



## Q FEVER

Humans acquire Q fever from animals (both wild and domestic) infected with the *Coxiella burnetii* bacterium; they may have no apparent symptoms. Q fever infection can be acute or chronic, causing potentially long-term consequences. Acute Q fever has an incubation period of 2 to 3 ½ weeks but this can range from 4 days to 6 weeks. Symptoms include rapid onset of high fever, rigours, profuse sweats, extreme fatigue, muscle and joint pain, severe headaches and photophobia (sensitivity to light). A Q Fever vaccine is available for those at risk after pre-vaccination testing.

Q fever is found across the global except for New Zealand. It is a common infection in animals such as sheep and cattle, goats and even kangaroos in Australia. It is spread to humans by breathing in the bacteria in aerosolised animals' infected faeces, urine, placental material or birth fluids. The bacterium is heat resistant and also resists common disinfectants, which means it can live for a prolonged time between hosts.

## WHAT IS Q FEVER?

Q fever is a notifiable disease caused by the bacterium *Coxiella burnetii*. First recognised in Australia in the 1930s when workers at a Brisbane meat processor factory became sick with a fever, it was called 'Query' fever as the cause of the illness was unknown; this was later shortened to Q fever.

The bacterium survives well in air, soil, water and dust and can also be spread on fomites such as wool, hides, clothing, straw and packing materials. *C. burnetii* has been weaponised and is considered a Category B biothreat agent.

As the Q Fever infection progresses individuals usually have evidence of hepatitis, sometimes with obvious jaundice, and a proportion of individuals develop pneumonia which is usually mild but can necessitate mechanical ventilation. Rarely, neurological complications can ensue, such as meningitis and encephalitis. If left untreated the illness will last for 1 to 3 weeks and may be accompanied by substantial weight loss.

The most common chronic manifestation caused by *C. burnetii* is sub-acute endocarditis, which might not become obvious for 5 years. Less common presentations include granulomatous lesions in bones, joints, liver, lung, testes and soft tissues. In about 10 to 15 % of individuals, post-Q fever fatigue syndrome (QFS) is a late-onset outcome of infection.

## WHERE IS IT FOUND?

Q fever occurs almost everywhere in the world. In Australia, cattle, sheep and goats are the main reservoirs although it can also be found in bandicoots, kangaroos and dogs.

## RISK TO TRAVELLERS

The risk of contracting Q fever among Australian meat workers has been estimated to be 1 in 300 unvaccinated workers per year. There are approximately 600 Q fever cases in Australia each year, of which around 300 occur in Queensland.

Q fever is a serious infectious disease that can cause severe complications such as extreme fatigue, or heart and liver damage. An uncomplicated Q fever case is estimated to cost around \$7,000 to treat, with 2 to 4 weeks of sick leave expected. Around 20% of cases are more severe, leading to long-term complications requiring up to 6 months of sick leave.

Those at risk are mostly workers from the livestock and meat industries, such as abattoir workers, farm workers, livestock transport workers and also veterinarians, veterinary nurses, veterinary students, agricultural college staff and visitors to areas of risk.

## WHAT IS Q FEVER VACCINATION?

There is an effective vaccine against Q fever, however it can have severe side effects in persons who have already had the disease.

Before vaccination a person must have: 1. Blood test, 2. Skin test, and 3. Detailed history taken.

These tests are undertaken to avoid unwanted vaccine side effects and if any are positive it is likely the individual would react badly to the vaccine.

The blood and skin test must be done on the same day and the person must return to the doctor 7 days later to have the skin test read.

If both blood and skin test are negative, the person can be vaccinated. The vaccine then takes around 2 weeks to become effective and the individual must not visit an abattoir during this time.

## SCHEDULE

For adults and adolescents aged 15 years and over, 0.5 ml of the Q fever vaccine is given by subcutaneous injection (assuming both blood and skin tests are negative).

## LEVEL OF PROTECTION

The vaccine is believed to be long-lasting (in excess of 5 years). Until further information becomes available, revaccination or booster doses are not recommended.

## POSSIBLE SIDE EFFECTS

Up to 50% of those vaccinated will have local tenderness, redness and swelling at the injection site.

Around 10% of vaccine recipients' side effects will include mild influenza-like symptoms, such as headache, fever, chills and minor sweating.

Skin reactions such as redness are common 3 to 4 days after skin testing, however, these generally resolve by day 7 when the skin test is read.

A very rare side effect in individuals (mainly women) who were skin and antibody test-negative at the time of vaccination and did not have an immediate reaction after vaccination, is some 1 to 8 months later a hardened skin lesion develops at the inoculation site.

The site of the original skin test may also become positive, presumed to be a result of a late-developing immune response. The lesions do not worsen or evolve into an abscess: they gradually reduce in size and disappear over a period of some months without treatment.

## SHOULD PREGNANT WOMEN HAVE A Q FEVER VACCINE?

No. The safety of the Q fever vaccine has not been established for pregnant women so it is definitely not recommended during pregnancy, and if a woman is pregnant and not sure she has immunity to Q Fever, she should talk with her travel doctor or GP to discuss the options.

The Q fever vaccine, called Q-Vax, is the best defence against Q fever and is highly recommended for those working with livestock or those who are at increased risk of coming into contact with the cause of Q fever, the *C. burnetii* bacterium.

Crucially, *before the vaccine is given*, it is important to ensure you are not already immune to Q fever by having the necessary skin and blood tests. The reason for the pre-vaccine tests is to determine if you have immunity to Q Fever or not.

If you are immune and receive the vaccine, you could have a severe reaction. Talk to your travel doctor or GP for advice. Infection with Q Fever in pregnancy can result in premature babies, foetal death, and restriction of intra-uterine growth.

## WHAT IS CHRONIC Q FEVER?

The Q Fever bacteria *Coxiella burnetii* may cause chronic disease in those infected. The most common complication resulting from an infection with Q Fever in adults is sub-acute endocarditis. Some of the other common conditions that can manifest as chronic after Q Fever are caused by granulomatous lesions in:

- Joints
- bone (osteomyelitis)
- lung
- liver
- testes
- and other sites i.e. soft tissues

## THE Q FEVER REGISTER

Note: People who have been vaccinated against Q fever should be encouraged to be listed on the Q Fever register, which holds copies of all Q fever vaccination records (if individuals wish to be included). Each person registered will receive a vaccination card from the Register and this can be presented to prospective/current employers as proof of Q Fever vaccination.

To make sure of your Q fever immune status, or if you need pre-vaccination testing before a Q Fever vaccination, book an appointment by contacting [Travelvax](#) today. We offer a convenient work and travel health consultation tailored to each individual's personal needs and itinerary.

We're here for both individual and corporate workers and travellers who want full Q Fever testing and immunisation. Our information line 1300 360 164 is for both travellers and agents. Call us for answers to general travel questions about Q Fever vaccinations or any other vaccines or travel health advice.

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## FAQS

**More information on Q Fever is available during your pre-travel consultation with Travelvax. Call 1300 360 164 for the location of the clinic nearest to you.**