

Q Fever Prevention

For Service members and their Families

Important Facts

- Q fever is a highly infectious bacterial disease that can cause mild to severe illness, or no symptoms at all.
- People are most often infected by inhaling airborne barnyard dust contaminated by the urine, feces, or birth fluids of animals that are infected with Q fever. Though not common, people can also get Q fever from ticks which have fed on infected animals and from drinking or eating contaminated milk or cheese.
- The bacteria that cause Q fever are very resistant to heat, drying, and most disinfectants and can survive in the environment for long periods of time.
- The best ways to prevent Q fever are to avoid barnyard dust and livestock slaughtering facilities and direct contact with farm animals.

What is Q Fever?

Q fever is a highly infectious disease caused by the bacteria *Coxiella burnetii* (COX-ee-ELL-uh burn-ETT-eye). Only about half of the people who are infected with the bacteria become ill. Livestock (cattle, sheep, camels, and goats) as well as dogs and cats can serve as carriers of the bacteria. Animals rarely show any symptoms to Q fever.

Why is Q fever a concern?

In some areas of the world, where Q fever is common, deployed U.S. personnel may be at risk of acquiring the infection. There have been over a thousand cases in US military personnel reported since the 1930's. Since 2003, Q fever has been diagnosed in a small number of personnel (less than 25) who served in Operation Iraqi Freedom.

The bacteria causing Q fever is resistant to heat, drying, and many common disinfectants. There is concern by the scientific community that because of the low number of Q fever bacteria needed to cause illness, and its ability to persist in the environment, Q fever could be used as a biological weapon.

How does a person get Q Fever?

People usually get Q fever by inhaling barnyard dust or other aerosols contaminated by the urine or feces from infected animals. People can also acquire Q fever by drinking contaminated, unpasteurized milk, or rarely from the bite of infected ticks. Exposure to contaminated wool, fur, or clothing may pose a risk if contaminated dust particles on those items are

inhaled. The wind can carry these aerosolized particles great distances, so exposures are not always limited to the areas in the immediate area where the infected animals are found.

What are the symptoms of Q fever?

There are two forms of human Q fever disease: acute (abrupt onset and short course) and chronic (long-term). Acute Q fever begins with a sudden onset of flu-like symptoms: high fevers (up to 104-105° F), severe headache, body aches and fatigue, confusion, sore throat, chills, sweats, non-productive cough, nausea, vomiting, diarrhea, abdominal pain, and chest pain. The fever usually lasts 1 to 2 weeks. About 30 – 50% of patients with these symptoms develop pneumonia. Some patients develop hepatitis, an inflammation of the liver. In rare instances, Q fever can also cause neurological problems.



Source: Walter Reed Army Institute of Research

How is Q Fever treated?

While most patients may make a full recovery in several months without any treatment; 1% - 2% of cases of acute Q fever are fatal. An antibiotic called Doxycycline is the treatment of choice for acute Q fever and is very effective in treating the infection. Some people with acute Q fever go on to develop the chronic form of the disease after one year or as long as 20 years after initially being infected.

Chronic Q fever infections can develop into an inflammation of the lining of the heart called endocarditis, which can be serious. Those who have pre-existing heart disease are at a greater risk. Chronic Q fever is much more difficult to treat and may require a combination of two or more antibiotics for

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A collaborative effort between the Air Force Institute for Operational Health, the Deployment Health Clinical Center, Force Health Protection and Readiness, the Navy Environmental Health Center, the U.S. Army Center for Health Promotion and Preventive Medicine, and the OUSD(P&R)/Military Family and Community Policy



long periods of time. Even then up to 65% of persons with chronic Q fever may die of the disease.

Where can I be exposed to the bacteria that cause Q fever?

Q fever is present worldwide, including the U.S. However, it is most common in rural areas of developing countries where there are farm animals such as cattle, camels, sheep, or goats. Since 2003, a small number of service members (less than 25) who served in Operation Iraqi Freedom have been diagnosed with Q fever infections.



- Avoid ingestion of raw milk or goat cheese. Use only pasteurized milk and milk products.
- Avoid areas where animals such as livestock are housed or have been housed such as barns or stables. Ensure bed-down sites are not located near farms or livestock slaughtering facilities or immediately downwind from such sites.
- Do not adopt camp animals or mascots.
- Avoid smoking and eating around animals and barnyards.
- As always, practice good hygiene to decrease your risk (i.e. frequent hand washing, etc.)

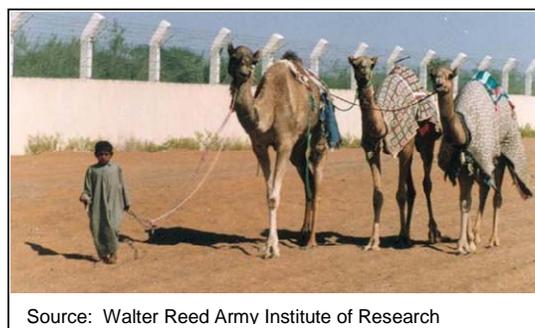
Note: The U.S. military has not approved a vaccine for Q fever.

If deployed to areas where Q fever is present, what is the best way to protect oneself from getting Q Fever?

It is important to remember that people do not need to have direct contact with infected animals to be exposed. Most people are exposed to Q fever by inhaling dust or aerosols contaminated with the Q fever bacteria.

The following measures should be used during deployments for the prevention and control of Q fever:

- Avoid barnyard dust or other materials such as straw that may be contaminated with manure, urine, milk, or animal birthing products and fluids (e.g. blood, placentas, or aborted fetuses).
- Avoid direct contact with animals, especially sheep, cattle, goats, and other livestock such as camels.
- Avoid handling unprocessed wools or animal hides such as sheepskins.



Where Do I Get More Information?

DoD Force Health Protection & Readiness (FHP & R)
Phone: (800) 497-6261
<http://fhp.osd.mil>

U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM)
Phone: (800) 222-9698
<http://chppm-www.apgea.army.mil>

Air Force Institute for Operational Health (AFIOH)
Phone: (888) 232-3764
<http://www.brooks.af.mil/afioh/>

DoD Deployment Health Clinical Center (DHCC)
Phone: (866) 559-1627
<http://www.pdhealth.mil/>

Navy Environmental Health Center (NEHC)
Phone: (757) 953-0700
<http://www-nehc.med.navy.mil>

Armed Forces Pest Management Board
Phone: (301) 295-7476
<http://www.afpmb.org>

Center for Disease Control (CDC)
<http://www.cdc.gov/ncidod/dvrd/qfever/index.htm>



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