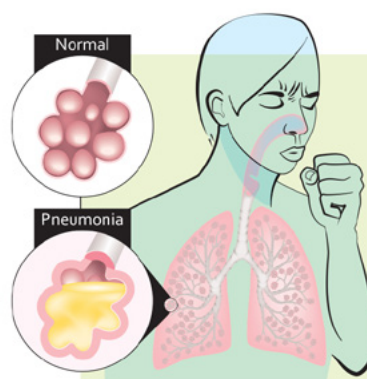


Pneumococcal Vaccines

Pneumococcal bacteria are a group of bacteria that can cause serious infections including blood and brain infections and pneumonia. Pneumococcal pneumonia is a bacterial infection that causes the air sacs of the lungs to fill with fluid or pus. Pneumococcal infections can be life-threatening especially to infants, children, people over 50 years of age, those with chronic lung, heart or kidney disease, those who smoke, and people with weak immune systems (ability to fight infection). Pneumococcal vaccines help protect you from severe infection from pneumococcal bacteria.



What are the pneumococcal vaccines?

The pneumococcal vaccines provide protection against severe pneumococcal disease.

The Centers for Disease Control and Prevention (CDC) advises that all children get immunized with vaccines against pneumococcal bacteria. Other people who are at high-risk of severe pneumococcal infections may also need to get booster (extra) doses of pneumococcal vaccines even if they got their childhood vaccines.

What are the types of pneumococcal vaccines?

There are two different types of pneumococcal vaccines. Both types are given as a shot, usually in the muscle of the arm or leg (thigh).



- PCV (pneumococcal conjugate vaccine) is given to all young children, people at high-risk for severe pneumococcal infections and adults over age 50. There are different PCV vaccines available that vary in the number and types of pneumococcal bacteria that are covered.
- PPSV (pneumococcal polysaccharide vaccine) is a different vaccine given to children and adults who are at high-risk for severe pneumococcal infections and adults over age 65. PPSV is a 23-valent vaccine.

Why is it important to get vaccinated?

Pneumococcal bacterial infection is a serious disease. More than 31,000 cases and more than 3,500 deaths from invasive pneumococcal disease, including blood infections (bacteremia) and brain and spinal fluid infections (meningitis) are estimated to have occurred in the United States in 2017. The pneumococcal vaccines help protect everyone against serious pneumococcal disease.

Who should receive the pneumococcal vaccine?

Talk with your healthcare provider about whether you need a pneumococcal shot, which one is best for you, and when you should receive it. See page 3 for details about which pneumococcal vaccines are recommended based upon age, health, and prior vaccinations.

Do I need a booster (extra) dose of pneumococcal vaccine?

The body's immune response can slowly decrease over time. Adults and some high-risk children who have gotten pneumococcal vaccines in the past may need a booster vaccine. Your healthcare provider can help you decide if you need another vaccine.

What are the risks of the pneumococcal vaccines?

- The most common adverse reactions are redness, pain or swelling at the injection site. You may also experience fever, chills, loss of appetite or a headache. These typically last only a day or two.
- The most serious adverse reaction is a severe allergic reaction. While this can be life-threatening, it is very rare and occurs approximately one in every million doses given.

Who should not receive the pneumococcal vaccines?

- Anyone who has had a life-threatening allergic reaction to the vaccine or to earlier versions of the vaccine or those with a severe allergy to any component of the vaccines should not get it before consulting with their healthcare provider.
- Anyone with moderate to severe illness should receive the vaccine as soon as they have recovered.

How effective are the pneumococcal vaccines?

- In short—very effective! Several large research studies have shown that the vaccines are very effective at reducing the chance of getting serious infection from *Streptococcus pneumoniae* and the complications associated with it. When all children started to get the PCV vaccine, the rate of severe pneumococcal infection in the US dropped by 88%.
- Pneumococcal vaccine effectiveness depends on the age and health status of the persons vaccinated and on the outcomes being measured. Both PCV and PPSV have been found to significantly decrease severe pneumococcal disease caused by bacterial strains contained in the vaccines.

Can I get other vaccines with a pneumococcal vaccine?

Yes, it is safe to get other vaccines (including influenza or COVID-19) with a pneumococcal vaccine.

Authors: Andrew Gilmore, MD, MPH, Justin Ortiz, MD, MS

Reviewers: Tina Hartert, MD, MPH, Vidya Krishnan, MD, MHS, Marianna Sockrider, MD, DrPH, Jamie Felzer, MD

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Action Steps

- Have your child get all recommended doses of the pneumococcal vaccine on schedule.
- Check with your healthcare provider to see if you need a pneumococcal vaccine
- Get yearly influenza (flu) vaccine to protect against these infections.
- Use good hand hygiene and follow your healthcare provider's advice to manage chronic illness to help avoid pneumonia.
- If you think you have pneumonia, seek medical help promptly.

Healthcare Provider's Contact Number:

Additional Resources:

American Thoracic Society

- www.thoracic.org/patients
 - Influenza
 - Pneumonia

Centers for Disease Control and Prevention (CDC)

- <https://www.cdc.gov/vaccines/vpd/pneumo/index.html>

American Academy of Pediatrics – Healthy Children

- <https://www.healthychildren.org/English/safety-prevention/immunizations/Pages/Recommended-Immunization-Schedules.aspx>

Immunization Action Coalition

- <https://www.immunize.org/pneumococcal-pcv/>

This information is a public service of the American Thoracic Society. The content is for educational purposes only. It should not be used as a substitute for the medical advice of one's health care provider.

Notes

Recommended Adult Immunization Schedule for Ages 19 Years or Older, United States, 2025

Pneumococcal vaccination

Routine vaccination

- **Age 50 years or older who have:**
 - **Not previously received a dose of PCV15, PCV20, or PCV21 or whose previous vaccination history is unknown:** give 1 dose PCV15 or 1 dose PCV20 or 1 dose PCV21. If PCV15 is used, give 1 dose PPSV23 1 year after the PCV15 dose (may use minimum interval of 8 weeks) for adults with an immunocompromising condition*, cochlear implant, or cerebrospinal fluid leak.
 - **Previously received only PCV7:** follow the recommendation above.
 - **Previously received only PCV13:** give 1 dose PCV20 or 1 dose PCV21 at least 1 year after the last PCV13 dose.
 - **Previously received only PPSV23:** give 1 dose PCV20 or 1 dose PCV21 at least 1 year after the last PPSV23 dose.
 - **Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older:** give 1 dose PCV20 or 1 dose PCV21 at least 5 years after the last pneumococcal vaccine dose.
 - **Previously received both PCV13 and PPSV23 and PPSV23 was received at age 65 years or older:** Based on shared clinical decision-making, give 1 dose of PCV20 or PCV21 at least 5 years after the last pneumococcal vaccine dose.

Special situations

- **Age 19–49 years with certain underlying medical conditions or other risk factors** who have:**
 - **Not previously received any PCV vaccine or whose previous vaccination history is unknown:** give 1 dose PCV20 or 1 dose PCV21.
 - **Previously received only PCV7 or PCV13:** give 1 dose PCV20 or 1 dose PCV21.
 - **Received PCV20 or PCV21:** no additional pneumococcal vaccine dose recommended.
 - **Previously received only PPSV23:** give 1 dose PCV15 or 1 dose PCV20 or 1 dose PCV21 at least 1 year after the last PPSV23 dose. If PCV15 is used, no additional PPSV23 doses are recommended.
 - **Previously received PCV15:** give 1 dose PPSV23 at least 1 year after the PCV15 dose (may use minimal interval of 8 weeks) for adults with an immunocompromising condition*, cochlear implant or cerebrospinal lead. If PPSV23 not available, administer either 1 dose of PCV20 or 1 dose of PCV21.

- **Previously received PCV13 and 1 dose of PPSV23:**

- Give 1 dose PCV20 or 1 dose PCV21 for adults with an immunocompromising condition*, cochlear implant, or cerebrospinal fluid leak at least 5 years after the last pneumococcal vaccine dose.
- For people who have alcoholism, chronic heart/liver/lung disease, diabetes mellitus or are smokers: no additional PCV or PPSV23 doses recommended at this time. Review pneumococcal recommendations when age 50 years or older.

Pregnancy: no recommendation for PCV or PPSV23 due to limited data. Summary of existing data on pneumococcal vaccination during pregnancy can be found at <https://www.cdc.gov/mmwr/volumes/72/rr/rr7203a1.html>

For guidance on determining which pneumococcal vaccines a patient needs and when, please refer to the mobile app which can be downloaded here:

<https://www.cdc.gov/pneumococcal/hcp/vaccine-recommendations/app.html>

*** Note:** Immunocompromising conditions include chronic renal failure, nephrotic syndrome, immunodeficiencies, iatrogenic immunosuppression, generalized malignancy, HIV infection, Hodgkin disease, leukemia, lymphoma, multiple myeloma, solid organ transplant, congenital or acquired asplenia, or sickle cell disease or other hemoglobinopathies.

****Note:** Underlying medical conditions or other risk factors include chronic alcohol usage, chronic heart/liver/lung disease, chronic renal failure, current or former cigarette smoking, cochlear implant, congenital or acquired asplenia, CSF leak, diabetes mellitus, generalized malignancy, HIV infection, Hodgkin disease, immunodeficiencies, iatrogenic immunosuppression, leukemia, lymphoma, multiple myeloma, nephrotic syndrome, solid organ transplant, or sickle cell disease or other hemoglobinopathies.

Source: Centers for Disease Control and Prevention.

<https://www.cdc.gov/vaccines/hcp/imz-schedules/downloads/adult/adult-combined-schedule.pdf>

For pediatric recommendations, see

<https://www.cdc.gov/vaccines/vpd/pneumo/hcp/recommendations.html>