

Glanders (*Burkholderia mallei*)

Glanders is an infectious disease caused by the bacterium *Burkholderia mallei*. Glanders is primarily a disease affecting horses, but it also affects donkeys, mules, goats, dogs, and cats. Although rare, laboratory workers and those in direct and prolonged contact with infected, domestic animals are at risk for infection. No naturally occurring cases of glanders have been reported in the United States since the 1940s.

Transmission

Glanders is spread via:

- **Animal to person** through Direct contact with infected animals. The bacteria enter the body through the skin and through the moist surfaces of the eyes and nose.
- **Environment to person** by inhaling contaminated aerosols or dust from infected animals. Cases have been documented in veterinarians, horse caretakers, and laboratory personnel.

Cases of human-to-human transmission have not been reported in the U.S.

Risk Factors:

People who work certain jobs, such as those who are exposed to infected horses, mules, and donkeys, as well as laboratory personnel who work with the bacteria are at the most risk of contracting glanders. However, because precautions are used, these infections are rare. People who travel to countries where glanders is endemic in animals are also at risk.

Symptoms

The symptoms of glanders depend on the type of infection. In general, symptoms include:

- **Fever**
- **Muscle aches**
- **Chest pain**
- **Muscle tightness**
- **Headache**
- **Excessive tearing of the eyes**
- **Light sensitivity**
- **Diarrhea**

Localized infections: If there is a cut or scratch in the skin, infection symptoms may include:

- **Sore** at the site where the bacteria entered the body.
- **Swollen lymph nodes**
- **Infections of the eyes, nose, and respiratory tract** leading to increased mucus production.

Pulmonary infections: symptoms may include:

- **Pneumonia**
- **pulmonary abscesses**
- **pleural effusion**
- **difficulty breathing or shortness of breath**

Bloodstream infections: Glanders bloodstream infections are usually fatal within seven to 10 days.

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

Symptoms develop one to 21 days after exposure.

Diagnosis

The disease can be diagnosed in the laboratory by testing blood, sputum, urine, or skin sores.

Treatment

Glanders can be treated with antibiotics. Make sure to follow all directions when taking antibiotics to reduce the chance of developing antibiotic-resistant strains. For more information about the treatment of glanders, contact your healthcare provider or visit www.cdc.gov/glanders/treatment/index.html.

Prevention

Practice respiratory precautions, such as

- **covering coughs and sneezes**
- **throwing tissues in the trash**
- **frequent hand washing**

In countries where glanders is endemic in animals, prevention in humans is accomplished by identifying and eliminating the infection in the animal population.

Exclusion Guidance

People should not be excluded from child care, school, work, or other activities unless the [general exclusions apply](#). All others can attend work and other functions as long as they are well enough to do so and are able to practice good hand washing and respiratory etiquette.

For additional information about glanders, contact the North Dakota Department of Health and Human Services', Public Health Division, at 800.427.2180.

This disease is a reportable condition. As mandated by North Dakota law, any incidence of this disease shall be reported to the North Dakota Department of Health and Human Services.

Resources:

1. Kimberlin, D. W., Barnett, E. D., Lynfield, R., Sawyer, M. H. (2021) Red Book: 2021-2024 Report of the Committee on Infectious Diseases. 32nd ed. American Academy of Pediatrics. [Management and Prevention of Infectious Diseases] [pages 240-243].
2. Centers for Disease Control and Prevention. (2012, January 13). *CDC - glanders*. Centers for Disease Control and Prevention. Retrieved May 12, 2023, from <https://www.cdc.gov/glanders/index.html>
- 3.

 **Report Immediately: 800.472.2180 or 701.328.2378**  **Possible Bioterrorism Agents (CDC classified A, B or C Agent)**

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