HEALTH BASICS

Respiratory syncytial virus

Respiratory syncytial virus is a common virus that can infect the nose, throat, and lungs.

WHAT IT IS
A common virus that infects the airways

WHERE IT COMES UP
Respiratory illness diagnoses and nose or throat test results

WHY IT MATTERS
Can cause serious lung illness in people at higher risk

WHAT IT IS NOT
Not a disease or a diagnosis by itself

WHO TO ASK
Primary care, paediatric, maternity, or vaccination services

HOW IT IS CHECKED
Molecular or rapid antigen testing of respiratory samples

Overview

Respiratory syncytial virus, usually called RSV , is a virus that infects the respiratory tract. This includes the nose, throat, breathing tubes, and lungs.

RSV is not itself a disease. It can cause an RSV infection , which may lead to conditions such as a common cold, bronchiolitis, or pneumonia. Bronchiolitis is inflammation of the smallest breathing tubes in the lungs. Pneumonia is an infection of the lung tissue.

People of any age can become infected. Repeat infections are common because immunity after an infection is not complete or permanent.

Many RSV infections are mild. The chance of more serious illness is higher in young infants, older adults, people with weakened immune systems, and people with some long-term heart or lung conditions. A clinician considers the whole situation rather than using age or a test result alone.

How it works

RSV contains genetic material called RNA. It has an outer coating with proteins that help it

attach to and enter cells lining the airways.

The word "syncytial" refers to the way infected cells can join together in laboratory samples. This naming feature does not describe how ill someone will become.

Once inside airway cells, the virus makes copies of itself. The immune system responds, which can produce swelling and extra mucus. In small breathing tubes, especially those of infants, this swelling and mucus may narrow the space available for air to move.

RSV spreads mainly through respiratory particles and direct contact with secretions from the nose or mouth. It may also spread when contaminated hands touch the eyes, nose, or mouth. Close contact, crowded indoor settings, and shared surfaces can make transmission easier.

A person may spread RSV around the time their infection begins. Some infants and people with weakened immune systems can continue releasing the virus for longer than other people.

An RSV test usually uses a sample taken from the nose or throat. Molecular tests , including PCR tests, look for viral genetic material and are generally more sensitive. Rapid antigen tests look for viral proteins. Antigen tests tend to detect RSV more reliably in children than in adults.

Testing is not always necessary. A clinician may identify a mild respiratory infection from the history and examination when a result would not change care. Testing is more useful when it could affect infection-control decisions, hospital care, or the assessment of someone at higher risk.

Why it matters for your health

RSV infections can resemble infections caused by influenza, COVID-19, or other respiratory viruses. The cause cannot always be identified from symptoms alone.

Knowing that RSV is present may explain a respiratory illness and help healthcare services limit spread in hospitals or care facilities. A positive result does not, by itself, show how severe the illness is or whether someone will need hospital care.

For infants, RSV matters because their airways are narrow and may be more affected by swelling and mucus. Premature infants and babies with certain heart, lung, immune, or neuromuscular conditions may have additional risk.

In adults, the risk of serious illness generally rises with older age, frailty, weakened immunity, and long-term heart or lung disease. RSV infection can also make asthma, chronic obstructive pulmonary disease, or heart failure harder to control.

Protection against RSV is available for some groups. Depending on current local guidance, this may include vaccination during pregnancy, a long-acting monoclonal antibody for eligible

infants, or vaccination for eligible adults. A monoclonal antibody provides ready-made antibodies; it is not a vaccine and does not train the immune system in the same way.

Eligibility depends on age, pregnancy timing, health risks, local RSV seasons, and which products are approved where you live.

What can go wrong

RSV infection may involve only the upper airways, causing a cold-like illness. It can also be associated with several named conditions:

These conditions cannot be confirmed from an online description. Breathing effort, oxygen level, hydration, age, medical history, and examination findings all help determine what care is needed.

Seek urgent same-day medical assessment for increasing breathing effort, difficulty feeding or drinking, clearly fewer wet nappies or trips to urinate, unusual drowsiness, or worsening illness in someone at higher risk.

Call emergency services for severe trouble breathing, long pauses in breathing, blue or grey lips or skin, collapse, confusion, or difficulty waking the person. Skin colour changes may be harder to see on darker skin, so also look at the lips, tongue, palms, and soles.

Routine follow-up is appropriate when recovery is slower than expected, a cough or wheeze keeps returning, or a long-term heart or lung condition remains harder to control after the infection.

- Bronchiolitis , mainly in babies and young children
- Pneumonia , affecting the lung tissue
- Dehydration , when illness makes feeding or drinking difficult
- Apnoea , meaning pauses in breathing, particularly in very young infants
- Worsening asthma or chronic lung disease
- Worsening heart failure in susceptible adults
- Respiratory failure , when the lungs cannot provide enough oxygen or remove carbon dioxide

What you can do

If RSV testing is offered, ask what the result will change. Useful questions include whether it

will affect treatment, isolation precautions, work or school decisions, or care for a high-risk household member.

If you or your child may qualify for RSV protection, ask a maternity, primary care, paediatric, or vaccination service about current local recommendations. Record the product name and date if a vaccine or monoclonal antibody is given. This helps avoid confusion because these products serve different groups.

To reduce spread during a respiratory illness, wash or sanitise hands, cover coughs and sneezes, improve indoor ventilation where practical, and avoid close contact with people at higher risk. Do not share cups or eating utensils while someone is unwell.

Most uncomplicated RSV infections are managed with supportive care, such as fluids and rest. Antibiotics like amoxicillin or doxycycline do not treat RSV because antibiotics act against bacteria, not viruses. There is no routine antiviral treatment for most RSV infections acquired in the community. Specialist treatment may be considered in limited circumstances.

For a child or dependent adult who is unwell, keep a simple record of fluid intake, urination, breathing changes, temperature, and alertness. This information can help a clinician assess whether the condition is changing.

Common questions

Is RSV the same as bronchiolitis?

No. RSV is a virus. Bronchiolitis is inflammation of the small breathing tubes and can be caused by RSV or other viruses.

Does a positive RSV test mean pneumonia?

No. It shows that the test detected RSV in a respiratory sample. Pneumonia is assessed using symptoms, an examination, oxygen measurements, and sometimes imaging.

Can you get RSV more than once?

Yes. Immunity after infection is incomplete, so reinfection can occur throughout life. Later infections may still matter, particularly when age or medical conditions increase risk.

Is an RSV monoclonal antibody a vaccine?

No. It supplies ready-made antibodies for temporary protection. A vaccine prompts the immune system to make its own response.

Should everyone with a respiratory illness be tested?

No. Testing is most useful when the result may change care or infection-control decisions. A clinician can explain whether testing is likely to help in a specific situation.

Does vaccination during pregnancy give the pregnant person RSV?

No. Approved RSV vaccines used during pregnancy do not contain live RSV capable of causing RSV infection. Their purpose is to help antibodies pass to the baby before birth.

Sources

- Centers for Disease Control and Prevention. About RSV
- Centers for Disease Control and Prevention. Clinical Overview of RSV
- Centers for Disease Control and Prevention. Diagnostic Testing for RSV
- Centers for Disease Control and Prevention. RSV Immunization Guidance for Infants and Young Children
- Centers for Disease Control and Prevention. RSV Vaccine Guidance for Adults
- National Institute for Health and Care Excellence. Bronchiolitis in children: diagnosis and management, guideline NG9