

# Cervical Cancer

## Cervical Squamous Cell Carcinoma

### Definitions

**Carcinoma:** A type of malignant tumor. It may be in situ (see below), or invasive.

**Carcinoma in situ:** A condition that may precede cancer (precursor) and may progress to invasive carcinoma. Carcinoma-in-situ cannot spread to other areas of the body (metastasize), but it still needs to be removed to prevent the development of invasive carcinoma.

**Cervix:** The narrow, lower section of the womb (uterus) connected to the birth canal (vagina). The outer surface (exocervix) is lined by squamous cells (a covering similar to skin).

**Endocervix:** The internal part of the cervix lined by glandular cells.

**Pathologist:** A physician who examines tissues and fluids to diagnose disease in order to assist in making treatment decisions.

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### What is cervical squamous cell carcinoma?

According to the American Cancer Society, in 2010 more than 12,200 American women will be diagnosed with invasive cervical cancer. Squamous cell carcinoma is the most common type of cervical cancer. More than 4,200 women die from cervical cancer each year, but the death rate has been declining by about 4 percent a year. The main reason for this decline is the increased use of the Pap test, which can detect pre-cancerous cells or early-stage cancers when they can be treated most effectively. The five-year survival rate for patients with very early-stage cervical cancer is more than 95 percent.

### Who is most likely to have cervical squamous cell carcinoma?

About half of the women diagnosed with cervical squamous cell carcinoma are in midlife and about 20 percent are over age 65. Precursor lesions may be found at any age once sexual activity has begun. For these reasons, having regular Pap tests throughout life is important.

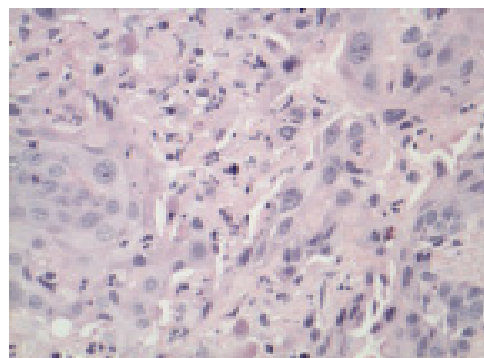
The most important risk factor for cervical squamous cell carcinoma is persistent HPV (human papillomavirus) infection, and progression of a pre-cancerous lesion. Not having regular Pap tests is also an important risk factor. Over half of women developing an invasive cervical carcinoma have never had a Pap test, and 10 percent have not had a Pap test in the last five years. Regular Pap tests, which now may be combined with testing for the high-risk types of HPV in women, are currently the best defense against the development of cervical carcinoma. Other risk factors include a family history of cervical cancer, smoking, use of oral contraceptives, multiple pregnancies, and a weakened immune system caused by human immunodeficiency virus (HIV)/ AIDS, or immune suppressing drugs such as those used to treat organ transplant patients.

### What characterizes cervical squamous cell carcinoma?

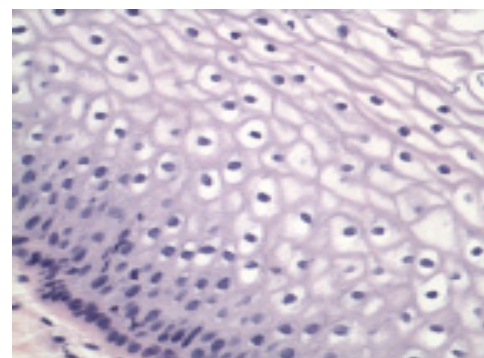
Cervical cells may become pre-cancerous due to the effects of a persistent HPV infection. In a small number of cases, and over a long period of time, usually at least 10 years, pre-cancerous cells may become capable of invasion. There are two types of cervical carcinoma based on the microscopic appearance of the cancer; squamous cell carcinoma accounts for 80 to 90 percent of all cervical cancers, with adenocarcinoma making up 10 to 20 percent. Sometimes, cancers have characteristics of both types; these malignancies are called adenosquamous carcinomas or mixed carcinomas.

Early-stage cervical squamous cell carcinoma may not present symptoms; later-stage cancers can cause abnormal vaginal bleeding, increased vaginal discharge, pelvic pain, or pain during sexual intercourse.

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Invasive squamous cell carcinoma is characterized by malignant cells forming cohesive nests.



Normal cervical cells.

## What kinds of questions should I ask my doctors?

Ask any question you want. There are no questions you should be reluctant to ask. Here are a few to consider:

- Please describe the type of cancer I have and what treatment options are available.
- What is the stage of my cancer?
- What are the chances for full remission?
- What treatment options do you recommend? Why do you believe these are the best treatments?
- What are the pros and cons of these treatment options?
- What are the side effects?
- Should I receive a second opinion?
- Is your medical team experienced in treating the type of cancer I have?
- Can you provide me with information about the physicians and others on the medical team?

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## How does a pathologist diagnose cervical squamous cell carcinoma?

The cytotechnologist and pathologist examine a Pap test specimen under a microscope for precancerous cells or malignancies. A cytotechnologist is a laboratory technologist specially trained in the methods of detecting disease by the examination of cells and tissues. These individuals perform initial evaluations of cytology specimens, such as Pap tests, and identify potential abnormalities, which require further evaluation by pathologists.

If the Pap test is positive, a **colposcopy** or **biopsy** is usually necessary. During a colposcopy procedure, a primary care doctor or nurse closely examines the surface of the cervix using a lighted magnifying instrument. A tissue sample (biopsy) is gathered from the cervix for the pathologist to examine under a microscope.

## What is meant by the stage of the cancer?

Stage 0 is the pre-cancerous or in-situ stage. Stage 1 cervical squamous cell carcinomas are small and confined to the cervix, and stage 4 tumors have spread beyond the cervix. Stages 2 and 3 describe conditions in between these two extremes.

## How do doctors determine what surgery or treatment will be necessary?

The pathologist's report will include many details about the tumor. It is important to know if the carcinoma is in-situ or invasive. If it is an invasive tumor, the pathologist's report should indicate the size of the tumor and how deeply the tumor extends into the cervix. After reviewing the test results and determining the stage of the cancer, the pathologist consults with your primary care physician or specialist (usually a gynecologic oncologist or medical oncologist). Together, using their combined experience and knowledge, they determine treatment options most appropriate for your condition. It's important to learn as much as you can about your treatment options and make the decision that's right for you.

## What kinds of treatments are available for cervical squamous cell carcinoma?

Cervical squamous cell carcinoma can be treated with **surgery**, **radiation therapy**, and **chemotherapy**, or a combination of these methods. In addition, patients may have treatment to control pain or ease emotional or other associated problems.

Surgery is usually used to treat the primary tumor in the cervix and areas close to it. Options for pre-cancerous conditions include **conization**, **cryosurgery**, **laser surgery**, or **LEEP (loop electrosurgical excision procedure)**. These are procedures that remove or destroy the precancerous tissue without removing or altering the surrounding tissues. In most cases with invasive carcinoma, a **hysterectomy** is required to remove the uterus, cervix, and part of the vagina; although in selected cases of small cancers, a lesser surgery may be sufficient to remove all of the cancerous tissue. During a hysterectomy, a surgeon may remove both the fallopian tubes and ovaries during a procedure called **salpingo-oophorectomy**. The surgeon also may remove the lymph nodes near the tumor to have the pathologist examine them for cancer. Lymph nodes are tissue next to the uterus, and they are often the first place that cancer will spread outside of the cervix.

Radiation therapy—pinpointed high-energy beams—can be used to shrink tumors or destroy cancer cells remaining after surgery. It can be used alone or with surgery or chemotherapy. Most women with cancer extending beyond the cervix have radiation therapy. Two types of radiation therapy can be used—external radiation, during which radiation comes from a large machine, or internal radiation, during which radiation is received through thin tubes (also called implants) inserted into the cervix.

If the cancer has spread outside the cervix—or if there is a chance it has—chemotherapy will be recommended. This treatment delivers drugs throughout the body, slows the cancer's progression, and reduces pain.

**Clinical trials** of new treatments for cervical squamous cell carcinoma may be found at [www.cancer.gov/clinicaltrials](http://www.cancer.gov/clinicaltrials). These treatments are highly experimental in nature but may be a potential option for advanced cancers. Some trials may involve biologic therapy, which uses the natural defenses of the immune system to fight cancer.

**For more information**, go to [www.cancer.gov](http://www.cancer.gov) (National Cancer Institute) or [www.cancer.org](http://www.cancer.org) (American Cancer Society). Type the keywords **cervical cancer** or **cervical squamous cell carcinoma** or into the search box.