

A brief history of pigeon vaccines in Australia and the current recommendations

In early 2012, Australia and New Zealand were the only countries in the western world where PPMV had not been diagnosed. It was only in these countries that pigeon fanciers did not need to vaccinate their birds against this disease. In late 2012 PPMV was diagnosed in Melbourne, Australia at the Melbourne Bird Veterinary Clinic. A government committee, the Consultative Committee for Emergency Animal Disease (CCEAD) developed several vaccination protocol trials using the 2 existing Australian vaccines for PMV in chickens to evaluate if they would also protect pigeons. The trials were conducted at the Melbourne Bird Veterinary Clinic and ran over 18 months. One vaccine based on a killed La Sota strain of PMV stimulated the development of protective immunity in 70% of birds within 4 weeks of one vaccination and 100% of birds within 4 weeks of a second vaccination. Immunity levels in all birds remained at protective levels for at least 12 months. By comparison, the second vaccine, based on a live modified PMV strain, called NDV4, stimulated the development of short term (approx. 10 weeks) immunity that was generally lower and failed to reach protective levels in approximately 40% of birds. The use of a live vaccine was also problematic. When used in a situation where "wild" PPMV was common this posed a significant risk of simultaneous infection leading to possible viral recombination and the development of new variants. Based on the trial results, two vaccinations of La Sota given four weeks apart, with annual boosters, became the recommended vaccination protocol and the La Sota based vaccine was subsequently registered for use in pigeons by Australian authorities.

A new pigeon disease, unknown to the world, was first diagnosed in Melbourne in late 2017. The disease was caused by a Rota virus. Once the diagnosis had been made the challenge was to develop a way of protecting pigeons from the disease. No avian Rota virus vaccine had ever been made before anywhere in the world. An initial experimental vaccine was made by Dr Travis Beddoe at Latrobe University in Melbourne. With some modifications this vaccine went to commercial production at Treidlia Biovet in Sydney and became available to fanciers in early 2019. The vaccine is a sophisticated vaccine. It contains a synthetically made protein, naturally found on the surface of the Rota virus, that is known to stimulate the development of immunity. The vaccine is similar to the Covid 19 vaccine in that it stimulates sufficient immunity to significantly reduce the severity of disease but insufficient to completely block all clinical signs. Two immune studies have been done on the vaccine. One demonstrated the level of one type of immunity (antibodies) formed following vaccination. Of significance, a second study showed that 4 weeks post infection non vaccinated birds, although appearing normal, had demonstrably higher levels of liver and bowel injury than vaccinated birds. The current recommendation is that birds receive two vaccine doses 4 weeks apart with annual boosters recommended. Further immune studies may however alter this advice.

Pigeon pox is a common worldwide disease of pigeons. The vaccine used in Australia is a live modified vaccine that was first made in the 1950s. For the past 30 years it has been supplied in Australia by the Australian Pigeon Company. The vaccine is applied in a superficial scratch to the outside surface of a thigh. A single vaccination provides life time immunity and 100% protection against clinical disease.

Paratyphoid is the disease caused by Salmonella bacteria. The bacteria can infect multiple sites leading to a variety of symptoms. The disease is readily recognizable in its classic form when the joints or membranes around the brain are infected. The disease however is tremendously underdiagnosed and indeed, difficult to diagnose in one of its most common forms – as a cause of soft droppings and compromised performance in racing pigeons. A live modified vaccine was developed by Bioproperties in Melbourne approximately 15 years ago. The vaccine was trialed by the Melbourne Bird Veterinary Clinic in conjunction with the University of Melbourne and found to provide high immunity in pigeons. The vaccine has the advantage that it can be given orally. Two doses are given 4 weeks apart initially with annual boosters recommended.

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