

Common Diseases of Captive Fawns in Florida

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Fawning season is a stressful time for deer farmers. From birth to weaning, white-tailed deer fawns have a high mortality rate. There are multiple reasons for the high death rate, but most are associated with the animal's developing immune system and exposure to a variety of bacteria and viruses.



In Florida, deer farmers have collaborated with the University of Florida to study diseases of captive white-tailed deer. The UF Cervidae Health Research Initiative (CHeRI) has a mission to promote interdisciplinary science, education and outreach that increases the health and production of captive cervids in a sustainable manner, and promotes the health of native wildlife and the ecosystems in which they live. So far, in 2016, CHeRI has performed necropsies and provided pathology and diagnostics to Florida deer farmers for over 200 captive deer including 30 fawns across the state. Our goal is to identify the leading causes of mortality and low production in captive white-tailed deer so that we can find solutions for preventing and treating these diseases.

From data collected this year, it appears that young animals have been plagued with many different bacterial infections, and a highly contagious virus, but few types of infections were seen more frequently. Infection with two different bacteria, *E.coli* and *Clostridium* spp., were the most common causes of infection and death in deer between 2 to 6 weeks of age.

E. coli is one of the first types of bacteria encountered by many newborn animals. While they typically don't cause harm in healthy adult deer, some strains of *E. coli* are pathogenic. When fawns ingest fecal matter or soil that has pathogenic *E. coli*, they can become very ill if the bacteria migrate outside of the digestive tract and into other organs. This process is known as a septic infection, and can rapidly spread to the liver, kidneys, as well as other organs. Loose stool, watery diarrhea, and lethargy are signs that young

animals may be infected. At the first sign of illness, consult with your veterinarian who can recommend antibiotics and supplemental health measures for your fawns.



In addition to *E.coli* and clostridium bacteria, we've seen quite a bit of *Trueperella pyogenes*, and various salmonella, pseudomonas, and staph infections. *Trueperella* is a gut bacteria that can also live in soil, and typically enters the body via an external wound such as a scratch, puncture or scrape. In bucks, this is the bacterium most commonly associated with abscesses on the head, or severe infections of the

antlers, but fawns are also susceptible to infection. Once in the body, it can cause pneumonia, mastitis (infection of the udder) or endocarditis (infection of the lining of the heart). Open wounds and abscesses should be treated and those animals should be monitored for signs of pneumonia. *Trueperella* is contagious, thus sick animals should be quarantined from other animals.

Staph infections, not unlike trueperella-associated infections, usually begin with the bacteria entering the body through the skin. Species of staph are normally found on the skin and in the digestive tract of cervids, and when an individual becomes immunocompromised, this opportunistic pathogen can spread into multiple organs. Signs of staph include upper respiratory distress, lethargy, and open wounds that look infected or irritated.

The clinical signs for infection with *Pseudomonas* bacteria species include nasal discharge, conjunctivitis (pink eye), lethargy as well as any other signs of an upper respiratory infection. This could include coughing, wheezing, or labored breathing. Lastly, *Salmonella* is a bacterium that is transmitted through fecal matter. It causes digestive distress, lethargy, and rapid weight loss. If you notice any of these clinical signs within your fawn, consult your veterinarian immediately. Most of these infections can be managed if treatment begins at the start of infection.

In addition to bacterial infections, we have also identified at least one virus affecting fawns. Deerpox virus was identified by our team as a cause of death in white-tailed deer fawns with severe skin lesions and oral lesions. Little is known about how common

deerpox virus is in captive animals, but it is highly contagious and often causes severe infections. In the event that open, scab-like lesions form on the skin of fawns especially on the lips, muzzle and eyelids, the fawns affected should be quarantined as soon as possible. Antibiotics may be administered daily to control secondary bacterial infections, but there is currently no vaccine for the virus. Consult your veterinarian for an appropriate protocol.



Environmental conditions can make animals more susceptible to fawn diseases. Animals can be stressed from heat and humidity which lowers their immune response. Many of these infections are transmitted via feces, thus pens that are clean, dry and not too heavily stocked with animals can reduce the risk of infection. Early detection, rapid treatment, and in some cases isolating sick animals from the rest of the herd are key steps to reducing the risk of death for fawns that are already ill. By keeping a close eye on your young fawns, you can detect and treat infections early and avoid losses to your herd.