

Q Fever

Coxiellosis

Q fever is a disease affecting people and animals worldwide. It is caused by *Coxiella burnetii*, a gram negative intracellular bacteria. It is endemic in the US where it has been isolated from many species of domestic and wild animals, and is commonly found in the environment where it can survive for years. In California, significant numbers of coyotes, brush rabbits, foxes and deer have antibodies to *C. burnetii*, suggesting exposure or infection.

Disease in Cattle, Sheep and Goats

Domestic ruminants are the most commonly affected livestock species and most often implicated in human infections. Q fever is often asymptomatic in livestock but abortions, stillbirths, and early neonatal mortality can occur, particularly in sheep and goats. Cattle abort less frequently but infection may be associated with decreased fertility.

Transmission

Q fever is spread by ingesting or inhaling aerosolized bacteria from infected animals or a contaminated environment. Tick bites may also transmit disease. Animal birth products, (placenta, fetuses, and associated fluids, particularly those associated with abortions, stillbirth and weak neonates), feces and milk are the most common sources of bacteria.



Diagnosis

Serology is useful as a screening test for *C. burnetii* in a herd/flock. Identifying lesions of the placenta and antigen detection by PCR, immunohistochemistry or culture are used for individual animals. PCR is highly sensitive and specific and can be used on birth products, milk, and feces. Culture is difficult and limited due to safety concerns.

Treatment

There is little research to indicate appropriate livestock therapies. Use of antimicrobials to control abortion would be “extra-label”, requiring a prescription from a licensed veterinarian and a valid veterinary-client-patient relationship.

Reporting

Q fever is a “monitored” condition in livestock in California. Monitoring occurrence of the disease assists in understanding trends, determining if there are significant changes in the behavior of the disease, and in targeting educational outreach. Disease detected in livestock is reported to the California Department of Public Health.

Control

No Q fever vaccines are approved in the US. To reduce disease spread, use good hygiene when working with animals and birth products. Quickly remove and destroy placenta and associated birth materials, use separate birthing pens that are regularly cleaned, minimize contact with wildlife, and practice good tick

control. Minimize introduction of new animals of unknown disease status into a clean herd. For more information on management practices, see: “[Best Practices to Control Q Fever](#)” (Washington Department of Agriculture).

Environment

C. burnetii survives for years in the environment in its spore-like form. It is resistant to physical and chemical agents. Cleaning contaminated areas such as birthing pens can be followed by disinfection with a 10% solution of bleach, a 5% solution of hydrogen peroxide, or a 1% solution of Lysol® ([The Center for Food Security & Public Health - Q Fever Factsheet](#)). For more information on disinfectants approved for use in California, refer to the [CA Department of Pesticide Regulation](#).

Protecting Human Health

People are very susceptible to infection when exposed to infected livestock or a contaminated environment. If Q fever has been diagnosed in animals, take extra precautions around livestock and their environment. Use appropriate personal protective equipment (e.g. masks, gloves) when working with high-risk materials (birth products, manure, contaminated bedding). Avoid consuming unpasteurized dairy products. People at high risk for infections should take particular care or avoid potentially infected areas.

People infected with Q fever show a range of signs from no apparent illness (in about 50% of cases) to acute fevers with headache, flu-like symptoms, respiratory and liver disease. Chronic endocarditis can persist for weeks to years after an acute infection. If you work around livestock, remind your doctor of this exposure when you are ill. Health care providers are required to report human cases to their local public health officer within one working day of identification. For more information, visit the [Centers for Disease Control and Prevention](#), and [California Department of Public Health](#).



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