

Comparison of Pneumococcal Vaccines

Last modified January 2025

The charts below compare the available pneumococcal vaccines including vaccine type, serotypes covered, dosing, immunity, and cost. For guidance on which pneumococcal vaccine is recommended for specific patients (based on age, underlying conditions)^d, as well as dosing schedules for special populations (e.g., certain immunocompromised patients), see, in the US: [adults](#), [children](#) or, in Canada: [adults and children](#).

Vaccine	Serotype																																	
	1	2	3	4	5	6A	6B	7F	8	9N	9V	10A	11A	12F	14	15A	15B	15C ^e	16F	17F	18C	19A	19F	20	20A	22F	23A	23B	23F	24F	31	33F	35B	
PPSV 23*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PCV 21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PCV 20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PCV 15	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PCV 13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Vaccine	<i>Pneumovax 23*</i> (PPSV23)	<i>Capvaxine</i> (PCV21)	<i>Prenar 20</i> (PCV20)	<i>Vaxneuvance</i> (PCV15)	<i>Prenar 13</i> (PCV13) Canada only
Approved age and usual regimen <i>Each dose is 0.5 mL IM (note that Pneumovax 23 can also be given subcutaneously).</i>	<ul style="list-style-type: none"> ≥50 years ≥2 years at increased risk for pneumococcal disease^d 1 dose 	≥18 years: 1 dose	Pediatric: <ul style="list-style-type: none"> 4-dose series, starting at 6 to 8 weeks of age. Catch-up: <ul style="list-style-type: none"> 7 to 11 months old: 3 doses 12 to 23 months old: 2 doses 2 to 17 years old: 1 dose ≥18 years: 1 dose 	Pediatric: <ul style="list-style-type: none"> US: 4-dose series, starting at 6 to 8 weeks of age. Canada: 3- or 4-dose series, starting at 6 to 12 weeks of age. Catch-up: <ul style="list-style-type: none"> 7 to 11 months old: 3 doses 12 to 23 months old: 2 doses 2 to 17 years old: 1 dose ≥18 years: 1 dose 	Pediatric: <ul style="list-style-type: none"> 4-dose series, starting at 6 to 8 weeks of age. Catch-up: <ul style="list-style-type: none"> 7 to 11 months old: 3 doses 12 to 23 months old: 2 doses 2 to 17 years old: 1 dose ≥18 years: 1 dose
Immunity	Models project linear decline over 15 years. ³	<ul style="list-style-type: none"> Models project no decline for 5 years, followed by linear decline over 10 years.³ Evidence suggests these may have a greater immune response than PPSV23 against most serotypes they have in common.³⁻⁵ 			
Cost per dose	US: ~\$120 Canada: ~\$35	US: ~\$290 Canada: ~\$140	US: ~\$265 Canada: ~\$110	US: ~\$225 Canada: ~\$105	Canada: ~\$100
Comments:	Covers additional serotypes which cause ~8% to 15% of invasive disease not covered by PCV13, PCV15, or PCV20. ³	<ul style="list-style-type: none"> Recommended as an option for adults who are currently recommended to receive US: PCV15 or PCV20, Canada: PCV20.^{6,7} Covers 8 serotypes not included in other vaccines, which cause ~30% of invasive disease in patients ≥50 years. 	<ul style="list-style-type: none"> Recommended first-line for adults and children. Covers additional serotypes causing ~30% of invasive disease NOT covered by PCV13 in patients ≥19 years.³ 	Covers additional serotypes causing ~15% of invasive disease NOT covered by PCV13 in patients ≥19 years. ³	<ul style="list-style-type: none"> Not routinely recommended.⁷ Only covers ~30% of serotypes causing invasive disease.³

*PPSV23 is a polysaccharide vaccine; the others listed are conjugate^b vaccines.

Comparison of Pneumococcal Vaccines

Last modified January 2025

Information in the chart above is from the product labeling (footnote a), unless otherwise indicated.

- a. **US product labeling:** *Pneumovax 23* (April 2023); *Vaxneuvance* (April 2023); *Prevnar 20* (May 2023); *Capvaxive* (June 2024).
Canadian product labeling: *Pneumovax 23* (March 2024); *Prevnar 13* (August 2019); *Vaxneuvance* (July 2023); *Prevnar 20* (November 2023); *Capvaxive* (July 2024).
- b. The act of conjugating or linking the polysaccharide vaccine to a carrier protein enhances immunogenicity.¹
- c. Pricing is based on wholesale acquisition cost (WAC).US medication pricing by Elsevier, accessed April 2024 (October 2024 for *Capvaxive*).
- d. Some examples of conditions that may increase the risk for pneumococcal disease include: anatomic or functional asplenia, sickle cell disease, human immunodeficiency virus (HIV) infection, chronic heart or lung disease, cerebrospinal fluid leaks, diabetes mellitus.²
- e. PCV21 (*Capvaxive*) contains serotype 15B (deOAc 15B). This serotype has a molecular structure similar to serotype 15C and induces OPA (opsonophagocytic assay, i.e., protection from invasive disease) to serotype 15C. *Capvaxive* is indicated to prevent invasive disease caused by pneumococcal serotypes 15B and 15C, as well as pneumonia caused by serotype 15C.

References

1. Rappuoli R, De Gregorio E, Costantino P. On the mechanisms of conjugate vaccines. *Proc Natl Acad Sci U S A*. 2019 Jan 2;116(1):14-16.
2. CDC. Pneumococcal disease: risk factors. September 21, 2023. <https://www.cdc.gov/pneumococcal/clinicians/risk-factors.html>. (Accessed April 24, 2024).
3. CDC. Considerations for age-based and risk-based use of PCV15 and PCV20 among U.S. adults and proposed policy options. October 20, 2021. <https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2021-10-20-21/02-Pneumococcal-Kobayashi-508.pdf>. (Accessed April 24, 2024).
4. Hurley D, Griffin C, Young M, et al. Safety, Tolerability, and Immunogenicity of a 20-Valent Pneumococcal Conjugate Vaccine (PCV20) in Adults 60 to 64 Years of Age. *Clin Infect Dis*. 2021 Oct 5;73(7):e1489-e1497.
5. Song JY, Chang CJ, Andrews C, et al. Safety, tolerability, and immunogenicity of V114, a 15-valent pneumococcal conjugate vaccine, followed by sequential PPSV23 vaccination in healthy adults aged ≥50 years: A randomized phase III trial (PNEU-PATH). *Vaccine*. 2021 Oct 15;39(43):6422-6436.
6. Kobayashi M, Leidner AJ, Gierke R, et al. Use of 21-Valent Pneumococcal Conjugate Vaccine Among U.S. Adults: Recommendations of the Advisory Committee on Immunization Practices - United States, 2024. *MMWR Morb Mortal Wkly Rep*. 2024 Sep 12;73(36):793-798.
7. 1. Government of Canada. Recommendations on the use of pneumococcal vaccines in adults, including PNEU-C-21. November 15, 2024. <https://www.canada.ca/en/public-health/services/publications/vaccines-immunization/national-advisory-committee-immunization-statement-recommendations-use-pneumococcal-vaccines-adults-pneu-c-21.html#a2>. (Accessed January 23, 2025).

Users of this resource are cautioned to use their own professional judgment and consult any other necessary or appropriate sources prior to making clinical judgments based on the content of this document. Our editors have researched the information with input from experts, government agencies, and national organizations. Information and internet links in this article were current as of the date of publication.

Copyright © 2025 by Therapeutic Research Center. All Rights Reserved. trchealthcare.com

Clinical Resource, *Comparison of Pneumococcal Vaccines. Pharmacist's Letter/Pharmacy Technician's Letter/Prescriber Insights*. October 2024. [401067] For nearly 40 years, our editors have distilled primary literature into unbiased, evidence-based recommendations with 0% pharma sponsorship. [Learn more](#)