



## Oseltamivir in Pediatric Patients

Oseltamivir (Tamiflu) is an antiviral that inhibits influenza virus neuraminidase, an enzyme known to cleave the new virus from infected cells, thereby reducing viral spread to other cells and viral load.<sup>1,2</sup> Oseltamivir is taken orally and is used in seasonal influenza treatment. It is most beneficial when started within 48 hours of symptom onset.<sup>1-4</sup> Are there situations when oseltamivir should be started beyond 48 hours in pediatric patients?

### Who should get oseltamivir after 48 hours from symptom onset?

Early treatment is preferred to prevent significant viral replication, but certain populations are expected to benefit beyond 48 hours. These include patients who are hospitalized, have severe or progressive disease, or have underlying conditions that increase their risk of complications of influenza, regardless of duration of illness.<sup>3,4</sup> See the below table for pediatric patients at increased risk for influenza complications.

### Pediatric Patients at Increased Risk for Influenza Complications:

Children < 5 years (especially < 2 years old)	Children born pre-term or near-term
Neurologic and neurodevelopmental conditions	Hematologic disease (e.g. sickle cell disease)
Pulmonary disorders (e.g. cystic fibrosis, asthma)	Endocrine disorders (e.g. diabetes mellitus)
Kidney disease	Hepatic disease
BMI > 95 <sup>th</sup> percentile	Metabolic disorders (e.g. mitochondrial disorders)
People < 19 years old on aspirin or salicylate-containing medications	Cardiovascular disease (e.g. congenital heart disease, heart failure)
Immunosuppressed	Hospitalized patients

### How should oseltamivir be dosed in pediatric patients?

Pediatric dosing is based on age and weight, with a max dose of 75mg BID.<sup>1,4</sup> Duration of treatment is 5 days.<sup>4</sup> Oseltamivir is commercially available as a 6 mg/mL oral suspension.<sup>1</sup>

Neonates	
Post-menstrual age	Dose
<38 weeks	1 mg/kg/dose twice daily
38-40 weeks	1.5 mg/kg/dose twice daily
>40 weeks	3 mg/kg/dose twice daily

Infants	
Age	Dose
< 9 months	3 mg/kg/dose twice daily
≥ 9 months	3.5 mg/kg/dose twice daily

Children and Adolescents	
Weight	Dose
≤ 15 kg	30 mg twice daily
> 15-23 kg	45 mg twice daily
> 23-40 kg	60 mg twice daily
> 40 kg	75 mg twice daily

**Key Takeaway:** Oseltamivir should be recommended for use in pediatric patients with confirmed or suspected influenza who are at increased risk for complications, regardless of time since onset of symptoms.

### References:

1. Oseltamivir. *Lexi-Drugs*. UpToDate Lexidrug. UpToDate Inc. <https://online.lexi.com>. Accessed November 01, 2024.
2. Wang K, Shun-Shin M, Gill P, Perera R, Harnden A. Neuraminidase inhibitors for preventing and treating influenza in Children (published trials only). *Cochrane Database Syst Rev*. 2012;2012(4): CD002744
3. Treatment of flu in children. Center for Disease Control and Prevention. September 6, 2024. Accessed November 4, 2024. <https://www.cdc.gov/flu/treatment/children-antiviral.html>.
4. Committee on Infectious Diseases; Recommendations for Prevention and Control of Influenza in Children, 2023–2024. *Pediatrics* October 2023; 152 (4): e2023063773. 10.1542/peds.2023-063773