156 Extn. 135 (M) 9899396838 • **National Eye Bank,** Dr. Rajendra Prasad Centre for Ophthalmic Sciences AIIMS, Ansari Nagar, **New Delhi**-110029, Ph.: 26589461, 26588500, 26588700, 26593444 • **Guru Nanak Eye Centre Eye Bank,** Maharaja Ranjit Singh Marg, New Delhi-110002, Ph.: 23234612, 23234622, 23235145, 23232400 Extn. 4376 • **Dr. Shroff's Charity Eye Bank,** Dr. Shroff's Charity Eye Hospital, 5027, Kedar Nath Road, Daryaganj, **New Delhi**-110002, Ph.: 43524444 Extn. 268 (M) 9873208336/26 • **Army Hospital (R & R Centre) Eye Bank,** Deptt. of Ophthalmology, Delhi Cantt., **New Delhi**-110010, Ph.: 23338181/23338183, 23338185 • **Guru Govind Singh International Eye Bank,** 31, Defence Enclave, Vikas Marg, **New Delhi**-110092, Ph.: 22542325 • **Indraprashtha Apollo Hospitals,** Apollo Eye Bank, Sarita Vihar, Delhi-Mathura Road, **New Delhi**-110044, Ph.: 26925858, 26925801 • **Safdarjang Hospital & Vardhman Mahavir Medical College,** Department of Ophthalmology, New OPD Block, **New Delhi**-110029, Ph.: 26198126, 26707217 • **Sewa Eye Bank,** A-Unit of Sewa Sansthan Charitable Society, M.M. Eye Tech., 29, Link Road, Lajpat Nagar-III, **New Delhi**-110024, Ph.: 41551811, 29841919, 9212035119. **Dial 1919 Toll Free MTNL Number.**

GOA

Rotary Club of Panaji Eye Bank Trust, C/o Metal Fabrik India, 16, Lydia Garden, St. INEZ, **Panaji**-403001, Ph.: 2425692

GUJARAT

• **Rotary Eye Institute, Sant Punit Chakshu Bank,** Smt. Lilavatiben Mohan Lal Shah (Bilimora) Eye Hospital, Dudhia Talav, **Navsari**-396445, Ph.: 258920 • **Indian Red Cross Society,** Dholka Branch, Red Cross International Eye Bank, Atulya Bhawan, Sarkhej, Gandhi Nagar Highway, **Ahmedabad**-380054 • **Lokdrishti Eye Bank,** Gayatri Hospital, A/26, Rangavdhut Society Matawadi, L.H.Road, **Surat**-395001, Ph.: 2553653 • **Mehsana Jaycees Charitable Trust,** Sanchalit The Mehsana Nagarik Sahkar Bank Ltd. Eye Bank, Super Market, Dairy Road, **Mehsana**-384002, Ph.:. 276252814 • **C.J. Patel Eye Bank,** Sanjivani Hospital, AT-Chalthan, **Chalthan-Post** - 394305, Ph.: 262771184 • **Samsan Vyausta Samiti Eye Bank,** Vahivati Committee, C/O. Yashuant C. Khakhar, Grain Market, **Jamnagar**-361001, Ph.: 558854 • **R.N.C. Free Eye Hospital & Eye Bank,** Dr. Paragji Desai Road, Opp-Mamlatdar Office, **Valsad**-396001, Ph.: 244263 • **Maharaja Agarsen Chakshu Bank (Eye Bank),** C/o Agarwal Vikash Trust City Light Area, **Surat**-395007, Ph.: 2214713 • **ASO PALOV Eye Bank,** Retina Foundation Near Shahibaug Under Bridge, Rajbhavan Road Shahibaug, **Ahmedabad**-380004, Ph.: 22865537 • **S.S.G. Hospital Eye Bank,** Ward-E-1/2, Deptt. of ophthalmology, Surgical Building, 4th Floor, SSG Hospital, **Baroda**-390001, Ph.: 3133393 • **Sanjivani The Hanuman Welfare Society,** Dr. Ashok Agarwal Eye Donation Centre, Government Hospital

Campus, **Marvad**-396210, Ph.: 3133393 • **Nagri Eye Bank,** C.H.Nagri Eye Hospital, Ellisbridge, **Ahmedabad**-380006, Ph.: 26466724 • **Eye Bank,** S.S.G.Hospital, **Baroda**-390001, Ph.: 2424748 • **Shree Swaminarayan Gurukul Hospital,** Shree Swaminarayan Gurukul Eye Institute Bank, Gondal Road, Near Water Tank, **Rajkot**-360004, Ph.: 2377708 • **Sewa Rural Jhagadia,** Society For Education Welfare & Action Rural, **Jhagadia**-393110, Ph.: 220021 • **Eye Bank-Department of Ophthalmology,** Government Medical College, Majuragate, **Surat**-395001, Ph.: 2244147 • **Raghudeep Eye Clinic-Eye Bank,** Gurukul Road, Memnagar, **Ahmedabad**-380052, Ph.: 27490909 • **Dr. Dhanijisha E Anklesaria Eye Bank,** M & J Institute of Ophthalmology, Civil Hospital Campus, Asarwa , **Ahmedabad** - 380016, Ph.: 22681010 • **Lions Karnavati Eye Bank,** Lions Karnavati Shantaben Vishnubhai Patel Eye Hospital, At-OGNAJ Village, Post-New High Court, **Daskroi**-380060, Ph.: 244052

HARYANA

• **Mahavir International,** Faridabad, Kewal Prem, 614, Sector 15 A, **Faridabad**-121007, Ph.: 282595 • **Shakti Eye Bank,** Sri Shakti Sewa Dal Chimnibai Dharmsala, NH-3, **NIT Faridabad,** Ph.: 5421047 • **International Eye Bank,** Shah Satnam Ji Speciality Hospitals,(DSS), Near Shah Satnam Ji Dham, **Nejia Khera**-125055, Ph.: 45588 • **Jeevan Eye Bank,** C/o. Gayatri Eye Care Institute, Jindal Chowk, **Hisar**-125005, Ph.: 220052 • **Y.P. Mahendru Niramaya Eye Bank,** 560/1, Dayanand Colony, New Railway Road, **Gurgaon**-122001, Ph.: 2321234 • **Eye Bank-Deptt. of Ophthalmology,** Pt. B.D.Sharma, P.G.I.M.S. **Rohtak**-124001, Ph.: 244536 • **Shanti Smriti Shri Madhav Eye Bank,** C/o. Shanti Smriti Eye & General Hospital, Canal Road, **Narwana**-126116, Ph.: 243322 • **Hisar Fort Lions Eye Bank,** #119-120, Urban Estate - II , **Hisar** – 125005 • **Lions Eye Bank,** Dr. Praveen Eye Hospital, Hissar Road, **Sirsa**-125055, Ph.: 221211 • **Madhav Netra Bank,** Ambala City, C/o. Kapil Eye Hospital, 240, Vivek Vihar, **Ambala City** - 134002, Ph.: 2553533 • **Madhav Eye Bank,** Run by Akhil Bhartiya Drishtiheen Kalyan Sangh- Nagpur, Thakur Eye & Maternity Hospital, Near Post office, **Karnal**-132001, Ph.: 2202880

HIMACHAL PRADESH

Kangra Districted Cross Society, Eye Collection Centre, Red Cross Bhawan, **Dharmasala**-176215, Ph.: 189224888

JHARKHAND

• **Bihar Eye Bank Trust,** Bariatu Road, **Ranchi**-834009, Ph.: 2545333 • **Drishti Eye Bank,** Department of Ophthalmology, Patliputra Medical College Hospital, **Dhanbad**-826005, Ph.: 2204730 • **M.G.M.Medical College & Hospital, Jamshedpur,** Ph.: 2432138

KARNATAKA

• **Narayana Netralaya, Dr. Raj Kumar Eye Bank,** 121/C, Chord Road, Rajaji Nagar, R-Block, **Bangalore**-560010, Ph.: 23325311 • **Netra Enterprises Prabha Eye Clinic Eye Bank,** 504, 40th, Cross, VIII-Block, Jayanagar, **Bangalore**-560070, Ph.: 2644131 • **S.G.M. Eye Bank Trust & Research Foundation C/o Joshi Eye Institute,** Padma Nayanalaya, Gokul Road, Husur Cross, **Hubli**-580021, Ph.: 2228431 • **Kichan Chand Chellaram Eye Bank & Cornea Grafting Centre,** Regional Institute of Ophthalmology, **Bangalore**-560002, Ph.: 26707176 • **Lions International Eye Bank,** B.W.L. Superspeciality Eye Hospital, #5, Lions Eye Hospital Road, (Off. J.C.Road) **Bangalore**- 560002, Ph.: 22235005 • **Kollegal Eye Bank,** Shanti Nursing Home, **Kollegal**-571440, Ph.: 222230 • **The Mysore Eye Bank & Research Centre,** 1205, Kantharaja URS Road, Chamarajapuram, **Mysore**-570005, Ph.: 2331216 • **Satyavathi Eye Bank,** A Div. of Netralakshmi Vaidyalay, near B.D.O. Officer, **Hospet**-583201, Ph.: 839457997 • **Sri Akkamahadevi Netradan Prerna Samithi,** Sri Akkamahadevi Samaja , P. J. Extension, **Davangare** - 577002, Ph.: 255112

• **Lions Eye Bank-Gokak,** Lions Eye Trust, Dr. Kulkarani Nursing home, **Lions Club Gokak**-591307, Ph.: 226414 • **Command Hospital,** Indian Air Force- Eye Deptt. Agram-Post **Banglore**-560007, Ph.: 25369030 • **Bhagwan Mahaveer Jain Rotary Eye Bank,** No-3, Platform Road, Seshadripuram, **Bangalore**-560020, Ph.: 23462559 • **The Mandya Eye Donation Centre,** B.G.Nethralaya, V.V. Road, **Mandya**-571401, Ph.: 220841 • **Vasudevamurthy Memorial Eye Bank,** Shekar Nethralaya, No-633, 100 Ft.Ring Road, J.P.Nagar, 3-Phase, **Bangalore**-560078, Ph.: 26593210 • **Shraddha Eye Bank,** #256/14, Kanakapura Main Road, 7-Block, Jayanagar, **Bangalore**-560082, Ph.: 26634200 • **Friends Centre Eye & Blood Bank,** C/o. Nagarajy.V. Ing Vysya Bank, B.H.Road, **Barandur**-577201, Ph.: 273573 • **Dr. A.K.Nadagouda Patil Eye Bank,** Shree Padma Nursing Home, Krishna River Road, Rabkavi, **Jamkhandi** - 587314 , P h . : 230004 • **KLES Hospital & Eye Bank,** Nehru Nagar, Belgaum, **Belgaum**-590010, Ph.: 2473777 • **Eye Bank,** District Hospital Near Channamma Circle, **Belgaum**-590001, Ph.: 2430728 • **Eye Bank Basaveswar Hospital,** H.K.E. Society's Mahadevappa Rampure Medical College, Mahadevappa Rampure Marg, **Gulbarga**-585105, Ph.: 247988 • **Basaveshwara Punarjyothi Eye Bank (R.),** Basaveshwara Medical College Hospital & Research Centre, NH-4, Bypass, Near Housing Board Colony, **Chitradurga**- 577501, Ph.: 222045 • **Ramaiah Memorial Eye Bank,** M.S. Ramaiah Medical Teaching Hospital Eye, M.S.R. Nagar, M.S.R.I.T.-Post, **Bangalore**-560054, Ph.: 23608888 • **Padamabhushan Dr. M.C.Modi Charitable Eye Hospital,** Dr. M.C.Modi Road, Mahalakshmipuram, **Bangalore**-560086, Ph.: 23492233

KERALA

• **Ahalya Eye Bank,** P.B. # 120, Karnal Pirivu, Near Walayar, Palakkad (Dist.), **Kerala**-678557, Ph.: 04923-235100, 235900, 235101• **Medical College Hospital, Trichur**-680001, Ph.: 24231050 • **Chaithanya Eye Bank,** Chaithanya Eye Hospital & Research Centre, Institute Complex, Kesavadasapuram, **Thiruvananthapuram**-6950044, Ph.: 2447183 • **Eye Bank Association Kerala,** Little Flower Hospital, **Angamally**-683572, Ph.: 2454779 • **Regional Institute of Ophthalmology,** Government Ophthalmic Hospital, **Thiruvananthapuram,** Ph.: 2307749 • **Help Rotary Eye Donation Centre,** XVI/1667, M.P. Commercial Centre, Nayak's Road, **Kasaragod**-671121, Ph.: 420578 • **Department of Ophthalmology,** Medical College, **Kozhikode**-673008, Ph.: 9846071637/ 2354906 • **Department of Ophthalmology,** Medical College, **Kottayam,** Ph.: 2597311

MADHYA PRADESH

• **Dr. Narula Eye Hospital & Eye Bank,** 77, Vikas Nagar, **Neemuch**-458441, Ph.: 220050 • **Eye Bank Regional Hospital (Govt.), Dhanpuri**-484114, Ph.: 76526330 • **Lions District Eye Bank,** Indore Eye Hospital Society, M O G Lines, Dhar Road, **Indore** - 452002 , Ph . : 731380554 • **Chhavi Eye Bank,** Gita Bhawan Eye Hospital, Manoramaganj, **Indore**-450001, Ph.: 535536 • **Lions Club Neemuch Central Eye Bank,** Mahavir Netra Chikitsalaya, 3, Bihar baghm **Neemuch**-458441, Ph.: 742321515 • **Department of Ophthalmology,** M.G.M. Medical College, M.Y.Hospital, **Indore**-452001, Ph.: 427301 • **Khushi Eye Bank,** C/o. Subhishi Hospital Pvt. Ltd., Diversion Road, Gouridham, **Khargone**- 451001, Ph.: 234786 • **Kasyap Rotary Eye Bank & Corneal Clinic,** 101-B, Nahar Pura, Gali No-1, **Ratlam**-457001, Ph.: 232556 • **Department of Ophthalmology,** Bhopal Memorial Hospital & Research Centre, Raisen Bypass Road, Karond, **Bhopal**-462038, Ph.: 2742212 • **Smt. Anasuyadevi Eye Bank,** Rotary Club of Indore Magdhoot, 4/7, Lasudia Mori, **Indore**-452010, Ph.: 5033019 • **Netra Jyoti Microsurgery Eye Hospital,** Birla Road, **Satna**, Ph.: 251077 • **Arihant Eye Bank,** Arihant Hospital & Research Centre, 283-A, Gumasta Nagar, **Indore**-452009, Ph.: 2785173 • **Murlidhar Kripa Eye Bank,** Murlidhar Kripa Hospital & Research Centre, Ujjain Road, **Maski**-465106, Ph.: 233426 • **Dada Virendra Puri Ji Maharaj Eye Bank,** C/o. Jan Jyoti Eye Hospital, 1051, Golbazaar, **Jabalpur**, Ph.: 2404608

MAHARASHTRA

• **Divya Jyot Eye Bank,** 03, Avishkar, Main Road, Dahanu Road-(W), **Masoli**-401602, Ph.: 2577686 • **Smt. Mishribai G Toshniwal Eye Bank Trust & Research Foundation,** 165/1, Railway Lines, **Solapur**-413001 • **Lions Eye Bank-Guru Nanak Eye Hospital,** Opp-Indora Chowk Bus Stop, Kamptee Road, **Nagpur**-440017 • **Gokhale Eye Bank & Research Centre,** Gokhale Eye Hospital, Anant-3, Near Dadar Portuguse Church , Above UCO Bank , Dadar, **Mumbai** - 400028, Ph.: 24221820 • **Eye Bank Co-Ordination & Research Centre,** K.B.H. Bachooali Hospital, 56/60, Jehangir Merwanji Street Near K.E.M. Hospital, Parel, **Mumbai**-400012 , Ph.: 24164342 • **Vasai Blind Relief Association Eye Hospital & Lions Juhu Eye Bank,** Azad Road, **Prarnaka, Vasai**-401201, Ph.: 2308287 • **Arpan Eye Bank,** Flat No-4054, Ist Floor, Plot No-48, Mayuresh Co-op. HSG. Society, Ghatkoper, **Mumbai**-400075, Ph.: 25147293 • **Kolhapur Eye Bank,** C/o Sonal Trading Co. 567, E Shahupuri, Ist Cross Lane , **Kolhapur** - 416001, Ph. : 2523782 • **Lions Club of Gateway Eye Bank,** The Bhatia Eye Hospital, Tardeo Road, **Mumbai**-400007, Ph.: 223071295 • **LTMM College & LTMG Hospital Eye Bank Sion, Mumbai**- 400022, Ph.: 224093077 • **Sri Satya Sai Eye Bank,** 2nd Floor, Patkar Building Opp-Canara Bank, Patkar Road, **Dombivli East**-421201, Ph.: 2861447 • **Lions Parasmal Kocheta Eye Bank,** P-31, MIDC, **MIRAJ**-416410, Ph.: 2644499 • **Akola Netradan & Netraropan,** Sanshodhan Kendra, Panpalia Clinic Milipura Chowk, **Akola**-444001, Ph.: 2434050 • **Laxmi Eye Bank,** Laxmi Eye Institute, Uran Road, **Panvel**-410206, Ph.: 27452228 • **Janakalyan Eye Bank,** Netra Seva Kendra, 318, Narayan Peth, Opp-Daily Prabhat, **Pune**-411030, Ph.: 24464287 • **Smt. Annapurna Devi Agarwal Eye Bank,** Akola Eye Hospital, Ramdas Peth, **Akola**-444001, Ph.: 724437816 • **Sri Hathi Bhai Kakal Chand Eye Bank,** Sri H.N. Hospital & Research Centre, Padamshri Gordhanbapa Chowk, R.R.Marg, **Mumbai**-400004, Ph.: 23855555 • **Amravati Netradan Sansthan,** Jai Stambh Chowk, Khaperde Garden, **Amaravati**-444602, Ph.: 72172096 • **B.J.Medical College,** D.B.S.K. Nayampalli Eye Bank, **Pune**-411001 • **Vivekanand Eye Bank,** C/o Vivekanand Medical Foundation and Research Centre, Vidyanagar, **Latpur**-413531, Ph.: 238345901 • **Armed Force Medical College(AFMC), Pune**-411040, Ph.: 6306035 • **Mahatme Eye Hospital & Eye Bank,** 16, Central Excise Colony, Wardha Road, Near Sai Baba Mandir, Chatrapati Square, **Nagpur**-440015, Ph.: 2234345 • **Dr. Bapaye Hospital Eye Bank,** Behind N.C.C. Bank, Old Agra Road, **Nasik**-422001, Ph.: 253576505 • **Lions Club of Kopri (Thane) Eye Bank,** Red Cross bhavan, Near 3-Petrol Pump, L.B.S. Marg, **Thane**- 400602, Ph.: 5393455 • **Department of Ophthalmology,** Govt. Medical College Hospital, **Aurangabad**-431001 • **Sanmitra Mandal Eye Bank,** Samadhi Ward, C**handrapur**-442402, Ph.: 52197 • **Sunderji Khetsi Memorial Eye Bank,** 833, Meghchhaya, Sri Sai Baba Road, Lal Baug **Mumbai**-400012 • **Samarpan Eye Bank,** A/2, Aditya Apts. Link Road, Chiku Wadi, Shimpoli, Borvli (West), **Mumbai**-400092, Ph.: 8985751 • **Global Eye Bank,** Global Medical Foundation and Dr. Nayana Research Centre, 302, N-3, CIDCO **Aurangabad (NEW)**-431001, Ph.: 2484540 • **Suhi l Eye Bank,** 25, Krushi Nagar, Col lege Road, **Nasik**-422005, Ph.: 2579791 • **Sewa Roshni Eye Bank,** Lilavati Hospital & Research Centre, A-791, Bandra Reclamation, Bandra (West), **Mumbai**-400050, Ph.: 26438281 • **Lata Mangeshkar Eye Bank,** 5, Maharaj Bagh Road, Sitabuildi, **Nagpur**-440012, Ph.: 712530347 • **Government Eye Bank,** Col. Sir Jamshedji Duggan Lal, JJ Hosptial, Byculla, **Mumbai**-400008 • **Swami Swaroopanand Netralaya & Eye Bank,** 15, Vaishana, Vidhyanagar Society, Civil Hospital Road, **Sangli**-416416, Ph.: 233530160 • **Dr. Sushila Nayar Eye Bank, Kasturba Hospital,** M.S.Institute of Management Sciences, **Sevagram**-442102, Ph.: 715284341 • **Dr. Chinchole Eye Hospital & Eye Bank,** Circular Road, Vishnu Wadi, **Buldana**-443001, Ph.: 242706 • **Shri Mulund K.V.O. Samaj Eye Bank,** 1/2, Dedhia Apartments, GG Road, Mulund (West) , **Mumbai** - 400080 , Ph. : 259155777 • **Shantabai Jawarilal Kawad Rotary Eye Bank,** Rotary Bhuvan, Rotary Marg, **Dondaicha**-425408, Ph.: 245023 • **Nandkishor Educational Society's Vasantiben Narendra Shah Eye Bank,** Dr. Athalwale Chambers, Opp-Gavkari Press, Tilak Path, **Nasik**, Ph.: 2311358 • **Drushti Daan Eye Bank,** C/o Netra Seva Foundation, Anuradha Eye Hospital, 100 Ft. Road, **Vishrambaug**-

416415, Ph.: 2301939 • **S.S.L. Hospital Eye Bank- With Madhav Bank,** Shankar Rao Shewak Near Bank of Baroda, **Kalyan**, Ph.: 2205148 • **Bhaiyasaheb Jawade Eye Bank,** Jawade Compound Mall-Hill Road, **Amaravati**-444602, Ph.: 2663334 • **Late Smt. S.M. Mehta Eye Bank,** C/o. Jain Social Group (Dailana), D/17, Ground Floor, Ishwarnagar, LBS Marg, Bandup(W), **Mumbai**-400078, Ph.: 25953785 • **Rotary Eye Bank,** E-3, Dwarkesh, L.T.Road, Near Diomond Cinema, Borivali (West), **Mumbai**-400092, Ph.: 28980707 • **Madhav Eye Bank,** Vardhaman Eye Hospital, Kamal Apts. Ground Floor, Opp- Telephone Exchange, Saharanpur Road, Canada Corner, **Nasik**-422002, Ph.: 2571800

MANIPUR

Department of Ophthalmology, Regional Institute of Medical Sciences, (RIMS), **IMPHAL**-795004, Ph.: 2414750

NAGALAND

Mokokchung Wood Land Multi Purpose, Co-operative Society Ltd.

ORISSA

• **Eye Bank-Rotary Club of Bhubaneswar Metro,** C/o. Brig. N.Dhal, B-21, H.I.G. H.B. Colony, Baramunda, **Bhubaneswar**-751003, Ph.: 556184 • **Drushti Daan,** L.V. Prasad Eye Institute, **Bhubaneswar**-751002, Ph.: 3987999 • **Maa Tarini Netradham (A Mission Drishti Project),** Mining Road, Near Gayatri Mandir, **Keonjhar**, Ph.: 253016 • **Daitari Satyabhama Eye Bank,** Institute of Medical Sciences & Sum Hospital Kalinga Nagar, **Bhubaneswar**

PONDICHERRY

• **Department of Ophthalmology,** Jawaharlal Nehru Institute of Post Graduate Medical Education & Research, **Dhanvantari Nagar**, Ph.: 41372380 • **Gothi Eye Bank,** 17/5B, Vazhudavur Road, Opp. Kamaraj Krishi Vigyan Kendra, **Kurumbapet**, Ph.: 41371115

PUNJAB

• **Sri Guru Harkrishan Sahib Charitable Eye Hospital Trust,** Akal Ashram near Chandigarh, **Sohana**-140308, Ph.: 2258262 • **Dr. Dajlit Singh Eye Hospital,** Sheranwalagate, **Amritsar**, Ph.: 183551600 • **Mata Kulwant Kaur Bhai Sunder Singh Baweja Eye Bank,** Milap Chowk, **Jalandhar**-144001, Ph.: 2455213 • **Bharat Vikas Parishad,** Eye Bank Faridkot, C/o Dr. S.P.S. Sodhi Sidhi Cottage, Harindra Nagar, **Faridkot**-151203, Ph.: 51131 • **Eye Bank Dayanand Medical College & Hospital,** Ophthalmology Deptt, DMCRH , LUDHIANA - 141001 , Ph. : 2471500 • **Department of Ophthalmology,** Christian Medical college, **Ludhiana**-141008, Ph.: 161643171 • **Muktisar Eye Bank Society,** C/o Sohan Singh Bhagwan Kaur Charitable Eye & General Hospital, Tibbi Sahib Road, **Muktsar**-152026, Ph.: 163360465 • **Dr. Bansal Eye Institute & Research Centre,** 105, New Lal Bagh, **Patiala**, Ph.: 175223345 • **Punarjyot Eye Bank of Punjab,** 65-A, BRS Nagar, Firozpur Road, **Ludhiana**, Ph.: 2464999 • **Eye Donation Association Hoshiarpur,** 10-R, Model Town, **Hoshiarpur**-146001, Ph.: 222622 • **Eye Bank Society-Mansa,** Tailors Street, **Mansa**-151505, Ph.: 236390 • **Sunam Nettar Bank Samiti,** Opp- Satnarain Mandir Alibazar, **Sunam**-148028, Ph.: 222827 • **Netradaan Samiti,** Satsang Road Near Punjab National Bank, **Bareta**-151501 • **Eye Bank Welfare Society (Regd),** Government Medical College, Rajindra Hospital, **Patiala**, Ph.: 2371477

RAJASTHAN

• **Jain Eye Charitable Trust C/o Dr. Jain Eye Hospital,** Dhohad Road, **Banswara**-327001, Ph.: 240425

• **Sri Jagdamba Charitable Eye Hospital,** Hanuman Garh Road, **Sri Ganganagar**-335001, Ph.: 2464358 • **Lions Eye Bank,** Lions Club of Udaipur, C/O Alok Eye Hospital, 27, Ashwini Bazar, **Udaipur**-313001, Ph.: 2524255 • **Rotary Eye Bank,** Ch. Uda Ram Sihag Memorial, Sukharia Circle, **Sri Ganganagar**-335001, Ph.: 2433933 • **Rotary City Eye Bank,** Dawar Eye Hospital, Sukhakida Road, **Sri Ganga Nagar**-335001, Ph.: 434020 • **Rajasthan Eye Bank,** Eye Research Centre Society, Bhabha Marg, Moti Dungri, **Jaipur**-302004, Ph.: 621888 • **J.W. Global Hospital & Research Centre Eye Bank,** C/o Global Hospital Institute of Ophthalmology, Taleti, Post-Shantivan, Mount Abu-307501, Ph.: 238347 • **Eye Bank Society of Rajasthan,** 429, Near Geeta Bhawan, Adarsh Nagar, **Jaipur**-302004, Ph.: 2604117 • **Than Chand Mehta Eye Bank,** Department of Ophthalmology, M.D.M. Hospital, **Jodhpur** • **Eye Bank,** Department of Ophthalmology, S.M.S. Hospital, **Jaipur**

TAMILNADU

• **Vazum Kangal Eye Bank,** M.N. Eye Hospital (F.S.), 783, T.H. Road Opp-Todiarpet Police Station **Chennai**-600021, Ph.: 25956403 • **C.U.Shah Eye Bank Sankara Netralaya,** 18, College Road, **Chennai**-600006, Ph.: 28261268 • **Regional Institute of Ophthalmology,** Govt. Ophthalmic Hospital EGMORE **Chennai**-600008, Ph.: 28267709 • **Sankara Eye Bank,** Sri Kanchi Kama Koti Medical Trust, 77, West Ponnurangam Road, R.S.Puram **Coimbatore**-641002, Ph. : 2544680 • **Sri Ramachandre Eye Bank,** Sri Ramachandra Medical College & Research Institute (D.U.) Porur, **Chennai**-600116, Ph.: 24765515 • **Lions Eye Bank Trust,** District 324- A2, 72, Mutt Street, **Kumbakonam**-612001, Ph.: 23523520 • **Natraj Hospital Eye Bank,** Sri Kanchi Kama Koti Medical Trust, Sivanandapuram, Sathy Road, **Coimbatore**-641035, Ph.: 2866450 • **Rotary Rajan Eye Bank,** Rajan Eye Care Hospital No-3, Vidyodaya East, 2nd Street, T- Nagar, **Chennai**-600017, Ph.: 28259635 • **Nagercoil Eye Bank ,** C/ o Bejan Singh Eye Hospital , 82 , College Road, Nagercoil-629001, Ph.: 237491 • **Aravind Eye Hospital,** Aurolab, 1, Anna Nagar, **Madurai** - 625020, Ph.: 2535573 • **Sankar Eye Bank,** Sankar Charitable Trust,32-B, Nellukara Street, **Kanchipuram**-631502, Ph.: 2223452 • **Aravind Eye Bank,** Aravind Eye Hospital & Post Graduate Institute of Ophthalmology, Avinashi Road, Peelamedu, **Coimbatore**-641014, Ph.: 2578901 • **Lions Eye Bank Trust Research Foundation,** Govt. Ophthalmic Hospital New Building, District 324-A1, **Chennai**-600008, Ph.: 28553840 • **J.P. Gandhi Eye Bank,** A Unit of P.D.Gandhi & M.P. Gandhi Charitable Trust, 23, Bungalow Road, **Tirupur**-641602, Ph.: 2205890 • **Lotus Eye Care Hospital & Eye Bank,** Civil Aerodrome-Post, Avinashi Road, **Coimbatore**-14, Ph.: 2626464 • **Vision Mission Eye Bank,** 34, Gandhi Road, West Tambaram, **Chennai**-600045, Ph.: 22381130 • **Salem Lions Eye Bank,** Salem Eye Hospital & Institute of Ophthalmology, 11, A/1, Gandhi Road, **Salem**-636007, Ph.: 2319993 • **Uma Eye Clinic-Rotary Club-Vision Foundation Eye Bank,** 1957, 10th Main Road, Anna Nagar, **Chennai**-600040, Ph.: 26213670

TRIPURA

Society For Promotion of Eye Donation, C/o Banakutir, 2, Nutanpalli, Krishnanagar, **Agartala**-799001, Ph.: 2302072

UTTAR PRADESH

• **Department of Ophthalmology,** LLRM Medical College, **Meerut**, Ph.: 2763133 • **Eye Department, OIC,** Army Medical Corps, **Meerut Cantt**-250001, Ph.: 696535 • **Varanasi Eye Bank Society Sah Modern Clinic,** K-16/102, Bulanala(East), **Varanasi** - 221001, Ph.: 2333272 • **Eye Bank-Gandhi Eye Hospital,** Dr. Mohan Lal Memorial Gandhi Eye Hospital, Ram Ghat Road, **Aligarh**-202001, Ph.: 2505968 • **Eye Bank Dhampur,** Nagina Road, **Dhampur**-246761, Ph.: 20222 • A-1040, Indira Nagar, **Lucknow**-226016, Ph.: 2347930 • **Sarfrazganj,** Moosabagh, Picnic Spot, Hardoi Road, **Lucknow**-226003, Ph.: 2248122 • **Lucknow Eye Bank,** Precision Eye Care, B-145, Sector-A, Mahanagar, **Lucknow**, Ph.: 2381919 • **Denaji**

Eye Bank, Rajani Eye Care Centre, Parkar College Road, **Moradabad**-244001, Ph.: 2317975 • **Indian Medical Association,** Banaras Branch, C7/31, Chetganj, I.M.A. House, **Varanasi**-221001, Ph.: 2354197 • **ICARE Charitable Eye Hospital & P.G. Inst. Glucoma Research Centre,** E-3A, Sector-26, **NOIDA**-201301, Ph.: 4068800 • **Sahyog Viklang Seva Sansthan,** 426-9, Lalkothi Baruzai, **Shahjahanpur**-242001, Ph.: 222472 • **B.H.U. Eye Bank,** Deptt. of Ophthalmology, Institute of Medical Sciences, Banaras Hindu University, **Varanasi**-221005, Ph.: 2307590 • **C.L. Gupta Eye Bank Welfare Society,** C.L. Gupta Eye Hospital, Swami Vivekananda Road, Opp-Govt. Polytechnic, **Moradabad**, Ph.: 2450681 • **Ganga Mata Charitable Eye Hospital & Research Institute,** Sapt Rishi Link Road, **Hardwar**-249410, Ph.: 260190 • **SRMS Eye Bank,** Shri Ram Murthi Smarak Trust, N-3, Rampur Garden, **Bareilly**, Ph.: 2582014 • **Department of Ophthalmology,** King George's Medical University Chowk, **Lucknow**-226003, Ph.: 225840 • **Eye Bank & Keratoplasty Centre,** C/o. Commandant, Command Hospital (CC), **Lucknow**, Ph.: 2296548 • **Roshni Eye Bank,** Flat No-7, Guru Nanak Marke, Ambala Road, **Saharanpur**-247001, Ph.: 2663779 • **Institute of Ophthalmology,** J.N.Medical College, Aligarh Muslim University, **Aligarh**-202002, Ph.: 2504576 • **Raj Eye Bank Association,** C-168/18, Near Jhankar Cinema, Naseerabad, Saraidhola, **Gorakhpur**, Ph.: 2292340 • **Post-Pharsar,** Barhalganj, **Gorakhpur**, Ph.: 2325055 • **Apex Eye Hospital ,** Polytechnic Chouraha , **Jaunpur** - 222002, Ph.: 69532 • House No. 491, Near Water Tank, Brahm Puri, Fafran Road, **Modi Nagar** - 201204, Ph.: 245542 • 94, Civil Lines, **Sitapur**, Ph.: 242769 • **Rajbahadur Singh Smarak Jan Kalyan Seva Sansthan,** 187, Raghav Nagar, Deoria, Ph.: 222029 • **Jankikund, Chitrakoot** - 210320, Ph.: 265330 • **Agrasen Chowk**, Masani Chouraha, **Mathura,** Ph.: 2401665 • 165, Nehru Nagar, Near Shree Talkies, **Agra**-282002, Ph.: 2156515 • **S.N. Medical College, Agra**, Ph . : 2530619 • **Lohandi Kalan,** Rewa Road, **Mirzapur**-231001, Ph.: 245200 • **Swaroop Nagar, Kanpur**-208002, Ph.: 294134

UTTARAKHAND

• **Jolly Grant,** Doiwala, **Dehradun**-248140, Ph.: 2412081 • **Shree Swami Bhumanand Charitable Eye & Dental Hospital & Research Institute,** Bhuma Niketan, Nyassansthnam, Sapt Sarowar Marg, **Haridwar**-249410, Ph.: 260722 • **Gandhi Satabdi Eye Hospital,** 2-C, Preetam Road, Dalanwala, **Dehradun**-248001, Ph.: 2654279 • **Ganga Mata Charitable Eyes Hospital & Research Institute,** Sapt Rishi Link Road, **Hardwar**-249410, Ph.: 260190

WEST BENGAL

• **Gujarati Relief Socity Mukta Eye Bank,** 20, Pollock Street, **Kolkata**-700001, Ph.: 33255188 • **International Eye Bank, Calcutta,** AD-202, Salt Lake, **Kolkata**-700064, Ph.: 23585758 • **Prova Eye Bank,** B.C.Memorial Eye Foundation, Disha Eye Hospital & Research Centre, 88 (63A), Ghosh Para Road, **Barrackpore**-700120, Ph.: 25931729 • **Howrah Lions Hospital (Unit of Corneal Grafting),** 9, Nityadhan Mukherjee Road, **Howrah**-711101, Ph.: 26605470 • **Regional Institute of Ophthalmology,** Medical College & Hospital Campus, **Kolkata**-700073, Ph.: 2413853 • **Midnapore Eye Bank & Eye Care Unit,** Adibasipare, Prembazar , P.O. Hijli Co-Operative **Kharagpur**-721306, Ph.: 2277331 • **Eye Bank-Command Hospital,** Eastern Command, Alipore Road, **Kolkata**-700027, Ph.: 22226391 • **Serampore Seva Kendra & Chakshu Bank,** 51, Thakurdas Babu Lane, **Serampore**-712201, Ph.: 26524612 • **Vanmukta Eye Bank,** Susrut Eye Foundation & Research Centre, HB-36/A/1, Sector-III. Salt Lake, **Kolkata**-700091, Ph.: 23580201 • **Ramraja Nabin Sangla Eye Bank & Seba Kendra,** 31, Ram Charan Seth Road, Santragachi, **Howrah**-711104, Ph.: 26272995 • **Lions Eye Bank & Visual Care Centre,** 118, Raja Ram Mohan Roy Sarani, **Kolkata**-700009, Ph.: 22414168 • **Siliguri Lions Eye Bank,** Siliguri Lions Netralaya Hill Cart Road, Near Mahananda Bridge, **Siliguri**-734403, Ph.: 2511004 • **Prayash Atreyee Eye Bank,** Raghunathpur, Post-Beltalapark, **Balurghat**-733103, Ph.: 255989 • **Siliguri Greater Lions**

Eye Bank, 2-Mile Sevoke Road, B/HV Vaishali Cinema Hall , **Siliguri** - 734402, Ph.: 2543301 • **M.P. Birla Eye Donation Centre,** C/o M.P. Birla Eye Clinic, 8-Floor, Maruthi Building, 12, DR. U.N.Brahmachari Street, **Kolkata**-700017, Ph.: 22817780 • **Basirhat Chowmatha Sebayan Eye Collection Centre,** Sir R.N.Mukherjee Foad, Chowmatha, **Basirhat**-743411 • **Netraloke Eye Collection Centre,** P.O.Taki, **Taki**-743429 , Ph. : 233003 • **Red Cross Eye Collection Centre,** Indian Red Cross Society, Madhaitala More, **Katwa**-713130, Ph.: 257308 • **Alokdisha Eye Collection Centre,** Than Road, Tarakeswar, **Hooghly**-712410, Ph.: 276080 • **Atul Ballav Eye Bank,** Department of Ophthalmology, N.R.S. Medical College & Hospital, **Kolkata**-700014.

* The list of Eye banks is an extract from the list maintained by the Eye Bank Association of India.

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