

This document provides guidance for patients scheduled for surgery. The document will be updated as new guidance becomes available.

Basic Pre-Surgical Requirements:

1. Testing:
 - a. Non-COVID Patients: Pre-surgical testing is to be completed for
 - i. **Elective or essential surgeries** that may require intubation or an aerosol generating procedure, ideally within 48-72 hours in advance of the surgery. Each facility should pre-identify surgical cases meeting this criteria.
 - ii. In situations where testing is not available or outside this testing window, the decision may be made to proceed with surgery without testing when combined agreement with anesthesia and surgeon is obtained. If both providers agree to proceed without testing, follow guidance in table (page 4 and 5) for PPE and room management.
 - iii. Facilities will need to identify local sites for patients to go for testing.
 - iv. PCR testing will be performed using Quest 48-hour turnaround time (TAT) testing or designated facility platform using batch methodology (in-house rapid test reserved for COVID PUI).
 - b. COVID Positive Patients Asymptomatic - Pre-surgical testing is **NOT** needed if it is within 90 days from symptom onset and patient remains asymptomatic. *(CDC: studies that have attempted to perform viral culture on patients beyond day 9 of illness have not been able to demonstrate the virus is infectious).*
2. **Elective surgery** should be postponed on a patient:
 - a. With a medical history of COVID-19 **until patient has recovered from illness and has been released from isolation.**
 - i. Isolation duration criteria: In general, at least 10 days after symptom onset for immunocompetent patients with mild-moderate illness and 20 days for severe/critical illness or severely immunocompromised** AND patient must also remain afebrile for 24 hours without fever reducing medications AND have improvement in symptoms.
 - ii. Scheduling or rescheduling the patient for surgery should only be considered after the patient has met the 10-day or 20-day time period based on the severity of illness described above. Once the time period has been met, the patient's condition must be assessed to verify they are fever free and have improvement in symptoms.
 - b. Who has any symptoms concerning for COVID-19 - Symptomatic patients should be evaluated, and elective surgeries postponed until acute illness has resolved, if possible.
3. Patients are instructed to **limit time spent out in the community** (self-quarantine) prior to surgery to avoid any potential for COVID-19 exposure.
4. Patients who previously tested COVID-19 **negative returning for another surgery:**
 - a. **Outpatient:** Patient returning for an **aerosol generating surgery** (intubation) should have a repeat test completed prior to the second surgery, if it is greater than 5 days from previous COVID test.
 - i. In situations where testing is not available or outside this testing window, the decision may be made to proceed with surgery without testing when combined agreement with anesthesia and surgeon is obtained. If both providers agree to proceed without testing, follow guidance in table (page 4 and 5) for PPE and room management.
 - b. **Inpatient:** Patient needing an **aerosol generating surgery** (intubation) does not require repeat testing prior to surgery if previous test was performed during the current hospitalization.

Definitions:

**** Illness Severity Criteria:** The highest level of illness severity experienced by the patient at any point in their clinical course should be used when determining the duration of precautions.

- **Mild illness**
 - COVID-19 symptoms without shortness of breath, dyspnea, or abnormal chest imaging
- **Moderate illness**
 - Evidence of lower respiratory disease by clinical assessment or imaging and
 - Saturation of oxygen (SpO₂) ≥94% on room air
- **Severe illness**
 - Respiratory frequency >30 breaths per minute
 - SpO₂ <94% on room air (or for patients with chronic hypoxemia, a decrease from baseline of >3%)
 - Ratio of arterial partial pressure of oxygen to fraction of inspired oxygen (PaO₂/FiO₂) <300 mmHg
 - Lung infiltrates >50%
- **Critical Illness**
 - Respiratory failure
 - Septic shock or
 - Multiple organ dysfunction

NOTE: pediatric patients, radiographic abnormalities are common and, for the most part, should not be used as the sole criteria to define COVID-19 illness category. Normal values for respiratory rate also vary with age in children, thus hypoxia should be the primary criterion to define severe illness, especially in younger children.

**** Severely Immunocompromised defined as:**

1. On chemotherapy for cancer
2. Untreated HIV infection with CD4 T lymphocyte count <200
3. Receipt of prednisone >20mg/day for more than 14 days
4. Transplant recipients
5. Conditions requiring biologics such as Humira

Scheduling

1. To promote social distancing, scheduling will be designed to limit the number of patients and visitors to avoid congregating in waiting areas and will require additional time between surgeries.
2. All patients will be asked screening questions at time of scheduling and day of surgery.
 - **Screening questions:** Epic navigators for OR to document patient responses
 - *Have you been diagnosed with COVID-19? Date of illness:*
 - Note: **Elective surgeries** for patients who are recovering from COVID-19 who remain in prescribed home isolation should be delayed.
 - Note: Essential surgeries for patients who are recovering from COVID may proceed.
 - *Are you experiencing COVID symptoms - fever, unexplained cough, shortness of breath, difficulty breathing, chills, repeated shaking chills, headache, sore throat, muscle pain, body aches, fatigue, new loss of smell or taste, nausea, vomiting, diarrhea, congestion/runny nose?*
 - If yes, recommend COVID testing and delay surgery.
 - *Are you living with someone who has symptoms c/w COVID-19 (fever, new unexplained cough, headache, chills, sore throat, muscle pain, new loss of smell or taste, body aches, fatigue, nausea, diarrhea)?*
 - If so, determine length of illness and was the person tested? Has the health department placed patient on home quarantine? If so, delay elective procedure until 14 days from last exposure.

3. Patients may be allowed one visitor.
4. Patients and any permitted visitor will be instructed to come to the facility with a mask. If arrive to the facility without a mask, one will be provided. Special consideration, for pediatric patients under the age of 2 years are NOT masked.
5. Prepare patient for the understanding that they will wear a mask from the time they enter, throughout the entire procedure, if feasible, and will remain in a mask until they leave the facility or admitted.
6. Patient and visitors are required to go through facility entry screening.

Waiting Areas

1. Waiting areas need to be set up for social distancing such as spatial separation of chairs (6 feet).
2. Removal of toys from waiting room is recommended for pediatric patients.

Surgical Procedure Room or Testing Area

1. Patient will continue to wear a mask. If the patient's mask must be removed for the surgery, save the mask for the patient to wear post-surgery until leaving the facility or admission.
2. Environmental cleaning, linen and medical waste management should follow the routine established practices.
3. Instrument management follow routine practices.

Recovery Area or PACU

1. Create distance between patients and pull curtains to separate patients from droplets.
2. Environmental cleaning, linen and medical waste management should follow the routine established practices.

Patient Management:

Low Droplet	Surgical/Droplet Mask; Gloves; eye protection (goggles or Face Shield) if patient is unmasked
Moderate Droplet	Surgical/Droplet Mask; eye protection (Goggles or Face Shield preferred); Surgical Gown; Gloves
High Droplet	N95 Mask; Goggles or Face Shield preferred; Surgical Gown; Gloves

Patient COVID POSITIVE documented Hx	Testing	Patient	Coworker	Room
Elective or Essential or Emergency SURGERY <u>with or without aerosol generation:</u> If a patient recovered, asymptomatic, and: <ul style="list-style-type: none"> • at least 10 days after symptom onset with immunocompetent mild-moderate illness or • 20 days severe/critical illness or <u>severely immunocompromised</u> 	None recommended	patient to wear a mask from entrance to facility, during procedure until exit from facility or admission	Standard attire and at the minimum low droplet	No need to hold room
Essential or Emergency SURGERY performed while the patient is within isolation period that involves aerosol generation such as intubation.	none recommended	patient symptomatic with fever, cough or shortness of breath, patient to wear a mask from entrance to facility until exit from facility or admission	High droplet during procedure	Hold until air exchanges are met See Appendix A
	none recommended	patient asymptomatic , patient to wear a mask from entrance to facility until exit from facility or admission	High droplet during procedure	Hold until air exchanges are met See Appendix A
Essential or Emergency SURGERY performed while the patient is within isolation period that does NOT involve aerosol generation such as intubation	none recommended	patient symptomatic with fever, cough or shortness of breath or asymptomatic , patient to wear a mask from entrance to facility, until exit from facility or admission	Moderate droplet	No need to hold room

NO documented <u>history of COVID-19 infection</u>	Testing	Patient	Coworker	Room
Elective or Essential SURGERY <u>involves aerosol generation</u> such as intubation.	Obtain NP swab for COVID PCR testing. If positive, consider delaying surgery only if it is safe to delay	patient to wear a mask from entrance to facility, during procedure until exit from facility or admission	High droplet during surgery	Hold room until air exchanges are met See appendix A
	PCR is negative , proceed with surgery with no further testing	patient to wear a mask from entrance to facility, during procedure until exit from facility or admission	Standard attire and at the minimum low droplet	No need to hold room
Elective or Essential SURGERY <u>does NOT involve aerosol generation</u> such as intubation.	None recommended	patient to wear a mask from entrance to facility, during procedure until exit from facility or admission	Standard attire and at the minimum low droplet	No need to hold room
Emergency SURGERY <u>involves aerosol generation</u> such as intubation.	obtain rapid in-house NP swab test, if available: If positive , proceed with surgery	patient to wear a mask from entrance to facility, during procedure until exit from facility or admission	High droplet during surgery	Hold room until air exchanges are met See appendix A
	If negative , proceed with surgery with no further testing	patient to wear a mask from entrance to facility, during procedure until exit from facility or admission	Standard attire and at the minimum low droplet	No need to hold room
	If unable to obtain rapid in-house NP swab test, assume the patient is positive	patient to wear a mask from entrance to facility, during procedure until exit from facility or admission	High droplet during surgery	Hold room until air exchanges are met See appendix A
Emergency SURGERY <u>does NOT involve aerosol generation</u> such as intubation.	patient symptomatic with fever, cough or shortness of breath, obtain <u>rapid in-house NP swab test (if available and/or time permits)</u> : If positive	patient to wear a mask from entrance to facility, during procedure until exit from facility or admission	Moderate droplet	No need to hold room
	patient symptomatic with fever, cough or shortness of breath, obtain <u>rapid in-house NP swab test (if available and/or time permits)</u> : If negative	patient to wear a mask from entrance to facility, during procedure until exit from facility or admission	Standard attire and at the minimum low droplet	No need to hold room
	patient symptomatic with fever, cough or shortness of breath, obtain <u>rapid in-house NP swab test (if available and/or time permits)</u> : If unable to obtain rapid in-house NP swab test, assume patient is positive	patient to wear a mask from entrance to facility, during procedure until exit from facility or admission	Moderate droplet	No need to hold room
	patient asymptomatic , SURGERY: <u>No testing</u>	patient to wear a mask from entrance to facility, during procedure until exit from facility or admission	Standard attire and at the minimum low droplet	No need to hold room

Appendix A: Airborne Contaminant Removal

Table B.1. Air changes/hour (ACH) and time required for airborne-contaminant removal by efficiency

Mercy-acceptable to use the 99% removal time frame when holding the room

ACH § ¶	Time (mins.) required for removal 99% efficiency	Time (mins.) required for removal 99.9% efficiency
2	138	207
4	69	104
6+	46	69
8	35	52
10+	28	41
12+	23	35
15+	18	28
20	14	21
50	6	8

Values apply to an empty room with no aerosol-generating source. With a person present and generating aerosol, this table would not apply. Other equations are available that include a constant generating source. However, certain diseases (e.g., infectious tuberculosis) are not likely to be aerosolized at a constant rate. The times given assume perfect mixing of the air within the space (i.e., mixing factor = 1). However, perfect mixing usually does not occur. Removal times will be longer in rooms or areas with imperfect mixing or air stagnation. Caution should be exercised in using this table in such situations. For booths or other local ventilation enclosures, manufacturers’ instructions should be consulted. 99.9% efficiency corresponds to about 7 air cycles.