Bacterial Meningitis

Bacterial meningitis is a serious illness that causes more than 300,000 deaths worldwide each year.

Meningitis is inflammation of the tissues surrounding the brain and spinal cord (the meninges) and is often caused by an infection. Symptoms may include fever, headache, stiff neck, eye discomfort in bright light, confusion, drowsiness, seizures, nausea, and vomiting. Meningitis is most commonly caused by viral infections. About 8% of meningitis cases are caused by bacterial infections.

What Causes Bacterial Meningitis?
Bacterial meningitis typically results from an infection that spreads through the blood and carries bacteria to the meninges. Less commonly, bacterial meningitis can result from direct bacterial invasion, such as from an ear or sinus infection or skull fracture.

Risk Factors for Bacterial Meningitis
Newborn infants are at increased risk of bacterial meningitis compared with other age groups. People who are immunocompromised (such as those with HIV infection) or are taking immunosuppressive medications, those without a spleen, or those who have undergone recent brain or spinal surgery are also at increased risk. Outbreaks of meningococcal meningitis can occur in group settings (such as college dormitories) and travelers to certain parts of the world are at increased risk of acquiring bacterial meningitis.

How Is Bacterial Meningitis Acquired?
Some individuals (“carriers”) have bacteria in or on their bodies that does not make them sick but can be spread to others and cause meningitis. Certain people (pregnant individuals, newborns, people aged 65 years or older, and immunocompromised patients) are at higher risk of developing meningitis from food contaminated with Listeria bacteria, which is sometimes found in unpasteurized dairy products or in contaminated produce. Newborns can acquire bacterial meningitis from group B streptococci bacteria during passage through the birth canal.

How Is Bacterial Meningitis Diagnosed and Treated?
Meningitis is diagnosed by performing a lumbar puncture (“spinal tap”) to obtain a sample of the fluid surrounding the brain and spinal cord. Patients are treated with intravenous antibiotics, which should be given as soon as possible. In certain cases, patients with bacterial meningitis may be prescribed intravenous steroids in addition to antibiotics.

How Is Bacterial Meningitis Prevented?
Vaccines for Streptococcus pneumoniae, Neisseria meningitidis, and Haemophilus influenzae type b help protect against bacterial meningitis. Pregnant individuals who test positive for group B streptococci should receive antibiotics during labor to protect their newborns from acquiring this infection. The risk of Listeria meningitis can be decreased by avoiding ingestion of unpasteurized dairy products or produce associated with recent outbreaks.

The Centers for Disease Control and Prevention (CDC) recommends that close contacts of a patient with meningococcal meningitis receive antibiotics as a preventive measure (prophylaxis) to decrease the risk of meningitis. Individuals at increased risk of bacterial meningitis may also be given prophylactic antibiotics if exposed to a patient with meningitis due to H influenzae.

FOR MORE INFORMATION
Centers for Disease Control and Prevention
www.cdc.gov/meningitis/bacterial.html