

EUHM COVID-19 Perioperative Services Protocol

****It is crucial that the team communicates clearly and concisely using closed-loop communication and that each member of the team understands their role in the overall procedure*****

Terminology

- A. Standard Precautions: surgical mask and eye protection for all patient encounters and patient masked when possible.
- B. DICE + N-95: designated PPE for COVID+/PUI/Presumed Positive patients; consists of gown, N-95 mask, gloves, and eye protection. CAPR is appropriate if staff has failed a fit test for N-95 **and** has been trained on proper wear and decontamination.
- C. COVID-: negative test and asymptomatic
- D. History of COVID+: positive test that is **both** > 14 days since symptom onset **and at least** 24-hours from last fever/symptom improvement.
- E. PUI: patient with unknown COVID status or pending test result **and** symptomatic
- F. Presumed Positive: patient with negative test **and** symptomatic

I. Preoperative Phase

- A. EUHM PUI/Unknown/Pending/C+ Protocol for PRE-OP
 - a. Results are posted in the comment section of the Surgi-net tracking board.
 - b. For any patient with known negative COVID test results, anyone providing direct care is expected to wear a procedural mask, along with IP approved eye protection, and gloves.
- B. Patients with no symptoms and No Testing
 - a. Patients with pending test results or no testing that are NOT symptomatic can be assigned to a regular bay or a room in PACU II.
 - b. The nurse/tech are required to wear IP approved eye protection, N95 mask, and procedural mask while providing direct care.
- C. PUIs (Symptomatic, Asymptomatic, or pending testing)
 - a. For any patient that is PUI (Persons under Investigation), the nurse or nurse tech is required to wear the appropriate PPE (ACE) during direct patient care activities.
 - b. Patient can be assigned to a negative pressure room in PACU or another room in PACU 2.
 - c. Charge nurse communicates with PACU Charge nurse about the patient.
- D. C+ Patients
 - a. C+ patients are assigned to a negative pressure room in PACU II (31 or 35). If rooms 31 or 35 are unavailable, then C+ patients can be assigned another room in PACU II.
 - b. Same process for Lobby Level patients assigned to rooms 8-12
 - c. For any patient that is C+, the nurse or nurse tech are required to wear the appropriate PPE (ACE) during direct patient care activities.
 - d. Charge nurse verifies and communicates with the OR desk of patients status/results.
 - e. Charge nurse verifies with OR desk or surgeon, that patient is aware of test results before bringing patient to an assigned station.
 - f. Charge nurse verifies all supplies are available for staff involved in the direct care of the patient.

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- g. Charge nurse or tech goes to get the patient from the waiting area (with IP approved eye protection, N95, and procedural mask). A call is placed to the OR desk to call "Ground Stop." The nurse/tech then brings the patient from the surgical waiting area around to the back entrance to PACU II.
- h. Charge nurse communicates with PACU charge nurse of which room patient was in for pre-op so that the patient can be recovered in the same room. Patient belongings are left in the room as well.

II. Operating Room Phase

- A. Current recommendations from Infection Prevention are that negative pressure rooms for intubation and extubation are not required. **DICE + N-95 or CAPR precautions should be worn for 15 minutes following intubation and extubation in the OR.** C+, presumed C+, and PUI patients are to be transported directly to the OR and will be intubated/extubated there.
- B. PPE Requirements:

Patient Status	PPE
COVID negative, asymptomatic	Standard Precautions
Unknown status, asymptomatic	Standard Precautions
History of COVID-19: positive test, >14 days since symptom onset AND at least 24 hours since last fever	Standard Precautions
COVID+, <14 days since symptom onset OR less than 24 hours since last fever; PUI, Presumed +, and Aerosol-Generating Procedure (AGP)	DICE + N-95 mask or CAPR

III. Operating Room Protocol for COVID+ patients:

- A. Current recommendations are that patients who are C+, PUI, or presumed positive be posted as the last case of the day where feasible and can go in any room. Deviations from this will be evaluated on a case by case basis (Urgent/Emergent)
- B. **The OR Charge Nurse will notify EVS daily at the beginning of the shift of any C+/PUI patients that are on the OR schedule.**
- C. Desk notifies team of posted emergent/urgent case on C+, PUI, or presumed positive patient
 - a. OR front desk will call the patient’s primary nurse to “pre-op” the patient. Pertinent information in addition to the standard questions includes:
 - i. Does the patient have SCDs on? If not, please place them on the patient.
 - ii. Last time patient ate or drank?
 - iii. What is the patient’s COVID status (see above grid for guidance)?
 - b. OR front desk will call EVS Supervisor to advise of C+ case to secure UV disinfection post cleaning if feasible.
 - c. OR team will consist of an RN circulator, surgical technologist, and a runner (either an RN circulator or surgical technologist) outside the room. Anesthesia staffing per their protocol.
 - d. As all ORs are on the same air handling system, the current Infection Prevention recommendations are that high risk be done as **the last case of the day** and can be done in any OR.
- D. **Room Readiness: OR preparation for C+, PUI, or presumed positive patient**

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- a. The team will proceed to the designated OR and begin removing all nonessential equipment and supplies from the room, moving them into the hallway. Any equipment that cannot be removed from the room will be covered with either a C-Arm Drape or an isolation drape (1017 Drape). This includes the surgeon's computer, the Black Diamond System (if applicable), the boom(s), and any overhead monitors. The team will need to wear DICE + N-95 (or CAPR) for the entirety of the case.
- b. The surgical tech and the runner will begin opening the case. The circulator will make sure that the correct PPE and signage is placed on both doors of the OR. The core side door of the designated OR will be taped shut. This door should not be opened for any reason during the case.
- c. Core Techs can be utilized to assist with gathering necessary equipment and bringing it to the OR.
- d. If there are any issues with instrumentation, please alert your ORL ASAP so these issues can be resolved before the patient is sent for.
- e. The circulator and scrub will perform initial counts and confirm any special supply and equipment needs with the surgeon prior to declaring the room ready.
- f. All team phone numbers will be written on the white board in the room for easy access. This will include the Core Tech and ORL. Team personal effects (cellphone, etc) should remain outside of the OR at all times.
- g. When the team is ready, the circulator will verify against the room readiness checklist (Attachment A), then alert the Anesthesia Team that the OR is ready to receive the patient.
- h. The circulator will check the Eemr for the H&P, then call the patient's primary nurse in the ICU/Floor/ED to receive report. The circulator will have the primary nurse read the consent back and verify that the surgical site is marked if applicable and that there is an armband on the patient.
- i. The circulator, primary surgeon, Anesthesiologist, Anesthetist 1, the Anesthesia Tech, and PACU RN will meet as a group in front of PACU 2 room 35 for pre-briefing.
- j. A "Pre-Flight time out" will be conducted to delineate roles and discuss the posted case prior to proceeding to the ICU/bedded unit/ED. **Participation by all team members prior to retrieving the patient is mandatory** as this is when any questions regarding the case, the patient, and any anticipated complications can be asked, discussed, and answered. The transport route should be planned out and discussed prior to proceeding to the patient.
- k. **The time out will not start until all members of the team are present. This includes the attending surgeon.**
- l. The circulator and Perioperative Services Tech will exchange phone numbers prior to the transport team leaving.
- m. The circulator will write the patient's name, destination OR, and a space for time out of intubation room on the white board outside of the door of the intubation room.
- n. The Circulator and Primary Surgeon will proceed back to the designated OR to confer with the surgical technologist regarding any other special needs for the case. The surgeon will access any imaging that they may need during the case and have it up on the computer screen.

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A. Patient Transport C+, PUI, or presumed positive :

- a. Inpatients will be transported directly to the OR, bypassing POHA. ICU patients will be transported on the ICU bed. Patients who are on a bedded unit will be transported to and from the OR via stretcher where feasible.
- b. Patients must wear an isolation mask or a cloth mask for transport.
- c. The transport team is expected to wear the appropriate DICE + N-95 PPE for transport.
- d. Prior to leaving the ICU/Floor/ED, the Perioperative Services Tech will call the OR Front Desk to alert that they are leaving the ICU/Floor/ED. The OR Charge Nurse will alert the OR team that the patient is enroute.
- e. Transport Scenarios
 - i. Scenario A: Patients who come from the ICU intubated will proceed directly to the OR. Patients will be transported on a transport ventilator with a respiratory therapist as a member of the transport team. A “ground stop” will be called for as soon as the patient arrives at the back door to PACU 2. This patient will proceed directly to the red line for transfer of care. The transport team for intubated/ICU patients will consist of a Perioperative Services Tech, Respiratory Therapist, and the patient’s primary RN.
 - ii. Scenario B: non-intubated patients in the ICU will be transported directly to the OR for induction/intubation. Transport team will consist of 1 or 2 Perioperative Services Techs and the primary RN. Patient will wear a mask at all times.
 - iii. Scenario C: non-intubated patient on bedded unit will be transported to the OR for induction/intubation. These patients will be transported by two (2) Perioperative Services Techs or a Perioperative Services Tech and the designated runner. Patient will wear a mask at all times.

B. Intraoperative Protocol: C+, PUI, or presumed positive:

- a. The patient’s chart should remain outside of the room at all times. Only take patient labels into the room. The Surgical Safety Checklist and Transfer of Care form should remain with the chart and be filled out after leaving the room.
- b. The runner will be given a mobile phone for communication with the team in the OR.
- c. The required PPE is DICE + N-95 mask or CAPR (if required). It is the expectation that all OR staff will wear the appropriate PPE while participating in direct patient care duties.
- d. Hands free communication will be used via speaker phone. Do not put the phone up to your face.
- e. Once the beds are aligned and locked, the patient will be moved over to the OR table and secured. The stretcher/bed will then be pushed against the wall and remain in the OR for the duration of the case.
- f. Preoperative procedures (foley, prep, etc) will be done as usual.
- g. After the time out, once the case has started, the circulator will wipe the bed down and remake it for transport after the case.
- h. If the patient is found to need an ICU bed postoperatively and will be transported directly there from the OR, the Circulator will page the bed coordinator to request

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the ICU bed. The circulator will also call PACU to advise change of postoperative destination.

- i. If any additional supplies or equipment are needed, the Circulator will call the runner, who will then retrieve the needed items and bring them to the room on the hall side. At no time is the circulator to leave the room nor is the runner to enter the room unless an emergency arises. The core side door of the designated OR should be taped shut from both sides and not opened at any time.
 - i. Core Techs can be utilized to retrieve instruments/equipment as needed. They will bring the items to the runner, who will then move the items into the OR.
 - ii. Please call ORLs if there are any instrumentation issues during the case.

C. Case Conclusion and Transport C+, PUI, or presumed positive :

- a. For patients who will remain intubated, have an ICU bed, or have a fresh tracheostomy, they will be transported directly from the OR to the ICU. Respiratory Therapy will be called to supply a transport ventilator for intubated patients. The Circulator will accompany the transport team and give report to the ICU nurse. Non intubated patients will wear a mask at all times.
- b. For patients who can be extubated, extubation will occur in the OR and the patient will be transported to a PACU 2 room for recovery.
 - i. The Circulator will call the OR front desk to advise that the case is complete and a "ground stop" is needed so the patient can be transported to the ICU/PACU.
 - ii. Extubated patients will be transported to PACU 2 for recovery. Please call the PACU Charge Nurse before extubation to give them a heads up. This will give them time to assign staff to the patient and give the staff time to don their PPE and be ready to assume care.
 - iii. The anesthesia team will remain in DICE + N-95 or CAPR for transport.
 - iv. The OR front desk will call for a ground stop in the hallways.
 - v. The circulator will doff PPE in the required sequence, performing hand hygiene between steps.
 - vi. The circulator will visually verify that traffic has stopped, then alert the Anesthesia team that it is safe to move the patient from the OR to PACU 2.
- c. Upon arrival to the recovery room,
 - i. The Circulator will give hand-off report to the PACU RN at the bedside. The Circulator will also call the patient's floor nurse to give report i.e. what procedure was done, number and type of drains, tubes, etc, and any other case specific pertinent information.
- d. As soon as the patient meets PACU discharge criteria, they will be transported by the PACU nurse and PACU Nurse Tech back to their room.
- e. Once the patient leaves the PACU, an EVS Tech will turn over the PACU location vacated by the patient, wearing the appropriate DICE + N-95 PPE. EVS will then come and UV disinfect the area if feasible.
- f. If PACU space and resources are limited, particularly after hours and on weekends/holidays, then it is at the discretion of the anesthesiologist to transport

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the patient directly to the ICU and extubate there instead or extubate in the OR. Respiratory Therapy will be called to supply a transport ventilator.

D. Room Turnover C+, PUI, or presumed positive:

- a. C+, PUI, or presumed positive patients should be done as the last case of the day if patient condition allows. Once the room is cleaned by the Perioperative Services Techs, the room should be closed until terminal cleaning can be done and the room disinfected with UV lights.
- b. If the case is emergent and cannot wait, the following cleaning protocol should be followed:
 - i. There is ***no waiting period*** from the time the patient rolls out of the OR until room turnover can begin. Once the patient has left the OR, room turn-over can begin. The Perioperative Services Tech should don DICE + N-95 PPE to clean the room.
 - ii. Instruments are handled just as they would be for any other patient—there are no special requirements for packaging or transport. Instruments should be rinsed periodically throughout the case, then restrung, sprayed with PreClenz, and repackaged. Place pans on an empty case cart and transport to SPD Decontamination Area.
 - iii. All plastic coverings should be removed from equipment. Room turn-over is performed, making sure all surfaces are wiped down. The bed is to be left unmade until after UV Light disinfection is complete.
 - iv. Any used equipment in the room should be thoroughly wiped down.
 - v. All trash generated, excluding grossly bloody/soiled items, can be disposed of in the regular trash. All reusable surgical linens are to go into the green linen bag. Sheets, blankets, patient gowns, pillow cases, etc may go into the blue linen bag.
 - vi. Once room turnover is complete, the room should receive end of day terminal cleaning per protocol, including UV Light Disinfection if feasible.
 - vii. Equipment can be left in the room for UV Light disinfection.
 - viii. After the completion of UV Light disinfection, the bed can be made.
 - ix. If there is no case to follow, equipment should be returned to storage areas following UV Light disinfection.
- c. While not a requirement, after any aerosolizing procedure on C+, PUI, or presumed positive patients, staff from the team ***may voluntarily*** shower and change scrubs prior to returning to work. A shower and linens shall be made available.

E. Other Pertinent Information

- a. Airway emergencies: there is an emergency trach tray and supply tote located in each core. The location is marked with a red sign hanging from the ceiling at the location of the tray. Please ***visually verify presence before sending for any patient considered at high risk for airway compromise***. If the tray or supply tote is missing, notify the core tech to replace ASAP.
- b. Follow-up: a debrief should be conducted after each C+/PUI case for quality and process improvement.

F. Negative test and asymptomatic, Unknown status and asymptomatic, and History of COVID-19:

- a. COVID negative, asymptomatic:

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- i. No room prep is required. Case can proceed in OR as is.
 - ii. Patient must wear mask and can go to regular POHA bay.
 - iii. PPE: DICE + N-95 for 15 minutes after intubation, then standard precautions (surgical mask+ face shield/goggles) unless Aerosol Generating Procedure (AGP).
 - iv. Patient can leave the OR when stable for transport, but N-95s should be worn by room turn over crew until 15 minutes after extubation.
 - v. Patient can recover in regular PACU bay.
- b. Unknown test result and asymptomatic:
- i. No room prep is required. Case can proceed in OR as is.
 - ii. Patient must wear mask and can go to regular POHA bay or PACU 2..
 - iii. PPE: DICE + N-95 for 15 minutes after intubation, then standard precautions (surgical mask+ face shield/goggles) unless Aerosol Generating Procedure (AGP).
 - iv. Patient can leave the OR when stable for transport, but N-95s should be worn by room turn over crew until 15 minutes after extubation.
 - v. Patient can recover in regular PACU bay or PACU 2.
- c. COVID positive, >14 days since symptom onset, AND at least 24 hours since last fever and improvement in symptoms:
- i. No room prep is required. Case can proceed in OR as is.
 - ii. PPE: DICE + N-95 for 15 minutes after intubation, then standard precautions unless AGP. Although not supported by current IP recommendations, the team may choose to wear appropriate DICE + N-95 for the duration of the case.
 - iii. Patient can leave the OR when stable for transport, but N-95s should be worn by room turn over crew until 15 minutes after extubation.
 - iv. Patient recovered in regular bay or PACU 2.

IV. PACU Phase

- A. PACU has made arrangements to recover C+ patients 24/7.
- B. Please be sure to call PACU early in case they need to call in additional staff.
- C. A closed room (PACU 2) is preferred over a curtained bay for recovering C+ patients. A negative pressure room is not required unless patient is also on Airborne isolation for another pathogen. PACU staff should wear DICE + N-95 PPE while recovering patients.
- D. PACU Plan for C- and asymptomatic:**
 - a. Patient must wear mask
 - b. Can go to regular PACU bay.
 - c. PPE: standard precautions (surgical mask+ face shield/goggles) by all staff
- E. Unknown status and asymptomatic:**
 - a. Patient must wear a mask at all times
 - b. Can go to a regular PACU bay
 - c. PPE: standard precautions (surgical mask+ face shield/goggles) for all staff
- F. COVID positive, >14 days since symptom onset, AND at least 24 hours since last fever and improvement in symptoms:**
 - a. Patient must wear a mask at all times.
 - b. Patient can go to a regular PACU bay.
 - c. PPE: standard precautions by all staff

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- G. **COVID+ AND currently symptomatic, <14 days since symptom onset OR <24 hours since fever/symptom improvements:**
- a. Recover in isolation room in PACU 2 (Outpatient or inpatient not intubated) or transport directly to ICU (intubated)
 - b. DICE + N-95 for all staff caring for patient
 - c. Patient wears mask at all times if not intubated
- H. **PUI (Unknown status/pending test AND currently symptomatic):**
- a. Recover in isolation room in PACU 2 (Outpatient or inpatient not intubated) or transport directly to ICU (intubated)
 - b. DICE + N-95 for all staff caring for patient
 - c. Patient wears mask at all times if not intubated
- I. **Presumed Positive (negative test AND currently symptomatic):**
- a. Recover in isolation room in PACU 2 (Outpatient or inpatient not intubated) or transport directly to ICU (intubated)
 - b. DICE + N-95 for all staff caring for patient
 - c. Patient wears mask at all times if not intubated

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Patient Status	PreOp Plan	Operating Room Plan	PACU/Transport Plan
<ul style="list-style-type: none"> • Negative Test, Asymptomatic • Unknown Status (no test/pending test), Asymptomatic • Positive Test and BOTH of the following: <ul style="list-style-type: none"> ○ more than 14 days since symptom onset ○ AT LEAST 24 hours since last fever/symptom improvement 	<ul style="list-style-type: none"> • Regular PreOp bay • Patient wears mask at all times • Standard Precautions by all staff 	<ul style="list-style-type: none"> • Standard precautions with ACE during intubation/extubation (and for next 15min) 	<ul style="list-style-type: none"> • Regular PACU bay • Patient wears mask at all times • Standard Precautions by all staff
<ul style="list-style-type: none"> • Unknown Status (no test/pending test), CURRENTLY SYMPTOMATIC • Positive Test and ANY of the following: <ul style="list-style-type: none"> ○ currently symptomatic ○ less than 14 days since symptom onset ○ less than 24 hours since last fever/symptom improvements 	<ul style="list-style-type: none"> • Isolation room in PreOp (outpatient) or transport directly to OR (inpatient) • ACE Precautions for all staff • Patient wears mask if not intubated • If intubated, RT accompanies with transport vent. • Huddle prior to inpatient transport 	<ul style="list-style-type: none"> • ACE precautions for entire case • If staffing allows, clean runners outside of room to hand supplies through minimally opened door as needed (no core access during case) • Recommend communicating through cell phone on speaker for duration of case • Terminal cleaning of room following case 	<ul style="list-style-type: none"> • Isolation room in PACU (outpatient) or transport directly to ICU (inpatient) • ACE precautions for all staff • Patient wears mask if not intubated • If intubated, RT accompanies with transport vent. • Anesthesiologist discretion on disposition to PACU or ICU

Standard Precautions: Procedural mask and eye protection (goggles/shield) for all patient encounters and patient masked when possible.

ACE Precautions:
N95 Mask/CAPR*, Gown, Eye Protection
/*CAPR appropriate if staff has failed a fit test AND has