

TITLE	Guidelines for the Treatment of Infant and Children with COVID-19
TODAY'S DATE	April 17, 2020
SECTION	<input checked="" type="checkbox"/> Organization Wide <input type="checkbox"/> Emergency Department <input type="checkbox"/> Inpatient <input type="checkbox"/> Ambulatory <input type="checkbox"/> Nursing <input type="checkbox"/> Medical staff [physicians and advance care practitioners]

APPLICABLE LOCATIONS	<input checked="" type="checkbox"/> All Bozeman Health locations <input type="checkbox"/> Bozeman Health Deaconess Hospital <input type="checkbox"/> Big Sky Medical Center	<input type="checkbox"/> Belgrade Clinic + UrgentCare <input type="checkbox"/> Hillcrest Senior Living <input type="checkbox"/> b2 UrgentCare <input type="checkbox"/> b2 MicroCare
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PURPOSE:

The Pediatric Infectious Disease Society with the cooperation of Peds ID at several Children's Hospitals are currently working on a formal recommendations for treatment options for infants and children with COVID-19. There is no current clinical information on the safety and efficacy of any drug treatment for COVID-19 in infants and children. Pediatric Centers are basing treatment options on known mechanism(s) of action and safety of current medications and the pathogenicity of this virus.

POLICY/PROTOCOL:

Denver Children's and Seattle Children's did not have formal treatment algorithms for COVID-19 treatment in infants and children but were informally adhering to the following:

Mild risk:

Fever, cough, congestion. No oxygen requirement or respiratory compromise. Feeding/eating well with good UOP. No preexisting condition.
 Recommendation: No treatment

Moderate risk:

Previously healthy now with oxygen requirement but stable.
 Recommendation: No treatment

Underlying health condition (immunocompromised; severe asthma; chronic heart or lung disease). No previous oxygen requirement but now with oxygen requirement and/or worsening respiratory status
 Recommendation: Consider treatment

Severe risk:

Significant worsening of respiratory status regardless of medical history; intubated
 Recommendation: Consider treatment

Treatment Options:

Hydroxychloroquine (Acute treatment): Infants, Children, and Adolescents: Oral: Oral: 6.5 mg/kg/dose hydroxychloroquine sulfate twice daily on day 1; maximum day 1 dose 400 mg/dose; followed by 3.25 mg/kg/dose hydroxychloroquine sulfate twice daily on days 2 through 5; maximum dose: 200 mg/dose.

Baseline and serial EKG, LFTs, urinary function tests are recommended.

Hydroxychloroquine (prophylactic treatment): These recommendations are specifically for patients who have undergone hematopoietic cell transplant (HCT) or other cellular therapy. Children and adolescents: Oral: 6.5 mg/kg/dose hydroxychloroquine sulfate twice daily on day 1; maximum day 1 dose 400 mg/dose; followed by 3.25 mg/kg/dose hydroxychloroquine sulfate twice daily on days 2 through 5; maximum dose: 200 mg/dose.

***I talked with Heme/Onc in Kalispel. They do not recommend routine prophylaxis of HCT or other Heme/Onc patients at this time. Denver Children's has had two Heme/Onc patients present with fever and neutropenia that were later found to have COVID-19: Neither were treated with hydroxychloroquine. They were otherwise treated with cefepime as per usual protocol.**

Azithromycin: Azithromycin is NOT recommend for the treatment of pediatric COVID-19 patients alone due to lack of any theoretical or proven efficacy. It is not recommended in combination with hydroxychloroquine because the potential adverse side effects in infants and children (QTc prolongation, etc.) outweighs any potential benefit at this time.

Remdesivir: Remdesivir is an investigational antiviral drug that has been reported to have in-vitro activity against SARS-CoV-2. Some adult patients with COVID-19 have received intravenous remdesivir through clinical trials or compassionate use, although remdesivir has not been used for treatment of children with COVID-19.

<https://www.gilead.com/science-and-medicine/research/compassionate-use>.

Tocilizumab (IL-6 inhibitor): Investigations underway. Apparently, there is what has been described as an "immunologic storm" that can occur in patients as a result of COVID-19 infection. This and other immunomodulators may prove to have some treatment efficacy.

NOTES:

There has been very few Pediatric admissions for COVID-19 at Denver Children's or Seattle Children's Hospitals (eg. 12 at Denver Children's; "handful" at Seattle Children's). None have been treated with medication including the Heme/Onc patients mentioned above.