World Health Organization

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Global COVID-19 Clinical Platform: Case Record Form for suspected cases of Multisystem inflammatory syndrome (MIS) in children and adolescents temporally related to COVID-19

Preliminary case definition

Children and adolescents 0–19 years of age with measured or self-reported fever ≥ 3 days
AND at least **two** of the following:

a) Rash or bilateral non-purulent conjunctivitis or muco-cutaneous inflammation signs (oral, hands or feet)
b) Hypotension or shock
c) Features of myocardial dysfunction, or pericarditis, or valvulitis, or coronary abnormalities (ECHO findings or elevated Troponin/NT-proBNP)
d) Evidence of coagulopathy (abnormal PT, PTT, elevated d-Dimers)
e) Acute gastrointestinal problems (diarrhoea, vomiting or abdominal pain)

AND
Elevated markers of inflammation such as ESR, C-reactive protein or procalcitonin
AND
No other obvious microbial cause of inflammation, including bacterial sepsis, staphylococcal or streptococcal shock syndromes
AND
Evidence of COVID **(**RT-PCR, antigen test or serology positive) or likely contact with patients with COVID

NB Consider this syndrome in children with features of typical or atypical Kawasaki disease or toxic shock syndrome.

MODULE 1. Complete this module for all children aged 0–19 suspected to have multisystem inflammatory disorder (even if all criteria in the case definition are not met – to capture the full spectrum of the condition). Complete the module at the time the disorder is suspected. Submit module when initial investigations included in case definition are available

Facility name_____ **Country**_____

Date of patient assessment [_D_][_D_]/[_M_][_M_]/[_2_][_0_][_Y_][_Y_]

Date of admission to hospital [_D_][_D_]/[_M_][_M_]/[_2_][_0_][_Y_][_Y_]

1a. DEMOGRAPHICS *(complete when MIS is first suspected)*

Sex at birth ☐Male ☐Female ☐Not specified. **Date of birth** [_D_][_D_]/[_M_][_M_]/[_Y_][_Y_][_Y_][_Y_]

If date of birth is unknown, record **Age** [_____][____][____]years OR [_][_]months

Ethnicity (as reported by family) (please pre-specify main groups in the population and choose from the list) _____

1b. DATE OF ONSET OF CURRENT ILLNESS AND VITAL SIGNS *(complete when MIS is first suspected)*

Date of onset of first symptom or sign [_D_][_D_]/[_M_][_M_]/[_2_][_0_][_Y_][_Y_]

Date of onset of fever [_D_][_D_]/[_M_][_M_]/[_2_][_0_][_Y_][_Y_]

Temperature [_][____] [_]°C **Heart rate** [___][___][_]beats/min

Respiratory rate [_][___]breaths/min

BP [_] [_] [_](systolic) [___][_][_](diastolic) mmHg **Dehydration** ☐Severe ☐Some ☐None

Capillary refill time > 2 seconds ☐Yes ☐No ☐Unknown

Oxygen saturation [__][ ][__]% on ☐Room air ☐Oxygen therapy ☐Unknown

Conscious state ☐Alert ☐Response to verbal stimuli ☐Response to painful stimuli ☐Unresponsive

Mid-upper arm circumference [_][_][___]mm **Length / Height** [___] [___][___]cm **Weight** [_][_][___]kg

1c. POSSIBLE SIGNS AND SYMPTOMS OF MULTISYSTEM INFLAMMATORY SYNDROME *(complete when MIS is first suspected)*

Fever (measured or self-reported) ☐Yes ☐No ☐Unknown

Duration of fever ___ days

Rash ☐Yes ☐No ☐Unknown If yes type of rash _____

Bilateral conjunctivitis ☐Yes, purulent ☐Yes, non-purulent ☐No ☐Unknown

Oral mucosal inflammation signs ☐Yes ☐No ☐Unknown

Peripheral cutaneous inflammation signs (hands or feet) ☐Yes ☐No ☐Unknown

Hypotension (age-appropriate)	☐Yes	☐No	☐Unknown
Tachycardia (age-appropriate)	☐Yes	☐No	☐Unknown
Prolonged capillary refill time	☐Yes	☐No	☐Unknown
Pale/mottled skin	☐Yes	☐No	☐Unknown
Cold hands/feet	☐Yes	☐No	☐Unknown
Urinary output < 2 mL/kg/hr	☐Yes	☐No	☐Unknown
Chest pain	☐Yes	☐No	☐Unknown
Tachypnoea (age-appropriate)	☐Yes	☐No	☐Unknown
Respiratory distress	☐Yes	☐No	☐Unknown
Abdominal pain	☐Yes	☐No	☐Unknown
Diarrhoea	☐Yes	☐No	☐Unknown
Vomiting	☐Yes	☐No	☐Unknown

1d. OTHER SIGNS AND SYMPTOMS *(complete when MIS is first suspected)*

Cough	☐Yes	☐No	☐Unknown	Fatigue/malaise	☐Yes	☐No	☐Unknown
Sore throat	☐Yes	☐No	☐Unknown	Seizures	☐Yes	☐No	☐Unknown
Runny nose	☐Yes	☐No	☐Unknown	Headache	☐Yes	☐No	☐Unknown
Wheezing	☐Yes	☐No	☐Unknown	Hypotonia/floppiness	☐Yes	☐No	☐Unknown
Swollen joints	☐Yes	☐No	☐Unknown	Paralysis	☐Yes	☐No	☐Unknown
Cervical lymphadenopathy	☐Yes	☐No	☐Unknown	Irritability	☐Yes	☐No	☐Unknown
Joint pain (arthralgia)	☐Yes	☐No	☐Unknown	Photophobia	☐Yes	☐No	☐Unknown
Muscle aches	☐Yes	☐No	☐Unknown	Hyposmia/anosmia (loss of smell)	☐Yes	☐No	☐Unknown
Skin ulcers	☐Yes	☐No	☐Unknown	Hypogeusia (loss of taste)	☐Yes	☐No	☐Unknown
Stiff neck	☐Yes	☐No	☐Unknown	Not able to drink	☐Yes	☐No	☐Unknown
Other? Specify _____				Bleeding (haemorrhage) ☐Yes ☐No ☐Unknown If yes, specify site _____			

1e. RECENT HISTORY

Has the child been admitted to hospital in the last 3 months? ☐Yes ☐No ☐ Unknown

If yes, date of discharge from hospital [_D_][_D_]/[_M_][_M_]/[_2_][_0_][_Y_][_Y_]

If yes, was it related to this illness episode or for the same or similar problems? ☐Yes ☐No ☐ Unknown

History of COVID-19 infection in the previous 4 weeks prior to current illness?

☐Yes - Lab confirmed ☐Yes - Clinically diagnosed ☐No ☐Unknown

History of any respiratory infection in the previous 4 weeks prior to current illness? ☐Yes ☐No ☐ Unknown

Any household member (or other contact) with confirmed COVID-19 in previous 4 weeks? ☐Yes ☐No ☐Unknown

Past history of Kawasaki disease? ☐Yes ☐No ☐ Unknown

Family history of Kawasaki disease? ☐Yes ☐No ☐ Unknown

1f. CO-MORBIDITIES, PAST HISTORY *(complete when MIS is first suspected)*			
Inflammatory or rheumatological disorder If yes, specify_____	☐Yes ☐No ☐Unknown	Asplenia	☐Yes ☐No ☐Unknown
Hypertension (age-appropriate)	☐Yes ☐No ☐Unknown	Congenital or acquired immune-suppression If yes, specify_____	☐Yes ☐No ☐Unknown
Other chronic cardiac disease If yes, specify_____	☐Yes ☐No ☐Unknown	Chronic kidney disease	☐Yes ☐No ☐Unknown
Asthma	☐Yes ☐No ☐Unknown	Chronic liver disease	☐Yes ☐No ☐Unknown
Tuberculosis	☐Yes ☐No ☐Unknown	Chronic neurological disorder	☐Yes ☐No ☐Unknown
Other chronic pulmonary disease If yes, specify_____	☐Yes ☐No ☐Unknown	Haematologic disorder	☐Yes ☐No ☐Unknown
Diabetes	☐Yes type 1 ☐Yes type 2 ☐No ☐Unknown	HIV ☐Yes (on ART) ☐Yes (not on ART) ☐No ☐Unknown	
Malignant neoplasm	☐Yes ☐No ☐Unknown	Other? If yes, specify _____	

1g. PRE-ADMISSION AND CHRONIC MEDICATION
Were any of the following taken within 14 days of admission: *(complete when MIS is first suspected)*

Non-steroidal anti-inflammatory (NSAID)? ☐Yes ☐No ☐Unknown
If yes, specify name _____; Route ☐Oral/rectal ☐Parenteral (IM/IV) ☐Unknown

Steroids? ☐Yes ☐No ☐Unknown
If yes, specify name _____; Route ☐Oral/rectal ☐Parenteral (IM/IV) ☐Inhaled ☐Topical ☐Unknown

Antibiotics? ☐Yes ☐No ☐Unknown
If yes, specify name _____; Route ☐Oral/rectal ☐Parenteral (IM/IV) ☐Unknown

Any other medication? ☐Yes ☐No ☐Unknown
If yes, specify name _____; Route ☐Oral/rectal ☐Parenteral (IM/IV) ☐Inhaled ☐Topical ☐Unknown
If yes, specify name _____; Route ☐Oral/rectal ☐Parenteral (IM/IV) ☐Inhaled ☐Topical ☐Unknown
If yes, specify name _____; Route ☐Oral/rectal ☐Parenteral (IM/IV) ☐Inhaled ☐Topical ☐Unknown

1h. LABORATORY RESULTS
(complete with results of tests ordered at the time MIS is first suspected) (** record units if different from those listed)*
Record the worst value between 00:00 to 24:00 on day of assessment (if Not Available write 'N/A'):

Parameter	Value*	Not done	Parameter	Value*	Not done
Markers of inflammation/coagulopathy			**Markers of organ dysfunction**		
Haemoglobin (g/L)		☐	Creatinine (µmol/L)		☐
Total WBC count (x10^9/L)		☐	Sodium (mmol/L)		☐
Neutrophils (x10^9/L)		☐	Potassium (mmol/L)		☐
Haematocrit (%)		☐	Glucose (mmol/L)		☐
Platelets (x10^9/L)		☐	Pro-BNP (pg/mL)		☐
APTT/APTR		☐	Troponin (ng/mL)		☐
PT (seconds)		☐	Creatine kinase (U/L)		☐
INR		☐	LDH (U/L)		☐
Fibrinogen (g/L)		☐	Triglycerides		☐
Procalcitonin (ng/mL)		☐	ALT/SGPT (U/L)		☐
CRP (mg/L)		☐	Total bilirubin (µmol/L)		☐
ESR (mm/hr)		☐	AST/SGOT (U/L)		☐
D-dimer (mg/L)		☐	Albumin (g/dL)		☐
IL-6 (pg/mL)		☐	Lactate (mmol/L)		☐
IL-10 (pg/mL)		☐	Ferritin (ng/mL)		

1i. IMAGING AND PATHOGEN TESTING
(complete when results of tests ordered at the time MIS is first suspected are available)

Chest X-ray/CT performed ☐Yes ☐No ☐Unknown **If yes, findings** _____

ECG performed? ☐Yes ☐No ☐ Unknown
On that ECG what were the findings? _____

Echocardiography performed ☐Yes ☐No ☐Unknown
If yes, features of myocardial dysfunction? ☐Yes ☐No ☐Unknown
features of pericarditis? ☐Yes ☐No ☐Unknown
features of valvulitis? ☐Yes ☐No ☐Unknown
coronary abnormalities? ☐Yes ☐No ☐Unknown

Other cardiac imaging performed ☐Yes ☐No ☐Unknown
If yes, specify name of imaging and results _____

MODULE 2. Complete and submit this module at the time of discharge or death

2a. SUMMARY OF CLINICAL FEATURES OF CURRENT ILLNESS

(include all signs identified any time between admission and discharge/death)

Fever ☐Yes ☐No ☐Unknown
Maximum temperature during the hospital admission ____ (°C) (If not applicable write 'NA')
Duration of fever during the admission ___ days (If not applicable write 'NA')

Rash ☐Yes ☐No ☐Unknown
If yes type of rash_____

Bilateral conjunctivitis ☐Yes, purulent ☐Yes, non-purulent ☐No ☐Unknown
Oral mucosal inflammation signs ☐Yes ☐No ☐Unknown
Peripheral cutaneous inflammation signs (hands or feet) ☐Yes ☐No ☐Unknown

Hypotension (age-appropriate)	☐Yes	☐No	☐Unknown
Tachycardia (age-appropriate)	☐Yes	☐No	☐Unknown
Prolonged capillary refill time	☐Yes	☐No	☐Unknown
Pale/mottled skin	☐Yes	☐No	☐Unknown
Cold hands/feet	☐Yes	☐No	☐Unknown
Urinary output < 2 mL/kg/hr	☐Yes	☐No	☐Unknown
Chest pain	☐Yes	☐No	☐Unknown
Tachypnoea (age-appropriate)	☐Yes	☐No	☐Unknown
Respiratory distress	☐Yes	☐No	☐Unknown
Abdominal pain	☐Yes	☐No	☐Unknown
Diarrhoea	☐Yes	☐No	☐Unknown
Vomiting	☐Yes	☐No	☐Unknown

Other, specify _____

2b. LABORATORY RESULTS

*(record the most abnormal result during the hospital admission up to the time of discharge/death) (*record units if different from those listed)*

Parameter	Most abnormal value* (and Date)	Not done	Parameter	Most abnormal value* (and Date)	Not Done
Markers of inflammation/coagulopathy			**Markers of organ dysfunction**		
Haemoglobin (g/L)		☐	Creatinine (µmol/L)		☐
Total WBC count (x10^9/L)		☐	Sodium (mmol/L)		☐
Neutrophils (x10^9/L)		☐	Potassium (mmol/L)		☐
Lymphocytes (x10^9/L)		☐	Urea (BUN) (mmol/L)		☐
Haematocrit (%)		☐	Glucose (mmol/L)		☐
Platelets (x10^9/L)		☐	Pro-BNP (pg/mL)		☐
APTT/APTR		☐	Troponin (ng/mL)		☐
PT (seconds)		☐	Creatine kinase (U/L)		☐
INR		☐	LDH (U/L)		☐
Fibrinogen (g/L)		☐	Triglycerides		☐
Procalcitonin (ng/mL)		☐	ALT/SGPT (U/L)		☐
CRP (mg/L)		☐	Total bilirubin		☐
ESR (mm/hr)		☐	AST/SGOT (U/L)		☐
D-dimer (mg/L)		☐	Albumin (g/dL)		☐
IL-6 (pg/mL)		☐	Lactate (mmol/L)		☐
IL-10 (pg/mL)		☐	Ferritin (ng/mL)		

2c. IMAGING/PATHOGEN TESTING *(include the most abnormal results from admission up to the time of discharge/death)*

Chest X-ray performed ☐Yes ☐No ☐Unknown **If yes, findings** _____

Chest CT performed? ☐Yes ☐No ☐Unknown **If yes, were infiltrates present?** ☐Yes ☐No ☐Unknown
other findings _____

Echocardiography performed ☐Yes ☐No ☐ Unknown
If yes what was the date of the most abnormal echocardiogram [_D_][_D_]/[_M_][_M_]/[_2_][_0_][_Y_][_Y_]
On that echogardiogram were there: features of myocardial dysfunction? ☐Yes ☐No ☐ Unknown
features of pericarditis? ☐Yes ☐No ☐ Unknown
features of valvulitis? ☐Yes ☐No ☐ Unknown
coronary abnormalities? ☐Yes ☐No ☐ Unknown

ECG performed? ☐Yes ☐No ☐ Unknown
If yes what was the date of the most abnormal ECG [_D_][_D_]/[_M_][_M_]/[_2_][_0_][_Y_][_Y_]
On that ECG what were the findings? _____

Other cardiac imaging performed? ☐Yes ☐No ☐Unknown
If yes, date [_D_][_D_]/[_M_][_M_]/[_2_][_0_][_Y_][_Y_]
If yes, specify name of imaging and most abnormal results _____

Bacterial pathogen testing

Bacterial pathogen ☐Positive ☐Negative ☐Not done
If positive, specify_____

SARS-CoV-2 testing

RT-PCR	☐Positive	☐Negative	☐Not done	Site of specimen collection _____
Rapid antigen test	☐Positive	☐Negative	☐Not done	Site of specimen collection _____
Rapid antibody test	☐Positive	☐Negative	☐Not done	
ELISA	☐Positive	☐Negative	☐Not done	If done, titres _____
Neutralization test	☐Positive	☐Negative	☐Not done	If done, titres _____

Other test? Specify _____Results _____

If no pathogen testing: Clinically diagnosed COVID-19? ☐Yes ☐No ☐Unknown