



Q Fever – people in high risk occupations

- Q fever is a bacterial disease that can spread to humans from animals, mainly cattle, sheep and goats.
- It mainly affects people who work with livestock.
- Symptoms are similar to the flu.
- Q fever can be treated with antibiotics.
- There is a safe and effective vaccine available, which is recommended for anyone working in a high-risk occupation who is at risk.

What is Q Fever?

Q fever is a bacterial infection caused by *Coxiella burnetii*. It spreads to humans from animals, mainly cattle, sheep and goats. The bacteria are found in many other animals including dogs, cats, horses, pigs, feral rodents, bandicoots, kangaroos, birds and ticks.

Infected animals often have no symptoms. Rarely, infected animals can experience abortion (particularly goats), stillbirth, infertility and pneumonia.

In Western Australia, there are typically less than 10 cases notified each year. Most cases are either farmers or abattoir workers.

How do you get it?

Q fever bacteria are found in the placenta and birth fluids (in very high numbers), urine, faeces, milk and blood of animals who are either infected or carriers of the bacteria. Infected dust can form from the bacteria in these tissues, fluids and excretions. The bacteria can survive in air spaces for up to two weeks and in the soil and dust for years. The wind can spread the bacteria over several kilometres.

Q fever can be contracted by:

- **Direct contact with infected animals, animal tissues or animal products**
 - By breathing in infectious particles or dust. Birthing, caesarean sections and slaughtering or butchering animals have a high risk of infection
 - Through broken skin e.g. cuts or needle stick injuries when working with infected animals

- **Indirect contact from infected materials or objects**

- by breathing in infectious particles or dust when handling contaminated materials (especially equipment and clothing in contact with infected birth products)

- **Contact with the bacteria in a contaminated environment**

- by breathing in infectious particles or dust from animals, animal products or materials (e.g. wool, hides (animal skins), straw and manure fertilizer) or in areas where birthing and caesarean section occur
- while herding, shearing or transporting animals
- while mowing areas contaminated with infected animal excretions
- by drinking unpasteurised milk from an infected cow, sheep or goat.

Person-to-person spread is rare.

Who is most at risk?

Anyone who works or lives on a livestock farm is at risk of infection. People whose work exposes them to high-risk animals, animal products and animal excreta may develop Q fever. People at increased risk include:

- abattoir workers
 - livestock and dairy farmers and farm workers
 - shearers, wool classers/sorters, pelt and hide processors (those who treat animal skins to produce leather goods)
 - stockyard/feedlot workers and transporters of animals, animal products and waste
 - veterinarians, veterinary nurses/assistants/students and others working with veterinary specimens
 - wildlife and zoo workers working with high-risk animals (including Australian native wildlife)
 - animal refuge workers (including those working in animal shelters and boarding facilities)
 - agricultural college staff and students (working with high-risk animals)
 - laboratory workers (working with the bacteria or with high-risk veterinary specimens)
 - professional shooters supplying the meat industry (e.g. kangaroo shooters)
 - professional dog and cat breeders
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- people whose work involves regular mowing in areas frequented by livestock or wild animals

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e.g. council employees, golf course workers or staff of mowing businesses in regional and rural areas

- other people exposed to high risk animals
- family members of those in high-risk occupations (from contaminated clothes, boots or equipment)
- workers and visitors to at-risk environments (e.g. farms, abattoirs, animal sale yards and agricultural shows), including tradespeople, contractors, labour hire workers, sales representatives and buyers
- horticulturists or gardeners in environments where dust, potentially contaminated by animal urine, faeces or birth products, is aerosolised (e.g. lawn mowing).

Sign and symptoms

Many people have no or few symptoms. People who do become sick often have a severe flu-like illness. Symptoms begin 2 to 3 weeks after coming into contact with the bacteria and can include:

high fever and chills

- severe night sweats
- severe headaches, often behind the eyes
- muscle and joint pain
- extreme fatigue
- weight loss.

People may also develop inflammation of the liver (hepatitis), infection of the lungs (pneumonia), or infection of the heart valve (endocarditis) during the course of illness.

Without treatment, symptoms can last from 2 to 6 weeks.

Some people can also develop chronic fatigue which can last for years.

How do I know if I have Q Fever?

Your doctor can diagnose Q fever based on symptoms, clinical examination and blood tests.

Treatment of Q Fever

If given soon after illness has begun, appropriate antibiotics can reduce the time for which people have Q fever and reduce the risk of long-term complications.

It is important to seek early medical attention if you develop symptoms of Q fever and are in one of the groups at risk of infection.

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Q fever is usually an acute (short-term) infection, but sometimes it can lead to chronic (long-term) illness.

Most people make a full recovery and become immune to repeat infections.

How do I protect myself?

Vaccination

Vaccination is the most effective way to prevent Q fever. A safe and effective Q fever vaccine (Q-Vax) is available to protect people against the disease. Vaccination is recommended for those who work in a high-risk occupation, or for those at risk of environmental exposure.

The Australian Q fever Register (www.qfever.org) has a list of doctors specifically trained to deliver Q fever vaccinations.

Other precautions

Apart from vaccination, you can do the following to reduce your risk:

- **Hand washing** - wash hands and arms thoroughly in soapy water for at least 20 seconds after any contact with animals, and after removing gloves worn during such contact.
- **Wear gloves** – use when touching blood, body fluids, birth by-products, secretions, excretions, mucous membranes, and non-intact skin. Wearing gloves does not replace hand washing.
- **Facial protection** – Wear a mask (preferably a properly fitted P2 grade mask) when handling and disposing of animal products, waste, placentas and aborted fetuses, and when mowing or gardening in areas where there are livestock or native animals. In a veterinary setting, use a surgical mask worn with either goggles or a face shield whenever exposures to splashes or sprays are likely to occur. A P2 mask with a 0.02 – 2-micron filter should be worn by all staff in the vicinity of a caesarean section and should not be removed until the staff member has entered a clean air space. Avoid direct mouth to snout resuscitation. Devices are available to clear airways and ventilate neonatal puppies and kittens safely.
- **Protective outerwear** – use dedicated protective clothing such as a coat or coveralls and shoe-covers or boots when working with high-risk animals, animal tissues or animal products. Remove personal protective equipment and contaminated clothing at the site. Wash the soiled clothing separately from personal clothes and preferably at the animal facility/farm. Any contaminated clothing taken home should be bagged and washing separately only by those who have received the Q fever vaccination.
- **Cover wounds** - Cover all open wounds with waterproof bandaging.
- **Do not eat, drink, or smoke** while handling animals or in animal housing areas.

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Disinfection and sterilisation

Q fever bacteria are resistant to many disinfectants. Wash animal urine, faeces, blood and other body fluids from the work site. All contaminated non-disposable materials should be aseptically placed in an autoclave bag and sterilised. Disinfection equipment and surfaces prior to removal of PPE. Recommendations include using Virkon (1%), hypochlorite (0.5%, 500 ppm available chlorine) or ethanol (70%), each for at least 10 minutes.

Safe disposal

Properly dispose of animal tissues including birth by-products by incineration or deep burial. Contaminated products or linen should be placed immediately in a sealed double bag and placed in a bin with a lid located in low traffic areas.

How do I protect people in my household?

Encourage your household to get the Q fever vaccine. To protect those who are not immune you should:

- Wash your hands and arms thoroughly in soapy water before returning home
- Remove and wash dirty clothing, coveralls, boots and equipment in outdoor wash areas

Avoid taking dirty clothing, coveralls, boots or equipment home where possible. If you do take clothing home, bag and wash it separately.

Notifiable disease

Q fever is a notifiable disease. Laboratories and doctors must inform the Department of Health of a diagnosis, including suspected or confirmed cases. Notification is confidential.

Department of Health staff investigate each case to determine the likely source of infection, identify other people at risk of infection and ensure control measures are in place. They will also let other people at risk know about immunisation and if they are required to stay away from work.

More information

- Australian Q fever register helpline on 1300 733 837
- WorkSafe Western Australia (external site)

Where to get help

If you are unwell:

- See a GP and let them know you are concerned about Q fever.
- Ring *healthdirect Australia* on 1800 022 222.

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- Attend a hospital emergency department for urgent medical attention or if you are severely unwell.

For additional information:

- Phone the Australian Q fever register helpline on 1300 733 837
- Phone your local [public health unit](#)

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