Antiviral Agents, Including Antibody Products

Last Updated: December 1, 2022

Remdesivir is the only antiviral drug that is approved by the Food and Drug Administration (FDA) for the treatment of COVID-19. Ritonavir-boosted nirmatrelvir (Paxlovid), bebtelovimab, molnupiravir, and high-titer COVID-19 convalescent plasma (CCP) have received Emergency Use Authorizations (EUAs) from the FDA for the treatment of COVID-19. Tixagevimab 300 mg plus cilgavimab 300 mg (Evusheld) has received an EUA that allows these anti-SARS-CoV-2 monoclonal antibodies to be used as SARS-CoV-2 pre-exposure prophylaxis (PrEP) in certain patients.

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<td><strong>Recommendations for Treating Nonhospitalized Adults</strong></td>
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<td>• The COVID-19 Treatment Guidelines Panel (the Panel) recommends the following anti-SARS-CoV-2 therapies as preferred treatments for COVID-19. These drugs are listed in order of preference:</td>
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<td>• Ritonavir-boosted nirmatrelvir (Paxlovid) (AIIa)</td>
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<td>• Remdesivir (BIIa)</td>
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<td>• The following alternative therapies should be used ONLY when neither of the preferred therapies are available, feasible to use, or clinically appropriate. These drugs are listed in alphabetical order:</td>
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<td>• Bebtelovimab, but ONLY when the majority(^a) of circulating Omicron subvariants in the region(^b,c) are susceptible (CIII)</td>
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<td>• Molnupiravir (CIIa)</td>
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**Recommendations for Treating Nonhospitalized Children**

• See Therapeutic Management of Nonhospitalized Children With COVID-19 for the Panel’s recommendations on the use of antiviral therapy in nonhospitalized children according to age and the risk for progression to severe COVID-19.

**Recommendations for Treating Hospitalized Adults or Children**

• See Therapeutic Management of Hospitalized Adults With COVID-19 and Therapeutic Management of Hospitalized Children With COVID-19 for the Panel’s recommendations on using remdesivir with or without immunomodulators in certain hospitalized patients.

**Antiviral Treatments With Insufficient Evidence**

• There is insufficient evidence for the Panel to recommend either for or against the use of high-titer CCP for the treatment of COVID-19 in hospitalized or nonhospitalized patients who are immunocompromised.
• Some Panel members would use CCP to treat an immunocompromised patient with significant symptoms attributable to COVID-19 and with signs of active SARS-CoV-2 replication and who is having an inadequate response to available therapies. In these cases, clinicians should attempt to obtain high-titer CCP from a vaccinated donor who recently recovered from COVID-19 likely caused by a SARS-CoV-2 variant similar to the variant causing the patient’s illness.
• There is insufficient evidence for the Panel to recommend either for or against the use of high-titer CCP for the treatment of COVID-19 in nonhospitalized patients who are immunocompetent.

**Antiviral Treatments That the Panel Recommends Against**

• The Panel recommends against the use of the following drugs for the treatment of COVID-19, except in a clinical trial:
  • Interferons in nonhospitalized patients (AIIa)
  • Interferon alfa or lambda in hospitalized patients (AIIa)
  • Nitazoxanide (BIIa)
### Summary Recommendations, continued

The Panel recommends against the use of the following drugs for the treatment of COVID-19:

- Bamlanivimab plus etesevimab, casirivimab plus imdevimab, or sotrovimab (AIII)
- Chloroquine or hydroxychloroquine and/or azithromycin in hospitalized (AI) and nonhospitalized patients (Ala)
- CCP in hospitalized patients who are immunocompetent (AI)
- Lopinavir/ritonavir and other HIV protease inhibitors in hospitalized (AI) and nonhospitalized patients (AIII)
- Systemic interferon beta in hospitalized patients (AI)

### Pre-Exposure Prophylaxis for SARS-CoV-2 Infection

- The prevalence of Omicron subvariants that are resistant to tixagevimab plus cilgavimab is rapidly increasing in all regions of the United States.
- Tixagevimab plus cilgavimab is the only agent authorized by the FDA for use as SARS-CoV-2 PrEP in people who are not expected to mount an adequate immune response to COVID-19 vaccination or those with contraindications for COVID-19 vaccines.
- In the absence of an alternative option for PrEP, the Panel recommends the use of tixagevimab 300 mg plus cilgavimab 300 mg as PrEP for eligible individuals (BIIb). See Prevention of SARS-CoV-2 Infection for more information.
- The decision to administer tixagevimab plus cilgavimab should be based on the regional prevalence of the resistant subvariants, the individual patient's risks, the available resources, and logistics.
- Individuals who receive tixagevimab plus cilgavimab as PrEP should continue to take precautions to avoid infection. If they experience signs and symptoms consistent with COVID-19, they should be tested for SARS-CoV-2 and, if infected, promptly seek medical attention.

The sections on Chloroquine or Hydroxychloroquine and/or Azithromycin, Lopinavir/Ritonavir and Other HIV Protease Inhibitors, and Nitazoxanide have been archived. The Panel will no longer be updating the information on these therapies.

Each recommendation in the Guidelines receives 2 ratings that reflect the strength of the recommendation and the quality of the evidence that supports it. See Guidelines Development for more information.

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a The Panel acknowledges that the Centers for Disease Control and Prevention's (CDC) prevalence reports for SARS-CoV-2 subvariants are only estimates and that there is currently no definitive prevalence threshold for resistant subvariants that determines when the use of bebtelovimab for the treatment of COVID-19 will be ineffective. When the majority (>50%) of isolates in a region are likely to be resistant, the use of bebtelovimab may no longer be justified.

b See the CDC COVID Data Tracker for regular updates on the regional proportions of SARS-CoV-2 variants in the United States.

cl Clinicians should also consider a patient’s recent travel (i.e., where the patient is thought to have acquired SARS-CoV-2 infection) when reviewing regional proportions of SARS-CoV-2 variants to guide treatment.