
COVID-19 PPE Update: Surgical Interventions

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All perioperative patients are currently being clinically screened for symptoms of COVID-19 by a questionnaire. It is possible that asymptomatic infected or pre-symptomatic infected patients may present for surgery. Since it possible for asymptomatic individuals to shed COVID-19, based on updated guidelines from the American Society of Anesthesiologists (ASA) on personal protective equipment, the following recommendations have been made for patients without a recent (within prior 5 days / 120 hours) negative COVID-19 test. For those patients who have undergone COVID-19 testing in the 5 days (120 hours) prior to surgery (PCR nasopharyngeal swab), guidelines from the Journal of the American College of Surgeons for PPE are recommended.

High-Risk Surgeries:

- Any procedures on the airway, throat, mouth or sinuses (bronchoscopy, tracheostomy, glossectomy, laryngoscopy procedure, etc)
- Surgery under regional anesthetic with high likelihood of requiring General Anesthesia
- Active CPR
- Thoracic surgery/procedures
- Emergency trauma surgery involving head, neck, or thorax
- Emergency Cesarean section with intubation

When pre-operative COVID-19 testing (PCR) is **not available**, team members without a N95 mask **or** PAPR must leave OR and wait outside for 15 minutes after intubation (based on 20 air exchange/hr with 99% air clearing). After completion of intubation other team members can return and wear standard PPE (standard gown, eye protection, gloves). For procedures where a 15-minute wait could seriously hinder care (i.e. emergency surgery), providers should follow the procedure for high-risk surgery (scenario 2). During extubation, all other providers who are not wearing a N95 mask **or** PAPR **with surgical mask**, should leave the room and wait outside for 15 minutes while the patient remains in the OR. OR doors should remain closed. N-95 masks and face shields **or** PAPR **with surgical mask** should be re-used and stored in accordance with Spectrum Health PPE [extended use guidelines](#). Additionally, anesthesia providers should elect to avoid bag mask ventilation in favor of a rapid sequence intubation with endotracheal tube, when feasible.

If pre-operative COVID-19 testing is negative, then there is no need for surgical team members to leave the OR prior to intubation or during extubation. LMA use should be limited to confirmed COVID-19 negative patients.

See representative PPE grid below

Operating procedures			
Scenario	Anesthesia PPE	Surgical providers, nursing and scrub tech PPE	Notes
1 - COVID-19 PUI/Confirmed for ANY surgery (*consider DELAY)	N95 and face shield/goggles or PAPR with surgical mask, gown, and gloves	N95 and face shield/goggles or PAPR with surgical mask, gown, and gloves	Minimize number of OR staff and providers. Intubate and extubate in negative pressure room if able.
2 - Asymptomatic or unknown patient for HIGH RISK surgery, COVID-19 testing NOT available	N95 and face shield/goggles or PAPR with surgical mask, gown, and gloves	N95 and face shield/goggles or PAPR with surgical mask, gown, and gloves	Minimize number of OR staff and providers. There must be 15 min between surgical cases after extubation.
3 - Asymptomatic patient for HIGH RISK surgery, Negative COVID-19 test in past 5 days (120 hours)	N95 and face shield/goggles or PAPR with surgical mask, gown, and gloves	N95 and face shield/goggles or PAPR with surgical mask, gown, and gloves	
4 - Asymptomatic patient for LOW RISK surgery involving general anesthesia. COVID-19 testing NOT available.	N95 and face shield/goggles or PAPR with surgical mask, gown, and gloves	N95 and face shield/goggles or PAPR with surgical mask, gown, and gloves	OR must be cleared by all team members not wearing N95 (or PAPR) for 15 min after intubation and after extubation. There must be 15 min between surgical cases after extubation.
5 - Asymptomatic patient for LOW RISK surgery involving general anesthesia. Negative COVID-19 test in past 5 days (120 hours).	N95 and face shield/goggles or PAPR with surgical mask, gown, and gloves	Standard PPE	
6 - Asymptomatic patient, with LOW RISK surgery WITHOUT general	Standard PPE	Standard PPE	

anesthesia, Negative COVID-19 test in past 5 days (120 hours).			
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References:

- <https://www.asahq.org/about-asa/newsroom/news-releases/2020/03/update-the-use-of-personalprotective-equipment-by-anesthesia-professionals-during-the-covid-19-pandemic>
- Forrester JD, Nassar AK, Maggio PM, Hawn MT, Precautions for Operating Room Team Members during the COVID-19 Pandemic, Journal of the American College of Surgeons (2020), <https://doi.org/10.1016/j.jamcollsurg.2020.03.030>
- 15 min interval based on air changes/hour data in Spectrum Health OR rooms and CDC guidelines on airborne contaminant removal: www.cdc.gov/infectioncontrol/guidelines/environmental/appendix/air.html
- https://www.michigan.gov/coronavirus/0,9753,7-406-98178_98455---,00.html