

Pigeon Fever in Florida Horses¹

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Introduction

This article provides an overview of Pigeon Fever in horses, an infectious condition caused by *Corynebacterium pseudotuberculosis*. *C. pseudotuberculosis* is a gram-positive, rod-shaped bacteria that can survive for weeks to months (or possibly even years) in the soil. While horses, cattle, and goats can all be infected with *C. pseudotuberculosis*, they are typically infected with different strains of the bacteria, and transmission between species is not thought to occur. Horses with pigeon fever develop large, painful abscesses in their muscles. There is a propensity for abscesses to develop in the pectoral muscles, giving the horse a “pigeon breasted” appearance, hence the name pigeon fever. It is important to note that birds are not involved in the transmission or pathogenesis of this condition. In Florida, the largest number of pigeon fever cases are typically reported in the dry months of fall and winter. In goats, the disease is known as “Caseous Lymphadenitis”, and affected animals develop abscesses in lymph nodes and under the skin (typically on the head, behind the ears, or on the neck, shoulder or flank).

How Pigeon Fever Affects Horses

Horses becoming infected with *C. pseudotuberculosis* when the bacteria gain access through a wound or abrasion in the skin. It is thought that flies and other insects may also play a role in transmission. The incubation period, which is the time it takes to develop clinical symptoms of the disease after being infected with the bacteria, can vary from days to

weeks. The first clinical signs of pigeon fever may be a poor appetite, fever, lethargy, swelling along the chest or ventral abdomen, and/or lameness. As the infection progresses, horses typically develop one of three types forms of the disease: 1) external abscesses (most common), 2) internal abscesses, and 3) ulcerative lymphangitis.

Horses with the most common form of pigeon fever will develop external abscesses in their muscles. These occur in about 90% of the cases. Abscesses most commonly develop in the muscles of the pectoral region, causing painful swellings and lameness. In addition to the pectorals, abscesses may form on the prepuce, mammary gland, axilla, limbs, inguinal region, head, and other areas. No breed or sex is predisposed to acquire the infection, although young horses may be at an increased risk.

Some horses will develop internal abscesses, the second form of the disease. This is reported in approximately 8% of cases, and can affect the abdominal or thoracic organs. Internal abscesses can also develop in bones, resulting in severe lameness. The prognosis for this form is generally poor, and affected horses will require months of treatment. The third form found in horses is ulcerative lymphangitis, and occurs in the fewest number of cases. Horses with ulcerative lymphangitis develop cellulitis with severe swelling and lameness in one or more limbs.

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Diagnosing Pigeon Fever

Definitive diagnosis of pigeon fever is made by culturing the bacteria from an abscess or draining wound. A blood antibody test (called the synergistic hemolysis inhibition test, or SHI Test) is available and is helpful for confirming internal abscesses. Horses with internal abscesses typically have high blood titers (>1:512). Ultrasound examination may also be helpful for identifying abscesses within the muscles or thoracic and abdominal cavities.

Treating Pigeon Fever

Treatment of pigeon fever usually involves systemic antibiotics and drainage of external abscesses. Abscesses are lanced and flushed daily with antiseptic solutions. Rubber drains may be placed inside the abscess to facilitate flushing and drainage. Purulent material (pus) drained from abscesses is highly infectious and must be carefully handled and disposed. Collecting as much purulent material as possible into a waste bag for disposal is critical to reduce the risk of other horses being exposed. Bedding from infected horses should also be collected and disposed of. Because *C. pseudotuberculosis* survives so well in the environment, avoiding facility contamination is extremely important to prevent additional cases on the farm. Anti-inflammatories and analgesics (pain relievers) may be indicated for horses with severe or deep abscesses or lameness. Topical fly treatment around wounds and draining areas is critical to reduce the possibility of biting insects transmitting the infection. Long-term systemic antibiotics (often months of treatment) are required for treating horses with internal abscesses. Fortunately, *C. pseudotuberculosis* is usually sensitive to most antibiotics (including penicillin), but culture and sensitivity of a sample of purulent material is often recommended to direct therapy.

Horses with pigeon fever and draining abscesses should be isolated to minimize environmental contamination. Stalling affected horses will help reduce contamination of the pasture environment with infectious bacteria. Ideally, horses should be treated in an area with concrete or rubber flooring that can be disinfected. Although no reports exist of humans being infected by horses, humans have reportedly been infected by the sheep strain of the disease. Infection in people has occurred from consuming infected unpasteurized milk or milk products, contacting infected animals, handling contaminated equipment, or exposing wounds to infected material. Therefore, it is recommended that people wear gloves when handling infected horses. Fly sprays and feed through fly control may both be beneficial for insect control. If you suspect your horse is exhibiting

signs of pigeon fever, contact your veterinarian for a thorough examination.

Additional Resources

Corynebacterium pseudotuberculosis (Pigeon Fever). American Association of Equine Practitioners (AAEP) Disease Guidelines; www.aaep.org

Corynebacterium pseudotuberculosis (Pigeon Fever). Equine Disease Communication Center Owner Fact Sheet; www.equinediseasecc.org