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# 146 – Enteric parvoviruses





## History

Chicken and turkey enteric parvoviruses were first identified in the 1980s by electron microscopy of digestive tract contents. Since then these parvoviruses have been associated with enteric diseases, cerebellar hypoplasia in day olds and in faecal samples from wild turkeys.

Enteric parvoviruses are frequently detected in chickens and turkeys from flocks that have encountered enteric diseases and pathogenicity studies show that this virus can induce a typical enteric disease in susceptible chicks or poults. The chicken and turkey enteric parvoviruses appear to form a novel genus within the Parvoviriniae and they are genetically distinct from other parvoviruses such as the goose parvovirus.

## The disease

Chicken and turkey parvoviruses are prevalent in the USA and many European countries. Chickens and turkeys are the only bird species susceptible to the specific viruses. Infection tends to be age dependent with most infections occurring in the first week with clinical signs occurring in the second to fourth weeks of life.

Parvovirus infections of chickens and turkeys are associated with the syndromes that are often respectively referred to as runting and stunting syndrome (RSS) and poult early mortality syndrome (PEMS). Commonly seen signs in chicks include impaired growth and poor feathering ('helicopter disease'), intestinal malabsorption, yellowy mucoid droppings and pale shanks, especially in young broilers, while those in turkey poults include a watery, often yellowish, scour as early as the fourth day. This can lead to an osteoporosis and tibial deformation by a month of age. Case histories of parvovirus infection in turkey poults often include stunting and splayed legs. Affected birds in both syndromes then often fail to grow and perform.

The effect of parvovirus infection on the developing embryo is still poorly understood but it has been reported that chicks affected by parvovirus infection come from eggs with a reduced hatchability.

## Pathology

Histopathological changes range from very little to those of an acute catarrhal enteritis.

## Immunity

The presence of maternal antibody correlates with protection against disease associated with infection.

## Control

It is difficult to keep flocks free from parvovirus, therefore, sound management measures are needed to prevent the accumulation of virus and reduce its spread.