

Snippets on Disinfection of Anesthesia Equipment during COVID-19 Pandemic

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In the backdrop of the ongoing COVID-19, there is an ever-increasing trend in the Western world toward the application of single-use or disposable equipment to prevent cross infection. However, for a country like ours, this may not be feasible due to economic burden on the institutions to procure a large inventory, higher costs for the patients, and the dilemma to deal with large loads of plastic waste management.¹ Thus, there is a need to continue the use of reusable equipment by sticking to strict decontamination

practices. Anesthesia machines and equipment are potential vectors for transmission of the viral pathogen; hence, it should be disinfected after each case. Comprehensive knowledge of the disinfection agents and methods is imperative for the anesthesiologist to ensure the best infection control practice is followed so that the safety of the patients and health care workers is ensured, as elaborated in ►Table 1.²⁻⁵ All equipment should be thoroughly disinfected after use in a suspected/confirmed COVID-19 patient.

Table 1 List of routinely used anesthesia equipment and the recommended disinfection protocol¹⁻⁵

Anesthesia equipment	Method of disinfection
Video laryngoscope (blades)	<ul style="list-style-type: none"> Wipe with 70% isopropyl/ethyl alcohol within 1 minute of exposure Followed by dipping in 1% sodium hypochlorite solution for 30 minutes It is further disinfected as recommended by manufacturer (for example dipping in 2% glutaraldehyde solution for 20 to 30 minutes)
Screen-video laryngoscope/FOB	<ul style="list-style-type: none"> Cover with transparent polyethylene sheet After use wipe with 70% isopropyl/ethyl alcohol
Fiber-optic bronchoscopes	<ul style="list-style-type: none"> Soak the endoscope in 0.23% peroxyacetic acid for 10 minutes 0.23% peroxyacetic(peracetic acid) acid solution injected into the perfusion channel line with a 50-mL syringe until fully filled and wait for 10 min and again flushed for 5 minutes with 0.23% peroxyacetic acid solution Followed by routine practice of disinfection
Laryngoscope blades	<ul style="list-style-type: none"> Wipe with 70% isopropyl/ethyl alcohol within 1 minute of exposure Followed by dipping in 1% sodium hypochlorite solution for 30 minutes Followed by routine practice of disinfection
Anesthesia induction masks/stylet/bougie	<ul style="list-style-type: none"> Single use disposable—disinfect and dispose Dipping in 1% sodium hypochlorite solution for 30 minutes prior to disposal
Airways/LMA/Endotracheal tube	<ul style="list-style-type: none"> Single use disposable—disinfect and dispose Dipping in 1% sodium hypochlorite solution for 30 minutes prior to disposal
Neuromonitoring electrodes	<ul style="list-style-type: none"> Dipping in 0.1–0.5% sodium hypochlorite solution for 30 minutes Followed by routine practice of disinfection
Patient coming with lumbar drain system/EVD system to operating room	<ul style="list-style-type: none"> Wipe with 70% isopropyl/ethyl alcohol
Ultrasound/transcranial Doppler probes	<ul style="list-style-type: none"> Cover with transparent polyethylene sheet After use, wipe with 70% isopropyl/ethyl alcohol

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Table 1 (Continued)

Anesthesia equipment	Method of disinfection
Anesthesia workstation	<ul style="list-style-type: none"> Cover with transparent polyethylene sheet After use, wipe with 70% isopropyl/ethyl alcohol or 1% hypochlorite solution
ECG/SPO ₂ /NIBP cables	<ul style="list-style-type: none"> After use wipe with 70% isopropyl/ethyl alcohol
BP cuff/thermometer/stethoscope	<ul style="list-style-type: none"> After use wipe with 70% isopropyl/ethyl alcohol
Anesthesia circuits + soda lime + viral filters	<ul style="list-style-type: none"> Disinfect and discard after each case
AMBU	<ul style="list-style-type: none"> Single patient use preferentially with viral filter
EtCO ₂ sampling line	<ul style="list-style-type: none"> Disinfect and discard after each case
Stretchers, backboards, OT tables and immobilization devices, IV stands, infusion pumps	<ul style="list-style-type: none"> 1% hypochlorite solution
Bolsters, pillows in operating room	<ul style="list-style-type: none"> Cover with transparent polyethylene sheet After use wipe with 70% ethanol solution or 1% hypochlorite solution
Disinfection of disposables	<ul style="list-style-type: none"> Discard disposable items in a BioHazard bag The interior is sprayed with 1% sodium hypochlorite The bag is tied and exterior is also decontaminated with 1% sodium hypochlorite and should be given for disposal
Ensure a contact time of 10 minutes while using 1% sodium hypochlorite solution and the solution needs to be freshly prepared prior to each use for optimal results	

Abbreviations: AMBU, artificial manual breathing unit; BP, blood pressure; ECG, echocardiography; EtCO₂, end-tidal carbon dioxide; EVD, external ventricular drain; FOB, fiberoptic bronchoscope; IV, intravenous; LMA, laryngeal mask airway; NIBP, noninvasive blood pressure; OT, operating theater; SPO₂, peripheral pulse oximeter.

Conflict of Interest

None declared.

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