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About Vaginal Cancer

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

Overview and Types

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

- [What Is Vaginal Cancer?](#)

Research and Statistics

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

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

What Is Vaginal Cancer?

Vaginal cancer starts in the vagina. There are many different types of vaginal cancer, but the most common is called squamous cell carcinoma. It starts in the lining of the vagina.

- [The vagina](#)

- [Vaginal pre-cancer \(VAIN\)](#)
- [Types of vaginal cancer](#)
- [Cancers that spread to the vagina](#)

The vagina

The vagina starts at the cervix (the lower part of the uterus) and opens at the vulva (the external female genitals). The vagina is usually collapsed with its walls touching each other. The vaginal walls have many folds that help the vagina open and expand during sex or the birth of a baby.

Several different types of cells and tissues are found in the vagina:

- The lining of the vagina has a layer of flat cells called **squamous** cells. This layer of cells is also called **epithelium** or **epithelial lining** because squamous cells are a type of epithelial cell.
- The vaginal wall underneath the epithelium is made up of connective tissue, muscle, lymph vessels, and nerves.
- Glands near the opening of the vagina make mucus to keep the vaginal lining moist.



Female reproductive organs

[What Is Cancer?](#) ¹

Cancer starts when cells in the body begin to grow out of control. Cells in nearly any part of the body can become cancer cells. Learn more here.

[Anatomy Gallery: Female Genitourinary System](#) ²

Explore our 3D interactive tour of the female genitourinary system.

Vaginal pre-cancer (VAIN)

In a pre-cancerous condition, some cells look abnormal. These cell changes are not cancer, but they could become cancer over time. Vaginal intraepithelial neoplasia or VAIN means that the abnormal cells are only found in the innermost surface layer of the vagina, also called the **epithelium**.

The 3 grades of VAIN are based on how deep the abnormal cells are located within the epithelium:

- VAIN 1, also called low-grade VAIN, may go away on its own, but can sometimes lead to cancer if not treated.
- VAIN 2 and VAIN 3, also called high-grade VAIN, are usually treated right away. VAIN 3 is the closest to a true cancer.

When someone has VAIN 3, it means that abnormal cells are found in more than 2/3 of the thickness of vaginal epithelium. If abnormal cells are found within the entire thickness, then it would be called carcinoma *in situ*.

In the past, the term **dysplasia** was used instead of VAIN. The types of dysplasia were referred to as mild, moderate, and severe, based on how close it was to a true cancer. This term is used much less now.

VAIN may be found when testing is done to [screen for cervical cancer](#)³. The HPV test and Pap test (also called a Pap smear) used for cervical cancer screening may also pick up cells from the vaginal lining. This allows some cases of VAIN to be found in women whose vaginal lining is not intentionally scraped. Many women with VAIN may also have a pre-cancer of the cervix (known as **cervical intraepithelial neoplasia** or **CIN**). If abnormal cells are found, the next step is a procedure called [colposcopy](#)⁴, in which the cervix, the vagina, and at times the vulva are closely examined with a special instrument called a **colposcope**.

Vaginal cancer and VAIN are more common in women who have had cervical pre-cancer or cancer. In women whose cervix has been removed by surgery to treat cervical cancer or pre-cancer, samples may be taken from the lining of the upper vagina

to look for cervical cancer that has come back, and to look for early vaginal cancer or VAIN.

Types of vaginal cancer

Though it's quite rare, there are many types of vaginal cancer. Each type develops from a different type of cell in the vagina.

Squamous cell carcinoma

Most cases of vaginal cancer are squamous cell carcinomas. These cancers start in the squamous cells that make up the epithelial lining of the vagina. They're most common in the upper part of the vagina near the cervix. If not treated, over time, they can grow deeper into and through the vaginal wall and spread to nearby tissues. They can also spread to other parts of the body, most often the lungs, but also the liver and bones.

Squamous cell cancers of the vagina often develop slowly. First, some of the normal cells of the vagina get pre-cancerous changes (VAIN). Then some of the pre-cancer cells turn into cancer cells. This process can take many years.

Adenocarcinoma

Cancers that begin in gland cells are called **adenocarcinomas**. About 1 of every 10 cases of vaginal cancer are adenocarcinomas.

The most common type of vaginal adenocarcinoma is found in women older than 50. Another type, called **clear cell adenocarcinoma**, is more common in young women who were exposed to diethylstilbestrol (DES) in utero (when they were in their mother's womb). (See [Risk Factors for Vaginal Cancer](#)⁵ for more information on DES and clear cell carcinoma.)

Very rare vaginal cancers

Melanoma

Melanomas start in pigment-producing cells that give skin its color. These cancers usually are found on sun-exposed areas of the skin but also can form in the vagina or other internal organs. About 3 of every 100 cases of vaginal cancer are melanomas.

Melanoma tends to affect the lower or outer portion of the vagina. The tumors vary

greatly in size, color, and growth pattern. Although vaginal melanomas can be blue, black, or brown, many are non-pigmented. More information about melanoma can be found in [Melanoma Skin Cancer](#)⁶.

Sarcoma

Sarcomas are cancers that start in the cells of bones, muscles, or connective tissue. Fewer than 3 of every 100 cases of vaginal cancer are sarcomas. These cancers form deep in the wall of the vagina, not on its surface.

There are several types of vaginal sarcomas. **Rhabdomyosarcoma** is the most common type of sarcoma that affects the vagina. It's most often found in children and is rare in adults. A sarcoma called **leiomyosarcoma** is seen more often in adults. It tends to occur in women older than 50.

Cancers that spread to the vagina

Cancers that start in the vagina are much less common than cancers that start in other organs (such as the cervix, uterus, rectum, or bladder) and then spread to the vagina. These cancers are named after the place they started.

If a cancer is growing in both the cervix and vagina, it is considered a [cervical cancer](#)⁷. If the cancer involves both the vulva and the vagina, it's considered a [vulvar cancer](#)⁸ cancer.

Hyperlinks

1. www.cancer.org/cancer/understanding-cancer/what-is-cancer.html
 2. www.cancer.org/cancer/understanding-cancer/anatomy-gallery/female-genitourinary-system.html
 3. www.cancer.org/cancer/types/cervical-cancer/detection-diagnosis-staging/screening-tests.html
 4. www.cancer.org/cancer/types/vaginal-cancer/detection-diagnosis-staging/how-diagnosed.html
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Key Statistics for Vaginal Cancer

when they are diagnosed; though some women will be younger and some will be older.

About 75% of vaginal cancers are caused by the human papillomavirus (HPV).

For survival statistics related to vaginal cancer, see [Survival Rates for Vaginal Cancer](#)¹.

Visit the American Cancer Society's [Cancer Statistics Center](#)² for more key statistics.

Hyperlinks

1. www.cancer.org/cancer/types/vaginal-cancer/detection-diagnosis-staging/survival-rates.html
2. cancerstatisticscenter.cancer.org/

References

Jhingran A, Russell AH, Seiden MV, et al. Chapter 84: Cancers of the Cervix, Vulva, and Vagina. In: Neiderhuber JE, Armitage JO, Doroshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 6th ed. Philadelphia, PA. Elsevier; 2020.

SEER*Explorer: An interactive website for SEER cancer statistics [Internet]. Surveillance Research Program, National Cancer Institute; 2024 Apr 17. [cited 2024 May 28]. Available from: <https://seer.cancer.gov/statistics-network/explorer/>. Data source(s): SEER Incidence Data, November 2023 Submission (1975-2021), SEER 22 registries. U.S. Mortality Data (1969-2022), National Center for Health Statistics, CDC.

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What's New in Vaginal Cancer Research?

Because vaginal cancer is rare, it's has been hard to study. Most experts agree that

treatment in a clinical trial should be considered for any type or stage of vaginal cancer. This way women can get the best treatment available now and may also get the treatments that are thought to be even better. Many of the new and promising treatments discussed here are only available in clinical trials.

- [Immunotherapy](#)
- [Targeted therapy](#)
- [Radiation therapy](#)
- [Reconstructive surgery](#)
- [Chemotherapy](#)
- [Improving side effects of vaginal cancer treatment](#)

Immunotherapy

Treatments used for vaginal cancer include [immunotherapy](#)¹ drugs called **checkpoint inhibitors**. So far, they are generally only given (with or without chemo) to patients with metastatic or recurrent disease. Research continues to see if immunotherapy would work better with different combinations of chemo, or if it can be given for earlier-stage disease.

Targeted therapy

Current [targeted therapy](#)² for vaginal cancer finds and destroys cancer cells with specific *RET* and *NTRK*

[radical surgery](#)⁷.

Chemotherapy

Many clinical trials are looking for better chemo drugs to treat vaginal cancer. Research is looking to find which specific combinations of chemo drugs produce the best treatment results.

Improving side effects of vaginal cancer treatment

Written by
