

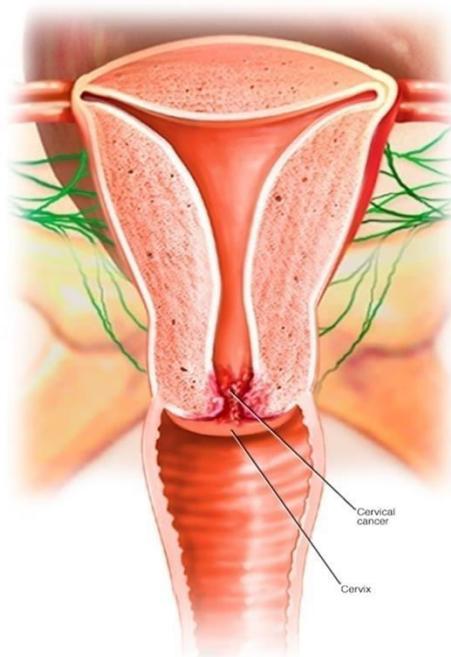
CERVIX CANCER

The cervix is the lower part of the womb (uterus). The uterus has two parts — the upper part (body) where a baby grows, and the lower part (cervix). The cervix connects the body of the uterus to the vagina (birth canal).

Cervical cancer, or cancer of the cervix, begins on the surface of the cervix. There are two main types of cancer of the cervix — squamous cell carcinomas and adenocarcinomas. About 80% to 90% are squamous cell carcinomas, while 10%-20% are adenocarcinomas.

Various strains of the human papillomavirus (HPV), a sexually transmitted infection, play a role in causing most cervical cancer.

When exposed to HPV, a woman's immune system typically prevents the virus from doing harm. In a small group of women, however, the virus survives for years, contributing to the process that causes some cells on the surface of the cervix to become cancer cells.



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Symptoms

Early-stage cervical cancer generally produces no signs or symptoms.

Signs and symptoms of more-advanced cervical cancer include:

- Vaginal bleeding after intercourse, between periods or after menopause
- Watery, bloody vaginal discharge that may be heavy and have a foul odor
- Pelvic pain or pain during intercourse

Types of cervical cancer

The type of cervical cancer that you have helps determine your prognosis and treatment. The main types of cervical cancer are:

- **Squamous cell carcinoma.** This type of cervical cancer begins in the thin, flat cells (squamous cells) lining the outer part of the cervix, which projects into the vagina. Most cervical cancers are squamous cell carcinomas.
- **Adenocarcinoma.** This type of cervical cancer begins in the column-shaped glandular cells that line the cervical canal.

Sometimes, both types of cells are involved in cervical cancer. Very rarely, cancer occurs in other cells in the cervix.

Risk factors

Risk factors for cervical cancer include:

- **Many sexual partners.** The greater your number of sexual partners — and the greater your partner's number of sexual partners — the greater your chance of acquiring HPV.
- **Early sexual activity.** Having sex at an early age increases your risk of HPV.

- **Other sexually transmitted infections (STIs).** Having other STIs — such as chlamydia, gonorrhea, syphilis and HIV/AIDS — increases your risk of HPV.
- **A weak immune system.** You may be more likely to develop cervical cancer if your immune system is weakened by another health condition and you have HPV.
- **Smoking.** Smoking is associated with squamous cell cervical cancer

How is cervical cancer diagnosed?

Together, pelvic exams and Pap smears can detect most cases of cervical cancer. For an accurate diagnosis, your doctor will visually examine the cervix and take a tissue sample of any apparent abnormality for biopsy.

- **Pap test.** During a Pap test, your doctor scrapes and brushes cells from your cervix, which are then examined in a lab for abnormalities.

A Pap test can detect abnormal cells in the cervix, including cancer cells and cells that show changes that increase the risk of cervical cancer.

- **HPV DNA test.** The HPV DNA test involves testing cells collected from the cervix for infection with any of the types of HPV that are most likely to lead to cervical cancer. This test may be an option for women age 30 and older, or for younger women with an abnormal Pap test.
- **Punch biopsy,** which involves using a sharp tool to pinch off small samples of cervical tissue.
- **Endocervical curettage,** which uses a small, spoon-shaped instrument (curet) or a thin brush to scrape a tissue sample from the cervix.

If the punch biopsy or endocervical curettage is worrisome, your doctor may perform one of the following tests:

- **Electrical wire loop**, which uses a thin, low-voltage electrical wire to obtain a small tissue sample. Generally this is done under local anesthesia in the office.
- **Cone biopsy**, which is a procedure that allows your doctor to obtain deeper layers of cervical cells for laboratory testing. A cone biopsy may be done in a hospital under general anesthesia.

If the biopsy confirms cancer, further tests will determine whether the disease has spread (metastasized). These tests might include liver and kidney function studies; blood and urine tests; and X-rays of the bladder, rectum, bowels, and abdominal cavity. This process is called staging.

The stages of cervical cancer

- **Stage I** — Cancer is found only in the cervix.
- **Stage II** — Cancer has spread beyond the cervix but has not yet spread to the pelvic wall (the tissues that line the part of the body between the hips).
- **Stage III** — Cancer has spread to the lower third of the vagina and may have spread to the pelvic wall and nearby lymph nodes.
- **Stage IV** — Cancer has spread to the bladder, rectum, or other parts of the body.

Treatment

Treatment for cervical cancer depends on several factors, such as the stage of the cancer, other health problems you may have and your preferences. Surgery, radiation, chemotherapy or a combination of the three may be used.

Surgery

Early-stage cervical cancer is typically treated with surgery to remove the uterus (hysterectomy). A hysterectomy can cure early-stage cervical cancer and prevent recurrence. But removing the uterus makes it impossible to become pregnant.

Your doctor may recommend:

- **Simple hysterectomy.** The cervix and uterus are removed along with the cancer. Simple hysterectomy is usually an option only in very early-stage cervical cancer.
- **Radical hysterectomy.** The cervix, uterus, part of the vagina and lymph nodes in the area are removed with the cancer.

Minimally invasive surgery may be an option for early-stage cervical cancer.

Surgery that preserves the possibility of becoming pregnant also may be an option, if you have very early-stage cervical cancer without lymph node involvement.

Radiation

Radiation therapy uses high-powered energy beams, such as X-rays or protons, to kill cancer cells. Radiation therapy may be used alone or with chemotherapy before surgery to shrink a tumor or after surgery to kill any remaining cancer cells.

Radiation therapy can be given:

- Externally, by directing a radiation beam at the affected area of the body (external beam radiation therapy)
- Internally, by placing a device filled with radioactive material inside your vagina, usually for only a few minutes (brachytherapy)
- Both externally and internally

Premenopausal women may stop menstruating and begin menopause as a result of radiation therapy. If you might want to get pregnant after radiation treatment, ask your doctor about ways to preserve your eggs before treatment starts.

Chemotherapy

Chemotherapy uses medications, usually injected into a vein, to kill cancer cells. Low doses of chemotherapy are often combined with radiation therapy, since chemotherapy may enhance the effects of the radiation. Higher doses of chemotherapy are used to control advanced cervical cancer that may not be curable.

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