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About Cervical Cancer

Get an overview of cervical cancer and the latest key statistics in the US.

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?](#)

What Is Cervical Cancer?

- [Abnormal changes in cells of the cervix](#)
- [Types of cervical cancer](#)

Cervical cancer starts in the cells lining the cervix -- the lower part of the uterus (womb).

The cervix connects the body of the uterus (the upper part where a fetus grows) to the vagina (birth canal). Cancer starts when cells in the body begin to grow out of control. To learn more about how cancers start and spread, see [What Is Cancer?](#)¹

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

- The **endocervix** is the opening of the cervix that leads into the uterus. It is covered with **glandular** cells.
- The **exocervix (or ectocervix)** is the outer part of the cervix that can be seen by the doctor during a speculum exam. It is covered in **squamous** cells.

The place where these two cell types meet in the cervix is 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.



Abnormal changes in cells of the cervix

Cells in the transformation zone do not suddenly change into cancer. Instead, the normal cells of the cervix first gradually develop abnormal changes that can turn into cancer. Doctors use several terms to describe these cell changes, including **cervical intraepithelial neoplasia (CIN)**, **squamous intraepithelial lesion (SIL)**, and **dysplasia**. You might hear these abnormal changes referred to as pre-cancers or pre-cancer changes.

When these abnormal changes in the cervix are found, they are graded on a scale of 1

to 3 based on how much of the cervical tissue looks abnormal.

- In CIN1 (also called mild dysplasia or low grade SIL), not much of the tissue looks abnormal. Most often, these cells will change back to normal cells.
- In CIN2 or CIN3 (also called moderate/severe dysplasia or high-grade SIL) more of the tissue looks abnormal. With these cell changes, there is higher risk that the cells can become cancer cells and will need to be watched closely or removed.

Although cervical cancers start from cells with abnormal changes, only some women with these changes of the cervix will develop cancer. For most women, these abnormal cells will go away without any treatment. But, in some women these abnormal cells can turn into true (invasive) cancers. Treating abnormal changes in cervical cells can prevent almost all cervical cancers.

The goal of [cervical cancer screening](#)² is to find abnormal cells in the cervix or cervical cancer early when it is more treatable and curable. Regular screening can prevent cervical cancers and save lives. The tests for cervical cancer screening are the HPV test and the Pap test. Pre-cancerous changes can be detected by the [Pap test](#)³ and treated to prevent cancer from developing. The [HPV test](#)⁴ looks for infection by high-risk types of HPV that are more likely to cause pre-cancers and cancers of the cervix. HPV infection has no treatment, but a vaccine can help prevent it.

See [Can Cervical Cancer Be Prevented?](#)⁵ The specific types of treatment for abnormal screening tests are discussed in [When Cervical Screening Test Results are Abnormal](#)⁶.

Types of cervical cancer

Cervical cancers and cervical pre-cancers are classified by how they look in the lab with 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. Squamous cell carcinomas most often begin in the transformation zone (where the exocervix joins the endocervix).
- Most of the other cervical cancers are **adenocarcinomas**. Adenocarcinomas are cancers that develop from glandular cells. Cervical adenocarcinoma develops from the mucus-producing gland cells of the endocervix.
- Less commonly, cervical cancers have features of both squamous cell carcinomas and adenocarcinomas. These are called **adenosquamous carcinomas** or **mixed**

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Key Statistics for Cervical Cancer

cervical cancer before they were 65. See [Can Cervical Cancer Be Prevented?](#)¹

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What's New in Cervical Cancer Research?

New ways to prevent and treat cancer of the cervix are being researched. Some of the promising new developments are covered here.

- [Immunotherapy](#)
- [Targeted therapy](#)
- [Radiation therapy](#)
- [Chemotherapy](#)
- [HPV vaccines](#)

Immunotherapy

Treatment of cervical cancer includes immunotherapy with drugs called checkpoint inhibitors. These drugs are generally only given to people with metastatic or recurrent disease, with or without chemo. Research is being done to determine if immunotherapy would work better with different combinations of chemo, or if it can be used for people

with earlier-stage disease.

Targeted therapy

Current targeted therapy includes finding cells with changes in the *RET* and *NTRK* genes. Scientists are studying how other gene mutations found in cervical cancer cells can be targeted by specific drugs. Genes called oncogenes and tumor suppressor genes, which control cell growth, are of particular interest.

Radiation therapy

Studies are being done to determine the best ways to use external beam therapy and brachytherapy to treat cervical cancer and still limit damage to normal tissue. Doctors are also looking for ways to use more focused radiation along with other treatments, like [immunotherapy](#),¹ to treat advanced cervical cancers.

Chemotherapy

1. www.cancer.org/cancer/types/cervical-cancer/treating/immunotherapy.html
2. www.cancer.org/cancer/risk-prevention/hpv/hpv-vaccines.html

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