# BRUCELLOSIS

## Epidemiology

<table>
<thead>
<tr>
<th>Source:</th>
<th>Wild &amp; domesticated animal blood &amp; body fluid; unpasteurized milk products</th>
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| Transmission: | • Inoculation of cuts  
• Inhalation of contaminated aerosols  
• Contact with conjunctiva mucosa  
• Oral ingestion |
| Incubation: | 3-4 wks  
(<1wk-several mos.) |
| Complications: | Meningitis, endocarditis, osteomyelitis |
| Infectious dose: | 10-100 bacteria |

## Incubation:
3-4 wks  
(<1wk-several mos.)

## Clinical case definition:
- Acute or insidious onset of symptoms  
- Fever, night sweats, malaise, weakness, anorexia, weight loss, arthralgia, myalgia, abdominal pain, headache  
- Lymphadenopathy, hepatosplenomegaly, arthritis

## Transmissibility:
Contact with internal infected tissue

## Laboratory Diagnosis:
- **Culture:** Isolation of *Brucella* spp. from a clinical specimen (blood, bone marrow, other tissue on a variety of media, incubated for a minimum of 4 wks.)
- **Serologic Testing:**  
  - Brucella agglutination titer of greater than or equal to 160 in serum after onset  
  - Fourfold rise in agg. Titer two weeks apart  
  - Increased IgG agglutinins. Will not detect *B. canis.*  
- **IFAC:** Demonstration by immunofluorescence of *Brucella* spp. in a clinical specimen.

## Treatment, Prophylaxis

### Treatment
- Prolonged antimicrobial therapy. Relapse possible if discontinued early.  
- Combination therapy recommended to avoid relapse  
- Doxycycline is not recommended for children younger than 8 yrs. old  
- **Oral doxycycline** (2-4 mg/kg per day; max 200 mg/day; in 2 divided doses; 6 wks)  
- **Oral tetracycline** (30-40 mg/kg per day; max 2g/day; 4 divided doses; 6 wks)  
- **Oral trimethoprim-sulfamethoxazole** (trimethoprim, 10 mg/kg per day; max 480 mg/d, and sulfamethoxazole, 50 mg/kg per day; max 2.4 g/d; 4-8 wks)  
- **Rifampin** (15-20 mg/kg per day; max 600-900 mg/d; 1 or 2 divided doses) recommended in combination with cyclines or trimethoprim-sulfamethoxazole therapy to avoid relapse  
- **Streptomycin or gentamicin** recommended for the first 14 days to treat serious complications (meningitis, endocarditis, osteomyelitis)

### Prophylaxis
- Indicated for workers exposed to the bacteria when significant exposure has been determined (Lab Tech)  
- Use same antibiotic therapy as that used to treat cases

## Control
- Eradication of *Brucella* species from cattle, goats, swine, other animals  
- Pasteurization of milk and milk products for human consumption (esp. for children)

## Standard, contact precautions

Immunization available but efficacy is unproven

http://www.infectiousdisease.dhh.louisiana.gov

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