

Ontario COVID-19 Drugs and Biologics Clinical Practice Guidelines Working Group

Antimicrobial and Immunomodulatory Therapy in Adult Patients with COVID-19



Recommendations in this document apply to patients >18 years of age. Click the medication names in the table to view the associated [science briefs](#).



Recommendations are based on the best available data and may change as additional data becomes available.



Infectious diseases consultation (where available) is recommended before any investigational treatment is offered to a patient with COVID-19 outside of a clinical trial.



Click for [dosing and pharmacologic considerations](#) for medications approved or under investigation for management of COVID-19.

SEVERITY OF ILLNESS

RECOMMENDATIONS

Critically Ill Patients

Patients requiring ventilatory and/or circulatory support, including high-flow nasal oxygen, non-invasive ventilation, invasive mechanical ventilation, or ECMO. These patients are usually managed in an intensive care setting.

- Dexamethasone** 6 mg PO/IV daily for 10 days (or until discharge if sooner) **is recommended** for critically ill patients.
- Tocilizumab** **is recommended** for patients who are critically ill with suspected or confirmed COVID-19, who: are on optimal dexamethasone therapy; AND are within 14 days of hospital admission (or within 14 days of a new COVID-19 diagnosis if nosocomially acquired).
 - In light of ongoing drug shortages, a fixed dose of 400 mg should be used for all eligible patients.
 - In light of ongoing drug shortages, a second dose of tocilizumab should not be given to any patient.
- Remdesivir** **is not recommended** for critically ill patients with COVID-19 receiving mechanical ventilation.
- In patients with suspected or confirmed COVID-19 requiring high-flow oxygen (i.e., oxygen by mask, oxygen by high-flow nasal cannula, or non-invasive ventilation), **remdesivir** 200 mg IV on day 1, then 100 mg IV daily for 4 days **may be considered**.
- Bamlanivimab** **is not recommended outside of clinical trials**.

- Ivermectin**: There is **insufficient evidence** to support the use of ivermectin in the treatment of critically ill patients with COVID-19 outside of clinical trials or where other indications would justify its use. Individuals who require ivermectin for other established non-COVID indications may use it if they develop COVID-19.
- Vitamin D**: There is **insufficient evidence** to support the use of vitamin D in the treatment of critically ill patients with COVID-19 outside of clinical trials. Individuals who are taking vitamin D for other established, non-COVID indications may continue using it if they develop COVID-19.
- COVID-19 convalescent plasma** is currently **unavailable** in Canada in critically ill patients and is unavailable outside of clinical trials.
- Interferon** (with or without combination of lopinavir-ritonavir and ribavirin) **is not recommended outside of clinical trials**.
- Bacterial co-infection is uncommon in COVID-19 pneumonia at presentation. **Do not add empiric antibiotics for bacterial pneumonia** unless bacterial infection is strongly suspected. Continue empiric antibiotics for no more than 5 days, and de-escalate on the basis of microbiology results and clinical judgment.

Moderately Ill Patients

Patients newly requiring low-flow supplemental oxygen. These patients are usually managed in hospital wards.

- Dexamethasone** 6 mg PO/IV daily for 10 days (or until discharge if sooner) **is recommended** for moderately ill patients.
- Tocilizumab** **is recommended** for patients who are moderately ill with suspected or confirmed COVID-19, who: have evidence of systemic inflammation, defined as a CRP 75 mg/L or higher; AND have evidence of disease progression (i.e., increasing oxygen or ventilatory requirements) despite 24-48 hours of optimal dexamethasone therapy; AND are within 14 days of hospital admission (or within 14 days of a new COVID-19 diagnosis if nosocomially acquired).
 - In light of ongoing drug shortages, a fixed dose of 400 mg should be used for all eligible patients.
 - In light of ongoing drug shortages, a second dose of tocilizumab should not be given to any patient.
- Remdesivir** 200 mg IV on day 1, then 100 mg IV daily for 4 days **is recommended** for patients who are moderately ill with suspected or confirmed COVID-19.
- Bamlanivimab** **is not recommended outside of clinical trials**.

- Ivermectin**: There is **insufficient evidence** to support the use of ivermectin in the treatment of moderately ill patients with COVID-19 outside of clinical trials or where other indications would justify its use. Individuals who require ivermectin for other established non-COVID indications may use it if they develop COVID-19.
- Vitamin D**: There is **insufficient evidence** to support the use of vitamin D in the treatment of moderately ill patients with COVID-19 outside of clinical trials. Individuals who are taking vitamin D for other established, non-COVID indications may continue using it if they develop COVID-19.
- COVID-19 convalescent plasma** **is not recommended outside of clinical trials** (unavailable outside of clinical trials).
- Interferon** (with or without combination of lopinavir-ritonavir and ribavirin) **is not recommended outside of clinical trials**.
- Antibacterial therapy** **is not routinely recommended outside of clinical trials** or where other indications would justify its use.

Mildly Ill Patients

Patients who do not require new or additional supplemental oxygen from their baseline status, intravenous fluids, or other physiological support. These patients are usually managed in an ambulatory/outpatient setting.

- Dexamethasone** **is not recommended** for mildly ill patients.
- Tocilizumab** **is not recommended outside of clinical trials** for patients who are mildly ill with suspected or confirmed COVID-19.
- Remdesivir** **is not recommended** for patients who are mildly ill patients with suspected or confirmed COVID-19.
- Bamlanivimab** **is not recommended outside of clinical trials**.

- Ivermectin**: There is **insufficient evidence** to support the use of ivermectin in the treatment of mildly ill patients with COVID-19 outside of clinical trials or where other indications would justify its use. Individuals who require ivermectin for other established non-COVID indications may use it if they develop COVID-19.
- Vitamin D**: There is **insufficient evidence** to support the use of vitamin D in the treatment of mildly ill patients with COVID-19 outside of clinical trials. Individuals who are taking vitamin D for other established, non-COVID indications may continue using it if they develop COVID-19.
- COVID-19 convalescent plasma** **is not recommended outside of clinical trials** (unavailable outside of clinical trials).
- Interferon** (with or without combination of lopinavir-ritonavir and ribavirin) **is not recommended outside of clinical trials**.
- Antibacterial therapy** **is not routinely recommended outside of clinical trials** or where other indications would justify its use.

NOT RECOMMENDED for any patient severity: **Hydroxychloroquine or chloroquine** **Lopinavir/ritonavir**