

From Under the Microscope

Enterovirus D68

Enterovirus 68 has recently been in the news because hospitals across the country are being swamped with unusually high numbers of children suffering from a respiratory illness caused by human enterovirus-D68. In particular, children suffering from asthma.

Enterovirus 68 (EV68, EV-D68, HEV68) is a member of the Picornaviridae family, an enterovirus. EV68 is one of the more than hundred types of enteroviruses, a group of ssRNA viruses containing the polioviruses, coxsackieviruses, and echoviruses. Enteroviruses isolated more recently are named with a system of consecutive numbers: EV68, EV69, EV70, and EV71, etc. It is an unenveloped, positive-sense single-stranded RNA virus. Enteroviruses can cause a wide variety of illness in humans, from flu-like symptoms to polio. Unlike all other enteroviruses, EV68 displays acid lability and a lower optimum growth temperature, both characteristic features of the human rhinoviruses.

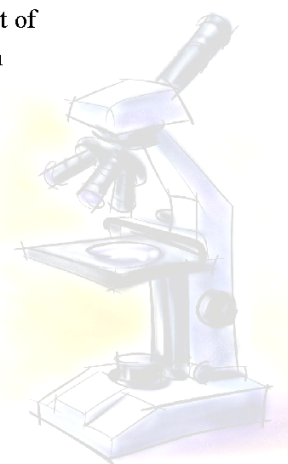
EV-D68, was first discovered in 1962 in California. But until now, it has only been tied to smaller clusters of disease around the U.S. This is the first time it's caused such widespread misery, and it seems to be particularly hard on the lungs. The typical enterovirus season runs from July through October. As of Sept. 19, the CDC has confirmed 160 cases of EV-D68 in 22 states.

EV-D68 can cause mild to severe respiratory illness. Mild symptoms may include fever, runny nose, sneezing, cough, and body and muscle aches. Unfortunately, in the beginning it's difficult -- if not impossible -- to tell the difference between a regular cold and this type of virus. Most of the children who got very ill with EV-D68 infection in Missouri and Illinois had difficulty breathing, and some had wheezing. Many of these children had asthma or a history of wheezing.

Since EV-D68 causes respiratory illness, the virus can be found in an infected person's respiratory secretions, such as saliva, nasal mucus, or sputum. EV-D68 likely spreads from person to person when an infected person coughs, sneezes, or touches contaminated surfaces. EV-D68 can only be diagnosed by doing specific lab tests on specimens from a person's nose and throat. Some state health departments and CDC can do this sort of testing. CDC recommends that clinicians only consider EV-D68 testing for patients with severe respiratory illness and when the cause is unclear.

There is no specific treatment for people with respiratory illness caused by EV-D68.

Most people recover without any treatment. For mild respiratory illness, you can help relieve symptoms by taking over-the-counter medications for pain and fever. You can help protect yourself from respiratory illnesses by washing hands often with soap and water. Disinfect frequently touched surfaces, such as doorknobs, especially if someone is sick. There are no vaccines for preventing EV-D68 infections.



Submitted by: Dr. Chad El Zayaty