



Cervical Cancer

in Georgia, 1999-2002



Georgia Department of Human Resources
Division of Public Health

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What is Cervical Cancer?

Cervical cancer begins in the lining of the cervix. The cervix is the lower part of the uterus (womb). The uterus has two parts. The upper part, called the body of the uterus, is where the fetus grows. The cervix, in the lower part, connects the body of the uterus to the vagina, or birth canal.

Cancer of the cervix does not form suddenly. First, some cells begin to change from normal to pre-cancer and later to cancer. This can take a number of years, although sometimes it happens more quickly. For many women, low-grade pre-cancerous changes may go away without any treatment. Persistent pre-cancerous changes may need to be treated to keep them from becoming true cancers.

There are two main types of cancer of the cervix. About 85%-90% are squamous cell carcinomas. The other 10%-15% are adenocarcinomas. If the cancer has features of both types it is called mixed (or adenosquamous) carcinoma. There are also a few other rare types of cancer of the cervix.

Cervical cancer used to be one of the most common causes of cancer death for American women. Between 1955 and 1992 the number of deaths from cervical cancer declined by 74%. The main reason for this change is the use of the Pap test to find cervical cancer early.

Cervical cancer is the eighth most common cancer in Georgia women. Based on data from the Georgia Comprehensive Cancer Registry, about 440 new cases of cervical cancer will be diagnosed in 2005, and 130 Georgia women will die from this disease.

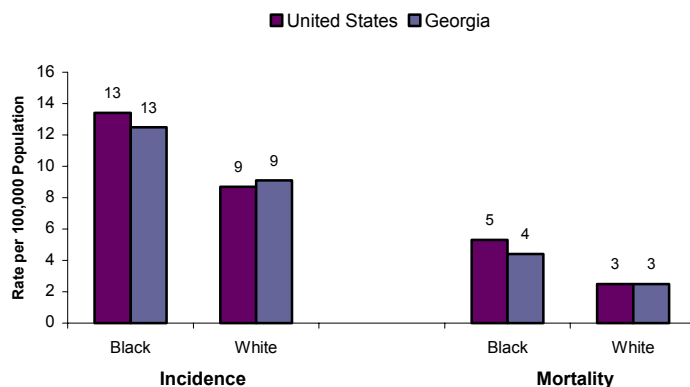
How is Cervical Cancer Detected?

Cervical cancer can usually be found early by having regular Pap tests. With regular Pap tests and appropriate follow-up care (if needed), death from cervical cancer is almost completely preventable. The American Cancer Society recommends the following guidelines for receiving Pap tests:

- All women should begin having the Pap test about 3 years after they start having sex (vaginal intercourse), but no later than 21 years of age.
- The test should be done every year if the regular Pap test is used, or every 2 to 3 years if the newer liquid-based Pap test is used. Either test is effective.
- Beginning at age 30, women who have had 3 normal test results in a row may get the test every 2 to 3 years.
- Women 70 years of age or older who have had 3 or more normal tests in a row (and no abnormal tests in the last 10 years) may choose to stop having the test.
- Women who have had a total hysterectomy (removal of the uterus and cervix) for reasons other than having cancer or a precancerous lesion may also choose to stop having the test.

Who Develops Cervical Cancer?

Cervical Cancer Incidence and Mortality Rates by Race,
US (1998-2002) and GA (1999-2002; 1999-2003)



Rates are age-adjusted to the 2000 US standard population.

Each year from 1999-2002, about 410 cases of cervical cancer were reported to the Georgia Comprehensive Cancer Registry. Black women were more likely to be diagnosed with the disease than were white women.

Each year from 1999-2003, about 120 Georgia women died from cervical cancer. The mortality rate for black women was higher than that for white women.

Overall, Georgia's cervical cancer incidence and mortality rates were below the US average.

What are the Causes and Risk Factors for Cervical Cancer?

We now have a better understanding of the steps that take place when cells in the cervix become cancerous. Also, there are certain known risk factors for cervical cancer. A risk factor is something that increases a person's chance of getting a disease. Some risk factors, such as smoking, can be controlled. Others, like a person's age or race, can't be controlled. In looking at risk factors, it is useful to focus on those that can be controlled. But those that can't be controlled can also serve to remind women about the importance of getting a Pap test.

Risk Factors That Can Be Controlled

- **HPV infection:** For cervical cancer, the most important risk factor is infection with HPV (human papillomavirus). This disease can be passed from one person to another during sex. Having sex at a young age makes HPV infection more likely. Also, women who have many sexual partners or have sex with men who have many partners have a greater chance of getting HPV.
- **HIV infection:** HIV is the virus that causes AIDS. It can also be a risk factor for cancer of the cervix. Being HIV positive makes a woman's immune system less able to fight both the virus and early cancers.
- **Smoking:** Tobacco smoke contains chemicals that may damage the DNA in cells of the cervix and make cancer more likely to develop. Women who smoke are about twice as likely as non-smokers to get cervical cancer.
- **Chlamydia infection:** This is a rather common sexually transmitted infection. Many women do not know they have it unless samples taken at the time of their Pap test are looked at for the bacteria. Some studies suggest that women who have this infection (or have had it in the past) are at greater risk for cancer of the cervix.
- **Diet:** Diets low in fruits and vegetables are linked to an increased risk of developing cervical and other cancers.
- **Obesity:** Women who are overweight are at a higher risk for cervical cancer.
- **Birth control pills:** Long-term use of birth control pills increases the risk of this cancer. Some studies show a higher risk after 5 or more years of use. In one study the risk was increased four fold in women who used birth control pills longer than 10 years. Women considering using birth control pills should talk to a health care professional about the pros and cons of using this form of contraception.
- **Having many pregnancies:** Women who have had many full term pregnancies have an increased risk of this cancer.
- **Not getting regular Pap testing:** the majority of cervical cancers occur in women who are never or rarely screened. Women should receive regular Pap tests. The Pap test can detect cervical dysplasia (pre-cancers). Treatment can stop cervical dysplasia before it develops into an invasive cancer.

Risk Factors That Cannot Be Controlled

- **Age:** The risk of having this cancer is very low among girls less than fifteen years old. The risk goes up between the late teens and mid-thirties. Unlike many other cancers that rarely affect young adults, cervical cancer can affect young women in their twenties and even in their teens. Although cervical cancer risk doesn't increase very much after 40, it doesn't get any lower, either. Many older women do not realize that they have the highest risk of developing cervical cancer, and that it is important for them to continue having Pap tests.
- **Race and ethnicity:** Several racial and ethnic groups have higher cervical cancer death rates. The death rate for black women is about twice the national average. Hispanic, Vietnamese, and American Indian women also have cervical cancer death rates that are above the national average.
- **DES:** This drug is a hormone that was used between 1940 and 1971 for some women who were in danger of miscarriages. The daughters of women who took this drug have a slightly higher risk of cancer of the vagina and cervix. Of every 1,000 women whose mother took DES when pregnant with them, about 1 develops clear-cell adenocarcinoma of the vagina or cervix.
- **Family history:** Recent studies suggest that women whose mother or sister has had cervical cancer are more likely to get the disease themselves. Some researchers suspect this familial tendency is caused by an inherited condition that makes some women less able to fight off HPV infection than others.

What are the Symptoms for Cervical Cancer?

Early cervical pre-cancers or cancers often have no signs or symptoms. That's why it's important for women to have regular Pap tests. Symptoms usually appear only when the cancer is more advanced. It is important to report any of the following to a health professional right away:

- Any unusual discharge from the vagina
- Blood spots or light bleeding other than a normal period
- Bleeding or pain during sex

What is the Risk of Being Diagnosed?

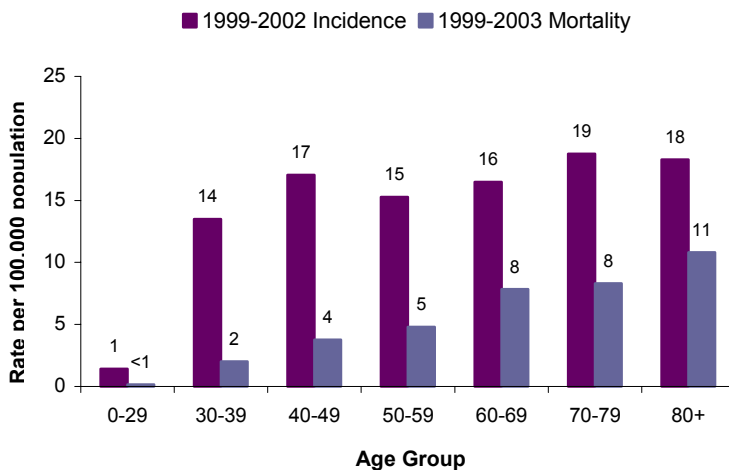
Top Ten Cancer Types and Cancer-Related Deaths, Georgia Females

Cases	Deaths
Breast	Lung & Bronchus
Lung & Bronchus	Breast
Colon & Rectum	Colon & Rectum
Uterine Corpus	Pancreas
Ovary	Ovary
Non-Hodgkin Lymphoma	Non-Hodgkin Lymphoma
Melanoma	Leukemias
Uterine Cervix	Corpus and Uterus, NOS
Pancreas	Multiple Myeloma
Thyroid	Stomach

Cervical cancer is the eighth most common cancer diagnosed among women in Georgia. One in 125 American females will develop cervical cancer in her lifetime.

At What Age is Cervical Cancer Most Often Diagnosed?

Georgia Cervical Cancer Incidence and Mortality by Age Group



Rates are age-adjusted to the 2000 US standard population.

Although cervical cancer incidence and mortality rates are highest in older women, cervical cancer may also occur in younger women. In Georgia, cervical cancer risk increases greatly around age 30 and this risk remains elevated throughout a woman's lifetime. Mortality rates steadily increase with age; the highest mortality rates are seen in women 80 years of age and older. Before the age of 30, cervical cancer deaths are very rare, but they do occur occasionally. Every year, about 3 Georgia women under 30 years of age die from cervical cancer.

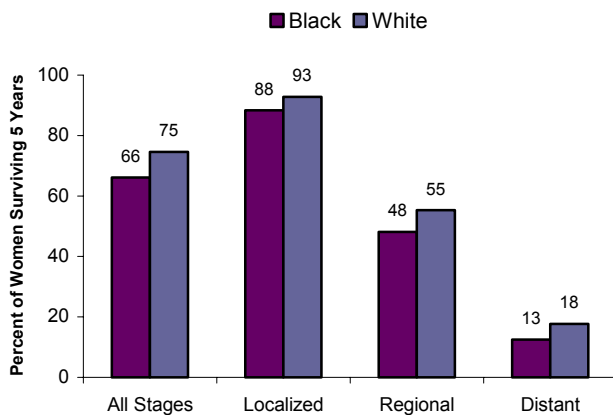
What is the Treatment for Cervical Cancer?

Each type of treatment has benefits and side effects. Age, overall health, the exact location of the cancer within the cervix, the type of cancer, and whether a woman wants to have children are all factors to consider. However, the stage of a cervical cancer is the most important factor in choosing treatment. Staging is a standardized way to summarize information about how far a cancer has spread from its point of origin. In situ cervical cancers are confined to the epithelium (the layer of cells lining the cervix). Localized cervical cancers have invaded through the epithelium into the underlying tissue of the cervix, but do not extend beyond the cervix either by direct or distant spread. Regional stage cervical cancers have spread beyond the cervix either by direct extension to nearby organs such as the corpus uteri, vagina or rectum, or to regional lymph nodes within the pelvis. Distant stage cervical cancers have spread directly or by hematogenic/lymphatic spread to distant sites such as the liver, lung, or bone, or to lymph nodes outside of the pelvis.

- **Surgery:** There are several kinds of surgery for cervical cancer. Some, such as laser surgery and cone biopsy, remove only a piece of the cervix; others involve removing the uterus (total or radical hysterectomy). If the cancer has spread beyond the uterus, it may be necessary to remove other organs such as the colon or rectum as well.
- **Radiation Therapy:** Radiation therapy is treatment with high energy rays (such as x-rays) to kill or shrink cancer cells. The radiation may come from outside the body (external radiation) or from radioactive materials placed directly in the tumor (internal or implant radiation). There can be side effects from radiation. Many of these will go away after treatment is completed.
- **Chemotherapy:** Chemotherapy refers to the use of drugs to kill cancer cells. Usually the drugs are given intravenously (through a vein) or by mouth. Once the drugs enter the bloodstream, they spread throughout the body. Sometimes several drugs are given at one time. Chemotherapy can have some side effects. These side effects will depend on the type of drug, the amount of drug, and how long it is taken. Many of the side effects go away when treatment is over.

Who Survives Cervical Cancer?

Percent of US Women Surviving Five Years after Diagnosis with Cervical Cancer, by Stage of Disease and Race, 1995-2001



% of tumors found at this stage*	US† Black	48%	35%	9%
	US† White	56%	30%	8%
	GA† Black	47%	40%	8%
	GA† White	56%	31%	6%

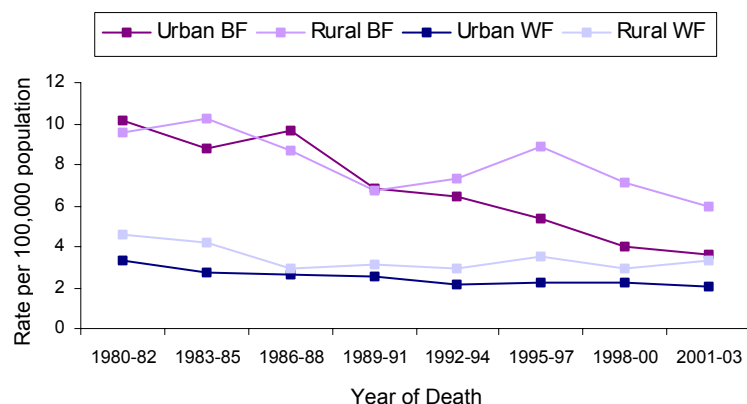
* Unstaged tumors are not shown.

† US data is for 1995-2001; Georgia data is for 1999-2002

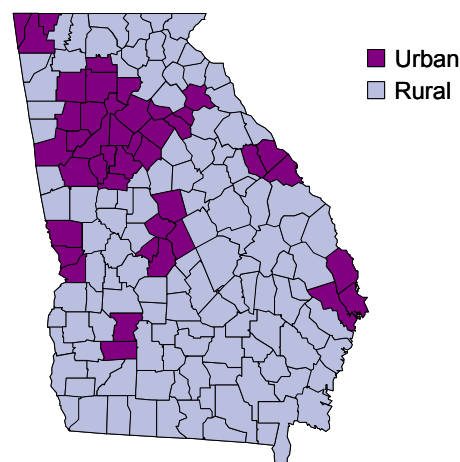
Early detection is important because survival for early stage cervical cancer is much greater than that for later stage disease. Five-year survival for tumors found in the localized stage is 88 percent among US black women and 93 percent among US white women. In Georgia, about 47 percent of cases among black women and about 56 percent of cases among white women are diagnosed in their localized stage. If the cancer is diagnosed at the distant stage, five-year survival drops to about 13 percent for US black women and 18 percent for US white women. Detection and treatment of cervical cancer have improved in recent years, with the five-year relative US survival rate for all stages combined significantly increasing from 69 percent in 1974-1976 to 73 percent in 1995-2001.

How Does Cervical Cancer Vary by Region?

Georgia Cervical Cancer Mortality Rates by Race and Geography



Rates are age-adjusted to the 2000 US standard population.



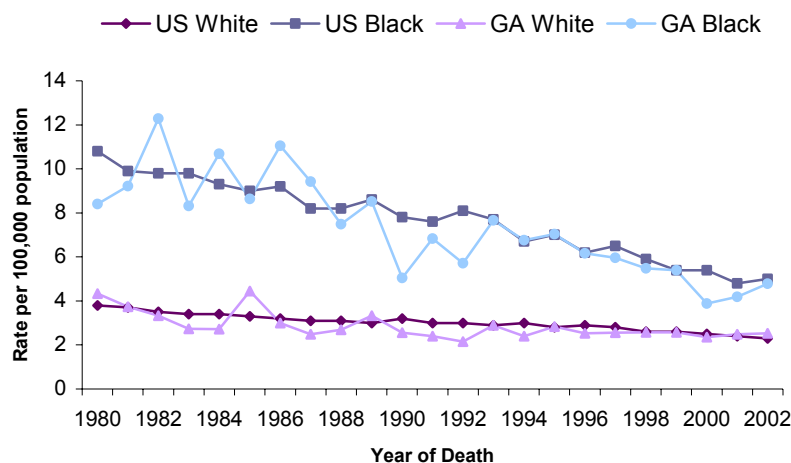
Women living in rural Georgia are at a greater risk for developing cervical cancer than are women living in urban areas. Incidence rates are 26 percent higher and mortality rates are 49 percent higher in rural counties than in urban counties.

White women living in urban areas of Georgia have the lowest cervical cancer incidence rate (8.3 per 100,000). Black women living in rural Georgia have the highest cervical cancer incidence rate (14.5 per 100,000).

Cervical cancer mortality rates have been decreasing for all women in Georgia. Overall, the mortality rate has been cut in half since 1980 and the gap between black and white women is closing. Urban black women have seen the most dramatic improvements over the last two decades, while rates for rural black women remain about twice as high as those for all other women in Georgia.

How Does Georgia Compare with the United States?

Cervical Cancer Mortality Rates, Georgia vs. the US, by race, 1980-2002



Rates are age-adjusted to the 2000 US standard population.

From 1980 through 2002, the cervical cancer mortality rates among Georgia women were similar to those for the rest of the United States. Cervical cancer mortality rates are higher among black women than white women.

The mortality rates for both white and black women in Georgia have declined since 1980 and the gap between the races is closing. Between 1980 and 1987, the average annual decrease for white women was 4.2%. Since 1987, the rates have remained fairly stable. Among black women, the rates have been decreasing by about 2.1% per year since 1982.

Where Can I Find Out More about Cervical Cancer?

American Cancer Society
Telephone: 1-800-ACS-2345
Internet Address: <http://www.cancer.org>

Cancer Control Planet
Internet Address: <http://cancercontrolplanet.cancer.gov/>

Gynecologic Cancer Foundation
Telephone: 1-800-444-4441 or 312-644-6610
Internet Address: <http://www.thegcf.org/>

National Cancer Institute, Cancer Information Service
Telephone: 1-800-4-CANCER or 800-422-6237
Internet Address: <http://www.cancer.gov/>

National Cervical Cancer Coalition
Telephone: 1-800-685-5531 or 818-909-3849
Internet Address: <http://www.nccc-online.org>

National Coalition for Cancer Survivorship
Telephone: 1-877-NCCS-YES or 877-622-7937
Internet Address: <http://www.canceradvocacy.org/>

Technical Notes

Definitions:

Age-adjusted rate: A rate calculated in a manner that allows for the comparison of rates derived from populations with different age structures.

Cancer incidence rate: The number of new cancer cases occurring in a population during a specified period of time. Often expressed per 100,000 population.

Cancer mortality rate: The number of cancer deaths occurring in a population during a specified period of time. Often expressed per 100,000 population.

Data Sources:

The number of deaths and mortality rates for the state of Georgia were obtained from the Georgia Department of Human Resources, Division of Public Health, Vital Records Branch. The number of deaths and mortality rates for the United States were obtained from the North American Association of Central Cancer Registries (NAACCR) and from the Surveillance, Epidemiology, and End Results (SEER) program, National Cancer Institute. Mortality data were coded using ICD-9 (1980-1998) and ICD-10 codes (1999-2003). The ICD-9 codes for cervical cancer are 180.0-180.9, while the ICD-10 codes are C53.0:C53.9.

The number of new cases and incidence rates for the state of Georgia were obtained from the Georgia Department of Human Resources, Division of Public Health, Georgia Comprehensive Cancer Registry. The number of new cases and incidence rates for the United States were obtained from NAACCR. Incidence data were coded using ICD-O2 codes (1999-2000) and ICD-O3 codes (2001-2002). The ICD-O codes used for cervical cancer are C53.0:C53.9.

Cancer stage and survival data for the United States were obtained from SEER.

Population projections for 2005 were obtained from the Office of Planning and Budget for the state of Georgia. Population estimates for 1980-2003 and the 2000 US standard population were obtained from the US Bureau of the Census.

Methods:

Incidence rates were calculated per 100,000 population and age-adjusted by the direct method to the 2000 US standard population. The incidence rates are four-year average annual rates for the period 1999 through 2002, as these are the years in which Georgia Comprehensive Cancer Registry data are greater than 95% complete. Mortality rates were calculated per 100,000 population and age-adjusted by the direct method to the 2000 US standard population. Except where calculated to show trends, the mortality rates are five-year average annual rates for 1999-2003.

The estimated number of cases for 2005 was calculated by multiplying age-specific incidence rates for 1999-2002 by age-specific population projections for 2005. The estimated number of deaths for 2005 was calculated by multiplying age-specific mortality rates for 1999-2003 by age-specific population projections for 2005.