

MDHHS Tip Sheet: Respiratory Syncytial Virus

Background

Respiratory syncytial (sin-SISH-uhl) virus, or RSV, is a common respiratory virus that usually causes mild, cold-like symptoms, including runny nose, coughing, sneezing, wheezing, and fever. These symptoms usually appear in stages and not all at once. In very young infants with RSV, the only symptoms may be irritability, decreased activity, and difficulty breathing. Most people recover in a week or two, but RSV can be serious, especially for infants and older adults.

RSV is the most common cause of bronchiolitis (inflammation of the small airways in the lung) and pneumonia (infection of the lungs) in children younger than 1 year of age in the United States. RSV can also make chronic health problems worse. For example, as a result of RSV infection, people with asthma may experience asthma attacks and people with congestive heart failure may experience more severe symptoms.

RSV can spread when an infected person coughs or sneezes, producing virus-containing respiratory droplets that gets into the eyes, nose, or mouth of others. It can also spread through direct contact, like kissing the face of a child with RSV or by touching surfaces that have the virus on it, and then touching the face before washing hands. RSV can survive for many hours on hard surfaces.

People infected with RSV usually show symptoms within 4 to 6 days after getting infected and are usually contagious for 3 to 8 days. However, an infected person may become contagious a day or two before they start showing signs of illness. Some infants, and people with weakened immune systems, can continued to spread the virus even after recovering, for as long as four weeks.

RSV in Infants

RSV infection can cause severe illness in infants and young children. Each year in the United States, an estimated 58,000 children younger than 5 years old are hospitalized due to RSV infection. Those at greatest risk for severe illness from RSV include:

- Premature infants
- Very young infants, especially those 6 months and younger
- Children younger than 2 years old with chronic lung disease (e.g., bronchopulmonary dysplasia (BPD)) or congenital heart disease
- Children with asthma
- Children with weakened immune systems
- Children who have neuromuscular disorders, including those who have difficulty swallowing or clearing mucus secretions

Virtually all children have been infected with RSV by the time they are 2 years old. Most of the time RSV will cause a mild, cold-like illness, but it can also cause severe illness such as:

- Bronchiolitis (inflammation of the small airways in the lung)
- Pneumonia (infection of the lungs)
- One to two out of every 100 children younger than 6 months of age with RSV infection may need to be hospitalized. Those who are hospitalized may require oxygen, intubation, and/or mechanical ventilation. Most improve with this supportive care and are discharged in a few days.

RSV in Older Adults

RSV infections can be dangerous for certain adults. Each year, it is estimated that between 60,000-120,000 older adults in the United States are hospitalized and 6,000-10,000 of them die due to RSV infection. Adults at highest risk for severe RSV infection include:

- Older adults, especially those 65 years and older
- Adults with chronic heart or lung disease
- Adults with weakened immune systems

RSV can sometimes also lead to worsening of other conditions such as:

- Asthma
- Chronic obstructive pulmonary disease (COPD): chronic disease of the lungs, making it hard to breathe
- Congestive heart failure: when the heart cannot pump enough blood/oxygen through the body

Older adults who get very sick from RSV may need to be hospitalized. Some may even die. Older adults are at greater risk than young adults for serious complications from RSV because immune systems weaken with age.

Reporting in Michigan

While individual cases of RSV are not mandated to be reported in Michigan, the Michigan Disease Surveillance System (MDSS) has an RSV-specific form for any cases that are voluntarily reported. Some laboratories will report positive cases, and these can be closed in MDSS as confirmed, completed. If clusters of cases are identified, LHDs should investigate further. Outbreaks of any disease, including RSV, should be reported in MDSS using the [aggregate form](#).

RSV-Net

Respiratory Syncytial Virus Hospitalization Surveillance Network (RSV-NET) conducts population-based surveillance for laboratory-confirmed RSV hospitalizations among children and adults as a part of CDC's Respiratory Virus Hospitalization Surveillance Network (RESP-NET). RSV-NET data are collected from acute-care hospitals across 58 counties in 12 states, including Michigan. Data are reported during the October 1 – April 30 season each year and the public, interactive dashboard of RSV-associated hospitalization rates is available here: <https://www.cdc.gov/rsv/research/rsv-net/dashboard.html>

General Recommendations

RSV season occurs each year in most regions of the U.S. during fall, winter, and spring. In the past few years, RSV has been peaking earlier in the year than what was experienced historically before the COVID-19 pandemic. If you have contact with an infant or young child, especially those who were born prematurely, are very young, have chronic lung or heart disease or a weakened immune system, you should take extra care to keep the infant healthy. Below are general recommendations to prevent the spread of most respiratory diseases, including RSV:

- **Wash your hands often** with soap and water for at least 20 seconds, and help young children do the same. If soap and water are not available, use an alcohol-based hand sanitizer.
- **Avoid touching your eyes, nose, and mouth** with unwashed hands.
- **Avoid close contact**, such as kissing and sharing cups or eating utensils with people who are sick.
- **Cover your mouth and nose** with a tissue or your upper shirt sleeve when coughing or sneezing. Throw the tissue in the trash afterward and wash your hands.

- **Clean and disinfect surfaces and objects** that people frequently touch, such as toys, doorknobs, and mobile devices. When people infected with RSV touch surfaces and objects, they can leave behind germs. Also, when they cough or sneeze, droplets containing germs can land on surfaces and objects.
- **Stay home** from work, school, and public areas when you are sick. If you need to be around others, wear a high-quality mask.

Setting-Specific Recommendations

Child-Care Settings

Many of the layered prevention strategies described for preventing COVID-19, can help prevent the spread of other infectious diseases, such as RSV and influenza (flu), to support healthy learning environments for all.

Staying Up to Date on Vaccinations

Schools, Early Care and Education (ECE) programs, and health departments should promote equitable access to vaccination. Staying up to date on [routine vaccinations](#) is essential to prevent illness from many vaccine-preventable diseases. Not only do vaccines provide individual-level protection, but high vaccination coverage of COVID-19 and influenza reduces burden on people, schools, healthcare systems, and communities.

Staying Home When Sick

People who have respiratory symptoms (e.g., cough, fever, sore throat) or gastrointestinal symptoms (e.g., vomiting, diarrhea) should stay home. Staying home when sick can lower the risk of spreading infectious diseases to other people.

In accordance with applicable laws and regulations, schools and ECE programs should allow flexible, non-punitive, and supportive paid sick leave policies and practices. These policies should support workers caring for a sick family member and encourage sick workers to stay home without fear of retaliation, loss of pay, loss of employment, or other negative impacts. Schools should also provide excused absences for students who are sick, avoid policies that incentivize coming to school while sick, and support children who are learning at home if they are sick. Schools and ECE programs should ensure that employees and families are aware of and understand these policies and avoid language that penalizes or stigmatizes staying home when sick.

Ventilation

Schools and ECE programs can optimize [ventilation](#) and maintain improvements to indoor air quality to reduce the risk of viruses and contaminants spreading through the air. Funds provided through the U.S. Department of Education's [Elementary and Secondary Schools Emergency Relief \(ESSER\) Programs](#) and the [Governor's Emergency Education Relief \(GEER\) Programs](#) and the Department of Health and Human Services' [Head Start and Child Care American Rescue Plan](#) can support improvements to [ventilation](#); repairs, upgrades, and replacements in Heating, Ventilation, and Air Conditioning (HVAC) systems; purchase of MERV-13 air filters, portable air cleaners, and [upper-room germicidal ultraviolet irradiation systems](#); as well as implementation of other public health protocols and CDC guidance. The Environmental Protection Agency's (EPA) [Clean Air in Buildings Challenge](#) provides specific steps schools and other buildings can take to improve indoor air quality and reduce the risk of airborne spread of viruses and other contaminants. Ventilation recommendations for [different types of buildings](#) can be found in the [American Society of Heating, Refrigerating, and Air-Conditioning Engineers \(ASHRAE\) schools and universities guidance](#). CDC does not provide recommendations for, or against, any manufacturer or product.

Hand Hygiene and Respiratory Etiquette

Washing hands can prevent the spread of infectious diseases. Schools and ECE programs should teach and reinforce proper [handwashing](#) to lower the risk of spreading viruses. Schools and ECE programs should monitor and reinforce these behaviors, especially during [key times](#) in the day (for example, before and after eating, after using the restroom, and after recess) and should also provide adequate handwashing supplies, including soap and water. If washing hands is not possible, hand sanitizer containing at least 60% alcohol should be provided. Hand sanitizers should be stored up, away, and out of sight of younger children and should be used only with adult supervision for children ages 5 years and younger. Schools and ECE programs should teach and reinforce covering [coughs and sneezes](#) to help keep individuals from getting and spreading infectious diseases.

Cleaning

Schools and ECE programs should clean surfaces at least once a day to reduce the risk of illnesses spread by touching surfaces. For more information, see [Cleaning and Disinfecting Your Facility](#). Additionally, ECE programs should follow recommended procedures for cleaning, sanitizing, and disinfection in their setting such as after diapering, feeding, and exposure to bodily fluids. See [Caring for Our Children](#).

Long-Term-Care Facilities

Preventing transmission of respiratory viruses and other infectious agents within healthcare settings requires a multi-faceted approach. Spread of respiratory viruses can occur among patients, healthcare providers (HCP), and visitors. The core prevention and mitigation strategies include:

- Administration of influenza vaccine (to reduce illness burden and potential for co-infection with other respiratory pathogens).
- Implementation of respiratory hygiene and cough etiquette.
- Appropriate management of ill healthcare workers and facility staff, including staying home when sick.
- Adherence to infection control precautions for all patient-care activities and aerosol-generating procedures.
- Implementing environmental and engineering infection control measures, including frequent cleaning of commonly touched surfaces.
- Apply laboratory testing as soon as possible when there are residents or staff who are experiencing signs or symptoms of respiratory illness to determine the cause of the outbreak and inform mitigation measures. CMS rules require testing for COVID-19 when either residents or staff are symptomatic in certain types of facilities. The October 18, 2022, [Epidemic Order](#) Amendment for testing in skilled nursing facilities, homes for the aged, and adult foster care facilities provides a definition of which facilities are to follow the CMS [QSO 20-38-NH](#) testing guidance which refers to [CDC](#) healthcare recommendations. If the facility does not meet the definition of long-term care facility, then the [CDC public guidance](#) would be followed. All sources recommend testing residents or staff experiencing signs or symptoms of respiratory illness as soon as possible.

Resources

- CDC Early Care and Education Portal on Prevention and Control of Infectious Diseases: [Prevention and control of infectious diseases | Early Care and Education Portal | CDC](#)
- CDC website: [RSV \(Respiratory Syncytial Virus\) | CDC](#)
- CDC dashboard: <https://www.cdc.gov/surveillance/nrevss/rsv/index.html>
- Public RSV-NET dashboard <https://www.cdc.gov/rsv/research/rsv-net/dashboard.html>
- MDHHS: [Managing Communicable Diseases in Schools](#)
- MDHHS: [Respiratory Virus Outbreaks in Nursing Homes](#)