DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health

Medical

GLANDERS

Agent Information: Glanders is caused by the bacterium, *Burkholderia mallei,* an aerobic, gram-negative, non-spore-forming bacillus. Disease occurs primarily in horses, donkeys, and mules, but humans are also susceptible. Glanders exists only in infected susceptible hosts and is not found in water, soil, or plants. In humans, glanders occurs in three forms: as an acute localized infection, as a rapidly fatal septicemic illness, or as an acute pulmonary infection. Glanders is associated with infections in laboratory workers because very few organisms are needed to cause disease.

Transmission: Through contact with tissues or body fluids of infected animals. Also, through inhalation of contaminated aerosols. Person-to-person transmission has been documented but is rare.

Signs and Symptoms: **Inhalation** (Incubation 10-14 days)**:** Symptoms: fever, chills, sweats, myalgias, headache, pleuritic chest pain, splenomegaly, cervical adenopathy, and generalized popular/pustular eruptions. It manifests as pneumonia, bronchopneumonia, or lobar pneumonia, with or without bacteremia.
Dermal: Localized infection with nodule formation and lymphadenitis.
Mucocutaneous: Mucopurulent discharge from the eyes, nose, or lips, with subsequent development of granulomatous ulcers and abscesses.

Decontamination: Yes, if exposure is from aerosolization and presentation is immediate.

Isolation: Yes.

Protective Measures: Level D with N-95 respirator.

Lab Samples Requested for Evaluation: **Clinical specimen for culture and/or PCR:** blood, urine, abscesses, and tissue aspirate. Only whole blood (purple top tube) or serum (red / black top tube) may be submitted for PCR. If blood is submitted for PCR, a blood culture bottle must also be drawn to confirm PCR results.
Environmental: Two dry Dacron swabs (not cotton) to collect specimen and put into two separate sterile tubes.

Prophylaxis: No vaccine available.

Treatment:

Because human cases of glanders are rare, mainstream treatments are not yet well established. Antibiotics are the mainstay of therapy and duration is 60-150 days.
Localized disease: Doxycycline 2.2mg/kg PO BID (not recommended for pregnant women or children < 8 yrs. old), combined with TMP/SMX 4mg/kg/day PO divided BID-QID, OR Amoxicillin/clavulanate 60mg/kg/day PO divided TID for 20 weeks.
Extrapulmonary suppurative disease: Administer therapy as above for 6-12 months; surgical drainage of abscesses.
Sepsis: Ceftazidime 40mg/kg IV TID, combined with TMP/SMX 8mg/kg/day IV. Medication IV for 2 weeks, then oral for 4-6 months.
Burkholderia mallei is usually sensitive to tetracyclines, ciprofloxacin, streptomycin, novobiocin, gentamicin, imipenem, ceftrazidime, and the sulfonamides. Resistance to chloramphenicol has been reported.

Reporting:

Immediately report suspect cases to the Division of Public Health, Office of Infectious Disease Epidemiology: 1-888-295-5156 (24/7 coverage).

For additional information:

Visit the CDC website: www.cdc.gov/glanders/