



## Cervical Cancer Screening

**C**ervical cancer screening is used to find changes in the **cells** of the **cervix** that could lead to cancer. Screening includes **cervical cytology** (also called the **Pap test** or Pap smear) and, for some women, testing for **human papillomavirus (HPV)**. Most women should have cervical cancer screening on a regular basis.

*This pamphlet explains*

- *how cervical cancer occurs*
- *the importance of cervical cancer screening*
- *how cervical cancer screening is done*
- *who should have cervical cancer screening and how often*
- *common questions about cervical cancer screening*
- *what happens if a screening test result is abnormal*
- *accuracy of cervical cancer screening test results*

### How Cervical Cancer Occurs

The cervix is the opening to the **uterus** and is located at the top of the **vagina**. It is covered by a thin layer of tissue made up of two types of cells: 1) “skin-like” cells called squamous cells and 2) glandular cells that produce the mucus in the cervix. Cancer occurs when cervical cells become abnormal and, over time, grow out of control. The cancer cells invade deeper into the cervical tissue. In advanced cases, cancer cells can spread to other organs of the body.

Most cases of cervical cancer are caused by HPV. HPV is a virus. It enters cervical cells and can cause them to

change. Some types of HPV have been linked to cervical cancer as well as to cancer of the **vulva**, vagina, penis, anus, mouth, and throat. Types of HPV that may cause cancer are known as “high-risk types.” These and other types of HPV can be passed from person to person during sexual activity. HPV is very common—most people who are sexually active will get an HPV infection in their lifetime. HPV infection often causes no symptoms. Most people do not even know they are infected.

Only a small number of women with high-risk types of HPV will get cervical cancer. Because of the body's

natural ability to fight infection, most HPV infections (85–90%) go away on their own. These short-term infections typically cause only mild, or “low-grade,” changes in cervical cells. The cells go back to normal as the HPV infection clears.

In a small number of women, HPV does not go away. If HPV infection lasts for a long time, it is described as a “persistent” infection. Persistent HPV infection with high-risk types can cause more severe, or “high-grade,” changes in cervical cells. High-grade changes that persist for 1 year or 2 years are more likely to become cancer if they are not treated. Factors such as cigarette smoking, a weak **immune system**, and infection with **human immunodeficiency virus (HIV)** are thought to increase the chance that HPV infection will persist, but persistent infections also occur in women without these factors.

### The Importance of Cervical Cancer Screening

It usually takes 3–7 years for high-grade changes in cervical cells to become cancer. Cervical cancer screening may detect these changes before they become cancer. Women with low-grade changes can be tested more frequently to monitor if their cells go back to normal. Women with high-grade changes can get treatment to have the cells removed.

Cervical cancer screening saves lives. Over the past 30 years in the United States, the number of cases of cervical cancer and deaths has decreased by one half. This is mainly the result of women getting regular cervical cancer screening.

### How Cervical Cancer Screening Is Done

Cervical cancer screening includes the Pap test and, for some women, an HPV test. Both tests use cells taken from the cervix. The screening process is simple and

fast. You lie on an exam table and a **speculum** is used to open the vagina. The speculum gives a clear view of the cervix and upper vagina.

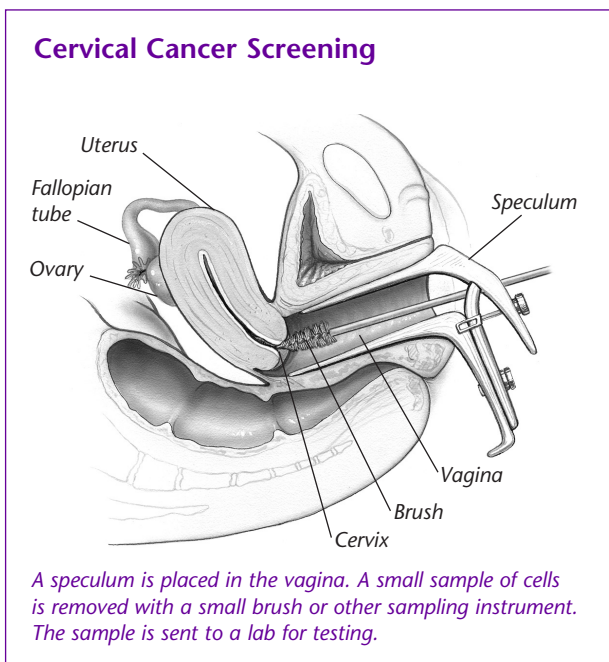
Cells are removed from the cervix with a brush or other sampling instrument. The cells usually are put into a special liquid and sent to a laboratory for testing:

- For a Pap test, the sample is examined to see if abnormal cells are present.
- For an HPV test, the sample is tested for the presence of the most common high-risk HPV types. Usually, the sample taken for the Pap test also can be used for the HPV test. Sometimes, two cell samples are taken. It depends on the type of Pap test that is used.

### Who Should Have Cervical Cancer Screening and How Often

Cervical cancer screening is an important part of women’s health care. You should start having screening at age 21 years, regardless of when you first start having sex. How often you should have cervical cancer screening and which tests you should have depend on your age and health history:

- Women aged 21–29 years should have a Pap test alone every 3 years. HPV testing is not recommended.
- Women aged 30–65 years should have a Pap test and an HPV test (**co-testing**) every 5 years (preferred). It also is acceptable to have a Pap test alone every 3 years.
- Women should stop having cervical cancer screening after age 65 years if
  - they do not have a history of moderate or severe abnormal cervical cells or cervical cancer, and
  - they have had either three negative Pap test results in a row or two negative co-test results in a row within the past 10 years, with the most recent test performed within the past 5 years.
- Women who have had a **hysterectomy** may still need to have screening. The decision is based on whether the cervix was removed, why the hysterectomy was needed, and whether there is a history of moderate or severe cervical cell changes or cervical cancer. Even if the cervix is removed at the time of hysterectomy, cervical cells can still be present at the top of the vagina. If you have a history of cervical cancer or cervical cell changes, you should continue to have screening for 20 years after the time of your surgery.
- Having an HPV vaccination does not change these screening recommendations. Women who have been vaccinated against HPV need to follow the screening recommendations for their age group.
- Women who have a history of cervical cancer, are infected with HIV, have a weakened immune system, or who were exposed to diethylstilbestrol (DES) before birth may require more frequent screening and should not follow these routine guidelines.



## Common Questions

These guidelines are a change from the yearly screening with a Pap test alone that many women have had in the past. Common questions and answers about cervical cancer screening include the following:

### ***Why is cervical cancer screening not recommended before age 21 years?***

Cervical cancer is extremely rare in this age group. Fewer than 1 in 1,000 cases of cervical cancer occur in young women aged 15–19 years. Most women become infected with HPV shortly after they begin having vaginal intercourse. These infections almost always go away on their own within 1–2 years without causing any changes in the cervical cells. If changes do occur, the cells almost always go back to normal. Research shows that cervical cancer screening in this age group does not reduce the rate of cervical cancer and can lead to unnecessary treatment.

### ***Why is yearly screening not recommended?***

Research over the past decades shows that there is no overall advantage to having yearly Pap tests over having Pap tests every 3 years. Yearly Pap tests do find a slightly higher number of cases of cancer than tests performed every 3 years. However, women who have yearly screening undergo many more follow-up tests and treatments for what turns out not to be cancer than women who have testing every 3 years. Some follow-up tests, such as **colposcopy** and **cervical biopsy**, and treatment options, such as a **loop electrosurgical excision procedure (LEEP)**, are **invasive** procedures that can be uncomfortable. Having an unnecessary test or treatment is inconvenient and can cause anxiety. Limiting the number of these unnecessary procedures is one of the goals of current cervical cancer screening guidelines.

### ***Why is co-testing (Pap test plus HPV test) every 5 years preferred over a Pap test every 3 years for women aged 30–65 years?***

In women 30 years and older, co-testing finds more cases of high-grade cervical cell changes than the Pap test alone. Also, the HPV test is better than the Pap test at finding a certain type of cervical cancer involving glandular cells.

### ***Why is co-testing (Pap test plus HPV test) not recommended for women aged 21–29 years?***

HPV infection is common in this age group. These infections usually go away on their own within a few years and do not cause any lasting changes in cervical cells. Use of co-testing in women younger than 30 years would mostly detect short-term HPV infections that would not lead to cancer and result in more frequent and unnecessary follow-up testing.

### ***Are these guidelines likely to change again?***

Yes. Experts continue to develop new and better ways to screen for cervical cancer and manage abnormal results. Experts also are learning more about HPV infection and how it affects women of different ages.

The goal is to develop a testing strategy that finds the most cases of cervical cancer or precancerous changes with the least number of unnecessary follow-up tests and treatments.

### ***Do I still need to see my gynecologist or other health care professional every year if yearly cervical cancer screening is no longer recommended?***

Yes. It is still important to see your gynecologist each year for a well-woman care visit. This visit is an opportunity for you to learn about how to prepare for pregnancy, discuss your birth control options, and address menopause issues. In addition, your gynecologist can help you identify whether you are at risk of certain medical conditions, such as diabetes or heart disease, and can give certain vaccinations—including the HPV vaccine—if you are due for them. An annual visit may include a **pelvic exam**, which can help find problems such as **pelvic floor disorders**. You also may have a clinical breast examination during your annual visit.

## Abnormal Test Results

Many women have abnormal cervical cancer screening results. An abnormal result does not mean that you have cancer. Remember that cervical cell changes often go back to normal on their own. And if they do not, it often takes several years for even high-grade changes to become cancer.

If you have an abnormal screening test result, additional testing is needed to find out whether high-grade changes or cancer actually is present. The tests that you have may depend on the type of result and your age. Sometimes, only repeat testing is needed. In other cases, colposcopy and cervical biopsy may be recommended to find out how severe the changes really are. If results of follow-up tests indicate high-grade changes, you may need treatment to remove the abnormal cells.

There are several ways to remove abnormal cells. Your gynecologist or other health care professional will discuss with you which one is right for your specific situation. You will need follow-up testing after treatment and will need to get regular cervical cancer screening after the follow-up is complete.

## Accuracy of Cervical Cancer Screening

As with any lab test, cervical cancer screening results are not always accurate. Sometimes, the results show abnormal cells when the cells are normal. This is called a “false-positive” result. Cervical cancer screening also may not detect abnormal cells when they are present. This is called a “false-negative” result. Many factors can cause false results:

- The sample may contain too few cells.
- There may not be enough abnormal cells to study.
- An infection or blood may hide abnormal cells.
- Douching or vaginal medications may wash away or dilute abnormal cells.

To help prevent false-negative or false-positive results, you should avoid douching, sexual intercourse, and using vaginal medications or hygiene products for 2 days before your test. You also should avoid cervical cancer screening when you have your menstrual period.

### Finally...

Cervical cancer screening can find cell changes that may lead to cervical cancer. Routine screening can help find problems early, when they are more easily treated. How often you should have screening and which tests you should have depend on your age and health history. Talk with your gynecologist or other member of your health care team about the screening schedule that is recommended for you.

### Glossary

**Cells:** The smallest units of a structure in the body; the building blocks for all parts of the body.

**Cervical Cytology:** The study of cells taken from the cervix using a microscope; also called the Pap test.

**Cervical Biopsy:** A minor surgical procedure to remove a small piece of cervical tissue that is then examined under a microscope in a laboratory.

**Cervix:** The lower, narrow end of the uterus at the top of the vagina.

**Colposcopy:** Viewing of the cervix, vulva, or vagina under magnification with an instrument called a colposcope.

**Co-Testing:** Use of both the Pap test and HPV test to screen for cervical cancer in women aged 30–65 years.

**Human Immunodeficiency Virus (HIV):** A virus that attacks certain cells of the body's immune system and causes acquired immunodeficiency syndrome (AIDS).

**Human Papillomavirus (HPV):** The name for a group of related viruses, some of which cause genital warts and some of which are linked to cancer of the cervix, vulva, vagina, penis, anus, mouth, and throat.

**Hysterectomy:** Removal of the uterus.

**Immune System:** The body's natural defense system against foreign substances and invading organisms, such as bacteria that cause disease.

**Invasive:** A term used to describe cancer that has invaded and can destroy surrounding healthy tissues.

**Loop Electrosurgical Excision Procedure (LEEP):** The removal of abnormal tissue from the cervix using a thin wire loop and electric energy.

**Pap Test:** A test in which cells are taken from the cervix and vagina and examined under a microscope.

**Pelvic Exam:** A physical examination of a woman's reproductive organs.

**Pelvic Floor Disorders:** Disorders affecting the muscles and tissues that support the pelvic organs; these disorders may result in loss of control of the bladder or bowels or cause one or more pelvic organs to drop downward (prolapse).

**Speculum:** An instrument used to hold open the walls of the vagina.

**Uterus:** A muscular organ located in the female pelvis that contains and nourishes the developing fetus during pregnancy.

**Vagina:** A tube-like structure surrounded by muscles leading from the uterus to the outside of the body.

**Vulva:** The external female genital area.

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