PROCEDURE

Pneumococcal polysaccharide vaccine (PPSV23) - what you need to know

PPSV23 is an injection that helps protect against disease caused by 23 types of pneumococcal bacteria.

PURPOSE
Prevent disease caused by 23 pneumococcal bacterial types

PROCEDURE TYPE
Therapeutic; bedside intramuscular or subcutaneous injection

WHERE IT IS DONE
Outpatient clinic

ANAESTHESIA
None

HOW LONG IT TAKES
About 1 to 2 minutes

PREPARATION
Review vaccination history; no fasting usually needed

RECOVERY
Same day; no routine driving restriction

MAIN RISKS
Arm pain, swelling, fever, severe allergic reaction

RESULTS
Recorded immediately; protection develops over several weeks

Overview

The pneumococcal polysaccharide vaccine, or PPSV23, helps protect you against 23 types of Streptococcus pneumoniae . These bacteria can cause pneumonia, bloodstream infections, and meningitis, which is inflammation around the brain and spinal cord.

PPSV23 is not a live vaccine, so it cannot give you pneumococcal disease. It does not protect against every type of pneumococcal bacteria or every cause of pneumonia. It also does not treat an infection you already have.

The vaccine is usually injected into the muscle of your upper arm. It may sometimes be given under the skin. Which pneumococcal vaccine you need depends on your age, health

conditions, and previous vaccines.

Why the procedure is performed

PPSV23 lowers your risk of serious illness from the pneumococcal types included in the vaccine. It is often used as part of a vaccination schedule that also includes a pneumococcal conjugate vaccine, such as PCV15.

You may be offered PPSV23 because:

Risk-increasing conditions include some heart, lung, liver, or kidney diseases; diabetes; smoking; reduced immune function; a cochlear implant; or a cerebrospinal fluid leak. A cerebrospinal fluid leak means fluid surrounding the brain or spinal cord is escaping through an abnormal opening.

Recommendations have changed as newer conjugate vaccines have become available. Your vaccination history is therefore important when deciding whether PPSV23 is the right vaccine now.

- You previously received PCV15 and need PPSV23 to complete the schedule
- Your age places you in a group advised to receive pneumococcal vaccination
- You have a condition that increases your risk of serious pneumococcal disease
- Your vaccination record shows that you need additional coverage

Who should and should not have it

PPSV23 may be suitable for adults or children aged 2 years and older who meet age-based or medical-risk recommendations. It is commonly given after PCV15. In some higher-risk situations, the interval between PCV15 and PPSV23 may be shorter than usual.

You should not receive PPSV23 if you have had a severe allergic reaction, such as anaphylaxis, after a previous dose or to one of its ingredients.

The vaccine is not routinely used in children younger than 2 because they do not develop a reliable immune response to this type of vaccine.

Vaccination may be delayed if you are moderately or severely unwell, particularly if you have a fever. A mild illness, such as a minor cold, does not usually require a delay.

Tell the vaccination team if you:

Pregnancy is not an allergic contraindication, but PPSV23 is not routinely recommended

during pregnancy because safety information is limited. The timing should be based on your individual risk and vaccination history.

- Have previously reacted to a pneumococcal vaccine
- Have recently received another pneumococcal vaccine
- Have a weakened immune system or take immune-suppressing treatment
- Are pregnant or may be pregnant
- Have a bleeding disorder or take medicine that affects bleeding

How to prepare

Follow the treating facility's own instructions first, as they take priority over general advice in this article.

No fasting or bowel preparation is needed. You can usually eat, drink, and take your regular medicines as normal unless the facility tells you otherwise.

Bring your vaccination record if you have one. Tell the vaccination team about your allergies, previous vaccine reactions, current illness, and medicines. Wear clothing that allows easy access to your upper arm.

If injections sometimes make you faint, let the team know. You may be vaccinated while seated or lying down and observed afterward.

What happens during the procedure

Before the injection, a healthcare professional will confirm your identity, check which vaccine you are receiving, and review relevant allergies and previous pneumococcal doses.

The skin may be cleaned. The vaccine is usually injected into the deltoid muscle of your upper arm using a small needle. It can also be injected under the skin in some circumstances. In children, the injection site is chosen according to age and muscle size.

The injection itself takes only a few seconds. Anaesthesia and sedation are not needed.

You will usually remain seated for about 15 minutes afterward. This observation period mainly allows the team to help you safely if you feel faint or have an immediate allergic reaction.

Recovery and what to expect afterward

Your arm may feel sore, tender, warm, or slightly swollen. A cool compress may help. Ask your healthcare team or pharmacist which pain medicine is suitable for you if you need one.

You can eat and drink normally after vaccination. Drinking fluids may help if you feel mildly feverish or tired.

Normal daily activity is usually safe. Gentle arm movement may reduce stiffness, but you may prefer to avoid strenuous upper-body exercise until the soreness settles.

There is no routine driving restriction. Do not drive if you feel faint, dizzy, or unwell after the injection.

Most people can return to work or school the same day. If you develop fatigue, fever, or significant arm discomfort, you may need a quieter day until you feel better.

Risks and possible complications

Common reactions include pain, redness, warmth, swelling, or a firm area where the injection was given. Some people develop headache, tiredness, muscle aches, chills, or fever. These reactions are usually temporary.

Fainting can happen around any injection. Sitting or lying down during vaccination and remaining seated afterward reduces the chance of injury.

A large local reaction can occasionally cause more extensive redness or swelling around the injection site. Reactions may be stronger when additional PPSV23 doses are given closer together than recommended, which is one reason your vaccine history should be checked.

A severe allergic reaction is rare but requires immediate treatment. Vaccination facilities should have procedures and medication available to manage this.

PPSV23 cannot cause pneumococcal infection because it contains purified bacterial sugars rather than live bacteria.

Results and follow up

The vaccination is recorded immediately, but there is no instant test result. Your immune system develops antibodies over the following few weeks. Antibodies are proteins that help recognize and respond to infection.

Routine blood tests are not used to confirm that the vaccine worked. No routine follow-up appointment is usually needed for the injection itself.

Keep a record of the vaccine name and date. Whether you need another pneumococcal

vaccine later depends on your age, medical risks, and previous doses. More PPSV23 is not automatically better, and doses should not be repeated without checking the recommended schedule.

Alternatives

The main alternatives are other pneumococcal vaccination schedules, not antibiotics or screening tests.

PCV20 or PCV21 may complete pneumococcal vaccination for many adults without a later PPSV23 dose. This means fewer injections than a PCV15-plus-PPSV23 schedule, but the best option depends on which vaccines you have already received and the pneumococcal types relevant to current recommendations.

PCV15 creates a strong immune response and immune memory, but it is usually followed by PPSV23 when used in adults who need pneumococcal vaccination. PPSV23 adds coverage for types not included in PCV15.

For some children with medical risk conditions, a conjugate vaccine such as PCV20 may be an option after the routine childhood series. The choice depends on age, risk condition, and previous doses.

Waiting or declining vaccination avoids injection reactions, but leaves you without the added protection the vaccine would provide. Antibiotics like amoxicillin or doxycycline are used to treat bacterial infections; they do not provide lasting prevention and are not an alternative to vaccination.

When to call your healthcare team

Contact your healthcare team during routine hours if arm pain, redness, swelling, fever, or tiredness is not improving after a few days, or if you are unsure whether a reaction is expected.

Seek prompt medical advice if redness or swelling is rapidly spreading, pain is becoming severe, or you feel increasingly unwell.

Call emergency services immediately if you develop trouble breathing, swelling of your face or throat, widespread hives with breathing problems, severe weakness, or collapse. These may be signs of a severe allergic reaction.

Common questions

Will I be asleep for the vaccine?

No. PPSV23 is a quick injection and does not require sedation or anaesthesia.

Can I drive home afterward?

Usually, yes. Wait until you feel steady, and do not drive if you feel faint, dizzy, or unwell.

How painful is it?

You may feel a brief pinch during the injection. Arm soreness afterward is common and may last for a few days.

When will I know whether it worked?

There is usually no test to check. Your immune response develops over several weeks, but no vaccine provides complete protection.

Can I get PPSV23 with other vaccines?

It can often be given at the same visit as other recommended vaccines, using different injection sites. The vaccination team will check your schedule.

Why am I getting PPSV23 when newer vaccines exist?

You may need it to complete a schedule started with PCV15 or because of your previous vaccine history. If you are unsure, ask which earlier doses were considered and what protection PPSV23 adds.

Sources

- Centers for Disease Control and Prevention. Pneumococcal Vaccine Recommendations
- Centers for Disease Control and Prevention. Adult Immunization Schedule Notes: Pneumococcal Vaccination
- Centers for Disease Control and Prevention. Pneumococcal Vaccination: What Everyone Should Know
- Centers for Disease Control and Prevention. General Best Practice Guidelines: Preventing and Managing Adverse Reactions
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