DC HEALTH
GOVERNMENT OF THE DISTRICT OF COLUMBIA

GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

October 9, 2024

Health Notice for District of Columbia Health Care Providers

Acute Flaccid Myelitis Recommendations and Reporting — 2024

SUMMARY

Acute Flaccid Myelitis (AFM) is a condition that affects the nervous system, causing a sudden onset of arm or leg weakness and loss of muscle tone and reflexes with either MRI abnormalities in the gray matter of the spinal cord or the presence of pleocytosis in cerebrospinal fluid. Non-polio enteroviruses (EVs), particularly EV-D68, are likely responsible for the increase in cases every two years since 2014. However, since 2018, the number of AFM cases has remained low, even during 2022, when there was an increase in EV-D68 respiratory disease. Other viral causes are adenoviruses, flaviviruses (West Nile virus, Japanese encephalitis virus), human herpesviruses, and polioviruses. To date, one confirmed case of AFM had been reported to the DC Department of Health (DC Health) in 2020. This health notice provides recommendations, reporting guidelines in DC, and resources on AFM. Clinicians are encouraged to maintain vigilance for AFM among all age groups and to report patients with acute onset of flaccid limb weakness to DC Health.

BACKGROUND

Acute flaccid myelitis (AFM) is a serious neurological condition linked to enterovirus-D68 (EV-D68) infection.[1,2]AFM is a rare neurological disorder that emerged as a significant public health issue in the spring and summer of 2014, with clusters of flaccid paralysis primarily affecting children in California, Utah, and Colorado, temporally associated with an outbreak of enterovirus D68 respiratory disease. [2,3] Biannual increases in AFM cases were observed in 2014, 2016, and 2018, but the number of cases has remained low since, even during 2022, despite increased EV-D68 respiratory disease. The reasons for this are unknown, and it is unclear when AFM will peak again.[1] Current trends do not indicate when the next AFM increase might occur, but clinicians should be alert to the possibility of AFM in children with acute flaccid limb weakness and report suspected cases to DC Health. Collecting sufficient laboratory specimens for testing and typing EVs is crucial to better understanding AFM causes, including the role of EVs and EV-D68. AFM is an uncommon, but life-threatening neurologic condition that affects mostly children and can lead to permanent paralysis or disability. Additionally, AFM is a medical emergency, and patients must be hospitalized and monitored in case they progress to respiratory failure.

RECOMMENDATIONS

The clinical presentations have been similar to cases of poliomyelitis.[4,5]AFM typically presents with sudden limb weakness, and most patients report having respiratory illness or fever 1-2 weeks before onset. Patient health can decline quickly, resulting in paralysis or the need for a ventilator.[1,4,5] Patients who tested positive for EV-D68 typically had more severe AFM illness, requiring hospitalized intensive care and ventilation. Most cases occur between August and November. Prompt recognition and immediate action by pediatricians, emergency departments, and urgent care providers are critical to achieving the best possible outcomes.

***CASE REPORTING*:**

- An emerging infectious disease or an unusual occurrence of any disease is reportable in the District of Columbia. Reporting cases will help states and the CDC monitor the occurrence of AFM and better understand the factors associated with this illness. Cases of AFM must be reported immediately by submitting a Notifiable Disease and Condition Case Report Form online using the DC Reporting and Surveillance Center (DCRC), which can be found on our Infectious Diseases website: dchealth.dc.gov/node/143092.
    - Clinicians should send the following information about all patients that meet the clinical criterion for AFM. If this information is not available at the time of reporting, the DC Health Epidemiologist will reach out to you to complete the AFM patient summary form and obtain any additional information.
        - Admission and discharge notes
        - Neurology and infectious disease consult notes
        - Magnetic resonance imaging (MRI) reports AND images
        - Complete vaccination history, and
        - Laboratory test results.

If you suspect a case that meets the clinical criteria of AFM, please notify DC Health immediately as you wait for pending clinical notes, or laboratory or MRI results.

AFM clinical criteria for reporting are:

- an acute onset of flaccid* limb weakness** of one or more limbs (clinical criterion) AND
- an MRI with at least some gray matter† lesions in the spinal cord and one or more vertebral segments (laboratory/imaging criteria) AND
- excluding persons with gray matter lesions in the spinal cord resulting from physician diagnosed malignancy, vascular disease, or anatomic abnormalities. **

**Low muscle tone, limp, hanging loosely, not spastic or contracted.*
***Laboratory/imaging must be paired with clinical criteria to trigger a report to public health.*
†Terms in the spinal cord MRI report such as "affecting 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.

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 DC Health to submit specimens to CDC through the DC Public Health Laboratory for testing. Specimens to collect include:
    - Cerebrospinal fluid (CSF): cell count with differential, protein and glucose, oligoclonal bands, meningitis/encephalitis PCR panel
    - Serum: enterovirus (EV) PCR, anti-myelin oligodendrocyte glycoprotein [MOG] and anti-aquaporin antibodies, HSV, EBV, WNV

- A nasopharyngeal (NP) and/or oropharyngeal (OP) swabs: respiratory multiplex testing and EV PCR
- Stool or rectal swab for EV PCR
  - Please note: **Stool collection is required for AFM surveillance**. Two stool specimens should be collected at least 24 hours apart early during the illness to rule out poliovirus infection.

- Pathogen-specific testing for diagnostic purposes should continue at hospital or DC Public Health Laboratory.
- AFM testing at CDC includes:
  - Routine enterovirus/rhinovirus (EV/RV) testing and typing of CSF, respiratory, and stool specimens and poliovirus testing of stool specimens to rule out the presence of poliovirus. Results will be provided to the submitter once testing is completed.
  - Additional testing of CSF and serum to look for etiology/mechanism for AFM. Patient-level results for the additional testing will not be provided since the testing protocols are not performed under the Clinical Laboratory Improvement Amendments (CLIA) nor intended for clinical diagnosis.
- Please note test results and case classification may take up to four weeks.

NEUROIMAGING:

- MRI of the spine and brain with and without contrast.
  - Note that imaging within the first 72 hours of limb weakness may be normal, therefore, it should be repeated if it is clinically indicated.
  - The hospital (neuroradiology) can upload the images using the following link: https://afmstudies.ambrahealth.com/api/v3/link/redirect?uuid=2bf80fb2-50fc-455a-b9d1-1f1b4b52bbf1
- Clinicians should consider additional pathogen-specific testing such as Lyme disease based on clinical presentation, geography, and seasonality exposure[3].
- The CDC's AFM surveillance team will report final case classifications to DC Health, which will then share this information with clinicians, patients, and families. DC Health will conduct a 60-day follow-up for all AFM PUIs, regardless of classification, including non-cases.

AFM is identified as a major global public health concern of high priority because it leads to severe paralytic disease with lifelong sequelae[4]. Quick recognition of symptoms and signs and early specimen collection with complete and rapid reporting to the health department will accelerate public health investigations and research studies to clarify the recent epidemiology of AFM and then inform treatment and prevention recommendations[6].

ADDITIONAL RESOURCES

- Acute Flaccid Myelitis | Clinical Overview of AFM | CDC
- Clinical Guidance for Acute medical Treatment of AFM | CDC
- Reporting Patients Under Investigation for Acute Flaccid Myelitis | CDC
- AFM Cases and Outbreaks| CDC

REFERENCES

1. Whitehouse ER, Lopez A, English R, et al. Surveillance for Acute Flaccid Myelitis — United States, 2018–2022. MMWR. *Morbidity and Mortality Weekly Report* 2024;73:70–76. DOI: http://dx.doi.org/10.15585/mmwr.mm7304a1
2. Dinov, D., & Donowitz, J. R. (2022). Acute flaccid myelitis a review of the literature. Frontiers in neurology, 13, 1034607. https://doi.org/10.3389/fneur.2022.1034607
3. Hardy, D., & Hopkins, S. (2020). Update on acute flaccid myelitis: recognition, reporting, aetiology and outcomes. Archives of disease in childhood, 105(9), 842–847. https://doi.org/10.1136/archdischild-2019-316817
4. Murphy, O. C., Messacar, K., Benson, L., Bove, R., Carpenter, J. L., Crawford, T., Dean, J., DeBiasi, R., Desai, J., Elrick, M. J., Farias-Moeller, R., Gombolay, G. Y., Greenberg, B., Harmelink, M., Hong, S., Hopkins, S. E., Oleszek, J., Otten, C., Sadowsky, C. L., Schreiner, T. L., … AFM working group (2021). Acute flaccid myelitis: cause, diagnosis, and management. *Lancet (London, England)*, *397*(10271), 334–346. https://doi.org/10.1016/S0140-6736(20)32723-9
5. Murphy, O. C., & Pardo, C. A. (2020). Acute Flaccid Myelitis: A Clinical Review. *Seminars in neurology*, *40*(2), 211–218. https://doi.org/10.1055/s-0040-1705123
6. Lopez, A., Lee, A., Guo, A., Konopka-Anstadt, J. L., Nisler, A., Rogers, S. L., Emery, B., Nix, W. A., Oberste, S., Routh, J., & Patel, M. (2019). Vital Signs: Surveillance for Acute Flaccid Myelitis - United States, 2018. *MMWR. Morbidity and Mortality Weekly Report*, *68*(27), 608–614. https://doi.org/10.15585/mmwr.mm6827e1

Please contact the DC Health Division of Epidemiology-Disease Surveillance and Investigation at:
Phone: 844-493-2652 | Fax: (202) 442-8060 | Email: doh.epi@dc.gov