The Variant Virus

Information About

H3N2v

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The Reader Will Be Able To...

- Discuss what Influenza A is
- Define what a variant virus is
- List who is at risk for developing H3N2v
- Explain three ways to prevent H3N2v
What is Swine Influenza?

- Swine Influenza (swine flu) is a respiratory disease of pigs caused by type A influenza virus that regularly causes outbreaks of influenza in pigs and also in water birds.

- Swine flu viruses can cause high levels of illness in swine herds, but usually cause few deaths.

- Swine influenza viruses may circulate among swine throughout the year, but most outbreaks occur during the late fall and winter months similar to outbreaks of seasonal influenza in humans.
What Is Swine Influenza?

- Like influenza viruses in humans and other animals, swine flu 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.
How Does Swine Flu Spread Among Pigs?

- Swine flu viruses are thought to be spread among pigs mostly through close contact and possibly from contaminated objects moving between infected and uninfected pigs.

- Infected swine herds, including those vaccinated against swine flu, may have sporadic disease, or may show only mild or no symptoms of infection.
Symptoms Of A Infected Pig

- Fever
- Depression
- Coughing (barking)
- Discharge from the nose or eyes
- Sneezing
- Breathing difficulties
- Eye redness or inflammation
- Going off feed
- Influenza-infected pigs also may not appear ill or be only mildly ill.
Can Influenza Virus Infection Be Prevented In Pigs?

- It may be possible to lessen the risk of infections in pigs and/or severity of disease by following these management strategies:
  - Vaccinating herds
  - Using good biosecurity measures
  - Practicing good hygiene
  - Vaccinating pig caretakers with seasonal influenza vaccine
  - Using proper ventilation systems
Influenza A Information..

- Type A influenza is further classified into subtypes depending on which versions of two different proteins are present on the surface of the virus.
- These proteins are called hemagglutinin (HA) and neuraminidase (NA).
- There are 16 different versions of HA and 9 different versions of NA.
- Although many different combinations of the HA and NA proteins are possible, viruses with only a few of the possible combinations circulate through the human population at any given time.
Influenza A Information..

- Currently, subtypes H1N1, H1N2, and H3N2v are found in people. Other subtypes are found in animals.

- The subtypes that exist within a population change over time.

- Wild birds commonly act as the hosts for this flu virus.

Source: Baylor College Of Medicine
What Is A Variant Virus?

- Swine flu viruses do not normally infect humans.

- However, sporadic human infections with influenza viruses that normally circulate in swine and not people have occurred.

- When this happens, these viruses are called “variant viruses.”
What Is A Variant Virus?

- Most commonly, human infections with variant viruses occur in people with exposure to infected pigs.

- They also can be denoted by adding the letter “v” to the end of the virus subtype designation.

H3N2v
Who Is At Risk For Developing H3N2v?

- Most human infections with H3N2v occur with direct exposure to infected pigs, such as:
  - People who own pigs
  - People who show pigs at fairs
  - Infants
  - Pregnant women
  - People with weakened immune systems
  - Seniors
How is H3N2v Transmitted To People?

- Most commonly, human infections with variant viruses occur in people with exposure to infected pigs (e.g. children near pigs at a fair or workers in the swine industry).

- There have been documented cases of multiple persons becoming sick after exposure to one or more sick pigs and also cases of limited spread of variant influenza viruses from person-to-person.
How is H3N2v Transmitted To People?

- Each case of human infection with a swine influenza virus should be fully investigated.

- Infected people can transmit H3N2v to pigs as well.
How is H3N2v Transmitted To People?

- The virus spreading from infected pigs to humans is thought to happen in the same way that seasonal influenza viruses spread between people; mainly through infected droplets created when an infected pig coughs or sneezes.

- If these droplets land in your nose or mouth, or you inhale them, you can be infected.

- There also is some evidence that you might get infected by touching something that has virus on it and then touching your own mouth or nose.

- Scientists aren’t sure which is the most common way of spreading the virus.
How H3N2v Spreads Between Person-To-Person?

- Coughing or sneezing by people who are infected.

- Touching something with flu viruses on it and then touching their mouth or nose.

- It’s important to note that in most cases, variant flu viruses have not shown the ability to spread easily and sustainably from person-to-person.
What Are The Symptoms?

- Fever
- Chills
- Headache
- Cough
- Sore throat
- Muscle aches
- Sometimes diarrhea and nausea occur

Symptoms usually start about one-four days after being exposed and last two-seven days.
How Do I Know If I Have H3N2v?

- Call your health care provider if you have flu-like symptoms and if you have had contact with pigs or other sick people.

- The health care provider can also look at your symptoms and how you have been exposed.

- Your health care provider can test you to see if you have variant influenza A.
If You Are Sick?

- You should stay home from work, school, travel, shopping, social events, and public gatherings.

- It is recommended that you stay home for at least 24 hours after your fever is gone except to get medical care.

- Your fever should be gone without the use of a fever-reducing medicine, such as Tylenol®.
Treatment?

- Treatment for influenza A is similar to seasonal influenza.

- If the diagnosis is made at the very beginning of the illness, a health care provider may prescribed antiviral medication.
Vaccines for H3N2v?

- Seasonal flu vaccine will **not protect** against H3N2v.

- Seasonal flu vaccines protect against seasonal influenza viruses.

- Early steps to make a vaccine against H3N2v have been taken, but no decision to mass produce such a vaccine has been made.
How To Prevent H3N2v?

- Cover your nose and mouth with a tissue when you cough or sneeze. (Throw the tissue in the trash after you use it.).
- Wash your hands often with soap and water, especially after you cough or sneeze.
- If soap and water are not available, an alcohol-based hand rub may be used.
- Avoid touching your eyes, nose, or mouth.
- Try to avoid close contact with sick people.
- If you are sick, stay home from work or school until your illness is over.
How To Prevent H3N2v?

- Wash your hands frequently with soap and running water before and after exposure to animals.

- Never eat, drink, or put things in your mouth in animal areas.

- Young children, pregnant women, and people 65 and older should be extra careful around animals.
How To Prevent H3N2v?

- If you have animals – including swine – watch them for signs of illness and call a veterinarian if you suspect they might be sick.

- Avoid close contact with animals that look or act ill, when possible.

- Avoid contact with pigs if you are experiencing flu-like symptoms.
Know that animals carry germs that can make people sick

Never eat, drink, or put things into your mouth in animal areas

Older adults, pregnant women, and young children should be extra careful around animals

Wash your hands with soap and water right after visiting the animal area

How to be Safe Around Animals!

Source: CDC
Eating Pork

- Swine influenza **has not** been shown to be transmissible to people through eating properly handled and prepared pork (pig meat) or other products derived from pigs.

- Make sure that you cook pork to 155°F for 15 seconds.

- For more information on cooking pork click on the pork chop.
Who Should Stay Away From Pigs?

- People who have the following conditions are at high risk for influenza complications:
  - People who have asthma, diabetes, heart disease, or neurological conditions
  - Pregnant women
  - Children younger than 5 years of age
  - People older than 65 years of age
  - People with weakened immune systems

These individuals should consider avoiding exposure to pigs and swine barns this summer, especially if ill pigs have been identified.
Emergency Warning Signs In Children & Infants

- Fast breathing or trouble breathing
- Bluish skin color
- Not drinking enough fluids
- Not waking up or not interacting
- Being so irritable that the child does not want to be held
- Flu-like symptoms improving but then returning with fever and worsening cough
- Fever with a rash
- Inability to eat
- Having trouble breathing
- Having no tears when crying
- Having significantly fewer wet diapers than normal
Emergency Warning Signs In Adults

- Difficulty breathing or shortness of breath
- Pain or pressure in the chest or abdomen
- Sudden dizziness
- Confusion
- Severe or persistent vomiting
- Flu-like symptoms that improve but then return with fever and worse cough
Source

- Baylor College Of Medicine
- CDC
- Indiana State Department Of Health
- National Association Of State Public Health Veterinarians
- West Virginia Health & Human Resources
- WHO