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August 20, 2020 0900 EDT (9:00 AM EDT)
NH-HAN 20200820



Acute Flaccid Myelitis (AFM), 2020 Update

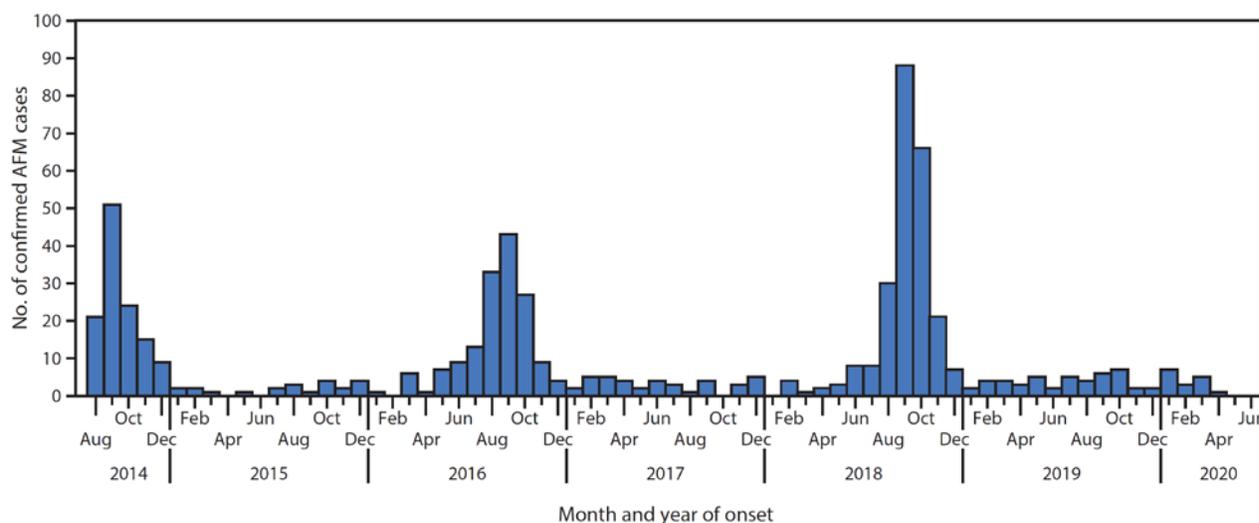
Key Points and Recommendations:

1. Acute flaccid myelitis (AFM) is a serious neurologic syndrome causing paralysis that predominantly affects children in the late summer and early fall.
2. Since 2014 there have been biennial peaks of AFM activity, and another peak of AFM is expected this year between August and November (enterovirus season).
3. Multiple viruses are known or suspected to cause AFM, including enterovirus-D68 (EV-D68) and enterovirus-A71 (EV-A71).
4. Clinicians should suspect AFM in any person presenting with acute onset flaccid limb weakness; most patients have a preceding febrile or viral respiratory illness in the 1-2 weeks before onset of limb weakness.
5. Because AFM can progress rapidly and lead to respiratory failure requiring mechanical ventilation, patients with suspected AFM should be hospitalized, monitored for respiratory decompensation, and have a [clinical and diagnostic evaluation](#).
6. Patients suspected of having AFM should have specimens collected as soon as possible according to [CDC guidance](#) (see also Laboratory Testing recommendations below).
7. Suspected cases should be promptly reported to the NH Division of Public Health Services (DPHS) at 603-271-4496 (after hours 603-271-5300).
8. Clinicians should also review:
 - a. General clinician information on the [CDC website](#)
 - b. Recent CDC [MMWR publication](#) on clinical characteristics of patients with AFM reported in the U.S. in 2018
 - c. CDC clinician [Webinar on AFM](#) (CE credits available)
 - d. CDC [Public Health Grand Rounds on AFM](#) (CE credits available)

Situation:

The United States has experienced outbreaks of AFM every two years since 2014, between August and November, affecting primarily children. Based on this biennial pattern, another increase in AFM cases is anticipated to occur in the late summer and early fall of this year. Since 2014, there have been 633 confirmed cases of AFM reported in the U.S., including 238 in 2018. So far in 2020 there have been 16 confirmed cases in the U.S. from 10 different states. It is unclear how the COVID-19 pandemic and community mitigation measures (i.e., social distancing, cloth face mask use, etc.) might impact the epidemiology of AFM.

New Hampshire has identified six people with AFM since 2014, all under the age of 18 years, including five confirmed and one probable case. The most recent person affected was confirmed with AFM in 2018. There have been no individuals identified in NH so far this year with AFM. AFM was made a reportable condition in New Hampshire in October 2016.



Graph from CDC [MMWR publication](#): Kidd S, et al. MMWR Aug 7, 2020;69(31):1031-8

Clinical Presentation and Management:

Emergence of AFM in 2014 coincided with a national outbreak of EV-D68 that caused severe respiratory infections, but other viruses are also known to cause AFM (e.g., other enteroviruses, West Nile virus, herpesviruses, adenoviruses). The clinical presentation of AFM is similar to poliomyelitis, but poliovirus has not been detected in patients with AFM. Most patients with AFM had a preceding febrile or respiratory illness 1-2 weeks before onset of acute flaccid limb weakness resulting in weakness in one or more limbs (proximal limbs more commonly affected), in addition to loss of muscle tone and reflexes in the affected limbs. Cranial nerve abnormalities, headache, and neck or back pain have also been reported. Sensory abnormalities (e.g., numbness and tingling) and altered mental status are not common symptoms.

Onset of weakness is rapid within hours to days, and patients can develop respiratory failure requiring mechanical ventilation. Therefore, any patient with suspected AFM should be admitted to the hospital for observation, neurologic assessment, and further diagnostic work-up. A magnetic resonance image (MRI) typically shows a spinal cord lesion largely restricted to gray matter and spanning one or more spinal segments.

Further information can be found on the CDC website related to [initial evaluation and diagnostic studies](#) (which should include an MRI of the brain and spine), and [specimen collection instructions](#); clinicians can also refer to a CDC [Job Aid for Clinicians](#) for brief instructions on specimen collection and submission.

There is no specific treatment recommended for AFM, and long-term outcomes are still being studied. Recovery, however, has been variable and neurologic function and strength can be slow to recover. See CDC's [considerations for clinical management](#) for additional information.

Laboratory Testing:

Clinicians should [collect specimens](#) from patients under investigation for AFM as early as possible in the course of illness, preferably on the day of onset of limb weakness, and coordinate with NH DPHS to submit specimens to CDC. Pathogen-specific testing for diagnostic purposes should continue at the hospital and/or state public health laboratories. Specimens to collect include all of the following:

- Cerebrospinal fluid (CSF)

- Serum
- A nasopharyngeal or oropharyngeal swab
- Stool (two stool specimens should be collected at least 24 hours apart early during the course of illness to rule out poliovirus infection)

Testing conducted at the CDC includes:

- Enterovirus/rhinovirus testing and typing on respiratory, stool, and CSF specimens (results will be provided once complete)
- Poliovirus testing on stool specimens (results will be provided once testing is complete)
- Additional testing on CSF and serum to learn more about immune responses to AFM and look for possible immune etiologies for AFM (results for this testing will not be provided since the testing protocols are not performed under CLIA, nor intended for clinical diagnosis)

Case Reporting:

Clinicians should report the following information about all patients with suspect AFM to NH DPHS:

- AFM [Patient Summary Form](#) (see CDC [instructions for completing the form](#))
- Admission and discharge notes
- Neurology and infectious disease consult notes
- Magnetic resonance imaging (MRI) reports AND images
- Complete vaccination history, and
- Laboratory test results.

Information should be sent regardless of specific laboratory or MRI results. See CDC [Data Collection](#) website for more information.

For more information:

- [Case Definitions for AFM](#)
- [CDC website for clinicians & Health Departments](#)

- For any questions regarding this notification, please call the NH DHHS, DPHS, Bureau of Infectious Disease Control at (603) 271-4496 during business hours (8:00 a.m. – 4:30 p.m.).
- If you are calling after hours or on the weekend, please call the New Hampshire Hospital switchboard at (603) 271-5300 and request the Public Health Professional on-call.
- To change your contact information in the NH Health Alert Network, please send an email to DHHS.Health.Alert@dhhs.nh.gov.

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Status: Actual
Message Type: Alert
Severity: Moderate
Sensitivity: Not Sensitive
Message Identifier: NH-HAN #20200820 Acute Flaccid Myelitis Update - 2020
Delivery Time: 12 hours
Acknowledgement: No
Distribution Method: Email, Fax
Distributed to: Physicians, Physician Assistants, Practice Managers, Infection Control Practitioners, Infectious Disease Specialists, Community Health Centers, Hospitals, Hospital CEOs, Hospital Emergency Departments, EMS, Nurses, NHHA, Pharmacists, Laboratory Response Network, Manchester Health Department, Nashua Health Department, Public Health Networks, DHHS Outbreak Team, DPHS Investigation Team, DPHS Management Team, Northeast State Epidemiologists, Zoonotic Alert Team, Health Officers, Deputy Health Officers, MRC, NH Schools, EWIDS, Dialysis & Transplant Clinics, STD Clinics, Immunization Practices, Travel Centers, Influenza Sentinels, Urgent Care Centers, Ambulatory Surgical Centers, Walk-in Clinics, Poison Center, Alcohol and Other Drug Treatment Centers, Long-Term Care Facilities, Community Mental Health Centers, Health Departments, Internal Medicine, Occupational Health, Gastroenterology, Schools and Daycare Providers, Regional Public Health Networks, Environmental Services, Family Planning Programs, Department of Corrections, Home Care Providers, Local and State Partners, Area Agencies

From: Benjamin P. Chan, MD, MPH – State Epidemiologist
Originating Agency: NH Department of Health and Human Services, Division of Public Health Services

Attachments: None

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