



## Multisystem Inflammatory Syndrome In Children (MIS-C) Associated with SARS-CoV-2 Infection Case Report Form

This case report form should be completed on any patient who meets the criteria listed under "Section 1 - MIS-C Inclusion Criteria". All completed case report forms should be faxed to (609)-292-5811 or sent via secure email to [pedcov@doh.nj.gov](mailto:pedcov@doh.nj.gov). The NJDOH team will review the form for missing information and coordinate medical records request and conduct chart abstraction if necessary. The highlighted sections on the next page before Section 1 (CDC MIS ID, Health Department ID, NCOV ID, NNDSS ID, Abstractor name and Date of abstraction) can be left blank and will continue to be filled out by CDS staff.

PROVIDER INFORMATION	
Hospital Name: _____	Date form completed: ____ / ____ / ____
Name of person completing form: _____	Title: _____
Phone Number: (____) _____ - _____	Email: _____

PATIENT INFORMATION	
Patient Name: _____	Patient Date of Birth: ____ / ____ / ____
Patient Mailing Address: _____	
Patient Phone Number: (____) _____ - _____	Medical Record #: _____

COMMENTS

# Multisystem Inflammatory Syndrome in Children Associated with SARS-CoV-2 Infection Case Report Form



**CDC MIS ID (REQUIRED):** \_\_\_\_\_ **Health Department ID:** \_\_\_\_\_ **NCOV ID (if available):** \_\_\_\_\_

**NNDSS ID:** \_\_\_\_\_ **Abstractor name:** \_\_\_\_\_ **Date of abstraction:** \_\_\_\_\_

## SECTION 1 – MIS-C INCLUSION CRITERIA

- 1. Did the patient meet all inclusion criteria for case ascertainment?** Yes No
- 1.1 Age <21 years
  - 1.2 Subjective or documented fever ( $\geq 38.0^{\circ}\text{C}$ )
  - 1.3 Illness with clinical severity requiring hospitalization or resulting in death
  - 1.4 A more likely alternative diagnosis is not present
  - 1.5 C-reactive protein  $\geq 3.0$  mg/dL (30 mg/L)
  - 1.6 New onset manifestations in  $\geq 2$  of the following categories:
    - 1.6.1 Cardiac involvement indicated by left ventricular ejection fraction <55%; coronary artery dilatation, aneurysm, or ectasia; or troponin elevated above laboratory normal range or indicated as elevated in a clinical note
    - 1.6.2 Mucocutaneous involvement indicated by rash, inflammation of the oral mucosa, conjunctivitis or conjunctival injection, or extremity findings
    - 1.6.3 Shock
    - 1.6.4 Gastrointestinal involvement indicated by abdominal pain, vomiting, or diarrhea
    - 1.6.5 Hematologic involvement indicated by platelet count <150,000 cells/ $\mu\text{L}$  or absolute lymphocyte count (ALC) <1,000 cells/ $\mu\text{L}$
  - 1.7 Meets laboratory criteria for SARS-CoV-2 infection or epidemiologic linkage criteria
    - 1.7.1 Positive viral test (i.e., NAAT/PCR or antigen) during hospitalization or within 60 days prior
    - 1.7.2 Positive viral test (i.e., NAAT/PCR or antigen) in a post-mortem specimen
    - 1.7.3 Detection of SARS-CoV-2 specific antibodies associated with current illness
    - 1.7.4 Close contact with a confirmed or probable case of COVID-19 disease in the 60 days prior to hospitalization
  - 1.8 Death certificate lists MIS-C as an underlying cause of death or a significant condition contributing to death

## SECTION 2 – PATIENT DEMOGRAPHICS AND MEDICAL HISTORY

### Patient Demographics:

- 2.1 **State of Residence:** \_\_\_\_\_
- 2.2 **Patient zip code/postal code (primary residence):** \_\_\_\_\_
- 2.3 **Date of birth (MM/DD/YYYY):** \_\_\_\_\_
- 2.4 **Age:** \_\_\_\_\_ Months Days Years
- 2.5 **Sex:** Male Female
- 2.6 **Ethnicity:** Hispanic or Latino Not Hispanic or Latino Refused or Unknown
- 2.7 **Race (mark all that apply, selecting more than one option as necessary):**
  - 2.7.1 White
  - 2.7.2 Black or African American
  - 2.7.3 American Indian or Alaska Native
  - 2.7.4 Native Hawaiian or other Pacific Islander
  - 2.7.5 Asian
  - 2.7.6 Other Race
  - 2.7.7 Unknown
- 2.8 **Height:** \_\_\_\_\_ cm
- 2.9 **Weight:** \_\_\_\_\_ kg
- 2.10 **BMI:** \_\_\_\_\_

### Underlying conditions:

- 2.11.1 No underlying medical conditions
- 2.11.2 Immunosuppressive disorder/malignancy
- 2.11.3 Obesity
- 2.11.4 Diabetes mellitus
  - 2.11.4.1 Type 1
  - 2.11.4.2 Type 2
- 2.11.5 Neurologic/neuromuscular or developmental condition
- 2.11.6 Cardiovascular condition
- 2.11.7 Sickle cell disease
- 2.11.8 Chronic lung disease (including asthma)
- 2.11.9 Other congenital malformations
- 2.11.10 Other, specify: \_\_\_\_\_

### Other medical history:

- 2.12 Does the patient have a history of the following at least 90 days prior to developing their current MIS-C illness?
  - 2.12.1 Kawasaki Disease Date of diagnosis (MM/DD/YYYY): \_\_\_\_\_
  - 2.12.2 MIS-C Date of diagnosis (MM/DD/YYYY): \_\_\_\_\_

**SECTION 3 – CLINICAL SIGNS AND SYMPTOMS****Illness Details:**

- 3.1** Did patient have close contact with an individual with COVID-19 within 60 days prior to hospitalization:      Yes      No
- 3.1.1** If yes, first date of contact (MM/DD/YYYY): \_\_\_\_\_      Date unknown
- 3.2** Onset date of symptoms that led to hospitalization for MIS-C (MM/DD/YYYY): \_\_\_\_\_
- 3.3.** Hospital admission date (MM/DD/YYYY): \_\_\_\_\_
- 3.3.1** Number of days in the hospital: \_\_\_\_\_
- 3.4** Admitted to the ICU?      Yes      No
- 3.5** Patient outcome:      Died      Discharged      Still admitted
- 3.5.1** Hospital discharge or death date (MM/DD/YYYY): \_\_\_\_\_

**3.6 Signs and symptoms associated with MIS-C illness**

- |   |  |
|---|--|
| <p><b>3.6.1</b> Mucocutaneous</p> <ul style="list-style-type: none"> <li>Rash</li> <li>Inflammation of oral mucosa</li> <li>Conjunctival injection</li> <li>Peripheral extremity changes</li> </ul> <p><b>3.6.2</b> Neurologic</p> <ul style="list-style-type: none"> <li>Meningismus/meningeal signs</li> <li>Altered mental status</li> <li>Headache</li> </ul> | <p><b>3.6.3</b> Respiratory</p> <ul style="list-style-type: none"> <li>Cough</li> <li>Shortness of breath</li> </ul> <p><b>3.6.4</b> Gastrointestinal</p> <ul style="list-style-type: none"> <li>Abdominal pain</li> <li>Vomiting</li> <li>Diarrhea</li> </ul> <p><b>3.6.5</b> Other</p> <ul style="list-style-type: none"> <li>Neck pain</li> <li>Chest pain/tightness</li> </ul> |
|---|--|

**SECTION 4 – LABORATORY STUDIES****4.1 Laboratory Studies**

- 4.1.1** Elevated troponin
- 4.1.2** Elevated BNP/NT-pro BNP
- 4.1.3** Elevated AST
- 4.1.4** Elevated ALT
- 4.1.5** Elevated creatinine

**4.2 CSF Studies**

- 4.2.1** White blood count: \_\_\_\_\_ cells/mm<sup>3</sup> or cells/μL
- 4.2.2** Protein: \_\_\_\_\_ mg/dL      g/L
- 4.2.3** Glucose: \_\_\_\_\_ mg/dL      mmol/L

**4.3 SARS-CoV-2 testing during hospitalization for current MIS-C illness:**

- 4.3.1.** SARS-CoV-2 Antibody (IgG or IgM):      Positive      Negative      Not done
- 4.3.1.1** If performed, date (MM/DD/YYYY): \_\_\_\_\_
- 4.3.1.2** Antibody type:      Anti-Spike      Anti-Nucleocapsid      Anti-Spike and Anti-Nucleocapsid      Unknown
- 4.3.2.** SARS CoV-2 Viral Test:      Positive      Negative      Not done
- 4.3.2.1** If performed, date (MM/DD/YYYY): \_\_\_\_\_
- 4.3.2.2** SARS CoV-2 test type:      RT-PCR/NAAT      Antigen      Unknown

**SECTION 5 – IMAGING STUDIES AND COMPLICATIONS**

If any studies from a particular type of imaging are abnormal during hospitalization, select “abnormal” for that imaging type. If all studies from a particular type of imaging are normal throughout hospitalization, select “normal” for that imaging type.

<b>5.1</b>	Cardiac Imaging			
<b>5.1.1</b>	Echocardiogram	Normal	Abnormal	Not done
<b>5.2</b>	Chest Imaging			
<b>5.2.1</b>	Chest X-ray	Normal	Abnormal	Not done
<b>5.2.2</b>	Chest CT	Normal	Abnormal	Not done
<b>5.3</b>	Abdominal Imaging			
<b>5.3.1</b>	Abdominal ultrasound	Normal	Abnormal	Not done
<b>5.3.2</b>	Abdominal X-ray	Normal	Abnormal	Not done
<b>5.3.3</b>	Abdominal CT	Normal	Abnormal	Not done

Please indicate clinical findings identified during hospitalization for MIS-C illness.

**5.4 Cardiac Complications**

Myocarditis  
 Coronary artery dilatation, ectasia, or aneurysm on cardiac imaging  
 Left ventricular systolic dysfunction  
 Lowest LV ejection fraction:  
 <50%  
 50% to <55%  
 Right ventricular systolic dysfunction  
 Pericarditis/pericardial effusion  
 Congestive heart failure  
 Other cardiac complication, specify: \_\_\_\_\_

**5.5 Respiratory Complications**

Acute respiratory distress syndrome (ARDS)  
 Pneumonia  
 Other respiratory complication, specify: \_\_\_\_\_

**5.6 Hypotension or shock**

Hypotension  
 Shock

**5.7 Gastrointestinal Complications**

Appendicitis/inflamed appendix  
 Cholecystitis/inflamed gallbladder  
 Mesenteric adenitis  
 Other abdominal complication, specify: \_\_\_\_\_

**5.8 Hematologic Complications**

Thrombocytopenia (platelets <150,000 cells/ $\mu$ L)  
 Lymphopenia (absolute lymphocyte count/ALC <1000 cells/ $\mu$ L)

**5.9 Other Complications**

Meningitis/encephalitis  
 Encephalopathy  
 Other neurologic complication, specify: \_\_\_\_\_  
 Retropharyngeal edema/phlegmon on head/neck ultrasound or CT  
 Lymph nodes  $\geq$ 1.5 cm on head/neck ultrasound or CT  
 Other complication, specify: \_\_\_\_\_

**SECTION 6 – CLINICAL MANAGEMENT****6.1 Please indicate all treatments or medical interventions that the subject received for this illness.**

High-flow nasal cannula	Steroids (e.g., prednisone, methylprednisolone)
CPAP or BiPAP	Immune modulators (e.g., anakinra, infliximab)
Invasive mechanical ventilation (intubation)	Dialysis or continuous renal replacement therapy (CRRT)
ECMO	First IVIG
Vasoactive medications (e.g., epinephrine, milrinone, norepinephrine, or vasopressin)	Second IVIG

**SECTION 7 – COVID-19 VACCINE INFORMATION**

<b>7.1</b>	<b>Has the patient received a COVID-19 vaccine?</b>	Yes	No	Unknown	
<b>7.2</b>	<b>If yes, how many doses?</b>	1 dose	2 doses	3 or more doses	Unknown
<b>7.3</b>	<b>Date vaccine dose(s) received</b>				
<b>7.3.1</b>	<b>Vaccine Dose 1</b>	Date (MM/DD/YYYY): _____	Manufacturer: _____		
<b>7.3.2</b>	<b>Vaccine Dose 2</b>	Date (MM/DD/YYYY): _____	Manufacturer: _____		
<b>7.3.3</b>	<b>Vaccine Dose 3</b>	Date (MM/DD/YYYY): _____	Manufacturer: _____		
<b>7.3.4</b>	<b>Vaccine Dose 4</b>	Date (MM/DD/YYYY): _____	Manufacturer: _____		
<b>7.3.5</b>	<b>Vaccine Dose 5</b>	Date (MM/DD/YYYY): _____	Manufacturer: _____		