

## Acute Flaccid Myelitis (AFM) August 2020

### Executive Summary:

**It is important to realize that this time, between August and November is the peak time for AFM. Furthermore, EMS Personnel and other First Responders should be aware of the signs and symptoms and other presentations of the syndrome, as well as how to further assess, monitor, stabilize/treat, and transport an individual (typically a child) with possible AFM. The inability to recognize and manage AFM appropriately, including transport to an appropriate hospital, may result in a worsening condition and potentially life threatening consequences. This document outlines what EMS and other Health Care Providers should know with links to resources for more information.**

In spite of all that is going on during the COVID-19 Pandemic, regular medical issues continue. There is hope that diseases and syndromes related to infectious viruses and bacteria will be decreased due to stay-at-home orders, proper masking when outside your "family bubble," adequate social distancing, and frequent handwashing. Time will tell if these practices make a difference in more than just COVID, but there are very preliminary indications that they may.

**If the pattern of the past five year continues, then 2020 will be the worst year yet for AFM or AFP (Acute Flaccid Paralysis) as it is known in International circles. Although it has only been surveilled since August of 2014, AFM seems to be on a two-year cycle, with most cases occurring in the even years.** New cases take time to be identified with their exam, lab, and imaging data submitted and then confirmed by the CDC, so the number of cases/states is likely to change. It is possible that not all cases, for any year, have been recognized by the medical community or that all suspected cases have the correct lab and imaging tests available and/or submitted to the CDC for confirmation.

AFM is a rare syndrome (a group of symptoms in a pattern that suggests a single cause) found mostly in children, but occurring in adults as well. It affects the gray matter of the spinal cord in nervous system and causes muscles and reflexes to become weak. Its case definition has evolved to encompass all age groups, and includes certain lab and imaging findings, but **the CDC and other stakeholders want those presenting with weakness in one or more limbs to be considered as a possible case.**

Back in November of 2019, we posted a BOLO to look for AFM in 2020. It also included a suggestion to follow the guidance that the CDC included in their request for ALL health care professionals (including EMT-s & Paramedics) to look for a certain set of symptoms and, when found, assess, treat as indicated, and transport for more definitive assessment and care. Missing any cases that presented to HCWs/EMS puts patients at risk for serious complications including, very rarely, death. A *CDC Vital Signs* report

stated that in 2018, 35% of patients had a delay of two or more days after limb weakness was identified before hospitalization. The writers went on to report. "AFM can progress rapidly over the course of hours or days, leading to permanent paralysis and/or the life-threatening complication of respiratory failure in previously healthy patients, so delays in care can be serious." More of this type of information & data can be found in the *Vital Signs* link here <https://www.cdc.gov/vitalsigns/afm2020/index.html> .

**AFM occurs mostly in the late summer and fall (Aug-Nov) but 2018 cases presented all the way through December.** It is thought to be related in some way to a virus, with the Enterovirus D68 (EV D68) being most suspect, but other viruses have been identified in some AFM cases and no viruses have been found in many of the cases at the time of testing. Data shows that a fever or respiratory illness preceded the onset of limb weakness about 90% of the time.

Year	Confirmed Cases	States with Confirmed Cases
<b>2020</b>	as of 7/31/20 <b>*16 (38 PUIs)</b>	<b>10 &amp; Washington, D.C.</b>
2019	<b>*46 (142 PUIs)</b>	18
<b>2018</b>	<b>236</b>	<b>41</b>
2017	37	16
<b>2016</b>	<b>153</b>	<b>39 &amp; Washington, D.C.</b>
2015	22	17
<b>2014</b>	<b>120</b>	<b>34</b>

\* indicates incomplete totals; PUI cases still under investigation

There have been 633 total CDC confirmed cases since tracking began in August of 2014. According to the CDC, "Two patients with confirmed AFM died during their acute illness, one in 2017 and one in 2020. We have also learned of deaths in cases confirmed in previous years." (CDC AFM Investigation: *Cases in the US* Page <https://www.cdc.gov/acute-flaccid-myelitis/cases-in-us.html> Last reviewed 7/31/20; Accessed 8/10/20)

The U.S. has reported the greatest number of cases but not all countries have surveillance of the symptoms in place. Canada uses AFP specifically for this syndrome and is surveilling for AFP, which should also capture the subset AFM. In other countries, AFM is known as AFP (Acute Flaccid Paralysis), often with 'non-Polio' added for distinction.

**The following information is to highlight a few specific items that all Health Care Providers, including First Responders should know about AFM. This information may make a difference in the care a sick, and at risk, person receives. The last section outlines what first responders should do to be ready to safely identify and appropriately manage a patient with possible AFM.**

1) Public Health authorities, Medical Leaders and Providers, as well as those in and around research and microbiology want all health care providers, including First Responders, to BOLO for signs/symptoms of AFM in all ages, although most of the victims are children <https://www.cdc.gov/acute-flaccid-myelitis/downloads/afm-symptoms-infographic.pdf>

### **Signs/Symptoms:**

Most Typical: **sudden onset** of one or more limbs with weakness, loss of muscle tone, and/or reflexes

Some May Have: facial drooping or weakness, slurred speech, difficulty swallowing, problems moving their eyes, drooping eyelids, and/or pain in their limbs, pain in their neck or back

Rarely: numbness or tingling and/or not be unable to urinate

Most Severe/Life Threatening: **respiratory failure** – inability to effectively use respiratory muscles to breathe or **serious neurological complications** like body temperature changes or unstable BPs

Most kids will not tell you their arm and/or leg is weak. Instead, they may just not be moving it, or say it feels funny, or hurts or tingles. Even adults may tell you that they just slept on it wrong. Be suspicious in those cases that it might be AFM. About 90% of patients will have had a viral illness (cold, flu-type) or fever in the past month, but some patients or parents might forget to mention that and there are about 10% who don't recall a viral illness at all.

With such a wide array of symptomatology, and looking for it in all age groups, the underlying cause could also be a stroke (even in children) or another neuro/muscular cause. **The most important thing to do is assure ABCs, protect any weakened or paralyzed limbs, and transport to a facility, preferably one with an MRI machine and neurology.** As always, Follow your agency's protocols and procedures. If it has not already been done, discuss AFM, and how your agency should manage it, with your Medical Director(s) and Operational Management. Encourage the use of the term AFM when discussing the symptoms with ED/ER personnel since some doctors and nurses may not be aware of it yet. If asked, suggest consulting with a neurologist for more information.

When AFM is considered/identified quickly, it can result in patients receiving the best care including appropriate individualized treatment, referral for evaluation to rehabilitation services such as PT, OT, speech and swallowing, as needed, and other specific therapies specific to the patient's needs. Also, collection of lab specimens can occur in a timely manner so that possible information is not lost as clues to the cause wane. Cases can also be reported more quickly to public health authorities so that the investigation can begin and outbreaks can be surveilled for and found.

2) **The CDC, local health departments, the AAP & AAN (American Academy of Pediatrics and Neurology, respectively), as well as other stakeholders, want to provide education and information** about AFM to parents & other caregivers, in-hospital & out-of-hospital physicians, NPs, PAs, & nurses in all fields, medics, medical assistants/techs, and anyone else who may come across patients with possible AFM. It's rare, so it's not intended to scare anyone, but everyone needs to know that it exists, the most common symptoms as well as the life-threatening ones, and what to do if they suspect it. For the parents and out-of-hospital medical providers, that means getting them to the hospital ASAP and making sure that the receiving health care provider is aware of the symptoms and concern that it's AFM. The materials are being distributed through professional continuing education as CME, CNE, as well as for other medical professions like PT and OT. Some are free. They can be found by Googling Acute Flaccid Myelitis (spelled out) CME and CEU. For parents and non-credit AFM education, there are multiple sites with information on AFM. Some resources can be found here <https://www.cdc.gov/acute-flaccid-myelitis/hcp/references-resources.html>

3) Public health and medical personnel also want health care providers to know that there is an **AFM Physician Consult and Support Portal** set up so that experienced AFM clinicians, mostly neurologists, can be consulted by medical practitioners (physicians primarily) that have a patient presenting with these types of symptoms and need assistance with a diagnosis. They also can assist with what exams to do, lab tests and imaging to run, as well as suggesting clinical therapies that may be appropriate, including early rehabilitation, on a case by case basis. This is a link to the portal: <https://bit.ly/2Y2U3VR> . It can also be found in the attached *AFM Resources & Links*.

#### 4) **What First Responders Should Do:**

A. Develop a plan with your agency and medical direction to assure that EMTs, Paramedics, and other First Responders can identify possible AFM, apply appropriate infection control measures, provide proper evaluation, management, and transport of the patient, interact with physicians and other health care providers to assure the transfer of complete information about this patient (not all health care providers may be aware of AFM and its consequences), and receive appropriate information follow-up from local health department or other authorities, as needed. Since this is an emerging syndrome and likely will have changing info and guidance, someone should be identified who will frequently look for updates and/or sign up for alerts to changes, via the CDC, AAP or other credible organization.

B. Make sure all EMTs, Paramedics and other First Responders are aware of and can recognize the signs and symptoms of AFM. This includes strongly suspecting AFM in the presence of anyone with acute weakness or paralysis of one or more limbs, loss of muscle tone and/or reflexes, or other symptoms suggesting AFM, while also realizing that there can be other neuro and/or muscular causes that also may need specific care (e.g. a stroke). See #1 above for more possible signs & symptoms of AFM.

C. When confronted with a possible case of AFM, ideally using dispatch information, **use Standard plus Droplet plus Contact Precautions while assessing, treating & transporting these patients.** Isolate the non-disposable equipment that is used so that it can be appropriately cleaned and disinfected. Utilize single use (disposable) supplies or equipment when available. There is no need to discard contaminated non-disposable equipment; it should be easy to disinfect.

D. Evaluate and monitor patient status with particular attention to their ability to protect their airway and maintain adequate breathing, the safety of the affected limb(s) since they can't protect or remove the limb(s) from harm, and provide other supportive care as indicated.

E. Transport possible AFM patients to an appropriate hospital; most patients will be pediatric and need MRI, although this is not emergent like a CT Scan for a possible stroke would be.

F. Provide decontamination of the areas and equipment on which respiratory droplets (from talking, coughing, sneezing, or singing) or other body fluids may have contacted or settled onto, with a disinfectant known to kill a wide array of viruses including enteroviruses.

G. Follow developments of this syndrome for changes in recommendations.

**There have been previous AFM posts to this Health Intelligence Page. Please see those articles for background, as well as more detailed information on AFM. These articles can be found by clicking on the button marked 'View all Posts & Resources,' found at the bottom of the *In the News* category, and then entering Acute Flaccid Myelitis in the search box. The following dates contain the most current info: 11/25/19 (2), 10/12/18 (2) and 3/1/18, (2), & 7/31/18. There is an *AFM Resources & Links* page attached to this document.**