



Multisystem Inflammatory Syndrome in Children

COVID-19 can present with a variety of symptoms that do not include the respiratory system in children. Children with confirmed COVID-19 have generally presented with mild symptoms. Infants have been reported to have higher rates of severe illness than older children.

However, some children can present with severe systemic illness, but may still lack respiratory symptoms. Some may not be experiencing a fever. This syndrome is being referred to as Multisystem Inflammatory Syndrome in Children, or MIS-C. MIS-C appears to develop two to six weeks after infection with COVID-19 and affects mostly children and teenagers who were healthy beforehand.

Reported COVID-19 symptoms in children:

- Fever
- Runny Nose
- Cough
- Vomiting and/or Diarrhea

Reported MIS-C Symptoms in Children:

- Abdominal pain and vomiting
- Conjunctivitis (pink eye)
- Rash
- Headache, confusion
- Poor peripheral perfusion
- Altered mental status
- Hypotension
- Respiratory failure
- Heart failure or sudden death

Systemic syndromes may overlap with Kawasaki Disease (fever, conjunctivitis, vasculitis, and coronary artery involvement) or with SIRS/septic shock (poor perfusion, altered mental status, cardiac failure).

Any child that presents with tachycardia or other non-specific, vague symptoms should prompt the EMS clinician to consider that their patient may be suffering from a serious underlying disease. Importantly, children are able to compensate for early shock by increasing their heart rate, and may not decompensate in a steady, downward trend. Instead, they may compensate for a significant amount of time, and then suddenly decompensate into a state of respiratory and cardiovascular collapse.

When evaluating and treating children who present in shock without a clear source of infection, or who present with possible Kawasaki Disease, EMS clinicians are advised to treat the child as a person under investigation (PUI) for the COVID-19 virus and utilize appropriate personal protective equipment.

The EMS clinician should consult with the receiving ED, utilizing the term “PUI”. As a reminder, EMS clinicians may consider consultation with a pediatric base station for further guidance on children with vague or unclear symptoms.

MIS-C is an emerging syndrome and information will be updated as it becomes available.