

L1+L2 (viral infections)

Infection	Cause	Key symptoms
Common Cold	Rhinovirus (the most common), coronavirus and adenovirus.	Rhinorrhea Sneezing, Nasal congestion, sore throat, headache, chills and Low-grade fever (differentiates it from influenza).
Herpangina , Common cold and HFMD.	Coxsackievirus (mostly in children, it is paediatric infection).	Herpangina: Severe sore throat with vesiculoulcerative lesions (Red-ringed blisters and ulcers on the tonsils and soft palate). HFMD: Painful blisters in the mouth, throat, hands, feet, or all these areas.
Influenza	Influenza virus (from orthomyxovirus family)	Myalgia (muscle pain), arthralgia (joint pain), loose stools, High-grade fever and body aches Chills.
Reye syndrome	Follows a viral infection, such as influenza or chickenpox. Strongly associated with the administration of aspirin during these illnesses. occurs primarily in children and teenagers.	Swelling in the liver and brain, and may progress to neurological damage, seizures, coma, or death. Personality changes such as irritability or combativeness, Disorientation or confusion, Delirium, Convulsions, Loss of consciousness.
Bronchiolitis	RSV	Typically affects children aged 1 to 2 years, with its peak incidence occurring at around 6 months of age. Runny nose, coughing, wheezing, and fever, respiratory distress, tachypnea, cyanosis, nasal flaring, and intercostal retractions.
Croup (Laryngotrachibronchitis)	Parainfluenza virus	Typically affects children 6 months to 3 years. Barking "seal-like" cough, inspiratory stridor, and hoarseness low grade fever and nasal congestion. X-ray->> steeple sign

Bacterial Tracheitis	Staphylococcus aureus	Affects slightly older children (5–8 years) . High fever, severe stridor (inspiratory and expiratory) and toxic appearance (lethargy, cyanosis, severe distress). No response to treatments for croup.
Viral bronchitis	Influenza virus, Parainfluenza virus, (RSV), Adenovirus and Coronavirus.	Cough (hallmark symptom): Begins as dry and unproductive then progresses to a productive cough with mucus (clear, yellow, or green sputum). For 10-20 days. Other Symptoms: Low-grade fever, Fatigue, Wheezing or mild dyspnea, Sore throat, Chest discomfort or tightness (due to coughing). Rhonchi or wheezing on auscultation.
Viral Pneumonia	Adenoviruses, Coronaviruses, influenza viruses, parainfluenza viruses, and RSV.	
SARS-CoV Bats and civet cats --> reservoirs for SARS	Coronaviruses	Fever, chills, and body aches which usually progressed to pneumonia.
MERS-CoV Camels --> the reservoir for MERS.	Coronaviruses	Fever, cough, and shortness of breath which often progress to pneumonia or kidney failure; GI symptoms.
COVID-19	Coronaviruses	Fever, cough, loss of smell and taste, fatigue myalgia, diarrhea and GI symptoms.
Viral Pharyngitis (90% of pharyngitis)	Adenoviruses and parainfluenza Viruses (most common).	Sore throat, pain with swallowing, red throat, runny nose, congestion, headache and low grade fever.
Glandular Fever (Infectious Mononucleosis): kissing disease	Epstein Barr virus or cytomegalovirus	pharyngitis + splenomegaly

Spanish flu

- The most lethal influenza pandemic in recorded history occurred from 1918 through 1919.
- An **antigenic shift** involving the recombination of avian and human viruses
- A new H1N1 virus.
- Killed as many as 40 million to 50 million (High mortality rate).
- Although it is called "Spanish flu", it actually Originated in the United States.
- the conditions of World War I greatly contributed to the spread of this disease.
 - Crowding, poor sanitation, bad hygiene and rapid mobilization of large numbers of personnel and animals facilitated the dissemination of the new virus once it appeared.

Feature	Influenza (Seasonal Flu)	Bird Flu (H5N1)	Swine Flu (H1N1)
Host Species	Humans	Birds	Pigs and humans
Human Impact	Widespread, annual	Rare in humans	Widespread in pandemics
Mortality Rate	Relatively low	Very high	Similar to seasonal flu
Transmission	Person-to-person	Contact with birds	Person-to-person
Vaccination	Annual flu vaccine	Limited experimental vaccines	Covered in flu vaccines

L3+L4 (Bacterial infections)

Infection	Cause	Key symptoms
Bacterial (Streptococcal) Pharyngitis [peak incidence at 5-15 years of age]	Group A strep (S.pyogenes)	High grade Fever higher, Intense pharyngeal pain, Erythema associated with pharyngeal inflammation, Swollen, dark-red palatine tonsils, often dotted with patches of pus, Petechiae on the soft or hard palate and Cervical tender LN.
Scarlet fever (scarlatina)	Group A streptococci produce erythrogenic toxin.	Red rash on the skin begins on the chest and stomach. Strawberry tongue (a red rash on the tongue).
Acute rheumatic fever	Pharyngitis caused by rheumatogenic strains of Streptococcus pyogenes (strains 1, 3, 5, 6, 18). Molecular mimicry between M protein of S. pyogenes and heart tissue.	Triggers autoimmune attack leading to inflammation and damage to the heart (carditis).
Acute glomerulonephritis	Follows pharyngitis or cutaneous infections caused by S. pyogenes. Immune complexes form between S. pyogenes antigens and antibodies. Deposition in kidney glomeruli triggers inflammation and damage (glomerulonephritis).	Dark-colored urine, Hypertension and Periorbital edema.
Retropharyngeal Abscess: [Collection of pus in the retropharyngeal space]		Painful neck (increases with movement), decreased neck/jaw movement, muffled "hot potato" voice, foul breath, difficulty swallowing and breathing.

<p>Peritonsillar Abscess (Quinsy): [Pus collection in the peritonsillar space, forming a mass]</p>		<p>Unilateral tonsil enlargement. Pain, fever, difficulty swallowing, foul breath, bad odor, deviated uvula, drooling.</p>
<p>Otitis Media (Presence of fluid in the middle ear)</p>	<p>75% of its causes is Bacterial: 1. Streptococcus pneumoniae 2. Haemophilus-Influenzae 3. Moraxella catarrhalis.</p> <p>25% viral causes: Rhinovirus/RSV/ Coronaviruses/Adenoviruses/ Enteroviruses</p>	<p>Pediatric disease (3 months- 3 years of age). Otorrhoea , otalgia (ear pain), Ear drainage, bulging of the tympanic membrane, high grade fever, Lethargy, Irritability, pulling ear, rubbing of the ear.</p>
<p>Bacterial sinusitis</p>	<p>The same bacteria which make otitis media: 1. Streptococcus pneumoniae 2. Haemophilus-Influenzae 3. Moraxella catarrhalis.</p> <p>Other causes: Staphylococcus aureus, other streptococci species, anaerobic bacteria and Gram negative bacteria.</p> <p>Fungal invasion (typically seen in patients with diabetes or other immune deficiencies syndromes).</p>	<p>Nasal mucosa is reddened or swollen. Percussion or palpation tenderness. Nasal discharge, thick, sometimes yellow or green. Postnasal discharge in posterior pharynx. Swelling of turbinates. Boggy pale turbinate.</p>
<p>Acute Sinusitis</p>		<p>Pressure, pain, or tenderness over the anatomical locations of sinuses, Increased pain in the morning, subsiding in the afternoon, High-grade temperature, Persistent nasal discharge, Postnasal drip, Cough worsens at night, snoring, sore throat, bad breath and Headache.</p>
<p>Subacute sinusitis</p>		<p>Nasal congestion or post-nasal drip (4-8 weeks).</p>
<p>Chronic sinusitis</p>		<p>Nasal congestion, facial pain, headache, night-time coughing, general malaise (8 weeks or more) and reduce sense of smell.</p>

<p>Laryngitis</p>	<p>Acute:</p> <ol style="list-style-type: none"> 1. Viral infections (most common cause). 2. Straining your vocal cords by talking or yelling 3. Bacterial infections 4. Drinking too much alcohol. <p>Chronic:</p> <ol style="list-style-type: none"> 1. Frequent exposure to harmful chemicals or allergens. 2. Acid reflux, Frequent sinus infections. 3. Smoking or being around smokers 4. Overusing your voice 5. low-grade yeast infections caused by frequent use of an asthma inhaler. 	<p>Voice-related symptoms:</p> <p>weakened voice change in voice, loss of voice, hoarse, dry throat, constant tickling or minor throat irritation and dry cough.</p>
<p>Epiglottitis (severe, life-threatening condition)</p>	<p>H. Influenzae type b (most important) Streptococcus pneumonia Moraxella catarrhalis, S. pyogenes and S. aureus</p>	<p>Affects mainly children 1 - 5 years old. Drooling, sore throat, dysphagia, Muffled hot potato voice, High fever, Stridor (extra-thoracic region), hoarseness, Classic tripod position.</p> <p>Lateral neck x-ray: Balloon-shaped epiglottis [thumb sign].</p> <p>PHYSICAL EXAMINATION CONSIDER CONTRAINDICATION</p>
<p>Diphtheria</p>	<p>Corynebacteria diphtheriae (produce the diphtheria toxin)</p>	<p>Younger than 5 years or older than 40 years.</p> <p>Pharyngitis, tonsillitis, exudate or membrane, Gray-white pseudomembranous, cervical adenitis.</p> <p>Complications: Myocarditis (2-3w), cardiac enlargement, arrhythmias, CHF.</p>