

# *Coxiella burnetii* (Q Fever): Frequently Asked Questions for Alaskans

## **W**hat is *Coxiella burnetii*?

*Coxiella burnetii* is a bacteria that can infect many species of animals, including humans. Infection with *C. burnetii* is common among wild and domestic animals in many parts of the United States. Sometimes, infection with *C. burnetii* can cause a potentially serious illness in humans called Q fever.

## **H**ow do people become exposed to *Coxiella*?

Humans are typically exposed to *Coxiella* through close contact with infected animals or their birth products (e.g., placentas, fetuses, amniotic fluid), urine, feces, or milk. People can also become infected by breathing in contaminated dust or aerosols. Rarely, people can become infected from ingesting raw milk from an infected animal, during close contact with an infected person, or (in some parts of the world) from a tick bite. *Coxiella* can survive in the environment for long periods of time and become airborne, traveling on wind currents.

## **W**hat are the symptoms of Q fever?

Less than half of the people infected with *Coxiella* develop Q fever. Symptoms usually begin 2 to 3 weeks after exposure, and include fever, headache, chest or stomach pain, muscle aches, weight loss, chills or cough. The fever can last 1 to 2 weeks, but some people can also have serious lung or liver infections. Most people recover within 1 to 2 months of infection. Rarely, chronic symptoms develop such as long-

term fatigue, heart inflammation (endocarditis), or recurrent miscarriages. People with weak immune systems, pregnant women, and people with heart valve defects are at higher risk for chronic Q fever.

## **H**ow is Q fever diagnosed?

Q fever is mostly commonly diagnosed in humans by testing a person's blood for antibodies against *C. burnetii*, both when they are acutely sick and then several weeks later.

## **H**ow is Q fever treated?

Studies have shown that antibiotics, when given early, can shorten the course of acute, symptomatic cases of Q fever. The antibiotic of choice is doxycycline, although other options are available. Mild cases of Q fever might not require antibiotics at all, and it is important to see your health care provider for determination of proper treatment.

## **H**ow can I prevent Q fever infection?

The best way to prevent Q fever infection is to learn about the ways you can be exposed to *Coxiella*. Pregnant women, people with weak immune systems, and people with heart valve defects should avoid areas where animals have recently given birth. Take care to wash your hands and arms thoroughly after contact with any animals or raw animal products. Clothing and boots worn in marine mammal rookeries should be removed and washed or disinfected before returning home or entering the house. Cooking meat will destroy the *Coxiella* bacteria.

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## Which animals can be infected with *Coxiella*?

Many animal species can be infected with *Coxiella*, including livestock (such as cattle, sheep, and goats), dogs, wild mammals, birds, fish, reptiles, and ticks. *Coxiella* has also been found in marine mammals (such as sea lions and seals). Although most infected animals may not look ill, they may still be shedding *Coxiella*. Different animals can be infected with different *Coxiella* strains and the types of symptoms and severity of illness can vary.

## Can humans get Q fever from marine mammals infected with *Coxiella*?

It is unclear if the *Coxiella* strains that are found in marine mammals are infectious to humans, and no human cases of Q fever have been linked to marine mammal exposure to date. Furthermore, it is currently unclear how marine mammals are affected by *Coxiella* infection and what role, if any, they might play in spreading the bacteria to humans.

## Will eating meat from an animal infected with *Coxiella* make me sick?

There is no evidence that people can develop Q fever from eating meat or blubber infected with *Coxiella*, but other bacteria and parasites (such as *Salmonella*, *Trichinella*, or *Toxoplasma*) that might be found in raw meat can make people sick, so it is important to cook meat to the proper temperature.

## Have Alaska animals been infected with *Coxiella*?

Since the 1980s, a few studies have found *Coxiella* antibodies in Alaska animals, including Dall's sheep, caribou, arctic fox, and wolves. In 2010, wildlife researchers found *Coxiella* in placentas from apparently healthy Northern Fur Seals on St. Paul Island. Additionally, testing of historic marine mammal samples found evidence of the bacteria back to 1994. No animals actually ill from *Coxiella* have been detected.

## Has *Coxiella* infected Alaskans in the past?

Locally-acquired Q fever has not been reported in Alaska; however, to evaluate historic exposure, blood samples collected during 1980–2000 from residents of St. Paul and George Islands were tested for *Coxiella* antibodies. Overall, 12% of the 621 samples demonstrated antibodies consistent with past exposure. These results, combined with the animal data, indicate that *Coxiella* has been present in the Pribilof Islands for at least several decades. The seroprevalence is higher than the general U.S. population; however, estimates of more relevant comparison groups, such as all Alaskans or sub-groups who have close contact to animals, do not exist making it difficult to interpret the implications of the human data.

## Who should I call if I have any questions?

Please contact your local clinic, public health nurse, health aide, or the Alaska Section of Epidemiology at (907) 269-8000 with any questions. As usual, if you feel sick, contact your health aide or community health care provider.



For more information, please see the U.S. Centers for Disease Control and Prevention Q fever webpage: <http://www.cdc.gov/healthypets/diseases/qfever.htm>

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