

In the News Updates on the Outbreaks of Ebola Virus Disease, Acute Flaccid Myelitis, and E Coli O157:H7

Note: for each of these diseases, there have been previous posts to this Health Intelligence Page. Please see those articles for background, as well as more detailed information on each disease. **You can find these articles by clicking on the button marked 'View all Posts & Resources,' found at the bottom of the *In the News* category, and then looking for the specific disease that matches the dates listed at the end of each of the diseases covered in this update**

Ebola

Ebola Virus Disease (EVD) continues to increase in case number and -geographic spread in the DRC (Democratic Republic of the Congo). Per the DRC Ministry of Health, as of 12/17/18, the latest numbers include a total of 539 cases, with 491 of them confirmed and 48 which are probable. The official death toll is 315 since this outbreak began in August, with 267 confirmed as being from Ebola, and 48 listed as probable for it (some bodies are buried before, or are otherwise unavailable, for testing). The official number that have survived is 186. Seventy-five (75) cases are currently under investigation. There were 8 new confirmed cases reported on 12/17. Four of the five cases (80%) reported by the DRC, were considered community deaths since they occurred away from a healthcare or Ebola Treatment Center. Community deaths are a greater risk for spread within the community. As of 12/11/18, the WHO has announced that there have been 51 cases of Ebola in health care workers (49 confirmed and 2 probable) with 17 deaths. There have been 48,048 contacts and at-risk individuals vaccinated since the outbreak began, with the unlicensed but emergency-approved vaccine from Merck. Vaccinations continue and treatments, that have been shown to be effective previously or during this outbreak, are being utilized.

There have been several barriers to controlling this outbreak (now the 2nd largest outbreak ever), including community resistance to health care workers and sanitary practices, vandalism (often destruction of sanitary supplies and the digging up of the dead which increase the risk of spread), violence (some aid workers have been threatened or killed), and patients and contacts disappearing from health care and treatment sites, often with the help of family and friends, and a huge risk for exposure and more spread of the disease. There has been ongoing outreach to educate those that are resistant, including using a soccer tournament to bridge the gap between officials and youth in the area who have been leading the resistance. There are also poor infection control practices in and around some of the private and public health centers, which risks continued spread, and puts health care and investigative personnel at risk. Another confounding factor is the other disease epidemics that the DRC currently has (cholera, malaria and vaccine-derived polio).

The WHO has identified the area (both nationally and regionally) as "high" as far as risk assessment goes due to the river, travel, and proximity of the surrounding area and bordering counties. These areas include the whole of the DRC, as well as the bordering countries Uganda, Rwanda, and South Sudan. However, they consider global risk to be low. The WHO and its partners are assuring that the proper procedures are in place at the border, in adjacent health care centers, and have staged knowledgeable personnel, in surveillance and preparedness, throughout these areas to prevent further geographic spread. Further, the WHO has advised against any restriction of travel or trade based on the current situation. No country has put up any travel restrictions at this time. The WHO and its partners will continue to assess the situation and are ready to change the recommendations should the situation worsen and global spread become more likely. As always, travelers should seek advice from professionals, before and during travel, as necessary.

Previous posts: Ebola articles with the dates 8/2, 8/28, and 10/18/18.

What First Responders Can Do:

1. Monitor the WHO and CDC websites for updates and changes in areas of concern, travel restrictions, or other recommendations.

2. Always follow Standard Precautions (used to be called Universal Precautions) and add N95 masks if there is cough or respiratory droplet production, and a gown if there is bleeding from an orifice or other bodily discharge.
3. Know your agency's plan for specific illnesses such as Ebola. There are plenty of sample plans available for review and adaptation if your agency does not have one.

Acute Flaccid Myelitis

Acute Flaccid Myelitis (AFM), a very rare syndrome affecting the spinal cord and causing muscle weakness/paralysis, continues to be identified. The number of cases for 2018, is now greater than any previous year, since it was first identified in larger numbers in 2014 and the CDC began to track it. To look for cases that may have been missed, the CDC is working with experts to ID patients via charts and MRIs, that had symptoms and changes on MRI meeting what is now the standard AFM case definition. Since 2014, there have been cases every year, with significantly higher numbers in the even years. Typically, most cases occur in the August to October time frame, which suggests that the case numbers should have peaked for this year, but seven new confirmed cases were added to the total last week, suggesting a longer season. Almost all patients are pediatric. Through December 14, 2018, there have been 165 confirmed cases in 36 states; for comparison, in 2017, there were 35 confirmed cases amongst 16 states. So far, there have been a total of 320 reports to the CDC of patients under investigation (PUIs) that are being followed by local and state health departments, with some of those investigations still in process.

The CDC lists it as a confirmed case when the standard case definition is met of a rapid onset of flaccid weakness in one or more limbs, a gray matter spinal cord lesion on MRI, and a certain level of WBCs in the CSF. It is a probable case if there is limb weakness and a certain level of WBCs in the CSF. Over 90% of cases had some type of upper respiratory infection and/or fever in the month preceding the onset of limb weakness. Most patients recover well, although some have ongoing neurological issues. Others may have weakness in only one extremity, while some have more significant paralysis, perhaps including the muscles of breathing. There have been no known deaths. All those with confirmed AFM have been hospitalized and 59% spent time in the ICU.

There is no known specific cause or treatment, although intensive research is being conducted to determine the cause(s). It's been known that certain viruses cause AFM, including West Nile virus and some enteroviruses, like poliovirus and EV-A71. The 2014 increase in AFM cases coincided with a large outbreak of EV-D68 but only four (4) patients have been found to have viruses in their spinal fluid. All other CSF samples were negative for any pathogen. Other body fluid samples, such as respiratory droplet and stool, have showed a variety of viruses. **No one with AFM has tested positive for polio.**

There is no known cure. Patients are treated by neurologists on a case-by-case basis, using therapies known to work in other neurological diseases.

Previous posts: AFM articles with the dates 10/12/18 (2) and 10/12/18.

What First Responders Can Do:

1. When confronted with a possible case of AFM, use Standard **plus** Respiratory **plus** Contact Precautions when assessing, treating & transporting these patients. Provide decontamination of the areas that respiratory droplets or other body fluids may have settled, with a disinfectant known to kill a wide array of viruses including enteroviruses.
2. Develop a plan with your agency on how to assure that patients with possible AFM are taken or sent for follow up at medical facilities, preferably one with MRI capabilities.
3. Follow developments of this syndrome for changes in recommendations.

Links to more information from the CDC:

General Information: <https://www.cdc.gov/acute-flaccid-myelitis/about-afm.html>

About 2018 cases: <https://www.cdc.gov/mmwr/volumes/67/wr/mm6745e1.htm>

and <https://www.cdc.gov/acute-flaccid-myelitis/afm-cases.html>

E. Coli O157:H7 in Romaine Lettuce & Other Vegetables

There has been an update posted by the CDC with news about the potential farm at least some of the contaminated romaine lettuce came from, a change in recommendations for buying, selling, or eating romaine lettuce, and an update in the case numbers.

As of December 18, 2018, there have been a total of 59 cases reported in the US throughout 15 states, with 23 hospitalizations [two [2] people with hemolytic uremic syndrome (HUS)], and no deaths. These numbers are through November 16, so more cases will likely be reported since sampling, testing, and reporting can take several weeks. Canada Health is reporting that, as of December 13, 2018, there have been 28 confirmed cases, in 4 provinces, with the same DNA footprint as the US. Ten patients have been hospitalized and [two (2) with HUS], and there have been no deaths.

The Adam Bros. Farming, Inc. has added additional produce to the recall of their romaine lettuce since those may also have been contaminated with the same water. This produce includes red leaf lettuce, green leaf lettuce, and cauliflower products that were harvested between November 27th and 30th.

The CDC updated the warning to people in the US to not buy or consume (and for retailers and restaurants not to sell or prepare), any romaine lettuce harvested from the Central Coastal growing region, in the California counties of Monterey, San Benito, and Santa Barbara.

In fact, the CDC is even more specific. The only romaine lettuce that is OK to buy, sell, prepare, or eat is that which is labeled on each individual package with the harvest location by region. If there is no label designating where it was grown, it should not be bought, sold, or consumed. The areas not linked to this outbreak include the region near Yuma, Az, the California desert region near Imperial and Riverside Counties, all of Florida and Mexico. If you do not know where the lettuce is came from – throw it away, and then wash and disinfect the refrigerator bin and shelves. Lettuce that has been grown in greenhouses or hydroponically is also safe to eat. Mixes of greens (i.e. Spring Mix) or Cesar Salad should not be used.

The CDC also recommends to health care providers that, although E. Coli is bacteria, the O157:H7 strain should not be treated with antibiotics and antibiotics should not be given/taken until this strain has been ruled out. Some studies suggest that using antibiotics increase the risk of HUS and the benefit of using antibiotics has not been clearly demonstrated in the research. Confirmation testing is done with a stool sample(s).

Previous posts: E. Coli O157:H7 articles with the date 11/21/18.

What First Responders Can Do:

1. As always, avoid contact with gastrointestinal body fluids (emesis, stool) and use Standard **plus** Contact Precautions.
2. Wash and decontaminate any surfaces with a disinfectant approved for use on E. Coli.
3. Assess patients with ongoing diarrhea for dehydration or other complications.

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