NSW Health

Q fever and veterinary staff

Q fever is a bacterial disease that can cause a severe flu-like illness. It is spread to humans from a range of domestic and wild animals. All veterinary staff should be screened, and if needed, vaccinated against Q fever at least 2 weeks before starting work.

What is Q fever?

Q fever is a disease caused by the bacterium *Coxiella burnetii* that is spread to humans from animals.

What are the symptoms?

Acute Q fever infection can cause a severe influenza- like illness. Patients may also experience hepatitis (swelling of the liver) and pneumonia (infection of the lungs). Chronic (long-term) infections can occur. This is more common in pregnant women, those with weakened immune systems and heart problems. Some patients go on to suffer from a chronic-fatigue-like illness which can be very debilitating for years.

If you are diagnosed by your doctor with Q fever, you should tell your employer. They are required to provide a safe workplace, which includes controlling the risk of Q fever exposure. They must notify SafeWork NSW about Q fever infections in workers that may have been acquired in their workplace.

What animals can spread Q fever?

The main sources of infection are cattle, sheep and goats. However, a wide range of other animals can be reservoirs of *Coxiella burnetii* and can transmit the bacterium to humans directly or indirectly including domestic and feral dogs and cats, feral pigs, horses, rabbits, rodents, alpacas, camels, llamas, foxes, Australian native wildlife (notably kangaroos, wallabies and bandicoots), some birds and several species of ticks.

Infected animals usually do not have symptoms. Rarely, infected animals can experience abortion (particularly goats), stillbirth, infertility and pneumonia.

How can Q fever be transmitted from animals to veterinary staff?

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. Contaminated 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.

Veterinary staff can contract Q fever by:

- direct contact with infected animals, animal tissues or animal products:
  - by breathing in infectious particles or dust. Birthing, caesarean sections and other activities involving direct contact with infected birth products have an especially 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 fomites:
  - 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. hides, straw and manure fertiliser) or in areas where birthing and caesarean section occur

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health.nsw.gov.au/qfever

How can veterinary staff avoid contracting Q fever?

Vaccination

Vaccination is the most effective way to prevent Q fever. Q fever vaccination is highly recommended for all people who are working in, or intending to work in the veterinary field. Due to the potential of inhaling the bacteria in the environment, this applies to all workers including those not directly in contact with animals, animal products or equipment. Vaccination should occur 2 weeks prior to commencing work.

Vaccination is recommended for:

- veterinarians
- veterinary nurses and assistants
- university and TAFE students of animal related disciplines
- school students over 15 years on veterinary work experience or who attend veterinary practices
- veterinary volunteers
- cleaning staff and receptionists of veterinary practices

Veterinary practices should have a vaccination program. Before being vaccinated, workers will require pre-vaccination screening (including blood and skin tests) to see if they have already come into contact with Q fever bacteria. For more information talk to your doctor and read the Q fever vaccination factsheet.

Veterinarians should advise animal owners of the risks of acquiring Q fever from their animals (particularly breeding clientele) and recommend vaccination to those identified as being at-risk.

Other precautions

Workers who are not immune (from vaccination or previous infection) should not work in the veterinary field. Under work health and safety legislation employers may refuse entry to the workplace for non-immune workers.

Workers and animal owners who are not immune should not participate in birthing or caesarean sections due to the very high risk of infection. Non-immune individuals who are unable to avoid being in the vicinity of a birth or caesarean section should use an appropriately fitted P2 particulate respirator mask that meets the Australian Standard (AS/NZS 1716) in addition to gloves, eye protection and protective outerwear.

In addition to vaccination, your employer should ensure you receive information, instruction and training in basic infection control procedures including infectious disease prevention, hand and environmental disinfection, safe waste removal and the correct use of personal protective equipment (PPE).

Employers should provide PPE including:

- 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 — 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 workers in the vicinity of a caesarean section and should not be removed until the worker 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. Wash the soiled clothing separately from personal clothes and preferably at the animal facility. Any contaminated clothing taken home should be bagged and washed separately only by those immune to Q fever.

PPE is not a substitute for Q fever vaccination.

Cover all open wounds with waterproof bandaging. 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.

Do not eat, drink, or smoke while handling animals or in animal housing areas.

Disinfection and sterilization

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. Disinfect 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 decomposing with soda ash and 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 area.

Further information

See related factsheets **Q fever**, **Q fever vaccination** and **Q fever and farms**.

See the Australian Veterinary Association **Guidelines for Veterinary Personal Biosecurity.**

For further information on managing Q fever exposure in the workplace including employer responsibilities see the SafeWork NSW **Q fever guidance** or contact **SafeWork NSW** on 13 10 50.

For further information please call your local public health unit on **1300 066 055**.