pennsylvania
DEPARTMENT OF HEALTH

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Glanders Fact Sheet

1. **What is Glanders?** - Glanders is an infectious disease that is caused by the bacterium *Burkholderia mallei.* It is primarily a disease that affects equids (i.e., horses, donkeys, and mules) but can also infect goats, dogs, and cats. Human infection in the United States has occurred rarely and sporadically among laboratory workers and those in direct and prolonged contact with infected domestic animals.

2. **Why has Glanders become a current issue?** - Because so very few organisms are required to cause infection the organism is considered as a potential biological terrorism threat agent.

3. **How common is Glanders?** - The United States has not seen any naturally occurring cases since the 1940s. However, the infection is still commonly seen among domestic animals in Africa, Asia, the Middle East, and Central and South America.

4. **How is Glanders transmitted and who can get it?** - Glanders is transmitted to humans by direct contact with infected animals. The bacteria enter the body through the skin and through mucosal surfaces of the eyes and nose.

5. **What are the symptoms of Glanders?** - The symptoms of Glanders depend upon the route of infection with the organism. The types of infection include localized, pus-forming skin infections, lung infections, bloodstream infections, and chronic draining infections of the skin. Generalized symptoms of Glanders include fever, muscle aches, chest pain, muscle tightness, and headache. Additional symptoms have included excessive tearing of the eyes, light sensitivity, and diarrhea.

    a. Localized infections: If there is a cut or scratch in the skin, a localized infection with ulceration will develop within 1 to 5 days at the site where the bacteria entered the body. Swollen lymph nodes may also be apparent. Infections involving the mucous membranes in the eyes, nose, and respiratory tract will cause increased mucus production from the affected sites.

    b. Lung infections: In pulmonary infections, pneumonia, pulmonary abscesses, and pleural effusion can occur. Chest X-rays will show localized infection in the lobes of the lungs.

    c. Bloodstream infections: Glanders bloodstream infections (septicemia??) are usually fatal within 7 to 10 days.

    d. Chronic infections: The chronic form of Glanders involves multiple abscesses within the muscles of the arms and legs or in the spleen or liver.

6. **Where is Glanders usually found?** - Geographically, the disease is endemic in Africa, Asia, the Middle East and Central and South America.

7. **How is Glanders diagnosed?** - The disease is diagnosed in the laboratory by isolating *Burkholderia mallei* from blood, sputum, urine or skin lesions. Serologic assays are not available.

8. **Can Glanders spread from person to person?** - In addition to animal exposure, cases of human-to-human transmission have been reported. These cases included two suggested cases of sexual transmission and several cases in family members who cared for the patients.

9. **Is there a way to prevent infection?** - There is no vaccine available for Glanders. Prevention of the disease in humans involves identification and elimination of the infection in the animal population. Within the health care setting, transmission can be prevented by using common blood and body fluid precautions.

10. **Is there a treatment for Glanders?** - Because human cases of Glanders are rare, there is limited information about antibiotic treatment of the organism in humans. Sulfadiazine has been found to be an effective in experimental animals and in humans. *Burkholderia mallei* is usually responsive to tetracyclines, ciprofloxacin, streptomycin, novobiocin, gentamicin, imipenem, ceftazidime, and the sulfonamides.

11. **For more information about Glanders:**
    http://www.cdc.gov/ncidod/dbmd/diseaseinfo/glanders_g.htm

This fact sheet provides general information. Please contact your physician and/or veterinarian for specific clinical information related to you or your animal.