

Q Fever

Agent: *Coxiella burnetii* (bacteria)

Mode of Transmission: Inhalation of air contaminated with dried placental material, birth fluids, or excreta of infected animals; direct exposure to infected animals or tissues; exposure to contaminated material, such as wool, straw, fertilizer, or laundry. Person-to-person transmission is rare.

Signs/Symptoms: While approximately 50% of infections are asymptomatic, symptomatic Q fever may be acute or chronic. Acute Q fever is characterized by high fever, severe headache, fatigue, chills and muscle aches. Serious illness can progress to pneumonia or inflammation of the heart and liver. Although rare, a rash can occur in children. Chronic Q fever is a severe disease developing in <5% of acutely-infected patients and is rarely reported in children. Endocarditis is the major form of chronic disease, comprising 60-70% of all reported cases. It may present within 6 weeks after an acute infection, or may manifest years later. Chronic disease can occur after symptomatic or asymptomatic infections. The three groups at highest risk for developing chronic Q fever are pregnant women, immunocompromised persons and patients with a pre-existing heart valve defect. The estimated fatality rate in untreated patients with endocarditis is 25-60%.

Prevention: Preventive measures include appropriate disposal of potentially infectious tissues and proper hygiene when handling animal birth material.

Other Important Information: Although infection has been confirmed in many species, cattle, sheep and goats are the main natural reservoirs for *C. burnetii*. The infectious form of these bacteria is highly resistant to heat, desiccation, and disinfectant substances, and can persist in the environment for long periods of time. Windborne particles containing infectious organisms can travel a half-mile or more, contributing to sporadic cases with no known animal contact. This bacterium is classified by the CDC as a potential bioterrorism agent because it could easily be disseminated and result in a moderate amount of illness.

No cases of Q fever were reported in 2012 in Virginia. This is less than the five-year average of 2.4 cases per year. Three cases of Q fever, two chronic and one acute, were reported in 2011. All three occurred in adult males, two from the northwest and one from the central region. One case was associated with exposure to livestock and birthing processes, while the second case may have been exposed during employment at a poultry plant. The third may have been exposed during several military tours of duty in Iraq and Afghanistan.