



Pig Veterinary Society

North-American Influenza A H1N1 virus

The Pig Veterinary Society is a specialist division of the British Veterinary Association. Members are veterinary surgeons who have a special interest in pigs, representing all sectors of the pig industry – private practitioners, academics, veterinary surgeons employed within the animal feed and pharmaceutical sectors and by Government. The Pig Veterinary Society exists to assist its members to care for pigs, through dissemination of knowledge about health, disease, the pig's welfare and its management.

The virus involved in the North-American influenza A (H1N1) outbreak in Mexico and the United States is not a swine influenza virus but a recombination of human, swine and avian viruses which has never been isolated from pigs. There is no known risk from direct contact with pigs or from eating pigmeat. This virus is not known to be in pigs in the U.S. or in Mexico. The virus is currently being transmitted from person to person and does not involve pigs for transmission. None of the first 20 human cases that have been confirmed by the CDC in the U.S. had any direct contact with pigs.

Recommendations

- Veterinary surgeons are asked to remain vigilant for suspicious cases involving pigs exhibiting influenza-like clinical signs.
- Submit diagnostic samples (lung tissues and nasal swabs) from acutely-ill, febrile pigs to the local veterinary laboratory if you suspect influenza. VLA and SAC do not charge for SIV diagnostic tests.
- SIV is a zoonosis and appropriate precautions should be taken (including hand-washing, mask and gloves during post-mortem examinations) to minimize the risk of infection and disease transmission.
- The main aim of PVS is to help prevent the introduction of new strains of SIV into the UK pig population through increasing producer awareness and ensuring appropriate biosecurity safeguards are in place to prevent the introduction of this virus into the UK pig herd.
 - Prohibit unnecessary visitors
 - Employees with flu-like symptoms or symptomatic family members should not be allowed to contact pigs and should be encouraged to either contact their GP by telephone or seek advice from NHS Direct.
 - All incoming stock should be isolated and quarantined to prevent pig-to-pig transmission of Swine Influenza viruses.

Information about the North-American Influenza A H1N1 virus strain:

- Mexican authorities are reporting a severe influenza incidence this year with hundreds of illnesses and multiple deaths attributed to a North-American Influenza A H1N1 virus.
- The virus is a H1N1 influenza A triple reassortant containing genes from two swine viruses, an avian virus and a human virus.
- This viral strain appears to be transmitting from person to person.
- None of the first 20 human cases that have been confirmed by the CDC in the U.S. had any direct contact with pigs.
- The HA gene is the common gene seen in pigs today (H1).
- The NA and Matrix genes are of Eurasian descent and have not been seen in people or pigs in the U.S. previously.
- These viruses are not known to be circulating among swine in the U.S. or Mexico
- The pathogenesis of this virus in pigs is unknown. USDA's National Veterinary Services Laboratory (NVSL) and National Animal Disease Center (NADC) will be evaluating the current diagnostic tests and conducting challenge studies in pigs to determine the virus' virulence and clinical presentation in pigs.
- Based on current evidence from surveillance programmes in several European countries, the variant of H1N1 virus recently reported in humans in the United States has never been reported and therefore does not appear to be present in the European pig population.
- There is no food safety issue. Swine influenza viruses are not transmitted through food. You cannot get swine influenza from eating pork or pork products.
- EU rules do not permit the import of pig meat from Mexico, but pigmeat products can be imported from the US.
- EU rules do not allow the personal import of meat or meat products from either the US or Mexico.
- EU rules do not permit the importation of live pigs from either the US or Mexico.
- However, even if pigs are involved with this virus, the risk to humans from pigmeat is considered by the US CDC to be negligible
- Eating properly handled and cooked pork and pork products are safe.
- There is no change to normal advice on cooking pork to an internal temperature of 70°C to kill any bacteria and viruses.

Swine influenza in pigs

Swine Influenza is a respiratory disease of pigs caused by type A influenza virus that regularly causes outbreaks of influenza in pigs. Swine influenza viruses cause high levels of illness and low death rates in pigs. Swine influenza viruses may circulate among swine throughout the year, but most outbreaks occur during the autumn and winter months.

Like all influenza viruses, swine influenza viruses change constantly. Pigs can be infected by avian influenza and human influenza viruses as well as swine influenza viruses. When influenza viruses from different species infect pigs, the viruses can reassort (i.e. swap genes) and new viruses that are a mix of swine, human and/or avian influenza viruses can emerge. Over the years, different variations of swine influenza viruses have emerged. At this time, there are four main influenza type A virus subtypes that have been isolated in pigs: H1N1, H1N2, H3N2, and H3N1. Currently in the United Kingdom, avian-like swine H1N1 viruses co-circulate with H1N2.

The H1N1 swine influenza viruses are antigenically very different from human H1N1 viruses and, therefore, vaccines for human seasonal flu would not provide protection from H1N1 swine influenza viruses.

Clinical signs of swine influenza in pigs

Clinical signs of swine influenza in pigs may include:

- sudden onset of high fever
- coughing (“barking”); sneezing
- discharge from the nose or eyes
- breathing difficulties
- eye redness or inflammation
- depression, going off feed
- fevers in infected pigs are common
- reduced fertility or elevated abortion rates among sows.

Transmission among pigs

Influenza viruses are thought to spread mostly through close contact among pigs and possibly from contaminated objects moving between infected and uninfected pigs. Herds with continuous swine influenza infections may show only mild or no signs of infection.

Prevention

Swine influenza infections can potentially be prevented by:

- Using good biosecurity measures
- Encouraging good hygiene practices by stockworkers
- Ensuring that ventilation systems are functioning properly
- Developing management strategies to reduce the spread of influenza among herds and to prevent

the spread of influenza viruses between pigs, people, and birds.

Can people catch swine influenza?

Swine influenza viruses do not normally infect humans. Sporadic infections with swine influenza have been seen, usually in people with direct contact with pigs. Person-to-person transmission of swine influenza can also occur. SIV infections in people are not common. In a review covering the years 1958 to 2005, only 50 human cases were found. In Europe - 6 in Czechoslovakia, 4 in the Netherlands and 3 in Switzerland. None were reported from the UK.

The symptoms of swine influenza in people are expected to be similar to the symptoms of normal human seasonal influenza and include fever, lethargy, lack of appetite and coughing. Some people with swine flu also have reported runny nose, sore throat, nausea, vomiting and diarrhoea.

What can you do?

First, wash your hands frequently after exposure to animals and avoid contact with animals that appear ill. If you or your family becomes ill with flu-like symptoms, let your doctor know if you have been around pigs that could have influenza. A nose or throat swab is needed to determine if you might be infected with a swine influenza virus.

Most cases of influenza in humans are caused by human influenza viruses. Influenza medications are available to treat swine influenza illness in people. These medicines should be started in the first 2 days of being ill to be most effective.

How does swine influenza spread?

Influenza viruses can be directly transmitted from pigs to people and from people to pigs. Human infection with influenza viruses from pigs are most likely to occur when people are in close proximity to infected pigs. This is thought to occur in the same way as seasonal flu occurs in people, which is mainly person-to-person transmission through coughing or sneezing of people infected with the influenza virus. People may become infected by touching something with flu viruses on it and then touching their mouth or nose.

Can people catch swine influenza from pork?

There is no evidence to show that swine influenza can be transmitted through food. Eating properly handled and cooked pork and pork products are safe. The normal advice to cook pork to an internal temperature of 70°C to kill any bacteria and viruses is unchanged.

May 1, 2009 © 2009 Pig Veterinary Society. All rights reserved.

No part of this publication may be reproduced or transmitted in any form by any means without the prior written consent of the Pig Veterinary Society. Whilst all reasonable care has been taken in the preparation of this publication, no warranty is given as to its accuracy, nor liability accepted for any loss or damage caused by reliance upon any statement in or omission from this publication.