

Q FEVER (Query Fever)

1. **Agent:** *Coxiella burnetii* (previously *Rickettsia burnetii*), a small, pleomorphic, obligate intracellular coccobacillus.
2. **Identification:**
 - a. **Symptoms:** An acute febrile disease; onset may be sudden, with chills, retrobulbar headache, weakness, malaise and severe sweats; much variation in severity and duration. A pneumonitis occurs in many cases, with mild cough, scanty expectoration, chest pain, minimal physical findings and little or no upper respiratory involvement. Chronic endocarditis, acute hepatitis and inapparent infections have been reported.
 - b. **Differential Diagnosis:** Viral pneumonia, psittacosis, so-called "atypical" pneumonia, pulmonary mycotic disease, endocarditis, hepatitis, adenovirus infection.
 - c. **Diagnosis:** A fourfold or greater rise in serum antibody on acute and convalescent sera.
3. **Incubation:** Varies with infecting dose; usually 2-3 weeks, although may be up to 6 weeks.
4. **Reservoir:** Domestic animals: cats, cattle, sheep, and goats. Wild animals: many feral rodents, ticks.
5. **Source:** Dust, straw, and wool contaminated by infected animals; infected bodies or carcasses; placental tissues, fetal membranes, and amniotic fluid; unpasteurized milk.
6. **Transmission:** Commonly by airborne dissemination in dust. This agent has the ability to survive for long periods of time in a dry environment in or near premises contaminated by placental tissues and birth fluids of infected animals, in establishments processing infected animals or their by-products, and in necropsy rooms. Also by direct contact with infected animals or other contaminated materials such as wool, straw, fertilizer, and the laundry of exposed persons. Ingestion of contaminated, unpasteurized milk may be responsible for some cases.
7. **Communicability:** Rarely from person to person.
8. **Specific Treatment:** Tetracycline or doxycycline are the drugs of choice; chloramphenicol may be used in children. For chronic endocarditis, add

Rifampin®, trimethoprim-sulfamethoxazole, or ciprofloxacin.

9. **Immunity:** Lifelong.

REPORTING PROCEDURES

1. **Reportable.** *California Code of Regulations*, Title 17, Section 2500.
2. **Report Form:** **CASE REPORT OF BRUCELLOSIS (UNDULANT FEVER), Q FEVER, TULAREMIA (DHS 8558, 9/99 fillable).**
3. **Epidemiologic Data:**
 - a. Exposure to cattle, sheep, goats, animal by-products (wool, fertilizer, birth products, etc.), and dust from contaminated corrals.
 - b. Consumption of unpasteurized milk or milk products.
 - c. Occupation and address. Laboratory technicians; veterinarians; farmers; dairymen; packing house; stock-yard; rendering plant; wool-processing workers and other engaged in related fields; rural construction workers; laundry workers; undertakers.
 - d. Travel within areas of concentration of cattle, sheep, and goats.

CONTROL OF CASE, CONTACTS & CARRIERS

Investigate within 7 days. Immediate investigation indicated if clustering of cases occurs.

CASE:

Precautions: None.

CONTACTS: No restrictions.

PREVENTION-EDUCATION

1. Direct control measures aimed toward limitation of exposure to infectious agent.
 - a. Dispose of birth fluids and placentas of domestic animals properly.
 - b. Use strict hygiene measures when working around cows, sheep and barns (dust, urine, feces, rodents) during epizootics.

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- c. Educate public on sources of infection and necessity of pasteurization of milk.
2. Discuss availability of medical services and immunization for people engaged in activities associated with farm animals, their body wastes and by-products.
3. Disinfect soiled articles from patients. Dispose of sputum and blood properly. Use precautions at postmortem examination.

DIAGNOSTIC PROCEDURES

Clinical and epidemiological history required to aid the laboratory in test selections.

Serology: Paired sera required.

Container: Serum separator tube.

Laboratory Form: Test Requisition and Report Form H-3021 or online request if electronically linked to the Public Health Laboratory.

Examination Requested: Q fever Serology.

Material: Whole clotted blood.

Amount: 8-10 ml.

Storage: Refrigerate.

Remarks: Collect first blood specimen as early as possible. Collect the second approximately 2 weeks after the first. Send each specimen as it is collected. Do not store. A third specimen (30-40 days after onset) may be necessary if early therapy with antibiotics has been instituted.