

Safety Requirements for Hospitals Reopening Procedural and Outpatient Areas

Centers for Disease Control and Prevention (CDC) guidance still recommends postponing elective procedures, surgeries, and non-urgent outpatient visits to minimize chances of exposure.¹ If a health care facility no longer needs to adhere to these crisis standards of care, then they should be resuming optimal standards everywhere, including providing nurses the personal protective equipment (PPE) that they need.

This means the facility should be prepared to end all reuse, decontamination, rationing of N95s etc. — for inpatient areas as well as all procedures they are planning to reopen.

Hospitals reopening procedural areas should have the following safety precautions in place to prevent transmission of the virus within the facility and to protect nurses and other health care workers from exposure.

BEFORE PATIENTS ARRIVE FOR AN ELECTIVE PROCEDURE, SURGERY, OR OUTPATIENT VISIT »

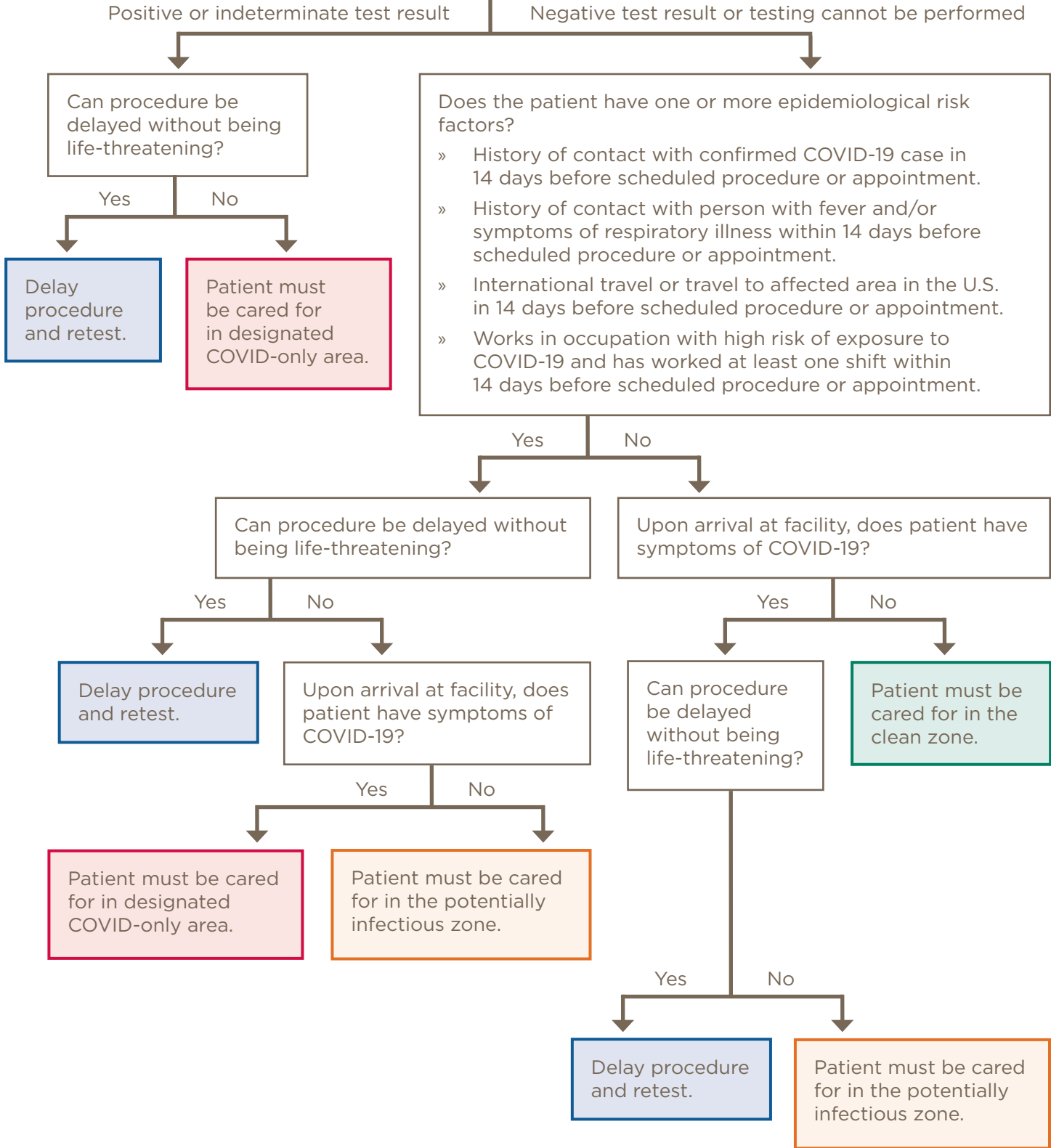
- » Patients should be screened for active viral infection using a reliable RT-PCR test before or upon arrival at the facility. Considerations for testing:
 - » If a reliable, rapid, point-of-care test can be used upon arrival at the facility that would be ideal because it would allow testing of viral status as close to procedure as possible. Consider conducting testing before physical entry into the facility to limit possibility of exposure if patient is positive. Staff conducting testing should be wearing PPE meeting National Nurses United (NNU) standards (see below).
 - » If testing must be conducted before the day of the procedure, the sample should be taken no more than 48 hours before the scheduled procedure to limit possibility of exposure or conversion between testing and procedure.
- » Patients who test negative or who cannot be tested should be screened for epidemiological risk factors. Epidemiological risk factors include:
 - » History of contact with a confirmed COVID-19 case in 14 days before scheduled procedure or appointment.
 - » History of contact with person with fever and/or symptoms of respiratory illness within 14 days before scheduled procedure or appointment.

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- › International travel or travel to affected area in the United States in 14 days before scheduled procedure or appointment.
 - › Works in occupation with high risk of exposure to COVID-19 and has worked at least one shift within 14 days before scheduled procedure or appointment.
 - » Source control education and training should be provided to all patients before and upon arrival at the facility. Source control procedures to reduce potential for transmission within the facility should include universal masking (all patients and staff wear surgical masks at all times, except when a higher level of PPE is needed), thorough education and enforcement regarding hand hygiene and cough etiquette for patients and staff.
 - » Facilities should continue to implement measure to limit introduction of the virus to the facility, including:
 - › Limit/restrict visitors to reduce chances of introduction of the virus to the facility.
 - › Continue to postpone visits that do not negatively impact health of the patient, e.g., annual physical.



SCREENING PATIENTS FOR COVID FOR ELECTIVE PROCEDURES

Patient scheduled for elective procedure is tested with reliable RT-PCR test. Test would ideally be rapid point-of-care. If not, then swab should be taken and test processed no more than 24 - 48 hours before scheduled procedure.



UPON PATIENT ARRIVAL AT FACILITY FOR ELECTIVE PROCEDURE, SURGERY, OR OUTPATIENT VISIT »

- » Facilities should implement engineering controls, including creating designated “zones,” to prevent transmission of the virus within the facility.
 - › Implement measures and physical infrastructure changes to prevent transmission within waiting rooms, lobbies, and other areas where patients may congregate or otherwise have contact. These measures could include outdoor check-in areas, measures to control when patients approach the check-in area to limit contact between patients, etc.
 - › Entrance and exit should be carefully planned to reduce possibility of exposure or transmission.
 - › Establish three zones within the procedural area(s), using the “three zones, two passages” model that has been successfully implemented in China, Taiwan, and other locations to prevent transmission of virus within health care facilities.²
 - Three zones: infectious zone, potentially infectious zone, and a clean zone — clearly demarcated. Two buffer zones between the contaminated zone and the potentially contaminated zone.
 - Infectious zone/designated COVID areas: should include designated pre-op, OR, PACU, and other areas for COVID patients only. Negative pressure should be maintained in these areas. Staff should wear the highest level of PPE, including PAPRs and coveralls incorporating shoe and head coverings, and gloves. Recover patient in the OR if possible to limit chances of transmission.
- Potentially infectious zone: should include designated pre-op, OR, PACU, and other areas for potentially infectious patients only. Staff should wear the highest level of PPE, including PAPRs and coveralls incorporating shoe and head coverings, and gloves. Recover patient in the OR if possible to limit chances of transmission.
 - All intubations and extubations should be performed in negative pressure rooms.
 - Clean zone: should include designated pre-op, OR, PACU, and other areas for patients who have been ruled out for COVID-19. Staff should utilize appropriate precautions.
 - Passageway is established for the one-way transport of contaminated items, only in direct from clean» potentially contaminated» contaminated zones. Items may not be removed from the contaminated zone unless disinfected.
 - Transport of patients and health care workers through the facility is tightly controlled to prevent transmission/contamination.



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- » Employers must ensure that nurses have access to the highest level of PPE.
 - › For confirmed and possible COVID-19 patients, PPE should be of the highest standard: powered air-purifying respirators (PAPRs) and coveralls that incorporate head coverings and shoe coverings, and gloves.
 - » Employers should have a plan in place to limit exposures due to positive pressure OR environments. The plan should be written, created with direct care nurse and other health care worker input, and available to nurses and other health care workers to access. Such measures could include:
 - › Using negative pressure ORs whenever possible.
 - › Performing intubation in negative pressure environments at all times.
 - › Limiting traffic in and out of the positive pressure OR to decrease air flow that may transport contamination into hallway.^{3 4}
 - › Adding HEPA filters to the patient's end of the breathing circuit, between the expiratory limb of the circuit and the anesthetic machine.⁵
 - » Environmental cleaning.
 - › Cleaning of ORs and procedure rooms after each case and at end of day — including high touch surfaces, equipment, etc.
 - › Once a suspected or confirmed COVID-19 leaves, the room should remain vacant for enough time to allow a full exchange of the air. Time will vary depending on ventilation rate. If unknown, leave vacant for at least an hour.
 - › Consistent and regular environmental cleaning and disinfection, including disinfecting of floors, walls, furniture, surfaces, objects, etc. at least three times per day. Should be conducted with cleaning chemicals that contain a disinfectant known to be effective against SARS-CoV-2.
 - › Add air cleaning equipment to ventilation systems, such as UV cleaners, HEPA filter units, others.
 - » Occupational exposure prevention, surveillance, and response to prevent transmission to and by health care workers.
 - › Opt-out process for RNs at higher risk of complications from COVID-19 such as older adults and people who have serious chronic medical conditions.
 - › Accommodations for frontline staff working in facility, including provision of nutritious meals.
 - › Ongoing monitoring of health of frontline staff. If develop fever or other symptoms of COVID-19, they should be isolated immediately and tested at employer's expense. Any RN who has worked in the facility within 14 days of developing symptoms and/or testing positive should have presumptive eligibility for workers' compensation.
 - › Employer should provide temporary scrubs and facilities for staff to shower and change before going off duty.
 - › No mandatory overtime. Breaks and relief should be provided.
 - » Employers should develop procedures to ensure safe handling of deceased patients with COVID-19.

THREE ZONE MODEL CONSIDERATIONS

	Infectious Zone/ COVID-designated Zone	Potentially Infectious Zone	Clean Zone/Non-COVID Zone
Areas	Designated pre-op, OR, PACU, IR, other procedure areas.	Designated pre-op, OR, PACU, IR, other procedure areas.	Designated pre-op, OR, PACU, IR, other procedure areas.
Ventilation Considerations	Negative pressure.	All intubations, extubations, and other aerosol-generating procedures should be performed in negative pressure rooms. Employer must implement written procedure to limit possibility of exposure/transmission with use of positive pressure rooms.	All intubations, extubations, and other aerosol-generating procedures should be performed in negative pressure rooms. Employer must implement written procedure to limit possibility of exposure/transmission with use of positive pressure rooms.
PPE	Highest level of PPE, including PAPRs and coveralls incorporating shoe and head coverings, and gloves.	Highest level of PPE, including PAPRs and coveralls incorporating shoe and head coverings, and gloves.	Use precautions typical for care required by patient. If full screening described above is not implement, then highest level of PPE should be worn in this zone.

ENDNOTES

- 1 <https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html>.
- 2 Italy has also created standards to this effect <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7137852>.
- 3 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4865048>.
- 4 For example, some recommendations include having procedures that “All operators (i.e., surgeon, anesthetist, nurses, technicians) should enter the OR timely, aiming to minimize time spent within the OR itself. Once in the OR, they should not leave until the operation is completed, and once out they should not re-enter.” <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7137852>.
- 5 <https://link.springer.com/article/10.1007/s12630-020-01620-9#Sec15>.