Children's Mercy KANSAS CITY

Initial Evaluation and Treatment of Multisystem Inflammatory Syndrome in Children (MIS-C)

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Evaluation for Possible MIS-C

Initial Assessment:
- History and Physical exam
- Assess for history of COVID-19 exposure within last 4 weeks **OR**
- Current or previous positive COVID-19 PCR, serology, or antigen test
- Assess for sepsis/shock
  - Sepsis Crawler alert

Inclusion Criteria:
- Patients <21 yo presenting with Fever ≥ 38°C **AND**
  - ≥ 2 of the following organ systems involved:
    - Cardiac
    - Renal
    - Pulmonary
    - Hematology
    - GI: pain, V/D, anorexia, loss of taste
    - Derm: Rash, Oral mucosal changes
    - Neuro: Headache/irritability/lethargy/AMS

OR
  - One or more of the following:
    - Shock (compensated or hypotensive)
    - Evidence of cardiac dysfunction
    - End organ involvement

OR
  - Features of complete or incomplete Kawasaki Disease

Exclusion Criteria:
  - Alternative plausible diagnosis

Compensated shock: persistent tachycardia despite antipyretics, BP may be normal or have wide pulse pressure, intact peripheral perfusion or brisk cap refill
Hypotensive shock: tachycardia, hypotension and/or wide pulse pressure, delayed or flash peripheral perfusion

Does the pt have either compensated or hypotensive shock?

Yes →

Suspect MIS-C with Compensated or Hypotensive Shock
- Fever/history of fever ≥ 38.0 °C for ≥ 1 day **PLUS** meets inclusion criteria

- Initiate *EDP Sepsis* or *Sepsis Inpatient* and *EDP MIS-C* powerplans
- Obtain Istat VBG
- Send Tier 1 and Tier 2 labs
- Antibiotics per Sepsis powerplan
- Obtain ECG, CXR, and ECHO
- Frequently reassess after fluids to avoid fluid overload

Admit to PICU

No ↓

Suspect MIS-C without Shock
- Fever/history of fever ≥ 38.0 °C for ≥ 3 days **PLUS** meets inclusion criteria
- ***OR*** *Provider Discretion

Initiate *EDP MIS-C* Powerplan

*For low suspicion of MIS-C start with tier 1 labs progress to tier 2 labs if lab results increase suspicion or patient ill appearing/high suspicion of MIS-C

Tier 1 Labs:
CBC, BMP, LFTs, CRP, ESR, Blood Cx Other testing as clinically indicated for fever workup (UA/Urine Cx)

Tier 2 Labs:
Troponin, NT-proBNP, ECG, D-dimer, Ferritin, Fibrinogen, CPK, PT, PTT, INR, LDH, Lactate, VBG, Triglycerides, UA, COVID-19 PCR

*Considered admission for further observation while completing the diagnostic evaluation, especially if the pt. displays any of the following:
- Abnormal vital signs (tachycardia, tachypnea)
- Respiratory distress of any severity
- Neurologic deficits or change in mental status (including subtle manifestations)
- Evidence of even mild renal or hepatic injury
- Markedly elevated inflammatory markers
- Abnormal EKG, NT-proBNP, or troponin

Are labs and physical exam reassuring?*

Yes → Discharge home with:
- PCP follow up in 24-48 hrs

OR
- Return to ED for fever ≥ 5 days and/or new signs/symptoms

No ↓

Are labs concerning and/or is pt. ill appearing?*

Yes →

Does the pt have any evidence of shock or cardiac dysfunction?

Yes →

Should the pt. be admitted to PICU?

Yes → Admit to PICU

No ↓

Admit pt. to Medical Unit

No → Admit pt. to Medical Unit

*Provider discretion should be used when initiating MIS-C workup, determining low versus high suspicion and patient disposition.