

Coronavirus: MIS-C Algorithm (Stakeholder-approved; CSW approval in process)

Consider Differential Diagnosis (next page) Including acute COVID

MIS-C case definitions:
[CDC \(link\)](#)
[WHO \(link\)](#)

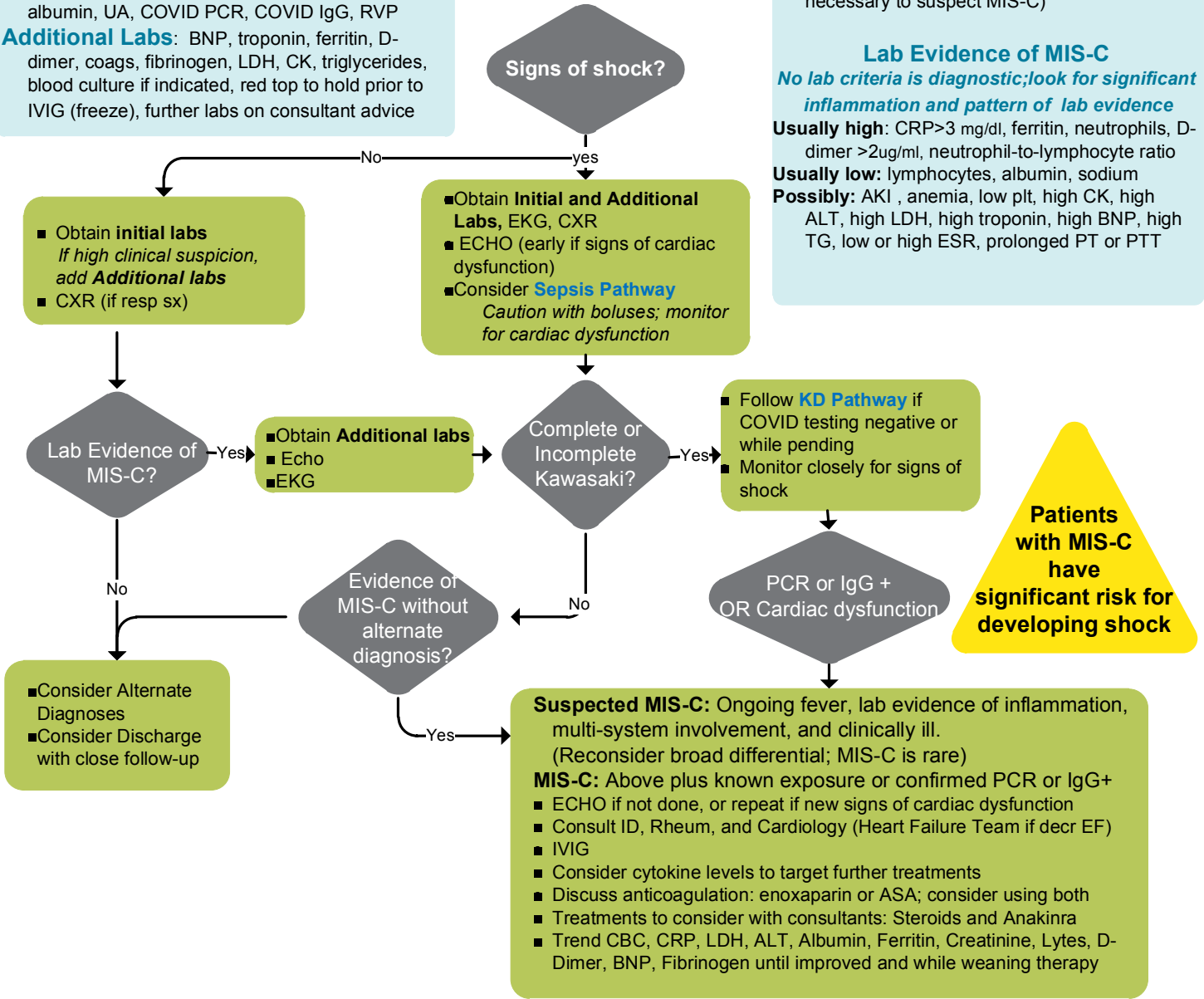
Inclusion Criteria
 Fever AND critically ill
 OR
 Persistent Fever ≥3d AND Evidence of MIS-C (see box) AND ill-appearing
 OR
 Persistent unexplained fever >5 days

Clinical Features/Evidence of MIS-C

- Hypotension or shock
- Cardiac dysfunction, pericarditis, valvulitis, or coronary abnormalities
- Acute gastrointestinal symptoms (diarrhea, vomiting, or abdominal pain)
- Rash, bilateral nonpurulent conjunctivitis, or mucocutaneous inflammation signs (oral, hands, or feet)
- Irritability, headache, altered mental status
- Recent COVID illness OR exposure (note: not necessary to suspect MIS-C)

Initial Labs: CBCd, CRP, ESR, BMP, ALT, albumin, UA, COVID PCR, COVID IgG, RVP
Additional Labs: BNP, troponin, ferritin, D-dimer, coags, fibrinogen, LDH, CK, triglycerides, blood culture if indicated, red top to hold prior to IVIG (freeze), further labs on consultant advice

Lab Evidence of MIS-C
No lab criteria is diagnostic; look for significant inflammation and pattern of lab evidence
Usually high: CRP >3 mg/dl, ferritin, neutrophils, D-dimer >2ug/ml, neutrophil-to-lymphocyte ratio
Usually low: lymphocytes, albumin, sodium
Possibly: AKI, anemia, low plt, high CK, high ALT, high LDH, high troponin, high BNP, high TG, low or high ESR, prolonged PT or PTT



Patients with MIS-C have significant risk for developing shock

Suspected MIS-C: Ongoing fever, lab evidence of inflammation, multi-system involvement, and clinically ill. (Reconsider broad differential; MIS-C is rare)
MIS-C: Above plus known exposure or confirmed PCR or IgG+
 ■ ECHO if not done, or repeat if new signs of cardiac dysfunction
 ■ Consult ID, Rheum, and Cardiology (Heart Failure Team if decr EF)
 ■ IVIG
 ■ Consider cytokine levels to target further treatments
 ■ Discuss anticoagulation: enoxaparin or ASA; consider using both
 ■ Treatments to consider with consultants: Steroids and Anakinra
 ■ Trend CBC, CRP, LDH, ALT, Albumin, Ferritin, Creatinine, Lytes, D-Dimer, BNP, Fibrinogen until improved and while weaning therapy

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Differential Diagnosis:

Kawasaki Disease

-more common in younger children, if COVID testing negative, and without shock/cardiac dysfunction

Bacterial Infections/Sepsis:

-obtain cultures and evaluate for source

-consider meningitis

Staphylococcal and streptococcal toxin-mediated diseases

-diffuse rash and hypotension, obtain cultures and evaluate for source including gynecologic or scarlet fever

Staph Scalded Skin Syndrome (SSSS)

-increasing erythema and bullae

-younger children

-obtain cultures

Tick-Borne Illnesses

- with epidemiologic risk factors

-Rocky Mountain Spotted Fever or Leptospirosis

Viral Infections

-Measles, Adenovirus, enterovirus, active COVID infection

Myocarditis

-may overlap with MIS-C or have alternate cause

Drug Hypersensitivity Reactions

-consider SJS, DRESS, or serum sickness like reaction

-history of recent or semi-recent exposure to drug; consider with arthralgias and diffuse mucositis

Labs to Consider with consultants:

- Quantitative immunoglobulins (IgG, IgA, IgM, red tube)
- Specimen storage, red and lavender (freeze)
- Lymphocyte subset – Full Panel with TCR
- Antiphospholipid Ab (anticardiolipin, β 2 glycoprotein, lupus anticoagulant)
- Cytokine panel
- IL-1 β (ARUP test code 0051536, collect 2-3mL in gold/red top, spin and freeze within 2h)
- sIL-2R (AKA sCD25)