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What is Q fever?

Q fever is a zoonotic disease caused by the bacteria *Coxiella burnetii*. The disease can occur in two forms: acute (short-term) and chronic (long-term). Q fever has been reported from most parts of the world. Although infection has been confirmed in many animal species, cattle, sheep and goats are the main natural reservoirs for *C. burnetii*. Infected animals usually appear healthy unless they are pregnant and then they may have abortions. The bacteria are highly resistant to heat, drying, and disinfectants and can survive for long periods in the environment (e.g., in soil, dust, wool, straw, or fertilizer).

Who gets Q fever?

Anyone can get Q fever. However, people who have contact with livestock animals, especially during animal birthing activities, are at increased risk of infection. These people might include veterinarians and farmers. Some people diagnosed with Q fever do not report exposure to cattle, goats, or sheep, so healthcare providers should consider Q fever even in the absence of animal exposure. On average, Virginia reports one to two human cases of Q fever per year, while typically 150–200 cases are reported annually in the United States. Q Fever is considered underreported due to the nonspecific signs and symptoms that can mimic other more common illnesses resulting in a misdiagnosis.

How is Q fever spread?

The most common way of becoming infected is by breathing in particles or dust contaminated by the birth fluids, feces, or urine of infected animals. Direct contact with body fluids of infected animals (birth fluids, urine, milk, blood), newborn animals, or contaminated materials (wool, straw, fertilizer) or feces has also been associated with infection. Less commonly, Q fever can be caused by drinking raw milk from infected animals, getting bitten by infected ticks, or by receiving blood or bone marrow transfusions from infected people. The bacteria that cause Q fever very rarely spread from person to person.

What are the symptoms of Q fever?

About half of the people who are exposed to the Q fever bacteria do not have any symptoms. People who develop acute Q fever might have a sudden onset of fever, headache, muscle aches, and a general feeling of illness. More severe illness can include pneumonia, or inflammation of the liver (hepatitis), heart (myocarditis/pericarditis), or brain (meningitis/encephalitis). Women infected during pregnancy may be at risk for miscarriage. A small percentage of people infected with *C. burnetii* develop chronic Q fever. This is a severe illness most often involving infection of the heart valves, but can also appear as chronic hepatitis, bone infection (osteomyelitis), chronic vascular infection, or chronic pulmonary infection.

How soon after exposure do symptoms appear?

Symptoms of acute Q fever usually appear within two to three weeks after exposure. Chronic Q fever can occur months to years after exposure.

How is Q fever diagnosed?

Q fever is most commonly diagnosed through special laboratory tests on blood.

What is the treatment for Q fever?

Specific antibiotics can be prescribed by a doctor to treat Q fever. To be effective, treatment should start immediately and continue for several weeks. Chronic Q fever might require years of treatment with antibiotics and possibly surgery for damaged heart valves.

How can Q fever be prevented?

Q fever can be difficult to prevent because the bacteria are hardy in the environment and just a small number of bacteria can cause infection. Also, the bacteria are easily dispersed into the air and can travel miles from the animal source. That is why it is important to know the symptoms of Q fever, seek medical attention right away if you become ill with fever and flu-like symptoms, and tell your healthcare provider if you work with livestock.

Those who work with cattle, sheep, and goats should take precautions, such as wearing an N95 respirator (best protection against *C. burnetii* bacteria) or well fitted mask that fits snugly around the mouth and nose, disposable gloves, goggles, protective dedicated clothing, and boots that can easily be disinfected when assisting with birthing or handling birthing materials. Milk from cows, goats, and sheep should be consumed only if it is pasteurized. A Q fever vaccine is not available for use in the United States.

Could Q fever be used for bioterrorism?

Yes. *C. burnetii* is one of the agents that could be used for bioterrorism because it is highly infectious, easy to obtain, and could be easily spread. Release of *C. burnetii* as a bioterrorism agent would likely be in the form of an aerosol.

How can I get more information about Q fever?

- If you have concerns about Q Fever, contact your healthcare provider.
- Call your local health department. You can find your local health department at vdh.virginia.gov/health-department-locator/.
- Visit the CDC page on Q Fever at cdc.gov/q-fever/about/index.html for more information.
- Visit the National Association of State Public Health Veterinarians' Compendia Index at nasphv.org/documentsCompendia.html.

[Q Fever: Overview for Health Care Providers](#) (Updated August 2023)

Two page summary of: Organism, Reporting, Infectious Dose, Occurrence, Natural Reservoir, Route of Infection, Communicability, Case-fatality Rate, Risk Factors, Incubation Period, Clinical Manifestations, Differential Diagnosis, Laboratory Tests/Sample Collection, Treatment, Vaccine

[Q Fever: Guidance for Health Care Providers](#) (Updated August 2023)

Key Medical and Public Health Interventions After Identification of a Suspected Case

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