

### Construct your electronic library on poultry health

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## Diagnosis of adenovirus infections

Diagnosis is based on seeing the signs and post-mortem findings previously highlighted and isolating the causal adenovirus. The best samples for viral isolation work are faeces, pharyngeal swabs, kidneys and specifically affected organs, such as the liver, in cases of inclusion body hepatitis.

PCR and other modern methods can also be used and serology can be used to confirm a diagnosis. However, problems can be encountered with serology in view of the various adenoviruses that can infect poultry without producing disease.

## Immunity

Group I avian adenoviruses have a common group specific antigen. Following infection birds rapidly develop neutralising antibodies that can be detected within a week of infection and peak within a month of infection. The development of neutralising antibodies coincides with the cessation of viral excretion. Birds are usually resistant to reinfection by the same serotype of virus 45 days after infection but it would appear that a couple of months after infection local immunity regresses allowing viral replication at mucosal surfaces with accompanying viral excretion. This could account for seeing peaks of viral excretion every two to three months in longer living birds.

## Control of adenovirus infections

As has been mentioned, immunosuppression can favour the manifestation of adenovirus caused diseases so any control strategy needs to include controlling Gumboro disease and chicken infectious anaemia virus.

As the virus is transmitted vertically and is reasonably resistant to inactivation the effectiveness of programmes aimed at eliminating virus from broiler farms, especially those with old buildings and soil floors, is questionable.

## Vaccination

Vaccination used for controlling hydropericardium syndrome in Pakistan is done with some success and, on occasions, concurrent vaccination of broiler breeders against chicken anaemia virus and adenovirus has controlled the problem in their progeny.

Adenoviruses have been used with some success as the vehicle for incorporating sequences from Gumboro disease virus (vector vaccines).