Table 1. Antiviral Medications Recommended for Treatment and Chemoprophylaxis of Influenza

Antiviral Agent	Activity Against	Use	Recommended For	Not Recommended for Use in	Adverse Events
Oral Oseltamivir	**Influenza A and B**	**Treatment**	Any age[1]	N/A	**Adverse events:** nausea, vomiting, headache. Post marketing reports of serious skin reactions and sporadic, transient neuropsychiatric events[2]
		Chemoprophylaxis	3 months and older[1]	N/A	
Inhaled Zanamivir	**Influenza A and B**	**Treatment**	7 yrs and older[3]	People with underlying respiratory disease (e.g., asthma, COPD)[3]	**Adverse events:** risk of bronchospasm, especially in the setting of underlying airways disease; sinusitis, and dizziness. Post marketing reports of serious skin reactions and sporadic, transient neuropsychiatric events[2]
		Chemoprophylaxis	5 yrs and older[3]	People with underlying respiratory disease (e.g., asthma, COPD)[3]	
Intravenous Peramivir	**Influenza A and B[4]**	**Treatment**	6 months and older[4]	N/A	**Adverse events:** diarrhea. Post marketing reports of serious skin reactions and sporadic, transient neuropsychiatric events[2]
		Chemoprophylaxis[5]	Not recommended	N/A	
Oral Baloxavir	**Influenza A and B[6]**	**Treatment**	5 yrs and older[6]	N/A	**Adverse events:** none more common than placebo in clinical trials
		Chemoprophylaxis[6]	Approved for post-exposure prophylaxis in persons 5 yrs and older[6]		

Abbreviations: N/A = not applicable, COPD = chronic obstructive pulmonary disease.

1. Oral oseltamivir phosphate is approved by the FDA for treatment of acute uncomplicated influenza within 2 days of illness onset in people 14 days and older, and for chemoprophylaxis in people 1 year and older. Although not part of the FDA-approved indications, use of oral oseltamivir for treatment of influenza in infants less than 14 days old, and for chemoprophylaxis in infants 3 months to 1 year, is recommended by the CDC and the American Academy of Pediatrics. If a child is younger than 3 months old, use of oseltamivir for chemoprophylaxis is not recommended unless the situation is judged critical due to limited data in this age group.

2. Self-injury or delirium; mainly reported among Japanese pediatric patients.
3. Inhaled zanamivir is contraindicated in patients with underlying airways disease such as asthma or chronic obstructive pulmonary disease, and those with a history of allergy to lactose or milk protein.
4. Intravenous peramivir is approved by the FDA for treatment of acute uncomplicated influenza within 2 days of illness onset in people 6 months and older. Peramivir efficacy is based on clinical trials versus placebo in which the predominant influenza virus type was influenza A; in one trial, a very limited number of subjects infected with influenza B virus were enrolled.
5. There are no data available for use of peramivir for chemoprophylaxis of influenza.
6. Oral baloxavir marboxil is approved by the FDA for treatment of acute uncomplicated influenza within 2 days of illness onset in people aged ≥5 years who are otherwise healthy, or in people aged ≥12 years who are high risk of developing influenza-related complications. Baloxavir efficacy for initial FDA approval in October 2018 was based on clinical trials in previously healthy outpatients 12 to 64 years old (Hayden, 2018). Single-dose baloxavir t reatment was superior to placebo and had similar clinical efficacy in time to alleviation of symptoms to a 5-day treatment course of oseltamivir.

   In October 2019, FDA approved an indication for baloxavir treatment of acute uncomplicated influenza within 2 days of illness onset in people 12 years and older at high risk of developing influenza-related complications, based upon the findings of a clinical trial (Ison, 2020). In this clinical trial of early initiation of antiviral treatment for uncomplicated influenza in high-risk patients, baloxavir was superior to placebo and had similar overall efficacy to oseltamivir in the time to alleviation of symptoms. For patients with influenza B virus infection, baloxavir significantly reduced the median time to improvement of symptoms compared with oseltamivir by more than 24 hours.

For patients with influenza B virus infection, baloxavir significantly reduced the median time to improvement of symptoms compared with oseltamivir by more than 24 hours. However, there are no available data for baloxavir treatment of influenza in pregnant people, immunocompromised people, or in people with severe influenza who are not hospitalized.

In August 2022, FDA expanded approval of baloxavir for treatment of acute uncomplicated influenza within 2 days of illness onset in children aged 5 years to <11 years who are otherwise healthy [package insert]. This was based upon the secondary clinical outcomes of a randomized clinical trial of baloxavir versus oseltamivir for treatment of uncomplicated influenza in children aged 1 year to <12 years (Baker, 2021).

A randomized clinical trial reported that combination neuraminidase inhibitor (primarily oseltamivir) and baloxavir for treatment of hospitalized influenza patients aged ≥12 years did not result in superior clinical benefit (time to clinical improvement) compared with neuraminidase inhibitor and placebo (Kumar, 2022).

In November 2020, FDA expanded approval of baloxavir to include post-exposure prophylaxis of influenza for persons aged ≥12 years within 48 hours of contact with an individual with influenza, based on the findings of a clinical trial among household contacts of index patient with influenza (Ikematsu, 2020). In this study, baloxavir post-exposure prophylaxis (PEP) of influenza in household members (19% were younger than 12 years; 73% received baloxavir within 24 hours of onset of symptoms in the index household case who received antiviral treatment) significantly reduced the risk of laboratory-confirmed by 86% among those who received baloxavir PEP than among those who received placebo (1.9% [7 of 374] vs. 13.6% [51 of 375]; adjusted risk ratio, 0.14; 95% confidence interval [CI], 0.06 to 0.30; P<0.001).

In August 2022, FDA expanded approval of baloxavir for post-exposure prophylaxis of influenza in persons aged 5 years and older within 48 hours of contact with an individual with influenza [package insert].