Health Basics

Respiratory Syncytial Virus (RSV)

What is respiratory syncytial virus?

Respiratory syncytial virus is a common cause of respiratory illness in babies and young children—most kids get it before age 2—but it can affect people of any age. RSV typically circulates during the fall, winter and early spring, causing annual outbreaks. It usually causes cold-like symptoms, but infants and older people are at greater risk for serious illness. An estimated 58,000 children under age 5 are hospitalized due to RSV annually, according to the Centers for Disease Control and Prevention (CDC).

How does RSV spread?

RSV is typically transmitted via contact with saliva, nasal discharge or respiratory droplets. The virus can survive on surfaces for several hours. Most people with RSV are contagious for about a week, though the duration may be longer in infants and immunocompromised people. Hand washing, covering your mouth and nose when you sneeze or cough, cleaning surfaces and objects and avoiding crowds can reduce the spread of RSV. People who are sick should stay home from school or work. Some experts recommend wearing face masks, but their effectiveness is not clear, and this can be difficult for young children and is not advised for infants. RSV does not confer long-lasting immunity, and people can get the virus more than once.

What are the symptoms of RSV?

RSV typically causes a cold-like illness, but it can sometimes cause more severe lower respiratory infections. Symptoms may include a runny or stuffy nose, sore throat, cough, sneezing, wheezing (particularly in children), loss of appetite, fever, headache and irritability or decreased activity in infants. However, symptoms may be subtle in babies, and most adults with RSV have mild or no symptoms. People with more severe cases may develop pneumonia (lung inflammation), and children may develop bronchiolitis (inflammation and narrowing of small breathing passages).

What are the risk factors for severe RSV?

Severe RSV respiratory illness occurs most often in infants younger than 6 months; around 2% of babies in this age group may require hospitalization, according to the CDC. Premature infants, immunocompromised children and children with chronic lung disease, congenital heart disease or neuromuscular disorders are considered at high risk. Exposure to second-hand smoke is also a risk factor, while breastfeeding is protective. Among adults, those over age 65 and those with

compromised immunity or underlying conditions, such as chronic lung or heart disease, are at greatest risk.

How is RSV diagnosed?

The symptoms of RSV resemble those of other respiratory illnesses, including colds, flu and COVID-19. Testing is the only sure way to diagnose RSV. PCR or antigen tests may be done using fluid samples from the upper or lower respiratory tract. Antigen tests are highly sensitive for infants and young children but much less so for older children and adults. Some tests can differentiate between RSV subtypes A and B, but the clinical significance of these subtypes is unclear, according to the CDC. In some cases, a chest X-ray may be done to look for lung involvement.

How is RSV treated?

Most healthy infants, children and adults with RSV will have mild to moderate illness, and symptoms can be managed at home without specific treatment. Over-the-counter medications may be used to relieve pain and reduce fever. Drink plenty of fluids and keep the air moist with a humidifier. Most children and adults recover in about a week.

Infants and young children who are at risk for severe illness may receive preventive therapy during RSV season using a monoclonal antibody called palivizumab. There are currently no antiviral medications specifically approved for RSV—though ribavirin is sometimes used in severe cases—and antibiotics are not effective against viruses. Children and adults with severe disease may require hospitalization, and some will need oxygen therapy or mechanical ventilation.

Is there a vaccine for RSV?

There are currently no approved vaccines for RSV, but several candidates are under development. A vaccine from Pfizer was shown to prevent severe respiratory symptoms in young infants when given to their mothers during late pregnancy. Two protein-based vaccines were recently shown to reduce the risk of symptomatic illness in adults ages 60 and older. So far, the vaccine candidates furthest along in development appear to be generally safe and well tolerated.

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