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 Owner: F. Turcotte

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

ED Evaluation for Possible MIS-C

Initial Assessment in ED:

- 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 $\geq 38^{\circ}\text{C}$ **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's 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?

Suspect MIS-C with Compensated or Hypotensive Shock

- Fever/history of Fever $\geq 38.0^{\circ}\text{C}$ for ≥ 1 day PLUS
- Meets inclusion criteria

Suspect MIS-C without Shock Fever/history of Fever $\geq 38.0^{\circ}\text{C}$ for ≥ 3 days PLUS meets inclusion criteria **OR** *Provider Discretion

- Use EDP Sepsis powerplan
- 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

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

Admit to PICU

Are labs and physical exam reassuring?

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

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

Should the pt. be admitted to PICU?

Discharge home with:

- PCP follow up in 24-48 hrs
- OR**
- Return to ED for fever ≥ 5 days and/or new signs/symptoms

Admit pt. to Medical Unit

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