LV Prasad Eye Institute

Guidelines for Perioperative Management of Ophthalmology Surgery patients during Covid -19 epidemic- Anaesthesia Guidelines

A. General Guidelines:

- The following protocol should be followed for all ***high suspects*** (Positive Travel history, history of contact to positive case, is in a quarantine period, reports are awaited) and Covid 19 positive patients: They should be sent to central hospital where such patients are taken care of, with proper precaution of isolation. These patients should not be taken up for surgery in an isolated eye hospital.
- Have a dedicated OT
- Where possible, plan surgery under CNB or PNB / TIVAs and try avoiding GETA / LMAs
- Drugs and disposables needed for anaesthesia and anticipated extra monitoring / CL, AL, Transducers etc. should all be there.
- Dedicated OPTHAL machine for designated OT should be there. Post procedure, appropriate cleaning should be carried out. Use alcohol rub instead of sterile Jelly. Use sterile sleeves for the OPTHAL Machine.

For patients undergoing surgery under local anesthesia or General Anaesthesia

- Follow all standard pre-operative protocols as practiced by the eye center.

- Maintain 6 feet distance among patients and between patients and healthcare worker. Stringent Hand hygiene and Contact precaution policies.
- Temperature must be recorded for all patients using non-contact thermometer in addition to other vitals before administering any anaesthesia. If above 99^0, report to your coordinator for further probing and if positive history is there, update the HIC coordinators and send to central hospital.
- Experienced person to do the block to minimize failures…supplementations….conversions….Complications (HS, TS, LAST etc. needing emergent ABCs…!

Inside OR for LA:

- Only single use oxygen tubes
- Plastic drapes of size that prevents spillage of body fluid on surgeon/anaesthetists/staff or floor
- Minimum staff - maintain log of each staff in OR handling the patient

After surgery for LA:

- Carefully remove all disposable supplies and discard carefully.
- Monitor each patient for 14 days to ascertain history of fever or respiratory symptoms.

For patients undergoing surgery under GA. Inside the OR:

- All employees in GA OR must wear N95 mask and face shield (prepared in-house), besides disposable gown/Linen gown wrap-around with in-house prepared plastic cover bag, and shoe covers

- It is preferable to use cuffed tubes to reduce aerosol generation. Preferably avoid using LMAs in suspected or positive cases as flows are high and aerosol generation is high.

- Preferably single use or ETO sterilized circuits, laryngoscopes, endotracheal tubes etc. If re-used each of these should be handled carefully while preparing for sterilization. Immerse laryngoscope and endotracheal tubes in hypochlorite based solution immediately after use. Do not leave on any other surface. (CAREFULL HANDLING is must)
- Plastic drapes of size that prevents spillage of body fluid on surgeon/anaesthetists/staff or floor
- Minimum staff - maintain log of each staff in OR handling the patient

During recovery:

- Staff attending cases operated under GA must have proper PPE: N90 mask, face shield, disposable gown, and plastic disposable shoe covers each of which must be discarded properly before moving out of the room.
- Use single use suction and oxygen tubes.
- All oxygen masks must be gas sterilized.

Each OR must be terminally cleaned between cases.

Each OR should have a separate air handling units.

Minimise opening door between cases. Ensure and keep all anaesthesia and surgical supplies before shifting patient into OR.

Switch off air handling unit before opening door

UV light to be left open after cases are over.

B. TECHNICAL CONSIDERATIONS FOR ANAESTHESIA:

AIRWAY MANAGEMENT – INTUBATIONS & EXTUBATIONS (Planned Surgeries):

- Following personnel are allowed in OT at the time of Intubation & Extubation: ○
  Experienced anaesthesiologist
  - Junior anaesthesiologist / Fellow
  - Anaesthesia Technician (Ensure that equipment for Plan A and Plan B is around)
  - GDAs, to be allowed, once patient is extubated, stabilized and about to be transferred
  - Other OT staff is allowed after patient is intubated and general contact exposure precautions are carried out.

- **INTUBATION / EXTUBATION / STERILIZATION:**

  - Donning PPE
  - Use Glycopyrrolate to minimize secretions and suctioning
  - Ensure that all emergency drugs as per our protocol are freshly loaded, labelled with current date.
  - Keep two large Transparent plastic cover that extends beyond the width of OT Table and from Head end of table till abdomen
  - Machine checks, ventilator settings to be done
  - Pre-oxygenation for 3-5 minutes USING CLOSED CIRCUIT. Avoid flows more than 10 L and avoid emergency Flush knobs
  - DO NOT USE BAINS CIRCUIT

- Keep HME filters at ETT, proximal to catheter mount and at I and E limb ports at Circle absorbers / Soda lime canister

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- Put plastic Cover above the ANAESTHETIC face mask
- Modified RSI with OPA, if difficult airway, otherwise, RSI. Before you remove the Face mask, allow the expiration phase to get over completely, to minimize aerosol puff
- POST pre-oxygenation keep the face mask and circuit (Anchored, to prevent slipping off), below the plastic cover
- Use –appropriate Laryngoscope and ETT
- The anaesthesia technician will give the ETT with connected catheter mount / HME Filter (Well supported). Insert the tube till the black mark and check the number, fix it to the upper jaw
- Post Intubation connect the closed circuit to the HME filter and check the capnometry.
- Avoid auscultation.
- Post fixing the ETT, remove plastic cover and dispose it in the Bin and Anaesthetic face mask, OPA and VLS blade on the tray for disinfection. Discard
- Also dispose off the pt gown and clean the patients face, Neck and Chest with alcohol rub without touching eyes and eyelid area. Change of Soda-lime after ALL the surgeries of that day are over. However, HME Filters, minimizes the aerosol transmission to canister. We are doing this as there are no defined [illegible] guidelines and so far, nobody has cultured Soda lime for SARS CoV 2!

Before extubation, ask all the staff to move out of OT except your assistant and anaesthesia technician.

- If patient requires ET Suction, Closed ET Suction to be used
- At the end of the case, again take a fresh plastic, cover the face and chest, plan awake extubation (Ensure adequate recovery from NMBA), remove ETT with catheter mount and HME Filter and connect the face mask, ensure adequate recovery and discard all the disposables…plastic cover, ETT, catheter mount,

- Post extubation, connect the Hudson's mask. Plastic cover is removed from the face and chest….only after cough subsides…if at all the pt coughs!
- Again, clean the patient's face, neck and chest with alcohol rub. Ensure that eyes of patient are protected from alcohol rub.
- Once stable, call the GDAs and transfer the patient out to the designated areas. The designated area in LVPEI WILL BE POST – OPERATIVE Recovery area
- Post patient transfer, OT sterilization using 1% Virkon or other regular cleaning agent - Surface cleaning and Fogging and contact time of at least 60 minutes, before the next patient comes in!
- Anaesthesiologist has to supervise the cleaning of Anaesthesia equipment (Workstation, Monitors, laryngoscope and blade and monitor, Cleaning of Monitor cables, pulse-oximeter probe with ecoshield) and Nurse will supervise the cleaning of OT and Surgical equipment.
- The Anaesthetic face mask, Bougie, Stilette is cleaned by soap and water and dried, then use alcohol rub. Following this, send it for ETO

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PPE – Donning:

- Wear leggings / Gum boots
- Wash your hands and wear large cap (Female)
- Apply Hand-rub, put on powder free gloves
- Put the N 95 mask using the elastic bands. Do not touch the front and inner surface of face mask
- Apply the mask in a way that its tight fit and there are no air leaks. If leaks are there, use Transpore and seal them (Hoping you are not allergic to plaster)
- Wear three layered surgical mask over N 95 mask tie it behind your neck, ensure that entire front surface of N 95 mask is covered with three layered surgical mask.
- Apply Hand rub and now put on wrap around surgical gown and tie it laterally…not in front.

Put on impermeable plastic drape used by surgeons over the gown. This is fabricated using an inverted garbage bag at LVPEI. (make three small holes in large size garbage bag closed end. One at each edge and one in centre. Put out hands and arms through side holes and central to put the head. Open to your own size. Although small part of elbow and arm are exposed this area will not come in contact with patient or self and can be washed with soap and water after each case. Put on 2nd pair of gloves

NOW YOU ARE READY FOR INTUBATION OR EXTUBATION

PPE – Doffing (removing):

- Once patient is extubated and stable / about to be shifted, doffing is done as follows:
- Hand rub and remove the top gloves holding it inside out
- Now, remove the plastic drape from around the neck, untie the rear knot and without touching the front side, crumple it and discard it into the discard bin. When using the modified garbage bag plastic cover, remove from arms first and then over the head without touching the outer side.
- Apply hand rub, untie the surgical gown, and without touching the front side, discard ii in the Bin
- Remove surgical Face mask, do not touch the front area, untie or break the strings, discard
- Apply Hand rub
- Remove leggings, discard in the bin
- Apply Hand rub
- Remove N 95 mask using elastic band, put it in zip lock can be used for the next case
- Apply Hand rub and wear three layered surgical mask
- Ensure that BMW (PPE) is discarded as per the laid out norms and route.

ACCIDENTAL EXPOSURE TO PATIENT's SECRETIONS / MAJOR VOMITUS:

§ Hoping the exposure occurred with PPE on…! No need to worry. Rule out any breach or torn gowns.

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- All our colleagues aged over 50 years, should take Tab HCQS 400 mg Two tab 8 Hrs apart and need be, repeat the dose after 2-3 weeks. (see ICMR guidelines)
- Post doffing, wash your hands / exposed area with soap and water and then with alcohol rub
- Inform HIC Committee coordinator.
- You may have to go for two weeks quarantine, take HCQS if not taken earlier and watch for the following symptoms, if so, you may have to test for SARS Cov 2 virus and start the therapeutic regime (Contact your local coordinator mentioned above for more information):
    - Fever – 99%
    - Fatigue – 70%
    - Dry cough – 59%
    - Anorexia – 40%
    - Myalgias – 35%
    - Dyspnoea – 31%
    - Sputum production – 27%

NB: SARS Cov 2 is a highly contagious virus…spreads by droplets, fomites, contacts and via raw animal food. Strict barrier nursing and good droplet / Contact precautions often are fool proof, if diligently followed.

Disclaimer: These guidelines and video have been prepared at LVPEI keeping the best interest of patients needing emergency EYE surgery and the caregiving healthcare workers to protect from cross infection in an OT setting for eye surgery patients. This is for use in very low resource setting due to non-availability of adequate PPE in the country. The LVPEI takes no responsibility of any liability arising out of applying this protocol or video elsewhere. There is no copyright and the document is being shared in good faith with other caregivers in these difficult situation.

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