

Treatment of MIS-C Survey

Survey Date (auto-populates; not seen by user)

Thank you for agreeing to participate in this multi-center survey aimed at capturing the protocolized evaluation and management of Multisystem Inflammatory Syndrome in Children (MIS-C). In the absence of published guidelines, many centers have created individual protocols to direct treatment of this condition. The goal of this survey is to better understand how centers are constructing their protocol. Our hope is to improve the care of MIS-C by sharing pediatric hospitals' information regarding the evaluation, management, and follow-up of these patients. For any questions or concerns related to this survey, please contact Dr. Matt Oster at osterm@kidsheart.com

First Name

Last Name

Role of person completing this form. Check all that apply.

- Cardiologist
 - Intensive Care physician
 - Infectious Disease physician
 - Rheumatologist
 - Hematologist
 - General Pediatrician
 - Administrator
 - Fellow
 - Resident
 - Other (please specify)
-

Please specify your role.

Email

Direct Phone Number

May we contact you if we have questions about your responses?

- Yes No
-

What is the name of your center?

What is your best estimate of the total MIS-C patients that your center has managed?

- 0
- 1-5 patients
- 6-10 patients
- 11 -25 patients
- >25 patients
- Not sure

How many pediatric beds does your hospital have?

Where is your center located?

Has your center developed an MIS-C protocol to guide evaluation and treatment?

- Yes
- No
- Not sure

Date of initial protocol

Has the protocol changed since it was initially created?

- Yes
- No
- Not sure

What changes were made to the protocol and why?

Date of most recent protocol

Is it possible to receive a copy of your current protocol?

- Yes
- No
- Not sure

Please attach a copy of your current protocol.

Can we publish this protocol as part of a supplement to a manuscript?

- Yes
- No
- Not sure

We plan to invite one person from each center that provides a copy of their protocol to be published to be included as a co-author in any manuscript that arises from this survey. Would you be interested in being considered?

Yes No

Please answer the remainder of the survey according to your center's protocol.

Please answer the remainder of the survey based on what your center typically does for patients suspected of having MIS-C.

Definition of MIS-C and Inclusions Criteria for diagnosis of MIS-C

Does the definition or inclusion criteria for MIS-C at your center specify the presence of fever?

Yes No

What are minimum days of fever required?

- 1
 - 2
 - 3
 - 4
 - 5
-

Is there a minimum temperature specified for fever?

Yes No

What is the minimum temperature?

Is this minimum temperature Celsius or Fahrenheit?

Celsius Fahrenheit

Does the inclusion criteria specify the presence of symptoms of certain organ systems or clinical features?

Yes No

How many organ systems/clinical features must be involved?

Which organ systems/clinical features are included as potentially meeting criteria for MIS-C at your center? Check all that apply.

- Cardiac (e.g. tachycardia, shock, chest pain)
- Dermatologic (e.g. rash) immune (e.g. lymphadenopathy)
- Extremity changes (e.g. swelling or edema of hands and feet)
- Gastrointestinal (e.g. abdominal pain, nausea, vomiting)
- Neurological (e.g. headache, altered mental status, seizure)
- Ocular (e.g. conjunctivitis)
- Oral Mucosa (e.g. dry or cracked lips, strawberry tongue)
- Respiratory (e.g. cough, shortness of breath)
- Other

Please specify other organ systems/clinical features.

Does the inclusion criteria specify age?

- Yes No

Please specify the upper age range (in years).

Please specify the lower age range (in years).

Is the lower age in months or years?

- Months Years

Does the inclusion criteria specify the presence of abnormal labs?

- Yes No

How many lab findings must be abnormal?

- 1
- 2
- 3
- 4
- >4

Which abnormal labs are included as potentially meeting criteria for MIS-C at your center? Check all that apply.

- Elevated CRP
- Elevated ESR
- Elevated white blood cell count
- Neutrophilia
- Lymphopenia
- Thrombocytopenia
- Anemia
- Hyponatremia
- Elevated Creatinine
- Elevated BNP or proBNP
- Elevated Troponin
- Hypoalbuminemia
- Elevated AST or ALT
- Elevated ferritin
- Elevated D-Dimer
- Pyuria
- Other

Please specify other lab criteria included.

Is positive SARS-CoV-2 testing required for inclusion?

- Yes No

Is prior exposure to someone with COVID required?

- Yes No

What positive SARS-CoV-2 testing meets inclusion criteria? Check all that apply.

- Nasopharyngeal/Oropharyngeal PCR
- Stool PCR
- IgA Antibody
- IgG Antibody
- IgM Antibody
- Antigen Testing
- Other

Please specify other positive SARS-CoV-2 testing that meets inclusion criteria.

Do you know the specific Antibody test (company and any other information) that your hospital uses?

- Yes No

Please specify the Antibody test that your hospital uses.

Comments regarding inclusion criteria for diagnosis of MIS-C

Evaluation of Patients with Suspected or Confirmed MIS-C
 Option to select for ALL patients or Only Selected Patients

Including initial labs, what labs are ordered for patients with concern for MIS-C?

	Some Patients	All Patients
CBC w/ diff	<input type="radio"/>	<input type="radio"/>
Chem panel	<input type="radio"/>	<input type="radio"/>
LFTs	<input type="radio"/>	<input type="radio"/>
CRP	<input type="radio"/>	<input type="radio"/>
ESR	<input type="radio"/>	<input type="radio"/>
Urinalysis (with reflex culture)	<input type="radio"/>	<input type="radio"/>
Urine creatinine and protein	<input type="radio"/>	<input type="radio"/>
BNP or proBNP	<input type="radio"/>	<input type="radio"/>
Troponin	<input type="radio"/>	<input type="radio"/>
CK-MB	<input type="radio"/>	<input type="radio"/>
Ferritin	<input type="radio"/>	<input type="radio"/>
D-dimer	<input type="radio"/>	<input type="radio"/>
Prottime and INR	<input type="radio"/>	<input type="radio"/>
aPTT	<input type="radio"/>	<input type="radio"/>
Von Willebrand antigen	<input type="radio"/>	<input type="radio"/>
Blood culture	<input type="radio"/>	<input type="radio"/>
Procalcitonin	<input type="radio"/>	<input type="radio"/>
LDH	<input type="radio"/>	<input type="radio"/>
Triglycerides	<input type="radio"/>	<input type="radio"/>
Amylase	<input type="radio"/>	<input type="radio"/>
Lipase	<input type="radio"/>	<input type="radio"/>
Vitamin D level	<input type="radio"/>	<input type="radio"/>
Cytokine panel	<input type="radio"/>	<input type="radio"/>
IL-6	<input type="radio"/>	<input type="radio"/>
ANA	<input type="radio"/>	<input type="radio"/>
C3	<input type="radio"/>	<input type="radio"/>
C4	<input type="radio"/>	<input type="radio"/>
CXCL9	<input type="radio"/>	<input type="radio"/>
Respiratory viral panel	<input type="radio"/>	<input type="radio"/>
CMV PCR	<input type="radio"/>	<input type="radio"/>
EBV PCR	<input type="radio"/>	<input type="radio"/>
Parvovirus PCR	<input type="radio"/>	<input type="radio"/>
Adenovirus PCR	<input type="radio"/>	<input type="radio"/>
SARS-CoV-2:	<input type="radio"/>	<input type="radio"/>
Nasopharyngeal/Oropharyngeal PCR	<input type="radio"/>	<input type="radio"/>

SARS-CoV-2: Stool PCR	<input type="radio"/>	<input type="radio"/>
SARS-CoV-2: IgA Antibody	<input type="radio"/>	<input type="radio"/>
SARS-CoV-2: IgG Antibody	<input type="radio"/>	<input type="radio"/>
SARS-CoV-2: IgM Antibody	<input type="radio"/>	<input type="radio"/>
SARS-CoV-2: Antigen Testing	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>

Please specify what other labs are ordered for patients with concern for MIS-C.

What imaging studies are typically ordered for patients with concern for MIS-C?

	Some Patients	All Patients
CXR	<input type="radio"/>	<input type="radio"/>
EKG	<input type="radio"/>	<input type="radio"/>
Echocardiogram	<input type="radio"/>	<input type="radio"/>
Abdominal Ultrasound	<input type="radio"/>	<input type="radio"/>
Chest CT	<input type="radio"/>	<input type="radio"/>
Abdominal CT	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>

Please specify what other supplemental imaging/procedures are obtained.

What consulting services are typically ordered for patients with concern for MIS-C?

	Some of the Patients	All of the Patients
Cardiology	<input type="radio"/>	<input type="radio"/>
Infectious Disease	<input type="radio"/>	<input type="radio"/>
Rheumatology	<input type="radio"/>	<input type="radio"/>
Hematology	<input type="radio"/>	<input type="radio"/>
Nephrology	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>

Please specify what other consults are ordered.

Comments regarding evaluation of patients with suspected or confirmed MIS-C

Management

Which of the following treatments are routinely given?

	Mild cases	Moderate cases	Severe cases	Use Regardless of Severity
IVIG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corticosteroids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aspirin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heparin/LMWH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clopidogrel (Plavix)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Warfarin (Coumadin)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anakinra (IL-1 inhibitor)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tocilizumab (IL-6 inhibitor)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Antibiotics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Remdesivir	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hydroxychloroquine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vasopressors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other Treatment Name _____

Medication Dosage Per Severity

IVIG: Mild Dosage Amount: _____

IVIG: Moderate Dosage Amount: _____

IVIG: Severe Dosage Amount: _____

IVIG Dosage Amount: _____

Corticosteroids: Mild Dosage Amount & Agent: _____

Corticosteroids: Moderate Dosage Amount & Agent: _____

Corticosteroids: Severe Dosage Amount & Agent: : _____

Corticosteroids Dosage Amount & Agent: : _____

Aspirin: Mild Dosage Amount: _____

Aspirin: Moderate Dosage Amount:

Aspirin: Severe Dosage Amount:

Aspirin Dosage Amount:

Heparin/LMWH: Mild Prophylactic Dose or Targeted
Therapeutic Level :

Heparin/LMWH: Moderate Prophylactic Dose or Targeted
Therapeutic Level :

Heparin/LMWH: Severe Prophylactic Dose or Targeted
Therapeutic Level :

Heparin/LMWH Prophylactic Dose or Targeted
Therapeutic Level :

Plavix: Mild Dosage Amount:

Plavix: Moderate Dosage Amount:

Plavix: Severe Dosage Amount:

Plavix Dosage Amount:

Warfarin: Mild Dosage Amount:

Warfarin: Moderate Dosage Amount:

Warfarin: Severe Dosage Amount:

Warfarin: Severe Dosage Amount:

Anakinra: Mild Dosage Amount:

Anakinra: Moderate Dosage Amount:

Anakinra: Severe Dosage Amount:

Anakinra Dosage Amount:

Tocilizumab: Mild Dosage Amount:

Tocilizumab: Moderate Dosage Amount:

Tocilizumab: Severe Dosage Amount:

Tocilizumab Dosage Amount:

Antibiotics: Mild Dosage Amount and Name of Drug:

Antibiotics: Moderate Dosage Amount and Name of Drug:

Antibiotics: Severe Dosage Amount and Name of Drug:

Antibiotics Dosage Amount and Name of Drug:

Remdesivir: Mild Dosage Amount:

Remdesivir: Moderate Dosage Amount:

Remdesivir: Severe Dosage Amount:

Remdesivir Dosage Amount:

Hydroxychloroquine: Mild Dosage Amount:

Hydroxychloroquine: Moderate Dosage Amount:

Hydroxychloroquine: Severe Dosage Amount:

Hydroxychloroquine Dosage Amount:

Vasopressors: Mild Dosage Amount and Name of Drug:

Vasopressors: Moderate Dosage Amount and Name of Drug:

Vasopressors: Severe Dosage Amount and Name of Drug:

Vasopressors Dosage Amount and Name of Drug:

[tx_other_name]: Mild Dosage Amount:

[tx_other_name]: Moderate Dosage Amount:

[tx_other_name]: Severe Dosage Amount:

[tx_other_name] Dosage Amount:

How is severity defined at your center?

If patient does not improve with first dose of IVIG, is a 2nd dose recommended?

Yes No

Does your center use a maximum dose for IVIG?

Yes No

What is the maximum dose?

Comments regarding management of patients with suspected or confirmed MIS-C:

Follow-Up

Are your MIS-C follow-up guidelines the same as the published AHA Kawasaki Disease guidelines?

No
 Yes
 I don't know

Do your follow-up guidelines vary by presence of coronary involvement?

Yes No

What medications are patients routinely discharged home on?

	Mild/Small Coronary Dilation	Moderate/Medium Coronary Dilation	Severe/Large Coronary Dilation	Use Regardless of Severity
Aspirin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LMWH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plavix	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Warfarin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other Treatment Name _____

Discharge Medication Dosage Per Severity

Aspirin: Mild Dosage Amount: _____

Aspirin: Moderate Dosage Amount: _____

Aspirin: Severe Dosage Amount: _____

Aspirin Dosage Amount: _____

LMWH: Mild Prophylactic Dose or Targeted Therapeutic Level: _____

LMWH: Moderate Prophylactic Dose or Targeted Therapeutic Level: _____

LMWH: Severe Prophylactic Dose or Targeted Therapeutic Level: _____

LMWH Prophylactic Dose or Targeted Therapeutic Level: _____

Plavix: Mild Dosage Amount: _____

Plavix: Moderate Dosage Amount: _____

Plavix: Severe Dosage Amount: _____

Plavix Dosage Amount: _____

Warfarin: Mild Dosage Amount:

Warfarin: Moderate Dosage Amount:

Warfarin: Severe Dosage Amount:

Warfarin Dosage Amount:

[tx_other_coronary_name]: Mild Dosage Amount:

[tx_other_coronary_name]: Moderate Dosage Amount:

[tx_other_coronary_name]: Severe Dosage Amount:

[tx_other_coronary_name] Dosage Amount:

What specialty clinic visits are recommended? Check all that apply.

- Cardiology
- Infectious Disease
- Rheumatology
- Hematology
- Nephrology
- Other

What other service is recommended for patient follow up?

For patients with cardiac involvement, when is outpatient echocardiogram recommended?

- Within 1 week
- Within 2 weeks
- Within 1 month
- Within 3 months
- None

For patients with LV dysfunction, does the protocol recommend cardiac MRI?

- No
- Yes, during hospitalization
- Yes, in 1-3 months
- Yes, in 3-6 months
- Other

What other time period does the protocol recommend cardiac MRI?

Is follow up cardiac MRI obtained for patients without LV dysfunction?

Yes No

Comments regarding follow-up of patients with suspected or confirmed MIS-C

Any other comments regarding this survey?