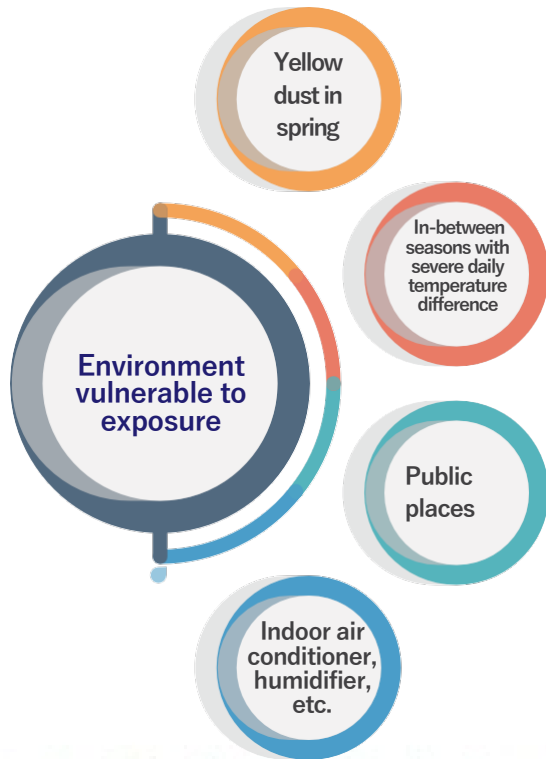


Route of infection

Exposure to respiratory viruses occurs in diverse environments.



Frequent respiratory infections: Having the same symptoms does not mean it's the same type of cold.

Test information	
Test Name	Respiratory Pathogen Panel (Bacteria/Virus) causing pneumonia
Specimen	<ul style="list-style-type: none">Nasopharyngeal aspirateNasopharyngeal swabBronchoalveolar lavage fluidSputum

Professionally tailored care for respiratory disorders

Respiratory Pathogen Panel (Bacteria/Virus) causing pneumonia



Important!
Consult your healthcare provider for any questions and interpretation of your test results.

What is a respiratory disorder?

Acute respiratory infection **is the most common disease in all age groups. About 4 million children die from acute respiratory infections every year.**¹

However, most cases have similar signs and symptoms, so it is difficult to provide accurate treatment relying solely on an empirical diagnosis based on clinically observed symptoms.²

1. Lee et al., Pediatric infections: Vol 10-1 2003
2. Heungsup Sung, et al(2008) Korean J. Lab. Med.28(2):109-117

Respiratory disorders: Require proper treatment depending on the cause!

Viral infections are symptomatically treated, while bacterial infections are treated with antibiotics. Accurately identifying the cause and providing appropriate treatment shortens the duration of illness, effectively promotes healing and prevents complications.

Therefore, identifying the exact causative pathogen is crucial to provide proper treatment.



There is an array of viruses and bacteria that induce respiratory disorders.

Causative	
Adenovirus	<ul style="list-style-type: none"> • Pharyngitis is the most common symptom • It is the cause of 7-9% of child/infant cases of pneumonia. • May cause pneumonia in immunocompromised individuals
RSV	<ul style="list-style-type: none"> • Clinically most important virus in children • Mild in healthy children, but is fatal in children with weak lungs and heart • Induces cold symptoms in adults and pneumonia symptoms in older adults → Highly likely to progress to asthma after treatment • Major cause of bronchiolitis (45-75%) and pneumonia (15-25%)
Rhinovirus	<ul style="list-style-type: none"> • Major cause of upper respiratory infections such as rhinitis and pharyngitis • Cough is present in 30-40% of cases, and persists for more than 2 weeks in 35% of children • Second-leading cause of bronchiolitis and pneumonia (following RSV) • Recently emerged as the major cause of acute/severe lower respiratory infections and asthma exacerbation
Parainfluenza virus	<ul style="list-style-type: none"> • Types 1-4; type 4 causes severe disease • Type 1 is the major cause of croup • Types 2 and 3 cause bronchitis • Commonly associated with croup (15%), pneumonia (15%), and bronchiolitis (50%) in hospitalized children • Fever persistent for 5 days or more may cause secondary bacterial infections such as otitis media and pneumonia
Boca virus	<ul style="list-style-type: none"> • Recently emerged as a major cause of lower respiratory infections • One of the causes of bronchiolitis and pneumonia • 40% concurrent infection rate with other respiratory viruses • High risk of asthma
Coronavirus	<ul style="list-style-type: none"> • Linked to SARS • High risk of progressing to severe infection • In adults, it is a major cause of the common cold (with cough) • Recently emerged as a major cause of lower respiratory infections • Inherent risk of asthma attack; sometimes may cause chronic bronchitis and asthma exacerbation
Influenza virus	<ul style="list-style-type: none"> • Generally causes upper respiratory infection (flu) • Asymptomatic or high fever, chills, headache, cough • Type A: Antigen mutation occurs every year, and high fatality rate in pneumonia or high-risk groups • Type B: Antigen mutation rarely occurs, and may sometimes cause rhinitis, pharyngitis, and pneumonia
Novel influenza virus	<ul style="list-style-type: none"> • Generally transmitted through droplets *Incubation period is 1-3 days • Sudden onset of systemic symptoms such as fever (≥38°C), headache, muscle pain, and fatigue, as well as respiratory symptoms such as sore throat, cough, and sputum. • Complications include pneumonia, acute respiratory failure, and myocarditis
Enterovirus	<ul style="list-style-type: none"> • Common in summer and fall • Infects people of all ages • High fever, vomiting • Causes various diseases, such as aseptic meningitis, hand-foot-and-mouth syndrome, and myocarditis • May cause diarrhea if the virus spreads to the intestines
Metapneumovirus	<ul style="list-style-type: none"> • From mild upper respiratory infection to severe lower respiratory infections, such as bronchiolitis (59-68%), croup (18%), and pneumonia (8-17%) • The main symptoms among hospitalized children are fever (86%), cough (90%), and dyspnea (80%) • Symptoms are similar to those of RSV infection, and concurrent infection may lead to serious outcomes

Causative bacteria	
Mycoplasma pneumonia	<ul style="list-style-type: none"> • Typical bacteria that cause atypical pneumonia • May show symptoms other than pneumonia, such as high fever, sore throat, joint pain, hepatitis • Characteristically show symptoms similar to those of the flu.
Legionella pneumophila	<ul style="list-style-type: none"> • Sudden onset of high fever, dry cough, headache, muscle pain, general lethargy, intermittent chills • Incidence rate is about 0.5-5%, but fatality rate is about 15-30% if left untreated. • May cause complications such as pulmonary abscess, respiratory failure, and hypotension
Chlamydia pneumoniae	<ul style="list-style-type: none"> • No specific clinical findings • Need to differentiate from mycoplasma pneumoniae and symptoms caused by a respiratory virus • In addition to pneumonia, it may exacerbate acute upper respiratory infection, acute sinusitis, acute bronchitis, and chronic obstructive pulmonary disorder (COPD)
Bordetella pertussis	<ul style="list-style-type: none"> • Is the cause of pertussis. Commonly affects toddlers and children, but infection rate among adults has been rising in recent years • Pertussis vaccination does not provide lifetime immunity; individuals may develop infection if immunity diminishes over time. • Symptoms are similar to those of the common cold, so differentiating from other respiratory infections is important to provide proper treatment.

Symptoms of respiratory infections

