



Reovirus

Alternate Names: Viral arthritis, reoviral arthritis, tenosynovitis, Reo.

Species Affected: Poultry, mainly chickens and turkeys. Also, pigeons and crows.

What causes Reo? Avian reoviruses, of which several types exist and differ in their ability to cause disease. Reoviruses are very common, and they can be found in the respiratory (airways and lungs) and gastrointestinal tract (stomach and intestines) of domestic poultry worldwide.

How is Reo transmitted? Poultry are infected by eating reoviruses from contaminated environments. When laying hens are infected with disease-causing ("pathogenic") Reo strains, they transmit the virus in the egg, producing infected chicks.

What are the clinical signs of Reo? They vary according to reovirus strain, bird type, age, and immune status. When infection occurs with pathogenic reo strains in young, fast-growing birds (such as broiler [meat] chickens under 2 weeks of age), the virus spreads to the heart, liver, intestines, and tendons (the cords that attach a muscle to a bone) causing inflammation. Infected chicks are stunted. In heavier birds arthritis of the hock joints and inflammation of the leg tendons may be so severe that tendons snap. Lameness and poor mobility lead to poor growth.

What are the consequences of Reo? Welfare concern because sick birds can't stand and walk to reach feed and water. Economic loss due to poor growth, lack of uniformity (healthy broiler chickens of the same age and breed should grow to similar size and weight) and condemnations of carcasses/parts at processing.

How is Reo detected? Based on clinical signs, flock history, observation of lesions on dead birds and laboratory testing. Histopathology (observation of tissues under a microscope), serology (blood tests to detect antibodies – reaction of the immune system), PCR (Polymerase Chain Reaction, a molecular test to confirm the presence of viral RNA), and viral isolation are used to confirm Reo.

How is Reo prevented? Vaccination of breeder birds protect chicks from Reo. Vaccines should be chosen targeting the most common Reo strains in the area.

How can Reo be treated? There is no treatment for Reo once birds show clinical signs of arthritis. Euthanasia should be considered for birds that can't reach feed and/or water.

Is Reo zoonotic (transmitted from animals to humans)? No

References:

- Nicholds, J., & Sellers, H. S. (2022, February 10). *Viral Arthritis in Poultry*. Merck Veterinary Manual. <https://www.merckvetmanual.com/poultry/viral-arthritis/viral-arthritis-in-poultry>
- Schat, K.A. (n.d.). *Avian Reovirus - an overview* | *ScienceDirect Topics*. Science Direct. <https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/avian-reovirus>