

Chronic Respiratory Disease (*Mycoplasma gallisepticum*)

Other names: CRD, *Mycoplasma gallisepticum*, MG, infectious sinusitis, mycoplasmosis.

Clinical signs and lesions: Chickens, turkeys, pigeons, ducks, peafowl and passerine birds are affected by this bacterial disease. Clinical symptoms vary slightly between species. Infected adult chickens may show no outward signs if infection is uncomplicated. However, sticky, serous exudate from nostrils, foamy exudate in eyes, and swollen sinuses can occur, especially in broilers. The air sacs may become infected. Infected birds can develop respiratory rales and sneeze. Affected birds are often stunted and unthrifty.

There are two forms of this disease in turkeys. In the "upper form" the birds have watery eyes and nostrils, the infraorbitals (just below the eye) become swollen, and the exudate becomes caseous and firm. The birds have respiratory rales and show unthriftiness. In the "lower form" infected turkeys develop airsacculitis. As with chickens, birds can show no outward signs if the infection is uncomplicated. Thus, the condition may go unnoticed until the birds are slaughtered and the typical lesions are seen. Birds with airsacculitis are condemned.

CRD in chicken embryos can cause dwarfing, airsacculitis, and death.

Differential diagnosis: Clinically, the disease may be indistinguishable from infectious synovitis, caused by *Mycoplasma synoviae*. The swollen sinuses caused by MG may also look like fowl cholera or swollen head syndrome.

Cause, transmission, and epidemiology: *Mycoplasma gallisepticum* can be spread to offspring through the egg. Most commercial breeding flocks, however, are MG-free. Introduction of infected replacement birds can introduce the disease to MG-negative flocks. MG can also be spread by using MG-contaminated equipment.

Diagnosis: Clinical disease and typical lesions can lead to a presumptive diagnosis of MG but a definitive diagnosis is only possible through the isolation of the causative organism and its identification with specific antisera. Alternatively, the testing of paired sera (pre and post exposure) can also support a diagnosis.

Treatment: Outbreaks of MG can be controlled with the use of antibiotics. Erythromycin, tylosin, spectinomycin, and lincomycin all exhibit anti-mycoplasma activity, and have given good results.

Administration of most of these antibiotics can be by feed, water or injection. These are effective in reducing clinical disease. However, birds remain carriers for life.

Prevention: Eradication is the best control of mycoplasma disease. The National Poultry Improvement Plan in the United States monitors all participating chicken and turkey breeder flocks for mycoplasmosis.

Recovery: Generally, once a farm has had a flock with mycoplasma, subsequent flocks will be infected. Premises can get rid of MG by hatching MG-free eggs (heating method or from breeders free of MG) and placing them in a clean environment and with very strict biosecurity in place. If biosecurity cannot be achieved then recovery is probably not possible and vaccination may be a better option.