

Therapeutic Management of Pediatric Patients with COVID-19

Version 1 November 16 2022 Recommendations are based on the best available data and may change as additional data become available. Approved by AAG Oct 2022, D&T Nov 2022

SEVERITY OF ILLNESS

Recommendations

Critical Disease

Paediatric acute respiratory distress syndrome (PARDS), invasive mechanical ventilation, ECMO, shock, multi-organ failure and/or coagulation dysfunction.

Recommended:

- **Dexamethasone:** 0.15mg/kg/dose PO or IV (Max 6 mg/dose) once daily for up to 10 days or until discharge from hospital, if sooner.

Consider:

- **Tocilizumab** for patients on dexamethasone, AND within 14 days of new COVID-19 diagnosis with evidence of cytokine release syndrome/HLH.
For children ≥ 30 Kg: 8 mg/kg/dose IV once (Max 800 mg/dose)
For children < 30 Kg: 12 mg/kg/dose IV once
- **Remdesivir: (See below for dose) Note:** Remdesivir is unlikely to be beneficial in mechanically ventilated patients but may be considered on a case-by-case basis if early in the disease course.
- **Antibiotics:** For the management of secondary bacterial pneumonia.

Severe Disease

Patients with non-invasive ventilation requirements.

Recommended:

- **Remdesivir** for patients on high-flow oxygen (ie oxygen by face mask, high-flow nasal cannula, or non-invasive mechanical ventilation)
For children ≥ 40 Kg: 200 mg IV q24h x1, then 100mg IV q24h
For children < 40 Kg: 5mg/kg/dose IV x1, then 2.5 mg/kg/dose IV q24h
For infants < 3.5 Kg: 2.5mg/kg/dose IV x1, then 1.25mg/kg/dose IV q24h
Total treatment duration may be extended up to 10 days, but courses of 5 days were found to have similar outcomes to longer courses. (Goldman 2020)
- **Dexamethasone:** 0.15mg/kg/dose PO or IV (Max 6 mg/dose) once daily for up to 10 days or until discharge from hospital, if sooner.

Moderate Disease

Patients with clinical or radiological signs of pneumonia, respiratory distress, and low-flow oxygen requirements

Recommended:

- **Dexamethasone:** 0.15mg/kg/dose PO or IV (Max 6 mg/dose) once daily for up to 10 days or until discharge from hospital, if sooner.

Consider:

- **Remdesivir for patients at risk of progressing to Severe Disease***
For children ≥ 40 Kg: 200 mg IV q24h x1, then 100mg IV q24h x 4 days
For children < 40 Kg: 5mg/kg/dose IV x1, then 2.5 mg/kg/dose IV q24h x 4 d
For infants < 3.5 Kg: 2.5mg/kg/dose IV x1, then 1.25mg/kg/dose IV q24h x 4 d

Mild Disease

Symptoms of acute upper respiratory tract infection, and/or systemic symptoms. Mild or no WOB, no O2 requirement

Recommended: Supportive care only

For patients with risk factors for progression of disease, and immunocompromised state consider:

Paxlovid™ (nirmatrelvir/ritonavir)
Children ≥ 40 Kg and ≥ 12 years old, without contraindications**
300 mg/100 mg po BID x 5 days

** Contraindications to Paxlovid™ include severe renal dysfunction with est CrCl < 30 ml/min, concomitant use of selected medications

Additional Treatment Considerations

Monoclonal antibodies (sotrovimab & casirivimab-imdevimab) have limited neutralization activity against currently circulating strains, including Omicron variants, and are not recommended.

See the [e-Formulary](#) for:

- Dosing in the setting of organ dysfunction, and
- For more information on adverse effects.

***Risk Factors for Progression to more Severe Disease include, but are not limited to:**

- Obesity
- Neurologic comorbidities
- Chronic respiratory disorders

REFERENCES:

[NIH Therapeutic Management of Hospitalized children with COVID-19. CMAJ 2021 Sept 27;193](#)
[Ontario Science Table Guidelines v11](#)