Pharmacologic Interventions for Critically Ill Patients

Last Updated: May 31, 2022

Empiric Broad-Spectrum Antibiotic Therapy

**Recommendations**

- In the absence of a proven or suspected bacterial infection, the COVID-19 Treatment Guidelines Panel (the Panel) **recommends against** the use of **empiric broad-spectrum antibiotics** in patients with severe or critical COVID-19 (BIII).

- As with any hospitalized patient, patients with COVID-19 who receive antibiotics should be reassessed daily to minimize the adverse consequences of unnecessary antimicrobial therapy (AIII).

**Rationale**

Variable rates of community- and hospital-acquired infections have been reported in adult patients with COVID-19. Bacterial coinfection at the time of hospitalization has been reported in 1% to 3.5% of patients with COVID-19.1,2 Secondary infections have been reported in 14% to 37% of intensive care unit patients, but the reported rates have been influenced by differences in the severity of illness, duration of hospitalization, method of diagnosis, and time period studied.3,4

There are no clinical trials that have evaluated the use of empiric broad-spectrum antibiotics in patients with severe or critical COVID-19 or other coronavirus infections. Routine, empiric use of antibiotics in patients with severe or critical COVID-19 **is not recommended** (BIII); this recommendation is intended to mitigate the unintended consequences of side effects and resistance. The use of antibiotics may be considered in specific situations, such as the presence of a lobar infiltrate on a chest X-ray, leukocytosis, an elevated serum lactate level, microbiologic data, or shock.

The use of antibiotics in patients with severe or critical COVID-19 should follow guidelines established for other hospitalized patients (i.e., for hospital-acquired pneumonia, ventilator-associated pneumonia, or central line-associated bloodstream infection). It is unclear whether using the corticosteroids or other immunomodulatory agents that are recommended in the Guidelines should alter such approaches.

**Therapeutic Management of Hospitalized Adults With COVID-19**

See [Therapeutic Management of Hospitalized Adults With COVID-19](https://www.covid19treatmentguidelines.nih.gov/) for the Panel’s recommendations on when to use baricitinib, dexamethasone, remdesivir, and tocilizumab.

**Immune-Based Therapy**

See [Immunomodulators](https://www.covid19treatmentguidelines.nih.gov/) for recommendations on the use of immunomodulators.

**Adjunctive Therapy**

Recommendations regarding the use of adjunctive therapies in critical care settings, including antithrombotic therapy and vitamin C, can be found in [Antithrombotic Therapy in Patients With COVID-19](https://www.covid19treatmentguidelines.nih.gov/), [Therapeutic Management of Hospitalized Adults With COVID-19](https://www.covid19treatmentguidelines.nih.gov/), and [Vitamin C](https://www.covid19treatmentguidelines.nih.gov/).
References


