

What is avian influenza?

- Avian influenza is a disease of birds, caused by a type A influenza virus.
- The subtype H5N1 avian influenza virus occurs primarily in birds and infection varies from mild disease with little or no mortality to a highly fatal, rapidly spreading epidemic (highly pathogenic avian influenza, HPAI) depending on the strain, host factors and environmental stressors.
- Waterfowl are more resistant to avian influenza than domestic poultry, in which it is usually fatal.
- Transmission to mammals, including humans, happens sporadically, and the infection then may cause disease with high morbidity and mortality rates.
- It is extremely rare for cats to be infected and there are only very few confirmed reports of the disease in Europe.

Infection

- Cats can be infected via the respiratory and oral routes (e.g. by eating infected birds).
- The key precondition for infection is that the cat lives in an area where H5N1 virus infection has been confirmed in birds. Additionally, the cat should have had either:
 - outdoor access to an environment where waterfowl is present,
 - contact with poultry or uncooked poultry meat,
 - close contact to an H5N1 infected, sick cat during the first week of infection.
- There is no evidence that cats play a zoonotic role. To date (April 2009), no H5N1 virus transmission from cats to people has been reported.

Clinical suspicion

- Potential risk should be assessed, e.g. local presence of confirmed cases in wild birds or poultry and outdoor access is a high risk situation.
- Clinical signs in cats may include fever, lethargy, dyspnoea, conjunctivitis and rapid death. Neurological signs (circling, ataxia) have also been recorded.

Diagnosis

- The veterinary authorities should be notified, and the diagnostic laboratory should be contacted for instructions.
- Oropharyngeal, nasal and/or rectal swabs or faecal samples of suspect cases should be submitted for PCR and/or virus isolation. Cats should be sedated prior to swabbing to minimise the risk of infection.
- Post mortem samples of lung and mediastinal lymph nodes should be kept and shipped in 10% formol saline.
- Particular care should be taken when handling the cat and/or samples (plastic sample tubes to be labelled with alcohol-proof markers and swabbed with alcohol before wrapping in plastic bags).

Disease management

- Keep cats with suspected H5N1 infection in strict isolation with barrier nursing.
- Minimise all physical contact and wear gloves, a mask and protective eyewear whenever handling the cat.
- The virus is sensitive to standard medical disinfectants.
- Before bringing it to the clinic, the cat should be confined by the owner to a separate room. Owners should minimize all physical contact, while litter trays, bowls, baskets and other potentially contaminated objects should be disinfected.

Vaccination & disease prevention

- No vaccines are available for cats.
- To minimize the risk of H5N1 infection in cats, owners should refrain from feeding their cats uncooked poultry meat and closely follow the epidemic in the national media.
- In case of a suspect or confirmed case of H5N1 avian influenza in the area, owners should keep their cats indoors until further information is available and follow official regulations.

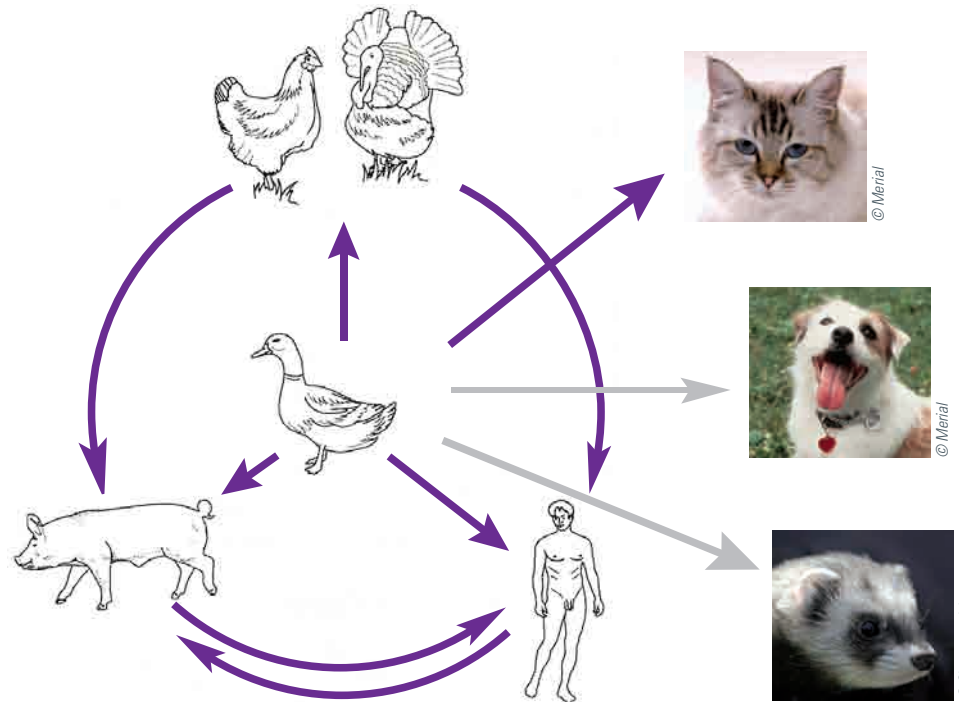


Image courtesy of "Clinical virology of swine," 2005, by E. Thiry, Editions du Point Vétérinaire, Rueil-Malmaison, France.

Wild birds, especially waterfowl, are natural reservoirs for the influenza viruses. The disease can also spread to other birds through contact with infected birds and manure. Fomites containing high concentrations of the virus, such as contaminated clothing and footwear, vehicles and feed may also transmit the infection.

Less frequently, avian influenza viruses are transmitted between species - to pigs, horses and sea mammals. The transmission of avian influenza viruses or hybrids of avian and human viruses to humans may occur with pigs acting as intermediate hosts.

Example of natural H5N1 infection in a cat

A cat had eaten a pigeon carcass 5 days before onset of illness during the early 2004 outbreak.

Clinical signs

- 41° C
- Depression
- Convulsions and ataxia
- Death 2 days after the onset of illness

Histopathology

- Cerebral congestion, conjunctivitis, pulmonary oedema, pneumonia, renal congestion, haemorrhages in intestinal serosa.

Virology

- Complete sequence of the feline H5N1 strain determined.
- Identity with H5N1 from the pigeon and Thailand 2004 outbreak strains.

Songserm T et al. *Emerg Infect Dis* 2006;12(4):681-683.

