Communicable Disease Case Reporting and Investigation Protocol
Multisystem Inflammatory Syndrome in Children (MIS-C)

I. Identification and Definition of Cases

A. Clinical description

Multisystem inflammatory syndrome in children (MIS-C) associated with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection is a delayed hyperinflammatory condition in children and adolescents occurring 2–6 weeks after a preceding SARS-CoV-2 infection. MIS-C is characterized by:

- Fever, and
- Elevated laboratory markers of systemic inflammation, and
- Multiple organ system dysfunction, including cardiovascular, mucocutaneous, gastrointestinal, hematologic, neurologic, and renal involvement.

B. Clinical criteria

Confirmatory

An illness in a person aged < 21years characterized by all the following, in the absence of a more likely alternative diagnosis:

- Subjective or documented fever (temperature ≥ 38.0º C, 100.4º F), and
- Clinical severity requiring hospitalization or resulting in death, and
- Evidence of systemic inflammation indicated by C-reactive protein ≥ 3.0 mg/dL (30 mg/L), and
- New onset manifestations in **at least two** of the following categories:
    1. Cardiac involvement indicated by:
        - Left ventricular ejection fraction <55%, or
        - Coronary artery dilatation, aneurysm, or ectasia, or
        - Troponin elevated above laboratory normal range, or indicated as elevated in a clinical note
    2. Mucocutaneous involvement indicated by:
        - Rash, or
        - Inflammation of the oral mucosa (for example, mucosal erythema or swelling, drying or fissuring of the lips, strawberry tongue), or
        - Conjunctivitis or conjunctival injection (redness of the eyes), or
        - Extremity findings (for example, erythema [redness] or edema [swelling] of the hands or feet)
    3. Shock as documented in clinical notes
    4. Gastrointestinal involvement indicated by:
        - Abdominal pain, or
        - Vomiting, or
        - Diarrhea
    5. Hematologic involvement indicated by:
        - Platelet count <150,000 cells/µL or
        - Absolute lymphocyte count (ALC) <1,000 cells/µL

C. Laboratory criteria

- Detection of SARS-CoV-2 ribonucleic acid (RNA) in a clinical specimen up to 60 days prior to or during hospitalization, or in a post-mortem specimen using a diagnostic molecular amplification test (for example, polymerase chain reaction [PCR]), or
- Detection of SARS-CoV-2 specific antigen in a clinical specimen up to 60 days prior to or during hospitalization, or in a post-mortem specimen, or
- Detection of SARS-CoV-2 specific antibodies in serum, plasma, or whole blood associated with current illness resulting in or during hospitalization.

D. Epidemiologic criteria

Close contact with a confirmed or probable case of COVID-19 disease in the 60 days prior to hospitalization. Close contact is generally defined as being within six feet for at least 15 minutes (cumulative over a 24-hour period). However, it depends on the exposure level and setting; for example, in the setting of an aerosol-generating procedure in health care settings without proper personal protective equipment (PPE), this may be defined as any duration.

E. Vital records criteria

A person aged <21 years whose death certificate lists MIS-C or multisystem inflammatory syndrome as an underlying cause of death or a significant condition contributing to death.

F. Wisconsin surveillance case definition

Criteria to distinguish a new case from an existing case

A case should be enumerated as a new case if the person had never previously been enumerated as a case OR if the person was most recently enumerated as a case with illness onset date (if available) or hospital admission date >90 days prior.

Confirmed case

Meets the clinical criteria and the laboratory criteria.

Probable case

Meets the clinical criteria and the epidemiologic linkage criteria.

Suspect case

Meets the vital records criteria.

II. Reporting

A. Wisconsin disease surveillance category II – methods for reporting

This condition shall be reported to the patient's local or Tribal health officer or to the local or Tribal health officer's designee within 72 hours of recognition of a case or suspected case, per Wis. Admin. Code § DHS 145.04(3)(b). Report electronically through the Wisconsin Electronic Disease Surveillance System (WEDSS), or mail or fax a completed Acute and Communicable Disease Case Report (form F-44151) to the address on the form.

B. Responsibility for reporting

According to Wis. Admin. Code § DHS 145.04(1), persons licensed under Wis. Stat. ch. 441 or 448, laboratories, health care facilities, teachers, principals, or nurses serving a school or day care center, and any person who knows or suspects that a person has a communicable disease identified in Appendix A.

C. Clinical criteria for reporting

Clinically compatible illness.

D. Laboratory criteria for reporting

Meets laboratory criteria.

III. Case Investigation

A. Responsibility for case investigation

It is the responsibility of the local and Tribal health department to investigate or arrange for investigation of suspected probable or confirmed cases as soon as is reasonably possible. A case investigation may include information collected by phone, in person, in writing, or through review of medical records or communicable disease report forms, as necessary and appropriate.

B. Required documentation

According to Wis. Admin. Code § DHS 145.04(1), persons licensed under Wis. Stat. ch. 441 or 448, laboratories, health care facilities, teachers, principals, or nurses serving a school or day care center, and any person who knows or suspects that a person has a communicable disease identified in Appendix A.

C. Additional investigation responsibilities

The Department of Health Services is responsible reporting confirmed, probable and suspect cases to the CDC (Centers for Disease Control and Prevention) via the Secured Access Management database.

IV. Public Health Interventions and Prevention Measures

In accordance with Wis. Admin. Code § DHS 145.05, local public health agencies should follow the methods of control recommended in the current editions of *Control of Communicable Diseases Manual*, edited by David L. Heymann, published by the American Public Health Association, and the American Academy of Pediatrics' *Red Book: Report of the Committee on Infectious Diseases*, unless otherwise specified by the state epidemiologist.

V. Contacts For Consultation

- Local health departments and Tribal health agencies: https://www.dhs.wisconsin.gov/lh-depts/index.htm
- Bureau of Communicable Diseases, Communicable Diseases Epidemiology Section: 608-267-9003
- Wisconsin State Laboratory of Hygiene: 1-800-862-1013

VI. Related References

- Heymann DL, ed. SARS-CoV-2 In: *Control of Communicable Diseases Manual*. 21st ed. Washington, DC: American Public Health Association, 2022: 132-136.
- Kimberlin DW, ed. Multi System Inflammatory Syndrome in Children (MIS-C): *Red Book: 2021-2024 Report of the Committee on Infectious Diseases*. 32nd ed. Itasca, IL: American Academy of Pediatrics, 2018: 281, 284.
- CDC MIS-C website: https://www.cdc.gov/mis/hcp/clinical-overview/.