Immunizing Pharmacist Protocol

PNEUMOCOCCAL CONJUGATE VACCINE: PCV13 (Prevnar®13) AND PNEUMOCOCCAL POLYSACCHARIDE VACCINE: PPSV23 (Pneumovax®23)

<table>
<thead>
<tr>
<th>Last Reviewed</th>
<th>21 August 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Updated</td>
<td>4 June 2020</td>
</tr>
<tr>
<td>This order expires</td>
<td>30 June 2022</td>
</tr>
</tbody>
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What’s new

PCV13 is no longer routinely recommended for all healthy adults ≥65 years due to sharp declines in pneumococcal disease among adults and children. Immunizing pharmacists MUST have a prescription in order to vaccinate this population.
Adults with certain immunocompromising conditions should still receive a dose of PCV13 at age 65 years.

The decision of whether to vaccinate an adult $\geq 65$ years of age who does not have an immunocompromising condition and who has not previously received PCV13 should be a shared clinical decision between the patient and their medical provider.
1. Oregon immunization pharmacy protocol

A. Check the ALERT Immunization Information System (IIS) to determine whether the patient needs this vaccine and any other vaccines.

B. Screen clients for contraindications.

C. Provide a current Vaccine Information Statement (VIS), answering any questions.

D. Record all required data elements in the client’s permanent health record.

E. Verify needle length for IM injection into the vastus lateralis or deltoid. PPSV23 may also be given by SQ injection into the fatty tissue over the triceps with a 5/8” needle.

F. To avoid shoulder injury related to vaccine administration, make sure staff who administer vaccines recognize the anatomic landmarks for identifying the deltoid muscle and use proper intramuscular administration technique. See appendices for additional information.

G. Pneumococcal vaccines:

1) Give 0.5mL PCV13 vaccine (Prevnar®13) intramuscularly (IM) to eligible clients. See Section 5. A–C; OR
2) Give 0.5 mL PPSV23 vaccine (Pneumovax®23) IM, or subcutaneously (SC) to eligible clients. See Section 6. I.

H. PCV13 and PPSV23 should not be given at the same time. Either vaccine may be given simultaneously with influenza and most ACIP-recommended child and adult vaccinations.

I. Ask client to remain seated on the premises for 15 minutes after vaccination to decrease the risk of injury should they faint.

J. This order does not cover Advisory Committee on Immunization Practices (ACIP) recommendations that involve shared clinical decision making. Shared clinical decision making means the decision to vaccinate should be based on a discussion of benefits and risks between the patient and the clinician, and the clinician would then prescribe the vaccine.

Pharmacist Signature

Date

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2. Vaccine schedule for pneumococcal vaccines

<p>| Vaccine Schedule: Pneumococcal Conjugate Vaccine (PCV13)² |</p>
<table>
<thead>
<tr>
<th>Age Group</th>
<th>Dose</th>
<th>No. of Doses</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 7 years</td>
<td>0.5 mL</td>
<td>1</td>
<td>Intramuscular</td>
</tr>
</tbody>
</table>

Vaccine Schedule: Pneumococcal Polysaccharide Vaccine (PPSV23)¹

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Dose</th>
<th>No. of Doses</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 7 years</td>
<td>0.5 mL</td>
<td>Varies by age</td>
<td>Intramuscular or Subcutaneous</td>
</tr>
</tbody>
</table>

3. Licensed pneumococcal vaccines

<table>
<thead>
<tr>
<th>Pneumococcal Conjugate Vaccine (PCV13)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trade Name</strong></td>
</tr>
<tr>
<td>Prevnar 13®²</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pneumococcal Polysaccharide Vaccine (PPSV23)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trade Name</strong></td>
</tr>
<tr>
<td>Pneumovax 23®¹</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
### 5. Recommendations for use of PCV13

**Persons with Special Indications for PCV13**

<table>
<thead>
<tr>
<th>Age</th>
<th>Previous PCV Vaccination History</th>
<th>Recommended PCV13 Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>7–18 years of age with high-risk* conditions&lt;sup&gt;5&lt;/sup&gt;</td>
<td>Unvaccinated with PCV13</td>
<td>1 dose ≥ 8 weeks after PPV23</td>
</tr>
<tr>
<td></td>
<td>≥1 dose of PCV13</td>
<td>Complete</td>
</tr>
<tr>
<td>≥19 years of age with high-risk* conditions&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Unvaccinated with PCV13 or PPSV23</td>
<td>1 dose</td>
</tr>
<tr>
<td></td>
<td>≥1 dose of PCV13</td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td>Previous vaccination with PPSV23</td>
<td>1 dose ≥1 year after the last PPSV23 dose</td>
</tr>
</tbody>
</table>

*CSF leak, cochlear implant, sickle cell disease and other hemoglobinopathies, asplenia, HIV infection, chronic renal failure, nephrotic syndrome, immunodeficiency, diseases treated with immunosuppressive therapy or radiation therapy, including malignant neoplasms, leukemias, lymphomas, and Hodgkin disease; generalized malignancy; solid organ transplantation; or multiple myeloma.
6. Recommendations for use of PPSV23

A. Routine Schedule for PPSV23

<table>
<thead>
<tr>
<th>Age</th>
<th>Previous PPSV23 Vaccination History</th>
<th>Recommended PPSV23 Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥65 years</td>
<td>Unvaccinated</td>
<td>1 dose</td>
</tr>
<tr>
<td>1 previous dose</td>
<td>≥65 years</td>
<td>1 dose ≥ 5 years after previous dose</td>
</tr>
<tr>
<td>1 previous dose</td>
<td>≥65 years</td>
<td>Complete</td>
</tr>
</tbody>
</table>

B. Persons with Special Indications for PPSV23

<table>
<thead>
<tr>
<th>Age</th>
<th>Previous PPSV23 Vaccination History</th>
<th>Recommended PPSV23 Regimen</th>
<th>Revaccinate after 5 years?</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥7 years - immunocompetent with chronic conditions*6</td>
<td>Unvaccinated</td>
<td>1 dose ≥ 8 weeks after any PCV doses</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>1 dose</td>
<td>Complete</td>
<td>No</td>
</tr>
<tr>
<td>≥7 years - immunocompromised with high-risk conditions*6,7</td>
<td>Unvaccinated</td>
<td>1 dose ≥ 8 weeks after any PCV doses</td>
<td>Yes, then final dose at age 65 years</td>
</tr>
<tr>
<td></td>
<td>1 dose</td>
<td>1 dose ≥ 5 years after last dose and ≥ 8 weeks after any PCV doses.</td>
<td>No, final dose at age 65 years</td>
</tr>
</tbody>
</table>

* Chronic heart disease (particularly cyanotic congenital heart disease and cardiac failure), chronic lung disease (including asthma if treated with high-dose oral corticosteroid therapy), chronic liver disease, diabetes mellitus, alcoholism, cigarette smoking.

*CSF leak, cochlear implant, sickle cell disease and other hemoglobinopathies, asplenia, HIV infection, chronic renal failure, nephrotic syndrome, immunodeficiency, diseases treated with immunosuppressive therapy or radiation therapy, including malignant neoplasms, leukemias, lymphomas, and Hodgkin disease; generalized malignancy; solid organ transplantation; or multiple myeloma.
6. Contraindications

PCV13²
A. Persons who experienced an anaphylactic reaction to a previous dose of PCV7, PCV13 or any diphtheria toxoid-containing vaccine.

B. Allergy to soy peptones.

PPSV23¹
A. Persons who experienced an anaphylactic reaction to a previous dose of pneumococcal vaccine or a vaccine component.

7. Warnings and precautions

PCV13 and PPSV23¹,²
A. Women who are at high risk of pneumococcal disease and who are candidates for either PCV13 or PPSV23 should be vaccinated before pregnancy, if possible.

B. Persons with acute, moderate or severe illness with or without fever may choose to delay immunization until symptoms have improved.

PPSV23¹
A. Care should be exercised when administering to patients with severely compromised cardiovascular and/or pulmonary function in whom a systemic reaction would pose a significant risk.

8. Other considerations
A. Adverse Events: Epinephrine hydrochloride solution (1:1,000) and other appropriate agents and equipment must be available for immediate use in case of anaphylactic or acute hypersensitivity reaction.⁹

B. Lactation: It is not known whether pneumococcal vaccines are excreted in human milk. Use with caution in nursing mothers.¹,²

C. Simultaneous administration of PCV13 and PPSV23 is NOT recommended. See section 5 and 6, recommendations for use, for the necessary minimum interval between doses.⁴

D. May give influenza and/or zoster vaccines at same visit as PPSV23.¹

E. When an elective splenectomy is performed for any reason, administer PPSV23 at least 8 weeks after the last dose of PCV13 and at least 2 weeks prior to splenectomy. If pneumococcal vaccine is not administered before surgery, it
should be administered ≥ 2 weeks after surgery. If the patient is unlikely to return, vaccine can be administered in the immediate post-operative period.⁶

F. Immunization should precede the initiation of immunocompromising therapy by at least two weeks.⁶

G. Individuals with diseases associated with immunosuppressive therapy or radiation therapy and solid organ transplantation may have a diminished response to the vaccine.¹, ²

H. ACIP recommends that one dose of PPSV23 be given to a hematopoietic stem cell transplant (HSCT) recipient ≥8 weeks the last dose of PCV13.⁸
9. Side effects and adverse reactions

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Discard</th>
<th>Latex</th>
<th>Temp</th>
<th>Storage Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevnar 13²</td>
<td>N/A</td>
<td>No</td>
<td>2° – 8°C</td>
<td>Vaccine is stable at temperatures up to 25°C for up to 4 days – not recommended for storage or shipping</td>
</tr>
<tr>
<td>Pneumovax 23¹</td>
<td>Use opened multi-dose vials through the expiration date</td>
<td></td>
<td></td>
<td>None</td>
</tr>
</tbody>
</table>

10. Storage and handling

All clinics and pharmacies enrolled with the Vaccines for Children (VFC) Program must immediately report any storage and handling deviations to the Oregon Immunization Program at 971-673-4VFC (4823).
11. Adverse events reporting

Report suspected adverse events to the Vaccine Adverse Events Reporting System (VAERS) online at [https://vaers.hhs.gov/reportevent.html](https://vaers.hhs.gov/reportevent.html).

VAERS Reporting Table: [https://vaers.hhs.gov/resources/infoproviders.html](https://vaers.hhs.gov/resources/infoproviders.html)

<table>
<thead>
<tr>
<th>Event and interval from vaccination</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Shoulder Injury Related to Vaccine Administration (7 days)</td>
</tr>
<tr>
<td>B. Vasovagal syncope (7 days)</td>
</tr>
<tr>
<td>C. Any acute complication or sequelae (including death) of above events (interval - not applicable)</td>
</tr>
<tr>
<td>D. Events described in manufacturer’s package insert as contraindications to additional doses of vaccine (interval - see package insert).</td>
</tr>
</tbody>
</table>

12. References


3. Almea Matanock, MD; Grace Lee, MD; Ryan Gierke, MPH; Miwako Kobayashi, MD; Andrew Leidner, PhD; Tamara Pilishvili, PhD. Use of 13-Valent Pneumococcal Conjugate Vaccine and 23-Valent Pneumococcal Polysaccharide Vaccine Among Adults Aged ≥65 Years: Updated Recommendations of the Advisory Committee on Immunization Practices. *MMWR*. 2019;68(46);1069–1075. Accessed 11 December 2019


6. Prevention of Pneumococcal Disease Among Infants and Children --- Use of 13-Valent Pneumococcal Conjugate Vaccine and 23-Valent Pneumococcal Polysaccharide Vaccine: Recommendations of the Advisory Committee on


13. Appendices

Table 1
ACIP RECOMMENDATIONS FOR SEQUENTIAL ADMINISTRATION AND RECOMMENDED INTERVALS FOR PNEUMOCOCCAL VACCINE-NAÏVE HIGH-RISK PERSONS 19–64 YEARS OF AGE: ⁴

Table 2
ACIP RECOMMENDATIONS FOR SEQUENTIAL ADMINISTRATION AND RECOMMENDED INTERVALS FOR HIGH-RISK PERSONS 19–64 YEARS OF AGE WITH PRIMARY PPSV23 IMMUNIZATION: ³
Shoulder injuries related to vaccine administration
Improper vaccine administration could result in shoulder injuries such as shoulder bursitis and tendinitis.

Make sure vaccination is safe.

KNOW THE SITE. GET IT RIGHT!

When administering vaccine by an intramuscular (IM) injection to an adult:

**Use** the correct syringe and needle
- Vaccine may be administered using either a 1-mL or 3-mL syringe
- Use a 22 to 25 gauge needle
- Use the correct needle size based on your patient’s size

Injection site: Deltoid muscle of upper arm

- 1 in (25 mm) for Men and women, less than 60 kg (130 lbs)
- 1.5 in (38 mm) or 1 in (25 mm) for Men, 79-88 kg (175-195 lbs)
- 1 in (25 mm) for Women, 79-80 kg (175-180 lbs)
- 1.5 in (38 mm) or 1 in (25 mm) for Men, greater than 89 kg (>195 lbs)
- 1.5 in (38 mm) for Women, greater than 90 kg (>200 lbs)

*Some experts recommend a 5/8-inch needle for men and women who weigh less than 60 kg (130 lbs).

**Identify** the injection site
- Locate the deltoid muscle of the upper arm
- Use anatomical landmarks to determine the injection site
- In adults, the midpoint of the deltoid is about 2 inches (or 2 to 3 fingers' breadth) below the acromion process (bony prominence) and above the armpit in the middle of the upper arm

**Administer** the vaccine correctly
- Inject the vaccine into the middle and thickest part of the deltoid muscle
- Insert the needle at a 90° angle and inject all of the vaccine into the muscle tissue

Always follow safe injection practices
- Maintain aseptic technique
- Perform hand hygiene before preparing and administering vaccines
- Use a new needle and new syringe for each injection
- If using a single-dose vial (SDV) discard after use
  
  A SDV should be used for one patient only!

**IM injection best practices**
- Administering the injection too high on the upper arm may cause shoulder injury
- If administering additional vaccines into the same arm, separate the injection sites by 1 inch if possible

Report any clinically significant adverse event after vaccination to the Vaccine Adverse Event Reporting System (VAERS) at vaers.hhs.gov/

For additional information on proper vaccine administration, visit the CDC vaccine administration webpage at www.cdc.gov/vaccines/hcp/admin/admin-protocols.html

Sept 2011

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Remember—you call the shots when it comes to proper flu vaccine administration!