Clinical Guideline
Multisystem Inflammatory Syndrome in Children (MIS-C)
Pediatric Emergency Medicine, Inpatient Pediatrics and General Pediatrics

Does the patient have fever ≥24 hours (even if subjective) with no alternative plausible diagnosis PLUS ≥2 of the following?
- GI: abdominal pain, diarrhea, vomiting
- CV: hypotension, arrhythmia, chest pain
- Respiratory: difficulty breathing
- Mucocutaneous: diffuse rash, oral changes, conjunctivitis, erythema/edema of extremities
- Neuro: Headache, irritability, lethargy, AMS
- Other: Known history of COVID or close contact with positive case in past 4 weeks?

Severe manifestations and/or shock?
- yes
  - Stabilize patient per PALS guidelines, AND perform complete evaluation, including all of the following:
    - CBC-diff
    - Comprehensive metabolic panel (ED: BMP, AST/ALT, Albumin)
    - CRP
    - ESR
    - RPP and COVID-19 IgG
    - Blood culture
    - D-dimer
    - Ferritin
    - Fibrinogen
    - Troponin
    - BNP
    - PT/INR
    - EKG
    - Echocardiogram

- no
  - yes
  - Perform limited initial evaluation, including:
    - CBC-diff
    - Comprehensive metabolic panel (ED: BMP, AST/ALT, Albumin)
    - CRP
    - ESR
    - RPP
    - Assess for other common sources of fever
    - ED nursing consider obtaining, properly labeling, and storing blood cultures and mint green tube

Any lab abnormalities?*
- no
  - Perform remainder of complete MIS-C workup

- yes
  - Elevated CRP and/or ESR AND at least one of the following: lymphopenia, neutrophilia, thrombocytopenia, or hypoalbuminemia
  - CRP elevated but other labs reassuring
  - Consider further workup for other causes of inflammation.
  - Consider discharge if close follow up in 24-48 hours is available.

Unlikely MIS-C. Perform additional evaluation as needed for presenting symptoms.

See next page for additional information
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CDC MIS-C definition:

- Any individual aged <21 years presenting with:
  - Fever ≥38.0°C lasting ≥24 hours OR report of subjective fever for ≥24 hours
  - Laboratory evidence of inflammation
  - Evidence of clinically severe illness requiring hospitalization with ≥2 of the following systems involved: cardiac, renal, respiratory, hematologic, gastrointestinal, dermatologic, or neurologic

AND

No alternative plausible diagnoses

AND

Positive for current or recent SARS-CoV-2 infection by RT-PCR/serology/antigen test OR exposure to a suspected or confirmed COVID-19 case within 4 weeks prior to symptom onset. (Note: need not have been symptomatic from initial infection)

*Common lab abnormalities:

- CRP ≥3mg/dL
- ESR≥40 mm/hr
- ALT ≥40 U/L
- Albumin ≤3.0g/dL
- D-dimer >0.55mg/L
- BNP >400pg/mL
- Elevated troponin
- Sodium <135mEq/L
- Platelet count <150/mm3
- Absolute lymphocyte count <1500
- Absolute neutrophil count >7700
- Ferritin >500ng/mL
- Fibronogen >400mg/dL
- INR >1.1

When to consult in a patient with suspected MIS-C:

- Cardiology: abnormal troponins, BNP, EKG, or echo
- Infectious diseases: if patient meets MIS-C criteria based on CDC definition after complete workup

Consider hospital admission if any of the following:

- Abnormal vital signs (tachycardia, tachypnea)
- Respiratory distress
- Neurologic deficits/AMS
- Evidence of renal/hepatic injury
- CRP>10mg/dL
- Abnormal EKG, BNP, or troponins

For questions concerning this guideline, contact: chorclinicalguidelines@vcuhealth.org

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Multisystem Inflammatory Syndrome (MIS-C) Guideline

Executive Summary

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Approved (January 2021)

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References

AAP Multisystem Inflammatory Syndrome in Children (MIS-C) Interim Guidance
Centers for Disease Control and Prevention. Multisystem Inflammatory Syndrome (MIS-C).

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Example: