



TREATMENT AND PROPHYLAXIS OF INFLUENZA IN PATIENTS ON PEDIATRIC SERVICES

Indication and Population	Definitive Therapy	Duration/Comments
<p><u>Treatment Indications:</u></p> <p>Hospitalized patients with suspected or confirmed influenza regardless of time from symptom onset</p> <ul style="list-style-type: none"> Outpatients with suspected or confirmed influenza who are at <u>high risk for influenza complications</u>, regardless of time from symptom onset: <ul style="list-style-type: none"> Children under 5 years of age Patients with chronic pulmonary, cardiovascular, renal, hepatic, hematologic, or metabolic, or neurological or neurodevelopmental conditions Immunocompromised patients of any cause Pregnant women (including 2 weeks post-partum) Patients under 19 years of age receiving long-term aspirin therapy Minorities: American Indians and Alaskan Natives, non-Hispanic Black, Hispanic or Latino Morbidly obese patients Residents of chronic-care facilities Can consider for outpatients with suspected or confirmed influenza <ul style="list-style-type: none"> Who lack risk factors for complications, if treatment can start within 48 hours of symptom onset OR whose household contacts either are younger than 6 months or have a high risk for complications (see above) 	<p><u>Preferred:</u></p> <p>Oseltamivir*</p> <p>Infants <12 months of age: Born at <37 wks gestation: <28 wks PMA: Consult ID 28-<38 wks PMA: 1 mg/kg PO BID 38-40 wks PMA: 1.5 mg/kg PO BID >40 wks PMA: 3 mg/kg PO BID Born at ≥37 wks gestation: <9 months: 3 mg/kg (max 30 mg) PO BID ≥9 months: 3.5 mg/kg (max: 30 mg) PO BID</p> <p>Children ≥1-year-old: ≤15 kg: 30 mg PO BID >15 - 23 kg: 45 mg PO BID >23 - 40 kg: 60 mg PO BID >40 kg: 75 mg PO BID</p> <p><u>Alternative for patients ≥7-years old who are not intubated and have a documented intolerance to oseltamivir or an influenza strain resistant to oseltamivir:</u></p> <p>Zanamivir 2 inhalations (10 mg) BID</p> <p><u>Restricted alternative for influenza B or patients with neuraminidase inhibitor intolerance. ID consult is required for inpatients in all ages.</u></p> <p>Baloxavir</p> <p>Children <5 years old: Consult ID</p> <p>Children ≥5 years old: <20 kg: 2 mg/kg PO x 1 20-<80 kg: 40 mg PO x 1 ≥80 kg: 80 mg PO x1</p> <p><u>Restricted alternative for patients ≥6 months old with documented influenza in which drug delivery by a route other than IV is not feasible:</u></p> <p>Peramivir* 12 mg/kg IV once daily (max: 600 mg/dose)</p>	<p><u>Treatment Duration:</u></p> <p>Oseltamivir: 5 days</p> <ul style="list-style-type: none"> For most ICU patients or those with mild to moderate immunosuppression, 5 days is recommended In select patients with extended ventilation or profound immunosuppression in whom oseltamivir duration is extended beyond 5 days, treatment should not be continued after two negative influenza PCRs. <p>Zanamivir: 5 days</p> <p>Baloxavir: 1 day</p> <p>Peramivir: should not exceed 5 days in hospitalized patients.</p> <ul style="list-style-type: none"> Patients with uncomplicated influenza in the clinic or ED (for whom drug delivery by a route other than IV is not feasible) should receive a one-time dose <p><u>Comments:</u></p> <p>Oseltamivir</p> <ul style="list-style-type: none"> Can rarely cause neuropsychiatric effects Well absorbed in the setting of vasopressor therapy and enteral feeding <p>Zanamivir</p> <ul style="list-style-type: none"> Zanamivir should be used with caution in patients with chronic lung disease (e.g. children with asthma, cystic fibrosis) due to risk of bronchospasm Administered as dry powder, not an aerosol. Requires respiratory effort and should not be used in patients with respiratory distress and/or limited respiratory drive <p>Baloxavir</p> <ul style="list-style-type: none"> Baloxavir requires ID consult prior to use in the inpatient setting. Studies indicate that Baloxavir may have improved efficacy over oseltamivir in influenza B, but this benefit has not been shown in influenza A. Routine use is not recommended due to low barrier to resistance (particularly influenza A type H3N2) with reported resistance rates as high as 23.4%. Baloxavir should be administered at least 2 hours prior or 4 hours after administration of polyvalent cations due to the formation of a chelate which can significantly decrease baloxavir exposure <p>Peramivir</p> <ul style="list-style-type: none"> Oseltamivir-resistant influenza strains are cross-resistant to peramivir.

*Adjust dose based on renal function. See [Pediatric Renal Dosing Guidelines](#).

<p>Prophylaxis Indications: Consider for select patients (below) with documented ongoing influenza exposure OR in whom prophylaxis can be started within 48 hours of the last exposure:</p> <ul style="list-style-type: none"> • Patients at high risk for complications (see above) who have not received an influenza vaccine or were vaccinated within the last 2 weeks • Unimmunized family members with ongoing, close exposure to unimmunized children at high risk for complications • As a supplement to immunization among immunocompromised children who may not respond to vaccine • Vaccinated individuals at high risk for complications (see above) and at high risk for a poor response to the vaccine (e.g. transplant, rituximab treatment) <p>In seasons where the vaccine is a poor match for circulating influenza strains, prophylaxis of high-risk patients may be considered regardless of immunization status.</p>	<p>Preferred:</p> <p>Oseltamivir*</p> <p>Infants ≥3 months and <12 months: <9 months: 3 mg/kg PO once daily ≥9 months: 3.5 mg/kg PO once daily</p> <p>Children ≥ 1-year old: ≤15 kg: 30 mg PO once daily >15 - 23 kg: 45 mg PO once daily >23 - 40 kg: 60 mg PO once daily >40 kg: 75 mg PO once daily</p> <p><u>Alternative for patients ≥5-years old with a documented intolerance to oseltamivir or an influenza strain resistant to oseltamivir:</u></p> <p>Zanamivir 2 inhalations (10 mg) once daily</p> <p><u>Alternative for with neuraminidase inhibitor intolerance or high circulation or known exposure to influenza B. ID consult is required for inpatients in all ages.</u></p> <p>Baloxavir</p> <p>Children <5 years old: Consult ID</p> <p>Children ≥5 years old: <20 kg: 2 mg/kg PO x 1 20-<80 kg: 40 mg PO x 1 ≥80 kg: 80 mg PO x 1</p>	<p>Prophylaxis Duration: Oseltamivir or zanamivir: 7 days after last known exposure</p> <ul style="list-style-type: none"> • For ongoing exposure, resolution of symptoms in case patient defines end of exposure <p>Comments:</p> <ul style="list-style-type: none"> • Use of oseltamivir for chemoprophylaxis is not recommended in patients <3-months old unless situation is judged critical due to limited data in this age group • Oseltamivir can rarely cause neuropsychiatric effects • CDC does not recommend seasonal or pre-exposure antiviral chemoprophylaxis • Amantadine and rimantadine are no longer recommended due to increasing rates of resistance
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- Consult with Infection Prevention or the Health Department for institutional/hospital outbreaks.
- Consult with Occupational Health or Infection Prevention for occupational exposures

References:

1. <https://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm>.
2. Ariano, et al. [CMAJ 2010; 1824:357-63.](#)
3. AAP Red Book, 2015.

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The recommendations in this guide are meant to serve as treatment guidelines for use at Michigan Medicine facilities. If you are an individual experiencing a medical emergency, call 911 immediately. These guidelines should not replace a provider's professional medical advice based on clinical judgment, or be used in lieu of an Infectious Diseases consultation when necessary. As a result of ongoing research, practice guidelines may from time to time change. The authors of these guidelines have made all attempts to ensure the accuracy based on current information, however, due to ongoing research, users of these guidelines are strongly encouraged to confirm the information contained within them through an independent source.

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