

American Society of Anesthesiologists and the Anesthesia Patient Safety Foundation Statement on Perioperative Testing for the COVID-19 Virus

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Patients who are infected with SARS-CoV-2, the virus responsible for the COVID-19 disease, have higher perioperative morbidity and mortality.⁽¹⁻⁵⁾ Unexpected progression to acute respiratory distress syndrome, cardiac injury, kidney failure, and even death has been observed in patients infected with SARS-CoV-2 who have undergone surgical procedures.^(4,6) Additionally, aerosolizing procedures place operating room staff at greater risk of being infected with SARS-CoV-2. As a result, a robust screening and testing program to detect SARS-CoV-2 is essential for the safety of patients, health care workers, and the general public.

Screening for SARS-CoV-2 via careful symptom history is important, yet imperfect.^(7,8) There is high inter-patient variability in disease presentation and symptom severity. Screening should include an assessment of:⁽⁹⁾

- Exposure to someone diagnosed with COVID-19 in the past 14 days, or
- Unexplained fever, cough, shortness of breath, chills, muscle pain, headache, sore throat, and/or new loss of taste or smell, nausea, vomiting, or diarrhea, have been reported.

The ability of testing to detect SARS-CoV-2 is dependent on sampling technique, fluid sampled, the test performed and the timing of the test relative to the infectious course.⁽¹⁰⁾ The reported sensitivity of SARS-CoV-2 testing using polymerase chain reaction (PCR) testing is approximately 70-95 percent, meaning that up to 30 percent of infected patients will be reported as free of the virus.⁽¹¹⁾ Viral transmission may occur up to three days before patients become symptomatic. Adult patients who have had a mild or moderate case of COVID-19 do not have replication-competent virus beyond 10 days following symptom onset. However, replication-competent virus has been identified between 10 and 20 days post-symptom onset in immunocompromised patients and those who have had a severe-case of COVID-19. Viral particles may be detected by PCR for up to three months following infection; however, these particles are presumed to be inactive.⁽¹²⁾

The Centers for Disease Control and Prevention (CDC) guidance “Discontinuation of Transmission-Based Precautions and Disposition of Patients with COVID-19 in Healthcare Settings (updated 6/2/21)” advises that transmission-based precautions may be discontinued by health care facilities in patients with mild to moderate illness who are not severely immunocompromised once 10 days have passed since symptom onset, 24 hours have passed since last fever without the use of anti-pyretic medications, and improvement in symptoms. Patients who have severe illness can have their transmission-based precautions discontinued when at least 10 days, and up to 20 days, have passed since symptom onset; 24 hours have passed since last fever without the use of anti-pyretic medications; and there is improvement in symptoms. Retesting patients is no longer a recommended approach for determining when someone is no longer infectious because of the prolonged course of viral shedding.

Antibody testing does not have a role in perioperative screening and risk stratification. Antibodies develop in the second week of symptoms and not all patients who are infected with SARS-CoV-2 develop detectable antibodies.^(13,14) Additionally, antibody tests have the potential of cross-reaction with other coronaviruses, resulting in false-positive results.^(14,15) As a result, antibody testing should not be performed during routine preoperative screening.

The Anesthesia Patient Safety Foundation (APSF) previously published examples of SARS-CoV-2 preoperative testing protocols from around the U.S.

Recently, the APSF and the American Society of Anesthesiologists (ASA) informally surveyed these same medical centers and others to learn how their testing protocols might have evolved through July 2021, with specific attention to their approach to preoperative testing for patients who have been fully vaccinated for COVID-19. In almost all cases, these leading institutions continue to require COVID preoperative testing for all patients, including those who have been fully vaccinated. The primary concerns are that the prevalence of the Delta variant is increasing in their communities, and the recent findings by the CDC regarding breakthrough infections in fully vaccinated, asymptomatic individuals who have the potential of transmission of SARS-CoV-2 to others. Therefore, all patients undergoing an anesthetic, procedure, or surgery with the potential to generate aerosols should continue to have preoperative PCR testing for SARS-CoV-2, ideally \leq three days prior to the procedure, irrespective of vaccination status.

Recommendations:

A population risk assessment identifying the prevalence of SARS-CoV-2 should be reviewed.

When there is local or regional community transmission^(16,17) of SARS-CoV-2:

- 1) All patients should be screened for symptoms prior to presenting to the health care facility. Patients reporting symptoms should be referred for additional evaluation. All other patients should undergo nucleic acid amplification testing (e.g., PCR tests) prior to undergoing non-emergent surgery.
- 2) If a patient tests positive for SARS-CoV-2, elective surgical procedures should be delayed until the patient is no longer infectious and has demonstrated recovery from COVID-19. A patient may be infectious until either:
 - a. CDC non-test-based strategy in mild-moderate cases of COVID-19:
 - i. At least 24 hours since resolution of fever without the use of fever-reducing medications and improvement in respiratory symptoms, and
 - ii. At least 10 days since symptoms first appeared.
 - b. CDC non-test-based strategy in severe cases of COVID-19 or in immunocompromised patients:
 - i. At least 10 days and up to 20 days have passed since symptom onset,
 - ii. At least 24 hours since resolution of fever without the use of fever-reducing medications and improvement in respiratory symptoms, and
 - iii. Symptoms (e.g., cough, shortness of breath) have improved.
- 3) Considering the ongoing and evolving pandemic, all patients undergoing an anesthetic, procedure, or surgery with the potential to generate aerosols should continue to have preoperative PCR testing for SARS-CoV-2, ideally \leq three days prior to the procedure, irrespective of vaccination status.

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