

Epidemiology of Respiratory Tract Infection

Respiratory tract infection (RTI) refers to any of a number of **infectious** diseases involving the **respiratory tract**. An **infection** of this type is normally further classified as an upper **respiratory tract infection** (URI or URTI) or a lower **respiratory tract infection** (LRI or LRTI).

What is acute respiratory infection?

Acute respiratory infection is an infection that may interfere with normal breathing. It can affect just your upper respiratory system, which starts at your sinuses and ends at your vocal chords. It can also affect just your lower respiratory system, which starts at your vocal chords and ends at your lungs.

Who is at risk for acute respiratory infection?

It's almost impossible to avoid viruses and bacteria, but certain risk factors increase your chances of developing acute respiratory infection. The immune systems of children and older adults are more prone to being affected by viruses. Children are especially at risk because of their constant contact with other kids who could be virus carriers. Children often don't wash their hands regularly. They are also more likely to rub their eyes and put their fingers in their mouths, resulting in the spread of viruses.

People with heart disease or other lung problems are more likely to contract an acute respiratory infection. Anyone whose immune system might be weakened by another disease is at risk. Smokers also are at high risk and have more trouble recovering.

Preventing acute respiratory infection

Most causes of an acute respiratory infection aren't treatable. Therefore, prevention is the best method to ward off harmful respiratory infections. Getting the MMR (measles, mumps, and rubella) and pertussis vaccine will substantially lower your risk of getting a respiratory infection.

The other ones to mention are influenza vaccination and pneumovax. Can review for whom each is recommended, or say talk to your doctor about getting these.

What is acute upper respiratory infection?

Anyone who has ever had a cold knows about acute respiratory infections (URIs). An acute URI is a contagious infection of your upper respiratory tract. Your upper respiratory tract includes the nose, throat, pharynx, larynx, and bronchi.

Without a doubt, the common cold is the most well-known URI. Other types of URIs include sinusitis, pharyngitis, epiglottitis, and tracheobronchitis. Influenza, on the other hand, isn't an URI because it's a systemic illness.

What causes acute upper respiratory infection?

Both viruses and bacteria can cause acute URIs:

Viruses

rhinovirus

adenovirus

coxsackie virus

parainfluenza virus

respiratory syncytial virus

human metapneumovirus

Bacteria

group A beta-hemolytic *streptococci*

group C beta-hemolytic *streptococci*

Corynebacterium diphtheriae (diphtheria)

Chlamydia pneumoniae (chlamydia)

What is acute respiratory failure?

Acute respiratory failure occurs when fluid builds up in the air sacs in your lungs. When that happens, your lungs can't release oxygen into your blood. In turn, your organs can't get enough oxygen-rich blood to function. You can also develop acute respiratory failure if your lungs can't remove carbon dioxide from your blood.

Respiratory failure happens when the capillaries, or tiny blood vessels, surrounding your air sacs can't properly exchange carbon dioxide for oxygen. The condition can be acute or chronic. With acute respiratory failure, you experience immediate symptoms from not having enough oxygen in your body. In most cases, this failure may lead to death if it's not treated quickly.

Who is at risk for acute respiratory failure?

Risk factors for acute respiratory failure if you:

smoke tobacco products

drink alcohol excessively

have a family history of respiratory disease or conditions

sustain an injury to the spine, brain, or chest

have a compromised immune system

have chronic (long-term) respiratory problems, such as cancer of the lungs, chronic obstructive pulmonary disease (COPD), or asthma