

## Pneumococcal vaccine side-by-side comparison (*abbreviated*)

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## ACIP recommendations for pneumococcal vaccines in adults

There are 4 pneumococcal vaccines available for use in adults. These include 23-valent pneumococcal polysaccharide vaccine (PPSV23; Pneumovax), 13-valent pneumococcal conjugate vaccine (PCV13; Prevnar 13), and 2 new pneumococcal conjugate vaccines approved in 2021, PCV20 (Prevnar 20) and PCV15 (Vaxneuvance). The Advisory Committee on Immunization Practices (ACIP) publishes their recommendations for the use of pneumococcal vaccines in the *Morbidity and Mortality Weekly Report (MMWR)*. The latest recommendations for the use of PCV13 and PPSV23 in adults were published in the [2019 MMWR](#) and are summarized in Table 1.

**Table 1. ACIP recommendations for the use of PCV13 and PPSV23 in adults<sup>1</sup>**

Risk Group	19 to 64 y	≥ 65 y
None	No recommendation	PPSV23
Chronic medical condition <sup>a</sup>	PPSV23	PPSV23
Cochlear implant, cerebrospinal fluid leak	PCV13 and PPSV23	PCV13 (if not previously received) and PPSV23
Immunocompromising condition <sup>b</sup>	PCV13 and PPSV23, repeat PPSV23 after 5 y	PCV13 (if not previously received) and PPSV23

<sup>a</sup> Includes chronic heart disease, chronic lung disease, diabetes mellitus, alcoholism, chronic liver disease, cirrhosis, cigarette smoking.

<sup>b</sup> Includes functional or anatomic asplenia, sickle cell disease or other hemoglobinopathy, congenital or acquired immunodeficiency, human immunodeficiency virus infection, chronic renal failure, nephrotic syndrome, leukemia, lymphoma, Hodgkin disease, generalized malignancy, iatrogenic immunosuppression, solid organ transplant, multiple myeloma.

In October 2021, ACIP voted to recommend a single dose of PCV20 alone or PCV15 followed by PPSV23, without a preference for either option, in the following groups:<sup>2</sup>

- Adults ≥ 65 years of age who have not previously received a PCV or in whom vaccination status is unknown.
- Adults between 18 and 64 years of age who have certain underlying medical conditions who have not previously received a PCV or in whom vaccination status is unknown.

In January 2022, these recommendations from ACIP were published in *MMWR*. Table 2 provides a summary of these recommendations.

**Table 2. ACIP recommendations for the use of PCV15 and PCV20 in PCV-naïve adults<sup>3</sup>**

Risk Group	19 to 64 y	≥ 65 y
None	No recommendation	PCV20 or PCV15 followed by PPSV23
Chronic medical condition <sup>a</sup>	PCV20 or PCV15 followed by PPSV23	PCV20 <sup>c</sup> or PCV15 followed by PPSV23 <sup>c</sup>
Cochlear implant, cerebrospinal fluid leak		
Immunocompromising condition <sup>b</sup>		

<sup>a</sup> Includes chronic heart disease, chronic lung disease, diabetes mellitus, alcoholism, chronic liver disease, cirrhosis, cigarette smoking.

<sup>b</sup> Includes functional or anatomic asplenia, sickle cell disease or other hemoglobinopathy, congenital or acquired immunodeficiency, human immunodeficiency virus infection, chronic renal failure, nephrotic syndrome, leukemia, lymphoma, Hodgkin disease, generalized malignancy, iatrogenic immunosuppression, solid organ transplant, multiple myeloma.

<sup>c</sup> If either option was given previously, prior to age 65 y, these vaccine doses do not need to be repeated in patients ≥ 65 y.

Additional notable recommendations provided in the [January 2022 MMWR](#) include the following:

- The recommended interval to give PPSV23 following PCV15 is ≥ 1 year. A minimum 8-week interval may be considered in patients who are immunocompromised, have a cochlear implant, or have a cerebrospinal fluid leak.
- Patients who previously received PPSV23 only may receive either PCV15 or PCV20 ≥ 1 year following PPSV23 to complete their pneumococcal vaccine series.
- Patients who previously received PCV13 alone or in series with PPSV23 should complete the previously recommended PPSV23 series.
- Patients who receive PCV20 alone or PCV15 in series with PPSV23 prior to 65 years of age do not need to have these vaccine doses repeated when they are 65 years and older.

## Pneumococcal vaccine side-by-side comparison<sup>4-7</sup>

	Generic name (brand name)			
	PPSV23 (Pneumovax 23)	PCV13 (Prevnar 13)	PCV20 (Prevnar 20)	PCV15 (Vaxneuvance)
<b>Manufacturer</b>	Merck	Pfizer	Pfizer	Merck
<b>Approval date</b>	1983	2010	2021	2021
<b>FDA-approved indications</b>				
Approved population	≥ 2 y	≥ 6 wks	≥ 18 y	≥ 18 y
Indications	Active immunization for the prevention of pneumococcal disease caused by the 23 serotypes contained in the vaccine in adults ≥ 50 y or in persons ≥ 2 y at increased risk of pneumococcal disease.	<ul style="list-style-type: none"> <li>Active immunization for prevention of invasive disease caused by the 13 <i>Streptococcus pneumoniae</i> serotypes contained in the vaccine in children 6 wks to 5 y, children 6 y to 17 y, and in adults ≥ 18 y.</li> <li>Active immunization for prevention of pneumonia caused by the 13 <i>S. pneumoniae</i> serotypes contained in the vaccine in adults ≥ 18 y.</li> <li>Active immunization for prevention of otitis media caused by <i>S. pneumoniae</i> serotypes 4, 6B, 9V, 14, 18C, 19F, and 23F in children 6 wks to 5 y. <i>Efficacy data in otitis media are not available for serotypes 1, 3, 5, 6A, 7F, and 19A.</i></li> </ul>	Active immunization for prevention of pneumonia and invasive disease caused by the 20 <i>S. pneumoniae</i> serotypes contained in the vaccine in adults ≥ 18 y.  <i>The indication for the prevention of pneumonia caused by serotypes 8, 10A, 11A, 12F, 15B, 22F, and 33F (ie, non-PCV13 serotypes) is approved under and accelerated approval pathway. Continued approval for this indication may be contingent on the verification and description of clinical benefit in a confirmatory trial.</i>	Active immunization for the prevention of invasive disease caused by the 15 <i>S. pneumoniae</i> serotypes contained in the vaccine in adults ≥ 18 y.
<b>Serotype coverage</b>				
Shared serotypes	1, 3, 4, 5, 6B, 7F, 9V, 14, 18C, 19A, 19F, 23F			
Non-PPSV23 serotypes	--	6A		
Non-PCV13 serotypes	22F, 33F, 8, 10A, 11A, 12F, 15B, 2, 9N, 17F, 20	--	22F, 33F, 8, 10A, 11A, 12F, 15B	22F, 33F

	Generic name (brand name)			
	PPSV23 (Pneumovax 23)	PCV13 (Pevnar 13)	PCV20 (Pevnar 20)	PCV15 (Vaxneuvance)
<b>Vaccine composition</b>	Capsular polysaccharide antigen	Capsular polysaccharide conjugated to CRM197 carrier protein		
<b>How supplied</b>				
Pre-filled syringe	0.5 mL	0.5 mL	0.5 mL	0.5 mL
Single-dose vial	0.5 mL	--	--	--
Formulation	Solution	Suspension	Suspension	Suspension
Preservatives	0.25% phenol	None	None	None
Latex	No	No	No	No
<b>Storage prior to use</b>	2°C to 8°C	2°C to 8°C	2°C to 8°C	2°C to 8°C
<b>Cost (WAC)<sup>8</sup></b>	\$117.08	\$226.43	\$256.80	\$222.84

Abbreviations: PCV13 = 13-valent pneumococcal conjugate vaccine; PCV15 = 15-valent pneumococcal conjugate vaccine; PCV20 = 20-valent pneumococcal conjugate vaccine; PPSV23 = 23-valent pneumococcal polysaccharide vaccine; WAC = wholesale acquisition cost

## References

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Vizient, Inc.  
290 E. John Carpenter Freeway  
Irving, TX 75062-5146  
(800) 842-5146

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