



1. What's New in the Guidelines

Last Updated: October 19, 2022

The *Coronavirus Disease 2019 (COVID-19) Treatment Guidelines* is published in an electronic format that can be updated in step with the rapid pace and growing volume of information regarding the treatment of COVID-19.

The COVID-19 Treatment Guidelines Panel (the Panel) is committed to updating this document to ensure that health care providers, patients, and policy experts have the most recent information regarding the optimal management of COVID-19 (see the [Panel Roster](#) for a list of Panel members).

New Guidelines sections and recommendations and updates to existing Guidelines sections are developed by working groups of Panel members. All recommendations included in the Guidelines are endorsed by a majority of Panel members (see [Guidelines Development](#) for additional details on the development process).

Major revisions to the Guidelines within the past month are as follows:

October 19, 2022

[The COVID-19 Treatment Guidelines Panel's Statement on Omicron Subvariants and Anti-SARS-CoV-2 Monoclonal Antibodies](#)

The Panel is issuing this statement to alert clinicians about the recent rapid increase in certain SARS-CoV-2 Omicron subvariants circulating in the United States. The subvariants BQ.1 and BQ.1.1 are likely to be resistant to the anti-SARS-CoV-2 monoclonal antibody (mAb) bebtelovimab, and the subvariants BA.4.6, BA.2.75.2, BF.7, BQ.1, and BQ.1.1, are likely to be resistant to the mAbs tixagevimab plus cilgavimab (Evusheld).

Although the proportions of these potentially resistant subvariants are increasing, their prevalence is currently low or moderate. The Panel continues to recommend bebtelovimab for the treatment of COVID-19 only when ritonavir-boosted nirmatrelvir (Paxlovid) or remdesivir cannot be used in nonhospitalized adults who are at high risk of progressing to severe COVID-19. The Panel also continues to recommend tixagevimab plus cilgavimab as pre-exposure prophylaxis (PrEP) for eligible individuals. The antiviral drugs ritonavir-boosted nirmatrelvir, remdesivir, and molnupiravir are expected to be active against these subvariants.

The Panel will closely monitor the prevalence of these circulating subvariants. The recommendations for the use of bebtelovimab and for the use of tixagevimab plus cilgavimab may be updated if the prevalence increases.

September 30, 2022

[Influenza and COVID-19](#)

The Panel updated the background, links, and references in this section to include information on the 2021 to 2022 influenza season and recommendations for the upcoming 2022 to 2023 season.

Observational studies have reported greater disease severity in patients with influenza virus and SARS-CoV-2 coinfection than in patients with SARS-CoV-2 infection alone. The Panel notes that there are no clinically significant drug-drug interactions between the antiviral agents that are used to treat

influenza and the antiviral agents or immunomodulators that are used to prevent or treat COVID-19. Community-acquired secondary bacterial pneumonia occurs infrequently in people with COVID-19; it is more common in people with influenza. Therefore, additional testing for bacterial pathogens is especially important for patients with influenza who have clinical signs that suggest bacterial superinfections, including patients who are immunocompromised or intubated.

September 26, 2022

Clinical Spectrum of SARS-CoV-2 Infection

Oxygen saturation measured by pulse oximetry (SpO₂) is commonly used in estimating blood oxygen levels and is a key parameter used to define disease severity in patients with COVID-19. In this update, the Panel discusses some important limitations of using pulse oximetry to detect hypoxemia. Some studies have noted that occult hypoxemia (defined as arterial oxygen saturation <88% despite SpO₂ >92%) is more common in some patient populations, especially in patients with darker skin pigmentation. Because of these limitations, the Panel emphasizes that SpO₂ should always be interpreted within the context of a patient's clinical presentation.

The following sections of the Guidelines were also updated with discussions about the limitations of pulse oximetry in accurately estimating oxygen saturation:

- [General Management of Nonhospitalized Adults With Acute COVID-19](#)
- [Oxygenation and Ventilation for Adults](#)
- [Oxygenation and Ventilation for Children](#)

Therapeutic Management of Nonhospitalized Adults With COVID-19

The Panel made 2 key changes regarding the management of nonhospitalized patients discharged from the emergency department (ED) and patients discharged after hospitalization.

Previously, the Panel provided treatment recommendations for patients with COVID-19 who, because of limited hospital resources, are discharged from the ED despite having new or increasing supplemental oxygen requirements. Because these situations are currently quite rare, the Panel removed this case scenario from this section.

The Panel also combined the recommendations for patients discharged from the hospital in stable condition, with or without supplemental oxygen, into a single recommendation. For these patients, the Panel **recommends against** continuing the use of **remdesivir (AIIa)**, **dexamethasone (AIIa)**, or **baricitinib (AIIa)** for the treatment of COVID-19 after hospital discharge.

Ritonavir-Boosted Nirmatrelvir (Paxlovid)

In this revision, the Panel notes that concerns related to SARS-CoV-2 viral rebound and the recurrence of COVID-19 symptoms should not be a reason to avoid the use of ritonavir-boosted nirmatrelvir. To date, the recurrence of symptoms following the use of ritonavir-boosted nirmatrelvir has not been associated with progression to severe COVID-19. Furthermore, viral rebound and symptom recurrence can also occur in the absence of treatment with ritonavir-boosted nirmatrelvir.

Drug-Drug Interactions Between Ritonavir-Boosted Nirmatrelvir (Paxlovid) and Concomitant Medications

The Panel added drugs to Box 1 and Box 2, including Janus kinase inhibitors, anti-orthopoxvirus agents, and conjugated monoclonal antibody products. The Panel also reviewed the updated Emergency Use

Authorization fact sheet for ritonavir-boosted nirmatrelvir and incorporated the information into this section.

Molnupiravir

The Panel notes that there is a lack of definitive data regarding the benefit of molnupiravir in patients who are vaccinated and at high risk of progressing to severe COVID-19. Due to the fetal toxicities that have been reported in animal studies of molnupiravir, the Panel **recommends against** the use of **molnupiravir** for the treatment of COVID-19 in pregnant patients unless there are no other options and therapy is clearly indicated (**AIII**). It is not yet known how often SARS-CoV-2 viral rebound occurs after molnupiravir treatment.

Antithrombotic Therapy in Patients With COVID-19

The text and clinical data table for this section were updated with data from 2 randomized controlled trials that assessed the use of prophylactic doses of low-molecular-weight heparin (LMWH) in outpatients with COVID-19. Neither of these studies showed a reduction in the risk of hospitalization or death among patients with COVID-19 who received LMWH.

Special Considerations in Pregnancy

This section has been revised with updated data regarding the epidemiology of COVID-19 in pregnancy, including obstetric and perinatal outcomes and rates of vertical transmission of SARS-CoV-2. The Panel also discusses the safety and efficacy of administering COVID-19 vaccines to pregnant people.

The Panel emphasizes that pregnant individuals who qualify for SARS-CoV-2 PrEP or treatment for COVID-19 should receive it, with the following exceptions:

- The Panel **recommends against** the use of **molnupiravir** for the treatment of COVID-19 in pregnant patients unless there are no other options and therapy is clearly indicated (**AIII**).
- Pregnant patients were not included in most of the clinical trials that evaluated therapeutic anticoagulation in the setting of COVID-19, and there is a potential for increased maternal risks if bleeding occurs during pregnancy. Therefore, there is insufficient evidence for the Panel to recommend either for or against the use of therapeutic anticoagulation in pregnant patients with COVID-19 who do not have evidence of venous thromboembolism.

Minor Updates to the Guidelines

Minor updates were made to the following Guidelines sections:

- [Remdesivir](#)
- [Interleukin-6 Inhibitors](#)
- [Vitamin C](#)
- [Vitamin D](#)
- [Zinc](#)