

Children’s Hospital and Health System, Inc.
Patient Care Evidence Based Guideline
CW Urgent Care

SUBJECT: Influenza

Local viral information can be found on Children’s Connect:

Children’s Connect → Patient Care → What’s Going Around

Please note that the COVID-19 pandemic has added additional considerations to testing, treatment, and vaccination for influenza. The most up-to-date recommendations by the CDC can be found at the following links:

Flu:

<http://www.cdc.gov/flu/>

Starting antivirals:

<https://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm>

Additions for flu vaccine with COVID-19 symptoms:

<https://www.cdc.gov/flu/pdf/professionals/acip/acip-2020-21-summary-of-recommendations.pdf>

Testing for COVID-19 and Flu when both are circulating:

<https://www.cdc.gov/flu/professionals/diagnosis/testing-guidance-for-clinicians.htm>

Coadministration of COVID-19 vaccines with other vaccines:

<https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html#Coadministration>

Purpose: To evaluate and initiate treatment of influenza in the pediatric population during the influenza season.

Definition: An acute respiratory viral illness which occurs in outbreaks worldwide every year. Minimal definition of flu-like-illness includes fever over 100.4°F and cough and/or sore throat. The peak of influenza activity in the United States tends to occur in January through March, although influenza activity can occur in early fall (i.e. October) or late spring (i.e. May). Flu is the more likely diagnosis when flu is more prevalent in the community *so local viral reports are important to follow* (see above). Period of contagiousness for flu includes one day prior to symptoms and up to 5-7 days after symptoms of fever; the incubation period ranges from 1 to 4 days.

Etiology: Influenza A or B viruses

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Differential Diagnosis:

- Mycoplasma pneumonia
- Adenovirus
- RSV
- Rhinovirus
- Parainfluenza
- Legionella species

Guideline

Subjective Data/History

- Abrupt onset of constitutional and respiratory signs and symptoms including fever, myalgia, headache, malaise, nonproductive cough, sore throat and rhinitis
 - Younger children are less likely to report typical influenza symptoms
 - History of receiving an influenza vaccine does not exclude the possibility of having influenza
- Additional symptoms may include:
 - Nausea/vomiting
 - Fatigue
 - Diarrhea

Objective Data/Physical Exam

- Fever 100-104°F
- Mild to acutely ill appearance
- Pharyngitis
- Eyes may be red, watery
- May have associated otitis media
- Assess hydration status
- Lung findings may include dry cough with clear lungs or focal wheezing

Diagnostic Studies: *Can make a clinical diagnosis once known influenza activity has been established in the community (epidemic period). During non-epidemic periods, routine testing of symptomatic patient should occur to confirm diagnosis.*

- **During influenza season, testing should occur if the result will influence clinical management**
 - Consider testing patients with higher risk for complications and/or likely to benefit from treatment including ≤ 12 months old, those with chronic conditions or 12-24 months old and moderately ill
- If testing is indicated:
 - Test within 3-4 days of symptom onset

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- POCT Rapid Influenza A/B NAAT will be performed using the molecular testing instrument.
 - Most sensitive influenza test available
 - Sensitivity of 99.2% and specificity of 98.4% for Influenza A
 - Sensitivity of 97.2% and specificity of 100% for Influenza B
 - False negatives usually only result from poor sample collection or collection after day 4 of illness onset

Table 1: Patients at high risk of Influenza complications

| |
|---|
| Children aged < 5 years, especially < 2 years |
| Adults aged ≥ 50 years, especially those aged ≥ 65 years |
| Persons with chronic pulmonary (including asthma and cystic fibrosis), cardiovascular (except hypertension alone), renal, hepatic, hematological (including sickle cell disease), and metabolic disorders (including diabetes mellitus), or neurologic and neurodevelopment conditions (including disorders of the brain, spinal cord, peripheral nerve, and muscle such as cerebral palsy, epilepsy (seizure disorders), stroke, intellectual disability (developmental delay), moderate to severe developmental delay, muscular dystrophy, or spinal cord injury) |
| Persons with conditions that compromise respiratory function or handling of secretions (including tracheostomy and mechanical ventilation) |
| Persons with immunosuppression, including that caused by medications or by HIV infection |
| Women who are pregnant or postpartum (within 2 weeks after delivery) |
| Persons < 19 years who are receiving long-term aspirin therapy or salicylate containing medications |
| American Indians/Alaska Natives |
| Morbidly obese (BMI ≥ 40 or higher or weight over twice ideal body weight) |
| Residents of chronic care facilities and nursing homes |

Treatment

- Use of Tamiflu is *recommended* within 48 hours of onset of symptoms in patients at high risk for influenza complications (see Table 1)
- Use of Tamiflu *should be considered* within 48 hours of onset of symptoms for the following:
 - Any previously healthy child for whom a decrease in duration of clinical symptoms is felt to be warranted
 - Low risk patient who has a high risk family member at home (see Table 1) in order to minimize the window of illness/contagiousness
- Although optimal timing of antiviral treatment with Tamiflu is within 48 hours of symptoms onset, antiviral therapy should still be considered beyond 48 hours of symptoms in children with severe disease or those at high risk of complications including:

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- Any hospitalized child with suspected or confirmed influenza disease, regardless of duration of symptoms
- Any child, inpatient or outpatient, with severe, complicated or progressive disease, regardless of duration of symptoms
- Children with influenza infection of any severity if they are at high risk (see Table 1) of complications of influenza infection, regardless of duration of symptoms.

| Antiviral Agent | Use | Dose |
|---|----------------------------------|--|
| <p>Oseltamivir (Tamiflu®)</p> <p>To help prevent shortage of Tamiflu liquid: prescribe capsules whenever possible. Capsules are available in the following forms: 30, 45, 75 mg. Capsules can be opened up and mixed in food for older children who cannot yet swallow pills.</p> | <p>Treatment (5 days)</p> | <p><u>Preterm, corrected gestational age:</u> <38 weeks: 1mg/kg/dose BID 38-40 weeks: 1.5 mg/kg/dose BID >40 weeks: 3mg/kg/dose BID</p> <p><u>Term, 0-8 months:</u> 3mg/kg/dose BID</p> <p><u>Term, 9-11 months:</u> 3.5mg/kg/dose BID</p> <p><u>12 months and above:</u> ≤ 15 kg: 30 mg BID >16 to 23 kg: 45 mg BID >24 to 40 kg: 60 mg BID >40 kg: 75 mg BID</p> |

Prophylaxis with Tamiflu may be considered for the following groups within 48 hours after exposure to an infectious person:

- High risk group (see Table 1) within 2 weeks after receiving the influenza vaccine
- High risk group (see Table 1) who will not respond/cannot receive the influenza vaccine
- Antiviral medication can be 70-90% effective in preventing influenza
- If the patient is diagnosed with influenza, the CDC does NOT recommend routine chemoprophylaxis with antiviral medication for household members as this may contribute to resistance of currently available antiviral medications.
 - For high risk household members with chronic medical conditions, they should speak with their PMD and/or specialist for guidance.

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Education of Patient/Family

- Uncomplicated influenza illness typically resolves after 3-7 days, although cough and malaise can persist as long as 2 weeks.
 - Encourage fluids
 - Rest
 - Acetaminophen and/or NSAID for comfort
 - *See the CW Urgent Care Evidence Based Guideline: Use of Pharmacologic Agents in the Treatment of Cough and Cold Symptoms in Children for additional details.*
- Most common adverse effect of oral Tamiflu is vomiting. This symptom might be lessened if the medication is taken with food.
 - No link between Tamiflu and previously reported neuropsychiatric events
 - Tamiflu may shorten the duration of fever and illness symptoms (~1 day) and may reduce the risk of complications from influenza (e.g., otitis media in young children, pneumonia, and respiratory failure)

Influenza Vaccination

- CDC recommends influenza vaccination for all those > 6 months old as it offers protection from serious outcomes of influenza including hospitalization and death
 - 50% to 75% effective in reducing outpatient medical visits for illness caused by circulating influenza viruses
 - Vaccination should begin as soon as the vaccine is available and should continue throughout influenza season. Data available to date on waning immunity do not

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support delaying vaccination in children. CDC and AAP recommend that children should complete influenza vaccination ideally by the end of October.

- Ideally provide vaccination by the end of October; may offer vaccination until June 30th of each year
- Influenza vaccine is available as both inactivated influenza vaccine (injectable) as well as live, attenuated intranasal influenza (LAIV) vaccination. Urgent Care currently offers only inactivated (injectable vaccine), with contraindications to administration in Urgent Care noted below. For additional details on eligibility and contraindications to LAIV, please refer to current AAP and CDC policy statements for seasonal influenza vaccination.

| Influenza Vaccine | | |
|--|--|---|
| <p>6 months through 8 years</p> | <p>Administer one dose at the time of the Urgent Care visit.</p> <p>For children in this age group children who have not previously received ≥ 2 doses of any influenza vaccine prior to the start of the current influenza season, patient will need 2 doses separated by at least 4 weeks.</p> | <p>Contraindications to receiving inactivated influenza vaccine in Urgent Care:</p> <ul style="list-style-type: none"> • Anaphylactic reaction to any previous vaccine of any kind • History of allergic reaction to previous influenza vaccine • History of severe allergic reaction to any component of the influenza vaccine • Moderate to severe febrile illness (high fever, active infection requiring hospitalization) • History of Guillain-Barre Syndrome within 6 weeks of receipt of previous influenza vaccine • Acute, moderate to severe symptomatic COVID-19 infection • Completed influenza vaccination for current season <p>Note: egg-allergic individuals can safely receive the influenza vaccine without any additional precautions</p> <p>Note: influenza vaccination of certain patients in these groups may still be appropriate, but requires more detailed</p> |

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| | | |
|--------------------------|-------------------|--|
| | | assessment by the patient's primary care physician and subspecialty consultation as appropriate. |
| 9 years and older | Administer 1 dose | |

Follow-up

As needed with PMD

This guideline is designed to serve as a reference for clinical practice and does not represent an exclusive course of treatment nor does it serve as a standard of medical care. Providers should apply their professional judgment to the management of individual patient conditions and circumstances. Children's Hospital and Health System (CHHS) does not make any representation with respect to any sort of industry recognized standard of care for the particular subject matter of this clinical guideline. Additionally, CHHS form documents are subject to change, revision, alteration, and/or revocation without notice.

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