

Construct your electronic library on poultry health

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## Transmission

Marek's disease virus is easily transmitted by direct or indirect contact via the airborne route (feather dust or dander). In a contaminated poultry environment this dust can remain infectious for several months at 25°C and for years at 4°C. In the field young chicks are exposed to residual feather dust and dander from the house they were placed in or airborne from neighbouring houses. Once in the poultry house infection spreads quickly. Virus shedding begins about 14 days post infection and continues indefinitely. Vertical transmission of Marek's disease virus does not occur, but transmission from mother to chicks can occur as a result of external soiling of eggs. Transmission via Alphitobius beetles has been reported.

## Incubation

The incubation period can be as short as 3-6 days and the early mortality syndrome caused by this virus sees deaths 8-14 days post infection. In the field, Marek's disease outbreaks can occur in young non-vaccinated layers as young as 3-4 weeks old, but most cases occur at two months of age or older. These are often called 'early breaks'. 'Late breaks' occur at older ages and probably involve an immunosuppressive incident such as chicken anaemia co-infection.

## Clinical signs

The clinical signs vary with the Marek's disease syndrome seen. These include:

**Lymphoma/fowl paralysis.** Variable signs but none really syndrome specific. Paresis progressing into complete spastic paralysis. Vagus nerve involvement can induce crop distension and/or gasping. The first locomotory sign is incoordinated gait, often a bird is seen with one leg stretched forward and the other backwards. Chickens with lymphomas can appear to be clinically normal, whereas others appear depressed and comatose before they die. Non-specific signs like weight loss, paleness, diarrhoea and pallor can be seen if the clinical picture is prolonged. Deaths can be due to starvation because affected birds can not get to food.

**Persistent neurological syndrome.** Torticollis (neck twisting) is sometimes seen 3-4 weeks post infection often after recovering from transient paralysis.

**Ocular involvement.** In this condition evidence of blindness is seen, sometimes with a flock incidence as high as >90%. Blindness can affect one or both eyes.

**Early mortality syndrome.** This is characterised by high mortality two weeks post infection preceded by depression and coma. Some birds show a flaccid neck paralysis.

**Classic/acute transient paralysis.** This has been reported in the field. Varying degrees of ataxia and flaccid paralysis which last for about 48 hours.

The manifestation of lesions and mortality is influenced by the strain of Marek's disease virus, viral dose, route of infection, gender of the host, maternal antibodies, prior infection, environmental factors and stress. Immunosuppressive episodes and co-infections also come into play.

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