

Update on Intervals Between PCV13 and PPSV23 Vaccines

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Outline

- ❑ Recommendations for sequential use of PCV13 and PPSV23
- ❑ Changes to the recommended intervals between PCV13 and PPSV23
- ❑ FAQ on adult vaccine intervals
- ❑ Co-administration of influenza vaccine and pneumococcal vaccines in adults

Sequential Administration of PCV13 and PPSV23

- ❑ Currently, two types of pneumococcal vaccines are being used in the U.S.
 - 13-valent pneumococcal conjugate vaccine (PCV13)
 - 23-valent pneumococcal polysaccharide vaccine (PPSV23)
- ❑ Both are recommended for individuals aged ≥ 2 years with underlying conditions, and all adults ≥ 65 years
 - Recommended sequence: PCV13 \rightarrow PPSV23¹⁻³
- ❑ Recommended intervals between the two vaccines are not consistent across groups

Previously Recommended Intervals Between PCV13 → PPSV23

Age groups	Underlying conditions	Current interval recommendations
24–71 mo	<ul style="list-style-type: none"> • Immunocompetent with underlying chronic conditions • Functional or anatomic asplenia • Immunocompromised 	≥8 weeks
6–18 years	<ul style="list-style-type: none"> • CSF leak, cochlear implants • Functional or anatomic asplenia • Immunocompromised 	≥8 weeks
≥19 years	<ul style="list-style-type: none"> • CSF leak, cochlear implants • Functional or anatomic asplenia • Immunocompromised 	≥8 weeks
≥65 years	None of the conditions listed above	6–12 months (minimum 8 weeks)

Consideration for Harmonizing Intervals

- ❑ Confusion among healthcare providers
- ❑ Challenges in programming reminders in computerized programs
- ❑ CMS policy¹
 - Medicare will cover “*a different, second pneumococcal vaccine one year after the first vaccine was administered (that is, 11 full months have passed following the month in which the last pneumococcal vaccine was administered).*”

1. Department of health and human services, 2014

<http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNMattersArticles/Downloads/MM9051.pdf>

Considerations for Reviewing Evidence

- ❑ Currently there are no studies available that were designed to evaluate the optimal interval between the two vaccines.
- ❑ No clinical studies evaluating efficacy (e.g. the number of invasive pneumococcal diseases prevented) of sequential administration.
- ❑ Used best available evidence from immunogenicity studies to see if harmonization of intervals would be possible.

Summary of Evidence

- Intervals of 2¹, 6¹⁻⁵, 12^{6,7} months, and 3–4⁸ years among immunocompetent adults aged ≥ 50 years
 - Longer interval between PCV and PPSV23 (≥ 1 year) may improve the response
 - Increased reactogenicity* suggested with shorter (2 months) interval¹

*more injection site swelling was noted in one study in the group with shorter interval

Previous and New Intervals Between PCV13 → PPSV23

Age groups	Underlying conditions	Interval Recommendations	
		Previous	New
24–71 mo	<ul style="list-style-type: none"> Immunocompetent with underlying chronic conditions Functional or anatomic asplenia Immunocompromised 	≥8 weeks	≥8 weeks
6–18 years	<ul style="list-style-type: none"> CSF leak, cochlear implants Functional or anatomic asplenia Immunocompromised 	≥8 weeks	≥8 weeks
≥19 years	<ul style="list-style-type: none"> CSF leak, cochlear implants Functional or anatomic asplenia Immunocompromised 	≥8 weeks	≥8 weeks
≥65 years	None of the conditions listed above	6–12 months (minimum 8 weeks)	≥1 year

Previous and New Intervals for Adults Aged ≥ 65 Years

	PCV13 \rightarrow PPSV23	PPSV23 \rightarrow PCV13
Previous	6–12 months (minimum 8 weeks)	≥ 1 year
New	≥ 1 year	≥ 1 year



No Change in the Recommended Intervals Between PPSV23 → PCV13

Age groups	Underlying conditions	Interval Recommendations
24–71 mo	<ul style="list-style-type: none"> • Immunocompetent with underlying chronic conditions • Functional or anatomic asplenia • Immunocompromised 	≥8 weeks
6–18 years	<ul style="list-style-type: none"> • CSF leak, cochlear implants • Functional or anatomic asplenia • Immunocompromised 	≥8 weeks
≥19 years	<ul style="list-style-type: none"> • CSF leak, cochlear implants • Functional or anatomic asplenia • Immunocompromised 	≥1 year
≥65 years	None of the conditions listed above	≥1 year

FAQ

Question: What is the recommended interval between a sequence of PCV13 followed by PPSV23 in a 66 year old man with a immunocompromising condition?

Previous and New Intervals Between PCV13 → PPSV23

Age groups	Underlying conditions	Interval Recommendations	
		Previous	New
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6–18 years	<ul style="list-style-type: none"> CSF leak, cochlear implants Functional or anatomic asplenia Immunocompromised 	≥8 weeks	≥8 weeks
≥19 years	<ul style="list-style-type: none"> CSF leak, cochlear implants Functional or anatomic asplenia Immunocompromised 	≥8 weeks	≥8 weeks
≥65 years	None of the conditions listed above	6–12 months (minimum 8 weeks)	≥1 year

FAQ

Question: If an adult aged ≥ 65 years has previously received PCV13 before age 65, is another dose of PCV13 indicated?

Answer: No. An additional dose of PCV13 is not indicated if a dose has already been given. However, an additional dose of PPSV23 should be given if the indicated dose(s) was completed before age 65.

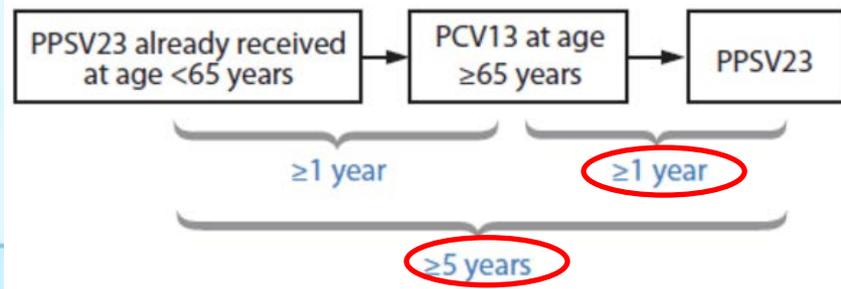
FAQ

Question: Is a dose of PPSV23 indicated for someone who has turned age 65 and has previously received both PCV13 and PPSV23 before age 65?

Answer: Yes.

- ❑ PPSV23 should be given ≥ 1 year (≥ 8 weeks if immunocompromised) after the last PCV13 dose, AND
- ❑ Should be ≥ 5 years after the last PPSV23 dose

Persons who previously received PPSV23 before age 65 years who are now aged ≥ 65 years



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Co-administration of PCV13 and Trivalent Influenza Vaccine (TIV) in Adults

A randomized, double-blind trial to evaluate immunogenicity and safety of 13-valent pneumococcal conjugate vaccine given concomitantly with trivalent influenza vaccine in adults aged ≥ 65 years

T.F. Schwarz^{a,*}, J. Flamaing^b, H.C. Rümke^c, J. Penzes^d, C. Juergens^e, A. Wenz^e, D. Jayawardene^f, P. Giardina^g, E.A. Emini^g, W.C. Gruber^g, B. Schmoele-Thoma^e

- **Target population: adults aged ≥ 65 years**
 - Group1: PCV13+TIV → placebo one month later
 - Group2: Placebo + TIV → PCV13 one month later

Co-administration of PCV13 and Trivalent Influenza Vaccine (TIV) in Adults

- Compared to the group that received TIV and PCV13 one month apart, the PCV13+TIV group:
 - Had slightly lower pneumococcal serotype-specific geometric mean concentrations
 - Immune responses to all but one pneumococcal serotypes met the non-inferiority criteria
 - Had lower proportion of responders achieving at least a fourfold rise in hemagglutination inhibition (HAI) assay titer for one of three influenza subtypes (influenza A [H3N2])
 - Mean pre-vaccine titers for H3N2 was high

Conclusion

- ❑ PCV13 and TIV can be administered during the same visit
- ❑ ACIP does not recommend giving TIV and PCV13 on separate days

Summary

- ❑ The new ACIP recommendation for intervals between PCV13 → PPSV23 for immunocompetent adults aged ≥ 65 years: ≥ 1 year
- ❑ The recommended intervals remain the same for:
 - PCV13 → PPSV23 for Children with underlying conditions
 - PCV13 → PPSV23 for adults aged ≥ 19 years with underlying conditions (interval ≥ 8 weeks)
 - PPSV23 → PCV13
- ❑ PCV13 and TIV can be administered during the same visit