PENNSYLVANIA DEPARTMENT OF HEALTH
2021-PAHAN-604-10-07-ADV
Seasonal Increase in Acute Flaccid Myelitis (AFM) Cases

DATE:	10/7/2021
TO:	Health Alert Network
FROM:	Alison Beam, JD, Acting Secretary of Health
SUBJECT:	**Seasonal Increase in Acute Flaccid Myelitis (AFM) Cases**
DISTRIBUTION:	Statewide
LOCATION:	n/a
STREET ADDRESS:	n/a
COUNTY:	n/a
MUNICIPALITY:	n/a
ZIP CODE:	n/a

This transmission is a "Health Advisory": provides important information for a specific incident or situation; may require immediate action.

HOSPITALS: PLEASE SHARE WITH ALL MEDICAL, DENTAL, PEDIATRIC, NURSING AND LABORATORY STAFF IN YOUR HOSPITAL**; EMS COUNCILS:** PLEASE DISTRIBUTE AS APPROPRIATE; **FQHCs:** PLEASE DISTRIBUTE AS APPROPRIATE **LOCAL HEALTH JURISDICTIONS**: PLEASE DISTRIBUTE AS APPROPRIATE; **PROFESSIONAL ORGANIZATIONS:** PLEASE DISTRIBUTE TO YOUR MEMBERSHIP; **LONG-TERM CARE FACILITIES:** PLEASE SHARE WITH ALL MEDICAL, INFECTION CONTROL, AND NURSING STAFF IN YOUR FACILITY

- The Pennsylvania Department of Health (DOH) is alerting health care providers to anticipate a seasonal increase in Acute Flaccid Myelitis (AFM) cases.
- Health care providers should maintain a high index of suspicion in child patients with an onset of illness of acute flaccid weakness of one or more limbs.
- CDC's case definition now includes persons with evidence of anterior horn myelitis at time of autopsy.
- For suspect AFM cases, DOH consultation and approval are required for specimen submission. If approved, further instructions will be provided. Specimen submission to DOH, Bureau of Laboratories (BOL) is required for CDC final case classification.
- **Report all possible AFM cases to the health department via PA-NEDSS or by calling DOH (877-PA-HEALTH) or the local health department.**

Background

AFM is characterized by rapid onset of flaccid weakness in one or more limbs and distinct abnormalities of the spinal cord gray matter on magnetic resonance imaging (MRI). AFM is a subtype of acute flaccid paralysis (AFP), defined as acute onset of flaccid weakness absent features suggesting an upper motor neuron disorder. Most patients have onset of AFM during the fall months with increases in AFM cases **every other year starting in 2014**. Nationwide outbreaks have occurred on a biennial (i.e., every other year) basis since 2014.

Coxsackievirus A16, EV-A71, and EV-D68 were detected in the cerebrospinal fluid (CSF) of a small number of patients with AFM since 2014. For all other patients, no pathogen was detected in their CSF. Since we don't know the cause of most of these AFM cases or what triggersthis condition, there is no specific action to take to prevent AFM. However, most children had a respiratory illness or fever consistent with a viral infection before they developed AFM. Nationally, as of September 7, 2021, there were 666 confirmed cases since August of 2014. The age range is between 0 to 81 years with a median age of onset weakness of 5.8 years. Clinicians are encouraged to maintain vigilance for cases of AFM among children and to **report cases of AFM to the DOH or your local health department**. Reporting of cases will help monitor the incidence of AFM and better understand factors possibly associated with this illness. In 2018, Pennsylvania had a record-setting year for AFM with 11 cases (8-year average = 4 cases per year).

RECOMMENDATIONS

In response to an anticipated seasonal increase in the number of reports of possible AFM, DOH recommends the following:

- CASE REPORTING: Clinicians should report possible cases of AFM to DOH through the PA-NEDSS online application at https://www.nedss.state.pa.us.
    - Reports of possible cases of AFM will be submitted to CDC for determination of case status (i.e., confirmed, probable, suspect). The AFM Patient Summary Form should be completed by the clinician who provided care to the patient during the neurologic illness and submitted to DOH (ATTN: Wayne Fleming – AFM coordinator, FAX: 717-772-6975. A blank form is available at https://www.cdc.gov/acute-flaccid-myelitis/downloads/patient-summary- form.docx.)
    - CDC requests that state health departments send the Patient Summary Form, along with the MRI report and images for case classification. Contact DOH (877-PA-HEALTH) to help coordinate submission of MRI report and images.
    - DOH will work with clinicians to coordinate the submission of specimens to BOL. If you have any questions regarding shipping and documentation, please call the BOL at 610-280-3464.

- LABORATORY TESTING: Clinicians should collect specimens from patients under investigation (PUIs) for AFM as early as possible in the course of illness, **preferably on the day of onset of limb weakness**. Early specimen collection has the best chance to yield a cause of AFM.
    - DOH consultation and approval are needed if testing for AFM is being considered. If approved, further instructions on specimen submission will be provided. The BOL will not accept specimens without prior consultation and approval.
    - The following specimens should be collected: **CSF; whole blood; serum; stool; upper respiratory tract specimens, preferably nasopharyngealor nasal mid-turbinate plus oropharyngeal swabs** (https://www.cdc.gov/acute-flaccid-myelitis/hcp/specimen-collection.html.)
        - Please note: Collection of stool is required for AFM surveillance. Two samples

collected at least 24 hours apart, both collected as early in illness as possible and ideally within 14 days of illness onset to rule out poliovirus infection.

- If you have any questions regarding shipping and documentation, please call the BOL at 610-280-3464

- CONFIRMATORY EVIDENCE: a **magnetic resonance image (MRI)** showing spinal cord lesion with predominant gray matter involvement and spanning one or more vertebral segments, **AND**
- Excluding persons with gray matter lesions in the spinal cord resulting from physician diagnosed malignancy, vascular disease, or anatomic abnormalities.

  - If a possible case is determined by the CDC to meet the AFM case definition, DOH will work with clinicians to facilitate submission of remaining samples of these specimens to the CDC for additional testing. Additional instructions regarding specimen collection and shipping can be found at: https://www.cdc.gov/acute-flaccid-myelitis/hcp/specimen-collection.html

  - DOH will conduct 60-day, 6-month and 12-months follow-up of confirmed and probable AFM cases. CDC's AFM surveillance team will communicate final case classifications back to DOH for dissemination to clinicians, patients, and families.

Case Ascertainment

Illness that meets any of the following criteria should be considered a possible AFM case and reported to the health department:

- A person with clinical **AND** laboratory/imaging criteria for reporting, **OR**
- A person whose death certificate lists AFM as the cause of death or a contributing cause of death, **OR**
- A person with autopsy findings that include histopathologic evidence of inflammation largely involving the anterior horn of the spinal cord

Current CSTE (Council of State and Territorial Epidemiologists) Case Classification For AFM

Clinical criteria

- An illness with onset of acute flaccid* weakness of one or more limbs, **AND**
- Absence of a clear alternative diagnosis attributable to a nationally notifiable condition.

** Low muscle tone, limp, hanging loosely, not spastic or contracted.*

Cases meeting case ascertainment criteria that are reported by the health department to CDC are classified as:

Suspect

- Meets clinical criteria with supportive laboratory/imaging evidence, **AND**
- Available information is insufficient to classify case as probable or confirmed.

Probable

- Meets clinical criteria with presumptive laboratory/imaging evidence.

Confirmed

- Meets clinical criteria with confirmatory laboratory/imaging evidence,
  OR
- Meets other classification criteria.

Laboratory/Imaging criteria

Confirmatory laboratory/imaging evidence:

- MRI showing spinal cord lesion with predominant gray matter involvement* and spanning one or more vertebral segments, **AND**
- Excluding persons with gray matter lesions in the spinal cord resulting from physician diagnosed malignancy, vascular disease, or anatomic abnormalities.

Presumptive laboratory/imaging evidence:

- MRI showing spinal cord lesion where gray matter involvement* is present but predominance cannot be determined, **AND**
- Excluding persons with gray matter lesions in the spinal cord resulting from physician diagnosed malignancy, vascular disease, or anatomic abnormalities.

Supportive laboratory/imaging evidence:

- MRI showing a spinal cord lesion in at least some gray matter* and spanning one or more vertebral segments, **AND**
- Excluding persons with gray matter lesions in the spinal cord resulting from physician diagnosed malignancy, vascular disease, or anatomic abnormalities.

** Spinal cord lesions may not be present on initial MRI; a negative or normal MRI performed within the first 72 hours after onset of limb weakness does not rule out AFM. Terms in the spinal cord MRI report such as "affecting mostly gray matter," "affecting the anterior horn or anterior horn cells," "affecting the central cord," "anterior myelitis," or "poliomyelitis" would all be consistent with this terminology.*

Other classification criteria

- Autopsy findings that include histopathologic evidence of inflammation largely involving the anterior horn of the spinal cord spanning one or more vertebral segments.

Final case classification

To provide consistency in case classification, review of case information and assignment of final case classification for all patients under investigation (PUIs) for AFM is done by experts in national AFM surveillance. This is similar to the review required for final classification of paralytic polio cases. https://www.cdc.gov/acute-flaccid-myelitis/hcp/case-definitions.html

References & Resources

Revision to the Standardized Case Definition, Case Classification, and Public Health Reporting for Acute Flaccid Myelitis (21-ID-02).
https://cdn.ymaws.com/www.cste.org/resource/resmgr/ps/ps2021/21-ID-02_AFM.pdf

Acute Flaccid Myelitis Home Page
https://www.cdc.gov/acute-flaccid-myelitis/index.html

Acute Flaccid Myelitis Specimen Collection Information
https://www.cdc.gov/acute-flaccid-myelitis/hcp/specimen-collection.html

Acute Flaccid Myelitis Job Aid
https://www.cdc.gov/acute-flaccid-myelitis/downloads/job-aid-for-clinicians-508.pdf

Acute Flaccid Myelitis Patient Summary Form
https://www.cdc.gov/acute-flaccid-myelitis/downloads/patient-summary-form.docx

Acute Flaccid Myelitis Patient Summary Form Instructions

https://www.cdc.gov/acute-flaccid-myelitis/downloads/patient-summary-form-instructions.pdf

Categories of Health Alert messages:
Health Alert: conveys the highest level of importance; warrants immediate action or attention.
Health Advisory: provides important information for a specific incident or situation; may not require immediate action.
Health Update: provides updated information regarding an incident or situation; unlikely to require immediate action.

This information is current as of October 7, 2021 but may be modified in the future. We will continue to post updated information regarding the most common questions about this subject.