

Q fever is a bacterial infection that causes a severe flu-like illness and sometimes leads to a chronic infection. The infection is spread mainly from infected cattle, sheep and goats. A vaccine is available to protect people who work with these animals.

Q Fever

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What is Q fever?

Q fever is an illness caused by the bacterium *Coxiella burnetii*. Q fever is spread to humans from infected animals. The bacteria survive for long periods in the environment as they are resistant to heat, drying and many disinfectants.

Q fever is usually an acute (immediate) infection but it can sometimes lead to a chronic (long-term) illness. Acute Q fever can cause a severe flu-like illness that is sometimes associated with hepatitis (inflammation of the liver) and pneumonia. Chronic Q fever most commonly results in inflammation of the heart (endocarditis) and people who already have heart valve disease are at increased risk.

What are the symptoms?

Many infected people have no or few symptoms. People who do become sick often have a severe flu-like illness. Symptoms begin about 2-3 weeks after exposure and typically include:

- high fevers and chills
- severe sweats
- severe headaches, often behind the eyes
- muscle and joint pains
- extreme fatigue (tiredness)

If untreated, symptoms can last from 2-6 weeks. Most people make a full recovery and become immune to repeat infections. Occasionally, people develop chronic infections which affect the heart (endocarditis) or the liver (hepatitis). Some people develop chronic fatigue (post-Q fever fatigue syndrome), which can last for many years after the initial infection. Symptoms of chronic Q fever may occur up to two years after the initial infection.

How is it spread?

People usually get infected by breathing in infected aerosols or dust when working with infected animals, animal tissues, or animal products. The main carriers of the disease are farm animals such as cattle, sheep and goats but other animals such as kangaroos, bandicoots, domestic pets such as dogs and cats can also be infected. Pigs are not known to carry the disease.

Infected animals often have no symptoms and can shed the bacteria into their urine, faeces or milk. High concentrations of the bacteria are found in the placenta (birth by-products). Q fever can be contracted by inhaling dust from wool, hides, straw or grass that contains the Q fever bacteria. Common activities where people are exposed include birthing calves and shearing. There is also a potential risk of contracting Q fever by ingestion of unpasteurised milk from an infected animal.

Spread of Q fever from person to person has been reported but is extremely rare. Contaminated work clothing may be a source of infection.

Who is at risk?

People at increased risk of Q fever include:

- abattoir and meat workers (including contractors who visit these facilities)
- farmers and shearers
- stockyard workers and animal transporters
- veterinarians, veterinary assistants and veterinary students
- agriculture college staff and students (working with high-risk animals)
- laboratory workers (working with the bacteria or with high-risk veterinary specimens)

Horticulturists or gardeners in environments where dust, potentially contaminated by animal urine, faeces or birth products, is aerosolised (e.g. lawn mowing) may also be at risk.

People commencing work in or visiting these industries are at high risk of contracting the disease. Some long-term workers in these industries become immune to the disease without becoming sick.

How is it prevented?

A vaccine (Q-Vax®) is available to protect people against Q fever. Vaccination is recommended for all people who are working in, or intend to work in, a high-risk occupation (see **Who is at risk?**). Workplaces at risk should have a vaccination program.

People must be screened and tested before they are vaccinated against Q fever

People who work with animals or materials that may carry the Q fever bacteria should use appropriate protective equipment and be aware of the steps required to stop the spread of the bacteria. The risk of Q fever can be further reduced by:

- washing the hands and arms thoroughly in soapy water after any contact with animals
- washing animal urine, faeces, blood and other body fluids from the work site and equipment, and disinfecting equipment and surfaces where practicable
- properly disposing of animal tissues including birthing products
- minimising dust in slaughter and animal housing areas
- keeping yard facilities for sheep and cattle well away from domestic living areas
- removing clothing that may carry the bacteria before returning to the home environment
- wearing a mask when mowing lawn or gardening in areas where there are livestock or native animals.

People who are unimmunised should not be allowed to visit high-risk work areas such as abattoirs.

How is it diagnosed?

The initial suspicion of a Q fever diagnosis is based on clinical symptoms and signs. Blood tests are required to confirm the diagnosis with repeated testing after two weeks.

How is it treated?

Q fever is treated with antibiotics, usually in the tablet form. A cardiac assessment, which may include echocardiography, is required to assess whether there are underlying abnormalities of the heart valves which increase the risk of developing chronic Q fever endocarditis. Chronic Q fever infection requires prolonged treatment with antibiotics.

What is the public health response?

Laboratories must notify the local public health unit of any confirmed Q fever cases.

Public health unit staff investigate each case to determine the likely source of infection, identify other people at risk of infection, ensure control measures are in place and provide information to cases.

In certain occupational settings involving contact with animals that may be infected with Q fever, non-immune workers should be vaccinated. See the Australian Immunisation Handbook:

www.immunise.health.gov.au

For further information please call your local Public Health Unit on 1300 066 055 or visit the New South Wales Health website www.health.nsw.gov.au