

Influenza

Traveler Summary

Key Points

- | Influenza (seasonal) is a highly contagious viral respiratory infection acquired through the inhalation of aerosolized respiratory droplets or direct contact with respiratory secretions from infected persons.
- | Risk is high for travelers, depending on the destination and time of year, and for anyone in close contact with infected persons.
- | Symptoms include high fever, chills, severe body aches, headache, extreme tiredness, and dry cough. Sore throat may occur.
- | Consequences of infection may include pneumonia and respiratory failure. Death may occur, especially in those at extremes of age and those with underlying medical conditions.
- | Prevention includes observing good respiratory hygiene (cough and sneeze etiquette) and frequent, thorough handwashing.
- | Influenza vaccine is routinely given to all persons 6 months and older (including travelers) each year before the influenza season begins and may be required for destinations where it is influenza season at the time of the trip.
- | Vaccine side effects are most commonly injection-site reactions and, less frequently, fever and muscle aches.
- | Duration of vaccine protection is about 6 months; no booster dose is recommended. However, revaccination should be considered by travelers who were immunized more than 6 months earlier if influenza risk exists at their destination (because of waning immunity).

Introduction

"Classic" (seasonal) influenza is a highly contagious, viral respiratory infection that causes significant illness and sometimes death. Influenza is transmitted in cool months in temperate climates and variably throughout the year in the tropics.

Avian influenza (bird flu) is type of influenza that is fatal in birds but is poorly adapted to humans and limited to certain Asian and African regions. Transmission is through direct contact with live birds or their droppings or secretions and through consumption of undercooked eggs or poultry. Humans have no protection against bird flu, and no vaccines are commercially available for this infection. See *Avian Influenza*.

Risk Areas

Seasonal influenza occurrence depends on the geographic area and time of year. Influenza season usually occurs during the winter months in the Northern and Southern Hemispheres but varies in tropical and subtropical countries. Some countries have specific seasonality, whereas others have influenza throughout the year, with periods of peak activity.

Transmission

Seasonal influenza viruses are transmitted from person to person via inhalation of aerosolized respiratory droplets (e.g., by coughing and sneezing) or direct contact with respiratory secretions from infected persons. Influenza is contagious from 1 day before to up to 7 days after symptom onset.

Risk Factors

Risk is high for travelers, depending on the destination and time of year.

Rates of infection are highest among children, but rates of serious illness and death are highest in persons 65 years and older and persons with underlying medical conditions or on immunosuppressive medication.

On aircraft, a risk (very low) of infection exists for persons sitting within a 2-seat range (in back, front, and beside) of an infectious traveler.

Symptoms

Symptoms most commonly develop about 1 to 4 days following exposure and include high fever, severe body aches, chills, headache, extreme tiredness, and dry cough. Sore throat may occur. Influenza symptoms are usually more severe than cold symptoms (sore/scratchy throat, sneezing, runny/stuffy nose, and a mild cough). With a cold, unlike with influenza, fever is rare in adults and older children, and severe body aches and extreme tiredness are not symptoms of a cold.

Avian influenza initially may be indistinguishable from seasonal influenza (presenting with fever and typical influenza-like symptoms) but rapidly deteriorates to lower lung disease (pneumonia), which can be fatal.

Consequences of Infection

Complications can include pneumonia and respiratory failure; inflammation of the heart, brain, or muscles; and worsening of underlying medical conditions (such as asthma or chronic heart disease). Death may occur in certain symptomatic cases.

Need for Medical Assistance

Persons who develop symptoms of influenza should seek immediate medical attention. Antiviral medications given within 48 hours of symptom onset may reduce the duration and severity of illness.

Prevention

Nonvaccine

Observe good respiratory hygiene (cough and sneeze etiquette) and frequent, thorough handwashing, especially during influenza season. Antiviral medications, an important adjunct to vaccination, are up to 90% effective in preventing influenza if started within 48 hours of first exposure.

Vaccine

A variety of influenza vaccines are available for the prevention of seasonal influenza. Vaccination is recommended yearly for all persons 6 months and older and is especially important for:

- | Travel during the influenza season at the destination
- | Travel to areas with current widespread influenza activity
- | Travel to countries with a high intensity of influenza activity occurring in international gateways or highly visited destinations
- | Cruise travel at any time of year
- | Travelers 50 years and older, children aged 6 months to 18 years, travelers of any age with chronic or immunocompromising conditions
- | Hajj and Umra pilgrims

Vaccine effectiveness depends on the match between the seasonal vaccine virus strains and currently circulating virus strains and is more effective in healthy adults younger than 65 years. High-dose or adjuvanted (boosted) vaccines are recommended for persons 65 years and older.

Side Effects

The most common vaccine side effects are mild and include soreness at the injection site for up to 2 days. Less frequent side effects include fever, extreme tiredness, and muscle aches occurring 6 to 12 hours after vaccination and lasting for 1 to 2 days.

Persons with underlying medical conditions or who have concerns about the vaccine should speak to their health care provider before vaccine administration.

Timing

Influenza vaccine is given annually as follows:

- | Persons aged 6 months through 8 years: 1 to 2 doses, depending on previous vaccination history. If 2 doses are necessary, both doses should be given before the end of October.
- | Persons 9 years and older: 1 dose

Duration of vaccine protection is about 6 months.

Influenza is seasonal, usually occurring from October through May (peak activity occurs in January or later) in the Northern Hemisphere (NH) and from April through September (peak activity occurs in April or later) in the Southern Hemisphere (SH). The best time to be vaccinated is just before the influenza season begins (by the end of October in the NH and by the end of April in the SH), due to concerns over waning immunity in persons vaccinated 1 to 2 months before the season begins in case a late influenza season extends 6 months beyond vaccination. However, influenza vaccine can be given anytime during the season. Travelers going to the opposite hemisphere or to the tropics who have not been vaccinated that season should be vaccinated prior to their trip. Travelers who are facing influenza risk at their destination should consider revaccination if they were immunized with the current formulation more than 6 months earlier.

Antiviral Drugs

Although vaccination is the best prevention against influenza, some travelers are not able to receive influenza vaccine, and, in some circumstances, the vaccine may not be well matched to the circulating strains.

Antivirals to Treat Influenza

Antivirals can be used by travelers who become ill with fever and influenza-like symptoms. Treatment begun within 48 hours of symptoms can shorten illness by 1.5 days and reduce the risk of complications from influenza.

- | Self-use of antivirals is not a substitute for seeking immediate medical care, and travelers should make every effort to start treatment only under medical advice.
- | Travelers going to areas with high prevalence of malaria should remember that a fever could be caused by malaria, which is a medical emergency. Thus, travelers with flu-like symptoms should contact a health care provider before taking antivirals.

Oseltamivir, the preferred drug, is taken as follows:

- | Persons 13 years and older: 1 pill twice per day for 5 days.
- | Children aged 2 weeks through 12 years: Based on weight.

Zanamivir, an inhaled drug, is taken as follows:

- | Persons 7 years and older: 2 inhalations (using provided device) twice per day (4 total inhalations) for 5 days.

Oseltamivir side effects, such as nausea or vomiting, may be lessened by taking the drug with food. Zanamivir is not recommended for use in individuals with asthma, chronic lung diseases, or who live in a nursing home. Delirium or abnormal behavior may occur with these drugs.

Antivirals to Prevent Influenza

Some travelers may be advised to carry oseltamivir or zanamivir to prevent influenza after exposure. Ideally, the antiviral should be started within 2 days of exposure.

Oseltamivir is taken as follows:

- | Persons 13 years and older: 1 pill once per day for at least 7 days (up to 6 weeks during a community outbreak).
- | Children aged 1-12 years: Based on weight.

Zanamivir is taken as follows:

- | Persons 5 years and older: 2 inhalations once per day for 7 days (up to 28 days in a community outbreak).

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