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## Erysipelas in Waterfowl

*Erysipelas* in waterfowl is generally an acute or very acute infection caused by the widely disseminated bacterium *Erysipelothrix*. It is characterized by septicemia and diffuse hemorrhages in organs and tissues. Except for occasional involvement of the web in the duck's foot, there are few outward signs suggestive of its name, erysipelas or "red skin." Erysipelas with variable death losses is recognized as a disease of flocks. Affected birds generally die suddenly. Signs of the disease may be apparent four to six hours before death with incoordinated movements preceding death by as little as one hour. Heavy losses can occur without clinical signs. Some survivors remain unthrifty and may become lame with chronic arthritis. Others become normal appearing carriers of the erysipelas organism. Just how the organism enters the body and causes the disease is not completely understood; however, contaminated material or entry through breaks in mucous membrane or skin are suggested means.

Infection in young ducks and geese usually occurs from one week of age on; however, the majority of reported cases occur from four to five weeks of age. A contaminant in the form of nondisinfected premises vacated by infected turkeys, swine, sheep, or other animals; ponds frequented by infected animals; dead birds; or feeding on fish or offal is commonly associated with the disease in young waterfowl.

Older ducks and geese are apparently more resistant to contaminants. Nevertheless, infection in adults has been reported following the live plucking of feathers and injury to the cloacae in laying birds.

A skin infection in mankind called erysipeloid can occur in the hands of persons handling erysipelas infected animals. Suspect birds should not be cut open with bare hands.

### Signs

Heavy death losses without clinical signs may occur. Later a septicemic like condition in listless, depressed birds with loss of appetite, drowsiness, and central nervous system signs may precede death. Extreme thirst and diarrhea and blindness also have been observed before death. Although most visibly sick birds die, some may be left unthrifty or lame with enlarged knee joints. Death losses reportedly range from 5 percent to 60 percent.

### Control\*

Immunization in ducks and geese is not generally practiced because outbreaks are sporadic and the disease is not generally of economic importance. Under confinement housing, thorough cleaning and decontamination with most approved disinfectants other than formalin will break the cycle of the disease. Erysipelas has long been considered a soil borne disease. Though not all cases of erysipelas occur when birds are raised in contact with soil, it is nevertheless prudent to avoid using

yards and ponds that were previously used by infected animals or birds. Filling holes where water can collect, as well as other general measures of sanitation, should be practiced.

### Treatment

The use of penicillin, broad spectrum antibiotics (chlor-tetracycline, oxytetracycline), erysipelas serum and bacterins have been used with mixed success. These have been used singly and in various combinations, in the feed at different levels and as injectables. It appears that the condition of the birds as well as the level and route of medication is important in the outcome. Since the use of antibiotics and serum may stop an outbreak but not induce permanent resistance to erysipelas, a rational treatment would be the use of injectable penicillin in conjunction with an erysipelas bacterin suitable for either poultry or swine.

### Post-mortem Findings

Birds in good body condition may show lesions suggestive of septicemia. The spleen and liver are most commonly involved. Splenomegaly is frequent, with congestion and focal necrosis of the spleen not uncommon. The liver is also frequently enlarged. In addition to being congested and showing yellow pinpoint foci, the liver has been described as dark, friable, mottled, yellowish, and with pale streaks on the surface. Epicardial, subepicardial, and endocardial petechial hemorrhages are found more frequently than a condition of the web of the duck's foot suggestive of erysipelas. A small number of ducks may show web involvement like dark congested areas or subcutaneous hemorrhages. Hemorrhages in muscles are apparently equally rare. Congestion and hemorrhages in the viscera at times involve the small intestine and pancreas. Catarrhal enteritis, peritonitis, and ascites also have been reported, as have congested lungs and air sacs with serofibrinous exudates. Enlarged femorotibial articulations and endocarditis are suggested chronic lesions.

### Diagnosis

A presumptive diagnosis can be made from clinical signs and lesions if the signs and lesions are correlated with a gram-stained smear of liver, spleen, and bone marrow of a moribund or recently dead bird. Confirmatory diagnosis depends on the isolation of the causative organism. Response to treatment based on the tentative diagnosis aids in laboratory confirmation. Multiple swabs of the cloacae should be taken from suspected carriers if cloacal swabs are the only specimens submitted to the laboratory.

*\*Drugs or biologics listed represent favorable experiences reported by others and are not recommendations. The user is fully responsible for the consequences of their use when used other than indicated on the product label.*



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