Department of Agriculture
Veterinary Services
Stanley, Falkland Islands
Tel: (+500)27366 **Email:** pvanderriet@naturalresources.gov.fk

PENGUIN POX

The Pox family of viruses consists of more than 80 different species that cause disease in vertebrate and arthropod animals. Each species of virus tends to be very host specific, in that it will cause disease in the target host species, but will not cause disease in other species of animals. Some species of Pox virus can infect various species of animals, but will cause less severe or undetectable disease in all but their preferred host species. An example of this is the MonkeyPox virus, that can affect humans as well as many other species. Another example is the Parapox virus that causes Orf disease in sheep, and can also infect humans.

The Bird Pox virus (Avipox) affects only birds – the virus is unable to complete it's replication cycle in non-bird species. There are various subspecies that are more pathogenic to specific species of birds – in other words, one type of Bird Pox may affect only certain types of birds. There is no evidence that bird Pox virus can infect humans.

Bird pox is mechanically transmitted from bird to bird by biting parasites such as mosquitoes and fleas, or by direct mucosal membrane contact with infected birds. It can also be spread by direct mucosal contact with virus-containing particles dirt or organic debris. Virus-containing scabs shed from the lesions of an infected bird will contaminate the surrounding environment. The Pox virus is highly resistant to drying and may survive months to years in the dried scabs or in the carcases of dead birds. Indirect transmission can also occur via inhalation of pox virus-infected dander, feather debris and air-borne particles.

In penguins, infection with Bird Pox results in wart-like lesions around the beak, flippers, cloaca, feet, and eyes. Damage can also occur to the upper respiratory system. The lesions can be severe and lead to secondary infections, or damage to nearby organs such as eyes. Post mortem examinations may reveal severely congested and haemorrhagic lungs, splenomegaly, cardiomegaly, enteritis, oesophagitis, dermatitis, and airsacculitis. Bird Pox outbreaks in colonies primarily affects chicks, and often results in death.

Control measures in an affected population of birds would depend on elimination of infected animals and removal – for incineration or other effective destruction – of carcases. Effectively, this would require complete depopulation of an affected population at a locality, and be followed up with disinfection of the environment with an effective virucidal chemical, such as 10% bleach. These measures are not likely to be acceptable in a wild bird population situation.

Given the persistence of the virus in the environment and the stresses the disease itself creates in affected colonies, sensible measures can be taken to reduce the impact of human interactions with wild populations. These include limiting access to affected colonies and using biosecurity measures such as footbaths.