



## Avian Metapneumovirus (aMPV)

### Background

Avian metapneumovirus (aMPV), known as swollen head syndrome in chickens, is a highly contagious upper respiratory tract infection. Infection with this virus can lead to secondary infections including bacteria (*E. coli*, ORT, *Pasteurella spp.*, *B. avium*, *R. anatipestifer*), mycoplasma (MG), aspergillosis, and viruses (e.g. IBV) resulting in potential development of airsacculitis and pneumonia. The mortality rate of aMPV depends on virulence of virus strain, species, age of birds, breeding conditions, immune status, and secondary infections.

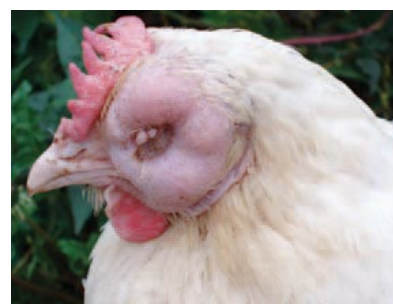
### Transmission

Clinically healthy wild birds are considered a reservoir for this aMPV (waterfowl, sparrows, swallows, pigeons, falcons etc.). Wild birds and game birds have been found to be seropositive in Ontario. The most common transmission route is through aerosol or direct contact of respiratory secretions on people or contaminated equipment. To date, there is no clear evidence of vertical transmission from breeders to offspring.

The virus has an incubation period of 3-7 days wherein it will spread rapidly within and between flocks. Birds shed the virus for only a few days and there is no latency or carrier state. However, there are species differences in the onset and development of lesions. Unfortunately, clinical signs and lesions are non-specific.

### Clinical Signs

- Sneezing, coughing, rales, and conjunctivitis
- Discoloration
- Swelling of the head (periorbital and infraorbital sinuses)
- Nervous signs such as torticollis, also known as wry neck, crook neck, or stargazing
- Decreased egg production and egg quality



Source: [The Poultry Site](#)

**If your flock is showing clinical signs of respiratory disease, contact your veterinarian.**



## Testing

Diagnostic testing of aMPV can be challenging as the virus is cleared quickly from the birds. The virus may only be detectable for 6-7 days post-infection. Once clinical signs are recognized, the virus may be undetectable by PCR alone, so combining PCR with ELISA antibody testing can aide in diagnosing and tracking the disease.

## Reporting

Avian metapneumovirus is an immediately notifiable disease to CFIA. The laboratories are required to contact CFIA if there is a suspicion or diagnosis of the disease. Currently, CFIA takes no action in response to aMPV detection.

Provincial reporting depends on the province. The Canadian Animal Health Surveillance System (CAHSS) tool to search for diseases and their status – available online [here](#).

## Treatment and Prevention

There is no treatment for an aMPV infection, so focus should be on prevention. Preventative measures include biosecurity, good barn management (i.e., ventilation, temperature, maintaining good litter quality, not overcrowding). This virus is sensitive to multiple disinfectants (quaternary ammonium, bleach, etc.). It is stable at pH 3.0 – 9.0 and inactivated at 56°C for 30 minutes. However, it has longer survival times (i.e., weeks) at lower temperatures, which could explain some seasonal patterns.

No vaccines are currently available for use in Canada or the United States of America. However, live and inactivated vaccines are available in countries where the disease is endemic (e.g., Europe).

## References

- [www.oahn.ca/news/avian-metapneumovirus-ampv-detected-in-ontario/](http://www.oahn.ca/news/avian-metapneumovirus-ampv-detected-in-ontario/)
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- Rautenschlein S. Avian Metapneumovirus. In: Swayne DE, ed. Diseases of Poultry, 14<sup>th</sup>, Vol I. Wiley Blackwell, 2020:135-143.
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