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PROVIDER HEALTH ALERT UPDATE
MAY 21, 2020
MULTISYSTEM INFLAMMATORY SYNDROME IN CHILDREN (MIS-C) ASSOCIATED WITH CORONAVIRUS DISEASE 2019 (COVID-19)

On May 14, 2020, the U.S. Centers for Disease Control and Prevention (CDC) issued a health alert regarding children with signs and symptoms of a severe multisystem inflammatory syndrome (MIS-C) potentially associated with SARS-CoV-2 infection. Cases presenting with features resembling Kawasaki disease or toxic shock syndrome have been reported in Italy, the United Kingdom, New York City and other locations in the United States, including California.

Based on current reports, clinical features include persistent fever, hypotension, severe illness involving multiple organ systems, and elevated inflammatory markers. Cardiovascular complications are common, and respiratory symptoms are not always present. Many patients with MIS-C appear to have current or recent SARS-CoV-2 infection, or they have a history of exposure to COVID-19. Although MIS-C is rare, the condition is serious and some affected children have died. Information about risk factors, pathogenesis, clinical course, and treatment is currently limited.

CDC case definition:

- **An individual aged <21 years presenting with fever[i], laboratory evidence of inflammation[ii], 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 4 weeks prior to the onset of symptoms**

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

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

ii 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.

Actions Requested of Healthcare Professionals:

1. **Be vigilant** for children and youth <21 years of age presenting with fever, clinical and laboratory signs of an inflammatory condition, and severe illness with multiple organ system involvement.
2. **Test** patients with these findings for SARS-CoV-2, using a nucleic acid amplification test such as RT-PCR, and a serologic assay approved or given Emergency Use Authorization by the US Food and Drug Administration (FDA). Serology should not be the sole diagnostic test for SARS-CoV-2 and should be interpreted with caution.
3. **Immediately refer** patients with MIS-C or features of toxic shock syndrome or Kawasaki disease to a specialist in pediatric infectious disease, rheumatology, and/or critical care, as indicated. Early diagnosis and treatment of patients is critical to preventing long-term complications.
4. **Report** suspected cases of MIS-C to Contra Costa Public Health by calling the Communicable Disease Program at 925-313-6740 during regular business hours (M-F, 8am to 5pm) or by submitting a completed COVID-19 CMR form, indicating MIS-C in the "Disease being reported" field, by FAX to Contra Costa Public Health at (925) 313-6465.

References:

CDC Health Alert MIS-C: emergency.cdc.gov/han/2020/han00432.asp

Royal College of Paediatrics and Child Health Guidance: Paediatric multisystem inflammatory syndrome temporally associated with COVID-19, www.rcpch.ac.uk/sites/default/files/2020-05/COVID-19-Paediatric-multisystem-%20inflammatory%20syndrome-20200501.pdf

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