PROCEDURE

HPV (human papillomavirus) vaccine - what you need to know

The HPV vaccine is an injection that helps prevent HPV infections linked to several cancers and genital warts.

PURPOSE
Prevent HPV-related cancers and genital warts

PROCEDURE TYPE
Therapeutic; minimally invasive preventive intramuscular injection

WHERE IT IS DONE
Outpatient clinic, pharmacy, school, or primary care office

ANAESTHESIA
None

HOW LONG IT TAKES
1-2 minutes

PREPARATION
No fasting; wear clothing that exposes your upper arm

RECOVERY
Same day; drive after observation if you feel well

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

RESULTS
No immediate test result; protection develops after recommended doses

Overview

The human papillomavirus, or HPV, vaccine is given as an injection into a muscle. It protects against nine types of HPV. These types can cause cervical, anal, penile, vaginal, vulvar, and throat cancers. Some also cause genital warts.

HPV spreads mainly through intimate skin-to-skin and sexual contact. Exposure is common, and a person can pass it on without knowing they have it.

The vaccine works best before exposure to HPV, but some people may still benefit after becoming sexually active. It cannot cause HPV because it does not contain live virus. It also does not treat an HPV infection, genital warts, cancer, or abnormal screening results that are

already present.

Why the procedure is performed

The vaccine trains your immune system to recognize certain HPV types. If you meet those types later, your immune system is better prepared to prevent infection.

Preventing infection can reduce your future risk of HPV-related precancer, cancer, and genital warts. Vaccination does not protect against every HPV type or every cause of cancer.

In the United States, routine HPV vaccination is recommended at age 11 or 12 and may begin at age 9. Catch-up vaccination is recommended through age 26 for people who were not fully vaccinated earlier.

For adults ages 27 through 45, vaccination is not routinely recommended for everyone. You and your healthcare professional may discuss whether your possible future HPV exposure and previous vaccination history make it worthwhile.

Who should and should not have it

HPV vaccination is suitable for most people within the recommended age groups, including people of any sex. You may need vaccination if you never started the series or received some, but not all, recommended doses.

The number of doses is based mainly on your age when the first dose was given:

The vaccine should not be given if you had a severe allergic reaction, called anaphylaxis, after an earlier HPV vaccine dose or to one of its ingredients. Gardasil 9 is made using yeast, so tell the vaccination team about any severe yeast allergy.

Vaccination is usually delayed during a moderate or severe acute illness. A mild illness, such as a minor cold, is generally not a reason to delay it.

HPV vaccination is not recommended during pregnancy. If you become pregnant after starting the series, remaining doses are delayed until after pregnancy. Pregnancy testing is not routinely needed before vaccination, and a dose given before you knew you were pregnant is not usually a reason for special intervention. The vaccine may be given while breastfeeding.

In the United States, Gardasil 9 is not approved for children younger than 9 or adults older than 45.

- Starting before age 15 usually means two doses, 6 to 12 months apart

- Starting at age 15 or older usually means three doses, given at 0, 1 to 2, and 6 months
- People with certain conditions that weaken immunity usually need three doses

How to prepare

Follow the treating facility's own instructions first, because its processes take priority over general advice.

You do not need to fast. You can eat, drink, and take your usual medicines unless the facility tells you otherwise. Blood thinners like warfarin or apixaban do not always prevent vaccination, but tell the person giving the injection because extra pressure may be needed afterward.

Wear a loose shirt or other clothing that allows easy access to your upper arm. Bring any vaccination record you have so the team can confirm which doses you need.

Tell the vaccination team if you:

- Had a serious reaction to a previous vaccine
- Have a severe allergy, especially to yeast
- Are pregnant or may be pregnant
- Tend to faint during injections
- Have a bleeding disorder or take medicine that affects clotting
- Have a condition or treatment that weakens your immune system

What happens during the procedure

You will usually sit in a chair. If you have fainted during injections before, you may be asked to lie down.

The skin may be cleaned before the vaccine is injected into a muscle, usually in your upper arm. The injection itself takes only a few seconds. Anaesthesia and sedation are not needed.

You will normally be asked to remain seated or lying down for about 15 minutes afterward. This observation period helps prevent injury if you become dizzy or faint.

If you need another dose, the team should tell you when it is due. Ask for the vaccination to be added to your medical or immunization record.

Recovery and what to expect afterward

Pain, redness, or swelling where the injection was given is common. A cool compress may help. Some people also have a headache, tiredness, muscle aches, nausea, dizziness, or a mild fever. These effects are usually short-lived.

You can eat and drink normally. Drinking fluids may help if you feel lightheaded.

Most people can return to usual activities immediately. If your arm is sore, you may prefer to avoid strenuous upper-body exercise for the rest of the day.

You can usually drive after the observation period if you feel well. Do not drive if you feel faint, dizzy, or unwell. Sedation is not used, so there is no routine driving restriction from the procedure itself.

Most people can return to school or work the same day. Rest at home if fever, dizziness, or discomfort makes normal activity difficult.

Risks and possible complications

The most common risks are temporary reactions around the injection site, especially pain, redness, and swelling. Fever, headache, tiredness, nausea, muscle aches, and dizziness can also occur.

Fainting can happen after many types of injection, particularly in adolescents. The main concern is injury from falling, which is why you are observed while seated or lying down.

A severe allergic reaction is very uncommon but can occur after any vaccine. Vaccination sites should have staff and equipment available to treat it promptly.

The vaccine does not cause HPV infection. Safety monitoring has not found evidence that HPV vaccination causes infertility.

Results and follow up

There is no immediate result to receive after an HPV vaccination. Your immune system develops protection over time, and completing the recommended series gives the intended protection.

No routine blood test is used to confirm that the vaccine worked. Keep a record of each dose and attend routine follow-up for the next dose if one is needed.

If a dose is late, the series usually does not need to be restarted. Your healthcare team can continue it using the appropriate schedule.

Vaccination does not replace recommended cervical screening. If you have a cervix, continue screening at the intervals advised for your age and health history. The vaccine also does not replace follow-up for an abnormal HPV test, abnormal cervical screening result, genital wart, or suspected cancer.

Alternatives

There is no other medicine or procedure that provides the same protection against the HPV types covered by the vaccine.

Delaying vaccination is an option, but it may reduce the chance of receiving it before HPV exposure. HPV vaccines prevent new infections; they do not clear infections that have already occurred.

Condoms and other barriers lower the chance of HPV transmission, but they do not fully prevent it because uncovered skin can carry the virus.

Having fewer sexual partners may reduce exposure, but HPV can be passed during a single intimate relationship. A partner may have acquired HPV years earlier without symptoms.

Cervical screening can find HPV-related changes before they become cancer. However, screening does not prevent HPV infection and does not screen for most other HPV-related cancers. Screening and vaccination have different roles, and one does not replace the other.

When to call your healthcare team

For routine follow-up, contact the vaccination service if you are unsure when your next dose is due, lose your vaccination record, or have side effects that are not improving after a few days.

Seek prompt medical advice if injection-site redness, swelling, or pain is becoming worse rather than better, or if a fever is persistent or you feel significantly unwell.

Call emergency services for signs of a severe allergic reaction, such as:

- Trouble breathing or wheezing
- Swelling of the face, lips, tongue, or throat
- Widespread hives with weakness or dizziness
- Collapse or loss of consciousness that does not quickly resolve

Common questions

Will I be asleep?

No. HPV vaccination does not require sedation or anaesthesia. You will be awake, and the injection takes only a few seconds.

Can I drive home?

Usually, yes. Wait through the recommended observation period and drive only if you feel well. Arrange help if injections commonly make you faint or if you remain dizzy.

How painful is it?

You may feel a brief sting or pressure during the injection. Arm soreness afterward is common, but it is usually manageable and improves within a few days.

When will I know it has worked?

There is no routine test or immediate result. Protection develops as your immune system responds to the recommended dose or series.

Do I still need it if I am sexually active?

You may still benefit because you may not have encountered every HPV type covered by the vaccine. The likely benefit becomes smaller with more previous exposure, so age and personal circumstances matter.

Do I still need cervical screening?

Yes, if screening is recommended for you. The vaccine does not cover every cancer-causing HPV type and cannot treat an infection acquired before vaccination.

Sources

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