

In-the-News: A BOLO & What Can be Done for Acute Flaccid Myelitis (AFM) in 2020

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. The search for patients presenting with symptoms associated with AFM is to make sure these patients receive prompt medical care, appropriate testing, and follow-up. There is no specific lab test to identify AFM. It is also essential, from a disease surveillance perspective, that the more cases can be identified and studied, the more likely a definitive cause, test, and treatment can be identified. It occurs mostly in the late summer and early fall 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. A CDC follow up on a small portion of the cases, suggests that the majority of patients have some return of movement and function, a small number of patients have complete recovery of limb function after about four months post onset of limb weakness, and another small number report no improvement in limb function. Some, whose muscles and/or reflexes of breathing were affected, remain on ventilators.

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. The case number for 2019 is lower than 2017 but this number represents only the cases as of 8/31/19. 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.

Year	Confirmed Cases	States with Confirmed Cases
2020	?	?
2019	22 (as of 8/31/19)	9
2018	236	41
2017	37	16
2016	153	39 & Washington, D.C.
2015	22	17
2014	120	34

There have been 590 total CDC confirmed cases since tracking began in August of 2014. According to the CDC, “No deaths were reported during the acute illness of patient with confirmed AFM who had limb weakness onset in 2018; however, there were two reports of patients confirmed with AFM in 2018 who had expired months after limb weakness onset. 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 10/7/19; Accessed 10/21/19)

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

However, this article is not actually about AFM and all of the important information about an emerging syndrome. Instead, this article is to highlight a few specific items that all health care providers, including first responders should know. This information may make a difference in the care a sick (and at risk) person receives. There are five (5) different sections included in this latest update. They are designed to provide important information for anyone in the health care field, including first responders. **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 (be on the lookout) for signs/symptoms of AFM in all ages, although most of the victims are children.** This means watching for **sudden onset of one or more limbs with weakness or paralysis, loss of muscle tone, and/or reflexes**, which are the most common symptoms, particularly if identified early. Other signs/symptoms that may present with facial drooping or weakness, slurred speech, difficulty swallowing, problems moving their eyes, and/or tingling or pain in their limbs, be unable to urinate, or have trouble breathing because the muscles of breathing aren’t working properly.

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.

Note: the CDC points out that clinicians should:

- A. Strongly suspect AFM in a patient that presents with acute flaccid limb(s) weakness, particularly (but not limited to) following a respiratory illness or fever, and between August and October.
- B. Put these patients in the hospital immediately (there does not need to be a CDC diagnosis to do so), begin collecting lab specimens, diagnose, and begin medical management).
- C. Alert the local health department and send lab specimens, imaging and medical records to them.
- D. Contact the CDC for questions about AFM, how to collect appropriate specimens, and report cases to them.

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 pertinent 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 of those sites are included, marked in red, on the *AFM Resources & Links* page attached with this document.

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) In November of 2018, the **Director of the CDC established the AFM Task Force to facilitate the performance and review of the research to find the cause of AFM, as well as review current practices, provide revised clinical and other guidance, and how to improve the prognosis.** The Task Force is made up of a group of public health experts, physicians, and scientists, from throughout the US, from various institutions, agencies, and disciplines (i.e. pediatrics, neurology, virology, microbiology, public health, etc.). Their bios, available in a link from the Resources & Links published with this document, suggest that this project is in excellent hands.

5) **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), 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, though 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: 10/12/18 (2) and 3/1/18, (2), & 7/31/18. There is an *AFM Resources & Links* page attached to this document.