Immune Deficiency Foundation Recommendations
Regarding the Outbreak of Enterovirus D-68

The media has recently reported several accounts of outbreaks of lung infections caused by a virus called enterovirus (EV) D-68. The initial cases were found primarily in the center of the country and it is now spreading more widely. Enteroviruses are a large group of similar viruses that are typically the cause of respiratory symptoms or “bad colds” during the summer months, although they can rarely cause more severe systemic illness. EV outbreaks are common nearly every year and we all have been exposed and probably infected once or more times. The Centers for Disease Control (CDC) does not have evidence at this time to indicate that this outbreak is unusually severe compared with previous years and there is no evidence yet to indicate that individuals with primary immunodeficiency (PI) are experiencing more severe illness than in previous EV outbreaks.

About Enteroviruses

- EV D-68 has only rarely been encountered in North America, so less is known about it than the other EVs.
- Because of this relative lack of experience with EV D-68, much of the information currently available from the CDC is generalized from experience with other more frequently seen EVs.
- Most EV outbreaks peak in summer or early autumn and then tend to wane.
- Transmission is primarily by droplet aerosol, although it is also found in the stools and can persist on surfaces, sometimes for a few days.
- EVs most frequently cause respiratory symptoms in children, but adults are also commonly infected. Many infected individuals remain asymptomatic or have mild colds.
- It is spread from person to person, but has not generally caused school outbreaks.
- The most common place for transmission to occur is in the home when one individual becomes infected and brings the virus home to infect the entire household.
- It is not clear how long an infected person will continue to shed virus. Some individuals infected with certain enteroviruses have shed virus for weeks after recovery, but it is not known if this will apply to D-68.
- Enteroviral infection is usually restricted to respiratory and gut epithelium. If it becomes systemic it can cause severe CNS (Central Nervous System), liver, heart and other disorders that can result in long lasting disability or rarely even death.
The Current Outbreak

- Severe respiratory symptoms, especially in children and teens with a history of asthma or asthmatic bronchitis.
- No fatalities so far, but many ICU hospitalizations for respiratory distress.
- CDC does not yet have enough evidence to suggest this year’s outbreak is atypically severe.
- As with outbreaks of other EV strains, there are many more children than adults becoming infected/symptomatic with D-68.
- In previous small outbreaks, D-68 has caused some cases of encephalitis.
- Because D68 is a rarely isolated enterovirus, we presume that antibody titers in the general plasma donor population are probably very low. It is unknown if IgG replacement therapies contain any anti-EV D-68 antibodies.

What is the risk to Individuals with Primary Immunodeficiency?

- EV outbreaks occur almost every year in many parts of the country so nearly everyone has been exposed and probably infected several times.
- If this pattern holds for EV D-68, we believe that it is not likely that most individuals with PI will experience severe systemic problems with this outbreak.
- Individuals with chronic obstructive lung disease (COPD) or asthma should keep a high level of awareness, take all their prescribed medications to control their illness and seek medical attention immediately if they are in a community with a D-68 outbreak and develop signs of a respiratory infection.
- At this time the CDC does not think that individuals with CVID are at increased risk from this outbreak compared with previous outbreaks.
- We do know that some individuals with agammaglobulinemia have developed serious EV infections including encephalitis, while those with hypogammaglobulinemia (CVID) and most other PI have generally not experienced similar serious problems with EV.
- It is not yet known if immunoglobulin (Ig) products contain neutralizing antibodies to EV D-68. IDF is working with the CDC to test several lots and brands of intravenous immunoglobulin (IVIG) and subcutaneous immunoglobulin (SCIG) to determine their protective status. We expect this testing to take several weeks.
- It is believed that IgG replacement therapy should provide some protection from serious systemic infection with EV, but we do not have enough data yet with EV D-68 to know that this will be the case, particularly for someone with agammaglobulinemia.
- There is no vaccine or any specific anti-viral drugs effective against D-68.
- The best protective advice that we can give now is to avoid contact with anyone who is ill with a respiratory infection and follow the CDC’s recommendations listed below about personal hygiene, surface decontamination, avoidance of sick persons, etc.
- The only individuals that we currently believe should consider more stringent avoidance of exposure would be those with agammaglobulinemia (XLA, SCID and post BMT SCID patients who were engrafted with T cells but not B cells).
How can I protect myself and my children?

You can help protect yourself and family from respiratory illnesses by following these steps:

- Wash hands often with soap and water for 20 seconds, especially after changing diapers.
- Avoid touching eyes, nose and mouth with unwashed hands.
- Avoid close contact (kissing, hugging, and sharing cups, eating utensils, towels and bedding) with people who are sick.
- Cover your coughs and sneezes
- Disinfect frequently touched surfaces, such as toys and doorknobs, especially if someone is sick.
- Stay home when you’re sick

For the most susceptible individuals like those with XLA

- If a D-68 outbreak is known to be active in your school, workplace or church consider avoiding those places until the outbreak has cleared.
- If D-68 is spreading in your community and someone in your household becomes ill with a respiratory problem, consider separating the individual with XLA from the sick individual by having the XLA temporarily move to live for a few days with relatives or friends who do not have any sick individuals in their households.
- If this is not possible, try to keep the sick individual completely separated from the XLA patient using a separate bathroom and towels and do not allow interaction between them or sharing of items such as toys, clothing, bedding, food and drinks. If the infected person is coughing, make sure to avoid close association and regularly clean all surfaces the person may have touched. In general during this outbreak, be attentive to good hand washing and use Purell and Clorox cleaning wipes and hand sanitizers on surfaces and hands frequently.

For more information, the CDC maintains a website about this EV D-68 outbreak and updates the information almost daily. See: www.cdc.gov or www.cdc.gov/non-polio-enterovirus/about/EV-D68.html?s_cid=cdc_homepage_whatsnew_001