oseltamivir (osel-tam-i-vir)

**Trade Names:**
- Tamiflu

**Classification:*** Therapeutic: antivirals
**Pharmacologic: neuraminidase inhibitors

**Pregnancy Category:** C

### Indications
- Treatment of uncomplicated acute illness due to influenza infection in adults and children ≥2 yr who have had symptoms for ≤2 days. Prevention of influenza in patients ≥1 yr.

### Action
- Inhibits the enzyme neuraminidase, which may alter virus particle aggregation and release. Therapeutic Effects: Reduced duration or prevention of flu-related symptoms.

### Pharmacokinetics

**Absorption:** Rapidly absorbed from the GI tract and converted by the liver to the active form, oseltamivir carboxylate. 75% reaches systemic circulation as the active drug.

**Distribution:** Unknown.

**Protein Binding:** oseltamivir phosphate: 42%; oseltamivir carboxylate: 3%.

**Metabolism and Excretion:** Rapidly metabolized by the liver to oseltamivir carboxylate, the active drug. >99% excreted unchanged in urine.

**Half-life:** Oseltamivir carboxylate—6–10 hr.

### TIME/ACTION PROFILE (blood levels)

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
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<tbody>
<tr>
<td>PO</td>
<td>unknown</td>
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### Contraindications/Precautions
- **Contraindicated in:** Hypersensitivity. Use cautiously in: Pedi: Children ≤1 yr.

### Adverse Reactions/Side Effects
- **CNS:** SEIZURES, abnormal behavior, agitation, confusion, delirium, hallucinations, insomnia, nightmares, vertigo. **Resp:** bronchitis. **GI:** nausea, vomiting.

### Drug Interactions
- **Drug-Drug:** May **reduce** the therapeutic effect of influenza virus vaccine. Avoid use 2 days prior to and 2 weeks after vaccine administration.

### Route/Dosage

#### Treatment of Influenza

| PO (Adults and Children ≥13 yr): | 75 mg twice daily for 5 days. |
| PO (Children 1–12 yr and ≥40 kg): | 75 mg twice daily for 5 days. |
| PO (Children 1–12 yr and 25.1–40 kg): | 60 mg twice daily for 5 days. |
| PO (Children 1–12 yr and 15.1–25 kg): | 45 mg twice daily for 5 days. |
| PO (Children 1–12 yr and <15 kg): | 30 mg twice daily for 5 days. |

#### Influenza Prevention

| PO (Adults): | CCr 10–30 mL/min—75 mg once daily for 5 days. |
| PO (Adults and Children ≥13 yr): | 75 mg once daily for at least 10 days. |
| PO (Children 1–12 yr and ≥40 kg): | 75 mg once daily for at least 10 days. |
| PO (Children 1–12 yr and 25.1–40 kg): | 60 mg once daily for 10 days. |
| PO (Children 1–12 yr and 15.1–25 kg): | 45 mg once daily for 10 days. |
| PO (Children 1–12 yr and <15 kg): | 30 mg once daily for 10 days. |

### Renal Impairment

| PO (Adults): | CCr 10–30 mL/min—75 mg every other day for 10 days. |
| PO (Adults and Children ≥13 yr): | 75 mg every other day or 30 mg every day for 10 days. |

### Nursing Implications

- **Assessment:** Monitor influenza symptoms (sudden onset of fever, cough, headache, fatigue, muscular weakness, sore throat). Additional supportive treatment may be indicated in severe symptoms.

### Discontinued
Potential Nursing Diagnoses
Risk for infection (Indications)

Implementation
- Treatment with oseltamivir should be started as soon as possible from the first sign of illness within 2 days of exposure.
- Consider available information on influenza drug susceptibility patterns and treatment effects before using oseltamivir for prophylaxis.
- PO: May be administered with food or milk to minimize GI irritation.
- Use correct oral dosing device for measuring oral solution. Dosing errors have occurred due to oseltamivir dosing in mg and solution in mL.
- Make sure units of measure on prescription instructions match dosing device provided with the drug.
- If oral suspension is not available, capsules can be opened and mixed with flavored foods (regular or sugar-free chocolate, corn syrup, caramel topping, light brown sugar, dissolved in water). If correct dose and oral suspension are not available, pharmacist may compound emergency supply of oral suspension from 75 mg capsules.

Patient/Family Teaching
- Instruct patient to take oseltamivir as soon as influenza symptoms appear and to continue to use it as directed, for the full course of therapy, even if feeling better. Take missed doses as soon as remembered unless within 2 hr of next dose. Do not double doses.
- Caution patient that oseltamivir should not be shared with anyone, even if they have the same symptoms.
- Advise patient that oseltamivir is not a substitute for a flu shot. Patients should receive annual flu shot according to immunization guidelines.
- Advise patient to report behavioral changes (hallucinations, delirium, and abnormal behavior) to health care professional immediately.
- Advise patient to consult health care professional before taking other medications concurrently with oseltamivir.

Evaluation/Desired Outcomes
- Reduced duration or prevention of flu-related symptoms.

Why was this drug prescribed for your patient?