Urgent Care Evidence Based Guideline: Influenza

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*. 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

Differential Diagnosis:

- Mycoplasma pneumonia
- Adenovirus
- RSV
- Rhinovirus
- Parainfluenza
- Legionella species
- COVID-19

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

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- 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 epidemic period, may also use POCT in clinic. During non-epidemic periods, testing of symptomatic patients should occur by sending specimen to CW Lab.*

- **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
    - 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

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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 above)
- 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 above) 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:
    - 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
Oseltamivir (Tamiflu®) 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.	**Treatment** (5 days)	<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 <u>Term, 0-8 months:</u> 3mg/kg/dose BID <u>Term, 9-11 months:</u> 3.5mg/kg/dose BID <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

- **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 above) within 2 weeks after receiving the influenza vaccine.
  - High risk group (see Table 1 above) 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.

Antiviral Agent	Use	Dose
Oseltamivir (Tamiflu®) 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 and mixed in food for older children who cannot yet swallow pills.	**Prophylaxis** (recommended duration is 7-10 days after exposure)	Term, 0-3 months: Not recommended Term, 3-9 months: 3 mg/kg/dose DAILY 9 months and above: ≤ 15 kg: 30 mg DAILY 16 to 23 kg: 45 mg DAILY 24 to 40 kg: 60 mg DAILY > 40 kg: 75 mg DAILY

Note:

- Xofluza (baloxavir) is a newer anti-influenza medication.
- It is approved for healthy children 5 years and older. It is approved for all children 12 years and older.
- If they have any chronic condition (asthma, CHD, diabetes, etc.) and are 5-11 years, should continue to use Tamiflu (oseltamivir).
- Xofluza is a one-time dose. Like Tamiflu, must be started within 48 hours.
- On average, decreases symptoms by 2 days (compared to 0.5 day with Tamiflu)

- Dosing: see below
- Caveats: it is not covered by Medicaid, it is not available at many pharmacies, and without insurance cost is +$180. For these reasons we will not be adding it to our preference list this flu season. We will reconsider in future years if these things change.
- BUT if a family requests it, you can give them a paper prescription and have them be responsible for finding a pharmacy that has it.
    - There is a coupon online: https://www.xofluza.com/content/dam/gene/xofluza/pdfs/xofluza-coupon.cc.pdf
- CDC anti-viral information: https://www.cdc.gov/flu/treatment/antiviral-drugs.html?CDC_AAref_Val=https://www.cdc.gov/flu/treatment/whatyoushould.htm

Xofluza (Influenza A or B) 5yo and older, <20kg = 40mg/20ml - 2mg/kg/dose PO x1 (start within 48hrs of symptoms)
Xofluza (Influenza A or B) 5yo and older, 20-79kg = 40mg tablet – 40mg PO x1 (start within 48hrs of symptoms)
Xofluza (Influenza A or B) 5yo and older, 20-79kg = 40mg/20ml – 40mg PO x1 (start within 48hrs of symptoms)
Xofluza (Influenza A or B) 5yo and older, >80kg = 80mg tablet – 80mg PO x1 (start within 48hrs of symptoms)

Education of Patient/Family

- Uncomplicated influenza illness typically resolves after 3-7 days, although cough and malaise can persist at 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 support delaying vaccination in children. CDC and AAP recommend that children should complete influenza vaccination ideally by the end of October; may offer

vaccination through June of each year (UC usually offers vaccination through end of March, CMG offers through end of April)

- 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. CMG also offers intranasal vaccination. For additional details on eligibility and contraindications to LAIV, please refer to current AAP and CDC policy statements for seasonal influenza vaccination.

Influenza Vaccine		
6 months through 8 years	Administer one dose at the time of the Urgent Care visit. 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.	Contraindications to receiving inactivated influenza vaccine in Urgent Care: • History of severe allergic reaction to influenza vaccine or any component of the influenza vaccine • History of Guillain-Barre Syndrome within 6 weeks of receipt of the influenza vaccine • Current severe illness requiring escalation of care or hospitalization • Patient less than 3 months from bone marrow transplant or active graft vs host disease. • Age less than 6 months <u>Note</u>: • Egg-allergic individuals can safely receive the influenza vaccine without any additional precautions. • Individuals with mild to moderate febrile illness can safely receive the influenza vaccine.
9 years and older	Administer 1 dose	

Follow-up as needed with PMD

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Medical Disclaimer

This Clinical Practice Guideline (CPG) is designed to provide a framework for evaluation and treatment. It is not intended to establish a protocol for all patients with this condition, nor is it intended to replace a clinician's judgement. Adherence to this CPG is voluntary. Decisions to adopt recommendations from this CPG must be made by the clinician in light of available resources and the individual circumstances of the patient. Medicine is a dynamic science; as research and clinical experience enhance and inform the practice of medicine, changes in treatment protocols and drug therapies are required. The authors have checked with sources believed to be reliable in their effort to provide information that is complete and generally in accord with standards accepted at the time of publication. However, because of the possibility of human error and changes in medical science, neither the authors nor Children's Hospital and Health System, Inc., nor any other party involved in the preparation of this work warrant that the information contained in this work is in every respect accurate or complete, and they are not responsible for any errors in, omissions from, or results obtained from the use of this information.

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