Revisions as of 12/2011 are based upon a new Kaiser Permanente study that found no evidence that receiving the zoster vaccine and the PPV23 vaccine on the same day would compromise the immune response to protect against herpes zoster. ACIP and the Oregon Health Authority Immunization Program recommend:

- Zoster vaccine and pneumococcal vaccine can be administered at the same visit if the person is eligible for both vaccines. Reference: http://www.sciencedirect.com/science/article/pii/S0264410X11003707
- Added precaution (p. 4) about administering some antivirals 24 hours prior to administering Zostavax®.

I. Order:
1. Check the ALERT Immunization Information System to determine whether the patient needs this vaccine and any other vaccines.
2. Screen adults ≥60 years of age for contraindications.
3. Provide a current Vaccine Information Sheet (VIS) answering any questions.
4. Obtain a signed Vaccination Administration Record (VAR).
5. Reconstitute the vaccine using only the diluent supplied.
   - Vaccinate within 30 minutes of reconstitution, or discard.
6. Give Zostavax® vaccine (0.65 ml) subcutaneously, preferably in the upper arm, as a single dose.
7. Zostavax® can be administered concomitantly with PPV23.

Immunizing Pharmacist Signature

Date

For multiple signatures see: http://1.usa.gov/PharmacyImmunizationProtocols

Revised: 12-2011
Reviewed: 12-2013
Original: 09-2006
I. LICENSED LIVE ZOSTER VACCINE

<table>
<thead>
<tr>
<th>PRODUCT NAME</th>
<th>VACCINE COMPONENTS</th>
<th>ACCEPTABLE AGE RANGE</th>
<th>PRESERVATIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zostavax®1</td>
<td>Oka/Merck strain of live attenuated varicella-zoster virus (VZV)</td>
<td>≥60 years</td>
<td>None</td>
</tr>
</tbody>
</table>

1 Each dose contains approximately 15 mg of gelatin with trace quantities of neomycin and bovine calf serum.

II. INDICATIONS FOR USE1,2,3

A. Adults ≥60 years of age whether or not they report a prior episode of herpes zoster.1,2,3
   • Persons with chronic medical conditions may be vaccinated unless a contraindication or precaution exists for this condition.
   • Immunocompetent persons ≥60 years of age, without a history of zoster vaccination and anticipating initiation of immunosuppressive treatment, should receive 1 dose of zoster vaccine while their immunity is intact.

1 Zostavax® is not indicated for the treatment of zoster or post-herpetic neuralgia (PHN).
2 Zostavax® vaccine can be administered with other indicated vaccines during the same visit. (e.g., Td, Tdap, and Influenza).
3 Although the safety and efficacy of zoster vaccine have not been assessed in persons with a history of zoster, different safety concerns are not expected in this group.

IV. VACCINE SCHEDULE FOR ZOSTAVAX®1,2,3

<table>
<thead>
<tr>
<th>Age</th>
<th>Number of doses</th>
<th>Route</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥60 years</td>
<td>1</td>
<td>Subcutaneous</td>
<td>0.65 ml</td>
</tr>
</tbody>
</table>

1 Zostavax® is stored frozen and should be reconstituted immediately upon removal from the freezer. The diluent should be stored separately at room temperature or in the refrigerator.
2 Vaccine should be administered within 30 minutes of reconstitution, or discarded.
3 Duration of protection is unknown. Protection has been demonstrated through 4 years of follow-up. The need for revaccination has not been defined.
V. CONTRAINDICATIONS

A. History of anaphylactic reaction to gelatin, neomycin, or other components of the vaccine.
B. History of primary or acquired immunodeficiency states, including leukemia\(^1\), lymphoma, or other malignant neoplasms affecting the bone marrow or lymphatic system.
C. Current immunosuppressive therapy, including high-dose corticosteroids\(^2\)
D. Active untreated tuberculosis
E. Pregnancy\(^3\)

VI. PRECAUTIONS

A. Deferral of vaccination should be considered in acute illness.
B. The risk of transmitting the attenuated vaccine virus to a susceptible individual should be weighed against the risk of developing natural zoster that can be transmitted to a susceptible individual.\(^4\)
C. Persons taking chronic antiviral medications acyclovir, famciclovir, and valacyclovir should discontinue these medications at least 24 hours before administration of zoster vaccine; these medications should not be used for at least 14 days after vaccination.\(^5\)

\(^1\)With a doctor’s order, those whose leukemia is in remission and who have not received chemotherapy or radiation for at least 3 months can receive zoster vaccine.
\(^2\)Zoster vaccine should be deferred for \(\geq1\) month after discontinuation of therapy. Refer to Sect VIII p4 for directions for short-term or low-dose corticosteroid therapy.
\(^3\)Pregnancy should be avoided for 3 months following vaccination.
\(^4\)In clinical trials with Zostavax®, transmission of the vaccine virus has not been reported.
\(^5\)These and any other medications active against members of the herpes virus family might interfere with replication of the live, VZV-based zoster vaccine.
VII. SIDE EFFECTS AND ADVERSE REACTIONS

<table>
<thead>
<tr>
<th>Adverse Experiences</th>
<th>Zostavax® (n=3345)</th>
<th>Placebo (n=3271)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injection Site</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erythema</td>
<td>33.7</td>
<td>6.4</td>
</tr>
<tr>
<td>Pain or tenderness</td>
<td>33.4</td>
<td>8.3</td>
</tr>
<tr>
<td>Swelling</td>
<td>24.9</td>
<td>4.3</td>
</tr>
<tr>
<td>Hematoma</td>
<td>1.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Pruritus</td>
<td>6.6</td>
<td>1.0</td>
</tr>
<tr>
<td>Warmth</td>
<td>1.5</td>
<td>0.3</td>
</tr>
<tr>
<td>Systemic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Headache</td>
<td>1.4</td>
<td>0.8</td>
</tr>
</tbody>
</table>

1. Taken from Table 6 (p.7) in Zostavax® package insert issued May 2006
2. Injection site adverse experiences were solicited only from day 0–4.

VIII. OTHER CONSIDERATIONS

1. **Persons receiving blood products:** Zoster vaccine can be administered to persons at any time before, concurrent with, or after receiving blood or other antibody-containing blood product, because persons with a history of varicella indefinitely maintain high levels of antibody to VZV.

2. **History of Varicella vaccine:** While zoster vaccination is not recommended for persons who have received varicella vaccine, virtually all persons currently in the recommended age group have not received vaccination (begun in 1995). Therefore, health care providers do not need to inquire about vaccination history.

3. **Short-term or low dose corticosteroid therapy:** Therapy of <14 days; low-to-moderate dose (<20 mg/day of prednisone or equivalent); topical, nasal, skin, inhaled; intra-articular, bursal or tendon injections; or long-term alternate-day treatment are not considered sufficiently immunosuppressive to cause concerns for vaccine safety. Refer to MMWR 2008; 57(RR-05) for more specific direction: [http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5705a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5705a1.htm)

4. **Administration errors:** If a provider mistakenly administers *varicella* vaccine to persons for whom *zoster* vaccine was intended, no specific safety concerns exist; however, the dose should not be considered valid, and zoster vaccine should be administered during the same visit or ≥28 days after the misadministration.
IX. STORAGE AND HANDLING

1. Zostavax should be stored frozen at an average temperature of $-15\,^\circ\text{C}$ (+5°F) or colder until it is reconstituted for injection.

2. ZOSTAVAX may be stored and/or transported at refrigerator temperature (2°C to 8°C, 36° to 46°F) for up to 72 continuous hours prior to reconstitution. Vaccine stored at 2°C to 8°C (36° to 46°F) that is not used within 72 hours of removal from $-15\,^\circ\text{C}$ (+5°F) storage should be discarded.

3. For information regarding stability under conditions other than those recommended, call 1-800-637-2590

4. Before reconstitution, protect from light.

5. The diluent should be stored separately at room temperature (20 to 25°C, 68 to 77°F).

X. ADVERSE EVENTS REPORTING

Adverse events following immunization must be reported to the Vaccine Adverse Events Reporting System (VAERS) at 1-800-822-7967. Forms and procedures can be found at the VAERS website: [www.vaers.hhs.gov](http://www.vaers.hhs.gov). In addition, a copy of the reporting form should be reported to the patient’s primary provider, per Oregon Revised Statute (ORS) 855-019-0280(4).
REFERENCES


To request this material in an alternative format (e.g., Braille) or to clarify any part of the above order, contact the Oregon Health Authority Immunization Program at 971.673.0300 or 771 for TTY. For other questions, consult with the vaccine recipient’s primary health care provider or a consulting physician.

Electronic copy of this protocol available at: http://1.usa.gov/PharmacyImmunizationProtocols