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About Cervical Cancer

Overview and Types

If you have been diagnosed with cervical cancer or are worried about it, you likely have a lot of questions. Learning some basics is a good place to start.

- [What Is Cervical Cancer?](#)

Research and Statistics

See the latest estimates for new cases of cervical cancer and deaths in the US and what research is currently being done.

- [Key Statistics for Cervical Cancer](#)
- [What's New in Cervical Cancer Research and Treatment?](#)

What Is Cervical Cancer?

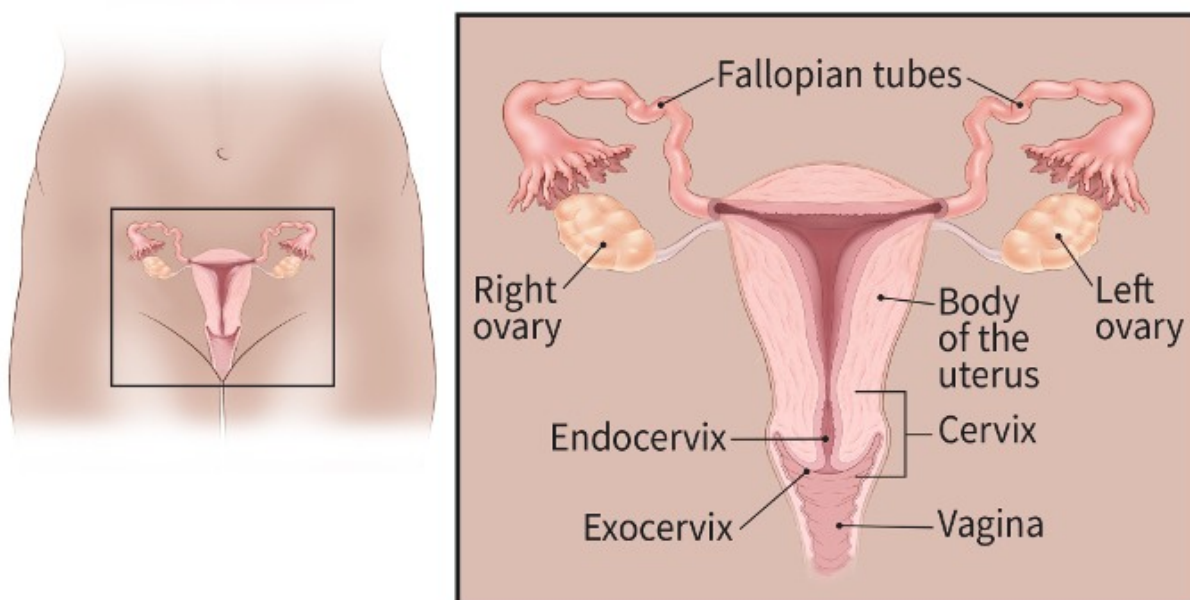
Cancer starts when cells in the body begin to grow out of control. Cells in nearly any part of the body can become cancer, and can spread to other areas of the body. To learn more about how cancers start and spread, see [What Is Cancer?](#)¹

Cervical cancer starts in the cells lining the cervix -- the lower part of the uterus (womb). This is sometimes called the uterine cervix. The fetus grows in the body of the uterus (the upper part). The cervix connects the body of the uterus to the vagina (birth canal).

The cervix has two different parts and is covered with two different types of cells.

- The part of the cervix closest to the body of the uterus is called the **endocervix** and is covered with **glandular** cells.
- The part next to the vagina is the **exocervix** (or **ectocervix**) and is covered in **squamous** cells.

These two cell types meet at a place called the **transformation zone**. The exact location of the transformation zone changes as you get older and if you give birth.



Most cervical cancers begin in the cells in the transformation zone. These cells do not suddenly change into cancer. Instead, the normal cells of the cervix first gradually develop pre-cancerous changes that turn into cancer. Doctors use several terms to describe these pre-cancerous changes, including *cervical intraepithelial neoplasia (CIN)*, *squamous intraepithelial lesion (SIL)*, and *dysplasia*. These changes can be detected by the Pap test and treated to prevent cancer from developing. See [Can Cervical Cancer Be Prevented?](#)²

Although cervical cancers start from cells with pre-cancerous changes (pre-cancers), only some of the women with pre-cancers of the cervix will develop cancer. It usually takes several years for cervical pre-cancer to change to cervical cancer, but it also can happen in less than a year. For most women, pre-cancerous cells will go away without any treatment. Still, in some women pre-cancers turn into true (invasive) cancers.

Treating all cervical pre-cancers can prevent almost all cervical cancers. Pre-cancerous changes and specific types of treatment for pre-cancers are discussed in ³[Cervical Cancer Prevention and Early Detection](#)⁴.

Types of cervical cancer

Cervical cancers and cervical pre-cancers are classified by how they look under a microscope. The main types of cervical cancers are *squamous cell carcinoma* and *adenocarcinoma*.

- Most (up to 9 out of 10) cervical cancers are **squamous cell carcinomas**. These cancers develop from cells in the exocervix and the cancer cells have features of squamous cells under the microscope. Squamous cell carcinomas most often begin in the transformation zone (where the exocervix joins the endocervix).
- Most of the other cervical cancers are [adenocarcinomas](#)⁵. Adenocarcinomas are cancers that develop from gland cells. Cervical adenocarcinoma develops from the mucus-producing gland cells of the endocervix. Cervical adenocarcinomas seem to have become [more common](#)⁶ in the past 20 to 30 years.
- Less commonly, cervical cancers have features of both squamous cell carcinomas and adenocarcinomas. These are called **adenosquamous carcinomas** or **mixed carcinomas**.

Although almost all cervical cancers are either squamous cell carcinomas or adenocarcinomas, other types of cancer also can develop in the cervix. These other types, such as [melanoma](#)⁷, [sarcoma](#)⁸, and [lymphoma](#)⁹, occur more commonly in other parts of the body.

Only the more common cervical cancer types are covered here, and not the rare types.

Hyperlinks

1. www.cancer.org/cancer/cancer-basics/what-is-cancer.html
2. www.cancer.org/cancer/cervical-cancer/causes-risks-prevention/prevention.html
3. www.cancer.org/cancer/cervical-cancer/prevention-and-early-detection.html
4. www.cancer.org/cancer/melanoma-skin-cancer.html
5. www.cancer.org/cancer/soft-tissue-sarcoma.html
6. www.cancer.org/cancer/lymphoma.html

References: 1. American Cancer Society. *Cervical Cancer Facts and Figures*. Atlanta, GA: American Cancer Society; 2016. 2. American Cancer Society. *Cervical Cancer Facts and Figures*. Atlanta, GA: American Cancer Society; 2016. 3. American Cancer Society. *Cervical Cancer Facts and Figures*. Atlanta, GA: American Cancer Society; 2016. 4. American Cancer Society. *Cervical Cancer Facts and Figures*. Atlanta, GA: American Cancer Society; 2016. 5. American Cancer Society. *Cervical Cancer Facts and Figures*. Atlanta, GA: American Cancer Society; 2016. 6. American Cancer Society. *Cervical Cancer Facts and Figures*. Atlanta, GA: American Cancer Society; 2016. 7. American Cancer Society. *Cervical Cancer Facts and Figures*. Atlanta, GA: American Cancer Society; 2016. 8. American Cancer Society. *Cervical Cancer Facts and Figures*. Atlanta, GA: American Cancer Society; 2016. 9. American Cancer Society. *Cervical Cancer Facts and Figures*. Atlanta, GA: American Cancer Society; 2016.

- About 13,170 new cases of invasive cervical cancer will be diagnosed.

Key Statistics for Cervical Cancer

Cervical pre-cancers are diagnosed far more often than invasive cervical cancer

Cervical cancer tends to occur in midlife and is most frequently diagnosed in women between the ages of 35 and 44. It rarely develops in women younger than 20. Many older women do not realize that the risk of developing cervical cancer is still present as they age. More than 15% of cases of cervical cancer are found in women over 65 . However, these cancers rarely occur in women who have been getting regular tests to screen for cervical cancer before they were 65. See [Can cervical cancer be prevented?](#)¹ and [Cervical Cancer Prevention and Early Detection](#)² for more information about tests used to screen for cervical cancer.

In the United States, Hispanic women are most likely to get cervical cancer, followed by African-Americans, Asians and Pacific Islanders, and whites. American Indians and Alaskan natives have the lowest risk of cervical cancer in this country.

Visit the [American Cancer Society's Cancer Statistics Center](#)³ for more key statistics.

Hyperlinks

1. www.cancer.org/cancer/cervical-cancer/causes-risks-prevention/prevention.html
2. www.cancer.org/cancer/cervical-cancer/prevention-and-early-detection/cervical-cancer-screening-guidelines.html
3. <https://cancerstatisticscenter.cancer.org/>

References

American Cancer Society. Cancer Facts & Figures 2019. Atlanta, Ga: American Cancer Society; 2019.

See all references for Cervical Cancer (www.cancer.org/cancer/cervical-cancer/references.html)

Last Medical Review: November 16, 2016 Last Revised: January 8, 2019

What's New in Cervical Cancer Research and Treatment?

New ways to prevent and treat cancer of the cervix are being researched. Some of the promising new developments include the following:

Sentinel lymph node biopsy (SNLB)

During surgery for cervical cancer, lymph nodes in the pelvis may be removed to check for cancer spread. Instead of removing many lymph nodes, a technique called *sentinel lymph node biopsy* can be used to target just the few lymph nodes most likely to contain cancer. In this technique a blue dye containing a radioactive tracer is injected into the cancer and allowed to drain into lymph nodes. Then, during surgery, the lymph nodes that contain radiation and the blue dye can be identified and removed. These are the lymph nodes most likely to contain cancer if it has spread. If these lymph nodes don't contain cancer, the other lymph nodes don't need to be removed. Removing fewer lymph nodes may lower the risk of later problems, such as lymphedema of the legs.

A clinical trial is looking at a different way of doing a sentinel node biopsy procedure. It maps the lymph nodes using with robotic (laparoscopic) assisted near infrared imaging after injecting indocyanine green (ICG) dye into the cervix.

SLNB is not a standard procedure for cervical cancer at this time. Available studies suggest that SLNB may be helpful in early-stage cervical cancer, but more studies are planned to see if this procedure should routinely become part of the treatment.

Immunotherapy

In cancer, the immune system cannot control the fast growth of tumor cells. Recently, new drugs called **immune checkpoint inhibitors** have been developed that “reset” the immune system. They have been found to be active in treating a number of types of cancer. Their helpfulness in cervical cancer treatment is not yet known, but clinical trials are underway to find out more. See [Cancer Immunotherapy](#)¹ for more information on this type of treatment.

HPV vaccines

Vaccines have been developed to prevent infection with some of the HPV types that cause associated with cervical cancer. Currently available [vaccines](#)² are intended to produce immunity to HPV types that cause about 90% of cervical cancers. Studies are being done to see how well these vaccines will reduce the risk of cervical cancer.

Vaccines are also being developed to prevent infection with some of the other HPV

types that also cause cancer. Studies are being done to see how well these vaccines will reduce the risk of cervical cancer.

Some experimental vaccines are also being studied for women with established HPV infections, to help their immune systems destroy the virus and cure the infection before a cancer develops.

Still other vaccines are meant to help women who already have advanced cervical cancer. These vaccines attempt to produce an immune reaction to the parts of the virus (E6 and E7 proteins) that make the cervical cancer cells grow abnormally. It is hoped that this immunity will kill the cancer cells or stop them from growing. One such study in advanced cervical cancer showed tumor shrinkage with a vaccine against the E7 protein.

Targeted therapy

As researchers have learned more about the gene changes in cells that cause cancer, they have been able to develop newer drugs that specifically target these changes. These [targeted drugs](#)³ work differently from standard chemotherapy drugs. They often have different (and less severe) side effects. These drugs may be used alone or with more traditional chemotherapy.

Pazopanib is a type of targeted drug that blocks certain growth factors that help cancer cells grow. It has shown to be helpful in some early studies of patients with advanced cervical cancer. This drug continues to be studied.

Hyperthermia

Some research indicates that adding hyperthermia to radiation may help keep the cancer from coming back and help patients live longer. Hyperthermia is a treatment that raises the temperature in the area where the tumor is, most often by using radiofrequency antennae placed around the patient.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/immunotherapy.html
2. www.cancer.org/cancer/cancer-causes/infectious-agents/hpv/hpv-vaccines.html

3. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/targeted-therapy.html

References

See all references for Cervical Cancer (www.cancer.org/cancer/cervical-cancer/references.html)

Last Medical Review: November 16, 2016 Last Revised: December 5, 2016

Written by

The American Cancer Society medical and editorial content team
(www.cancer.org/cancer/acs-medical-content-and-news-staff.html)

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