

TITLE: UNIVERSITY OF ARIZONA IACUC INSTITUTIONAL POLICY ON Q FEVER

PURPOSE: To ensure proper handling techniques are followed for prevention of infection.

REVIEW/REVISIONS:

EFFECTIVE DATE: 12/20/95; **Revised/Re-Approved:** 12/7/00, 11/2/05, November, 1, 2007

PERSON(S) RESPONSIBLE: All UAC/Farm Husbandry and research personnel working with potentially infected sheep or goats.

POLICY/PROCEDURES:

Control: Serological testing of pregnant sheep and goats provides some help in determining if an individual animal is infected with Q fever but is not always reliable. Personnel working with these animals must develop procedures which limit contact with potentially infected sheep or goats:

- 1) If possible experimental procedures should be developed using male or non-pregnant female sheep or goats. If unsure of the pregnancy status, the female sheep or goat should undergo ultrasound examination. If possible, pregnant animals should not be accepted.
- 2) Any invasive surgery of the abdominal cavity of a pregnant ewe will be done in a dedicated surgery facility. The surgeon will be dressed in scrubs, sterile surgical gown, cap and mask. All personnel attending in the surgery will wear scrubs, cap and mask. Dedicated surgical foot wear or disposable booties will be worn. Exposed personnel will not leave the surgical area except to access locker facilities for showering, scrub laundering and changing to street clothes.
- 3) Contaminated materials including placenta, amniotic fluid and aborted fetus will be handled as a biohazard using universal precautions and disposed of using appropriate biosafety measures. Surgical instruments will be cleaned and autoclaved; only one surgery should be performed with each surgical pack.
- 4) Facilities housing sheep or goats that may be infected with Q fever will post a biohazard sign approved by Risk Management. Surfaces in surgical and laboratory areas can be disinfected with a fresh 1:100 dilution of household chlorine bleach that contains 5.25% hypochlorine, a 5% solution of H₂O₂, or a 1:100 dilution of lysol (a mixture of saponified alkyl and aryl derivatives of phenol). Ethyl alcohol, 1% phenol, 1% formalin, and quaternary ammonium compounds are not effective for disinfecting surfaces contaminated with *C. Burnetii*.
- 5) Pure-breed sheep or goats housed at the Campbell Avenue Agriculture Facility will be handled as uninfected animals if routine serological monitoring of the herd is maintained. Any aborted fetus will be removed to the Arizona Veterinary Diagnostic Laboratory for necropsy and serological monitoring of the ewe will be performed. Personnel working with sheep or goats at lambing time should wear coveralls and boots and should shower and change before leaving work.
- 6) Personnel handling sheep or goats must wash their hands and arms thoroughly with a germicidal soap before leaving the animal facility.
- 7) **Pregnant women, immunologically compromised individuals and individuals with valvular heart disease or prosthetic heart valves should use extreme precaution if in contact with pregnant sheep or goats. These individuals should not have contact with persons who have handled pregnant sheep or goats until those animal handlers have showered and changed into clean clothing. These individuals, in particular, should consult with the physician for risk assessment.**

DOCUMENTATION:

Statement of Understanding and Compliance Attached.

JUSTIFICATION:

Synonyms: Query fever, Abbottoir fever, Balkan grippe.

Agent: Coxiella burnetii, a rickettsial organism that is highly resistant to physical and chemical agents used in disinfection. It has been reported in most warm blooded animals including fowl. The most common source of infection in the United States is from sheep, although goats and cattle can carry the disease. When animals are infected, the organism will localize to the mammary gland, supra mammary lymph nodes and the placenta. The infection of the placenta will cause abortion. Infected animals can become chronic carriers. At the time of abortion, large numbers of the infectious organisms are discharged with the placenta, amniotic fluid and dead fetuses.

Mode of transmission: The most common mode of infection in humans is inhalation of the aerosolized agent from the placenta and amniotic fluid. The agent can be carried by dust or on shoes and clothing leading to potential infection of individuals not involved with the infected animals (family members, office staff, etc.).

The disease in man: The incubation period is two to four weeks. The disease has a flu-like character with fever, chills, profuse sweating, anorexia, and muscle pain. A prominent symptom is a severe headache with intense retrobulbar (behind the eyes) pain. Sometimes vomiting and nausea is reported. The fever generally lasts between 9 and 14 days and is recurrent in some cases. It is important to note that the severity of this disease is highly variable and in many cases goes unnoticed by the affected individual. In the chronic state, the infection can cause endocarditis, pneumonitis, pericarditis and/or hepatitis. Mortality is less than 1%. There have been reports of abortions caused in women who were infected during pregnancy. Treatment is prescribed by a physician and is usually tetracycline. Diagnosis in humans is by measuring serological response.

Q FEVER POLICY FOR THE UNIVERSITY OF ARIZONA

The attached policy must be read and signed off by all investigators, support staff, graduate students, animal workers and Animal Care personnel identified by protocol as having exposure to female sheep or goats. New protocols involving sheep or goats will not be granted final approval and animals cannot be ordered until all personnel have read and signed the Statement of Compliance which is attached to the information packet.

This policy will not prevent individual units from requiring serological testing, if they elect to do so. This policy will ensure that all personnel at the University of Arizona that may be exposed to Q Fever will be informed as to the risk, and provides information on how that risk can be minimized.

STATEMENT OF COMPLIANCE:

Principal Investigator: _____ Phone: _____
Protocol: _____

STATEMENT OF UNDERSTANDING:

I affirm that I have read the University of Arizona Q Fever Policy and agree to follow procedures as outlined within the policy. I also assure that all individuals associated with my project have read and understand the risks involved with Q fever exposure which may result from working with sheep or goats.

Principal Investigator Signature: _____ Date _____

Participating Personnel Signatures: _____