

Multisystem Inflammatory Syndrome Associated with COVID-19 Case Report Form



MIS ID (REQUIRED): _____ **Health Department ID:** _____

NNDSS ID (local_record_id/case_id): _____ **Tools for CRF data submission to supplement NNDSS case notification/data:** DCIPHER RedCap

Abstractor name: _____ **NCOV ID (if available):** _____ **Date of abstraction:** _____

SECTION 1 – INCLUSION CRITERIA

- 1.1 Age <21, AND
- 1.2 Fever >38.0°C for ≥24 hours, or report of subjective fever lasting ≥24 hours, AND
- 1.3 Laboratory markers of inflammation (including, but not limited to one or more; an elevated C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), fibrinogen, procalcitonin, d-dimer, ferritin, lactic acid dehydrogenase (LDH), or interleukin 6 (IL-6), elevated neutrophils, reduced lymphocytes and low albumin, AND
- 1.4 Evidence of clinically severe illness requiring hospitalization, with multisystem (≥2) organ involvement (*check all applicable below*): AND
 - 1.4.1 Cardiac (e.g. shock, elevated troponin, BNP, abnormal echocardiogram, arrhythmia)
 - 1.4.2 Renal (e.g. acute kidney injury or renal failure)
 - 1.4.3 Respiratory (e.g. pneumonia, ARDS, pulmonary embolism)
 - 1.4.4 Hematologic (e.g. elevated D-dimers, thrombophilia, or thrombocytopenia)
 - 1.4.5 Gastrointestinal (e.g. elevated bilirubin, elevated liver enzymes, or diarrhea)
 - 1.4.6 Dermatologic, (e.g. rash, mucocutaneous lesions)
 - 1.4.7 Neurological, (e.g. CVA, aseptic meningitis, encephalopathy)
- 1.5 No alternative plausible diagnosis; AND
- 1.6 Positive for current or recent SARS-COV-2 infection by (check all applicable below): OR
 - 1.6.1 RT-PCR
 - 1.6.2 Serology
 - 1.6.3 Antigen test
- 1.7 COVID-19 exposure within the 4 weeks prior to the onset of symptoms
 - 1.7.1 If yes, date of first exposure within the 4 weeks prior : (MM/DD/YYYY): _____ Unknown

SECTION 2 – 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 **Sex:** Male Female
- 2.5 **Ethnicity:** Hispanic or Latino Not Hispanic or Latino Refused or Unknown
- 2.6 **Race (mark all that apply, selecting more than one option as necessary):**
 - 2.6.1 White
 - 2.6.2 Black or African American
 - 2.6.3 American Indian
 - 2.6.4 Alaska Native or Aboriginal Canadian
 - 2.6.5 Native Hawaiian
 - 2.6.6 Other Pacific Islander
 - 2.6.7 Asian
 - 2.6.8 Other
 - 2.6.9 Refused or Don't know
- 2.7 **Height:** _____ inches
- 2.8 **Weight:** _____ lbs
- 2.9 **BMI:** _____
- Comorbidities:**

2.10.1 Immunosuppressive disorder/malignancy	Yes	No	2.11 Hospital admission date (MM/DD/YYYY): _____
2.10.2 Obesity	Yes	No	2.11.1 Number of days in the hospital: _____
2.10.3 Type 1 diabetes	Yes	No	2.12 If admitted to the ICU, admission date (MM/DD/YYYY): _____
2.10.4 Type 2 diabetes	Yes	No	2.12.1 Number of days in the ICU: _____
2.10.5 Seizures	Yes	No	2.13 Patient outcome: Died Discharged Still admitted
2.10.6 Congenital heart disease	Yes	No	2.13.2 Hospital discharge or death date (MM/DD/YYYY): _____
2.10.7 Sickle cell disease	Yes	No	
2.10.8 Chronic lung disease	Yes	No	
2.10.9 Other congenital malformations	Yes	No	
2.10.10 Other (specify): _____			

SECTION 3 – CLINICAL SIGNS AND SYMPTOMS

- 3.1 Did the patient have preceding COVID-like illness? Yes No
- 3.1.1 Date of symptom onset (MM/DD/YYYY): _____
- 3.2 Date of symptom onset of MIS (MM/DD/YYYY): _____
- 3.3 Fever $\geq 38.0^{\circ}\text{C}$: Yes No
- 3.3.1 Date of fever onset (MM/DD/YYYY): _____
- 3.3.2 Highest Temperature: _____ $^{\circ}\text{C}$
- 3.3.3 Number of days febrile: _____

Signs and symptoms *during present illness*

3.4.1 Cardiac				3.4.5 Gastrointestinal			
3.4.1.1 Shock	Yes	No		3.4.5.1 Abdominal pain	Yes	No	
3.4.1.2 Elevated troponin	Yes	No		3.4.5.2 Vomiting	Yes	No	
3.4.1.3 Elevated BNP or NT-proBNP	Yes	No		3.4.5.3 Diarrhea	Yes	No	
3.4.2 Renal				3.4.5.4 Elevated bilirubin	Yes	No	
3.4.2.1 Acute kidney injury	Yes	No		3.4.5.5 Elevated liver enzymes	Yes	No	
3.4.2.2 Renal failure	Yes	No		3.4.6 Dermatologic			
3.4.3 Respiratory				3.4.6.1 Rash	Yes	No	
3.4.3.1 Cough	Yes	No		3.4.6.2 Mucocutaneous lesions	Yes	No	
3.4.3.2 Shortness of breath	Yes	No		3.4.7 Neurological			
3.4.3.3 Chest pain/tightness	Yes	No		3.4.7.1 Headache	Yes	No	
3.4.3.4 Pneumonia	Yes	No		3.4.7.2 Altered mental state	Yes	No	
3.4.3.5 ARDS	Yes	No		3.4.7.3 Syncope/near syncope	Yes	No	
3.4.3.6 Pulmonary embolism	Yes	No		3.4.7.5 Meningitis	Yes	No	
3.4.4 Hematologic				3.4.7.6 Encephalopathy	Yes	No	
3.4.4.1 Elevated D-dimers	Yes	No		3.4.8 Other			
3.4.4.2 Thrombophilia	Yes	No		3.4.8.1 Neck pain	Yes	No	
3.4.4.3 Thrombocytopenia	Yes	No		3.4.8.2 Myalgia	Yes	No	
				3.4.8.3 Conjunctival injection	Yes	No	
				3.4.8.4 Periorbital edema	Yes	No	
				3.4.8.5 Cervical lymphadenopathy >1.5 cm diameter	Yes	No	

SECTION 4 – COMPLICATIONS

4.1 Arrhythmia	Yes	No	4.4 Pericarditis	Yes	No
If yes:			4.5 Liver failure	Yes	No
4.1.1 Ventricular arrhythmia:	Yes	No	4.6 Deep vein thrombosis or PE	Yes	No
4.1.2 Supraventricular arrhythmia:	Yes	No	4.7 ARDS	Yes	No
4.1.3 Other arrhythmia (<i>specify</i>):	Yes	No	4.8 Pneumonia	Yes	No
_____			4.9 CVA or stroke	Yes	No
4.2 Congestive heart failure	Yes	No	4.10 Encephalitis or aseptic meningitis	Yes	No
4.3 Myocarditis	Yes	No	4.11 Shock	Yes	No
			4.12 Hypotension	Yes	No

SECTION 5 – TREATMENTS

5.1 Low flow nasal cannula	Yes	No	5.10 Antiplatelets (e.g. aspirin, clopidogrel) (<i>specify</i>):	Yes	No
5.2 High flow nasal cannula	Yes	No	_____		
5.3 Non-invasive ventilation	Yes	No	5.11 Anticoagulation (e.g. heparin, enoxaparin, warfarin) (<i>specify</i>):	Yes	No
5.4 Intubation	Yes	No	_____		
5.5 Mechanical ventilation	Yes	No	5.12 Dialysis	Yes	No
5.6 ECMO	Yes	No	5.13 First IVIG	Yes	No
5.7 Vasoactive medications (e.g. epinephrine, milrinone, norepinephrine, or vasopressin) (<i>specify</i>):	Yes	No	5.14 Second IVIG	Yes	No

5.8 Steroids	Yes	No			
5.9 Immune modulators (e.g. anakinra, tocilizumab) (<i>specify</i>):	Yes	No			

SECTION 6 – STUDIES

6.1 Blood Test Results

6.1.1	Fibrinogen	Highest value: _____	units: _____	Low	Normal	High
6.1.2	CRP	Highest value: _____	units: _____	Low	Normal	High
6.1.3	Ferritin	Highest value: _____	units: _____	Low	Normal	High
6.1.4	Troponin	Highest value: _____	units: _____	Low	Normal	High
6.1.5	BNP	Highest value: _____	units: _____	Low	Normal	High
6.1.6	NT-proBNP	Highest value: _____	units: _____	Low	Normal	High
6.1.7	D-dimer	Highest value: _____	units: _____	Low	Normal	High
6.1.8	IL-6	Highest value: _____	units: _____	Low	Normal	High
6.1.9	Serum White blood count	Highest value: _____	Lowest value: _____	units: _____		
6.1.10	Platelets	Highest value: _____	Lowest value: _____	units: _____		
6.1.11	Neutrophils	Highest value: _____	Lowest value: _____	units: _____		
6.1.12	Lymphocytes	Highest value: _____	Lowest value: _____	units: _____		
6.1.13	Bands	Highest value: _____	Lowest value: _____	units: _____		

6.2 CSF Studies

6.2.1	White blood count	Highest value: _____	Lowest value: _____	units: _____		
6.2.2	Protein	Highest value: _____	Lowest value: _____	units: _____		
6.2.3	Glucose	Highest value: _____	Lowest value: _____	units: _____		

6.3 Urinalysis

6.3.1	Urine White blood count	Highest value: _____	Lowest value: _____	units: _____		
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6.4 Echocardiogram (check if seen on ANY echocardiogram)

- 6.4.1 Not done
- 6.4.2 Normal results
- 6.4.3 Coronary artery aneurysms
- 6.4.3.1 Max coronary artery Z-score: _____
- 6.4.4 Coronary artery dilatation
- 6.4.5 Cardiac dysfunction (decreased function), specify type:
- 6.4.5.1 left ventricular dysfunction
- 6.4.5.2 right ventricular dysfunction
- 6.4.6 Pericardial effusion
- 6.4.7 Pleural effusion
- 6.4.8 Mitral regurgitation, specify type: mild moderate severe
- 6.4.9 Other (*specify*): _____

6.5 Date of first test showing coronary artery aneurysm or dilatation (MM/DD/YYYY): _____

6.6 Abdominal imaging Ultrasound CT Not done

- 6.6.1 Normal
- 6.6.2 Mesenteric lymphadenopathy
- 6.6.3 Free fluid
- 6.6.4 Other (*specify*): _____

6.7 Chest imaging Chest x-ray CT Not done

- 6.7.1 Normal
- 6.7.2 Pneumonia
- 6.7.3 Atelectasis
- 6.7.4 Pleural effusion
- 6.7.5 Other (*specify*): _____

SARS-COV-2 testing

6.8 RT-PCR: Positive Negative Not done

6.8.1 If performed, date (MM/DD/YYYY): _____

6.9 Antigen: Positive Negative Not done

6.9.1 If performed, date (MM/DD/YYYY): _____

6.10 IgG: Positive Negative Not done

6.10.1 If performed, date (MM/DD/YYYY): _____

6.11 IgM: Positive Negative Not done

6.11.1 If performed, date (MM/DD/YYYY): _____

6.12 IgA: Positive Negative Not done

6.12.1 If performed, date (MM/DD/YYYY): _____

SECTION 7 COVID-19 VACCINE INFORMATION

7.1 Has the patient received a COVID-19 vaccine? Yes No Unknown

7.2 If yes, how many doses? 1 dose 2 doses Unknown

7.2.1 Date dose 1 received (MM/DD/YYYY): _____

7.2.2 Date dose 2 received (MM/DD/YYYY): _____

7.3 COVID-19 Vaccine manufacturer Pfizer Moderna Johnson & Johnson/Janssen

Other, (specify): _____ Unknown