Inpatient Management of Multisystem Inflammatory Syndrome in Children (MIS-C)

< 21 yr old with suspected MIS-C admitted based on ED MIS-C algortihm

Degree of cardiac involvement determines disposition (PC3, PICU, PCICU) based on discussion between cardiology and floor/ICU attendings

Stay in Special Airborne Contact Isolation till cleared by Infection prevention

Clinical features suggesting MIS-C	Examples of organ system dysfunction
One or more of the following: Diarrhea Abdominal pain Conjunctivitis Mucositis Rash Abnormal mental status Shock Hypoxia Joint pains /Swelling of hands and feet	Gastrointestinal (e.g. abdominal pain, diarrhea) Cardiac (e.g. shock, elevated troponin, elevated BNP, abnormal echo, new arrhythmia, ST/T wave changes on EKG) Respiratory (e.g. pneumonia, ARDS, pulmonary embolism) Renal (e.g. acute kidney injury or renal failure) Liver (e.g. elevated bilirubin or elevated liver enzymes) Neurologic (e.g. CVA, aseptic meningitis) Hematologic (e.g. coagulopathy, elevated D Dimers, thrombophilia or thrombocytopenia) Skin manifestations (e.g. polymorphic rash, petechiae, purpura)

Duke MIS-C case definition

1. **<21 yrs presenting with fever > 3 days and lab evidence of inflammation (leucocytosis/CRP) and evidence of clinically severe illness reqiring hospitalization with >/=2 organ system involvement (cardiac, resp, renal, Heme, GI, Neuro or Derm) AND**
2. **no alternative diagnosis AND**
3. **+ SARS-CoV2 PCR *or* serology *or* COVID-19 exposure within 4 weeks**

Additional work up

ECHO (if not obtained in ED)
Type and Screen
Triglycerides, Mag and Phos, SARS-CoV2 antibody IgG
ERVP if respiratory symptoms
Consider daily CBCD, CMP, DIC panel, CRP and cardiac markers

Consults

Consult infectious disease for all admitted patients.
Consult rheumatology for elevated inflammatory markers.
Consult hematology for elevated D-dimer.
Consult cardiology for elevated troponins, EKG/echo abnormalities.

Patients with MIS-C triaged to stepdown should be monitored closely for clinical deterioration. Rapid clinical deterioration has been reported. COVID RRT should be called to enable appropriate response from RRT

Pathway developed by the Department of Pediatrics, Duke University: Revised [June 11, 2020]
It is not a substitute for independent professional medical assessment,diagnosis, and treatment.

Incomplete/complete Kawasaki Disease	Myocarditis or depressed LV systolic function	Severe disease
1. IVIG 2 g/kg 2. Aspirin 30-50 mg/kg/d divided q6 hrs while febrile, decrease to 3-5mg/kg(max 81 mg) daily once patient defervesces 3. For high-risk KD patient (CAA at diagnosis, age < 6 months, IVIG resistance, CRP > 13 mg/dL), consider adding prednisone 1 mg/kg BID with a tapering course over ~3 weeks 4. Additional immumodulators as needed in conjunction with Rheumatology, 5. Infectious Disease, and/or Immunology and based on response to initial IVIG therapy	1. Consider IVIG 1 g/kg daily x 2 days 2. For patients with moderate or greater systolic dysfunction, consider full anticoagulation with heparin, Lovenox, or warfarin in consultation with hematology 3. Consult with rheumatology and/or infectious disease regarding additional immunosuppression options: Anakinra (interleukin-1 inhibitor), corticosteroids,Tocilizumab (interleukin-6 inhibitor)	1. Consult hematology for recommendations on anticoagulation (aspirin, lovenox or heparin) 2. Consult Infectious Disease about use of antivirals (remdesivir) 3. Consult Rheumatology/Immunology about use of immumodulating medications: Anakinra (interleukin-1 inhibitor), canakinumab (interleukin-1 inhibitor), IVIG, corticosteroids, Tocilizumab (interleukin-6 inhibitor)

For Acute COVID pediatric management guidelines please visit customid.org
https://www.customid.org/antimicrobial/guideline-therapeutic-management-pediatric-patients-confirmed-covid-19-peds

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