

National Cancer Institute

What You Need
To Know About™

Cervical Cancer

**U.S. DEPARTMENT OF
HEALTH AND HUMAN SERVICES
National Institutes of Health**

National Cancer Institute Services

This is only one of many free booklets for people with cancer.

You may want more information for yourself, your family, and your doctor.

NCI offers comprehensive research-based information for patients and their families, health professionals, cancer researchers, advocates, and the public.

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About This Booklet

This National Cancer Institute (NCI) booklet is for you—a woman who has just been diagnosed with **cervical cancer**. The disease begins on the surface of the **cervix**. If not treated, the **cancer** invades more deeply into the cervix. This is called **invasive cervical cancer**.

This booklet shows words that may be new to you in **bold**. See the **Words to Know** section to learn what a new word means and how to pronounce it.

In 2012, more than 12,000 women in the United States will be diagnosed with invasive cervical cancer. Most will be younger than 55.

Learning about medical care for invasive cervical cancer can help you take an active part in making choices about your care. This booklet tells about...

- **Diagnosis and staging**
- **Treatment and follow-up care**
- **Taking part in research studies**

You can read this booklet from front to back. Or you can read only the sections you need right now.

This booklet has lists of questions that you may want to ask your doctor. Many people find it helpful to take a list of questions to a doctor visit. To help remember what your doctor says, you can take notes. You may also want to have a family member or friend go with you when you talk with the doctor—to take notes, ask questions, or just listen.

For the latest information about cervical cancer, please visit NCI's website at <http://www.cancer.gov/cancertopics/types/cervical>.

Also, NCI's Cancer Information Service can answer your questions about cancer. We can also send you NCI booklets and fact sheets. Call **1-800-4-CANCER (1-800-422-6237)**. Or, chat using **LiveHelp**, NCI's instant messaging service, at <http://www.cancer.gov/livehelp>.

This booklet is only about invasive cervical cancer. It's not about abnormal cells found only on the surface of the cervix or about other cervical cell changes. These changes are treated differently from invasive cervical cancer.

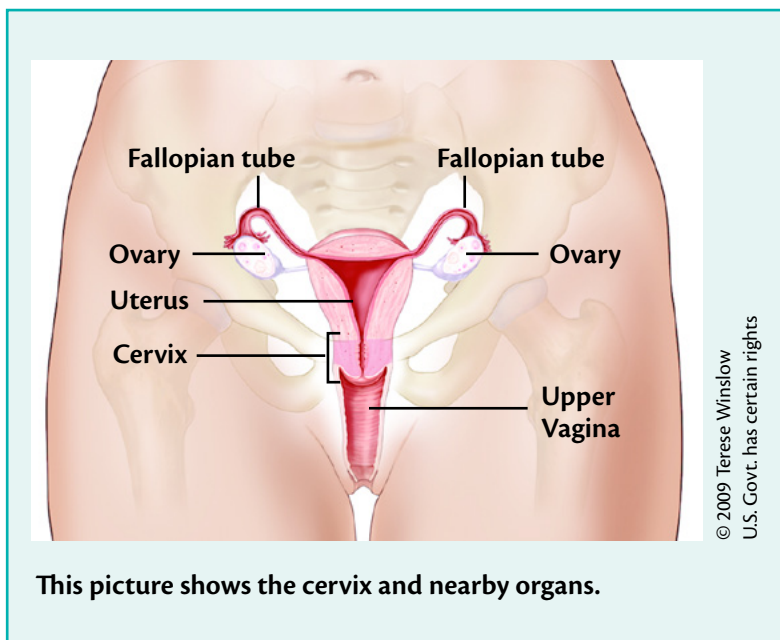
Women with abnormal cells only on the surface of the cervix may want to read the NCI booklet *Understanding Cervical Changes: A Health Guide for Women* instead. It tells about abnormal cells and describes the treatment options.

The Cervix

The cervix is part of a woman's **reproductive system**. It's in the **pelvis**. The cervix is the lower, narrow part of the **uterus** (womb).

The cervix is a passageway:

- The cervix connects the uterus to the **vagina**. During a **menstrual period**, blood flows from the uterus through the cervix into the vagina. The vagina leads to the outside of the body.
- The cervix makes **mucus**. During sex, mucus helps **sperm** move from the vagina through the cervix into the uterus.
- During pregnancy, the cervix is tightly closed to help keep the baby inside the uterus. During childbirth, the cervix opens to allow the baby to pass through the vagina.



Cancer Cells

Cancer begins in **cells**, the building blocks that make up **tissues**. Tissues make up the cervix and other **organs** of the body.

Normal cervical cells grow and divide to form new cells as the body needs them. When normal cells grow old or get damaged, they die, and new cells take their place.

Sometimes, this process goes wrong. New cells form when the body does not need them, and old or damaged cells do not die as they should. The buildup of extra cells often forms a mass of tissue called a growth or **tumor**.

Growths on the cervix can be **benign** (not cancer) or **malignant** (cancer):

■ **Benign growths** (**polyps**, **cysts**, or **genital warts**):

- are not harmful
- don't invade the tissues around them

■ **Malignant growths** (cervical cancer):

- may sometimes be a threat to life
- can invade nearby tissues and organs
- can spread to other parts of the body

Cervical cancer begins in cells on the surface of the cervix. Over time, the cervical cancer can invade more deeply into the cervix and nearby tissues.

Cervical cancer cells can spread by breaking away from the cervical tumor. They can travel through **lymph vessels** to nearby **lymph nodes**. Also, cancer cells can spread through the **blood vessels** to the lungs, liver, or bones.

After spreading, cancer cells may attach to other tissues and grow to form new tumors that may damage those tissues. See the **Staging** section on page 10 for information about cervical cancer that has spread.

Risk Factors

When you get a diagnosis of cervical cancer, it's natural to wonder what may have caused the disease. Doctors usually can't explain why one woman develops cervical cancer and another doesn't.

However, we do know that a woman with certain **risk factors** may be more likely than other women to develop cervical cancer. A risk factor is something that may increase the chance of developing a disease.

Studies have found that **infection** with the **virus** called **HPV** is the cause of almost all cervical cancers. Most adults have been infected with HPV at some time in their lives, but most infections clear up on their own. An HPV infection that doesn't go away can cause cervical cancer in some women. The NCI fact sheet *HPV and Cancer* has more information.

Other risk factors, such as smoking, can act to increase the risk of cervical cancer among women infected with HPV even more. The NCI booklet *Understanding Cervical Changes* describes other risk factors for cervical cancer.

A woman's risk of cervical cancer can be reduced by getting regular cervical cancer **screening** tests. If abnormal cervical cell changes are found early, cancer can be prevented by removing or killing the changed cells before they become cancer cells.

Another way a woman can reduce her risk of cervical cancer is by getting an **HPV vaccine** before becoming sexually active (between the ages of 9 and 26). Even women who get an HPV vaccine need regular cervical cancer screening tests.

Symptoms

Early cervical cancers usually don't cause symptoms. When the cancer grows larger, women may notice abnormal vaginal bleeding:

- Bleeding that occurs between regular menstrual periods
- Bleeding after sexual intercourse, douching, or a **pelvic exam**
- Menstrual periods that last longer and are heavier than before
- Bleeding after going through **menopause**

Women may also notice...

- Increased vaginal discharge
- Pelvic pain
- Pain during sex

Cervical cancer, infections, or other health problems may cause these symptoms. A woman with any of these symptoms should tell her doctor so that problems can be diagnosed and treated as early as possible.

Diagnosis

If you have symptoms of cervical cancer, your doctor will try to find out what's causing the problems. You may have the following tests:

- **Lab tests:** The doctor or nurse scrapes a sample of cells from the cervix. For a **Pap test**, the lab checks the sample for cervical cancer cells or abnormal cells that could become cancer later if not treated. For an HPV test, the same sample is tested for HPV infection. HPV can cause cell changes and cervical cancer.
- **Cervical exam:** The doctor uses a **colposcope** to look at the cervix. The colposcope combines a bright light with a magnifying lens to make tissue easier to see. This exam is usually done in the doctor's office or clinic.
- **Tissue sample:** The removal of tissue to look for cancer cells is a **biopsy**. Most women have cervical tissue removed in the doctor's office, and usually only **local anesthesia** is needed.

The doctor will remove tissue in one of the following ways:

- **Punch biopsy:** The doctor uses a sharp tool to pinch off small samples of cervical tissue.
- **LEEP:** The doctor uses an electric wire loop to slice off a thin, round piece of cervical tissue.
- **Endocervical curettage:** The doctor uses a **curette** (a small, spoon-shaped instrument) to scrape a small sample of tissue from the cervical canal. Some doctors may use a thin, soft brush instead of a curette.

- **Cone biopsy:** The doctor removes a cone-shaped sample of tissue. A cone biopsy lets the **pathologist** look at the tissue beneath the surface of the cervix to learn whether it has abnormal cells. The doctor may do this test in the hospital under **general anesthesia**.

A pathologist checks the tissue under a microscope for cancer cells. In most cases, a biopsy is the only sure way to tell whether cancer is present.

Removing tissue from the cervix may cause some bleeding or other discharge. The area usually heals quickly. Some women also feel some pain similar to menstrual cramps. Your doctor can suggest medicine that will help relieve any pain.

For more information about tests, cell changes, and treatment for these changes, you may want to read the NCI booklet *Understanding Cervical Changes*.

You may want to ask the doctor these questions before having a biopsy:

- Which biopsy method do you recommend?
- How will tissue be removed?
- Will I have to go to the hospital?
- How long will it take? Will I be awake? Will it hurt?
- Are there any risks? What are the chances of infection or bleeding after the test?
- For how many days afterward should I avoid using tampons, douching, or having sex?
- Can the test affect my ability to get pregnant and have children?
- How soon will I know the results? Who will explain them to me?
- If I do have cancer, who will talk to me about the next steps? When?

Staging

If the biopsy shows that you have cancer, your doctor will need to learn the extent (stage) of the disease to help you choose the best treatment. The stage is based on whether the cancer has invaded nearby tissues or spread to other parts of the body. Cervical cancer spreads most often to nearby tissues in the pelvis or to lymph nodes. It may also spread to the lungs, liver, or bones.

When cancer spreads from its original place to another part of the body, the new tumor has the same kind of cancer cells and the same name as the original tumor. For example, if cervical cancer spreads to the lungs, the cancer cells in the lungs are actually cervical cancer cells. The disease is **metastatic** cervical cancer, not lung cancer. It's treated as cervical cancer, not as lung cancer. Doctors sometimes call the new tumor in the lung "distant" disease.

Your doctor will do a pelvic exam, will feel for swollen lymph nodes, and may remove additional tissue. To learn the extent of disease, your doctor may order one or more tests:

- **Chest x-ray:** An **x-ray** of the chest can often show whether cancer has spread to the lungs.
- **CT scan:** An x-ray machine linked to a computer takes a series of detailed pictures of your pelvis, abdomen, or chest. Before a **CT scan**, you may receive **contrast material** by **injection** in your arm or hand, by mouth, or by **enema**. The contrast material makes abnormal areas easier to see. A tumor in the liver, lungs, or elsewhere in the body can show up on the CT scan.

- **MRI:** A powerful magnet linked to a computer makes detailed pictures of your pelvis and **abdomen**. Before **MRI**, you may receive an injection of contrast material. MRI can show whether cancer has invaded tissues near the cervix or has spread from the cervix to tissues in the pelvis or abdomen.

The stage is based on where cancer is found. These are the stages of invasive cervical cancer:

- **Stage I:** Cancer cells are found only in the cervix.
- **Stage II:** The tumor has grown through the cervix and invaded the upper part of the vagina. It may have invaded other nearby tissues but not the **pelvic wall** (the lining of the part of the body between the hips) or the lower part of the vagina.
- **Stage III:** The tumor has invaded the pelvic wall or the lower part of the vagina. If the tumor is large enough to block one or both of the tubes through which urine passes from the kidneys, lab tests may show that the kidneys aren't working well.
- **Stage IV:** The tumor has invaded the **bladder** or **rectum**. Or, the cancer has spread to other parts of the body, such as the lungs.

Treatment

Treatment options for women with cervical cancer are...

- **Surgery**
- **Radiation therapy**
- **Chemotherapy**
- **A combination of these methods**

The choice of treatment depends mainly on the size of the tumor and whether the cancer has spread. The treatment choice may also depend on whether you would like to become pregnant someday.

Your doctor may refer you to a specialist, or you may ask for a referral. You may want to see a **gynecologic oncologist**, a doctor who specializes in treating female cancers. Other specialists who treat cervical cancer include **gynecologists**, **medical oncologists**, and **radiation oncologists**. Your health care team may also include an **oncology nurse** and a **registered dietitian**.

Your health care team can describe your treatment choices, the expected results of each, and the possible **side effects**. Because cancer treatments often damage healthy cells and tissues, side effects are common. These side effects depend on many factors, including the type of treatment. Side effects may not be the same for each person, and they may even change from one treatment session to the next. Before treatment starts, ask your health care team about possible side effects and how treatment may change your normal activities. You and your health care team can work together to develop a treatment plan that meets your medical and personal needs.

At any stage of the disease, **supportive care** is available to control pain and other symptoms, to relieve the side effects of treatment, and to ease emotional concerns. You can get information about coping on NCI's website at <http://www.cancer.gov/cancertopics/coping>.

Also, you can get information about supportive care from NCI's Cancer Information Service at **1-800-4-CANCER (1-800-422-6237)**. Or, chat using **LiveHelp**, NCI's instant messaging service, at <http://www.cancer.gov/livehelp>.

You may want to talk with your doctor about taking part in a **clinical trial**. Clinical trials are research studies testing new treatments. They are an important option for women with all stages of cervical cancer. See the section on **Taking Part in Cancer Research** on page 28.



You and your doctor will develop a treatment plan.

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