

Modes of Influenza Transmission:

The spread of influenza virus occurs through **droplet transmission**, when respiratory droplets from infected persons **directly** fall within 3–6 feet (may be 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 contaminate 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.

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. Therefore airborne precautions should be followed during aerosol-generating procedures such as bronchoscopy, intubation, cardiopulmonary resuscitation (CPR), open airway suctioning and sputum induction.

Influenza-like-illness (ILI) is defined as fever* and cough and/or a sore throat in the absence of another **KNOWN** cause of illness.
*temperature of 100°F (37.8°C) or greater

Control and Prevention of Influenza Viruses:

1. **Early recognition of patients with influenza-like symptoms** at first entry into the healthcare system. Prevent spread from the source by the following actions:
 - a. **Place a surgical or procedure mask on any client with influenza-like illness.**
 - If wearing a mask would compromise the client's ability to breathe easily, have them cover their mouth and nose with a tissue when coughing or sneezing.
 - b. **Separate symptomatic persons from others by at least 3-6 feet** as quickly as possible.
 - Place patient into a separate room (such as an exam room) with the door closed.
 - c. **Instruct clients to follow respiratory hygiene, cough etiquette, and hand hygiene:**
 - 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 in the waste basket.
 - Wash hands with soap and water or use alcohol-based hand cleaner afterwards.
 - d. **Provide supplies:** Tissues, waste containers and hand hygiene materials.
2. Use **standard precautions** when caring for all persons including those with influenza-like illness:
 - a. **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.** Perform hand hygiene:
 - Before having direct contact with patients.
 - After contact with blood, body fluids or excretions, mucus membranes, nonintact skin, and wound dressings. After contact with a patient's intact skin such as checking vital signs or positioning a patient.
 - If hands will be moving from a contaminated body site to a clean body site during patient 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 1.c. above).
 - c. **Use gloves** if hand contact with secretions or contaminated surfaces is anticipated.
 - Change gloves between patients. Failure to do so is an infection control hazard!
 - Put on clean gloves just before touching a patient's mucous membranes, non-intact skin or contaminated 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.

3. Use **droplet isolation precautions** in addition to standard precautions when caring for patients with suspected or confirmed influenza until at least 24 hours after their fever is gone (without the use of fever-reducing medicine).
 - a. Keep patients in separate **rooms** during clinic visit
 - The patient should wear a surgical mask when entering and leaving the room.
 - Limit healthcare personnel contact to those performing direct patient care.
 - b. 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.
 - c. Wear a **gown** when soiling of clothes or skin with blood, body fluids, secretions or excretions is anticipated.
 - Change gowns between patients.
 - Remove gowns and perform hand hygiene when exiting the room.

4. Use **airborne precautions during aerosol-generating procedures** (see adjacent box) .
 - a. Wear an **N95 respirator (mask)**. These provide a seal around the nose and mouth, and filter out small organisms.
 - Only use the brand and size of N95 mask that was used for the fit-test.
 - Check the fit to insure effectiveness with each use.
 - Remove N95 masks and perform hand hygiene when exiting the room.
 - b. Wear **face protection** such as a face shield, a mask with attached shield, or a mask with goggles.
 - c. Use an **airborne infection isolation room (AIIR)** with negative pressure performing 6 to 12 air exchanges per hour for aerosol-producing procedures if possible.

Aerosol-Generating Procedures:

- Such as bronchoscopies, intubation, CPR, open airway suctioning, and sputum induction
- When available, perform procedures in an Airborne Infection Isolation Room (AIIR) with negative pressure air handling with 6-12 air changes per hour.
- Healthcare personnel need to wear N95 masks with eye protection (goggles or face shield) during these procedures.

Safe Removal of Personal Protective Equipment (PPE): Follow This Sequence and Do Not Touch the Outside of PPE Items:

1. **Gloves:**
 - a. Grasp outside of glove with opposite gloved hand and peel off.
 - b. Hold removed glove in gloved hand.
 - c. Slide fingers of ungloved hand under remaining glove at wrist.
 - d. Peel second glove off over first glove and discard into trash receptacle.
2. **Goggles or Face Shield:**
 - a. Grasp head band or ear pieces.
 - b. Place in designated receptacle for reprocessing or in waste container.
3. **Gown:**
 - a. Unfasten ties.
 - b. Pull away from neck and shoulders, touching inside of gown only.
 - c. Turn gown inside out.
 - d. Fold or roll into a bundle and discard.
4. **Mask or Respirator:**
 - a. Grasp bottom ties or elastic band, then top and remove without contaminating face.

Environmental Infection Control:

1. Use routine cleaning and disinfection strategies during influenza seasons.
2. Focus on frequently touched surfaces.
3. For further guidance, refer to the CDC guidance document on environmental infection control:
http://www.cdc.gov/ncidod/dhqp/gl_envinfection.html.

Management of Exposures from Patients and Those Accompanying Them:

1. Post signage at all building entry points regarding reporting of ILI at the first opportunity so that precautions can be initiated.
2. Post respiratory hygiene/cough etiquette signs and provide supplies to perform these actions.
3. Consider limiting points of entry and/or designate those only for persons with febrile respiratory illnesses.
4. Others who have been in contact with the ill patient are a possible source of spread:
 - Screen those accompanying the patient before entering the setting also.
 - Limit movement of patients and others within facility.
 - Offer/require masks, gowns, gloves, and hand hygiene during visits.

Healthcare Personnel Surveillance:

1. Monitor healthcare personnel daily for signs and symptoms of influenza-like illness (ILI). ILI is defined as a fever of $\geq 100^{\circ}$ F or 37.8° C and cough and/or sore throat in the absence of another cause.
2. If an employee becomes ill while at work, they should cease patient care activities, and notify their supervisor and/or the employee health nurse.
3. Asymptomatic healthcare personnel who have had an unprotected exposure to influenza may continue to work if they are started on antiviral prophylaxis.

Management of Ill Healthcare 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 health care providers who are asked to stay home because of fever and respiratory symptoms.

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