



Cervical Cancer Causes, Risk Factors, and Prevention

Risk Factors

A risk factor is anything that affects your chance of getting a disease such as cancer. Learn more about the risk factors for cervical cancer.

- [What Are the Risk Factors for Cervical Cancer?](#)
- [Do We Know What Causes Cervical Cancer?](#)

Prevention

There is no way to completely prevent cancer. But there are things you can do that might lower your risk. Learn more.

- [Can Cervical Cancer Be Prevented?](#)
- [Cervical Cancer Prevention and Early Detection](#)

What Are the Risk Factors for Cervical Cancer?

A risk factor is anything that changes your chance of getting a disease such as cancer. Different cancers have different risk factors. For example, exposing skin to strong sunlight is a risk factor for skin cancer. Smoking is a risk factor for many cancers. But having a risk factor, or even several, does not mean that you will get the disease.

Several risk factors increase your chance of developing cervical cancer. Women without any of these risk factors rarely develop cervical cancer. Although these risk factors increase the odds of developing cervical cancer, many women with these risks do not

develop this disease. When a woman develops cervical cancer or pre-cancerous changes, it might not be possible to say that a particular risk factor was the cause.

In thinking about risk factors, it helps to focus on those you can change or avoid (like smoking or human papillomavirus infection), rather than those you cannot (such as your age and family history). However, it is still important to know about risk factors that cannot be changed, because it's even more important for women who have these factors to get regular Pap tests to detect cervical cancer early.

Cervical cancer risk factors include:

Human papillomavirus (HPV) infection

Infection by the [human papillomavirus](#) (HPV) is the most important risk factor for cervical cancer. HPV is a group of more than 150 related viruses. Some of them cause a type of growth called **papillomas**, which are more commonly known as warts .

- HPV can infect cells on the surface of the skin, and those lining the genitals, anus, mouth and throat, but not the blood or internal organs such as the heart or lungs.
- HPV can spread from one person to another during skin-to-skin contact. One way HPV spreads is through sexual activity, including vaginal, anal, and even oral sex.
- Different types of HPV cause warts on different parts of the body. Some cause common warts on the hands and feet; others tend to cause warts on the lips or tongue.

Certain types of HPV may cause warts on or around the female and male genital organs and in the anal area. These are called *low-risk types* of HPV because they are seldom linked to cancer.

Other types of HPV are called high-risk types because they are strongly linked to cancers, including cancer of the cervix, [vulva](#), and [vagina](#) in women, [penile cancer](#) in men, and cancers of the [anus](#), [mouth, and throat](#) in both men and women.

Infection with HPV is common, and in most people the body can clear the infection by itself. Sometimes, however, the infection does not go away and becomes chronic. Chronic infection, especially when it is caused by certain high-risk HPV types, can eventually cause certain cancers, such as cervical cancer.

Although there is currently no cure for HPV infection, there are ways to treat the warts and abnormal cell growth that HPV causes.

For more information on about this topic, see our documents [Cervical Cancer Prevention and Early Detection](#) and [HPV and HPV Testing](#).

Smoking

When someone smokes, they and those around them are exposed to many cancer-causing chemicals that affect organs other than the lungs. These harmful substances are absorbed through the lungs and carried in the bloodstream throughout the body.

Women who smoke are about twice as likely as non-smokers to get cervical cancer. Tobacco by-products have been found in the cervical mucus of women who smoke. Researchers believe that these substances damage the DNA of cervix cells and may contribute to the development of cervical cancer. Smoking also makes the immune system less effective in fighting HPV infections.

Having a weakened immune system

[Human immunodeficiency virus \(HIV\)](#), the virus that causes AIDS, damages a woman's immune system and puts them at higher risk for HPV infections.

The immune system is important in destroying cancer cells and slowing their growth and spread. In women with HIV, a cervical pre-cancer might develop into an invasive cancer faster than it normally would.

Another group of women at risk for cervical cancer are those taking drugs to suppress their immune response, such as those being treated for an autoimmune disease (in which the immune system sees the body's own tissues as foreign and attacks them, as it would a germ) or those who have had an organ transplant .

Chlamydia infection

Chlamydia is a relatively common kind of bacteria that can infect the reproductive system. It is spread by sexual contact. Chlamydia infection can cause pelvic inflammation, leading to infertility.

Some studies have seen a higher risk of cervical cancer in women whose blood tests and cervical mucus showed evidence of past or current chlamydia infection. Women who are infected with chlamydia often have no symptoms. In fact, they may not know that they are infected at all unless they are tested for chlamydia during a pelvic exam.

A diet low in fruits and vegetables

Women whose diets don't include enough fruits and vegetables may be at increased risk for cervical cancer.

Being overweight

Overweight women are more likely to develop adenocarcinoma of the cervix.

Long-term use of oral contraceptives (birth control pills)

There is evidence that taking oral contraceptives (OCs) for a long time increases the risk of cancer of the cervix. Research suggests that the risk of cervical cancer goes up the longer a woman takes OCs, but the risk goes back down again after the OCs are stopped, and returns to normal about 10 years after stopping.

The American Cancer Society believes that a woman and her doctor should discuss whether the benefits of using OCs outweigh the potential risks.

Intrauterine device (IUD) use

Some research suggests that women who had ever used an intrauterine device (IUD) had a lower risk of cervical cancer. The effect on risk was seen even in women who had an IUD for less than a year, and the protective effect remained after the IUDs were removed.

Using an IUD might also lower the risk of endometrial (uterine) cancer. However, IUDs do have some risks. A woman interested in using an IUD should first discuss the possible risks and benefits with her doctor. Also, a woman with multiple sexual partners should use condoms to lower her risk of sexually transmitted illnesses no matter what other form of contraception she uses.

Having multiple full-term pregnancies

Women who have had 3 or more full-term pregnancies have an increased risk of developing cervical cancer. No one really knows why this is true. Also, studies have

pointed to hormonal changes during pregnancy as possibly making women more susceptible to HPV infection or cancer growth. Another thought is that pregnant women might have weaker immune systems, allowing for HPV infection and cancer growth.

Being younger than 17 at your first full-term pregnancy

Women who were younger than 17 years when they had their first full-term pregnancy are almost 2 times more likely to get cervical cancer later in life than women who waited to get pregnant until they were 25 years or older.

Economic status

Many low-income women do not have easy access to adequate health care services, including Pap tests. This means they may not get screened or treated for cervical pre-cancers.

Diethylstilbestrol (DES)

DES is a hormonal drug that was given to some women between 1940 and 1971 to prevent miscarriage. Women whose mothers took DES (when pregnant with them) develop clear-cell adenocarcinoma of the vagina or cervix more often than would normally be expected. These types of cancer are extremely rare in women who haven't been exposed to DES. There is about 1 case of vaginal or cervical clear-cell adenocarcinoma in every 1,000 women whose mothers took DES during pregnancy. This means that about 99.9% of "DES daughters" do not develop these cancers.

DES-related clear cell adenocarcinoma is more common in the vagina than the cervix. The risk appears to be greatest in women whose mothers took the drug during their first 16 weeks of pregnancy. The average age of women diagnosed with DES-related clear-cell adenocarcinoma is 19 years. Since the use of DES during pregnancy was stopped by the FDA in 1971, even the youngest DES daughters are older than 40 past the age of highest risk. Still, there is no age cut-off when these women are felt to be safe from DES-related cancer. Doctors do not know exactly how long these women will remain at risk.

DES daughters may also be at increased risk of developing squamous cell cancers and pre-cancers of the cervix linked to HPV.

You can learn more in [DES Exposure: Questions and Answers](#). Read it on our website, or call (1-800-227-2345) to have a free copy sent to you.

Having a family history of cervical cancer

Cervical cancer may run in some families . If your mother or sister had cervical cancer, your chances of developing the disease are higher than if no one in the family had it. Some researchers suspect that some instances of this familial tendency are caused by an inherited condition that makes some women less able to fight off HPV infection than others. In other instances, women in the same family as a patient already diagnosed could be more likely to have one or more of the other non-genetic risk factors previously described in this section.

- [References](#)

[See all references for Cervical Cancer](#)

Last Medical Review: October 19, 2017 Last Revised: November 1, 2017

American Cancer Society medical information is copyrighted material. For reprint requests, please see our [Content Usage Policy](#).

Do We Know What Causes Cervical Cancer?

In recent years, there has been a lot of progress in understanding what happens in cells of the cervix when cancer develops. In addition, several risk factors have been identified that increase the odds that a woman might develop cervical cancer (see [What Are the Risk Factors for Cervical Cancer?](#)).

The development of normal human cells mostly depends on the information contained in the cells' DNA. DNA is the chemical in our cells that makes up our genes, which control how our cells work. We look like our parents because they are the source of our DNA. But DNA affects more than just how we look.

Some genes control when cells grow, divide, and die:-

- Genes that help cells grow, divide, and stay alive are called **oncogenes**.
- Genes that help keep cell growth under control or make cells die at the right time are called **tumor suppressor genes**.

Cancers can be caused by DNA mutations (gene defects) that turn on oncogenes or turn off tumor suppressor genes.

[Human papillomaviruses](#) (HPV) cause the production of two proteins known as E6 and E7 which turn off some tumor suppressor genes. This may allow the cervical lining cells to grow too much and to develop changes in additional genes, which in some cases will lead to cancer.

But HPV is not the only cause of cervical cancer. Most women with HPV don't get cervical cancer, and certain other risk factors, like smoking and HIV infection, influence which women exposed to HPV are more likely to develop cervical cancer.

- [References](#)

[See all references for Cervical Cancer](#)

Last Medical Review: November 19, 2016 Last Revised: October 25, 2017

American Cancer Society medical information is copyrighted material. For reprint requests, please see our [Content Usage Policy](#).

Can Cervical Cancer Be Prevented?

The most common form of cervical cancer starts with pre-cancerous changes and there are ways to stop this disease from developing. The first way is to find and treat pre-cancers before they become true cancers, and the second is to prevent the pre-cancers.

Finding cervical pre-cancers

A well-proven way to prevent cervical cancer is to have testing (screening) to find pre-cancers before they can turn into invasive cancer. The Pap test (or Pap smear) and the human papillomavirus (HPV) test are used for this. If a pre-cancer is found it can be treated, stopping cervical cancer before it really starts. Most invasive cervical cancers are found in women who have not had regular Pap tests.

The Pap test is a procedure used to collect cells from the cervix so that they can be looked at under a microscope to find cancer and pre-cancer. These cells can also be used for HPV testing. A Pap test can be done during a pelvic exam, but not all pelvic exams include a Pap test.

An HPV test can be done on the same sample of cells collected from the Pap test.

The most important thing you can do to prevent cervical cancer is to be tested according to American Cancer Society guidelines. These can be found in [Cervical Cancer Prevention and Early Detection](#). Information on treatment if the Pap test results are abnormal is also covered.

Things to do to prevent pre-cancers

There are also some things you can do to prevent pre-cancers, such as:

- Getting an [HPV vaccine](#)
- Testing for HPV
- [Not smoking](#)
- Condom use

More information about ways to prevent cervical pre-cancer and cancer can be found in [Cervical Cancer Prevention and Early Detection](#).

You can also find information on preventing HPV infection in [HPV Vaccines](#).

- [References](#)

[See all references for Cervical Cancer](#)

Last Medical Review: October 19, 2017 Last Revised: November 1, 2017

American Cancer Society medical information is copyrighted material. For reprint requests, please see our [Content Usage Policy](#).

2016 Copyright American Cancer Society

For additional assistance please contact your American Cancer Society
1-800-227-2345 or www.cancer.org