TEST

HPV test

An HPV test checks cervical or vaginal cells for high-risk human papillomavirus.

WHAT IT MEASURES
High-risk HPV genetic material in cervical or vaginal cells

SAMPLE
Cervical or vaginal cells

FASTING NEEDED?
No

HOW LONG IT TAKES
Usually five to ten minutes

RESULTS IN
Several days to two weeks, varying by laboratory

USED FOR
Cervical cancer screening and follow-up

MAIN LIMITATION
Detects HPV infection, not cancer or precancer

Overview

An HPV test looks for genetic material from certain types of human papillomavirus. These are called high-risk HPV types because a long-lasting infection can cause changes in cervical cells. Over many years, some of these changes may develop into cervical cancer.

HPV is common and usually clears without treatment. A positive result does not mean that you have cancer or will develop it.

The test is mainly used for cervical cancer screening. It may be performed by itself, alongside cervical cytology-often called a Pap test-or after an abnormal screening result. Cytology looks for changed cells, while an HPV test looks for the virus that can cause those changes.

Some tests identify HPV types 16 and 18 separately because they are linked to a higher risk of cervical cell changes. Other high-risk types may be reported together.

Routine cervical HPV testing is not a general test for all sexually transmitted infections. It also does not usually test for the low-risk HPV types that cause genital warts.

Why the test is ordered

The main purpose is to identify people who may need closer examination or earlier repeat screening. Because HPV-related cell changes usually develop slowly, testing can find risk before cancer develops.

An HPV test may be ordered:

HPV testing is not normally used to explain symptoms such as pelvic pain or bleeding. Those symptoms need their own medical assessment, even if your screening is up to date.

- As a primary cervical screening test
- With cervical cytology as part of screening
- After certain abnormal cytology results
- After treatment for high-grade cervical cell changes
- During follow-up of a previous positive HPV result

Who should have the test

HPV screening is for people who have a cervix, including women, transgender men and some nonbinary people. The recommended starting age and testing interval differ between countries and screening programs. They also depend on whether HPV testing is used alone or with cytology.

Routine screening generally does not begin during adolescence. HPV infections are especially common in younger people and often clear without causing cell changes, so testing too early can lead to unnecessary procedures.

You may need a different schedule if you have:

If you have had a hysterectomy, whether you still need screening depends on whether the cervix was removed and your history of abnormal cells or cancer. HPV vaccination lowers the risk of several important HPV types, but vaccinated people with a cervix may still need screening.

- A previous abnormal cervical screening result
- A history of cervical precancer or cancer
- A weakened immune system
- HIV
- Previous treatment involving the cervix

How to prepare

You do not need to fast. You can usually eat, drink coffee, take your regular medicines and exercise as normal.

Follow the instructions from the clinic or test kit. You may be asked to avoid vaginal sex, douching, tampons, vaginal medicines, creams or lubricants for 24 to 48 hours before collection. These can sometimes affect the sample or make collection more difficult.

Tell the clinic if you are pregnant, might be pregnant, have heavy vaginal bleeding or recently had a cervical procedure. Testing may still be possible, but the collection method or timing may need to change.

A menstrual period does not always prevent testing. Heavy bleeding can make a sample harder to assess, so ask whether the appointment should be moved.

What happens during the test

For a clinician-collected test, you undress from the waist down and lie on an examination couch. A clinician gently places a speculum into the vagina. This instrument holds the vaginal walls apart so the cervix can be seen.

A small brush or similar device collects cells from the cervix. The sample is placed in a container and sent to a laboratory. The collection usually takes less than a minute, although the appointment takes longer.

The procedure may feel like pressure or brief cramping. You can ask the clinician to stop at any time.

In some settings, you may collect your own vaginal sample using an approved swab or brush. Self-collection does not usually require a speculum. Follow the kit instructions carefully because the approved collection device and laboratory test must be used together.

Understanding your results

Results are usually reported as positive, negative or sometimes invalid or unsatisfactory.

A negative result means the test did not detect the high-risk HPV types it checks for. This usually suggests a low current risk of significant cervical cell changes, but it does not guarantee that no abnormal cells are present.

A positive result means high-risk HPV genetic material was detected. It does not mean you

have cervical cancer. Many infections clear naturally, but follow-up is important because persistent infection is more likely to cause cell changes.

Your report may identify HPV 16 or 18 separately. It may also include a cytology result showing whether cervical cells look normal or changed. Follow-up is based on the combination of results, your age, previous screening and treatment history.

An invalid or unsatisfactory result means the laboratory could not interpret the sample reliably. This may happen if too few cells were collected or the sample was affected by blood or another substance. A repeat sample is usually needed.

There is no universal HPV number or reference range. Laboratories use different approved tests and reporting formats. Interpretation also varies with age, sex-related anatomy, pregnancy status, medicines, immune function and clinical history.

What affects the results

Several factors can make a result less reliable or change what it means without a laboratory error.

Too few cells may produce an invalid result or allow an infection to be missed. Heavy bleeding, vaginal medicines, creams, lubricants or douching may interfere with some collection systems. Recent vaginal sex can also affect sample quality, depending on the test.

Self-collected vaginal samples and clinician-collected cervical samples are not identical. Accuracy depends on the collection device, technique and laboratory assay. Only use the method approved for that specific test.

Age changes how a positive result is interpreted. HPV often clears quickly in younger people, while persistent infection becomes more important with increasing age. A weakened immune system can make HPV more likely to persist.

Pregnancy does not itself create a positive HPV result, but it can affect how and when follow-up procedures are performed. Recent cervical treatment may also change the type of follow-up needed.

HPV vaccination does not cause a positive test. It protects against several HPV types but does not treat an existing infection or cover every high-risk type.

Accuracy and limitations

HPV testing is better than cytology alone at finding people who may have important cervical

cell changes. However, no test identifies every case.

The test can miss HPV if the sample contains too few cells, the amount of virus is below the test's detection level, or the infection involves a type that the assay does not cover. Incorrect collection, storage or transport can also reduce accuracy.

A positive result can occasionally occur because of contamination or cross-reaction with similar genetic material. More often, the result is technically correct but may still be misleading: it confirms HPV is present, not that precancer or cancer exists. Many positive infections clear without causing harm.

An HPV test cannot show whether cervical cells are already abnormal. Cytology can examine the cells, while colposcopy uses magnification to inspect the cervix. A biopsy, which removes a small tissue sample, is the test that can confirm precancer or cancer.

Routine cervical HPV tests are not established screening tests for HPV in the mouth, throat or penis. Anal HPV testing is available in some specialist settings, but its role and availability differ.

Risks and complications

Cervical sample collection may cause brief discomfort, light spotting or mild cramping. Serious complications from the test itself are not expected.

Colposcopy and biopsy have separate risks and are not part of the HPV test unless arranged as follow-up.

What happens next

After a negative result, you will usually return to routine screening. The timing depends on your age, local screening program, test type and previous results.

After a positive result, you may need HPV typing, cytology, repeat testing after a set interval or colposcopy. A positive result is usually a routine follow-up issue rather than an emergency, but it is important not to miss the recommended appointment.

An invalid result usually leads to another sample being collected.

Do not wait for routine screening if you have symptoms such as bleeding after sex, bleeding between periods, bleeding after menopause, persistent unusual discharge or ongoing pelvic pain. Arrange a medical assessment. Seek urgent help for very heavy bleeding, severe pain, fainting or feeling acutely unwell.

Common questions

Can I drink coffee before an HPV test?

Yes. Coffee, food and other drinks do not affect the test, and fasting is not needed.

Can I have sex before the test?

Your clinic may ask you to avoid vaginal sex for 24 to 48 hours. Semen, lubricants and vaginal products can affect some samples, so follow the instructions you receive.

Does the time of day matter?

No. HPV testing can usually be performed at any time of day.

Can I exercise beforehand?

Yes. Exercise does not change HPV levels or the test result.

Can I have the test during my period?

Often yes, especially if bleeding is light. Heavy bleeding may affect sample quality, so contact the clinic before attending.

Does a positive result mean my partner was recently unfaithful?

No. HPV can remain undetected for years, and a test cannot show when the infection began or who transmitted it.

Sources

- National Cancer Institute. HPV and Pap Test Fact Sheet
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