**Gangrenous Dermatitis**  
(Necrotic Dermatitis)

**Definition**

Gangrenous dermatitis is a disease of young growing chickens characterized by necrotic areas of the skin and by a severe, underlying, infectious cellulitis.

**Occurrence**

Most outbreaks have occurred in chickens 4-16 weeks old. Young birds of this age group may be poorly feathered. Outbreaks often occur in excessively warm, humid houses.

**Historical Information**

Gangrenous dermatitis was reported first in 1930 although most outbreaks have been reported since 1963. Some of the more recent reports have suggested that affected flocks may be immunologically deficient.

**Etiology**

It appears that primary skin lesions are secondarily invaded by various bacteria including *Clostridia* sp. (especially *C. septicum*), *Staphylococcus* sp. and *Escherichia coli*.

**Epidemiology**

1. Cutaneous wounds probably occur initially as a result of cannibalism, mechanical trauma (from mechanical feeders, etc.), or other trauma. Bacteria invade the traumatized skin and underlying tissue and their toxins or metabolites cause cellulitis. Septicemia and toxemia follow, leading to death.

2. Increased susceptibility of affected flocks to infection is an important factor in the pathogenesis. This increased susceptibility is commonly related to immunosuppression secondary to infectious bursal disease or chicken infectious anemia virus.

3. Other factors that may enhance susceptibility include aflatoxicosis, nutritional insufficiency or imbalance, or poor sanitation.

**Clinical Signs**

A sudden, sharp increase in mortality is often the first indication of onset. When sick birds are observed, they are depressed, and sometimes prostrate or lame. Skin lesions, often crepitant, are apparent in live or dead birds. The course of the illness is often less than 24 hours. Mortality varies but can be quite high.

**Lesions**

1. There are scattered patches of darkened, gangrenous skin, often with cutaneous sloughing or feather loss in affected areas. Marked emphysematous or serosanguineous cellulitis underlies some skin lesions, especially with clostridial infections.

2. Swelling and infarction may be apparent in parenchymatous organs. There may be foci of necrosis in the liver.

3. Severe atrophy of the bursa of Fabricius is usually present.
GANGRENOUS DERMATITIS

DIAGNOSIS

A tentative diagnosis often can be made on the basis of history and gross lesions. For confirmation, smears or histologic sections of affected tissues will reveal bacteria. Bacteria can be cultured from the area of cellulitis.

CONTROL

1. The cause of skin trauma should be found and eliminated. If cannibalism is a cause, it may be necessary to trim the beaks or improve the quality of previous beak trimming. Mechanical feeders should be examined carefully as a source of possible trauma.

2. Vaccinate the breeder flock for infectious bursal disease to prevent or reduce possible immunosuppression in the progeny.

3. Insofar as is possible, eliminate all stresses on the birds (e.g., parasitism, malnutrition, coccidiosis, etc.).

4. Improve sanitation in the house, particularly that of the feeders, waterers, and litter. A thorough cleaning and disinfection of the house may be helpful. If litter in the house stays wet, improve moisture control. Repeat problem houses may benefit from salting the floor at cleanout. Cheap grade feed salt is used on the soil at a rate of 60-63 lb/1,000 ft².

5. Broad-spectrum antibiotics (e.g., penicillin, erythromycin, and tetracyclines) can be added to the ration of the flock and will reduce mortality.

TREATMENT

In addition to adding broad-spectrum antibiotics to the ration, valuable birds can be treated individually with penicillin, tetracyclines, or other fast-acting antibiotics.