

Q fever

What is Q fever?

Q fever is an illness caused by the bacterium *Coxiella burnetii*. It is spread to humans from cattle, sheep and goats and a range of other domestic and wild animals. Even people who do not have contact with animals may be infected.

What are the symptoms?

About half of all infected people have no or few symptoms. People who do become sick often have sudden onset of a severe flu-like illness. Symptoms begin about 2-3 weeks after coming into contact with the bacteria and typically include:

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

Patients may also develop hepatitis (inflammation of the liver) or pneumonia (infection of the lungs). Without treatment, symptoms can last from 2-6 weeks. Illness often results in time off work, lasting from a few days to several weeks. Most people make a full recovery and become immune to repeat infections. However, about 10 to 20% of people infected go on to develop chronic fatigue-like illness (post Q fever fatigue syndrome) which can be present for years.

Occasionally, persistent localised infections, such as Q fever endocarditis, can develop. This is more common in people who have a weakened immune system, are pregnant, and/or have existing problems with their heart valves.

How is it spread?

People usually get infected by breathing in the Q fever bacteria that is in the air or dust. Cattle, sheep and goats are the most common sources of infection, however, a wide range of animals including domestic and feral dogs and cats, feral pigs, horses, rabbits, rodents, alpacas, camels, llamas, birds, foxes, ticks and Australian native wildlife (including bats, kangaroos, wallabies and bandicoots) may carry the bacteria. Infected animals often have no symptoms. The bacteria can be found in the placenta and birth fluids (in very high numbers), urine, faeces, as well as in the blood or milk of animals who are infected with or carry the bacteria. The bacteria can survive in the soil and dust for many years and be spread over several kilometres by the wind.

You can get Q fever by:

- breathing in the bacteria that is in the air or dust, i.e.
 - while birthing, slaughtering or butchering infected animals (especially cattle, sheep or goats). These activities carry a very high risk of infection;
 - when handling infected animals, infected animal tissues, fluids or excretions or animal products or materials that have been infected including wool, hides, straw, manure fertiliser and contaminated clothes (e.g. washing clothes worn when birthing, butchering or slaughtering animals);
 - while mustering, shearing or transporting animals;
 - while mowing grass contaminated by infected animal excretions;
 - when visiting, living or working in/near a high-risk industry;
- direct contact with infected animal tissue or fluids on broken skin (e.g. cuts or needle-stick injuries when working with infected animals); or,
- drinking unpasteurised milk from infected cows, sheep or goats.

Who is at risk?

Workers in the following occupations are at high risk of Q fever:

- abattoir and meat workers;
- livestock and dairy farmers and farm workers;
- shearers, wool classers/sorters, pelt and hide processors;
- stockyard/feedlot workers and transporters of animals, animal products and waste;
- veterinarians, veterinary nurses/assistants/students and others working with veterinary specimens;
- wildlife workers working with high-risk animals;
- agriculture college staff and students (working with high-risk animals);
- dog/cat breeders, and anyone regularly exposed to animals who are due to give birth;
- laboratory workers who handle veterinary specimens or work with *C. burnetii*;
- animal shooters/hunters; and,
- people whose work involves regular mowing in areas frequented by livestock or wild animals (e.g. council employees, golf course workers or staff of mowing businesses in regional and rural areas).

All workers who enter workplaces in which Q fever may be present are also at risk of infection. This includes tradespeople, contractors, labour hire workers, sales representatives, buyers and council workers.

Other people may be at risk of Q fever through contact with high-risk animals outside of work. Infections have also occurred in regional and rural areas by breathing in infected dust and particles in the environment.

Other people at increased risk of Q fever include:

- family members of those in high-risk occupations (from contaminated clothes, boots or equipment);
- people living near a high-risk industry (e.g. neighbouring livestock farms, stockyards housing cattle/sheep/goats, meatworks, land being fertilised with untreated animal manure);
- visitors to at-risk environments (e.g. farms, abattoirs, animal saleyards and agricultural shows); and,
- horticulturists or gardeners in environments where dust, potentially contaminated by animal urine, faeces or birth products, is aerosolised (e.g. lawn mowing).

How is it prevented?

A safe and effective vaccine is the best way to prevent Q fever infection. Vaccination is highly recommended for people who work or intend to work in high-risk occupations. Vaccination is also recommended for everyone aged 15 years and over who have the potential to be exposed to *C. burnetti* during activities outside of work, or in the environments in which they live or visit. It is important to complete pre-vaccination testing (blood and skin tests) before getting vaccinated.

Q fever vaccine is not routinely recommended for pregnant or breastfeeding women.

For those who are not immune (through vaccination or past infection), the following personal measures can reduce the risk of infection, although they should not be considered a substitute for Q fever vaccination:

- wash hands and arms thoroughly in soapy water after any contact with animals;
- wear a properly fitted P2 mask (available from pharmacies and hardware stores) and gloves, and cover wounds with waterproof dressings when handling or disposing of animal products, waste, placentas, and aborted foetuses;
- wear a properly fitted P2 mask when mowing or gardening in areas where there are livestock or native animals; and,
- remove and wash dirty clothing, coveralls and boots worn during high-risk activities in outdoor wash areas. Avoid taking these items home to reduce the risk of infection to your household. If you do take them home, bag and wash them separately (should only be handled by those immune to Q fever).

In the workplace, the following measures may also help prevent transmission:

- washing animal urine, faeces, blood and other body fluids from the work site and equipment, and disinfecting equipment and surfaces where practicable;
- minimising dust and rodents in slaughter and animal housing areas;
- keeping yard facilities for sheep and cattle well away from domestic living areas; and,
- properly disposing of animal tissues, including birthing products, by incineration or burial under at least 50cm of soil.

How is it diagnosed?

Q fever is diagnosed by one or a series of blood tests.

How is it treated?

Effective antibiotic therapy is available. With early diagnosis, treatment is simple and a good outcome can be expected.

Need more information?

For more information about Q fever, contact your doctor or call the Health Protection Service, Communicable Disease Control Information Line during business hours on **(02) 5124 9213**.

Communicable Disease Control Section at Health Protection Service is responsible for the investigation and surveillance of notifiable or infectious conditions in the ACT in order to control or prevent their spread in the community. This includes the promotion of immunisation, education and other strategies that help to limit the spread of diseases.

Q fever is a notifiable disease. Cases notified to ACT Health are investigated by Public Health Officers.

Acknowledgements

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