

Psittacine beak and feather disease (or psittacine circovirus, PCV)

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The recent diagnosis of psittacine beak and feather disease in wild parrots is a cause of concern to the Department of Conservation. It was diagnosed in a wild eastern rosella in the Wellington region in August 2003. This disease is caused by a highly infectious virus and affects the skin, feathers and immune system of parrots. There is potential for the disease to be transmitted to other wild parrots, in particular New Zealand's native species, such as the endangered kakapo and kaka. The potential impact of this disease on these species is unknown as it has affected parrot species in other countries in unpredictable patterns. However, the disease, also known as psittacine circovirus (PCV), could decimate the already depleted populations of our treasured native parrots and it therefore represents a significant threat to biodiversity.

What is psittacine beak and feather disease?

Psittacine beak and feather disease (also known as psittacine circovirus, PCV) is a highly infectious viral disease of parrots that can cause high juvenile mortality, or long-term immunological suppression, feather abnormalities and (in cockatoos) beak rot.

Parrot infected with psittacine beak and feather disease.
Photograph: Mary Wagner



What happens if birds are infected with this disease?

Three forms of the disease exist: peracute (very sudden onset), acute (sudden onset) and chronic (long term).

The peracute form affects neonatal (baby) parrots and causes septicaemia, pneumonia, enteritis (inflammation of the intestines), weight loss and death. These very young birds may die before any feather abnormalities are seen.

The acute form affects young birds during their first feather formation when they replace their neonatal down. Acute infections are characterised by several days of depressed behaviour, followed by sudden changes in developing feathers. These changes can range from very subtle to quite obvious abnormal colouration, bending, breaking, bleeding and shedding of feathers. Acutely affected birds may recover.

The chronic form begins with the loss of production of powder down.



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It may be first noticed as the development of a shiny beak and dirty plumage, followed by feather abnormalities, skin lesions, nail abnormalities and infections. At advanced stages of the disease the beak softens and may rot away and bacterial and fungal infections may invade the bird's body. Birds with the chronic form of psittacine beak and feather disease rarely recover.

How is it spread?

Psittacine beak and feather disease is highly contagious to parrot species, spreading through direct contact with affected birds and by ingestion or inhalation of feather dust, dander and faeces. The virus can also be transmitted via contact with contaminated surfaces such as feeding equipment, nesting materials and clothing. Younger birds, particularly neonates, appear to be more susceptible to infection. The disease may spread from adults to offspring and may even be contracted from a nest box which has been unused for many months or years. The incubation period from exposure to the virus to the appearance of symptoms varies from 3 weeks to several years.

The virus is very stable in the environment, and can last for many months or years on contaminated material. It is also resistant to disinfectants.

Eastern rosella—an Australian parakeet which is closely related to, and similar in size and appearance to, New Zealand's native parakeet (the kakariki). The eastern rosella is more brightly coloured (larger patches of yellow, red and blue) than the predominantly green kakariki. Wild eastern rosellas are now quite common in some parts of New Zealand
Photograph: David Radonich.



Why is it important?

This disease is endemic in captive parrots in New Zealand but has only recently been found in wild parrots. The potential impacts of psittacine beak and feather disease on New Zealand's wild native parrots—kaka, kea, kakariki and kakapo—are currently unknown. The release of native parrots into urban sanctuaries such as the Karori Wildlife Sanctuary has increased the risk of the disease spreading from wild exotic parrots to wild native species. This is because most wild exotics live in and around urban areas.

How can it be diagnosed and treated?

In advanced cases of the disease, typical symptoms indicate psittacine beak and feather disease; however, other conditions can mimic the feather changes. A DNA blood test can be used to screen parrots for the disease or to confirm the diagnosis. At present there is no effective treatment for psittacine beak and feather disease. Some birds may recover, and these survivors may carry the disease and infect other birds.

It is important that any parrots displaying symptoms of psittacine beak and feather disease be tested to prevent the further spread of this disease.

What is being done to address the risks?

The Department of Conservation is reviewing its protocols regarding the handling and management of parrots and is updating its wildlife health procedures. This fact sheet has been produced to raise awareness of psittacine beak and feather disease among

Kakapo 'Suzanne' and her foster brood, Codfish Island, 2002. With a total population of only 86, kakapo are very vulnerable to the impact of diseases such as psittacine beak and feather disease.

Photograph: Don Merton
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the general public and those people who handle parrots, including captive breeders, bird rehabilitation centre staff and veterinarians.

How can I help prevent the spread of this disease?

- Report any sick or dead wild parrots (either native or exotic) to your local Department of Conservation office.
- Protect your birds by maintaining good hygiene, and quarantining and

testing new parrots before releasing them into your aviary. Control of psittacine beak and feather disease is best achieved by identifying carrier birds and isolating these individuals, and by preventing contact with infected wild parrots (via good aviary design and no free-flying of captive parrots). Aviaries that have held infected birds should be thoroughly cleaned using antiviral disinfectants.

- Do not release captive parrots to the wild. Even apparently healthy birds may be carriers of the disease.

If you would like further information on psittacine beak and feather disease, please contact your local veterinarian. If you find sick or dead native or exotic parrots exhibiting some of the signs outlined above, please contact your local Department of Conservation office. This disease is not related to the avian influenza virus (AVI) presently causing outbreaks of disease in domesticated birds and, occasionally, people, in Asia. However, any sightings of multiple dead or ill birds should be reported to the Ministry of Agriculture and Forestry (MAF) through their exotic pest and diseases hotline: 0800 809 966.