

Covid Pediatric Algorithm

Inclusion Criteria

- Positive for or suspected COVID-19 infection AND
- Oxygen saturations < 94% AND/OR
- Signs/symptoms of respiratory disease (e.g. cough, increased WOB) or chest X-ray with pulmonary infiltrates

Consider Risk Factors when deciding on Inpatient Admission

- Risk factors for severe disease [active oncologic disease or chemotherapy within 1 year of presentation, severe chronic pulmonary disease or requiring chronic ventilation, hemodynamically significant corrected or uncorrected congenital heart disease, heart failure, chronic hypertension, significant neurologic/ neuromuscular disease, immune deficiency (e.g. HIV, SCID), solid organ/bone marrow transplant, patients on immunosuppressant medications (e.g. SLE, vasculitis)]

Initial Management/ER management

Labs:

- CBC, CMP, CRP, D-dimer, LDH, Procalcitonin, Ferritin
- Consider blood culture, troponin, pro-BNP, lactate, blood gas, if febrile or in shock

Studies to consider:

- ECG
- CXR

if requiring supplemental oxygen consider dexamethasone 0.15 mg/kg/dose (max: 6 mg) or alternative steroid regimen (see "Alternative Steroid Regimen" side box)

- An individual aged <21 years presenting with fever*, laboratory evidence of inflammation**, and evidence of clinically severe illness requiring hospitalization, with multisystem (≥2) organ involvement (cardiac, renal, respiratory, hematologic, gastrointestinal, dermatologic or neurological); AND
- No alternative plausible diagnoses; AND
- Positive for current or recent SARS-CoV-2 infection by RT-PCR, serology, or antigen test; or exposure to a suspected or confirmed COVID-19 case within the 4 weeks prior to the onset of symptoms.

*Fever ≥38.0°C for ≥24 hours, or report of subjective fever lasting ≥24 hours

**Including, but not limited to, one or more of the following: an elevated C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), fibrinogen, procalcitonin, d-dimer, ferritin, lactic acid dehydrogenase (LDH), or interleukin 6 (IL-6), elevated neutrophils, reduced lymphocytes and low albumin

Refer to ANMC MIS-C protocol

Pediatrics

- HFNC < 2 L/min/kg
- Normal BP for age

Admission Disposition

Pediatric ICU

- HFNC ≥ 2 L/min/kg or ≥ 20 L/min
- Use of Non-Invasive Ventilation (NIPPV)
- Endotracheal intubation
- Shock

Consider Daily Labs: CBC, CMP, D-dimer, CRP

Consider **Dexamethasone** 0.15 mg/kg/dose /day (max: 6 mg daily) for up to 10 days, or alternative steroid regimen (see "Alternative Steroid Regimen" side box)

Consider **Remdesivir** if escalating O2 (see "Remdesivir" side box)

VTE prophylaxis if:

- D-dimer ≥ 2.5 ug/ml AND
- ≥ 12 years of age (see "VTE prophylaxis" side box)

Daily Labs: CBC, CMP, D-dimer, Procalcitonin, CRP, Ferritin
- Consider lactate, blood gas, troponin, pro-BNP

Dexamethasone 0.15 mg/kg/dose/day (max: 6 mg daily) for up to 10 days, or alternative steroid regimen (see "Alternative Steroid Regimen" side box)

Remdesivir (see "Remdesivir" side box)

VTE prophylaxis (see "VTE prophylaxis" side box)

If cytokine storm/worsening shock consider **Tocilizumab** (see "Tocilizumab" side box)

VTE Prophylaxis

Adjust based upon renal function/Pharmacy to assist management

Age 2 mos to < 12 years old and D-Dimer > or = 2.5 ug/mL

- Enoxaparin
- < 2 mo: 0.75 mg/kg/dose subQ q12 h
- ≥ 2 mo: 0.5 mg/kg/dose subQ q12 h
- Titrate to Xa 0.2-0.4 units/mL

Age > or = 12 years old and D-dimer > or = 2.5 ug/mL

- Enoxaparin:
- 1 mg/kg/dose subQ q12 h
- Titrate to Xa 0.5-1 units/mL

Age > or = 12 and D-dimer < 2.5 ug/ml

- Enoxaparin:
- 0.5 mg/kg/dose subQ q12 h
- Titrate to Xa 0.2-0.4 units/mL

Tocilizumab

Wt < 30 kg: 12 mg/kg IV x1 dose

Wt > 30 kg: 8 mg/kg IV x1 dose (max 800 mg/dose)

A 2nd dose can be given separated by at least 12 hours based on clinical response

Remdesivir

Dosing: (IV infusions are run over 60 minutes)

- > or = 40 kg: Day 1: load with 200 mg IV once; then days 2-5: 100 mg IV once daily
- 3.5 kg - <40 kg: [powdered formulation only] Day 1: load with 5 mg/kg IV once; then 2.5 mg/kg IV once daily for days 2-5
- If no clinical improvement: May extend treatment for up to 5 additional days (total of 10 days)

If on invasive mechanical ventilation:

- > or = 40 kg: Day 1: load with 200 mg IV once; then: 100 mg IV once daily for days 2 -10
- 3.5 kg - <40 kg: [powdered formulation only] Day 1: load with 5 mg/kg IV; then: 2.5 mg/kg IV once daily for days 2 -10

Alternative Steroid Regimen (Dexamethasone Preferred)

Methylprednisolone 0.8 mg/kg/day (max 32 mg)

Prednisolone 1 mg/kg/day (max 40 mg)

Hydrocortisone 0.5 mg/kg/day