

**From:** Delaware Health Alert Network

**Re:** Delaware Health Advisory #430 - Multisystem Inflammatory Syndrome in Children Poss Assoc to COVID-19

**Message:**

**MULTISYSTEM INFLAMMATORY SYNDROME IN CHILDREN (MIS-C)  
POTENTIALLY ASSOCIATED WITH CORONAVIRUS DISEASE (COVID-19)**  
**MAY 18, 2020**

The Delaware Division of Public Health (DPH) is issuing this health advisory to ensure providers are aware of the reported Multisystem Inflammatory Syndrome in Children (MIS-C) potentially associated with COVID-19, and to provide guidance on reporting of cases to DPH and testing of patients who present with this disease. Please note that while older adults are at risk for severe COVID-19 illness, children can still get sick with COVID-19, most often presenting with mild symptoms, but rarely becoming severely ill. COVID-19 cases, and associated clusters, are considered conditions required as reportable to DPH.

## **SUMMARY**

Recently, coronavirus disease 2019 (COVID-19) has been reported as possibly linked with a pediatric multisystem inflammatory syndrome disease – Multisystem Inflammatory Syndrome in Children (MIS-C). As of May 12, 2020, 102 suspected pediatric clinical cases compatible with multisystem inflammatory syndrome associated with COVID-19 have been reported in children in New York State hospitals, including New York City. Additionally, Delaware has reportedly identified three cases.

If there is a strong clinical suspicion of MIS-C, potentially associated with COVID-19, call 1-888-295-5156 to consult with the DPH Office of Infectious Disease Epidemiology, or report through [reportdisease@delaware.gov](mailto:reportdisease@delaware.gov), within 24 hours of clinical suspicion or submission of test samples to a commercial lab, to allow for surveillance and monitoring as appropriate. Reporting will enhance knowledge of risk factors, pathogenesis, clinical course, and treatment of this syndrome.

## **BACKGROUND**

In the United Kingdom and Europe, a possible link was reported between COVID-19 and a serious inflammatory disease recently termed “Pediatric Multi-System Inflammatory Syndrome Temporally Associated with COVID-19.” As of May 12, 2020, the New York State Department of Health identified 102 patients (including patients from New York City) suspected pediatric clinical cases compatible with multisystem inflammatory syndrome were reported in children in New York State hospitals, including New York City. Additionally, Delaware has reportedly identified three cases.

This syndrome has features which overlap with Kawasaki Disease and Toxic Shock Syndrome. Inflammatory markers may be elevated, and fever and abdominal symptoms may be prominent. Rash also may be present. Myocarditis and other cardiovascular changes may be seen.

Additionally, some patients have developed cardiogenic or vasogenic shock and required intensive care. This inflammatory syndrome, referred to as MIS-C by CDC, may occur days to weeks after acute COVID-19 illness.

## **CASE DEFINITION FOR MULTI-SYSTEM INFLAMMATORY SYNDROME IN CHILDREN (MIS-C)**

- An individual aged < 21 years presenting with fever<sup>1</sup>, laboratory evidence of inflammation<sup>2</sup>, 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 COVID-19 exposure within the four (4) weeks prior to the onset of symptoms

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

### **Additional Comments**

- Some individuals may fulfill full or partial criteria for Kawasaki disease but should be reported if they meet the case definition for MIS-C
- Consider MIS-C in any pediatric death with evidence of SARS-CoV-2 infection

**Clinicians should not delay seeking expert advice while waiting for results of these investigations.**

## **RECCOMENDATIONS**

- Early recognition by pediatricians and prompt referral to an in-patient specialist, including to critical care is essential.
- This syndrome should be considered by pediatricians and specialists, particularly when other microbial etiologies have not been identified.
- Pediatricians and specialists should elicit any recent history of illness with COVID-19 or close contact with individuals who are known to have COVID-19 in children presenting with symptoms that are compatible with pediatric multi-system inflammatory syndrome potentially associated with COVID-19.
- The majority of patients who have presented with this syndrome have tested positive for SARS-COV-2 or corresponding antibodies. Some tested positive on diagnostic, molecular testing for SARS-COV-2, others were positive on serological testing for corresponding antibodies

## **REPORTING**

- COVID-19 is a reportable condition to DPH under Delaware Code (3.0 Report of Outbreaks and Potential Causes of a Public Health Emergency, 3.1 Outbreaks, Any health care provider, having knowledge of any outbreak of any notifiable disease or clusters of any illness which may be of public concern, shall report such outbreaks within 24 hours to the Division Director or designee.)
- Any positive test results from any laboratory must be reported to DPH via the Delaware Electronic Reporting Surveillance System (DERSS).
- If you have a strong clinical suspicion that a patient may be infected with MIS-C based on clinical symptoms and epidemiological factors (e.g., close contact with a confirmed case, recent travel to an area with sustained transmission), contact the DPH Office of Infectious Disease Epidemiology at **1-888-295-5156**, or report through [reportdisease@delaware.gov](mailto:reportdisease@delaware.gov) within 24 hours of clinical suspicion or submission of test samples to a commercial lab to allow for surveillance and monitoring as appropriate.

**Report to DPH Office of Infectious Disease Epidemiology 1-888-295-5156**  
[reportdisease@delaware.gov](mailto:reportdisease@delaware.gov)

## **RESOURCES**

- [Centers for Disease Control and Prevention\(CDC\) COVID-19 Website](https://www.cdc.gov/coronavirus/2019-ncov/index.html)

- [CDC HAN: Multisystem Inflammatory Syndrome in Children \(MIS-C\) Associated with Coronavirus Disease 2019 \(COVID-19\)](#)
- [Royal College of Paediatrics and Child Health Guidance: Paediatric Multisystem Inflammatory Syndrome Temporally Associated with COVID-19](#)