



Baystate Children's Hospital



Enterovirus D68 Information for Families¹

Runny nose, cough and congestion are sweeping across the country. You know this because you've seen it on the news, on social media feeds, and possibly even in your own home. It happens this time every year. Ragweed counts and mold spores rise, asthma and allergies act up, and virus-sharing kids return to school, get sick, and lovingly transmit their germs to moms and dads and the rest of the community.

But this year is different.

Here at Baystate Children's Hospital, we have seen a larger number of patients with respiratory complaints compared to a typical September. We have also seen more severe cases than usual, with several children wheezing and requiring admission to the hospital. Some need intensive care. Reports from other states starting in the Midwest and moving east are similar.

Recently, the Center for Disease Control identified Enterovirus D68 (EV-D68) causing infection in children in Kansas City and Chicago, as did the Iowa Department of Public Health in Iowa. Samples from Baystate Children's Hospital have been sent to the CDC and are still pending (as of this writing), but none of us should be surprised to hear the official announcement that EV-D68 has arrived

So what is Enterovirus D68?

Until now, EV-D68 was an uncommon member of the enterovirus family of microorganisms. You know a few of its relatives—Rhinovirus (a virus that causes the common cold), Coxsackie virus (famous for hand foot mouth disease) and the once-feared and still-respected Poliovirus. Discovered in 1962, EV-D68 has kept a relatively low profile, causing only six small outbreaks between 2005 and 2011 in the Philippines, Japan, the Netherlands, and the United States. Because it was rare, few laboratories are set up to test for EV-D68, which explains why it took a while to figure out which virus is making so many kids sick.

How is EV-D68 spread?

Although it has not been thoroughly studied, EV-D68 likely spreads through respiratory droplets (in sneezes and coughs) and oral secretions. Enteroviruses are also known to infect the GI tract, so transmission through stool is also possible. Bottom line: the virus appears to spread easily through close contact with an infected person, and prevention strategies include staying away from sick people, covering coughs, and frequent hand washing with soap and water.

What symptoms does Enterovirus D68 cause?

The current outbreak of EV-D68 appears to primarily affect the respiratory tract. This means it causes runny nose, mild sore throat, cough, and congestion. Children with asthma have a high risk of wheezing with this virus (as they do with all respiratory viruses). In addition, there have been many cases of children wheezing who do not have a history of asthma. Wheezing is caused by inflammation in the small airways of the lungs, and swelling in these passages restricts the flow of air. The result is a soft, high-pitched sound, especially heard when breathing out.

EV-D68 has the potential to cause fever, abdominal pain, vomiting, diarrhea, and rash, but so far these have not been seen much in the current outbreak. EV-D68 has also been the cause in past outbreaks of polio-like paralysis. This is extremely rare and has not been reported in any state at this time.

What causes similar symptoms? And how can we tell the difference?

Infection with any one of the many common respiratory viruses can result in similar symptoms.

Allergies are another cause of runny nose, cough, and wheezing this time of year. Since there is no universally available test for EV-D68, there is no sure way to differentiate it from other possible causes. Public health officials will send samples to the CDC in an effort to track the spread of the virus, but they won't test everyone. Since there is no specific treatment for EV-D68 and since respiratory symptoms (regardless of cause) are treated the same, there is no reason to test everyone for this particular virus. If an outbreak of EV-D68 is identified in your area, and your child has symptoms typical of EV-D68, there is a good chance your child is infected with the virus.

Why are some kids experiencing severe disease?

At this time, we don't know for sure. There are many possibilities. One likely explanation is that children in affected areas have not had previous exposure to this virus and do not have immunity against it. Scientists will continue to investigate the current outbreak, and future research will likely focus on the biology of EV-D68 infection. Until then, we only know what we see... that some kids are getting sick with severe respiratory symptoms, and the likely culprit is EV-D68.

How is EV-D68 treated? When should we go to the emergency room?

The vast majority of children will only experience mild upper respiratory symptoms similar to the common cold. These symptoms last about a week, and treatment is supportive: remove mucus from the nasal passages, ensure plenty of rest, and encourage fluids. Children who develop wheezing, difficulty breathing, unusual rashes, persistent vomiting or prolonged fever should see a doctor. Really, if you have any concern at any time, it's always a safe bet to touch base with your child's primary care provider. Remember- no cold medicines for children less than six years old; ibuprofen and acetaminophen are ok to give at any age.

Children with severe respiratory symptoms (wheezing, difficulty breathing) need to be seen right away. If your child is experiencing severe distress, call 911. Otherwise, call your doctor to decide where it would be best for your child to be seen.

If your child only has cold-like symptoms, it really is best to touch base with your regular doctor first. By filling urgent care centers and emergency departments with children who have minor symptoms, it becomes more difficult to care for those who need immediate attention.

Should we panic?

Of course not.

Runny nose, cough and congestion are common symptoms in the fall. You know this. And most kids with EV-D68 will do just fine and feel better in a few days. However, there is the potential for severe disease. Other than those with a history of asthma or underlying lung abnormalities, there is no way to predict which children will have symptoms which could get a lot worse, so keep a close eye on your child (you were going to do that anyway, right?).

If he or she begins to have severe wheezing or difficulty breathing, call 911 or bring them immediately to the Pediatric Emergency Room. If the symptoms are mild to moderate, call your regular doctor. If your regular doctor instructs you to go, then visit The Sadowsky Family Pediatric Emergency Department at Baystate Children's Hospital.

Is there a shot to prevent this?

Not at this time. But the rapid spread of a potentially-dangerous virus should serve as a wakeup call for all of us. There was a time when viral-mediated diseases like smallpox and measles and polio wreaked havoc on American children. Thanks to immunizations, those days are largely behind us. However, if we let down our guard, the rapid-fire spread of EV-D68 is a clear example of how fast and furious infectious disease can roam through an unprotected community.

1. Adapted from a publication by Mike Patrick, MD, **Nationwide Children's Hospital** Published [September 9, 2014](#) in: [Diseases & Conditions](#)