

Q fever is an infection spread to humans from animals, mainly cattle, sheep and goats. It can cause a severe influenza-like illness and long-term health problems. Vaccination is the most effective way to prevent Q fever infection and is recommended for those who work, live in or visit high-risk environments.

Dr Jo Grey offers Q fever screening and vaccination at the Launceston Health Hub.

### **What is Q fever?**

Q fever is a disease caused by bacteria spread to humans from animals. It can cause flu-like symptoms that can be severe. Some people experience long-term health issues following infection.

Cattle, sheep and goats are the main sources of infection; however a wide range of animals can also spread the bacteria to humans. This includes domestic and feral dogs and cats, feral pigs, horses, rabbits, rodents, alpacas, camels, llamas, foxes, and Australian native wildlife (including kangaroos, wallabies and bandicoots).

Infected animals usually do not appear to be sick.

Most infections occur from breathing in air or dust contaminated with Q fever bacteria from animal birth fluids, tissues or excretions. The bacteria survive well in air, soil and dust. It can also infect animal products and materials such as clothing and straw.

### **Who is at risk?**

Workers in the following occupations are at high risk of Q fever:

- abattoir and meat workers
- livestock and dairy farmers
- farm workers
- shearers, wool classers/sorters, pelt and hide processors
- stockyard/feedlot workers and transporters of animals, animal products and waste
- veterinarians, veterinary nurses/assistants/ students and others working with veterinary specimens
- wildlife workers working with high-risk animals (including Australian native wildlife)
- agriculture college staff and students (working with high-risk animals)
- laboratory workers (working with the bacteria or with high-risk veterinary specimens)
- animal shooters/hunters
- dog/cat breeders, and anyone regularly exposed to animals who are due to give birth
- pet food manufacturing workers
- people whose work involves regular mowing in areas frequented by livestock or wild animals e.g. council workers, golf course workers or staff of mowing businesses in regional and rural areas.

All workers who enter workplaces in which Q fever may be present are also at risk of infection.

Other people may be at risk of Q fever through contact with high-risk animals outside of work. It can also occur in regional and rural areas by breathing in infected dust and particles in the environment.

### **Who should be vaccinated?**

People whose work puts them in contact with high-risk animals or animal products have a high risk of getting infected with Q fever. The vaccine is strongly recommended for people aged 15 years and over who work in high-risk occupations.

Vaccination is also recommended for anyone aged 15 years and over who may come into contact with Q fever bacteria during activities outside of work or in the areas in which they live, work or visit.

### **Who should not be vaccinated?**

Not everyone can be vaccinated. Those with a known allergy to egg proteins should not be vaccinated. Pregnant women, children under 15 years of age and those with weakened immune systems should obtain specialist advice before considering vaccination. For all others, pre-vaccination screening is necessary to identify who can be vaccinated.

### **Is the Q fever vaccine effective?**

The Q fever vaccine (Q-VAX®) has been licensed for use in Australia since 1989 and has shown to be highly effective in preventing Q fever infection. Since the introduction of vaccination for high-risk occupations, the rates of Q fever infection have dropped significantly. The vaccine is made in Australia.

### **What is pre-vaccination screening?**

To avoid the risk of a severe reaction the vaccine should only be given to those who have not been in contact with the bacteria in the past. Pre-vaccination screening has 3 stages:

1. a discussion with your doctor about Q fever infection or past vaccination
2. blood test to check for immunity
3. skin test to check for immunity

It is possible to have been in contact with Q fever bacteria and not get sick, so pre-vaccination screening is essential. Both tests are needed to ensure all different types of immunity are considered.

### **What does a positive result on blood test or skin test mean?**

A positive skin test or blood test indicates you have been in contact with Q fever bacteria in the past. This means you cannot be vaccinated as you are at an increased risk of a serious reaction to the vaccine. It also means you are likely to be immune to Q fever infection.

You may start or continue to work in a high-risk occupation.

It is possible to be positive on either the skin test or blood test and negative on the other. To avoid the risk of a severe reaction, the vaccine should only be given to those who are negative on both tests.

### **Is the Q fever vaccine safe?**

The vaccine has been shown to be safe provided the screening tests mentioned above are done. Minor skin reactions are common 3 to 4 days after the initial skin test, however, these reactions usually go away after 7 days, which is when the skin test is read by your doctor.

Common side effects to the vaccine include injection site reaction (pain, heat, swelling and redness, flu-like symptoms, headache and fever). Serious side effects are very rare. The vaccine is not a live vaccine and cannot cause Q fever infection.

### **What should be considered before vaccination?**

- Two visits to the doctor are needed, first to complete both pre-vaccination screening tests, and the second for your vaccination. These tests should be 7 days apart.
- Only book the first appointment when you are able to return in 7 days to have the injection site examined by the doctor. If eligible, vaccination can be given at the second appointment. The vaccine is a single injection given in the upper arm.
- The vaccine and the skin testing are not government funded. Speak to your doctor or employer about the costs involved. Costs are tax deductible for most at-risk occupations.

### **What should be considered after vaccination?**

- Allow 15 days after vaccination before starting work in an at-risk environment. Under work health and safety legislation you may be refused entry to high-risk areas of the workplace until 2 weeks from the date of vaccination. If you must work in the 2 week period, your employer must provide adequate personal protective equipment (PPE) and train you on how to use the PPE to minimise the risk of infection.
- Q fever vaccination can now be recorded on the Australian Immunisation Register (AIR) by your GP or vaccine administrator. You may wish to keep the vaccination record provided by the GP as you may be asked for it later, especially if you change jobs, as your new employer may need proof of your vaccination.

### **Are there other ways to prevent Q fever if vaccination is not possible?**

Vaccination is the most effective way of protecting yourself against Q fever. For those who are unable or choose not to be vaccinated there are other measures that you can take to reduce your risk of infection. These measures can also be adopted by those who have been recently vaccinated and are waiting the necessary two weeks for the vaccine to provide protection.

Source: Australian Immunisation Handbook, 2014