Institutional Animal Care and Use Committee		UNTHSC
Title: Q Fever		
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A. BACKGROUND INFORMATION

a. *Coxiella burnetti* is a rickettsial organism that causes Q Fever (also called Query Fever, Abbotoir fever or Balkan grippe) and 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 organism are discharged with the placenta, amniotic fluid and dead fetuses.

b. Precautions must be made to prevent contact with the organism in live animals or animal tissue.

B. RESPONSIBILITIES

a. It is the responsibility of Principal Investigators, research staff and DLAM staff to follow the procedures below.

C. PROCEDURES

a. 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.

b. 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 N95 mask. All personnel attending in the surgery 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.

c. 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.

d. Personnel handling sheep or goats must wash their hands and arms thoroughly with a germicidal soap before leaving the animal facility.
e. Surfaces in surgical and laboratory areas can be disinfected with fresh 1:100 dilution of household chlorine bleach that contains 5.25% hypochlorite, a 5% solution of H2O, or a 1:100 dilution of Lysol. Ethyl alcohol, 1% phenol, 1% formalin, and quaternary ammonium compounds are not effective for disinfecting surfaces contaminated with *C. Burnetti*.
f. 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 or animal tissues (including cow). 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 a physician for risk assessment.
g. Information on Q Fever:
    i. 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 member, office staff, etc.).
    ii. 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 is 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.
    iii. 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.

iv. For more information, contact UNTHSC DLAM at 817-735-2017 during normal working hours.

h. If using unfixed tissue, an Institutional Biosafety protocol must be submitted and approved.