



Indian Society of Anaesthesiologists (ISA National) Advisory and Position Statement regarding COVID-19

PREAMBLE

Indian Society of Anaesthesiologists issues the following advisory and position statement to ensure safety of patients and the anaesthesiologists during the “Corona Virus Disease 2019” (COVID-19) in India.

Infection Prevention and Control policies have to be followed religiously. Human to human transmission occurs by droplet, contact and fomites and average incubation period is 2-10 days. The mortality rate is 2-3% but infectivity rate is very high, leading to increased morbidity and workload on health care. The mortality is high in immuno-compromised and elderly patients.

Anaesthesiologist interaction with patients with COVID-19 can occur in Accident and Emergency Department/Trauma Centre for emergency airway management; Critical Care/Intensive Care Units; Pre-Anaesthetic Check Up (PAC) Clinics and Pain Clinics; Perioperative Anaesthesia Care; and Anaesthesia at remote locations: endoscopy, ECT, Radiology (MRI) etc., The anaesthesiologists have to take care of the patients as well as themselves.

As the understanding of COVID-19 is being updated regularly and so are the guidelines, this ISA advisory and position statement is also subject to change and updation.

ISA POSITION STATEMENT

1. There can be a sudden surge of patients and health care demands. The hospital resources can get exhausted quickly and medical personnel can be under tremendous work stress, both clinical and psychological. Hence, existing resources have to be preserved and

additional generated immediately. In coming days, a large number of patients may suddenly require oxygen therapy, tracheal intubation and ventilatory support. The facilities, devices and equipments for the same should be updated with repairs, services, replacements and fresh purchases as per the demand assessment.

2. There should be adequate oxygen delivery devices, adequate oxygen reserve and multiple tracheal intubation teams have to be designated. A pool of anaesthesiologists has to be created at city branch level so that anaesthesiologists can be immediately shifted to the area of increased demand.
3. Elective and semi-emergency surgeries should be deferred till the outbreak of COVID-19 is contained. Only emergency surgeries should be undertaken. Non-urgent and non-time sensitive consultations; surgical, interventional and diagnostic procedures should be rescheduled to a later date when the COVID transmission is contained in the community. The decision for urgent and time-sensitive procedures (cancer surgeries) should be taken as a team, based on the available resources and patient’s clinical condition. This will conserve manpower, personal protective equipment and critical care beds.
4. Transmission of COVID-19 can also occur from the anaesthesia workplace. Frequent hand washing by the anaesthesiologists is essential. Designated operating rooms having a dedicated anaesthesia machine and cart for high infection risk situations has to be done.
5. If need arises, anaesthesia machine ventilators in the operation theatres will be used as

ventilators and OT will have to be used as Intensive Care Units. Anaesthesiologists will take care of ventilatory settings and ensure non delivery of anaesthetic gases to the patients.

ISA ADVISORY

General Preventive Measures to be followed by Anaesthesiologists

1. Anaesthesiologists should maintain Social Distancing. They should lead by example and defer their personal and social engagements. They should focus only on health care responsibilities and duties. Anaesthesiologists should also spread awareness about social distancing amongst patients and their attendants.
2. Wash your hands frequently with soap and water or alcohol based sanitizer. Wash your hands after removing gloves, after contact with the patient or anaesthesia equipment. There can be an interface with droplets, sputum, or bodily fluids while performing routine procedures.
3. Use face masks and N 95 masks. N95 masks offer protection against droplet and airborne transmission of 95% of particles more than 0.3 microns in size. Surgical face masks protect against COVID-19 droplet transmission but do not protect against aerosolized small particles. Wear disposable caps and beard covers to decrease the risk of hand contamination by touching hair that may have been exposed to droplets.
4. Do mock drills for correct donning and doffing of Personal Protective Equipment (PPE) including gown, face mask, eye shields and gloves.
5. Do Mock intubation/extubation drills wearing PPE.
6. Aerosol-generating procedures are tracheal intubation and extubation, suctioning, nebulization, CPAP, BiPAP or high flow nasal oxygen therapy. Aerosolization is also increased when more than one attempt at intubation is required.
2. Wash your hands with alcohol based sanitizer or soap and water frequently.
3. Restrict the number of attendants coming to OPD. Only one attendant to be allowed with the patient.
4. Manage inflow of patients and prevent crowding inside the PAC and Pain Clinics.
5. History of fever should be elicited/record patients' body temperature before entering the PAC Clinic/Pain Clinic. If the body temperature is higher than 37.3°C, patient should be asked to restrict him/herself at home and report to flu clinics in case of worsening of symptoms. All patients with cough should be immediately provided with a surgical mask at the reception and they should not be made to wait in queues.
6. Do detailed PAC of all patients. Ask specifically about international travel or domestic travel in the affected areas in last fortnight by the patient or his family members. It is reemphasized to enquire about history of cough, fever and sore throat and a careful chest auscultation.
7. All reusable equipment stethoscopes, BP instruments etc., should be frequently sanitized.
8. At the end of the day, clean and disinfect PAC clinics and Pain clinics by thoroughly wiping the surfaces of furniture, equipment and floor with 2 to 3% hydrogen peroxide.
9. Learn the correct method of using and disposing surgical masks. All PPEs after exposure should be locked in a double zip lock plastic bag and discarded in a touch-free disposal.
10. After returning from hospital, take bath before greeting family members. Change the clothes and keep them in wash bucket.
11. Institutes should counsel patients actively to reschedule elective/semi-emergency surgical procedures. This is especially for the elderly, paediatric and immuno-compromised patients.
12. Defer interventional chronic pain procedures. Only emergency procedures to be done.

Pre- Anaesthetic Check Up (PAC) Clinics/Pain Clinics

1. Every patient entering the hospital should be considered as COVID-19 positive and anaesthesiologists should wear mask all the time.

Peri-Operative Anaesthesia Care

1. Any patient with history of cough, fever or sore throat is usually investigated before surgery. Such patients should not undergo elective surgery and be investigated appropriately.
2. Suspected cases should be kept in designated isolation area by the institute and reported to appropriate authorities.

Emergency Surgery in suspected/confirmed COVID**19 Patients:**

1. Dedicated Operation Theatres to be used for all confirmed or suspected COVID-19 infected patients. These operation theatres should be labeled “COVID-19 Operation Theatre” and large clear bill boards and signage, visible from a distance, should be placed outside such OTs.
2. COVID-19 infected patients should be wheeled through separate/isolated corridors to the operation theatre. The patients should be wheeled directly in to the OT. They should not stay in pre-medication room at all.
3. Since majority of operation theatres in India are not negatively pressurized, the positive pressure system and air conditioning must be turned off. Laminar flow and the functional high-efficiency filters are preferable.
4. All operation theatre staff should wear PPE including anaesthesiologists, surgeons, nurses, technician, bearer, sweeper, etc. PPE included one piece special gown, properly fitted N95/N99 mask, eye shield and double gloves. Wear hospital scrubs inside and protective coveralls outside; wear a medical protective mask, disposable surgical cap, and goggles/face shield; and wear disposable medical latex gloves and boot covers. The suggested sequence for putting on personal protective equipment is as follows: putting on scrubs and hair cover → performing hand hygiene → putting on the mask → putting on inner gloves → putting on the coverall → putting on eye protection (goggles/face shield) → putting on foot protection → putting on the isolation gown → putting on outer gloves → test the fit of the personal protective equipment components.
5. Place all equipments and drugs required for the anaesthetic management in a tray and avoid handling of the drug trolley during the case.
6. Place two high quality Heat and Moisture Exchange Filters (HMEFs). First, between tracheal tube and breathing circuit; and the second between expiratory limb and anaesthesia machine. These HME filters can remove up to 99% of airborne particles 0.3 microns or greater, thus help in preventing contamination of OT atmosphere.
7. Standard routine anaesthesia monitoring to be instituted.
8. Prefer regional anaesthesia, where ever possible. A surgical mask or N95 mask must be applied to the patient throughout the length of stay in the operating room. In case supplementary oxygen is needed, the oxygen mask is applied over the surgical mask or N95 mask.
9. For general anaesthesia, pre-oxygenate for five minutes with 100% oxygen. Avoid high flow oxygen to prevent aerosolization. Ask the patient not to cough. It is prudent to cover the patient’s nose and mouth with two layers of wet gauze to block some of the secretions.
10. Rapid sequence induction and tracheal intubation (with cricoid pressure) to be done in the first attempt. Ensure adequate neuromuscular blockade to avoid bucking that can increase aerosolization. Immediately inflate the tracheal tube cuff before starting ventilation.
11. The choice of induction drugs is dictated by haemodynamic considerations. Midazolam with etomidate or propofol, depending upon patient’s haemodynamic condition, can be used for induction. Fentanyl is recommended for analgesia. If no contraindications are present, succinylcholine 1 mg/kg should be administered for tracheal intubation.
12. Avoid manual ventilation to prevent aerosolization of virus from airways. If manual ventilation is required, apply small tidal volumes.
13. Tracheal intubation should be done by experienced anaesthesiologists. Limit the number of anaesthesia team personnel (maximum three) inside the OT. Second clinician with PPE can be available outside the OT for immediate assistance.
14. Avoid awake fiberoptic intubation whenever possible. Nebulization with local anesthetic will aerosolize the virus.
15. Video-laryngoscope (if available) can be used to improve intubation success. Also, it may increase the distance between the patient’s

- airway and that of the anaesthesiologist who performs the intubation.
16. Re-sheath the laryngoscope blade immediately post intubation with the outer glove worn by the operator.
 17. Use low gas flows and closed circuits. Limit the ventilatory disconnections and, if needed, do at end expiratory phase.
 18. A closed airway suction system, if available, is preferable to decrease viral aerosol production. If it is not available, the suction should be done by minimum members of the team.
 19. Supraglottic airway devices should be used only in 'cannot ventilate' situations. This will avoid manual bagging and provide rescue oxygenation.
 20. Prophylactic administration of anti-emetic drug is preferred to reduce the risk of vomiting and viral spread.
 21. Tracheal extubation should be done on table, as far as possible. After tracheal extubation, patient to be transferred to the isolation ward. If tracheal extubation is not feasible, then shift the patient to designated Intensive Care Unit (ICU).
 22. During transfer, the team should wear proper PPE outside the operating room. The patient should be covered with one disposable operating sheet and then transferred through a dedicated lobby and elevator. The patient must wear a surgical mask or N95 mask during transfer. The surfaces of passage ways and the elevator should be cleaned. If the patient is kept intubated, a single-patient-use Ambu bag with HME filter attached must be used during transfer. Do not use a ventilator during transfer.
 23. Discard breathing circuit, mask, tracheal tube, HME filters, gas sampling line and soda lime after every patient. Water trap to be changed if it becomes potentially contaminated.
 24. Seal all used airway equipment in a double zip-locked plastic bag. It must then be removed for decontamination and disinfection.
 25. After removing protective equipment, avoid touching your hair or face before washing hands.
 26. A minimum of one hour is planned between cases to allow OT staff to send the patient back to the ward, conduct through decontamination of all surfaces, screens, keyboard, cables, monitors and anaesthesia machine with 2 to 3% hydrogen peroxide spray disinfection, 2-5 g/l chlorine disinfectant, or 75% alcohol wiping of solid surfaces of the equipment and floor. The hydrogen peroxide vaporizer is an added precaution to decontaminate the OT.
 27. All unused items on the drug tray and airway trolley should be assumed to be contaminated and discarded. All staff has to take shower before resuming their regular duties.
 28. In resource limited settings, where adequate personal protective equipments are not available, it is imperative to refer the patient to a centre with such facilities.

Intensive Care/Critical Care Unit

1. The case must be reported by the local health authorities to the national body within 24 hours in their own jurisdiction and transferred to isolation cabin in the ICU.
2. As many ICUs are not equipped with negative and positive pressure regulations in India, an alternative approach is using HEPA-Carbon-Photocatalysis air purification systems as alternate means of source control.
3. Supportive therapy in the form of supplemental oxygen and antipyretics should be immediately started.
4. Liberal fluid administration should be avoided for risk of worsening oxygenation and periodic hemodynamic assessment used to guide goal-directed therapy.
5. Along with it, adequate nutritional support with balanced proportions of proteins, carbohydrates, vitamins and minerals boosts immunity to fight the infection.
6. Empirical antimicrobials must be given within one hour based on the clinical diagnosis, local epidemiology and susceptibility data to cover all likely pathogens causing community acquired pneumonia even if suspected to have COVID.
7. Post tracheal intubation by rapid sequence intubation, lung protective strategies involving use of lower tidal volumes (4–8 ml/kg predicted

body weight), high PEEP and lower inspiratory pressures (plateau pressure <30 cmH₂O) for meeting the pH goal of 7.30-7.45 have been postulated to prevent volutrauma, barotraumas, atelectotrauma and biotrauma.

8. Deep sedation with midazolam, propofol or fentanyl infusions are recommended to curb patient's respiratory drive and prevent dyssynchrony. The few indications of continuous neuromuscular blockade in the setting of severe ARDS are ventilator dyssynchrony, inability to achieve target tidal volumes or refractory hypoxemia/hypercapnia. In fulminating cases, prone ventilation for 12-18 hours per day is useful.

Cardio Pulmonary Resuscitation

"Protected Code Blue" should be followed, with emphasis on use of N-95/N-99 masks and specialized PPEs during resuscitation due to high risk of airborne transmission. There should be disposable resuscitation packages instead of trolley. All the team members should wear PPEs and then enter the isolation bringing the defibrillator and packages along with.

It is reemphasized that wear masks, do regular hand wash and maintain social distancing.

Let's work together to maintain health of our great nation India.

Acknowledgement

Humble thanks to Team ISA- The Governing Council Members of Indian Society of Anaesthesiologists for their inputs and suggestions.

Long Live ISA !

Jai ISAian !!

Jai Hind !!

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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Submitted: 22-Mar-2020

Accepted: 22-Mar-2020

Published: 28-Mar-2020

RESOURCES

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How to cite this article: Malhotra N, Joshi M, Datta R, Bajwa SJ, Mehdiratta L. Indian Society of Anaesthesiologists (ISA National) Advisory and Position Statement regarding COVID-19. Indian J Anaesth 2020;64:259-63.