Clinical Course: Progression, Management, and Treatment

Clinical considerations for care of children and adults with confirmed COVID-19

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What You Need to Know

- The clinical spectrum of SARS-CoV-2 infection includes asymptomatic or pre-symptomatic infection and mild, moderate, severe, and critical illness.
- Information about clinical management and treatment of COVID-19 is stratified by whether the patient has mild or moderate illness that often can be managed in the outpatient setting, or severe or critical illness that requires hospitalization.

Mild to Moderate Illness

Most patients with COVID-19 experience asymptomatic or mild illness that does not warrant medical intervention, or mild to moderate illness that can be managed in the outpatient setting. These patients can benefit from supportive care and symptomatic treatment, including antipyretics, analgesics, and antitussives. Patients can also be instructed on efforts they can take to reduce transmission and symptoms that indicate the need for additional medical attention.

Some patients with mild to moderate COVID-19 may deteriorate rapidly. For patients with worsening symptoms or with mild to moderate illness and risk factors for severe illness, therapeutics, including antivirals and monoclonal antibodies, have been shown to significantly decrease the risk of hospitalization and death, and outcomes are improved if therapeutics are started within the first days of illness.[37,38] Test to treat strategies may allow for timely diagnosis and treatment of patients who are at risk for severe disease. Clinicians should consider offering therapeutics and monitoring closely patients with risk factors for severe illness.

The FDA has issued emergency use authorizations (EUAs) for (oral and intravenous) antiviral medications, including nirmatrelvir with ritonavir (Paxlovid) and Veklury (Remdesivir), and for monoclonal antibodies which can be used in the outpatient setting for treatment of patients with mild to moderate illness who are at risk for severe illness. Clinicians should refer to the NIH COVID-19 Treatment Guidelines for up-to-date recommendations regarding eligibility, effectiveness of therapeutics, rationale for treatment of sub-populations, specific drug classes, general management , and therapeutic management . The FDA's Paxlovid Patient Eligibility Screening Checklist Tool can be used to support clinical decision making regarding prescribing Paxlovid, and the FDA's Updates on Paxlovid for Healthcare Providers answer many common provider questions on prescribing Paxlovid.

Pulse oximetry has been used to monitor oxygenation in the ambulatory setting, but pulse oximeters may not detect occult hypoxemia in all patients, especially in those who have darker skin, [39] and smart phone-based pulse oximeters may not be able to accurately detect hypoxia.[40] Clinicians caring for patients with dyspnea should consider closely monitoring them because of the risk for progression to acute respiratory distress syndrome (ARDS).

Severe to Critical Illness

Most studies define severe illness related to COVID-19 as admission to the hospital or the ICU, placement on invasive mechanical ventilation, or death. Rates of death and other markers of severe illness may be associated with the variant that is in circulation, levels of vaccination coverage, treatment availability, and other factors. A study conducted during high levels of Omicron variant transmission in the U.S. found the ratio of peak ED visits, hospital admissions, and deaths, to cases during the Omicron period were lower than those observed during the winter of 2020–21 and the Delta period.[41] The study also found that among hospitalized COVID-19 patients, the mean length of stay and percentages who were admitted to an ICU, received invasive mechanical ventilation (IMV), and died while in the hospital, were lower during the Omicron period than during previous periods.[41]

Available evidence suggests that the currently approved or authorized COVID-19 vaccines are highly effective against hospitalization and death for a variety of variants, and the risk of hospitalization and severe illness, regardless of variant, is higher in people who are unvaccinated than in those up to date with vaccination.[42-44]

Clinical treatment recommendations for people with severe to critical COVID-19 are based on the severity of illness, and therapeutic management often includes care of common complications of severe illness, including hypoxemic respiratory failure/ARDS, sepsis and septic shock, elevation in inflammatory cytokines, and complications from prolonged hospitalization, including thromboembolism, pneumonia, and hospital-acquired bacterial and fungal infections. Additionally, patients with COVID-19 may experience an exacerbation of underlying comorbidities or new onset cardiac, endocrine, hepatic, renal, gastrointestinal, or central nervous system disease.

The FDA has authorized the use of several medications for patients with severe or critical illness due to COVID-19. Clinicians can find general considerations and recommendations for the care of critically ill patients along with the rationale for the recommendations in the NIH COVID-19 Treatment Guidelines and the Infectious Diseases Society of America Guidelines on the Treatment and Management of Patients with COVID-19. Research for effective treatments for COVID-19 is ongoing, and more information about clinical trials can be found at ClinicalTrials.gov.

More Information

- COVID-19 Test to Treat Locators
- NIH Treatment Guidelines for Non-hospitalized Adults
- Statement on Patient Prioritization for Outpatient Therapies
- Paxlovid™ Drug-Drug Interactions
- Ivermectin
- Chloroquine or Hydroxychloroquine
- COVID-19 Therapeutics Decision Aid
- Side-by-Side Overview of Therapeutics
- Outpatient COVID-19 Therapeutics Administration Guide for Healthcare Providers

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