4/7/20
Current criteria for testing vary by location of care and are subject to frequent change. Severe ongoing limitations in testing supplies require prioritization based on risk for severe COVID-19 with complications and potential for transmission to vulnerable populations.

Preliminary data suggest high sensitivity of the COVID-19 PCR from a nasopharyngeal swab. In most cases, a single negative test will be sufficient to rule out COVID-19. In cases of high clinical suspicion and an initial negative test, a second COVID-19 PCR should be performed. Please see the COVID-19 de-escalation document for guidance on discontinuing Special Pathogens Precautions.

Testing guidance can be found below for the following patient populations:

A. Hospitalized patients
B. Emergency department
C. Ambulatory patients
D. Asymptomatic special populations
E. Testing to remove hospitalized patients with confirmed COVID-19 patients from Special Pathogens Precautions
A. INDICATIONS FOR COVID-19 TESTING IN HOSPITALIZED ADULT PATIENTS (updated 4/7/20)
Testing should be considered in any hospitalized patient with any one of the following:
- unexplained fever
- new respiratory symptoms (cough, SOB, worsened hypoxia or oxygen requirement)

B. INDICATIONS FOR COVID-19 TESTING FOR PATIENTS IN THE ADULT EMERGENCY DEPARTMENT (updated 3/28/20)
Patients who qualify for testing through this algorithm will have a single nasopharyngeal swab obtained and sent for one of the following:
1. RPAN and COVID-19 PCR (only for patients with anticipated admission or immunocompromised status)
2. Flu/RSV PCR and COVID-19 PCR (for all other qualifying groups)
3. COVID-19 PCR alone (if low concern for other respiratory pathogens)

Patients must meet criteria 1 and 2 to qualify for COVID-19 testing:
1. Patients need to have at least 2 of the following symptoms in order to qualify for testing:
   - Fever (T >100.4°) or chills
   - New cough
   - New shortness of breath or hypoxia
   - New URI symptoms (rhinorrhea, nasal congestion, sore throat)
   - Myalgias
   - New anosmia
   - New diarrhea
2. At least one of the following risk factors for COVID-19 infection or severe outcomes or risk of transmission:
   - Plan for admission to hospital

Clinical factors:
- Age ≥65
- Compromised immune system (AIDS, organ or HSC transplant, immunosuppressive therapy)
- Hemodialysis patients

Sociodemographic factors:
- Resident of nursing home or other long-term care facility
- Residents of congregate living settings
- Homeless/inability to self-isolate/no access to outpatient testing
- Primary caretaker of vulnerable populations (e.g. immunocompromised, age ≥65)
- Close contact with a patient who has tested positive for COVID-19*

*Close contact is defined by CDC as:
   a. within six feet of a COVID-19 case for a prolonged period of time; close contact can occur while caring for, living with, or sharing a healthcare waiting area or room of a COVID-19 case
   b. having direct contact with infectious secretions of a COVID-19 case (e.g., being coughed on)

Symptomatic healthcare workers and first responders who do not qualify for ED testing may be referred to the COVID-19 hotline (734-763-6336) for further evaluation for testing in the ambulatory setting. Michigan Medicine employees should be referred to Occupational Health Services (734-764-8021).
C. INDICATIONS FOR COVID-19 TESTING FOR AMBULATORY PATIENTS (updated 3/26/20)
This document supersedes prior documents regarding diagnostic criteria in the ambulatory setting. This guidance is based on significant current testing supply constraints. These criteria are subject to change based on changes to our supply chain.

The diagnosis of COVID-19 requires a combination of clinical symptoms, epidemiologic features, and supportive laboratory findings. The following outlines the current process for testing ambulatory patients at Michigan.

Patients who qualify for testing through this algorithm will have a single nasopharyngeal swab obtained and sent for influenza/RSV PCR followed by COVID-19 PCR. Immunocompromised patients may have a single swab sent for RPAN followed by COVID-19 PCR.

1. Patients need to have at least 2 out of 3 of the following symptoms in order to qualify for testing:
   - Fever (T>100.4°F)
   - New cough
   - Shortness of breath, difficulty breathing, or hypoxemia

2. At least one of the following risk factors for COVID-19 severe outcomes or outbreaks:
   - Age ≥65
   - Compromised immune system (AIDS, organ or HSC transplant, immunosuppressive therapy)
   - Healthcare worker or immediate household contact of one
   - Hemodialysis patients
   - Resident of nursing home or other long-term care facility
   - Residents of congregate living settings
   - First responders

Younger, healthy individuals with mild illness do not need to be tested. They should stay home for 7 days or 72 hours after symptom resolution, whichever is longer. Additionally, testing is not recommended in persons who are asymptomatic. A negative test result does not rule out an infection.
D. INDICATIONS FOR COVID-19 SCREENING OF ASYMPTOMATIC PATIENTS

Testing asymptomatic patients for COVID-19 is generally **not recommended**. The following allowable exceptions are listed below:

1. Adult and pediatric patients with planned hematopoietic stem cell transplantation conditioning therapy within the following 48 hours
2. Adult and pediatric patients with planned imminent solid organ transplantation
3. Adult and pediatric patients in need of non-emergent surgery that is deemed intermediate risk for potential intraoperative aerosolization*

*Surgeries/procedures considered intermediate risk for aerosol generation include: chest surgery, intra-abdominal surgery, and lower GI endoscopy
E. TESTING TO REMOVE HOSPITALIZED PATIENTS WITH CONFIRMED COVID-19 FROM SPECIAL PATHOGENS PRECAUTIONS

1. Meeting criteria for discontinuation of Special Pathogens Precautions is not a prerequisite for discharge.
2. Special Pathogens Precautions may be discontinued in hospitalized patients (and standard precautions can be used) after the following test-based criteria are met:
   a. At least 7 days have passed since onset of illness
   b. Resolution of fever without use of fever-reducing medications
   c. Improvement in respiratory symptoms
   d. Negative COVID-19 PCR results from two nasopharyngeal swabs collected ≥24 hours apart
      i. If initial post-recovery COVID-19 PCR is still positive, please wait at least 7 days before repeating test (avoid serial testing - viral shedding can be prolonged and testing capacity is limited).
3. Test-based criteria should be prioritized for populations for which the results will change management. Examples include:
   a. Anticipated transfer to long-term care facility (if facility cannot accommodate transmission-based COVID-19 precautions)
   b. Severely immunocompromised patients or those in need of transplant listing
   c. Patients being discharged to a setting where they will have close contact with individuals at risk for severe disease

The recommendations in this guide are meant to serve as treatment guidelines for use at Michigan Medicine facilities. If you are an individual experiencing a medical emergency, call 911 immediately. These guidelines should not replace a provider’s professional medical advice based on clinical judgment, or be used in lieu of an Infectious Diseases consultation when necessary. As a result of ongoing research, practice guidelines may from time to time change. The authors of these guidelines have made all attempts to ensure the accuracy based on current information, however, due to ongoing research, users of these guidelines are strongly encouraged to confirm the information contained within them through an independent source.

If obtained from a source other than med.umich.edu/asp, please visit the webpage for the most up-to-date document.