# Q FEVER (Query Fever)

1. **Agent**: Coxiella burnetii a small, pleomorphic, obligate intracellular coccobacillus.

2. **Identification**:

   a. **Symptoms**: Occur in approximately half of infected persons and are characterized by a wide variety of clinical signs and symptoms. A nonspecific acute febrile disease that may occur in conjunction with pneumonia or hepatitis; onset may be sudden, with fever, fatigue, myalgia, and chills. Also, severe, debilitating headaches are frequent. Pneumonia is an important clinical manifestation of acute Q fever. Fever lasts a median of 10 days in untreated patients.

   b. **Differential Diagnosis**: Viral pneumonia, psittacosis, "atypical" pneumonia, pulmonary mycotic disease, endocarditis, hepatitis, adenovirus infection.

   c. **Diagnosis**: A four-fold rise in serum antibody between acute and convalescent sera. Serologic testing in combination with PCR is recommended.

3. **Incubation**: Varies with infecting dose; usually 2-3 weeks after exposure, although may be up to 6 weeks.

4. **Reservoir**: Primarily, cattle, sheep, and goats. Also, wildlife, marine mammals, domestic mammals, birds, reptiles, and ticks. Any infected animal has the potential to transmit the pathogen via bacterial shedding in their body secretions.

5. **Source**: Dust contaminated with dried birth fluids or excreta; unpasteurized milk or dairy products.

6. **Transmission**: Occurs primarily through the inhalation of aerosols from contaminated soil or animal waste or from birth fluids of infected animals. This agent is extremely resistant to heat and desiccation. It can survive for months to years and can become airborne traveling on wind currents. Transmission has occurred 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, or fomite transmission from contaminated clothing of exposed persons. Ingestion of unpasteurized or raw milk or dairy products may be responsible for some cases.

7. **Communicability**: Rarely from person to person.

8. **Specific Treatment:** Doxycycline is the drugs of choice for patients of any age with severe illness. Manage infected pregnant women and children appropriately. Other antibiotic regimens that can be used if doxycycline is contraindicated because of allergies include moxifloxacin, clarithromycin, trimethoprim/sulfamethoxazole, and rifampin.

9. **Immunity**: Lifelong.

**REPORTING PROCEDURES**

1. Reportable within 7 days of diagnosis (Title 17, Section 2500, *California Code of Regulations)*.

2. **Report Form**:
   **Q FEVER CASE REPORT (CDPH 8548)**

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 dairy 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**:

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

**CASE**:

1. **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.

    c. Educate public on sources of infection and necessity of pasteurization of milk and dairy products.

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 taken 3–6 weeks apart required.

**Container**: VR SEROLOGY - contains a serum separator tube.

**Examination Requested**: Q Fever Serology

**Material**: Whole blood or serum.

**Amount**: 8-10 ml.

**Storage**: Refrigerate.

**Remarks**: Collect first blood specimen as early as possible up to 2 weeks after onset of symptoms. Collect the second approximately 3-6 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.