

Cancer of the Cervix

A woman's cervix (the opening of the uterus) is lined with cells. Cancer of the cervix occurs when those cells change, which can affect deeper cell layers or spread to other organs and cause damage. If the cancer is found and treated early, as many as 90% of women who have it can be cured. The more advanced the disease is, the lower the cure rate. This is why finding it early is best. This pamphlet will explain:

- Who is at risk for cancer of the cervix
- Symptoms of the disease
- How it is treated

What is Cancer of the Cervix?

Healthy cells that make up the body's tissues grow, divide, and are replaced as needed. This keeps the body in good repair.

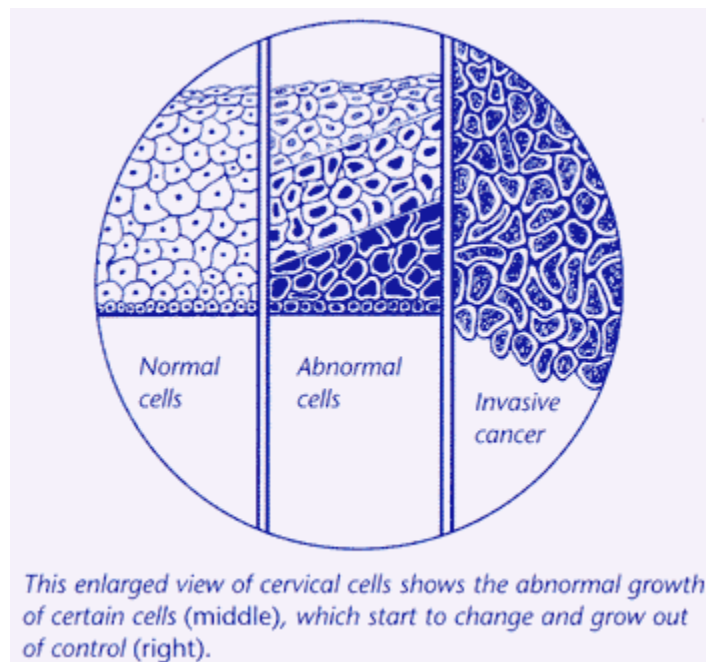
Sometimes, though, cells begin to grow out of control. The new cells form a mass of tissue called a tumor. These cells can be **benign** (not cancer) or **malignant** (cancer).

There is another type of cells called either dysplastic cells or cervical intraepithelial neoplasia (CIN). Dysplastic cells are sometimes called "precancerous" because they may turn into cancer if they are not treated. In most women, the change in the cells from normal to dysplastic to cancer takes place over many years. In many cases, a **Pap test** can detect dysplastic changes so that they can be treated before cancer develops.

When malignant cells (cancer) develop, they can invade and destroy healthy tissues in the cervix. They also can spread into the tissue next to the cervix or travel to other parts of the body (metastasize) by moving through the blood or **lymphatic fluid**.

Cervical cancer is one of the most common cancers in women throughout the world, but has become less common in countries that use Pap tests. Women are at

The key to preventing or fighting cervical cancer is to find it early when cure rates can be as high as 90%. The best way to find cancer early is to have regular Pap tests.



risk for cancer of the cervix throughout their lives. A very common infection of the cervix with the *human papillomavirus (HPV)* is linked with almost all dysplastic changes and cervical cancer. Pap tests, and for some women an HPV test, can help detect this virus and the cell changes it causes. This makes it vital for all women, even those who are past menopause, to follow their doctor's advice on testing.

Types of Cell Changes

If Pap test results show cervical cells with dysplastic changes, the results may be called:

- ASC-US (atypical squamous cells of undetermined significance)
- LSIL (low-grade squamous intraepithelial lesions)
- HSIL (high-grade squamous intraepithelial lesions).

If these results are found, follow-up tests may be needed. HSIL changes have the greatest risk of turning into cancer and will need to be treated. The other types of changes also may require further testing, but may not need treatment. When dysplastic cervical cells change and become able to move into deeper tissue layers or spread to other organs, they become invasive cancer. A Pap test also can detect cancer.

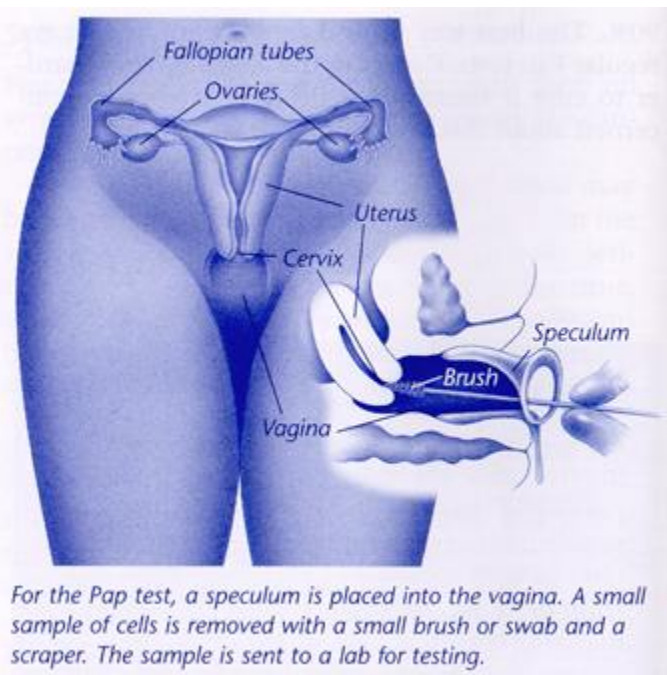
Risk Factors

Cancer of the cervix can occur at any age. It is found most often in women older than 40 years, but can occur in younger women. However, it rarely occurs in women younger than 21 years.

Your risk for cancer of the cervix depends on your sexual history, your immune system, your health, and your lifestyle. This is because cancer of the cervix is linked with HPV. You have an increased risk if you:

- Have had sex with more than 1 person or have a male sexual partner who has had sex with more than 1 person (the more partners you have, the higher the risk)
- First had sex at an early age (younger than 18 years)
- Have a male sexual partner who has had a sexual partner with cervical cancer

These factors increase your risk because they increase your chance of getting an HPV infection that can lead to dysplasia. Many women will have 1 type of HPV infection at



some point in their lives. Of the more than 100 types of HPV, many are benign, but some are linked to cancer of the cervix.

Women who have problems with their immune system are at increased risk of cervical cancer, especially if they have been exposed to HPV. Factors that affect your immune system and can increase your risk of cancer of the cervix are:

- Smoking
- *Human immunodeficiency virus (HIV)* infection
- Organ (especially kidney) transplant

Other women who are at increased risk include those who have had a sexually transmitted disease (STD) and women who were exposed to DES (diethylstilbestrol) before birth.

Because cancer of the cervix can recur, your cancer history also affects your risk. Your risk is higher if you:

- Have a history of HSIL
- Have a history of cancer of the cervix, vagina, or vulva
- Have not been getting routine Pap tests

Symptoms

Precancer and cancer of the cervix often have no symptoms. By the time symptoms appear, the cancer cells can already have spread.

When symptoms do occur, the first signs may be bleeding, spotting, or watery discharge from the vagina. Bleeding may be heavier during your period. It also may occur after sex. Most of the time, these signs are caused by other health problems besides cancer. However, if you have any of these symptoms, you should see your doctor.

Signs of advanced cancer can include pain, problems urinating, and swollen legs. If the cancer has spread to nearby organs or the *lymph nodes*, the tumors can affect how those organs work. For instance, a tumor might press on your bladder or constrict blood flow in a vein.

These symptoms do not always mean cancer. If you have any of these symptoms, see your doctor without delay.

Diagnosis

Most dysplastic changes and early cancers are found in women who have regular Pap tests. Most advanced cancers of the cervix are found in women who have not had routine Pap tests. That is why it is important to have routine Pap tests.

If you have an abnormal Pap test result or symptoms of cervical cancer, you may need further testing. Further testing methods, such as colposcopy and biopsy, can help show if abnormal cells are dysplastic or cancer. These tests also help your doctor decide if you need treatment. You may be referred to another doctor or a special clinic for these tests:

- Colposcopy. This test lets your doctor look at the end of the cervix through a microscope. It can help your doctor find problems that cannot be seen with the eye alone.
- Biopsy. In this procedure, a small sample of tissue is removed. The sample is sent to a lab to be studied.
- Cone biopsy. In this procedure, a cone-shaped wedge of the cervix is removed. The sample is sent to a lab to be studied.
- Loop electrosurgical excision procedure (LEEP). In this procedure, a thin wire loop that carries an electric current is used to remove abnormal areas of the cervix. This electric energy also is used to close off the blood vessels on the surface of the cervix.

If these tests show that you have cancer of the cervix, your doctor will assess the size of the cancer and the extent (if any) to which the disease has spread. This process may include other tests, such as:

- A pelvic exam (including a rectal exam)—An important exam, in which your doctor feels the uterus, ovaries, and other organs near the cervix
- Cystoscopy—A test in which the inside of the urethra and bladder are studied with a lighted device
- Proctoscopy—A test in which the inside of the rectum is studied with a lighted device

Cervical cancer can spread to other areas, including the lungs or the lymph nodes, or may cause the kidneys to be blocked. Your doctor may order tests to check these areas. These tests may include X-rays, *ultrasonography*, *computed tomography (CT)* scans, *magnetic resonance imaging (MRI)*, and *laparoscopy*.

Staging

All cancers are assigned a stage from I to IV. The lower the number, the less the cancer has spread. Stage I is the earliest stage and is the easiest to cure. Stage IV is the most advanced stage and includes cancers that have spread to other parts of the body.

Treatment works best at early stages of cancer. The cure rate for stage I cancer is 85% to 90%. The cure rate for stage IV cancer is only 5% to 10%.

Treatment

Your doctor may consult with, or refer you to, a gynecologic oncologist (a specialist in cancers of the reproductive organs) for treatment. You also may be referred to other

specialists, such as a radiation oncologist or a medical oncologist. They will work as a team to recommend a treatment that meets your needs.

Invasive cancer of the cervix is treated with surgery, or radiation therapy and chemotherapy. Surgery removes the tumor and any tissues where it may spread. In the most common surgery for cervical cancer, the uterus and cervix are removed along with the upper part of the vagina, nearby tissue, and the lymph nodes. The ovaries may not be removed if they appear normal.

If the cancer has spread beyond the cervix or upper vagina, or if the woman is older or less healthy, the cancer often is better treated with radiation and chemotherapy. Radiation stops cancer cells from growing by exposing them to high-energy rays. The treatment can require daily visits to a clinic for several weeks. It also may require overnight stays in the hospital. External and internal (vaginal) treatments may be used. In cervical cancer, chemotherapy helps the radiation treat the cancer. Chemotherapy drugs travel through the blood and destroy cells, including cancer cells. The treatments may be given in cycles. It usually is done at the doctor's office. It also may require a short stay in the hospital.

Follow-up

Depending on the stage of cancer and the type of treatment, cervical cancer can return or persist after treatment. A new cancer also may begin growing elsewhere in the body. For this reason, routine checkups and Pap tests are important, even after treatment ends.

Your doctor may suggest more frequent Pap tests for the first few years after treatment. This is to make sure that all the cancer cells were removed. You also may need other tests and procedures. Your doctor will work with you to arrange the follow-up care you need, even after treatment ends.

Finally...

The key to preventing or fighting cervical cancer is to find it early when cure rates can be as high as 90%. The best way to find cancer early is to have regular Pap tests. Cancer of the cervix is much harder to cure if treatment is delayed. If you are concerned about this disease, talk to your doctor.

Glossary

Benign: Noncancerous growth usually confined to one part of the body.

Computed Tomography (CT): A type of X-ray procedure that shows internal organs and structures in cross section.

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 common name for a group of related viruses, some of which are linked to cervical changes and cervical cancer.

Laparoscopy: A surgical procedure in which a slender, light-transmitting instrument, the laparoscope, is used to view the pelvic organs or perform surgery.

Lymph Nodes: Small glands that filter the flow of lymph (a nearly colorless fluid that bathes body cells) through the body.

Lymphatic Fluid: A clear liquid that bathes cells in all parts of the body.

Magnetic Resonance Imaging (MRI): A method of viewing internal organs and structures by using a strong magnetic field and sound waves.

Malignant: Cancerous; tending to become progressively worse and, eventually, to spread to other parts of the body.

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

Ultrasonography: A test in which sound waves are used to examine internal structures. During pregnancy, it can be used to examine the fetus.