

# Q Fever

Q fever is an infection caused by *Coxiella burnetii*, a type of bacterium that is found worldwide except New Zealand. The infection is almost always related to direct or indirect contact with animals such as cattle, sheep or goats, although a wide range of animals including cats, dogs and kangaroos may carry the infection. Infection in animals is probably common, but they usually do not appear to be ill.

The bacteria pass into milk, urine and faeces of infected animals and during birthing, large numbers of organisms are shed in the birth products. Q fever organisms are resistant to heat, drying and many common disinfectants, allowing them to survive for long periods in the environment.

Infection of humans usually occurs by inhalation of the bacteria in air carrying dust contaminated by dried placental material, birth fluids, urine or faeces of infected herd animals. Contaminated clothing, wool, hides or straw may also be a source of infection. Person-to-person spread is extremely unlikely. Usually, Q fever is an occupational disease of meat workers, farmers and veterinarians. People living within one kilometre downwind of an abattoir are also at increased risk of infection.

Diagnosis is made by a series of blood tests.

Only about half of all people infected with *Coxiella burnetii* show signs of clinical illness, but onset of symptoms is usually sudden, with one or more of the following:

- > fever, which may last for up to four weeks
- > severe headache
- > sweats and chills
- > fatigue – and a chronic fatigue syndrome may follow infection
- > muscle aches
- > confusion
- > sore throat, dry cough, chest pain on breathing
- > nausea, vomiting, diarrhoea, abdominal pain.

Up to half of symptomatic cases will develop pneumonia (lung inflammation) and many people will have inflammation of the liver. However, most people will recover within several months without any treatment and only 1-2% of people with acute Q fever die of the disease.

Some people may develop chronic Q fever after exposure. Infection persists for more than six months and may not be apparent until many years after the initial infection. It is rare, but can have serious complications such as endocarditis, infection of the heart valves.

People at most risk of developing chronic Q fever include:

- > those with underlying heart abnormalities
- > transplant recipients
- > cancer patients
- > those with chronic kidney disease.

## Incubation period

*(time between becoming infected and developing symptoms)*

Usually 2 – 4 weeks.

## Infectious period

*(time during which an infected person can infect others)*

Person-to-person spread occurs rarely.

## Treatment

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

## Q Fever (cont.)

### Control of spread

- > A Q fever vaccine has been developed in Australia and is 96-100% effective in preventing the disease. However, vaccination of those already exposed to Q fever can result in severe reactions, so before being vaccinated a person must be tested to see if they have previously been exposed, either naturally or by previous vaccination. This is done by having a blood test and a skin test. If there is evidence of previous Q fever exposure, the person should not be vaccinated.
- > Vaccination will not prevent disease in someone who has been infected and is in the incubation period of the disease.
- > Vaccination is recommended for:
  - abattoir workers (but not pig or poultry abattoirs)
  - farmers, stockyard workers and animal transporters
  - shearers and wool sorters
  - others exposed to cattle, camels, sheep, goats and kangaroos or their products
  - veterinarians, veterinary nurses and students
  - agricultural college staff and students (working with high risk animals) and laboratory personnel handling veterinary products or working with the organism.
- > Don't drink unpasteurised milk.
- > Exclusion from school or work is not necessary.



**Q fever is a notifiable disease**