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**Influenza H1N1 vaccine (H1N1 vak-seen)**

**Classification**

Therapeutic: Vaccines/Immunizing agents

**Pregnancy Category** C

**Indications**

IM: Active immunization against the pandemic H1N1 virus with inactivated virus.

Intranasal: Active immunization against the pandemic H1N1 virus with live virus.

**Action**

Vaccines cause the production of antibodies against infection from the H1N1 virus.

**Therapeutic Effects:** Protection against H1N1 influenza disease with less time lost from work and school and decreased complications of influenza disease.

**Pharmacokinetics**

Absorption: Vaccine is absorbed following intramuscular and intranasal administration.

Distribution: Unknown.

Metabolism and Excretion: Unknown.

Half-life: Unknown.

**TIME/ACTION PROFILE (antibody production)**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
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<tbody>
<tr>
<td>IM, Intranasal</td>
<td>within days</td>
<td>within weeks</td>
<td>unknown</td>
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**Contraindications/Precautions**

**Contraindicated in:**
- Severe hypersensitivity to egg proteins or previous life-threatening reaction from influenza vaccination.
- Pregnancy category C
- Hypersensitivity to eggs, egg proteins, gelatin, antibiotics, preservatives, aluminum hydroxide.
- Concurrent oseltamivir therapy or radiation therapy may impair antibody response.
- Intranasal: The use of antivirals active against influenza A or B will impair vaccine effectiveness; avoid immunization within 48 hours of discontinuing; treatment with antivirals should not be initiated for 2 weeks following immunization.

**Use Cautiously in:**
- Immunocompromised patients (may have impaired antibody response).
- Recent (within 6 wk) Guillain-Barré Syndrome, consider risks and benefits: GBS.
- Elderly patients may have impaired antibody response: OB.
- Use in pregnancy only if clearly needed.

**Warnings/Precautions:**
- Use cautiously during breastfeeding, consider possible shedding of virus in milk and possible transmission during breastfeeding for intranasal form; Ped: Safe and effective use in children <6 mo not established for IM dose form; unsafe use in children 2–5 y not established for intranasal form; Underlying medical conditions that predispose to wild-type influenza infection complications.

**Adverse Reactions/Side Effects**

**Intramuscular**

CNS: Headache, malaise.

MS: Myalgia.

**Intranasal**

CNS: Headache, weakness.

EENT: Nasal congestion, runny nose, sore throat.

Resp: Cough.

MS: Muscle aches.

Misc: Fever, chills.

**Interactions**

**Drug-Drug:** Intramuscular, Intranasal: Concurrent immunosuppressants or radiation therapy may impair antibody response.

**Route/Dosage**

**IM (Adults):** 0.5 mL single dose.

**IM (Children 10 y):** 0.5 mL single dose.

**IM (Children 3–9 y):** 0.5 mL, repeat one month later.

**IM (Children 6–35 mo):** 0.25 mL, repeat one month later.

**Intranasal (Children 2–9 y):** 0.2 mL, repeat one month later.

**Intranasal (Adults and Children 10–49 y):** 0.2 mL single dose.

**NURSING IMPLICATIONS**

**Assessment:**
- Monitor patient for signs of allergic reaction (rash, pruritus, laryngeal edema, wheezing) following administration. Keep epinephrine, an antihistamine, and resuscitation equipment close by in case of an anaphylactic reaction.

**Lab Test Considerations:** May cause thrombocytopenia.
Potential Nursing Diagnoses

Risk for infection (Indications)
Deficient knowledge, related to disease process and medication regimen (Patient/Family Teaching)

Implementation

- IM: Shake well before administering single dose and before withdrawing dose from multi-dose vial. Administer IM.
- Do not mix with other vaccines in the same syringe or vial.
- Intranasal: To administer, remove rubber tip protector. Do not remove dose-divider clip at the other end of sprayer. With patient in an upright position, place tip just inside nostril. Depress plunger as rapidly as possible with a single motion until dose-divider clip prevents from going further. Pinch and remove dose-divider clip and repeat procedure in other nostril until remaining vaccine is administered. Dispose of sprayer at completion of procedure. Store in refrigerator; do not freeze.

Patient/Family Teaching

- Explain to patient and parent the purpose of the vaccination. Inform patient that there are two vaccine formulations for this influenza season, the H1N1 vaccine and the seasonal trivalent influenza vaccine.
- Advise female patient to notify health care professional if pregnancy is planned or suspected and breastfeeding.
- Intranasal: Advise patient to avoid contact with patients who are immunocompromised for at least 21 days.

Evaluation/Desired Outcomes

- Prevention of influenza resulting in fewer lost days from work and school.

Why was this drug prescribed for your patient?