



MACEP

Pediatric Committee

Newsletter

Chair, Emory Petrack MD, epetrack@tuftsmedicalcenter.org
Co-Chair, Ashley Foster MD, ashleyfoster@gmail.com

Fall 2020

Pediatric Fever this Fall & Winter

It's winter season and an otherwise healthy 3-year old male who is fully vaccinated presents to the ED for evaluation of fever to 38.6C for one day, associated with two episodes of diarrhea since yesterday and one episode of emesis. On exam you note the child is tachycardic at 145, has nasal congestion with an otherwise unremarkable exam. He is treated with Tylenol and Zofran, after which his fever defervesces and he is tolerating PO. After some observation, his repeat heart rate is 100 and he is found to be running around the ED playfully. Do we need to send a COVID swab or undertake any additional work up before discharge? Is Multisystem Inflammatory Syndrome in Children (MIS-C) a clinical concern?

During the upcoming respiratory season, the addition of SARS COV-2 to the other respiratory viruses that typically circulate at this time of the year may complicate evaluation of some patients this fall and winter. Clinically, the

symptoms of COVID-19 mimic the symptoms of other respiratory viral illnesses in children, with symptoms that may include fever, fatigue, headache, cough, nasal congestion, rhinorrhea, abdominal pain, diarrhea, vomiting and loss of appetite.

The vast majority of SARS-CoV-2 infected children experience mild to no symptoms. As always, the approach to patients with mild to moderate viral symptoms in the ED during the COVID-19 pandemic should be evaluated on a case by case basis, including age, clinical assessment, the history of any underlying or chronic medical conditions and the social circumstances of the family. Pediatric patients who are known to be SARS-CoV-2 positive and are well appearing or have only mild symptoms, and who would otherwise not meet admission criteria, should be monitored at home with close primary provider follow-up and good return precautions. For these children, labs or imaging studies are not necessarily

required unless more specifically indicated.

The CDC defines MIS-C as:

- An individual aged <21 years presenting with fever $\geq 38.0^{\circ}\text{C}$ for ≥ 24 hours, or report of subjective fever lasting ≥ 24 hours, laboratory evidence of inflammation, 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 exposure to a suspected or confirmed COVID-19 case within the 4 weeks prior to the onset of symptoms.

It should be remembered that MIS-C is an extremely rare illness. Data published in the *NEJM* reported an occurrence rate of 2 MIS-C cases/100,000 people under 21 years of age during a period of high viral circulation. The rate of MIS-C among SARS-CoV-2 infected children is <10 cases MIS-C/10,000 infected children.

Based on the epidemiologic curve there appears to be a lag of approximately 3-4

weeks between the uptick of COVID-19 cases and the presentation of MIS-C. Children with MIS-C generally appear ill, with prolonged fever, and may demonstrate abnormalities suggestive of gastrointestinal involvement, acute kidney injury, myocardial dysfunction, neurologic symptoms and abnormal clotting. Some children present with features of Kawasaki disease or toxic shock syndrome.

Currently, the American Academy of Pediatrics recommendation states that for a child who presents with a persistent fever (>3 days), who is moderately to severely ill and with clinical signs of organ dysfunction, MIS-C should be included in the differential diagnosis. If the suspicion is high, initial screening labs may include one or more of the following: a CBC with diff, CMP, ESR, CRP, ferritin, LDH, pro-BNP, troponin and fibrinogen. Consultation with ID or Rheumatology specialists is advised in order to optimize testing and management.

Getting back to our patient in the ED who is a generally well appearing child with an obvious viral illness and one day of fever, a work-up for MIS-C is not indicated. Based on epidemiology, and exposure history, one could consider testing for SARS COV-2 if readily available, and advise supportive care with close primary provider follow-up. Caregivers should be advised on viral precautions, to maintain distance and minimize the contact between a symptomatic child and any high risk household contact, regardless of the virus causing the symptoms.



Hi MACEP members- We have an exciting free resource to share with you. Because the New England Emergency Medical Services for Children (EMSC) Foundations of Pediatric Preparedness Forum was cancelled in March 2020, the forum steering committee has worked with the open access online community called OPENPediatrics to convert the forum into 100% virtual platform. This means that you and your hospital or institution can access the material anytime, anywhere.

The link below will auto-enroll you into the virtual forum. In order to access the forum content, please first create an account with OPENPediatrics via their website (<https://www.openpediatrics.org>). It's easy and free to register with OPENPediatrics. You can then use the link below to get directly to the virtual forum. We hope to create more content like this in the future for pre-hospital and emergency healthcare providers in the state and region.

[New England Foundations of Pediatric Preparedness Virtual Forum](#)



COVID-19 Pediatric Resources

Pediatric Infectious Diseases Society, COVID-19 Resources: [LINK](#)

EM:RAP Online Textbook Chapter on COVID-19, free and constantly updated, with section on pediatrics: [LINK](#)

Pediatric Emergency Medicine Database, up to date articles on COVID-19: [LINK](#)

Don't Forget the Bubbles, evidence based summary of pediatric COVID-19 literature: [LINK](#)

EMSC Innovation & Improvement Center, pediatric and pre-hospital preparedness for COVID-19: [LINK](#)



Massachusetts Department of Public Health
Divisions of Epidemiology and Immunization

MCAAP Immunization Initiative Webinar Series

Acute Flaccid Myelitis: The Needle in the Haystack

December 3, 2020, 12:00-1:00 p.m. ET

Leslie Benson, MD

Assistant, Department of Neurology; Assistant Director, Pediatric Multiple Sclerosis and Related Disorders Program; Assistant Director, Pediatric Neuro-Immunology, Boston Children's Hospital; Instructor of Neurology, Harvard Medical School

Cynthia McReynolds, MBA

Program Manager, MCAAP Immunization Initiative, Moderator

[Click Here](#) to register!

The goal of the MCAAP Immunization Initiative Webinar Series is to improve Massachusetts childhood and adolescent immunization rates.

Target Audience

Healthcare professionals who provide care to children and adolescents in Massachusetts, including MCAAP members and physicians, pediatricians and family practice physicians, nurse practitioners, nurses, physician assistants, medical assistants, public health workers, community health center staff, and office staff who work in pediatric and adult health care settings.

Learner Objectives

At the conclusion of the program, the participant should be able to:

- Recognize common presentations and exam findings to help identify patients with acute flaccid myelitis (AFM).
- Discuss clinical and radiographic features differentiating AFM from Guillain Barre syndrome and inflammatory transverse myelitis.
- Review the current data supporting an association between enterovirus D68 and acute flaccid myelitis.



Stay Safe!

Sunset at the Provincelands, Provincetown

Taken October 15, 2020

by Emory Petrack