

Influenza (“the flu”) including novel influenza A H1N1 virus infection (“swine flu”), causes symptoms including fever ($\geq 100^{\circ}$ F or 37.8° C), cough, sore throat, body aches, headache, chills and fatigue. Some people have diarrhea or vomiting. Complications from the flu include pneumonia, respiratory failure and even death. Persons considered at higher risk for complications from the flu are listed in the box to the right, and should consult their physician if flu symptoms occur. Others should stay home and take over-the-counter medications for their symptoms. Antibiotics do not treat viruses like the flu, but may be needed if a bacterial infection occurs in association with the flu.

Modes of Influenza Transmission:

Influenza virus is spread through **droplet transmission**, when respiratory droplets from infected persons **directly** fall within 3–6 feet (maybe up to 10 feet) from the infected person after coughing, sneezing or talking. These droplets infect the mucus membranes (eyes, nose or mouth) of others, or land on surfaces and items in the infected person’s environment. The droplets can be picked up from surfaces and **indirectly** spread to mucus membranes after touching contaminated surfaces or items.

Droplet transmission differs from **airborne transmission**, which is the ability of tiny respiratory droplets to float in the air and travel further distances. Airborne transmission of influenza viruses is unknown but possible when aerosol-generating procedures are being performed. Airborne precautions using N-95 masks and negative airflow rooms should be followed during aerosol-generating procedures such as bronchoscopy, intubation, cardiopulmonary resuscitation (CPR), open airway suctioning and sputum induction.

Control and Prevention of Influenza Viruses:

1. **Encourage and provide annual influenza vaccination** against seasonal and novel strains of influenza to patients, employees and others as recommended.
2. **Practice and teach patients to follow respiratory hygiene, cough etiquette, and hand hygiene at all times.**
 - Keep adequate supplies of tissues, waste containers and hand hygiene materials within reach.
 - Cover mouth and nose with a tissue when coughing or sneezing, OR cough or sneeze into the upper sleeve, NOT into one’s hands.
 - Put used tissues into a waste basket immediately.
 - Follow with frequent hand hygiene using soap and water or alcohol-based hand cleaner .
3. **Focus on early recognition of influenza-like illness (ILI) ,** defined as fever ($\geq 100^{\circ}$ F or 37.8° C), and a cough, and/or sore throat, in the absence of another known cause of illness.
 - **Separate patients with influenza-like illness from the rest of the household as much as possible.**
 - Wear a surgical or procedure mask and perform frequent hand hygiene when caring for a patient with the flu.
 - Ill patients should stay home and in a separate room and/or at least 6 feet away from others until at least 24 hours after they are free of fever (or signs of a fever) without the use of fever-reducing medications.
 - Discourage visitors, and the patient should not attend group gatherings while ill.
 - Contact the physician if symptoms worsen or occur in persons at high risk for complications (see box).
4. **If a patient with influenza-like illness must leave the home for any reason, place a surgical or procedure mask on them.**
 - Follow respiratory hygiene, cough etiquette and hand hygiene when away from home.
 - If wearing a mask would compromise the patient’s ability to breathe easily, others who need to be near them should wear a mask.

Persons at Higher Risk for Complications:

- Children less than 5 years old
- Adults 65 years of age or older
- Persons less than 19 years of age receiving long-term aspirin therapy
- Pregnant women
- Persons with chronic lung, heart, liver, kidney, blood, nerve, neuromuscular or metabolic disorders
- Persons who have immunosuppression due to medication or disease
- Residents of nursing homes and other chronic care facilities

5. Use **standard precautions** when caring for all patients including those with influenza-like illness:
 - **Perform hand hygiene** with soap and water or alcohol-based hand product after contact with the patient or potentially contaminated environmental surfaces.
 - **Only use alcohol-based handrubs when hands are NOT visibly soiled.**
 - a. **When to perform hand hygiene:**
 - Before having direct contact with patients.
 - After contact with blood, body fluids, mucus membranes, nonintact skin, or wound dressings.
 - After contact with intact skin such as checking vital signs or positioning a patient.
 - If hands are moving from a contaminated body site to clean body site during care.
 - After contact with inanimate objects in the immediate vicinity of the patient.
 - After removing personal protective equipment such as gloves, gowns or masks.
 - b. **Follow respiratory hygiene and cough etiquette** (see #2 on previous page).
 - c. **Use gloves** if hand contact with secretions or contaminated surfaces is anticipated.
 - Change gloves between tasks on the same patient, for example after catheter care and before other duties.
 - Put on clean gloves before touching a patient's mucous membranes, non-intact skin or touching items.
 - Gloves do not replace the need for hand hygiene because gloves may be torn during use, and hands can become contaminated during removal of gloves.
 - Remove gloves and perform hand hygiene when exiting the room.
6. Use **droplet isolation precautions** plus standard precautions when caring for patients with suspected or confirmed influenza, until ≥ 24 hours after they are free of fever without the use of fever-reducing medications.
 - a. Use a **surgical or procedure mask** for all routine patient care when entering the patient's room. Remove the mask and perform hand hygiene when exiting the room.
 - b. Wear a fresh **gown** when soiling of clothes or skin with blood or body fluids is anticipated. Remove gowns and perform hand hygiene when exiting the room.
 - c. The patient should wear a surgical mask if leaving the room is unavoidable.
 - d. Limit persons entering the room to only those necessary.

Basic Treatment of Flu Symptoms

- Get plenty of rest and drink plenty of clear non-alcoholic fluids (such as water, broth, sports drinks, electrolyte beverages for infants) to prevent dehydration.
- Watch for these emergency warning signs that might indicate the need for prompt medical attention:
 - Difficulty breathing or chest pain
 - Purple or blue discoloration of the lips and mouth area
 - Vomiting or inability to keep liquids down
 - Signs of dehydrations such as dizziness, lack of urine or lack of tears in an crying infant
 - Seizures
 - Onset of confusion or decreased responsiveness
- Use over-the-counter medications to treat flu symptoms. Consult your healthcare provider or pharmacist for correct, safe use of medications. Fevers and aches can be treated with acetaminophen or ibuprofen or nonsteroidal anti-inflammatory drugs. Patients with kidney disease or stomach problems should check with their health care provider before taking any anti-inflammatory drugs.
- Over-the-counter cold and flu medications may help lessen some symptoms but remember that persons taking these are still contagious. Follow package instructions closely. Consult the healthcare provider for treatment of children younger than 4 years of age.
- Check the package ingredients to prevent accidental overdose when also taking fever-reducing medications.
- **Warning!** Do **not** give aspirin (acetylsalicylic acid) to children or teenagers who have the flu; it can cause a rare but serious illness called Reye's syndrome. For more information about Reye's syndrome, visit the National Institute of Health website at www.ninds.nih.gov/disorders/reyes_syndrome/reyes_syndrome.htm
- Check package ingredient labels to see if the medication contains aspirin.
- The safest care for flu symptoms in children younger than 2 years of age is the use of a cool-mist humidifier and a suction bulb to help clear away mucus.

Generic Name	Brand Name(s)
Acetaminophen	Tylenol®
Ibuprofen	Advil®, Motrin®, Nuprin®
Naproxen	Aleve

Steps to Lessen the Spread of Flu in the Home

- Keep the sick person away from others as much as possible (see “Placement of the Sick Person” below).
- Remind the sick person to cover their coughs/sneezes, and clean their hands with soap and water or an alcohol-based hand rub often, especially after coughing/sneezing or using a tissue.
- Have everyone in the household clean their hands often, using soap and water or an alcohol-based hand rub. Children may need frequent reminders or help with keeping their hands clean.
- If household contacts of the sick person have chronic health conditions, contact the healthcare provider to find out if they should take antiviral medications such as oseltamivir (Tamiflu®) or zanamivir (Relenza®) to prevent the flu.
- Monitor other household members for symptoms of the flu. Persons at higher risk for complications from the flu, should attempt to avoid close contact (within 6 feet) with persons who are sick with influenza. If close contact with a sick individual is necessary, wear a facemask during contact and perform hand hygiene often.

If you are the caregiver

- Limit or avoid being face-to-face with the sick person.
- When holding small children who are ill, place their chin on your shoulder so they will not cough in your face.
- Clean your hands with soap and water or use an alcohol-based hand rub after you touch the sick person or anything in their environment.
- Talk to your health care provider about taking antiviral medication to prevent you from getting the flu.
- Monitor yourself and household members for flu symptoms.

Placement of the sick person to prevent spread of illness

- Unless necessary for medical care or other necessities, people who are sick with an influenza-like illness should stay home and keep away from others as much as possible for at least 24 hours after fever is gone without the use of fever-reducing medicine. Children, especially younger children, might be contagious for longer periods of time.
- If persons with the flu must leave the home (for example, for medical care), they should wear a facemask, if available and tolerable, and cover their nose and mouth when coughing or sneezing. For healthcare appointments, call ahead and inform them of the symptoms so arrangements can be made to limit exposure to others.
- Have the sick person wear a facemask - if available and tolerable - if they must be in a common area of the house near other persons.
- Keep the sick person in a room separate from the common areas of the house (For example, a spare bedroom with its own bathroom, if possible.). Keep the sickroom door closed.
- If possible, sick persons should use a separate bathroom. This bathroom should be cleaned daily with household disinfectant according to directions on the product label.

Protect other persons in the home

- The sick person should not have visitors other than caregivers. A phone call is safer than a visit.
- If possible, have only one adult in the home taking care of the sick person. People at increased risk of severe illness from flu should not be the designated caregiver.
- Persons at higher risk for complications from influenza should avoid close contact (within 6 feet) with household members who are sick with influenza. Designate a person who is not at higher risk of flu-associated complications as the primary caregiver of those who are sick if at all possible.
- If close contact with a sick individual is unavoidable, wear a facemask and perform hand hygiene often. Pregnant women should not care for persons with the flu because they are at increased risk of influenza-related complications.
- Avoid having sick family members care for infants and others at higher risk for complications.
- All persons in the household should clean their hands with soap and water or an alcohol-based hand rub frequently, including after every contact with the sick person or the person’s room or bathroom.
- Use paper towels for drying hands after hand washing or dedicate cloth towels to each person in the household. For example, have different colored towels for each person to use.
- When possible, maintain good ventilation in shared household areas (e.g., open windows , etc.).
- Antiviral medications can be used to prevent the flu, so check with your healthcare provider to see if any caregivers or persons in the home should use antiviral medications.

Using Facemasks or Respirators

- If you must have close contact with the sick person (for example, holding a sick infant), spend the least amount of time possible in close contact and wear a facemask.
- Facemasks may be purchased at a pharmacy, building supply or hardware store.
 - Wear an N95 respirator if you help a sick person with respiratory treatments using a nebulizer or inhaler (as directed by their doctor). Respiratory treatments should be performed in a separate room away from common areas of the house when at all possible.
 - An N95 respirator that fits snugly on your face can prevent small particles from entering around the edges of the mask. More information on masks and respirators can be found at <http://www.cdc.gov/h1n1flu/masks.htm>.
- Used facemasks and N95 respirators should be taken off and placed immediately in the regular trash so they don't touch anything else.
- Avoid re-using disposable facemasks and N95 respirators if possible.
- After you take off a facemask or N95 respirator, clean your hands with soap and water or an alcohol-based hand sanitizer.

Preventing Exposures from Employees and Visitors:

1. Instruct employees and visitors to report ILI symptoms at the first opportunity.
2. Provide educational materials in appropriate languages regarding respiratory hygiene/cough etiquette, and provide supplies to perform these actions.

Personnel Surveillance:

1. Monitor personnel daily for signs and symptoms of ILI. If an employee becomes ill while at work, they should cease working with residents, and notify their supervisor and/or the employee health nurse.
2. Healthcare personnel who have had an unprotected exposure to influenza may continue to work as long as they are asymptomatic and should contact their primary care provider regarding recommendations for antiviral prophylaxis.

Influenza-like-illness (ILI) is defined as fever* and a cough and/or a sore throat in the absence of another **KNOWN** cause of illness.

*temperature of 100° F (37.8° C) or greater

Management of Ill Personnel:

1. Instruct all workers to stay home if they are sick with ILI symptoms. Healthcare workers with ILI should be excluded from work for at least 24 hours after they no longer have a fever (defined as $\geq 100^{\circ}$ F or 37.8° C) or signs of a fever, without the use of fever-reducing medicines. Those who work in areas where the patients are considered severely immunocompromised should be considered for temporary reassignment or exclusion from work for 7 days from symptom onset or until symptoms have resolved, whichever is longer.
2. Non-healthcare employees with ILI should stay home and not return to work until at least 24 hours after they are free of fever ($\geq 100^{\circ}$ F or 37.8° C) or signs of a fever without the use of fever-reducing medications.
3. Have time-off and return to work policies and procedures in place for employees who are asked to stay home due to fever and respiratory symptoms.

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