CONDITION

Avian influenza

Learn how bird flu can affect people, including symptoms, exposure risks, testing, treatment, prevention, and when to seek urgent care.

WHAT IT IS
Animal-borne influenza A illness

BODY SYSTEM
Lungs and airways

MAIN SYMPTOMS
Eye irritation, fever, cough, shortness of breath

WHAT CAUSES IT
Influenza A virus infection

HOW IT IS DIAGNOSED
Specialized molecular testing of swabs

MAIN TREATMENT
Influenza antiviral medicine

CAN IT BE CURED?
Sometimes - people may recover with treatment

IS IT AN EMERGENCY?
Sometimes - severe trouble breathing or confusion

LONG-TERM OUTLOOK
Often mild, but severe disease can cause multiple organ failure

Overview

Avian influenza, often called bird flu, is an illness caused by influenza A viruses that mainly spread among wild birds and poultry. Some of these viruses can also infect mammals, including dairy cattle, and occasionally people.

Several types of avian influenza viruses have caused human illness. They are named for proteins on the virus surface, such as H5N1, H7N9, and H5N6. "Highly pathogenic" avian influenza means that a virus causes severe disease in poultry. It does not necessarily predict how severe the illness will be in a person.

Human infections are uncommon and usually follow direct or close contact with infected animals, their body fluids, or contaminated environments. People who work with poultry, wild birds, dairy cattle, or infected animals may face greater exposure. Sustained person-to-person

spread has not been identified, although influenza viruses can change over time and are closely monitored by public health agencies.

Illness in people can range from mild eye irritation or flu-like symptoms to severe pneumonia. Recognizing a possible animal exposure matters because routine influenza tests may not identify the exact virus. Early contact with a healthcare professional allows testing, treatment, and public health follow-up to begin promptly.

Properly cooked poultry and eggs and pasteurized milk are not considered usual sources of infection. Avoiding raw milk, unpasteurized dairy products, and contact with sick or dead animals can reduce risk.

Symptoms

Symptoms may begin within several days after exposure, although the timing can vary. Some people have only mild illness. Others develop symptoms involving the lungs or other organs.

Possible symptoms include:

Conjunctivitis may occur when contaminated droplets or material reach the eyes. In some recent occupational infections, eye symptoms have been the main or only sign of illness.

Symptoms alone cannot distinguish avian influenza from seasonal flu, COVID-19, or other infections. The combination of symptoms and a recent exposure to potentially infected animals is especially important.

Contact a healthcare professional or local public health department promptly if symptoms develop after contact with sick or dead birds, poultry, dairy cattle, or another animal suspected of infection. Call before visiting a clinic when possible. This gives the healthcare team time to arrange appropriate testing and infection-control measures.

Seek emergency medical care for symptoms such as:

Tell emergency personnel about the animal exposure. Do not delay emergency care while waiting for testing or public health instructions.

- Red, irritated, watery, or painful eyes, known as conjunctivitis
- Fever or feeling feverish
- Cough
- Sore throat
- Runny or stuffy nose

- Muscle or body aches
- Headache
- Tiredness
- Shortness of breath
- Nausea, vomiting, or diarrhea
- Severe trouble breathing or rapidly worsening shortness of breath
- Persistent chest pain or pressure
- Blue, gray, or unusually pale lips or skin
- New confusion, seizures, or difficulty waking
- Severe weakness, fainting, or inability to drink enough fluids

Causes and risk factors

Avian influenza is caused by influenza A viruses adapted mainly to birds. Infected animals can release virus through saliva, mucus, feces, respiratory secretions, and other body fluids. Virus may also be present in raw milk from infected dairy cattle.

A person may become infected when virus-containing material reaches the eyes, nose, mouth, or lungs. This can happen through splashes, droplets, contaminated dust, or touching a contaminated surface and then touching the face. Handling infected animals during slaughter, culling, milking, veterinary care, or carcass disposal may create exposure.

Activities associated with greater risk include:

Backyard flock owners, farmworkers, veterinarians, animal-health workers, wildlife workers, and people involved in outbreak control may have occupational risk. Public health or workplace safety teams may recommend gloves, protective clothing, eye protection, and a well-fitting respirator for specific tasks.

Casual contact with healthy-looking birds in an area without an outbreak is generally lower risk. Even so, people should not handle wild birds or animals that are sick, acting unusually, or found dead. Local animal-health or wildlife authorities can advise how to report them.

Seasonal flu vaccination does not prevent avian influenza. It can, however, reduce the chance of having seasonal flu at the same time. This is important because simultaneous infections could give influenza viruses an opportunity to exchange genetic material.

- Working with infected or potentially infected poultry, wild birds, or dairy cattle

- Handling sick or dead animals without recommended protective equipment
- Entering contaminated barns, coops, milking areas, or animal enclosures
- Cleaning animal waste, bedding, or equipment that may contain virus
- Preparing infected birds or animals for food
- Having unprotected close contact with a person confirmed to have avian influenza
- Drinking raw milk or consuming unpasteurized dairy products

Diagnosis

Diagnosis begins with a detailed exposure history. A healthcare professional may ask about contact with birds, poultry, dairy cattle, raw milk, animal waste, farms, live-animal markets, or people known to be infected. Travel and occupation may also be relevant.

Testing usually involves collecting a sample from the nose or throat. If a person has conjunctivitis, an eye swab may also be needed. People with severe respiratory illness may require samples from deeper in the respiratory tract.

Standard rapid flu tests cannot reliably confirm or rule out avian influenza. Some tests can detect influenza A but cannot identify the specific subtype. Suspected samples may therefore be sent to a public health laboratory for specialized molecular testing.

A physical examination may include checking oxygen levels and listening to the lungs. Depending on the symptoms, clinicians may order a chest X-ray, blood tests, or other studies to look for pneumonia, dehydration, or organ complications.

Testing and treatment decisions should not be delayed solely because exposure details are uncertain. Healthcare professionals generally coordinate suspected cases with local or national public health authorities.

Treatment and management

Influenza antiviral medicine is the main specific treatment. Oseltamivir is commonly recommended for suspected or confirmed avian influenza, including many severe cases. The exact medicine, dose, route, and length of treatment depend on factors such as age, kidney function, illness severity, pregnancy, ability to take oral medicine, and current public health guidance.

Treatment works best when started early. For a person with compatible symptoms and a

meaningful exposure, clinicians may begin an antiviral like acyclovir or oseltamivir before test results are available. Treatment may still be useful when started later, especially for severe, progressive, or hospitalized illness.

Supportive care depends on how sick the person is. Mild illness may be managed with rest, fluids, symptom monitoring, and medical follow-up. Eye symptoms should be evaluated because other infections and eye conditions can look similar. Antibiotics like amoxicillin or doxycycline do not treat influenza viruses, although they may be used if a bacterial infection develops.

People with severe disease may need hospital care, supplemental oxygen, intravenous fluids, or breathing support. Clinicians may also treat complications such as bacterial pneumonia or organ dysfunction.

A person being evaluated for avian influenza should follow instructions about staying away from others, wearing a mask, handwashing, and avoiding shared household items. Public health officials may arrange testing and monitor close contacts. These precautions help limit possible spread while the diagnosis is being clarified.

After a recognized exposure, public health authorities may sometimes recommend antiviral medicine to prevent illness. This is called post-exposure prophylaxis. It is not appropriate for every exposure and should be decided by a clinician or public health team rather than started without medical advice.

To reduce future exposure:

- Do not touch sick or dead wild birds or animals with bare hands.
- Follow workplace instructions for protective clothing, gloves, eye protection, and respirators.
- Wash hands after animal contact and before touching the face or eating.
- Avoid raw milk and products made from unpasteurized milk.
- Cook poultry and eggs thoroughly and prevent raw animal products from contaminating other foods.
- Report unusual animal illness or deaths to the appropriate agriculture, wildlife, or public health authority.

Complications

Many reported human infections have been mild, particularly when symptoms are limited to the eyes or upper airways. However, some avian influenza viruses have caused serious disease.

Possible complications include viral pneumonia, low blood oxygen, and acute respiratory distress syndrome. Acute respiratory distress syndrome is severe inflammation and fluid buildup in the lungs that makes breathing difficult.

Other possible complications include secondary bacterial pneumonia, inflammation of the brain, kidney injury, heart problems, shock, or failure of multiple organs. Severe illness may require intensive care.

The risk of complications depends on the virus involved, the amount and type of exposure, the person's health, and how the illness develops. A mild start does not prove that symptoms will remain mild. Worsening breathing, reduced alertness, or inability to stay hydrated requires urgent assessment.

Follow up

People who have had a recognized exposure may be asked to monitor their health for 10 days after the last exposure. Public health officials may provide specific instructions about checking for fever, eye redness, cough, sore throat, breathing problems, or other symptoms.

If symptoms appear during the monitoring period, contact the designated healthcare or public health team promptly. Avoid close contact with other people and animals until you receive instructions. Do not go to work, school, or a public clinic without first explaining the exposure.

Someone recovering at home should follow the planned check-in schedule and complete antiviral treatment as directed. Seek medical review if symptoms are not improving, return after improving, or become worse. Persistent cough and tiredness can occur after influenza, but ongoing shortness of breath, recurrent fever, or chest discomfort should be assessed.

After severe illness, follow-up may include checking breathing, oxygen needs, strength, nutrition, and the ability to return to usual activities. Some people may need rehabilitation after a long hospital stay.

Routine follow-up is also a chance to review workplace protection, safe animal-handling practices, and seasonal influenza vaccination. Public health teams may contact household members or coworkers to assess their exposure and arrange monitoring or testing when needed.

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