



# Patient education: Pneumonia prevention in adults (Beyond the Basics)

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## INTRODUCTION

Pneumonia is a common illness that can be serious or even life-threatening. Not all cases of pneumonia can be prevented but taking certain measures can help. To help prevent pneumonia, you should:

- Get vaccinated
- Stop smoking
- Do not drink too much alcohol
- Lead a healthy lifestyle, including eating a healthy diet and getting regular physical activity
- Control other medical conditions, such as diabetes, if you have them

This topic reviews the benefits of pneumonia vaccines, who should receive them, and other ways to help prevent pneumonia. Information on the symptoms and treatment of pneumonia is provided separately. (See "[Patient education: Pneumonia in adults \(Beyond the Basics\)](#)".)

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## PNEUMONIA VACCINES

Pneumonia can be caused by a number of different bacteria, viruses, or other infecting organisms (germs). Vaccines that protect against two major causes of pneumonia have been available for many years: pneumococcal vaccines and influenza vaccines. Coronavirus disease 2019 (COVID-19) was added to the list of causes of pneumonia, and a vaccine has

already been produced for that infection, as well. When appropriate, getting vaccinated and encouraging others around you to do the same are the best ways to prevent pneumonia.

**Pneumococcal vaccines** — Pneumococcal vaccines provide protection against pneumococcus (also known as *Streptococcus pneumoniae*, and the plural form is pneumococci), which is the most common bacterial causes of pneumonia in adults.

Pneumococcal vaccines protect against the most common types by stimulating the production of antibodies (proteins that the immune system makes) that help to fight off infection. Vaccination reduces the risk of developing pneumonia and makes disease less severe in those who do get it.

**Two different kinds of pneumococcal vaccines** — Two kinds of pneumococcal vaccine are available in the United States. These vaccines have different properties that make them appropriate for different populations:

- PPSV23 ([pneumococcal polysaccharide vaccine](#)) – There are many different types of pneumococci. This vaccine is generally used in adults and protects against 23 types of pneumococcus.
- PCV (pneumococcal conjugate vaccine) – Several versions of this vaccine have been developed, including [PCV13](#), [PCV15](#), [PCV20](#), and [PCV21](#). (The numbers refer to how many different types of pneumococcus the vaccine protects against.)

The best vaccine (or combination of vaccines) for you depends on your situation, including whether you have had any of the vaccines in the past. Your health care provider can help you figure out whether you should be vaccinated and which vaccine to get.

**Who should be vaccinated?** — Vaccination is particularly important for adults age 65 years or older, as well as any adults who smoke, have a weakened immune system, or have certain chronic illnesses that will predispose to serious illness if they should happen to develop pneumococcal pneumonia.

Specific vaccination recommendations vary by age and other factors. Your health care provider can talk to you about what is most appropriate for your situation as well as which vaccine (or combination of vaccines) they recommend. In some cases, experts recommend getting both types of pneumococcal vaccine; in this case, they are typically given at least a year apart, although there are certain situations in which they may be given closer together.

In general, experts suggest vaccination for:

- All adults **50 years and older**
- Adults (over the age of 18 years) with **any of the following**:

- Smoking
- Chronic heart disease, including congestive heart failure and cardiomyopathy (but not including high blood pressure)
- Chronic lung disease, including asthma and chronic obstructive pulmonary disease (COPD)
- Diabetes mellitus (unless very well-controlled)
- Alcohol use disorder
- Chronic liver disease
- Chronic kidney disease
- Cerebrospinal fluid leak
- Cochlear implant
- Poor function of the spleen (this includes people who have had their spleen removed and those with sickle cell disease or another disorder that causes spleen damage)
- A weakened immune system, for example, due to certain cancers, human immunodeficiency virus (HIV) infection, organ transplant, or medications that suppress the immune system

If you plan to become pregnant and your doctor recommends getting a pneumococcal vaccine, they will most likely recommend trying to get the vaccine **before** you get pregnant. However, the vaccines can be given safely during pregnancy if needed.

Because the immune response to [PPSV23](#) decreases over time, revaccination with PPSV23 every 5 to 10 years may be needed for people who are at highest risk of infection. Revaccination with any of the PCV vaccines is not yet recommended, but it may be in the future.

**Influenza vaccines** — Influenza (flu) vaccine reduces the risk of pneumonia caused by the influenza virus. This vaccine can also help to prevent pneumococcal pneumonia or pneumonia caused by other bacteria, which can occur as a complication of influenza. Yearly influenza vaccine (the "flu shot") is recommended for everyone over the age of six months. This vaccine is especially important for those who are at increased risk for pneumonia.

The flu vaccine changes from year to year and is most likely to protect you if you get it by October in the northern hemisphere and May in the southern hemisphere. Nevertheless, it can still protect you if you get it later in the season and at any time during the influenza season (usually between October and April in the United States). (See "[Patient education: Influenza prevention \(Beyond the Basics\)](#)".)

**Other vaccines** — Vaccines that protect against less common causes of pneumonia include vaccines for pertussis (whooping cough), *Haemophilus influenzae* type B (Hib), measles, and varicella (chickenpox). Ensuring that you and those around you are up to date on

recommended vaccines can help prevent pneumonia in you, your family, and your community. The exact recommended schedule for vaccinations varies by age. (See "[Patient education: Vaccines for adults \(The Basics\)](#)" and "[Patient education: Vaccines for babies and children age 0 to 6 years \(The Basics\)](#)" and "[Patient education: Vaccines for children age 7 to 18 years \(Beyond the Basics\)](#)".)

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## QUITTING SMOKING

Smoking weakens your resistance to pneumonia by causing damage to your bronchi and lungs. Quitting smoking and avoiding secondhand smoke exposure is an important way to help prevent pneumonia and improve your overall health. (See "[Patient education: Quitting smoking for adults \(The Basics\)](#)" and "[Patient education: Quitting smoking \(Beyond the Basics\)](#)".)

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## HYGIENE

Washing your hands with soap and water or using an alcohol-based hand sanitizer is one of the most important ways to avoid spreading illness to others, particular when you have a viral infection such as influenza. Because pneumonia is spread by contact with infected respiratory secretions (tiny droplets that can travel through the air), exposure to someone who has pneumonia increases the risk for infection. People who have pneumonia should cover their mouth and nose when coughing or sneezing, dispose of used tissues immediately, and wash their hands. Sneezing or coughing into the sleeve of one's clothing (at the inner elbow) is another way to keep saliva and secretions from spreading to others; it also has the advantage of keeping the hands clean.

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## HEALTH MAINTENANCE

Living a healthy lifestyle including eating right, exercising, and maintaining a healthy weight can help prevent many health problems. Taking medicines as prescribed, particularly for chronic illnesses that increase the risk of pneumonia, can also help prevent health complications. (See "[Patient education: Diet and health \(Beyond the Basics\)](#)" and "[Patient education: Preventive health care for older adults \(The Basics\)](#)".)

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## WHERE TO GET MORE INFORMATION

Your health care provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our website ( [www.uptodate.com/patients](http://www.uptodate.com/patients)). Related topics for patients, as well as selected articles written for health care professionals, are also available. Some of the most relevant are listed below.

**Patient level information** — UpToDate offers two types of patient education materials.

**The Basics** — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

[Patient education: Pneumonia in adults \(The Basics\)](#)

[Patient education: Community-acquired pneumonia in adults \(The Basics\)](#)

[Patient education: Acute respiratory distress syndrome \(The Basics\)](#)

[Patient education: Chronic bronchitis \(The Basics\)](#)

[Patient education: Vaccines for adults \(The Basics\)](#)

[Patient education: Vaccines for babies and children age 0 to 6 years \(The Basics\)](#)

[Patient education: Quitting smoking for adults \(The Basics\)](#)

[Patient education: Preventive health care for older adults \(The Basics\)](#)

[Patient education: How to use an incentive spirometer \(The Basics\)](#)

**Beyond the Basics** — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

[Patient education: Influenza prevention \(Beyond the Basics\)](#)

[Patient education: Pneumonia in adults \(Beyond the Basics\)](#)

[Patient education: Vaccines for children age 7 to 18 years \(Beyond the Basics\)](#)

[Patient education: Quitting smoking \(Beyond the Basics\)](#)

[Patient education: Diet and health \(Beyond the Basics\)](#)

**Professional level information** — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

[Pneumococcal vaccination in adults](#)

[Standard immunizations for nonpregnant adults](#)

[Assessing antibody function as part of an immunologic evaluation](#)

[Immunizations during pregnancy](#)

[Immunizations in hematopoietic cell transplant candidates, recipients, and donors](#)

[Immunizations for adults with chronic liver disease](#)

[Immunizations in persons with HIV](#)

[Immunizations in adults with cancer](#)

[Immunizations in solid organ transplant candidates and recipients](#)

The following organizations also provide reliable health information.

- National Library of Medicine

( [www.nlm.nih.gov/medlineplus/ency/article/000145.htm](http://www.nlm.nih.gov/medlineplus/ency/article/000145.htm), available in Spanish)

- National Institute of Allergy and Infectious Diseases

( [www.niaid.nih.gov](http://www.niaid.nih.gov))

- American Lung Association

( <https://www.lung.org/>)

- Canadian Lung Association

( <http://www.lung.ca/lung-health/lung-disease/pneumonia>)

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