Lippincott® NursingCenter®

October 2024
www.nursingcenter.com

Recognizing and Managing Influenza

In the northern hemisphere, the typical influenza (flu) season starts as early as October and can last until May, affecting individuals in all age groups, with the highest rates of infection among children. There are 4 types of influenza viruses: A, B, C and D. The A and B subtypes infect humans and cause seasonal epidemics. Influenza spreads easily from person to person via coughing, sneezing, nasal secretions, or even talking. Large particle droplets can travel up to six feet and transmission can also occur via contact with infectious particles on a contaminated surface or object.

The highest rates of serious morbidity and mortality occur in individuals 65 years and older, and in those who are immunocompromised or have chronic medical conditions. Death can occur from acute respiratory failure due to lung inflammation caused by the virus, or due to secondary bacterial pneumonia. Other serious complications include myocarditis, encephalitis, rhabdomyolysis, and organ failure.

Recognizing Influenza

Common signs and symptoms of influenza include:

- Fever, however, not everyone will present with fever
- Headache
- Fatigue
- Sore throat
- Dry cough
- Excessive airway secretions
- Chills
- Body aches
- Stuffy or runny nose
- Vomiting or diarrhea, more common in children
- Anorexia

Influenza differs from a cold in that symptoms generally appear suddenly and some of the symptoms may or may not be present at all, or with the same intensity. Symptoms of influenza and coronavirus disease-19 (COVID-19) are very similar, and it may be difficult to differentiate these illnesses. Testing is needed to confirm the diagnosis.

Comparing Influenza with COVID-19 and the Common Cold

	Influenza	COVID-19	Cold
Onset	Sudden	Gradual, 2 to 14 days after exposure	Gradual
Fever	Common; 3-4 days duration	Common	Rare
Aches	Common; often severe	Common	Slight

Headache	Common	Common	Mild
Chills	Common	Common	Uncommon
Fatigue	Common	Common	Occasionally
Nasal congestion, sneezing, sore throat	Occasionally	Common	Common
Cough	Common; can be severe	Common	Mild to moderate; hacking at times
Nausea, vomiting or diarrhea	More common in children	Occasionally	Uncommon
Shortness of breath or difficulty breathing	Rare; sign of a severe complication	Less common with new COVID-19 variants	Rare
New loss of taste or smell	Rare	Common	Rare

Diagnosing Influenza

While viral culture is the gold standard for confirming influenza infection and can distinguish between influenza A and B, diagnosis is often based on clinical presentation, especially when influenza viruses are circulating in the community. Testing for influenza is recommended when a patient is being admitted to the hospital or when results would influence management.

Depending on the type of diagnostic test used, the source of the specimen and the timeframe for expected results varies.

- Rapid influenza diagnostic tests (RIDTs): detect parts of the virus (antigen) that stimulate the immune response
    - Nasopharyngeal swab, aspirate or wash; nasal swab, aspirate or wash; throat swab
    - Results within 15 minutes
- Rapid molecular assays: detect genetic material of the virus
    - Nasopharyngeal swab, nasal swab
    - Results in 15 to 30 minutes
- Immunofluorescence assay
    - Nasopharyngeal swab or wash; bronchial wash; nasal or endotracheal aspirate
    - Results in two to four hours
- Viral culture
    - Nasopharyngeal swab; throat swab; nasopharyngeal or bronchial wash; nasal or endotracheal aspirate; sputum
    - Results in one to eight days

RIDTs and rapid molecular assays are more practical, producing results in less than an hour. However, they are not as accurate as the other methods and false negative results may occur.

A chest x-ray should be obtained in patients with hypoxia and/or increased work of breathing, to evaluate for secondary infection or acute respiratory distress syndrome (ARDS).

Treating Influenza

Influenza infection is self-limited and varies in severity depending on vaccination status, age and comorbidities. Treatment for influenza is often symptomatic and includes rest, analgesics, hydration, and proper nutrition. Early antiviral treatment may shorten the duration of fever and other symptoms and may reduce the risk of complications.

Antiviral treatment is recommended within 48 hours of symptom onset for anyone who is hospitalized; anyone with severe, complicated, or progressive illness; and anyone at high risk for complications, including young children, adults aged 65 years and older, pregnant women, and people with certain chronic medical conditions.

The following medications are recommended for management of influenza:

- Oseltamivir (Tamiflu®) – prevention and treatment in people 14 days and older; administered orally
- Zanamivir (Relenza®) – prevention and treatment; administered using an inhaler device
- Peramivir (Rapivab®) – treatment only in people 2 years and older, administered intravenously if oral medications are not tolerated

Complications of flu can include bacterial pneumonia, ear infections, sinus infections and worsening of chronic medical conditions such as congestive heart failure, asthma, or diabetes.

Preventing Influenza

The best way to prevent influenza is through annual vaccination of everyone six months or older, and especially for those at increased risk for complications. Because influenza viruses evolve rapidly, flu vaccines are updated regularly to match which viral strains are expected to circulate. While the flu vaccine is not 100% effective, it can lower the severity and duration of symptoms in most people.

Some antiviral agents are indicated for prevention as well, but they should not be used as a substitute for annual vaccination. They may be indicated for patients for whom vaccination is contraindicated, such as anyone who has had a severe reaction to an influenza vaccination.

In addition, core methods for preventing disease include:

- Proper respiratory hygiene and cough etiquette
- Adherence to infection control precautions in the healthcare setting
    - Droplet precautions for seven days after illness onset or until 24 hours after the resolution of fever and respiratory symptoms
- Patient education, especially:
    - Avoiding contact with sick people
    - Covering one's nose and mouth when coughing or sneezing
    - Washing hands with soap and water
    - Avoiding touching one's eyes, nose, and mouth
    - Cleaning and disinfecting surfaces and objects that may be contaminated
    - Staying home for at least 24 hours after a fever is gone without medication (unless necessary to get medical care)
    - Practicing healthy habits such as getting adequate sleep, staying active, drinking plenty of fluids, and eating a healthy balanced diet

References:

Boktor SW, Hafner JW, Doerr C. (2023, Jan 23). Influenza (Nursing). *StatPearls.* https://www.ncbi.nlm.nih.gov/books/NBK568788/

Hale D. (2014). Influenza 101: what you need to know. *Home healthcare nurse, 32*(9), 525–530. https://doi.org/10.1097/NHH.0000000000000137

Symptoms of COVID-19. (2024). Centers for Disease Control and Prevention. https://www.cdc.gov/covid/signs-symptoms/?CDC_AAref_Val=https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html

Uyeki, T. M., Bernstein, H. H., Bradley, J. S., Englund, J. A., File, T. M., Fry, A. M., Gravenstein, S., Hayden, F. G., Harper, S. A., Hirshon, J. M., Ison, M. G., Johnston, B. L., Knight, S. L., McGeer, A., Riley, L. E., Wolfe, C. R., Alexander, P. E., & Pavia, A. T. (2019). Clinical Practice Guidelines by the Infectious Diseases Society of America: 2018 Update on Diagnosis, Treatment, Chemoprophylaxis, and Institutional Outbreak Management of Seasonal Influenza. *Clinical infectious diseases: an official publication of the Infectious Diseases Society of America*, *68*(6), e1–e47. https://doi.org/10.1093/cid/ciy866

Zachary, K.C. (2024, October 23). Seasonal Influenza in nonpregnant adults. *UpToDate.* https://www.uptodate.com/contents/seasonal-influenza-in-nonpregnant-adults-treatment