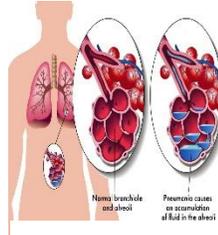


## COMMON INFECTIOUS DISEASES -SERIES 2

This article is the second in a series of educational material on specific Infectious Diseases.

**Pneumonia:** an infection that causes inflammation of the air sacs in one or both lungs, causing fluid or pus to accumulate. Pneumonia can be caused by bacteria, viruses, and fungi. Symptoms include cough, fever, chills, chest pain with a breath or cough, difficulty breathing, fatigue, and mental confusion in individuals over the age of 65 years.

There are two types of pneumonia, Community Acquired and Healthcare Acquired. Community acquired is the most common and occurs from a variety of sources. Healthcare Acquired occurs in healthcare settings such as hospitals, long-term care facilities, outpatient clinics (includes kidney dialysis) where patients are already seriously ill or at high-risk (ventilator patients).



### **Community Acquired:**

- A. Bacterial: The two most common types of bacterial pneumonia are streptococcus pneumoniae and mycoplasma pneumoniae (also known as “walking pneumonia).
- B. Viral: The same viruses that cause the common cold and flu as well as COVID-19 can cause pneumonia. It can be mild or severe, and most common in children under age 5 years.
- C. Fungal: This causative agent is found in the soil or bird droppings, and varies with geographical location. It is most common in high-risk individuals like those with a weakened immune system or chronic health problems.

**Healthcare Acquired:** These infections result from bacterial types that differ from those causing a Community Acquired pneumonia.

**Risk Factors:** Smoking is a serious risk factor for developing pneumonia besides those already mentioned, ie hospitalization, weakened immune system, chronic disease.

**Complications:** Pneumonia can lead to complications if not treated early. Pleural effusion and lung abscess may require treatment with a chest tube or surgery. Antibiotics are used to treat a lung abscess as well. Bacterial pneumonia can spread to the bloodstream, referred to as sepsis, and may lead to organ failure.

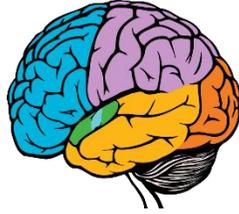
**Prevention:** There are several steps to take in reducing your risk for developing pneumonia. Take the vaccine when it is made available to you. If you smoke, STOP! Cover your nose and mouth when sneezing or coughing. Use good hand hygiene often and clean/disinfect surfaces that are frequently touched. Include ways to keep your immune system strong and chronic health issues controlled.

**Vaccines:** Pneumococcal polysaccharide vaccine (PPSV23): given to individuals age 65 years and older.

Pneumococcal conjugate vaccine (PCV13): for individuals 65 years and older if never received a dose and have a condition that weakens the immune system, a cerebrospinal fluid leak, or cochlear implant (ear).

According to the CDC, if your healthcare provider recommends both vaccines for you, the PCV13 should be given first and the PPSV23 vaccine at a later time. If you already received the PPSV23 vaccine, wait at least a year.

**Meningitis:** an inflammation of the protective membranes (meninges) covering the brain and spinal cord. The infectious form of meningitis is caused by bacteria, viruses, fungi, parasites, and amoeba. Symptoms include headache, high fever, stiff neck, nausea & vomiting, light sensitivity, sleepiness, low appetite or thirst, seizure, and skin rash (bacterial).



#### **Types of Meningitis:**

- A. **Bacterial:** this form of meningitis requires immediate medical attention as it is highly contagious and can be fatal. Some of the same bacteria that causes pneumonia, sinus infections, ear infections, urinary tract infections can cause meningitis. It is most common in teenagers and young adults who house in dormitories, boarding schools, and military bases. Treatment includes antibiotics and steroids.
- B. **Viral:** although serious, it is less severe than bacterial meningitis. The same viruses that cause herpes simplex, HIV, mumps, West Nile, and others can cause meningitis. Viral meningitis often clears on its own with bedrest, fluids, over-the-counter (OTC) medications to relieve pain and fever. For some cases, antiviral medication may be used.
- C. **Fungal:** this is a rare form of meningitis that comes from inhaling fungal spores found in the soil, decaying wood, and bird droppings. It does not spread from person to person. Persons at high risk in contracting fungal meningitis have medical conditions such as diabetes, cancer, and HIV. Treatment includes the use of antifungal medication.
- D. **Parasitic:** another rare form where the parasite infects animals and people acquire the infection by consuming contaminated food. Examples include raw or undercooked snails, freshwater fish or eel, frogs, poultry, and snakes. Raccoon feces containing parasitic eggs contaminates the soil. This form of meningitis is not contagious person to person. There is no specific treatment available other than support measures.
- E. **Amoebic (PAM):** a rare and life-threatening infection caused by a microscopic organism called amoeba. This organism lives in warm water, such as hot springs, and the soil. It enters the body through the nose and goes to the brain. There is no person to person spread. Although there is no specific treatment, an investigational drug called Miltefosine has been used with some success.

**Risk Factors:** Some of the risk factors in contracting meningitis include age, being unvaccinated, residing in a community setting (like a dorm), having a weakened immune system, and pregnancy.

**Complications:** Meningitis can bring about serious and long-standing complications: hearing loss, memory difficulty, learning disabilities, brain damage, gait problems, seizures, kidney failure, death.

**Prevention:** There are several ways in which one can lessen the risk of meningitis.

- Good hand hygiene.
- Cover your mouth and nose when coughing and/or sneezing.
- Avoid sharing straws, eating utensils, food and drink, toothbrushes.
- Eat only pasteurized food if pregnant.
- Avoid water going up the nose from swimming, water hoses, and community showers and tubs.
- Get vaccinated for bacterial meningitis when appropriate. There are two meningococcal vaccines available in the US. The MenACWY vaccine (Menactra and Menveo) is for children 11-12 y/o with a booster at age 16 years. The MenB vaccine (Bexsero and Trumenba) is given to teens and young adults ages 16 through 23 years; other children and adults at high risk.