

Pneumococcal Disease and the 2023 CDC Pneumococcal Vaccine Guidance

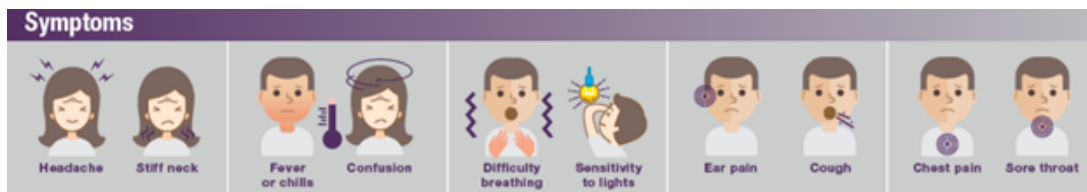
PNEUMOCOCCAL DISEASE

Pneumococcal disease refers to illnesses conferred by the bacteria *Streptococcus pneumoniae* (also known as pneumococcus). *S. pneumoniae* can cause contagious illnesses, including **pneumonia**, **sinusitis** and **otitis media**. **Invasive Pneumococcal Disease (IPD)** refers to more severe and invasive pneumococcal infections, such as **bacteremia**, **meningitis**, and **sepsis** (where bacteria can be isolated from normally sterile sites).

Pneumococcal vaccines provide preventative measures against infection from select covered serotypes of *S. pneumoniae* and are particularly focused on preventing **invasive pneumococcal disease (IPD)**.

INFECTION PRESENTATION

Pneumococcal disease can include many different types of infections (see above). Symptoms depend on the part of the body that is infected. Most pneumococcal infections are mild. However, some can be deadly or result in long-term problems.



Visit the [CDC's Pneumococcal Disease – Symptoms and Complications](#) webpage for more information on the presentation of each distinct type of infection.

COMPLICATIONS/MORBIDITY/MORTALITY RISK

Pneumonia: Pneumococcal pneumonia kills about 1 in 20 who get it.

Sinusitis: Complications are rare, but include infection of the tissue surrounding the eyes, bone infection, and painful abscesses.

Otitis Media: Ear infections are usually mild and are more common than the more severe forms of pneumococcal disease.

However, some children develop repeated ear infections and may need ear tubes.

Bacteremia: About 1 in 30 children with pneumococcal bacteremia die of it. Pneumococcal bacteremia kills about 1 in 8 adults who get it. For those who survive, pneumococcal bacteremia can lead to loss of limb(s).

Meningitis: About 1 in 12 children and 1 in 6 older adults who get pneumococcal meningitis die of the infection. Those who survive may have long-term problems, such as hearing loss or developmental delay.

Sepsis: Complications of sepsis include kidney failure and damage to the brain, lungs, or heart.

PNEUMOCOCCAL VACCINES

There are currently 4 pneumococcal vaccines available on the US market, divided into two vaccine types:

- Pneumococcal conjugate vaccines (PCV13, PCV15, or PCV20)
- Pneumococcal polysaccharide vaccine (PPSV23)

These vaccines differ by their composition (conjugate vs polysaccharide) and the number of serotypes they protect against (e.g., PCV13 vs PCV20).

Visit the [CDC's About Pneumococcal Vaccines](#) webpage for information on these types and compositions, immunogenicity and vaccine efficacy.

The following pages detail the current [2023 CDC Pneumococcal Vaccine Guidance](#), with recommendations on vaccine selection and timing, based on age, qualifying medical conditions, and vaccine history.

PNEUMOCOCCAL VACCINE TIMING FOR ADULTS

Make sure your patients are up to date with pneumococcal vaccination.

Adults ≥65 years old Complete pneumococcal vaccine schedules

Prior vaccines	Option A	Option B
None*	PCV20	PCV15 → ≥1 year† → PPSV23
PPSV23 only at any age	→ ≥1 year → PCV20	→ ≥1 year → PCV15
PCV13 only at any age	→ ≥1 year → PCV20	→ ≥1 year† → PPSV23
PCV13 at any age & PPSV23 at <65 yrs	→ ≥5 years → PCV20	→ ≥5 years‡ → PPSV23

* Also applies to people who received PCV7 at any age and no other pneumococcal vaccines

† Consider minimum interval (8 weeks) for adults with an immunocompromising condition, cochlear implant, or cerebrospinal fluid (CSF) leak

‡ For adults with an immunocompromising condition, cochlear implant, or CSF leak, the minimum interval for PPSV23 is ≥8 weeks since last PCV13 dose and ≥5 years since last PPSV23 dose; for others, the minimum interval for PPSV23 is ≥1 year since last PCV13 dose and ≥5 years since last PPSV23 dose

Shared clinical decision-making for those who already completed the series with PCV13 and PPSV23

Prior vaccines	Shared clinical decision-making option
Complete series: PCV13 at any age & PPSV23 at ≥65 yrs	→ ≥5 years → PCV20 Together, with the patient, vaccine providers may choose to administer PCV20 to adults ≥65 years old who have already received PCV13 (but not PCV15 or PCV20) at any age and PPSV23 at or after the age of 65 years old.

Adults 19–64 years old with a cochlear implant or cerebrospinal fluid leak Complete pneumococcal vaccine schedules

Prior vaccines	Option A	Option B
None*	PCV20	PCV15 → ≥8 weeks → PPSV23
PPSV23 only	→ ≥1 year → PCV20	→ ≥1 year → PCV15
PCV13 only	→ ≥1 year → PCV20	→ ≥8 weeks → PPSV23
PCV13 and 1 dose of PPSV23	→ ≥5 years → PCV20	No vaccines recommended at this time. Review pneumococcal vaccine recommendations again when your patient turns 65 years old.

* Also applies to people who received PCV7 at any age and no other pneumococcal vaccines

www.cdc.gov/pneumococcal/vaccination.html

Adults 19–64 years old with specified immunocompromising conditions Complete pneumococcal vaccine schedules

Prior vaccines	Option A	Option B
None*	PCV20	PCV15 → ≥ 8 weeks → PPSV23
PPSV23 only	≥ 1 year → PCV20	≥ 1 year → PCV15
PCV13 only	≥ 1 year → PCV20	≥ 8 weeks → PPSV23 → ≥ 5 years → PPSV23 Review pneumococcal vaccine recommendations again when your patient turns 65 years old.
PCV13 and 1 dose of PPSV23	≥ 5 years → PCV20	≥ 5 years [†] → PPSV23 Review pneumococcal vaccine recommendations again when your patient turns 65 years old.
PCV13 and 2 doses of PPSV23	≥ 5 years → PCV20	No vaccines recommended at this time. Review pneumococcal vaccine recommendations again when your patient turns 65 years old.
Immunocompromising conditions	<ul style="list-style-type: none"> • Chronic renal failure • Congenital or acquired asplenia • Congenital or acquired immunodeficiency [§] • Generalized malignancy 	<ul style="list-style-type: none"> • HIV infection • Hodgkin disease • Iatrogenic immunosuppression [¶] • Leukemia • Lymphoma • Multiple myeloma • Nephrotic syndrome • Sickle cell disease/other hemoglobinopathies • Solid organ transplant

* Also applies to people who received PCV7 at any age and no other pneumococcal vaccines

[†] The minimum interval for PPSV23 is ≥ 8 weeks since last PCV13 dose and ≥ 5 years since last PPSV23 dose

[§] Includes B- (humoral) or T-lymphocyte deficiency, complement deficiencies (particularly C1, C2, C3, and C4 deficiencies), and phagocytic disorders (excluding chronic granulomatous disease)

[¶] Includes diseases requiring treatment with immunosuppressive drugs, including long-term systemic corticosteroids and radiation therapy

Adults 19–64 years old with chronic health conditions Complete pneumococcal vaccine schedules

Prior vaccines	Option A	Option B
None*	PCV20	PCV15 → ≥ 1 year → PPSV23
PPSV23 only	≥ 1 year → PCV20	≥ 1 year → PCV15
PCV13† only	≥ 1 year → PCV20	≥ 1 year → PPSV23 Review pneumococcal vaccine recommendations again when your patient turns 65 years old.
PCV13† and PPSV23	No vaccines are recommended at this time. Review pneumococcal vaccine recommendations again when your patient turns 65 years old.	
Chronic health conditions	<ul style="list-style-type: none"> Alcoholism Chronic heart disease, including congestive heart failure and cardiomyopathies Chronic liver disease 	<ul style="list-style-type: none"> Chronic lung disease, including chronic obstructive pulmonary disease, emphysema, and asthma Cigarette smoking Diabetes mellitus

* Also applies to people who received PCV7 at any age and no other pneumococcal vaccines

† Adults with chronic medical conditions were previously not recommended to receive PCV13