

TO: Vermont Health Care Providers and Health Care Facilities
FROM: Jennifer S. Read, MD, FAAP; Medical Epidemiologist

**Multisystem Inflammatory Syndrome in Children (MIS-C) Associated
with Novel Coronavirus Disease 2019 (COVID-19)**

In April 2020, clinicians in the United Kingdom (UK) reported an increasing number of previously healthy children who developed a severe inflammatory syndrome with Kawasaki disease-like features. These children either had evidence of current or recent infection with SARS-CoV-2, the etiologic agent of COVID-19 or were epidemiologically linked to a known COVID-19 case. The clinical presentation of these children included: persistent fever, hypotension, multiorgan (cardiac, neurologic, gastrointestinal, renal, hematologic, dermatologic) involvement, and elevated inflammatory markers. Of note, respiratory symptoms were not always present.

During March and April 2020, cases of COVID-19 rapidly increased in New York State, especially in New York City. In May 2020, the New York City Department of Health and Mental Hygiene received reports of children with multisystem inflammatory syndrome. Several children were hospitalized, and many required intensive care. Many of these children tested positive for SARS-CoV-2 by RT-PCR and/or serology. In addition, other countries have reported children with a severe inflammatory syndrome who tested positive for SARS-CoV-2 and/or were epidemiologically linked to a COVID-19 case. It remains unknown whether multisystem inflammatory syndrome only occurs in children or if it also can occur in adults. Currently available information regarding risk factors, pathogenesis, clinical course, and treatment for multisystem inflammatory syndrome in children (MIS-C) is limited.

On May 14, 2020, the Centers for Disease Control and Prevention (CDC) issued a health advisory regarding MIS-C which included background information, including a case definition, about this recently reported syndrome.

Case Definition for Multisystem Inflammatory Syndrome in Children (MIS-C)

- An individual aged <21 years presenting with fever¹, laboratory evidence of inflammation², and evidence of clinically severe illness requiring hospitalization, with multisystem (>2) organ involvement (cardiac, renal, respiratory, hematologic, gastrointestinal, dermatologic or neurological); AND

¹ Fever >38.0°C for ≥24 hours, or report of subjective fever lasting ≥24 hours

² 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

- No alternative plausible diagnoses; AND
- Positive for current or recent SARS-CoV-2 infection by RT-PCR, serology, or antigen test; or COVID-19 exposure within the 4 weeks prior to the onset of symptoms

REQUESTED ACTIONS:

- Report any patient who meets this case definition to the Vermont Department of Health in order to increase understanding of risks factors, pathogenesis, clinical course, and management of MIS-C. Some patients may fulfill all or some criteria for Kawasaki disease, but they should still be reported if they meet this case definition for MIS-C. An epidemiologist can be reached at 802-863-7240, extension 3 between 7:45 a.m. and 4:30 p.m. on business days.
- Consider MIS-C in any pediatric death with evidence of SARS-CoV-2 infection.

If you have any questions, please contact the HAN Coordinator at 802-859-5900 or vthan@vermont.gov.

HAN Message Type Definitions

Health Alert: Conveys the highest level of importance; warrants immediate action or attention.

Health Advisory: Provides important information for a specific incident or situation may not require immediate action.

Health Update: Provides updated information regarding an incident or situation; unlikely to require immediate action.

Info Service Message: Provides general correspondence from VDH, which is not necessarily considered to be of an emergent nature.