Guidelines for Cornea and Eye Banking During COVID Era

Version 1.0

11.05.2020

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Guidelines for Cornea and Eye Banking during COVID Era
Version .1
w.e.f. May 11. 2020

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Prepared in Association with: Ministry of Health and Family Welfare, Government of India, All India Ophthalmological Society, Eye Bank Association of India, Cornea Society of India, India Society of Cornea and Keratorefractive Surgeon

Disclaimer:

The current outbreak is unpredictable. If widespread community-transmission occurs, healthcare infrastructure and capacity issues may have a further impact on donation and transplantation. These recommendations will be regularly updated to account for the changing epidemiology and new information regarding treatment and testing. All transplant units and eye banks must be aware of national and local government guidance. These guidelines to be used in conjunction with guidelines from appropriate State Authorities.

No suit or legal proceedings shall lie against any person for anything done or intended to be done in good faith under this suggestions/advisory unless proved otherwise.

Introduction:

As per the Ministry of Health and Family Welfare (MoHFW) – all medical activities as deemed required by the hospital can be carried out by all hospitals except in containment zones. COVID testing for pre-operative patients is not mandatory but can be done as per the hospital policy and anaesthetist/doctor discretion even if the patient is asymptomatic. Prioritize surgeries as per medical emergency – For corneal transplants: Tectonic and therapeutic corneal transplants to be done on priority over optical and lamellar corneal transplants. Special consents can be added to the preoperative protocol for COVID time

Advisory for resuming the Eye Banking Activities

- The Eye Banking activities to be resumed through hospital cornea retrieval programme (HCRP) and to be from a hospital which is declared as non-COVID
- No eye banking activities to be started in the containment areas of Red zones. Containment zones shall be demarcated within Red (Hotspots) and Orange Zones by State/UTs and District Administration based on the guidelines of MoHFW
- Voluntary / Community donation is more hazardous for the recovery team and to be put on hold for 2 weeks or until the fresh guidelines are circulated whichever is earlier
- The Recovery Technician/ doctor to use PPE (including N95 mask, cap, face shield/visor, gloves, gown) while recovering the donor tissue for 2 weeks or until the fresh guidelines are circulated whichever is earlier
- The technicians and relevant staff must be given training about the PPE use and other precautions during retrieval to reduce the risk of acquiring infection
Eye Bank Association of India recommends that the collection of a nasal swab of the deceased donor for RT-PCR COVID19 testing can be done and sent to the laboratory immediately.

All collected tissues should be quarantined for 48 hours prior to the release of the tissue for usage for transplantation. Avoid immediate usage.

The Eye Bank Association of India recommends that eye banks exclude the following potential donors for ocular tissue collection:

- Tested positive for or diagnosed with COVID-19.
- Acute respiratory illness or fever 100.4°F (38°C) or at least one severe or common symptom known to be associated with COVID-19 - (e.g. unexplained fever, cough, shortness of breath, diarrhoea) with no other etiology that fully explains the clinical presentation.
- Individuals who have been exposed to a confirmed or suspected COVID-19 patient within the last 14 days, who have returned from nations with more than 10 infected patients and those whose cause of death was unexplained respiratory failure should not be accepted as deceased donors.
- As India, itself is a country where COVID pandemic is spreading rapidly, any patient who lives or has visited the red zone as defined by the Ministry of Health and Family Welfare vide D.O.No. Z.28015/19/2020-EMR dated 30.04.2020, will be considered as a risk and must be assessed for the clinical symptoms and avoided for eye donation.
- Evidence of conjunctivitis.
- ARDS, Pneumonia or pulmonary computed tomography (CT) scanning showing “ground-glass opacities” (regardless of whether another organism is present).
Algorithm to follow for Deceased Tissue Donation (Ref: SPANISH RECOMMENDATIONS TO MANAGE ORGAN DONATION AND TRANSPLANTATION REGARDING THE INFECTION ASSOCIATED WITH THE NEW CORONAVIRUS (SARS-CoV-2) PRODUCER OF COVID-19 dated 27th March 2020)

COVID19 Symptoms:

<table>
<thead>
<tr>
<th>Severe</th>
<th>Common</th>
<th>Less Common</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty in breathing</td>
<td>Fever</td>
<td>Myalgia</td>
</tr>
<tr>
<td>Chest Pain</td>
<td>Dry Cough</td>
<td>Fatigue</td>
</tr>
<tr>
<td>Confusion</td>
<td>Shortness of breath</td>
<td>Headache</td>
</tr>
<tr>
<td>Bluish lips or face</td>
<td></td>
<td>Hemoptysis</td>
</tr>
<tr>
<td>Unresponsiveness</td>
<td></td>
<td>Diarrhoea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sore Throat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rhinorrhea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wet Cough</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Loss of smell and test</td>
</tr>
</tbody>
</table>

*Close contact is defined as a) being within approximately 6 feet (2 meters) of a COVID-19 case for a prolonged period of time; close contact can occur while caring for, living with, visiting, or sharing a health care waiting for area or room with a COVID-19 case; or b) having direct contact with infectious secretions of a COVID-19 case (e.g., being coughed on)
General Functioning Guidelines

- Eye banks should document the risk assessment of the deceased by taking a relevant history from attender or family members and ensure that all staff are aware of the above.
- It is recommended that only corneal scleral rim excision be performed and avoid the whole eyeball enucleation.
- Use Intermediate preservative media for the preservation of corneas.
- Donor corneas in intermediate preservation media if not utilised should be shifted to glycerol on the last day of preservation and kept in a deep freezer for future use for tectonic purposes.
- Recovery procedures mandatorily require double contact of povidone-iodine to ocular tissue before retrieval.
- The entire disposable PPE kit to be removed immediately after tissue retrieval, properly packaged to avoid cross infection and disposed off after reaching the hospital as per the guidelines.
- As precaution use double-layered bags (using 2 bags) for collection of waste (blood sample /Cornea ) to ensure adequate strength and no leaks.
- Non-disposable parts of the PPE like goggles/visor to be cleaned with spirit or sodium hypochlorite immediately after returning to the hospital.
- Clean all external surfaces of MK Medium/Cornisol bottles, Flask, ice Gel packs, Instrument tray, SS Bin with Surgical spirit, alcohol wipes or freshly prepared sodium hypochlorite after recovery and repeat it at Eye Bank.
- All the donor forms and documents are to be exposed to UV light in the Laminar flow hood for 30 minutes immediately after the team arrives at the eye bank. (Expose both sides of forms -30min + 30min)
- The technicians who handled the tissues and materials, to wash hands thoroughly with soap and water for about 30 sec up to elbow before handling any other work in the eye bank. (Staff should occupy only their dedicated chair and should not sit in somebody's chair).
- Each eye bank should monitor and consult local THOTA/NOTTO/SOTTO/ROTTO/State health authority/NPCB for daily or weekly reports.
- EDC/Eye Recovery Technicians may be asked to be on call with limited movement in the Hospital.
- Eye bank-related officials must disclose the history of a hospital visit in the past 14 days (Verify papers for the cause of visit).
- The Eye Banks must follow the instructions of local State Government for starting of services.
Cleaning of the Eye Bank

- The floor of the eye bank and laboratory areas MUST be cleaned with 1% Sodium Hypochlorite every 2 hourly
- Deep Cleaning to be done anytime there is any contamination
- Door handles, side rails on stairs, high touch surface like- reception counter, help desk, gate with 1 % Sodium Hypochlorite ( 4 Times /Day)
- Chair in the waiting area (head end, armrest etc), Electronic /IT equipment like monitor, Keyboard, Mouse etc must be done with alcohol swab every two hourly

Human Resource:

- Eye banks should consider reorganisation of the activities, introducing work shifts and batches and the personnel from one shift to not get in touch with the other shift to minimise the possibility of infection. If a team gets quarantined due to any reason than the other one can still continue to work eye banking functions.
- PPE at the workplace should include mask (N95)/other approved masks, gloves and Visor (face shield) and regular apron. Usage , sterilisation/ disposal of masks as per protocol for each mask.
- All Eye Bank Staff should be provided with sufficient number of mask, gloves, single-use plastic aprons with hand sanitizers
- Frequent hand washing and use of hand sanitizer are recommended and sanitizer should be readily available with all team members during their duty timings.
- Mask mandatory in the presence of other persons
- Separation of office workstations
- Maintain 1.5 m physical distance at all times
- If staff suspected of contact but asymptomatic, quarantine for a minimum of 14 days and test as per protocols and symptomatology

Sequence for safely Putting on PPE

1. Gown
2. Mask
3. Goggles/Face Shield
4. Gloves

Sequence for safely Removing of PPE

1. Gloves
2. Goggles/Face Shield
3. Gowns
4. Mask
Wash Hands or use an alcohol-based hand sanitizer immediately after removing all PPE.

All the staff members are advised to follow below steps while going back home from eye bank/Hospital as per the guidelines of Ministry of Health and Family Welfare dated 7th April 2020:

- Ring up home when you start form office
- Someone at home should keep the front door open (so that you don’t have to touch the calling bell or door handle) and a bucket of water with washing soap powder or bleaching powder added to it in the front door
- Keep things (vehicle keys, pen, sanitizer bottle, phone) in box outside the door
- Wash your hands in the bucket and stand in the water for a few minutes. Meanwhile use tissue and sanitizer and wipe the items you have placed in the box
- Wash your hands with soap water again
- Now enter the house without touching anything
- The bathroom door is kept open by someone and a bucket of detergent soap water is ready.
- Take off all the clothes and soak inside the bucket
- Take head bath with a shampoo and body with soap
- Wash your clothes and dry clothes in direct sunlight

**Staff training:** A training program is to be organized for all the staff of the eye bank, covering all the above guidelines and proper usage of doffing and donning of PPE and collection of nasal swab prior to resuming eye donation program by the Medical Directors/eye bank manager.

**Urgency Wise List of Corneal Procedures:**

<table>
<thead>
<tr>
<th>Emergency procedure</th>
<th>Semi-emergency procedures</th>
<th>Elective procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corneal Tear repair/ Open Globe injury: Repair ± A/C reconstruction ± Cataract Sx ± Ant Vit, etc. Lid Repair</td>
<td>*Keratoplasty for bilaterally blind/paediatric</td>
<td>*All keratoplasties</td>
</tr>
<tr>
<td>Wound Dehiscence Repair- Post PK/Post ThPK/DALK</td>
<td>Closed Globe injury: Pracentesis/Hyphema drainage, Traumatic intumescent cataract ALC tear</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>*Therapeutic / Tectonic keratoplasty</th>
<th>Shield Ulcer debridement</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Ocular Surface surgeries</td>
<td>Supratarsal steroid</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emergency Perforation repair - Tenons patch / AMG / Glue+BCL</th>
<th>Emergency tarsorrhaphy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C3r</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Ulcers - Corneal scrapings /AC tap /wash / Intracameral Inj /Tarsorrhaphy</th>
<th>Pseudo membrane peeling for EKC (Be sure its not COVID EKC)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pseudo membrane peeling for EKC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Broken/Loose suture: Removal Epilation</th>
<th>Acute hydrops: C3F8 injection ± Compression sutures</th>
</tr>
</thead>
<tbody>
<tr>
<td>SubTenon/Peribulbar injection of Kenacort in Graft Rejection</td>
<td>Or IVMP injection in Rejection</td>
</tr>
<tr>
<td>Mx of Acute SJS/ Burns as per protocol</td>
<td>Mx of SJS/Chemical Burn as per protocol</td>
</tr>
<tr>
<td>Foreign Body Removal: Surface or Intracameral</td>
<td>Sx for OSSN</td>
</tr>
</tbody>
</table>

**References:**

- https://restoresight.org/covid-19-updates/
- https://restoresight.org/covid-19-updated/
- https://www.gaeba.org/