What is avian influenza (bird flu)?
Bird flu is an infection caused by avian (bird) influenza (flu) viruses. These flu viruses occur naturally among birds. Wild birds worldwide carry the viruses in their intestines, but usually do not get sick from them. However, bird flu is very contagious among birds and can make some domesticated birds, including chickens, ducks, and turkeys, very sick and kill them. Large outbreaks of avian flu in poultry farms can lead to infection in humans, which often present severe symptoms.

How are bird flu viruses different from human flu viruses?
Type A influenza viruses are the main causes of influenza outbreaks in both animals and humans. There are many different subtypes of type A influenza viruses, which are distinguished by the different types of hemagglutinin (HA) and neuraminidase (NA) proteins on their surfaces. Type A influenza viruses are named by their unique combination of hemagglutinin and neuraminidase proteins. For example, H1N2 contains hemagglutinin type 1 (H1) and neuraminidase type 2 (N2). Only three types (H1N1, H1N2, and H3N2) are primarily associated with human influenza. These are called “human flu” viruses. Similarly, flu viruses mainly associated with birds are called “avian flu” or “bird flu” viruses. Rarely, humans can become infected with a bird flu virus. Typically, this occurs due to close contact with infected poultry, such as those who work in poultry farms.

What is H5N1 and H7N9?
Influenza A (H5N1) virus – also called “H5N1 virus” – is an influenza A virus subtype that occurs mainly in birds. In 2003, a large outbreak occurred in Asia, mainly affecting birds. However, human acquisition of bird flu did occur, and severe symptoms developed in many cases. From 2013 until May 2015, another type of bird flu (H7N9) virus has been detected in more than 657 people, mainly in China. Thailand, Indonesia, and Egypt are other countries experiencing elevated levels of human cases of bird flu virus. Both viruses are very contagious between birds, but currently have relatively low risk of widespread infection in humans.

How does bird flu spread?
Infected birds shed flu virus in their saliva, nasal secretions, and feces. Susceptible birds become infected when they have contact with excretions from infected birds or surfaces that are contaminated with excretions. It is believed that most cases of bird flu infection in humans have resulted from contact with infected birds or contaminated surfaces. The spread of avian influenza viruses from one ill person to another has been reported very rarely, and transmission has not been observed to continue beyond one person.

Who is at risk for bird flu?
The risk from bird flu is generally low to most people because the viruses occur mainly among birds and do not usually infect humans. However, during an outbreak of bird flu among poultry (domesticated chickens, ducks, turkeys), there is some risk to people who have contact with infected birds or surfaces that have been contaminated with excretions from infected birds. In such situations, people should avoid contact with infected birds or contaminated surfaces, and should be careful when handling and cooking poultry. In rare instances, limited human-to-human spread of bird flu viruses has occurred. Transmission has not been observed to continue beyond one person.

Can bird flu viruses become a pandemic?
So far, spread of H5N1 and H7N9 virus from person to person has been rare and has not continued beyond one person. However, because all influenza viruses have the ability to change, scientists are concerned that these bird flu viruses one day could be able to infect humans and spread more easily from one person to another. Scientists are closely monitoring bird flu viruses for signs of an increase in human transmission, as this could potentially lead to a human pandemic. Recently, an H5N1 vaccine was developed, greatly reducing its chances of causing a pandemic.

For further information, contact the Oklahoma City-County Health Department
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How is infection with bird flu virus in humans treated?
The CDC currently recommends oseltamivir (Tamiflu), zanamavir (Relenza), and peramivir to treat both H5N1 and H7N9. Consult with your doctor about the appropriate course of treatment if you suspect or are diagnosed with a bird flu virus.

Is there a vaccine to protect humans from H5N1 virus?
The United States currently has a stockpile of vaccines for the Asian H5N1 virus. A vaccine for H7N9 is currently being developed, though a final product may take some time.

What is the risk to people in the United States from the bird flu outbreaks in Asia and Europe?
The risk to Americans from the bird flu outbreaks is currently low. Human infections of H5N1 and H7N9 have not been reported in the United States. It is possible that travelers returning from affected countries in Asia could be infected if they were exposed to the virus. Since human to human transmission of bird flu viruses is rare, there is little chance of a traveler spreading the virus to America.

Avian influenza outbreaks have recently occurred in North America. What is the risk to humans from these outbreaks?
Avian influenza has been diagnosed in domestic poultry in five states in the United States and in British Columbia (Canada) in 2004. Since late 2014, H5N2 outbreaks have been seen in the Midwest. No known human cases have been reported in this most recent outbreak of bird flu. The last known case of avian flu transmission in the United States occurred in 2003. The patient had mild symptoms which quickly subsided.