



AAP provides guidance on diagnosing, treating MIS-C

by Melissa Jenco, News Content Editor

Editor's note: For the latest news on COVID-19, visit <https://www.aappublications.org/news/2020/01/28/coronavirus>.

The AAP has released new interim guidance on an inflammatory condition in children linked to COVID-19.

The recommendations, "[Multisystem Inflammatory Syndrome in Children \(MIS-C\) Interim Guidance](#)," cover symptoms, testing and treatment and encourages a multidisciplinary approach to managing these patients.

Case definition

The Centers for Disease Control and Prevention (CDC) [defines MIS-C](#) as

An individual under 21 years presenting with fever, laboratory evidence of inflammation and evidence of clinically severe illness requiring hospitalization, with multisystem (two or more) organ involvement (cardiac, renal, respiratory, hematologic, gastrointestinal, dermatologic or neurological); **AND**

No alternative plausible diagnoses; **AND**

Positive for current or recent SARS-CoV-2 (COVID-19) infection by reverse-transcriptase polymerase chain reaction (RT-PCR), serology or antigen test; or COVID-19 exposure within the four weeks prior to the onset of symptoms.

Symptoms

MIS-C symptoms include persistent fever, inflammation and evidence of organ dysfunction or shock.

Some children present with features similar to Kawasaki disease or toxic shock syndrome. Other common features include cytokine storm, abnormal clotting, poor heart function, diarrhea, gastrointestinal symptoms, acute kidney injury and shortness of breath suggestive of congestive heart failure.

Lab results may show inflammatory markers in the blood, lymphopenia under 1,000, thrombocytopenia under 150,000, neutrophilia, elevated B-type natriuretic peptide (BNP) or N-terminal prohormone BNP, hyponatremia or elevated D-dimers.

Testing

The AAP recommends measurement of vital signs, assessment of perfusion and oxygen saturation as part of a patient's initial evaluation. Clinicians should consult and coordinate with infectious disease or rheumatology early in the process. Clinicians also may consider laboratory screening for systemic inflammation and initial lab screenings such as a complete blood cell count with differential, urine analysis, erythrocyte sedimentation rate, C-reactive protein, ferritin, lactic acid dehydrogenase, comprehensive metabolic panel, pro-BNP, troponin and fibrinogen.

Because MIS-C is rare, children with symptoms also should be evaluated for other infectious and noninfectious conditions. COVID-19 testing should be performed with RT-PCR assay and serologic testing.

Children who are sick enough to warrant hospital admission may need an expanded laboratory and cardiac workup. Some may develop hemodynamic compromise and need intensive care.



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Infection control and reporting

Clinicians should follow local infection-control policies when caring for a patient under investigation for COVID-19 including those with suspected MIS-C. If the condition is diagnosed, it should be **reported to the local public health department**.

Treatment and follow-up

The AAP recommends using a multidisciplinary approach to guide treatment. Patients have been treated with intravenous immunoglobulin, steroid therapy and biologics. Concurrent antibiotic therapy also is common. Treatment/prophylaxis for clotting also may be needed. Starting two to three weeks after discharge, patients with MIS-C should have close outpatient pediatric cardiology follow-up.

Resources

- [Information for clinicians from the CDC about MIS-C](#)
- [AAP News Parent Plus article "Rare syndrome affecting children may be associated with COVID-19"](#)
- [Information for parents from HealthyChildren.org on MIS-C](#)
- [Information about COVID-19 from the AAP Red Book](#)
- [Information about COVID-19 from the AAP](#)