

JOURNAL OF GERIATRIC EMERGENCY MEDICINE

January 2020
Volume 1 Issue 1

Influenza 2020: Diagnosis and Treatment of Older Adults with Possible Influenza in the Emergency Department

Michael L. Malone, MD, Adam Perry, MD, and Rebecca Weeks, MSN, RN

Older adults with influenza often present to the ED with nonspecific symptoms and/or exacerbations of comorbid illnesses. Still cough and fever are the two symptoms most predictive of flu in older patients. Influenza is both more difficult to diagnose and more deadly in older adults, and there are several nuances to consider.

What is unique about influenza in older adults?

- Hundreds of thousands of older adults require Emergency Department care for influenza each year and utilization is higher among those who have not been vaccinated.
- Mortality rates from influenza are highest in adults aged ≥ 65 years.
- Between 70 - 85 % of seasonal flu-related deaths occur in people 65 years and older, and between 50 - 70 % of seasonal flu-related hospitalizations occur among people in this age group.
- Older adults are at an increased risk for complications and hospitalization because of their age, their underlying medical conditions or their residence in rehabilitation or long-term care facilities.
- Because of age-related changes in their immune systems, people 65 years and older may not respond as well to vaccination as younger people. First, people 65 years and older should get a flu shot and not a nasal spray vaccine. Second, they should receive a high dose vaccine and or a vaccine with adjuvant such as MF59, emulsion of squalene oil. The high dose vaccine shows 24% fewer flu cases as compared to the standard dose.



Develop Your Strategy for the Flu Season

Prepare by reviewing these skills and competencies with your Emergency Department team.

1. **Implement a uniform transmission control process.** Practice standard contact and droplet precautions from triage through ED evaluation and admission. Staff with URI symptoms and/or confirmed flu should exercise precautions after symptoms resolve, as immunocompetent adults can shed virus for 4-7 days after becoming ill.
2. **Consider influenza with presentation of: abrupt onset of fever, cough, and muscle aches.** Additional features include: sore throat, runny nose, headache, fatigue, and generalized weakness. Older adults may not have a fever, when defined as temperature of 38C. Influenza testing is not required to confirm the clinical diagnosis or to start antiviral medications, when influenza viruses are circulating in the community. Strongly consider testing on admitted patients (to protect from spread of infection in the hospital setting) and those returning to residential settings.
3. **Remain alert for an atypical presentation.** During flu season, consider influenza when evaluating older adults without an obvious cause of: fever, delirium, COPD exacerbation, pneumonia, acute respiratory failure, generalized weakness, and accelerated functional decline. In a recent study, only 31% of older adults with influenza in the ED met the CDC criteria for Influenza-like Illness (temp over 37.8F, and cough and/or sore throat).
4. **Use Influenza testing when it will change clinical management decisions:** a) when influenza is not yet circulating in the community, b) when the patient lives in an institutional setting, to define an outbreak, and c) to define whether antivirals and/or antibiotics are needed.
5. **Use a nasopharyngeal swab for initial rapid diagnostic testing for influenza.** A negative test may not rule out influenza. Testing (among those who will not be admitted) should be performed when the test results will influence treatment. Molecular assays are recommended for hospitalized patients with suspected influenza. Train staff on the proper technique of nasopharyngeal swab collection, as test accuracy depends on good specimen collection.
6. **Medications:** Treat with oseltamivir 75 mg po BID for five days (adjust for creatinine clearance of less than 60). Early treatment shortens the duration of symptoms by one day.

- Peramivir is usually a single dose 600 mg IV infusion over 15-30 minutes, also renally adjusted. The cost for this medication is ten times that of oseltamivir. The duration can be continued for 5 days in severe cases. Older adults were not studied in the initial clinical trials of the newest anti-influenza medication, baloxavir. Further, review medications which had been appropriate during a baseline, but which now may need adjustment, e.g. diuretics, hypoglycemic agents, psychotropic medications, and cardiac medications.
7. **Watch for “Red Flag” symptoms: dyspnea, pain or pressure in the chest/abdomen, sudden dizziness, or confusion.** Flu-like symptoms that improve but recur with fever and worsening respiratory status should prompt consideration of secondary bacterial pneumonia. Other complications include delirium, myocarditis, encephalitis, rhabdomyolysis, sepsis, ear and sinus infections, and exacerbations of chronic conditions.
 8. **Construct a safe disposition:** Consider admission to the hospital for older patients with: frailty and/or comorbid conditions that increase risk of decompensation, dehydration; delirium, or inability to function in their current outpatient setting. For discharged patients, ensure that they can be observed for worsening and follow up closely.
 9. **Prevent flu transmission after the ED:** For ED patients returning to a Nursing, Assisted Living (AL), or a Personal Care (PC) facility, communicate with their outpatient provider to facilitate institutional infection control measures. Nursing facilities often initiate chemoprophylaxis for outbreaks (oseltamivir 75mg daily for two weeks and then one week longer than the duration of the outbreak). As there is wide variation in regulation and implementation of infection control in residential (AL/PC) facilities, insure that the facility is aware of a flu diagnosis. Chemoprophylaxis (before or after exposure) of individuals or in household contacts has moderate to high effectiveness but is not routinely recommended. (Nuances of chemoprophylaxis are outlined on the Center for Disease Control website.)
 10. **Address the needs of those older patients who are boarded in the ED.** Those who are being treated for influenza are at risk for functional decline and delirium. Strategies to mitigate risk should be deployed.

SELECTED REFERENCES:

1. Uyeki TM. Influenza. *Ann Intern Med.* 2017; 167(5): ITC33- ITC48.
2. Advisory Committee on Influenza Practices. www.cdc.gov/vaccines/acip/index.html
3. Flu vaccine with adjuvant. www.cdc.gov/flu/prevent/adjuvant.htm
4. Grohskopf LA, Alyanak E, Broder KR, Walter EB, Fry AM, Jernigan DB. Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices — United States, 2019–20 Influenza Season. *MMWR Recomm Rep* 2019;68(No. RR-3):1–21. www.cdc.gov/mmwr/volumes/68/rr/rr6803a1.htm?s_cid=rr6803a1_w
5. Influenza Updates and weekly United States flu activity from the CDC. www.cdc.gov/flu/index.htm
6. Lam P, Coleman BL, Green K, et al. Predictors of Influenza among older adults in the emergency department. *BMC Infect Dis* 2016 Oct 28; 16(1):615.
7. Kossover RA, Chi CJ, Wise ME, et al. Infection Prevention and Control Standards in Assisted Living Facilities: Are Residents Needs Being Met? *JAMDA* 2014 Jan 15(1)47-53.