

# (Cow)pox virus

## What is cowpox virus?

Cowpox virus is a large DNA virus from the same genus as viruses that cause small pox and monkey pox. Although cowpox virus can infect cattle, the natural reservoir are small rodents (e.g. voles and woodmice).

Cats that hunt – and ultimately get bitten by – these small rodents are most at risk of developing clinical signs, especially in autumn.



Virus particles are quite resistant to disinfection, while bleach and quaternary ammonium ions are effective, alcohol-based disinfectants are not.

## What are the clinical signs?

The most frequent clinical presentation is skin nodules progressing to ulcers, which then scab over. These often start as a single lesion on or around the head or paws. Following contact spread or viraemia the lesions can become more widespread. Secondary bacterial infection may influence the appearance of the lesion (and the cats general presentation).

Infected cats may become depressed, pyrexia, and inappetent. Rhinitis (i.e. sneezing and nasal discharge) or diarrhoea are reported less frequently. More severe infections, including pneumonia and the development of pleural effusion, are uncommon – but possible – especially after corticosteroid administration.

## What about the human health risk?

Cowpox virus is a significant zoonosis that can be contracted directly from infected cats. While immunocompetent humans may develop isolated skin lesions, immunosuppressed humans can develop fatal disease.

Where cowpox virus is suspected, and when caring for cats with cowpox, gloves and masks should be worn. Care must be taken when clipping fur and cleaning crusting lesions – human exposure can be via inhalation of dust / aerosolized material, or via contamination of skin abrasions with infected material. Immunocompromised individuals should avoid handling these cats, and owners should be warned about the health risk.

## Reception Hours

Mon-Fri 9am - 5pm

## Contact Us

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## How do I diagnose poxvirus infection?

Historically, cowpox virus could be cultured from scabs and fresh tissues or virus identified in scabs with electron microscopy.

Currently, quantitative PCR is the method of choice due to increased sensitivity (the lower limit of detection is 100<sup>th</sup> that of culture) and reduced laboratory exposure risk. The qPCR can be run on scabs, tissues, and other samples such as bronchoalveolar lavage and effusions. An advantage of PCR is that the virus does not need to be viable for detection. Another is that the internal PCR control ensures the validity of a negative result.

## What treatment options are there?

Treatment is primarily supportive, including: antibiotics for secondary bacterial infection; nutritional support; analgesia; and fluid therapy as appropriate.

There is a novel antiviral treatment for humans with monkey pox or systemic cowpox infection, tecovirimat (Tecovirimat SIGA; Tpoxx). However, its use is limited by cost and availability. It is approved for use in the US, but is pending approval in the UK/EU.

***Updated January 2022 by Dr Emi Barker***

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