

# Infectious Coryza

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**Infectious coryza (IC) is caused by the bacteria *Avibacterium paragallinarum*. Both broiler chickens and laying hens from all age groups are susceptible, but the disease is more common and lasts longer in older birds. IC affects mainly the upper respiratory tract and has the potential to cause a marked reduction in egg production and poor performance. The incidence of IC has increased in recent years, with more complicated clinical signs and higher mortality rates being observed, representing an important threat to animal welfare and egg production. It is important to get familiar with the disease for early detection and intervention.**

Infectious coryza can be clinically manifested in mainly two forms: acute and chronic. The acute manifestation has a short incubation period (birds become sick a few days after exposure to the bacteria) and is self-limiting, lasting approximately 2-3 weeks.

The clinical signs are not specific only to IC, including a drop in water and feed consumption, reduction in egg production, poor performance, facial swelling, nasal discharge, conjunctivitis, and sneezing, although respiratory signs are

not always present. It is very important to understand that while some birds clinically recover from the disease, they can still be infected. In other words, these birds will appear healthy, but they are still carrying the bacteria and infecting other birds.

Chronic manifestations can result from immunosuppression caused by stress and from co-infection with other bacteria and viruses, such as *Mycoplasma gallisepticum*, *M. synoviae*, *Escherichia coli*, Infectious Bronchitis virus, among others. The disease lasts longer than in the acute form, around 5-9 weeks, and a significant increase in mortality rate is commonly seen.

Clinical signs will vary depending on the pathogens involved. It is worth remembering that stress can be caused by many factors, a lot of it linked to environmental management, including high levels of ammonia, relative humidity, thermal stress (cold or heat), dusty barns, wet litter, among others.

Birds can become infected by direct contact with infected birds, airborne droplets, contaminated equipment, feed, and water.



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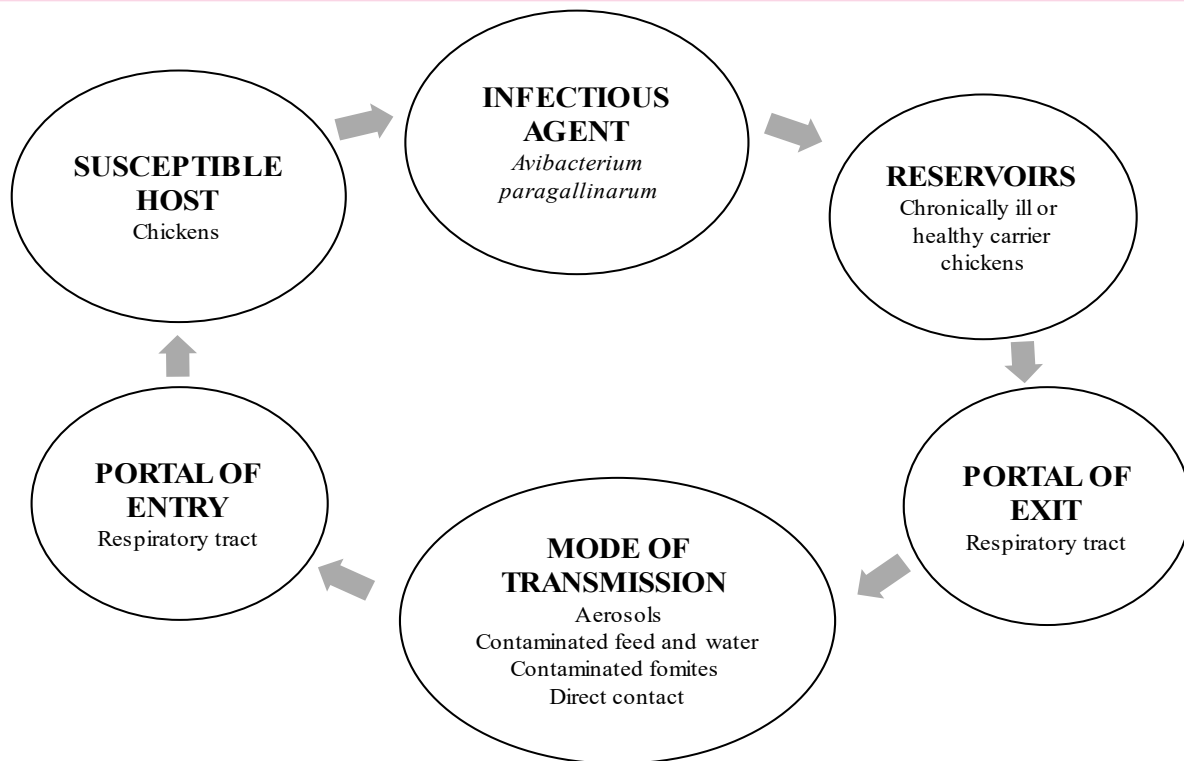


Figure 1. Chain of infection for infectious coryza.

The diagnosis of IC is done by bacterial culture or PCR, together with the history and clinical signs of the flock. Samples to be collected include sinus/trachea/air sac/choanal cleft swabs. It is worth remembering the importance of including the history of the case when submitting samples for diagnosis.

Although antibiotics can be used to reduce clinical signs and treat concomitant bacterial infections, birds can become carriers of the bacteria without manifesting clinical signs, meaning that they will still be infected, spreading the bacteria to other susceptible birds. Clinical signs can return after the treatment ends.

Since bacteria can develop antibiotic resistance, responsible use of antibiotics is crucial not to lose a medication that could be useful to handle another bacterial disease.

The only way to completely eliminate the bacteria is through depopulation followed by cleaning and disinfection. The good news is that the bacteria do not resist for a long time in the environment; appropriate cleaning and disinfection followed by 2-3 weeks of downtime eliminates the bacteria from the environment.

There are some strategies to be adopted to prevent IC outbreaks. A strong biosecurity program is key to avoid diseases in poultry flocks. Considering that birds can be infected without showing clinical signs, the introduction of new birds to the flock needs to be done carefully – the acquisition of birds from trusted and clean flocks is essential to keep diseases away.

In multi-age production flocks, it is common to have IC perpetuated in the flock. Appropriate ventilation and air quality are also fundamental to prevent lesions in the respiratory system and stress.

Commercial bacterins (vaccines) have been shown to be effective in reducing bacterial shedding and clinical signs - when adequately administered and matching the field serovars (always check and follow manufacturer recommendations when applying vaccines). Generally, two applications before 20 weeks of age, four weeks apart, are effective. The use of autogenous bacterins is another option when available.

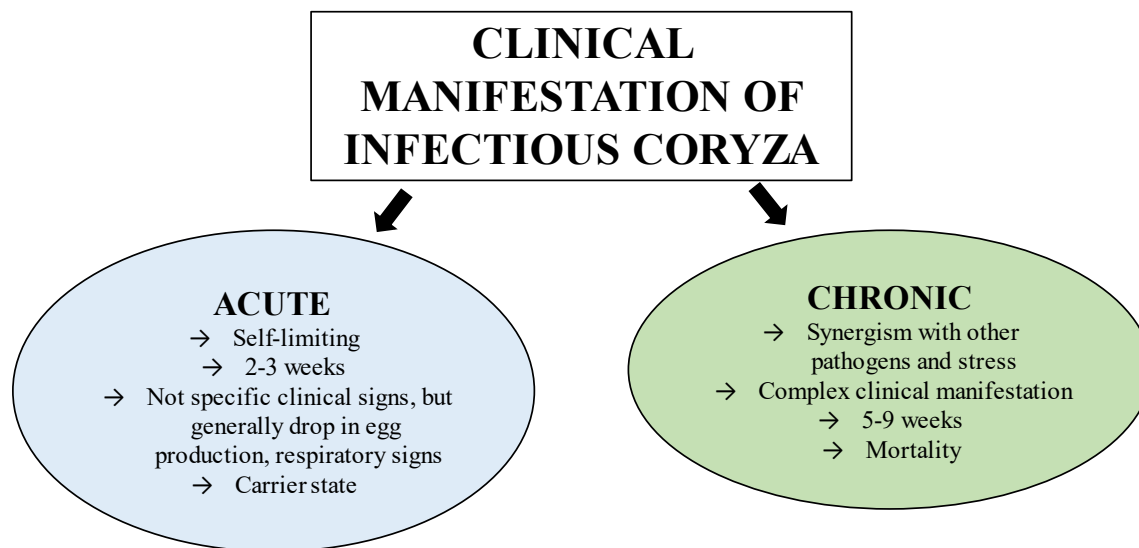


Figure 2. Clinical manifestation of infectious coryza.

There are two serotyping schemes to differentiate serotypes of *A. paragallinarum* – the Page scheme, classifying three serovars, A, B, and C, and the Kume scheme, which recognizes three serogroups, A, B, and C, and nine serovars (A1-A4, B1, C1-C4). The importance of recognizing the existence of multiple serovars is the limited cross-protection among them; we need to make sure that the serovars present in the field are being covered by vaccines.

In summary, unfortunately, there is no magical pill to solve IC. A combination of good management practices, a strong biosecurity program, and the appropriate use of vaccines whenever necessary are some measures that should be taken to prevent outbreaks.

### Useful References

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