

Q fever

Prevention



Taking the Q (query)  
out of Q fever  
A guide for livestock handlers



# Q fever Prevention

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## What is Q fever?

Query (Q) fever is an infectious illness caused by the bacterium *Coxiella burnetii*. This disease is zoonotic, meaning it can be spread to people from infected animals. Infections primarily occur in livestock (including goats, sheep and cattle), although a range of other animals may be carriers of the bacteria.

## Who is at risk?

Human infection is usually acquired through either direct contact with infected animal products or through inhalation of contaminated dust. All people who enter workplaces that house livestock or their products may be at risk of infection, including:

- Livestock farmers
- Abattoir workers
- Shearers
- Feedlot and stockyard workers
- Livestock transporters
- Veterinarians and veterinary nurses
- Wildlife carers and other wildlife workers (e.g. zookeepers)

People exposed to contaminated dust or animal products (including contaminated clothes, boots, equipment or manure) can also be at risk, including:

- On-site contractors and tradespeople
- Labour hire workers
- Sales representatives and livestock buyers
- Family members of those in high-risk occupations
- People living on or near a high-risk industry
- Horticulturists or gardeners working near a high-risk industry

## How is it spread?

While infected animals often have no symptoms, abortions / stillbirths are a key sign. Bacteria can be found in a range of tissues and products of infected animals such as:

- The placenta and other birth fluids (in very high numbers)
- Urine
- Faeces
- Blood
- Milk

The bacteria can survive in soil and in dust for many years and may spread several kilometres on the wind.

## Signs of infection

### Acute infections

Many people that become infected with Q fever do not show strong symptoms. But people who do become ill often develop acute flu-like symptoms that begin around 2 – 3 weeks after infection. Symptoms can include:

- Fevers and chills
- Severe headaches
- Muscle and joint pain
- Heavy sweating

In addition to these flu-like symptoms, infections can also result in a number of other conditions including:

- Hepatitis (liver inflammation)
- Pneumonia (lung infection)
- Chronic fatigue

Without treatment, symptoms can last up to six weeks and often result in time needed away from work. Most people make a full recovery and become immune to repeat infections.

### Chronic infections

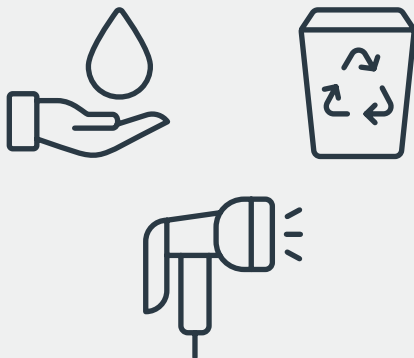
Occasionally, a small percentage of people that have become sick with Q fever will develop persistent focal infections. Symptoms usually begin showing up later in life (up to six years after initial infection). Localised infections such as endocarditis, pericarditis and vascular infections have been reported, all of which can be debilitating and require further treatment.

# Reducing the risk of Q fever

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## Personal preparation: Stay clean and vaccinate

- Wear appropriate protective clothing when handling animals, particularly during or after the birthing process
- Use P2/N95 masks and cover any wounds when handling animal products, wastes, aborted foetuses or placentas
- Ensure eligible people living or working on the farm have been vaccinated with the Q fever vaccine (please see the next section **how does the vaccine work** and visit [www.qfever.org/faqs](http://www.qfever.org/faqs) for more details)



## After handling animals

- Wash hands and arms thoroughly using warm, soapy water
- Designate key high-risk areas as areas where non-immune people cannot enter (these can include sites where slaughter occurs, birthing sites or high-density areas). Include work stations that can easily be cleaned; clean down all equipment that comes into contact with animals
- Ensure any animal tissues (particularly birth products such as foetuses or placentas) are properly disposed of (e.g through deep burial) and cannot become aerosolised

## Reduce risk of on-farm contamination

- Take measures to implement vegetation barriers to prevent dust formation or the spread of contaminated dust on the wind
- Ensure adequate ventilation systems are available to reduce risk of aerosolised bacterial particles being inhaled in high-risk areas (shearing sheds, animal housing and slaughter areas)
- Cover animal products during transport, compost appropriately and under-plough immediately when spreading products on farm land





# How does the vaccine work?



## The Q-VAX vaccine

Vaccination against Q fever is the best prevention strategy we have for reducing risk of outbreaks. The human vaccine Q-VAX® (Seqirus) has been in use in Australia since 1989 and has been shown to be very effective at reducing rates of Q fever.

This vaccine is safe (it is not live and cannot cause Q fever infection) and is highly recommended for people working in high-risk areas, including meat and abattoir workers, farmers, veterinarians and people working in the livestock transport / sales industries.

## Pre-vaccination screening

Several steps are needed to ensure vaccination can be given. This is because people who have already been exposed to the bacteria will have some immunity and may develop a reaction to the vaccine. Due to the need for these screening tests, **you will require two appointments with a GP (separated by one week)**. Foreword planning is recommended if you are thinking of getting vaccinated. Necessary steps are:

- 1 Interview to identify whether previous exposure has occurred
- 2 Blood test to check for existing immunity
- 3 Skin test to check for existing immunity

Blood and skin tests check for different types of immunity. Skin test results will be checked one week after your initial visit. **If any of these are positive, the vaccine will not be given as you already have natural immunity.** Protection after vaccination or natural exposure is considered to be very long-lasting and vaccination should not be repeated as this can cause adverse reactions.



## After the vaccine

The vaccine requires 15 days after vaccination before providing adequate protection. **Under work health and safety legislation, you will be refused entry to high risk areas of the workplace until two weeks from the date of vaccination.** Keep the vaccination record in a safe place as you may be asked for it at a later date, particularly if you change jobs as your new employer will need this evidence.



# Taking the Q (query) out of Q fever project



## The Q fever group

Our research collaboration (entitled *Taking the Q (query) out of Q Fever: Developing a better understanding of the drivers of Q fever spread in farmed ruminants*) is a multidisciplinary group that aims to improve understanding of Q fever reservoirs, amplification and transmission pathways in Australia. Our research will help direct biosecurity resources more efficiently in Australia and more broadly. In turn this will reduce the burden of an extremely debilitating disease in rural communities around the globe. Our projects will provide knowledge that can be used to develop policies that will limit the likelihood of a large and prolonged Q fever outbreak in Australia.

This will help to maintain Australia's position as an exporter of premium agricultural produce. This project is supported by funding from the Australian Government Department of Agriculture, Water and the Environment as part of its Rural R&D for Profit program. Project funding is administered by

AgriFutures Australia. Meredith Dairy is an industry partner contributing funds to the project. The University of Melbourne and The University of Queensland are providing financial and in-kind contributions to the project. The University of Adelaide, Charles Sturt University, Australian Rickettsial Reference Laboratory and Goat Vet Oz are all supporting the project through in-kind contributions.

### Please read more about our work at the following links:

[blogs.unimelb.edu.au/q-fever](https://blogs.unimelb.edu.au/q-fever)

[twitter.com/Qfever\\_Group](https://twitter.com/Qfever_Group)

[facebook.com/QFeverGroup](https://facebook.com/QFeverGroup)

## Our collaborators



**Australian Government**  
Department of Agriculture,  
Water and the Environment

## Q fever group

[blogs.unimelb.edu.au/q-fever](https://blogs.unimelb.edu.au/q-fever)

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