PROCEDURE

Pneumococcal conjugate vaccine - what you need to know

A pneumococcal conjugate vaccine is an injection that helps prevent serious infections caused by pneumococcal bacteria.

PURPOSE
Reduce the risk of serious pneumococcal infection

PROCEDURE TYPE
Therapeutic, bedside intramuscular injection used for prevention

WHERE IT IS DONE
Outpatient clinic or primary care office

ANAESTHESIA
None

HOW LONG IT TAKES
About 1 to 2 minutes

PREPARATION
Bring immunization records; eat and drink normally

RECOVERY
Same day; no routine driving restriction

MAIN RISKS
Injection-site pain, fever, fainting, severe allergic reaction

RESULTS
Protection develops over the following weeks

Overview

A pneumococcal conjugate vaccine is an injection that helps your immune system recognize pneumococcal bacteria. These bacteria can cause pneumonia, bloodstream infections, meningitis, and some ear or sinus infections.

"Conjugate" means that pieces from the outer coating of the bacteria are attached to a harmless carrier protein. This helps the immune system produce a stronger response. The vaccine does not contain live pneumococcal bacteria and cannot give you pneumococcal disease.

Several pneumococcal conjugate vaccines are available. Their names include a number

showing how many types, or strains, of pneumococcal bacteria they target. Examples include PCV15, PCV20, and PCV21. Not every product is approved or recommended for every age group.

The vaccine lowers risk but cannot prevent every case of pneumonia. Pneumonia can also be caused by viruses, fungi, and bacteria not covered by the vaccine.

Why the procedure is performed

The vaccine is given to reduce your chance of developing serious pneumococcal disease. It also aims to lower the chance of complications if you are exposed to one of the bacterial strains included in the vaccine.

Young children and older adults are more likely to become seriously ill from pneumococcal infection. Certain long-term health conditions can also increase risk. Vaccination may be advised because of your age, medical history, immune system, smoking history, or previous pneumococcal vaccines.

The exact vaccine and schedule matter. Some people need one pneumococcal conjugate vaccine. Others may need a later dose of pneumococcal polysaccharide vaccine, called PPSV23, or additional vaccination based on their previous doses.

Who should and should not have it

In the United States, pneumococcal conjugate vaccination is routinely recommended for young children and adults from age 50. It is also recommended for some people ages 19 to 49 who have conditions that increase their risk.

Risk-related reasons can include:

This list is a summary, not a way to decide your own schedule. Previous doses, age, health conditions, and the specific vaccine available all affect what is appropriate.

You should not receive a vaccine if you had a severe allergic reaction, such as anaphylaxis, after a previous dose or to one of its ingredients. Tell the vaccination team about serious reactions to earlier vaccines, including vaccines containing a diphtheria-related carrier protein.

Vaccination may be delayed if you have a moderate or severe short-term illness, especially with fever. A mild cold usually does not require postponement. If you are pregnant, planning pregnancy, or breastfeeding, discuss the timing and product with your healthcare team because recommendations and available evidence differ by vaccine.

A weakened immune system is not a reason to avoid this non-live vaccine. However, the immune response may be lower, and timing can matter if you are starting immune-suppressing treatment.

- A weakened immune system
- No spleen or a spleen that does not work normally
- Certain heart, lung, liver, or kidney conditions
- Diabetes
- A cochlear implant or a cerebrospinal fluid leak
- Cigarette smoking

How to prepare

Follow the treating facility's own instructions first, because they take priority over general information here.

You usually do not need to fast. Eat and drink normally unless the facility has given you different instructions. Good hydration may help if you tend to feel faint during injections.

Bring your vaccination record or any information you have about previous pneumococcal vaccines. The team needs the product names and dates, if known, to avoid unnecessary or incorrectly timed doses.

Before the injection, tell the person giving it about:

Wear clothing that allows easy access to your upper arm. Children may receive the injection in the thigh, depending on their age and size.

- Previous serious vaccine reactions or known allergies
- A current illness or fever
- Pregnancy or possible pregnancy
- Medicines or conditions that weaken your immune system
- A history of fainting with injections

What happens during the procedure

A healthcare professional first confirms your identity, the vaccine being given, and your relevant health history. You can ask which product you are receiving and whether another

pneumococcal vaccine will be needed later.

The skin may be cleaned. The vaccine is injected into a muscle, usually in the upper arm. For infants and some young children, it is usually given in the outer thigh. The injection itself takes only a few seconds.

You may feel a brief sting or pressure. A small bandage may be placed over the injection site.

You will commonly be asked to remain seated or nearby for about 15 minutes afterward. This allows the team to help if you feel faint or have an immediate reaction. People with certain allergy histories may be observed longer.

Recovery and what to expect afterward

Pain, tenderness, redness, or swelling around the injection site can occur. A cool compress may help. Some people also develop tiredness, headache, muscle aches, chills, reduced appetite, or fever. These effects are usually short-lived.

You can eat and drink normally after vaccination. Extra fluids may be helpful if you have a fever or feel unwell.

Most people can continue normal activity. You may prefer to avoid strenuous use of the injected arm if it is sore, but gentle movement is reasonable.

You can usually drive after the appointment because the vaccine does not require sedation or anaesthesia. Do not drive if you feel faint, dizzy, or unwell. Children should travel with an appropriate caregiver.

Most people can return to work or school the same day. If you develop fever or significant discomfort, you may need rest until you feel able to resume normal activities.

Risks and possible complications

The most common effects are soreness, redness, or swelling where the injection was given. Fever, headache, tiredness, muscle aches, chills, and reduced appetite can also occur. Reactions may differ by age and vaccine product.

Some people faint during or shortly after an injection. Sitting or lying down during vaccination and remaining nearby afterward reduces the risk of injury from a fall.

A severe allergic reaction is possible after any vaccine but is uncommon. Vaccination sites should have equipment and medicines available to treat this reaction.

Vaccines do not always produce full protection. Your response may be lower if your immune

system is weakened. You may still develop pneumonia or another pneumococcal infection from strains not included in the vaccine.

Results and follow up

There is no immediate test result. Your immune system starts building protection after vaccination, with protection developing over the following weeks.

Routine blood tests are not usually needed to check whether the vaccine worked. Your vaccination record should include the product, date, and location where it was given. Keep a copy because future recommendations may depend on the exact vaccine you received.

Some people need no further pneumococcal vaccination after PCV20 or PCV21. People who receive PCV15 may need PPSV23 later. Children and people with certain risk conditions may follow different schedules. Your healthcare team should tell you whether another dose is planned and when it is due.

Alternatives

There is no medicine or lifestyle measure that gives the same targeted protection as pneumococcal vaccination.

Different pneumococcal conjugate vaccines cover different numbers and patterns of bacterial strains. A vaccine covering more strains is not automatically the best choice for every person; age approval, local strain patterns, previous vaccines, availability, and medical history matter.

PPSV23 is a different type of pneumococcal vaccine. It covers additional strains but produces a different immune response and is not interchangeable with a conjugate vaccine. It may be used after PCV15 in some schedules, but it is generally not needed after PCV20 or PCV21.

Choosing not to be vaccinated avoids injection-related effects, but it also means you do not gain vaccine-induced protection. Handwashing, avoiding smoking, and reducing contact with people who are ill may support general health, but they do not replace vaccination. Preventive antibiotics like amoxicillin or doxycycline are not a routine substitute for pneumococcal vaccination.

When to call your healthcare team

Contact your healthcare team during routine hours if redness, swelling, pain, or fever is

worsening rather than improving, or if side effects are interfering with eating, drinking, sleep, or daily activity. Also call if you think the wrong vaccine was given or you are unsure when another dose is due.

Seek prompt medical advice if you have a high or persistent fever, become dehydrated, or have symptoms that concern you.

Call emergency services immediately for possible signs of a severe allergic reaction, including:

Emergency help is also appropriate if fainting leads to a significant injury or the person does not quickly regain normal awareness.

- Trouble breathing or wheezing
- Swelling of the face, lips, tongue, or throat
- Widespread hives with weakness, dizziness, or collapse

Common questions

Will I be asleep?

No. This is a quick injection and does not require sedation or anaesthesia.

Can I drive home?

Usually, yes. Do not drive if you feel dizzy, faint, or unwell after the injection.

How painful is it?

Most people feel a brief sting. The arm may remain tender for a day or two, although individual experiences differ.

When will I know it worked?

There is no immediate result or routine follow-up test. Your immune system builds protection over the following weeks.

Can I get it with other vaccines?

Pneumococcal vaccines can often be given during the same visit as other vaccines, using different injection sites. The vaccination team will check whether this is appropriate for your age and schedule.

Will I need another pneumonia vaccine later?

Possibly. It depends on which vaccine you receive, your age, medical conditions, and previous doses. Ask for the product name and a written record of any planned follow-up dose.

Sources

- Pneumococcal Vaccine Recommendations , Centers for Disease Control and Prevention
- Pneumococcal Conjugate Vaccine: What You Need to Know , Centers for Disease Control and Prevention, Vaccine Information Statement
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- Contraindications and Precautions , Centers for Disease Control and Prevention
- Prevnar 20 Prescribing Information , US Food and Drug Administration
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- Capvaxive Prescribing Information , US Food and Drug Administration