About Vulvar Cancer

Overview and Types

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

- What Is Vulvar Cancer?

Research and Statistics

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

- Key Statistics for Vulvar Cancer
- What's New in Vulvar Cancer Research and Treatment?

What Is Vulvar Cancer?

The vulva is the outer part of the female genitals. The vulva includes the opening of the vagina (sometimes called the vestibule), the labia majora (outer lips), the labia minora (inner lips), and the clitoris.
Around the opening of the vagina, there are 2 sets of skin folds. The inner set, called the labia minora, are small and hairless. The outer set, the labia majora, are larger, with hair on the outer surface. (Labia is Latin for lips.) The inner and outer labia meet, protecting the vaginal opening and, just above it, the opening of the urethra (the short tube that carries urine from the bladder). The Bartholin glands are found just inside the opening of the vagina -- one on each side. These glands produce a mucus-like fluid that acts as a lubricant during sex.

At the front of the vagina, the labia minora meet to form a fold or small hood of skin called the prepuce. The clitoris is beneath the prepuce. The clitoris is an approximately ¾-inch structure of highly sensitive tissue that becomes swollen with blood during sexual stimulation. The labia minora also meet at a place just beneath the vaginal opening, at the fourchette. Beyond the fourchette is the anus, the opening to the rectum. This is where stool comes out of the body. The space between the vagina and the anus is called the perineum.

Cancer of the vulva (also known as vulvar cancer) most often affects the inner edges of the labia majora or the labia minora. It starts in the clitoris or in the Bartholin glands less often.
Types of vulvar cancer

Cancer starts when cells in the body begin to grow out of control. Cells in nearly any part of the body can become cancer, and can spread to other areas of the body. To learn more about how cancers start and spread, see What Is Cancer?

Squamous cell carcinomas

Most cancers of the vulva are squamous cell carcinomas. This type of cancer starts in squamous cells, the main type of skin cells. There are several subtypes of squamous cell carcinoma:

- The keratinizing type is most common. It usually develops in older women and is not linked to infection with human papilloma virus (HPV) (HPV is discussed in Risk Factors for Vulvar Cancer).
- Basaloid and warty types are less common. These are the kinds more often found in younger women with HPV infections.
- Verrucous carcinoma is an uncommon subtype that's important to recognize because it's slow-growing and tends to have a good prognosis (outlook). This cancer looks like a large wart and a biopsy is needed to be sure it's not a benign (non-cancer) growth.

Adenocarcinoma

Cancer that starts in gland cells is called adenocarcinoma. About 8 of every 100 vulvar cancers are adenocarcinomas. Vulvar adenocarcinomas most often start in cells of the Bartholin glands. These glands are found just inside the opening of the vagina. A Bartholin gland cancer is easily mistaken for a cyst (build-up of fluid in the gland), so it's common to take awhile to get an accurate diagnosis. Most Bartholin gland cancers are adenocarcinomas. Adenocarcinomas can also form in the sweat glands of the vulvar skin.

Paget disease of the vulva is a condition in which adenocarcinoma cells are found in the top layer of the vulvar skin. Up to 25% of patients with vulvar Paget disease also have an invasive vulvar adenocarcinoma (in a Bartholin gland or sweat gland). In the remaining patients, the cancer cells are found only in the skin's top layer and have not grown into the tissues below.

Melanoma
Melanomas are cancers that start in the pigment-producing cells that give skin color. They are much more common on sun-exposed areas of the skin, but can start in other areas, such as the vulva. Vulvar melanomas are rare, making up about 6 of every 100 vulvar cancers.

More information on this can be found in Melanoma Skin Cancer.

**Sarcoma**

A sarcoma is a cancer that starts in the cells of bones, muscles, or connective tissue. Less than 2 of every 100 vulvar cancers are sarcomas. Unlike other cancers of the vulva, vulvar sarcomas can occur in females at any age, including in childhood.

**Basal cell carcinoma**

Basal cell carcinoma, the most common type of skin cancer, is more often found on sun-exposed areas of the skin. It occurs very rarely on the vulva. For more information on this type of cancer, see Basal and Squamous Cell Skin Cancer.

• References

See all references for Vulvar Cancer

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**Key Statistics for Vulvar Cancer**

In the United States, vulvar cancer accounts for nearly 6% of cancers of the female reproductive organs and 0.7% of all cancers in women. In the United States, women have a 1 in 333 chance of developing vulvar cancer at some point during their life.

The American Cancer Society's estimates for vulvar cancer in the United States for 2018 are:

• About 6,190 cancers of the vulva will be diagnosed
About 1,200 women will die of this cancer. Visit the American Cancer Society's Cancer Statistics Center for more key statistics.

References
See all references for Vulvar Cancer


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What's New in Vulvar Cancer Research and Treatment?

Vulvar cancer is rare, which makes it hard to study. Still, research is being done to find new ways to prevent and treat cancer of the vulva. There are some promising new developments.

Oncogenes and tumor suppressor genes

Scientists are learning more about how certain genes called oncogenes and tumor suppressor genes control cell growth and how changes in these genes cause normal vulvar cells to become cancer. This information is already being used to develop new drugs that counteract the effects of these gene changes. The ultimate goal of this research is gene therapy. Gene therapy involves replacing the damaged genes in cancer cells with normal genes in order to stop the abnormal behavior of these cells.

Drug treatments

Researchers are learning more about the gene and protein changes that take place in vulvar cancer cells. Drugs that target changes like these are already being used to treat other cancers. There have been case reports of using these drugs known as targeted
therapies to treat vulvar cancers, too. These drugs do not have the same kind of side effects as traditional chemo drugs do. So far, the drugs cetuximab and erlotinib have been tried and doctors have reported some success in a few patients. Sometimes cetuximab is combined with cisplatin chemotherapy for treatment. These drugs need further study.

Surgery, radiation therapy, and chemotherapy

Clinical trials are being done to determine the best way to use and combine surgery, radiation therapy, and chemotherapy. These trials will provide information about whether certain groups of patients benefit from radiation after surgery and whether patients with cancer that has spread to lymph nodes benefit from chemotherapy or pelvic radiation therapy.

The use of internal radiation therapy, called brachytherapy, along with external beam radiation is being studied. This form of radiation is done by placing tiny pieces of radioactive material right into the tumor. It's already used to treat other types of cancer, and women with certain vulvar tumors might benefit from it, too. More research is needed to find out if and when this treatment might improve treatment outcomes.

Identifying lymph nodes

Another area of interest is lymph node mapping. Vulvar cancer can spread to lymph nodes in the groin. Better ways to look for this spread and identify nodes with cancer might help doctors treat these nodes and decrease the risk of cancer coming back there. It could also allow them to save the healthy nodes and decrease the risk of long-term swelling in the groin and legs, called lymphedema.

References

See all references for Vulvar Cancer


Vulvar 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 vulvar cancer.

- Risk Factors for Vulvar Cancer
- What Causes Vulvar 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 Vulvar Cancer Be Prevented?

Risk Factors for Vulvar Cancer

A risk factor is anything that changes a person's 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.

There are different kinds of risk factors. Some, such as your age or race, can't be changed. Others may be related to personal choices such as smoking, drinking, or diet. Some factors influence risk more than others. But risk factors don't tell us everything. Having a risk factor, or even several, does not mean that a person will get the disease. Also, not having any risk factors doesn't mean that you won't get it, either.

Although several risk factors increase the odds of developing vulvar cancer, most
women with these risks do not develop it. And some women who don’t have any apparent risk factors develop vulvar cancer. When a woman develops vulvar cancer, it is usually not possible to say with certainty that a particular risk factor was the cause.

**Age**

The risk of vulvar cancer goes up as women age. Less than 20% of cases are in women younger than age 50, and more than half occur in women over age 70. The average age of women diagnosed with invasive vulvar cancer is 70, whereas women diagnosed with non-invasive vulvar cancer average about 20 years younger.

**Human papillomavirus**

HPV stands for **human papillomavirus**. HPVs are a large group of related viruses. They are called papillomaviruses because some of them cause a type of growth called a **papilloma**. Papillomas — more commonly known as warts — are not cancers. Different HPV types can cause different types of warts in different parts of the body. Some types cause common warts on the hands and feet. Other types tend to cause warts on the lips or tongue.

Certain HPV types can infect the outer female and male genital organs and the anal area, causing raised, bumpy warts. These warts may barely be visible or they may be several inches across. The medical term for genital warts is **condyloma acuminatum**. Two types of HPV (HPV 6 and HPV 11) cause most cases of genital warts, but are seldom linked to cancer and are known as **low-risk** HPV.

Other HPV types have been linked with cancers of the cervix, vagina, and vulva in women, cancer of the penis in men, and cancers of the anus and throat (in men and women). These are known as **high-risk** types of HPV and include HPV 16 and HPV 18 as well as others. Infection with a high-risk HPV may produce no visible signs until pre-cancerous changes or cancer develops.

HPV can pass from one person to another during skin-to-skin contact. One way HPV is spread is through sexual activity, including vaginal and anal intercourse and even oral sex.

Some doctors think there are 2 kinds of vulvar cancer. One kind is associated with HPV infection (more than half of all vulvar cancers are linked to infection with the high-risk HPV types) and tends to occur in younger women. The other is not associated with HPV infection, is more often found in older women, and may develop from a precursor lesion
called **differentiated vulvar intraepithelial neoplasia** (discussed below).

Vaccines have been developed to help prevent infection with some types of HPV.

For more about HPV, see **HPV (Human Papillomavirus)**.

**Smoking**

Smoking exposes people to many cancer-causing chemicals that affect more than their lungs. These harmful substances can be absorbed into the lining of the lungs and spread throughout the body. Smoking increases the risk of developing vulvar cancer. Among women who have a history of HPV infection, smoking further increases the risk of developing vulvar cancer. If women are infected with a high-risk HPV, they have a much higher risk of developing vulvar cancer if they smoke.

**HIV infection**

HIV (human immunodeficiency virus) causes AIDS (acquired immunodeficiency syndrome). Because this virus damages the immune system, it makes women more likely to get and to stay infected with HPV. This could increase the risk of vulvar pre-cancer and cancer. Scientists also believe that the immune system plays a role in destroying cancer cells and slowing their growth and spread.

**Vulvar intraepithelial neoplasia (VIN)**

Squamous cell carcinoma of the vulva usually forms slowly over many years. Pre-cancerous changes often occur first and can last for several years. The medical term most often used for this pre-cancerous condition is **vulvar intraepithelial neoplasia** (VIN). Intraepithelial means that the abnormal cells are only found in the surface layer of the vulvar skin (epithelium).

VIN is typed by how the lesions and cells look: **usual-type VIN** and **differentiated-type VIN**. It is sometimes graded VIN2 and VIN3, with the number 3 indicating furthest progression toward a true cancer. However, many doctors use only one grade of VIN.

- Usual-type VIN occurs in younger women and is caused by HPV infection. When usual-type VIN changes into invasive squamous cell cancer, it becomes the basaloid or warty subtypes.
- Differentiated-type VIN tends to occur in older women and is not linked to HPV
infection. It can progress to the keratinizing subtype of invasive squamous cell cancer.

In the past, the term dysplasia was used instead of VIN, but this term is used much less often now. When talking about dysplasia, there is also a range of increasing progress toward cancer -- first, mild dysplasia; next, moderate dysplasia; then severe dysplasia; and, finally, carcinoma in situ.

Although women with VIN have an increased risk of developing invasive vulvar cancer, most cases of VIN never progress to cancer. Still, since it is not possible to tell which cases will become cancers, treatment or close medical follow-up is needed.

The risk of progression to cancer seems to be highest with VIN3 and lower with VIN2. This risk can be altered with treatment. In one study, 88% of untreated VIN3 progressed to cancer, but of the women who were treated, only 4% developed vulvar cancer.

In the past, cases of VIN were included in the broad category of disorders known as vulvar dystrophy. Since this category included a wide variety of other diseases, most of which are not pre-cancerous, most doctors no longer use this term.

**Lichen sclerosus**

This disorder, also called lichen sclerosus et atrophicus (LSA), causes the vulvar skin to become very thin and itchy. The risk of vulvar cancer appears to be slightly increased by LSA, with about 4% of women having LSA later developing vulvar cancer.

**Other genital cancers**

Women with cervical cancer also have a higher risk of vulvar cancer. This is probably because these cancers share certain risk factors. The same HPV types that are linked to cervical cancer are also linked to vulvar cancer. Smoking is also linked to a higher risk of both cervical and vulvar cancers.

**Melanoma or atypical moles**

Women who have had melanoma or dysplastic nevi (atypical moles) in other places have an increased risk of developing a melanoma on the vulva. A family history of melanoma also leads to an increased risk.
What Causes Vulvar Cancer?

Several risk factors for cancer of the vulva have been identified, and we are beginning to understand how these factors can cause cells in the vulva to become cancerous.

Researchers have made a lot of progress in understanding how certain changes in DNA can cause normal cells to become cancerous. DNA is the chemical that carries the instructions for nearly everything our cells do. We usually look like our parents because they are the source of our DNA. However, DNA affects more than our outward appearance. Some genes (parts of our DNA) contain instructions for controlling when our cells grow and divide.

- Certain genes that promote cell division are called oncogenes.
- Others that slow down cell division or cause cells to die at the right time are called tumor suppressor genes.

Cancers can be caused by DNA mutations (defects) that turn on oncogenes or turn off tumor suppressor genes. Usually DNA mutations related to cancers of the vulva occur during life rather than having been inherited before birth. Acquired mutations may result from cancer-causing chemicals in tobacco smoke. Sometimes they occur for no apparent reason. For more on genes and cancer, see Oncogenes and Tumor Suppressor Genes.

Studies suggest that squamous cell cancer of the vulva (the most common type) can develop in at least 2 ways. In up to half of cases, human papillomavirus (HPV) infection appears to have an important role. Vulvar cancers associated with HPV infection (the basaloid and warty subtypes) seem to have certain distinctive features. They are often found along with several other areas of vulvar intraepithelial neoplasia(VIN). The women who have these cancers tend to be younger and are often smokers.

The second process by which vulvar cancers develop does not involve HPV infection.
Vulvar cancers not linked to HPV infection (the keratinizing subtype) are usually diagnosed in older women (over age 55). These women may have lichen sclerosis and may also have the differentiated type of VIN. DNA tests from vulvar cancers in older women rarely show HPV infection, but often show mutations of the p53 tumor suppressor gene. The p53 gene is important in preventing cells from becoming cancerous. When this gene has undergone mutation, it is easier for cancer to develop. Younger vulvar cancer patients with HPV infection rarely have p53 mutations.

These discoveries have not yet affected treatment. But they may help in finding ways to prevent cancer of the vulva and at some point might lead to changes in treatment.

Because vulvar melanomas and adenocarcinomas are so rare, much less is known about how they develop.

- References

See all references for Vulvar Cancer

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Can Vulvar Cancer Be Prevented?

The risk of vulvar cancer can be lowered by avoiding certain risk factors and by having pre-cancerous conditions treated before an invasive cancer develops. Taking these steps cannot guarantee that all vulvar cancers are prevented, but they can greatly reduce your chances of developing vulvar cancer.

Avoid HPV infection

Infection with human papillomavirus (HPV) is a risk factor for vulvar cancer. In women, HPV infections occur mainly at younger ages and are less common in women over 30. The reason for this is not clear.

HPV is passed from one person to another during skin-to-skin contact with an infected area of the body. HPV can be spread during sexual activity -- including vaginal
intercourse, anal intercourse, and oral sex -- but sex doesn't have to occur for the infection to spread. All that is needed is skin-to-skin contact with an area of the body infected with HPV. The virus can be spread through genital-to-genital contact. It is even possible to spread a genital infection through hand-to-genital contact.

An HPV infection also seems to be able to be spread from one part of the body to another. This means that an infection may start in the cervix and then spread to the vagina and vulva.

It can be very hard to avoid being exposed to HPV. If you are sexually active, limiting the number of sex partners and avoiding sex with people who have had many other sex partners can help lower your risk of exposure to HPV. But again, HPV is very common, so having sex with even one other person can put you at risk.

Infection with HPV is common, and in most cases your body is able to clear the infection on its own. But in some cases, the infection does not go away and becomes chronic. Chronic infection, especially with high-risk HPV types, can eventually cause certain cancers, including vulvar cancer.

A person can be infected with HPV for years and not have any symptoms, so the absence of visible warts cannot be used to tell if someone has HPV. Even when someone doesn't have warts (or any other symptom), he (or she) can still be infected with HPV and pass the virus to somebody else.

**Condoms**

Condoms (rubbers) provide some protection against HPV, but they do not completely prevent infection. Condoms cannot protect completely because they don't cover every possible HPV-infected area of the body, such as the skin on the genital or anal area. Still, condoms do provide some protection against HPV, and they also protect against HIV and some other sexually transmitted diseases.

**Get vaccinated**

Vaccines that protect against certain HPV infections are available. All of them protect against infection with HPV subtypes 16 and 18. Some can also protect against infections with other HPV subtypes, including some types that cause anal and genital warts.

These vaccines can only be used to prevent HPV infection --they do not help treat an
existing infection. To be most effective, the vaccine should be given before a person becomes exposed to HPV (such as through sexual activity).

All of these vaccines can help prevent cervical cancer and pre-cancers. They are also approved to help prevent anal and genital warts, as well as other cancers.

More HPV vaccines are being developed and tested.

For more information, see HPV (Human Papillomavirus).

Don’t smoke

Not smoking is another way to lower the risk for vulvar cancer. Women who don’t smoke are also less likely to develop a number of other cancers, like those of the lungs, mouth, throat, bladder, kidneys, and several other organs.

Get regular pelvic checkups

Pre-cancerous vulvar conditions that are not causing any symptoms can be found by regular gynecologic checkups. It is also important to see your health care provider if any problems come up between checkups. Symptoms such as vulvar itching, rashes, moles, or lumps that don’t go away could be caused by vulvar pre-cancer and should be checked out. If vulvar intraepithelial neoplasia (VIN) is found, treating it might help prevent invasive squamous cell vulvar cancer. Also, some vulvar melanomas can be prevented by removing atypical moles.

The vulva is examined at the same time a woman has a pelvic examination. Cervical cancer screening with a Pap test (sometimes combined with a HPV test) is often done at the same time. Neither the Pap test nor the HPV test is used to screen for vulvar cancer. The purpose of these tests is to find cervical cancers and pre-cancers early. For more information about these tests and the American Cancer Society guidelines for the early detection of cervical cancer, see Cervical Cancer.

How Pap tests and pelvic examinations are done

First, the skin of the outer lips (labia majora) and inner lips (labia minora) is examined for any visible abnormalities. The health care professional then places a speculum inside the vagina. A speculum is a metal or plastic instrument that keeps the vagina open so that the cervix can be seen clearly. Next, using a small spatula, a sample of
cells and mucus is lightly scraped from the exocervix (the surface of the cervix that is closest to the vagina). A small brush or a cotton-tipped swab is then inserted into the cervical opening to take a sample from the endocervix (the inside part of the cervix that is closest to the body of the uterus). Then, the speculum is removed. The doctor then will check the organs of the pelvis by inserting 1 or 2 gloved fingers of one hand into the vagina while he or she palpates (feels) the lower abdomen, just above the pubic bone, with the other. The doctor may do a rectal exam at this time also. It is very important to know that a Pap test is not always done when a pelvic exam is done, so if you are uncertain you should ask if one was done.

Self-exam of the vulva

For most women, the best way to find VIN and vulvar cancer is to report any signs and symptoms to their health care provider and have a yearly well-woman exam. If you have an increased risk of vulvar cancer, you may also want to check your vulva regularly to look for any of the signs of vulvar cancer. This is known as self-examination. Some women choose to examine themselves monthly using a mirror. This can allow you to become aware of any changes in the skin of your vulva. If you do this, look for any areas that are white, darkly pigmented, or red and irritated. You should also note any new growths, nodules, bumps, or ulcers (open sores). Report any of these to a doctor, since they could indicate a vulvar cancer or pre-cancer.

References
See all references for Vulvar Cancer

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Vulvar Cancer Early Detection, Diagnosis, and Staging

Detection and Diagnosis

Finding cancer early -- when it's small and before it has spread -- often allows for more treatment options. Some early cancers may have signs and symptoms that can be noticed, but that's not always the case.

- Can Vulvar Cancer Be Found Early?
- Signs and Symptoms of Vulvar Cancers and Pre-Cancers
- Tests for Vulvar Cancer

Stages and Outlook (Prognosis)

After a cancer diagnosis, staging provides important information about the extent of cancer in the body and anticipated response to treatment.

- Vulvar Cancer Stages
- Vulvar Cancer Survival Rates

Questions to Ask About Vulvar Cancer

Here are some questions you can ask your cancer care team to help you better understand your cancer diagnosis and treatment options.

- Questions to Ask Your Doctor About Vulvar Cancer

Can Vulvar Cancer Be Found Early?

Having pelvic exams and knowing any signs and symptoms of vulvar cancer greatly
improve the chances of early detection and successful treatment. If you have any of the problems discussed in Signs and Symptoms of Vulvar Cancers and Pre-Cancers, you should see a doctor. If the doctor finds anything abnormal during a pelvic examination, you may need more tests to figure out what is wrong. This may mean referral to a gynecologist (specialist in problems of the female genital system).

Knowing what to look for can sometimes help with early detection, but it is even better not to wait until you notice symptoms. Get regular well-women exams.

There is no standard screening for this disease.

- References
See all references for Vulvar Cancer

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Signs and Symptoms of Vulvar Cancers and Pre-Cancers

Symptoms depend on whether it is a cancer or pre-cancer and what kind of vulvar cancer it is.

Vulvar intraepithelial neoplasia

Most women with vulvar intraepithelial neoplasia (VIN) have no symptoms at all. When a woman with VIN does have a symptom, it is most often itching that does not go away or get better. An area of VIN may look different from normal vulvar skin. It is often thicker and lighter than the normal skin around it. However, an area of VIN can also appear red, pink, or darker than the surrounding skin.

Because these changes are often caused by other conditions that are not pre-cancerous, some women don't realize that they might have a serious condition. Some try to treat the problem themselves with over-the-counter remedies. Sometimes doctors might not even recognize the condition at first.
Invasive squamous cell cancer of the vulva

Almost all women with invasive vulvar cancers will have symptoms. These can include:

- An area on the vulva that looks different from normal – it could be lighter or darker than the normal skin around it, or look red or pink.
- A bump or lump, which could be red, pink, or white and could have a wart-like or raw surface or feel rough or thick
- Thickening of the skin of the vulva
- Itching
- Pain or burning
- Bleeding or discharge not related to the normal menstrual period
- An open sore (especially if it lasts for a month or more)

Verrucous carcinoma, a subtype of invasive squamous cell vulvar cancer, looks like cauliflower-like growths similar to genital warts.

These symptoms are more often caused by other, non-cancerous conditions. Still, if you have these symptoms, you should have them checked by a doctor or nurse.

Vulvar melanoma

Patients with vulvar melanoma can have many of the same symptoms as other vulvar cancers, such as:

- A lump
- Itching
- Pain
- Bleeding or discharge

Most vulvar melanomas are black or dark brown, but they can be white, pink, red, or other colors. They can be found throughout the vulva, but most are in the area around the clitoris or on the labia majora or minora.

Vulvar melanomas can sometimes start in a mole, so a change in a mole that has been present for years can also indicate melanoma. The ABCDE rule can be used to help tell a normal mole from one that could be melanoma.

**Asymmetry:** One-half of the mole does not match the other.

**Border irregularity:** The edges of the mole are ragged or notched.
**Color:** The color over the mole is not the same. There may be differing shades of tan, brown, or black and sometimes patches of red, blue, or white.

**Diameter:** The mole is wider than 6 mm (about 1/4 inch).

**Evolving:** The mole is changing in size, shape, or color.

The most important sign of melanoma is a change in size, shape, or color of a mole. Still, not all melanomas fit the ABCDE rule.

If you have a mole that has changed, ask your doctor to check it out.

**Bartholin gland cancer**

A distinct mass (lump) on either side of the opening to the vagina can be the sign of a Bartholin gland carcinoma. More often, however, a lump in this area is from a Bartholin gland cyst, which is much more common (and is not a cancer).

**Paget disease**

Soreness and a red, scaly area are symptoms of Paget disease of the vulva.

- References
  See all references for Vulvar Cancer

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**Tests for Vulvar Cancer**

**Medical history and physical exam**

The first step is for the doctor to take your complete medical history to check for risk factors and symptoms. Then your doctor will physically examine you, including a pelvic
exam. He or she will feel your uterus, ovaries, cervix, and vagina for anything irregular. Your doctor will also look at your vagina and cervix (with a speculum) and may do a Pap test and an HPV test.

**Biopsy**

Certain signs and symptoms might strongly suggest vulvar cancer, but many of them can be caused by changes that aren't cancer. The only way to be sure cancer is present is for the doctor to do a biopsy. To do this, a small piece of tissue from the changed area is removed and examined under a microscope. A pathologist (a doctor specially trained to diagnose diseases with laboratory tests) will look at the tissue sample with a microscope to see if cancer or pre-cancer cells are present and, if so, what type it is.

The doctor might use a colposcope or a hand-held magnifying lens to select areas to biopsy. A colposcope is an instrument that stays outside the body and has magnifying lenses. It lets the doctor see the surface of the vulva closely and clearly. The vulva is treated with a dilute solution of acetic acid (like vinegar) that causes areas of vulvar intraepithelial neoplasia (VIN) and vulvar cancer to turn white. This makes them easier to see through the colposcope. Examining the vulva with magnification is called vulvoscopy.

Less often, the doctor might wipe the vulva with a dye (called toluidine blue) to find areas of abnormal vulvar skin to biopsy. This dye causes skin with certain diseases -- including VIN and vulvar cancer -- to turn blue.

Once the abnormal areas are found, a numbing medicine (local anesthetic) is injected into the skin so you won’t feel pain. If the abnormal area is small, it may be completely removed (called an excisional biopsy). Sometimes stitches are needed afterward.

If the abnormal area is larger, a punch biopsy is used to take a small piece of it. The instrument used looks like a tiny apple corer and removes a small, cylinder of skin about 4 mm (about 1/6 inch) across. Stitches aren’t usually needed after a punch biopsy. Depending on the results of the punch biopsy, more surgery may be needed.

To learn more, see Testing Biopsy and Cytology Specimens for Cancer.

**Seeing a specialist**

If your biopsy shows that you have vulvar cancer, your health care provider will refer you to a gynecologic oncologist, a specialist in female reproductive system cancers.
This specialist will also look at your complete personal and family medical history to learn about related risk factors and symptoms of vulvar cancer. The doctor will do a complete physical exam to evaluate your general state of health, paying special attention to the lymph nodes, particularly those in your groin region, to check for signs of cancer spread.

Depending on the biopsy results, more tests may be done to find out about the size of the tumor, how deeply it has grown into tissues at the place it first started, if it has grown into nearby organs, and if it has metastasized (spread to other parts of your body). This is called staging. The stage of your cancer is the most important factor in selecting the right treatment plan. (See Vulvar Cancer Stages for more details.)

Here are some of the tests that may be done:

**Imaging tests**

Imaging tests use sound waves, x-rays, magnetic fields, or radioactive substances to create pictures of the inside of your body.

**Chest x-ray**

An x-ray of your chest may be done to see if cancer has spread to your lungs.

**Computed tomography (CT) scan**

A CT scan is an x-ray test that makes detailed cross-sectional images of your body. CT scans are not often needed, but they might be done in women with large vulvar tumors or enlarged lymph nodes. They can also be helpful in deciding whether to do a sentinel lymph node procedure to check groin lymph nodes for cancer spread. (This is discussed in more detail in Surgery for Vulvar Cancer).

**Magnetic resonance imaging (MRI)**

An MRI uses radio waves and strong magnets instead of x-rays to make images of the body. Like a CT scanner, it produces cross sectional slices of the body. MRI images are very useful in examining pelvic tumors. They can show enlarged lymph nodes in the groin. But, they’re rarely used in patients with early vulvar cancer.

**Positron emission tomography (PET) scan**
A PET scan uses a form of radioactive sugar that's put into the blood. Body cells take in different amounts of the sugar, depending on how fast they're growing. Cancer cells grow quickly and are more likely to take up larger amounts of the sugar than normal cells. A special camera is then used to create a picture of areas of radioactivity in the body.

This test can be helpful for spotting collections of cancer cells, and seeing if the cancer has spread to lymph nodes. The picture from a PET scan is not as detailed as a CT or MRI scan, but it provides helpful information about whether abnormal areas seen on these other tests are likely to be cancer or not.

PET scans are also useful when your doctor thinks the cancer has spread, but doesn’t know where (although they aren’t useful for finding cancer spread in the brain). PET scans can be used instead of several different x-rays because they scan your whole body. Often, a machine that combines a PET scanner and a CT scanner (called a PET/CT) is used, which gives more information about areas of cancer and cancer spread.

**Other tests to look for cancer**

These tests aren't often used, but if the doctor suspects the cancer has spread to nearby organs, other tests may be used to look for it. These tests let the doctor directly look inside your body for signs of cancer. You may be given drugs to put you into a deep sleep (general anesthesia) while the test is done.

**Cystoscopy**

The doctor uses a lighted tube to check the inside lining of your bladder. Some advanced cases of vulvar cancer can spread to the bladder, so any suspicious areas noted during this exam are biopsied. This procedure also can be done using a local anesthetic, where the area is just numbed, but some patients may need general anesthesia.

**Proctoscopy**

This lets the doctor look at the inside of the rectum using a thin, lighted tube. Some advanced cases of vulvar cancer can spread to the rectum. Any suspicious areas are biopsied.

**Examination of the pelvis while under anesthesia**
Putting the patient into a deep sleep (under anesthesia) allows the doctor to do a more thorough exam that can better evaluate how much the cancer has spread to internal organs of the pelvis.

**Blood tests**

Your doctor might also order certain blood tests to help get an idea of your overall health and how well certain organs, like your liver and kidneys, are working.

- References

See all references for Vulvar Cancer


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**Vulvar Cancer Stages**

After a woman is diagnosed with vulvar cancer, doctors will try to figure out if it has spread, and if so, how far. This process is called staging. The stage of a cancer describes the amount of cancer in the body. It helps determine how serious the cancer is and how best to treat it. Doctors also use a cancer's stage when talking about survival statistics.

Vulvar cancer stages range from stage I (1) through IV (4). As a rule, the lower the number, the less the cancer has spread. A higher number, such as stage IV, means cancer has spread more. Although each person's cancer experience is unique, cancers with similar stages tend to have a similar outlook and are often treated in much the
How is the stage determined?

The 2 systems used for staging vulvar cancer, the FIGO (International Federation of Gynecology and Obstetrics) system and the AJCC (American Joint Committee on Cancer) TNM staging system are basically the same.

They both stage (classify) this cancer based on 3 pieces of information:

- The extent (size) of the tumor (T): How large and deep has the cancer grown? Has the cancer reached nearby structures or organs like the bladder or rectum?
- The spread to nearby lymph nodes (N): How many lymph nodes has the cancer spread to and has it grown outside of those lymph nodes?
- The spread (metastasis) to distant sites (M): Has the cancer spread to distant lymph nodes or distant organs?

Numbers or letters after T, N, and M provide more details about each of these factors. Higher numbers mean the cancer is more advanced. Once a person’s T, N, and M categories have been determined, this information is combined in a process called stage grouping to assign an overall stage.

The staging system in the table below uses the pathologic stage (also called the surgical stage). It is determined by examining tissue removed during an operation.

Sometimes, if surgery is not possible right away, the cancer will be given a clinical stage instead. This stage is based on the results of a physical exam, biopsy, and imaging tests done before surgery. For more information see Cancer Staging.

The system described below is the most recent AJCC system, effective January 2018.

These systems are not used to stage vulvar melanoma, which is staged like melanoma of the skin. Information about melanoma staging can be found in Melanoma Skin Cancer.

Vulvar cancer staging can be complex, so ask your doctor to explain it to you in a way you understand.

<table>
<thead>
<tr>
<th>AJCC stage</th>
<th>Stage grouping</th>
<th>FIGO stage</th>
<th>Stage description*</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA</td>
<td>T1a N0</td>
<td>IA</td>
<td>The cancer is in the vulva or the perineum (the space between the rectum and the vagina) or both and has grown no more than 1 mm</td>
</tr>
</tbody>
</table>
## Table: Staging of Vulvar Cancer

<table>
<thead>
<tr>
<th>Stage</th>
<th>T Category</th>
<th>N Category</th>
<th>M Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IB</td>
<td>T1b</td>
<td>N0</td>
<td>M0</td>
<td>The cancer is in the vulva or perineum or both and is either more than 2 cm (0.8 inches) or it has grown more than 1 mm (0.04 inches) into underlying tissue (stroma) (T1b). It has not spread to nearby lymph nodes (N0) or to distant sites (M0).</td>
</tr>
<tr>
<td>II</td>
<td>T2</td>
<td>N0</td>
<td>M0</td>
<td>The cancer can be any size and is growing into the anus or the lower third of the vagina or urethra (the tube that drains urine from the bladder) (T2). It has not spread to nearby lymph nodes (N0) or to distant sites (M0).</td>
</tr>
<tr>
<td>IIIA</td>
<td>T1 or T2</td>
<td>N1</td>
<td>M0</td>
<td>Cancer is in the vulva or perineum or both (T1) and may be growing into the anus, lower vagina, or lower urethra (T2). It has either spread to a single nearby lymph node with the area of cancer spread 5 mm or more OR it has spread to 1 or 2 nearby lymph nodes with both areas of cancer spread less than 5 mm (N1). It has not spread to distant sites (M0).</td>
</tr>
<tr>
<td>IIIB</td>
<td>T1 or T2</td>
<td>N2a or N2b</td>
<td>M0</td>
<td>Cancer is in the vulva or perineum or both (T1) and may be growing into the anus, lower vagina, or lower urethra (T2). The cancer has spread either to 3 or more nearby lymph nodes, with all areas of cancer spread less than 5 mm (N2a); OR the cancer has spread to 2 or more lymph nodes with each area of spread 5 mm or greater (N2b). It has not spread to distant sites (M0).</td>
</tr>
<tr>
<td>IIIC</td>
<td>T1 or T2</td>
<td>N2c</td>
<td>M0</td>
<td>Cancer is in the vulva or perineum or both (T1) and may be growing into the anus, lower vagina, or lower urethra (T2). The cancer has spread to nearby lymph nodes and has started growing through the outer covering of at least one of the lymph nodes (called extracapsular spread; N2c). It has not spread to distant sites (M0).</td>
</tr>
<tr>
<td>IVA</td>
<td>T1 or T2</td>
<td>N3</td>
<td>M0</td>
<td>Cancer is in the vulva or perineum or both (T1) and may be growing into the anus, lower vagina, or lower urethra (T2). The cancer has spread to nearby lymph nodes and has become stuck (fixed) to the underlying tissue or has caused an ulcer(s) to form on the lymph node(s) (ulceration) (N3). It has not spread to distant sites (M0).</td>
</tr>
<tr>
<td>OR</td>
<td>T3</td>
<td>Any N</td>
<td>M0</td>
<td>The cancer has spread beyond nearby tissues to the bladder, rectum, pelvic bone, or upper part of the urethra or vagina (T3). It might or might not have spread to nearby lymph nodes (any N). It has not spread to distant sites (M0).</td>
</tr>
<tr>
<td>IVB</td>
<td>Any T</td>
<td></td>
<td></td>
<td>The cancer has spread to distant lymph nodes (pelvic) or organs</td>
</tr>
</tbody>
</table>
Any N M1 such as lung or bone (M1). The cancer can be any size and might or might not have spread to nearby organs (Any T). It might or might not have spread to nearby lymph nodes (Any N).

* The following additional categories are not listed on the table above:

- TX: Main tumor cannot be assessed due to lack of information.
- T0: No evidence of a primary tumor.
- NX: Regional lymph nodes cannot be assessed due to lack of information.

References

See all references for Vulvar Cancer

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**Vulvar Cancer Survival Rates**

The 5-year survival rate refers to the percentage of patients who live at least 5 years after their cancer is diagnosed. Five-year survival rates are used to produce a standard way of discussing prognosis. Of course, many people live much longer than 5 years.

Relative survival rates assume that people will die of other causes and compare the observed survival with that expected for people without vulvar cancer. This is a more accurate way to describe the outlook for patients with a particular type and stage of cancer.

Keep in mind that 5-year survival rates are based on patients diagnosed and initially treated more than 5 years ago. Improvements in treatment often result in a more favorable outlook for women more recently diagnosed with vulvar cancer.
Survival rates are often based on previous outcomes of large numbers of people who had the disease, but they cannot predict what will happen in any particular person’s case. Many other factors may affect a person’s outlook, such as the type of vulvar cancer, the patient’s age and general health, the treatment received, and how well the cancer responds to treatment. Your doctor can tell you how the numbers below may apply to your situation.

These numbers come from the National Cancer Institute’s SEER program. SEER does not list survival rates by FIGO (or AJCC) stage. Instead, it divides vulvar cancers into 3 summary stages:

- **Local (stages I and II):** The cancer is only in the vulva, without spread to lymph nodes or nearby tissues.
- **Regional (stages III and IVA):** The cancer has spread to nearby lymph nodes or tissues, but hasn’t spread to distant organs.
- **Distant (stage IVB):** The cancer has spread to distant organs or tissues.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Relative 5-Year Survival Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local</td>
<td>86%</td>
</tr>
<tr>
<td>Regional</td>
<td>54%</td>
</tr>
<tr>
<td>Distant</td>
<td>16%</td>
</tr>
</tbody>
</table>

**References**


See all references for Vulvar Cancer

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**Questions to Ask Your Doctor About**
Vulvar Cancer

It is important for you to have honest, open discussions with your cancer care team. They want to answer all of your questions, no matter how trivial you might think they are. Here are some questions to consider:

- What type of vulvar cancer do I have?
- Has my cancer spread beyond the vulva?
- What is the stage of my cancer and what does that mean?
- What treatments are appropriate for me? What do you recommend? Why?
- What should I do to be ready for treatment?
- What risks or side effects should I expect?
- Can anything be done to minimize my risks?
- Will I be able to have children after my treatment?
- Will I be able to enjoy normal sexual relations?
- What are the chances my cancer will recur (come back) with the treatments we have discussed?
- Should I follow a special diet?
- What is my expected prognosis, based on my cancer as you view it?
- What do I tell my children, husband, parents, and other family members?

In addition to these sample questions, be sure to write down some questions of your own. For instance, you might want specific information about anticipated recovery times so that you can plan your work schedule. Or you may want to ask about second opinions or about clinical trials for which you may qualify.

Other health care professionals, such as nurses and social workers, may have the answers to some of your questions. You can find more information about communicating with your health care team in The Doctor-Patient Relationship.

References

See all references for Vulvar Cancer

Last Medical Review: November 3, 2017 Last Revised: January 16, 2018
Treating Vulvar Cancer

After the stage of your vulvar cancer is known, your cancer care team will talk with you about treatment options. Think about your options without feeling rushed. If there’s anything you don't understand, ask to have it explained again.

The choice of treatment depends largely on the stage of the disease at the time of diagnosis, but other factors can play a part in choosing the best treatment plan, such as your age, your general health, your individual circumstances, and your preferences. Be sure you understand all the risks and side effects of the various options before making a decision.

You may want to get a second opinion. This can provide more information and help you feel confident about the treatment plan you choose.

Depending on the type and stage of your vulvar cancer, you may need more than one type of treatment. Doctors on your cancer treatment team may include:

- A gynecologist: a doctor who specializes in diseases of the female reproductive tract
- A gynecologic oncologist: a doctor who specializes in treating cancers of the female reproductive system (including surgery and chemotherapy)
- A radiation oncologist: a doctor who uses radiation to treat cancer
- A medical oncologist: a doctor who uses chemotherapy and other medicines to treat cancer

Many other specialists may be involved in your care as well, including nurse practitioners, nurses, psychologists, social workers, rehabilitation specialists, and other health professionals.

The 3 main types of treatment used for women with vulvar cancer are

- Surgery
- Radiation therapy
- Chemotherapy

Vulvar pre-cancers (vulvar intraepithelial neoplasia or VIN) can also be treated with topical therapy.

For information about some of the most common treatments used based on the type of vulvar cancer, see Treatment Options for Squamous Cell Vulvar Cancer by Stage, Treatment of Vulvar Adenocarcinoma, and Treatment of Vulvar Melanoma.

Thinking about taking part in a clinical trial

Clinical trials are carefully controlled research studies that are done to learn more about promising new treatments or procedures. Clinical trials are one way to get state-of-the-art cancer treatment. In some cases, they may be the only way to get access to newer treatments. They are also the best way for doctors to learn better methods to treat cancer. Still, they're not right for everyone.

If you would like to learn more about clinical trials that might be right for you, start by asking your doctor if your clinic or hospital conducts clinical trials. See Clinical Trials to learn more.

Considering complementary and alternative methods

You may hear about alternative or complementary methods that your doctor hasn’t mentioned to treat your cancer or relieve symptoms. These methods can include vitamins, herbs, and special diets, or other methods such as acupuncture or massage, to name a few.

- Complementary methods refer to treatments that are used along with your regular medical care.
- Alternative treatments are used instead of a doctor's medical treatment.

Although some of these methods might be helpful in relieving symptoms or helping you feel better, many have not been proven to work. Some might even be dangerous.

Be sure to talk to your cancer care team about any method you're thinking about using. They can help you learn what's known (or not known) about the method, which can help you make an informed decision. See the Complementary and Alternative Medicine section of our website to learn more.
Help getting through cancer treatment

Your cancer care team will be your first source of information and support, but there are other resources for help when you need it. Hospital- or clinic-based support services are an important part of your care. These might include nursing or social work services, financial aid, nutritional advice, rehab, or spiritual help.

The American Cancer Society also has programs and services – including rides to treatment, lodging, and more – to help you get through treatment. Call our National Cancer Information Center at 1-800-227-2345 and speak with one of our trained specialists.

It’s important to discuss all of your treatment options, including their goals and possible side effects, with your doctors to help make the decision that best fits your needs. It’s also very important to ask questions if there’s anything you’re not sure about. You can find some good suggestions of questions to ask in Questions to Ask Your Doctor About Vulvar Cancer.

The treatment information given here is not official policy of the American Cancer Society and is not intended as medical advice to replace the expertise and judgment of your cancer care team. It is intended to help you and your family make informed decisions, together with your doctor. Your doctor may have reasons for suggesting a treatment plan different from these general treatment options. Don’t hesitate to ask him or her questions about your treatment options.

Surgery for Vulvar Cancer

Surgery is the main treatment for vulvar cancer. Each woman’s surgery must balance the need to remove all of the cancer with the importance of her ability to have a sex life. It’s also important to consider how close the tumor is to the urethra and anus, because changes in how waste leaves the body can also have a huge impact on quality of life. (The vulva includes the labia, the opening to the vagina, and the clitoris. See What is Vulvar Cancer? for details.)

In the past, the vulvar tumor and a large amount of nearby normal tissue were removed. In most cases, nearby lymph nodes were taken out, too, regardless of the stage of the cancer. This was done to be sure that no cancer cells were left behind. Such extensive
surgery resulted in good cancer outcomes, but it was deforming and impaired the woman's sexual function as well as how she passed urine and stool. And taking out all the lymph nodes in the groin often led to disabling swelling of the leg (lymphedema) on that side.

Today, the importance of quality of life and sexuality is well recognized. Doctors have also learned that, when cancer is found early, there's no need to remove so much surrounding healthy tissue. Also, the sentinel node biopsy procedure is an option to removing many lymph nodes if the cancer has not spread (this is discussed below).

Still, when cancer is more advanced, an extensive procedure may be necessary. In some cases, radiation can be combined with chemotherapy and surgery to kill more cancer cells in advanced cancers.

**Vulva surgery**

The following types of surgery are listed in order of how much tissue is removed from the vulva (from least to most):

**Laser surgery**

A focused laser beam vaporizes (burns off) the layer of vulvar skin containing abnormal cells. Laser surgery may be used as a treatment for VIN (vulvar pre-cancer). It's not used to treat invasive cancer.

**Excision**

The cancer and an edge (margin) of normal, healthy skin (usually at least ½ inch) around it and a thin layer of fat below it are excised (cut out). This is sometimes called _wide local excision_. If extensive (a lot of tissue is removed), it may be called a _simple partial vulvectomy_.

**Vulvectomy**

In this type of operation, all or part of the vulva is removed.

- A **skinning vulvectomy** removes only the top layer of skin affected by the cancer. This is an option for treating extensive VIN, but this operation is rarely done.
- In a **simple vulvectomy**, the entire vulva is removed (the inner and outer labia;
sometimes the clitoris, too) as well as tissue just under the skin.

- A **partial or modified radical vulvectomy** removes part of the vulva, including the deep tissue.
- In a **complete radical vulvectomy**, the entire vulva and deep tissues, including the clitoris, are removed. A complete radical vulvectomy rarely needed.

**Vulvar reconstruction**

Sometimes these procedures remove a large area of skin from the vulva, requiring skin grafts from other parts of the body to cover the wound. But, most of the time the surgical wounds can be closed without grafts and still provide a very satisfactory appearance. If a skin graft is needed, the gynecologic oncologist may do it. Otherwise, it may be done by a plastic/reconstructive surgeon after the vulvectomy.

Reconstructive surgery is available for women who have had more extensive surgery. A reconstructive surgeon can take a piece of skin and underlying fatty tissue and sew it into the area where the cancer was removed. Several sites in the body can be used, but it's complicated by the fact that the blood supply to the transplanted tissue needs to be kept intact. This is where a skillful surgeon is needed because the tissue must be moved without damaging the blood supply. If you're having flap reconstruction, ask the surgeon to explain how it will be done, because there's no set way of doing it.

**Pelvic exenteration**

Pelvic exenteration is an extensive operation that when used to treat vulvar cancer includes vulvectomy and often removal of the pelvic lymph nodes, as well as removal of one or more of the following structures: the lower colon, rectum, bladder, uterus, cervix, and vagina. How much has to be removed depends on how far the cancer has spread into nearby organs. This is very complex surgery that can lead to many different kinds of complications.

If the bladder is removed, a new way to store and pass urine is needed. Usually a short piece of intestine is used to function as a new bladder. This may be connected to the abdominal wall so that urine can be drained when the woman places a catheter into a small opening (called a urostomy). Or urine may drain continuously into a small plastic bag that sticks to the belly over the opening.

If the rectum and part of the colon are removed, a new way to eliminate solid waste will be needed. This is made by attaching the remaining intestine to the abdominal wall so that stool can pass through a small opening (called a colostomy) into a small plastic bag.
worn on the front of the abdomen. Sometimes it's possible to remove a piece of the colon and then reconnect it. In that case, bags or external appliances aren't needed.

**Lymph node surgery**

Because vulvar cancer often spreads to lymph nodes in the groin, these may need to be removed. Treating the lymph nodes is important when it comes to the risk of cancer coming back and long-term outcomes. Still, there's no one best way to do this. Talk to your doctor about what's best for you, why it's best, and what the treatment side effects might be.

**Inguinal lymph node dissection**

Surgery to remove lymph nodes in the groin is called an inguinal lymph node dissection. Usually only lymph nodes on the same side as the cancer are removed. If the cancer is in or near the middle, then both sides may have to be done.

In the past, the incision (cut in the skin) that was used to remove the cancer in the vulva was made larger to remove the lymph nodes, too. Now, doctors remove the lymph nodes through a separate incision about 1 to 2 cm (less than ½ to 1 inch) below and parallel to the groin crease. The incision is deep, down through membranes that cover the major nerves, veins, and arteries. This exposes most of the inguinal lymph nodes, which are then removed as a solid piece. A major vein, the saphenous vein, may or may not be closed off by the surgeon. Some surgeons will try to save it in an effort to reduce leg swelling (lymphedema) after surgery, but some doctors will not try to save the vein since the problem with swelling is mainly caused by the lymph node removal.

After the surgery, a drain is placed into the incision and the wound is closed. The drain stays in until it's not draining much fluid.

**Sentinel lymph node biopsy**

This procedure can help some women avoid having a full inguinal node dissection. It's used to find and remove the lymph nodes that drain the area where the cancer is. These lymph nodes are known as sentinel lymph nodes because cancer would be expected to spread to them first. The lymph nodes that are removed are then looked at under the microscope to see if they contain cancer cells. If they do, then the rest of the lymph nodes in this area need to be removed. If the sentinel nodes do not contain cancer cells, further lymph node surgery isn't needed. This procedure can be used instead of an inguinal lymph node dissection for cancers that are fairly small (less than 4
cm) as long as there's no obvious lymph node spread.

To find the sentinel lymph node(s), a small amount of radioactive material and/or blue dye is injected into the tumor site on the day before surgery. The groin is scanned to identify the side (left or right) that picks up the radioactive material. This is the side where the lymph nodes will be removed. During the surgery to remove the cancer, blue dye will be injected again into the tumor site. This allows the surgeon to find the sentinel node by its blue color and then remove it. Sometimes 2 or more lymph nodes turn blue and are removed.

If a lymph node near a vulvar cancer is abnormally large, it's more likely to contain cancer and a sentinel lymph node biopsy is usually not done. Instead, a fine needle aspiration (FNA) biopsy or surgical biopsy of that lymph node is done to check for cancer cells.

**Complications and side effects of vulvar surgery**

Removal of wide areas of vulvar skin often leads to problems with wound healing, wound infections, or failure of the skin graft to take. The more tissue removed, the greater the risk of these complications. Good hygiene and careful wound care are important.

The urine stream might go to one side because tissue on one or both sides of the urethral opening has been removed.

Other complications of vulvar and groin node surgery include formation of fluid-filled cysts near the surgical wounds, blood clots that may travel to the lungs, urinary infections, and reduction of sexual desire or pleasure.

After vulvar surgery, women often feel discomfort if they wear tight slacks or jeans because the "padding" around the urethral opening and vaginal entrance is gone. The area around the vagina also looks very different.

**Lymphedema:** Removal of groin lymph nodes (lymphadenectomy) can result in poor fluid drainage from the legs. This makes the fluid build up and leads to leg swelling that is severe and doesn't go down at night. This is called lymphedema. The risk of this is higher if radiation is given after surgery. Information about lymphedema and how to manage it can be found in [Lymphedema](#).

**Sexual impact of vulvectomy:** Women often fear their partners will feel turned off by the scarring and loss of the outer genitals, especially during oral sex. Some women may
be able to have surgery to rebuild the outer and inner lips of the genitals.

It may be difficult for women who have had a vulvectomy to reach orgasm. The outer genitals, especially the clitoris, are important in a woman's sexual pleasure. For many women, the vagina is just not as sensitive. Women may also notice numbness in their genital area after a radical vulvectomy, but feeling might return over the next few months as nerves slowly heal.

When touching the area around the vagina, and especially the urethra, a light caress and the use of a lubricant can help prevent painful irritation. If scar tissue narrows the entrance to the vagina, penetration may be painful. Vaginal dilators can sometimes help stretch the opening. When scarring is severe, the surgeon can sometimes use skin grafts to widen the entrance. Sometimes, a special type of physical therapy called pelvic floor therapy may help.

Lymphedema resulting from removal of lymph nodes in the groin area can cause pain and fatigue. This also can be a problem during sex. A couple will need to use good communication to cope with such problems.

For more information about the sexual impact of cancer treatment, see Sex and the Woman With Cancer. For more general information about surgery as a cancer treatment, see Cancer Surgery.

- References

See all references for Vulvar Cancer


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Radiation Therapy for Vulvar Cancer

Radiation therapy uses high-energy rays (such as gamma rays or x-rays) and particles (such as electrons, protons, or neutrons) to kill cancer cells. When used to treat vulvar cancer, a large machine sends the radiation into the body in a procedure that's a lot like getting an x-ray. This is called external beam radiation therapy or ERBT.

When is radiation used?

Radiation is most often used along with chemotherapy when treating vulvar cancer. You might hear this called chemoradiation.

It can be used to treat more advanced cancers. The goal is to shrink the tumor so it can be removed with surgery. Sometimes this allows the doctor to remove the cancer while causing less damage to healthy tissues.

Radiation can also be used after surgery to kill any cancer cells that might have been left behind.

Radiation alone may be used to treat lymph nodes in the groin and pelvis.

It also may be used with or without chemo as the main treatment for women who are not well enough to have surgery.

Types of external beam radiation therapy

There are ways to give EBRT so that the radiation is focused more precisely on the tumor. This let doctors give higher doses of radiation to the tumor while reducing the radiation exposure to nearby healthy tissues.

Three-dimensional conformal radiation therapy (3D-CRT)

3D-CRT uses special computers to precisely map the location of the tumor. Radiation beams are then shaped and aimed at it from several directions, which makes it less
likely to damage normal tissues.

**Intensity modulated radiation therapy (IMRT)**

IMRT is an advanced form of 3D therapy. It uses a computer-driven machine that moves around the patient as it delivers radiation. Along with shaping the beams and aiming them at the tumor from several angles, the intensity (strength) of the beams can be adjusted to limit the doses reaching nearby normal tissues, like the bones, bowel, rectum, and bladder. This lets doctors deliver an even higher dose to the cancer.

**Side effects of radiation therapy**

Common short-term side effects of radiation therapy to the pelvis include:

- **Tiredness** can become severe a few weeks after treatment begins. Diarrhea, nausea, and vomiting from radiation can usually be controlled with medicines.
- **Skin changes** are common in the area the radiation passes through to reach the cancer. This can range from mild, temporary redness to blistering and permanent discoloration.
- Radiation can cause the vulvar area to become sensitive and sore. The skin may release fluid, which can lead to infection, so the area exposed to radiation must be carefully cleaned and protected.
- Radiation can also lead to **low blood counts**, causing anemia (low red blood cells) and neutropenia (low white blood cells). Low red blood cell counts can lead to feeling tired and short of breath. Low white blood cells can increase the risk of serious infection. The blood counts usually return to normal over time after radiation is stopped.
- Women who receive radiation to the inguinal (groin) area after a lymph node dissection may have problems with the surgical wound site. It may open up or have trouble healing.
- Radiation to the lymph nodes can lead to poor fluid drainage from the legs. The fluid can build up and lead to severe leg swelling that doesn’t go down at night. This is called lymphedema. Information about lymphedema and how to manage it can be found in Lymphedema.

These side effects tend to be worse when chemotherapy is given with radiation. If you have side effects from radiation, tell your cancer care team. There are often ways to relieve them.
For more information about radiation as a treatment for cancer, see Radiation Therapy.

- **References**
  - See all references for Vulvar Cancer


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## Chemotherapy for Vulvar Cancer

Chemotherapy (chemo) uses anti-cancer drugs that are usually given intravenously (IV or into a vein), by mouth, or applied to the skin in other ways, such as in an ointment.
Drugs taken by mouth or injected into a vein, called **systemic chemo**, enter the bloodstream and go throughout the body, making this treatment potentially useful for cancer that has spread beyond the **vulva**.

The role of chemo in treating vulvar cancer is not clear. There are no standard chemo treatment plans.

In more advanced disease, chemo might be given with radiation therapy before surgery. Chemotherapy helps the radiation work better, and this may shrink the tumor so it’s easier to remove with surgery.

At this time, chemo is most often used for vulvar cancers that have spread or have come back after surgery. But so far, the results of using chemo to treat vulvar cancers that have spread to other organs have been disappointing.

**Common chemo drugs used for vulvar cancer**

Drugs most often used in treating vulvar cancer include cisplatin with or without fluorouracil (5-FU). Another chemo drug, mitomycin, is less commonly used. These are often given at the same time as radiation therapy. (You may hear this called **chemoradiation**.)

More advanced vulvar cancers may be treated with one or more of these drugs:

- Cisplatin
- Carboplatin
- Vinorelbine
- Paclitaxel
- Erlotinib

Different drugs are used to treat vulvar melanoma. [Melanoma Skin Cancer](#) has more information on drug treatment for advanced melanomas.

**Chemo side effects**

Many of the chemo drugs used work by attacking cells that are rapidly dividing. This is helpful in killing cancer cells, but these drugs can also affect normal cells, leading to side effects. **Side effects** of chemo depend on the type of drugs, the amount taken, and the length of time you are treated. Common side effects of some of the drugs used to treat vulvar cancer include:
• **Nausea and vomiting**
• **Loss of hair**
• **Mouth** or vaginal sores
• Changes in the menstrual cycle, premature menopause, and **infertility** (inability to become pregnant). But most women with vulvar cancer have already gone through menopause.
• **Diarrhea**

Chemo often affects the blood-forming cells of the bone marrow, leading to **low blood counts**. This can cause:

• Increased chance of **infections** (low white blood cell count)
• Increased chance of **bleeding and bruising** (low blood platelet count)
• **Tiredness** (from **anemia**, which is a low red blood cell count)

Other side effects depend on what drug is used. Most side effects are short-term and stop when the treatment is over, but some chemo drugs can have long-lasting or even permanent effects. For instance, cisplatin can cause nerve damage (called **neuropathy**). This can lead to numbness, tingling, or even pain in the hands and feet. Cisplatin can also damage the kidneys. To lower the risk of kidney damage, plenty of fluids are given intravenously (IV) before and after each dose.

Ask your cancer care team about the chemo drugs you'll get and what side effects you can expect. Also be sure to talk with them about any side effects you do have so that they can be treated. For example, you can be given medicine to reduce or prevent nausea and vomiting.

For more information about chemo and its side effects, see [Chemotherapy](#).

- **References**

**See all references for Vulvar Cancer**


Topical Therapy for Vulvar Pre-Cancer

Topical therapy means the drug is a cream or ointment put right onto the cancer. This is a way to treat vulvar intraepithelial neoplasia (VIN), but it's not used to treat invasive vulvar cancer. Topical chemotherapy for VIN does not work as well as laser treatment or surgery.

One choice is to apply the chemotherapy drug, fluorouracil (5-FU), directly to the skin of the vulva. This is called topical chemotherapy. Chemotherapy applied directly to the skin as an ointment will cause local irritation and peeling. This is normal and is part of the local destruction of cancer cells. Other medicated ointments suggested by your health care team can help relieve the discomfort of this treatment.

A second drug that can be used topically is called imiquimod. This drug comes as a cream to be applied to the area of VIN. Imiquimod is not a chemotherapy drug. Instead, it works by boosting the body's immune response to the area of abnormal tissue. This treatment has improved VIN, and in some women, it has made VIN go away completely. It can cause irritation and pain in the treated area.

- References

See all references for Vulvar Cancer


Grimes C, Cunningham C, Lee M, Murina A. Use of topical imiquimod in the treatment
Treatment of Squamous Cell Vulvar Cancer

The stage of a vulvar cancer is the most important factor in choosing treatment. Other factors that affect this decision include the exact location of the cancer on the vulva, the type of vulvar cancer, your age, your preferences, and your overall health.

Because vulvar cancer is rare, it's hard to study it well. Most experts agree that treatment in a clinical trial should be considered. This way women can get the best treatment available now and may also get the treatments that are thought to be even better.

Stage 0 (carcinoma in situ)

Treatment options for carcinoma in situ and for small pre-cancerous changes (vulvar intraepithelial neoplasia, or VIN) are the same. If left untreated, nearly all will progress to invasive vulvar cancer. Surgery, such as laser surgery, wide local excision, or a skinning vulvectomy may be used, depending on the size and location of the cancer. A topical therapy such as fluorouracil (5-FU) ointment or imiquimod cream may be applied to the abnormal areas. Even if treated, stage 0 cancers may recur (come back) or new stage 0 cancers may form on other areas of the vulva, so good follow-up care is important.

Stage I

Treatment options depend on the size and depth of the cancer and whether the patient also has VIN. If the depth of invasion is 1 mm or less (stage IA) and there are no other
areas of cancer or VIN, the cancer is surgically removed along with a 1 cm (less than half an inch) rim (margin) of normal tissue around it.

For stage IB cancers, treatment may include a partial radical vulvectomy and inguinal lymph node dissection (removal of nearby groin lymph nodes). Sentinel lymph node biopsy may be done instead of the lymph node dissection. If cancer is found in the lymph nodes, radiation with chemotherapy may be given.

Another option rarely used for cancers that are larger and quite extensive is a complete radical vulvectomy and removal of the groin lymph nodes.

If the lymph nodes are not removed because the patient is not healthy enough to have the surgery, radiation therapy may be given to the groin areas. If the lymph nodes are enlarged, a needle biopsy may be done before treatment to see if the nodes contain cancer cells.

Patients who are not healthy enough to have any surgery may be treated with just radiation therapy alone.

**Stage II**

Stage II cancers have spread to structures near the vulva, such as the anus, the lower vagina, and/or the lower urethra. One option for treatment is partial radical vulvectomy (removal of the tumor, nearby parts of the vulva, and other tissues containing cancer). Surgery may also include removal of the lymph nodes in the groin on both sides of the body (or sentinel node biopsies). Radiation therapy may be given after surgery if cancer cells are at or near the margins (edges of the tissue removed by surgery).

For women who are too sick or weak from other medical problems to have surgery, radiation (with or without chemotherapy) may be used as the main treatment.

**Stage III**

Stage III cancers have spread to nearby lymph nodes. Treatment may include surgery to remove the cancer (either a radical wide local incision or partial or complete radical vulvectomy) and lymph nodes in the groin. This may be followed by radiation therapy. Sometimes chemotherapy (chemo) is given along with the radiation to help it work better.
These cancers may also be treated with radiation (with or without chemo) first, followed by surgery to remove any remaining cancer. This is often done to try to preserve normal structures such as the vagina, urethra and anus.

Radiation and chemo (without surgery) may be used as the main treatment for patients who cannot have surgery due to other medical problems.

**Stage IVA**

These cancers have spread more extensively to organs and tissues in the pelvis, such as the rectum (above the anus), the bladder, the pelvic bone, the upper part of the vagina, and the upper part of the urethra. When treated with surgery, the goal is to remove as much of the cancer as possible. The extent of the surgery depends on what organs contain cancer cells. **Pelvic exenteration** is an option, but it's rarely used.

The standard approach is to combine surgery, radiation, and chemo. Radiation therapy may be done before or after surgery. Chemo may also be given before surgery.

Radiation and possibly chemo can also be given to women who can't have surgery because of other medical problems.

Stage IVA also includes tumors with less spread to nearby organs, but spread to nearby lymph nodes that has caused the lymph nodes to become fixed (stuck to the underlying tissue) or ulcerated (become open sores). These cancers are often treated with **radical vulvectomy** and **removal of the groin lymph nodes**. Radiation (often with chemo) may be given either before or after surgery.

**Stage IVB**

These cancers have spread to lymph nodes in the pelvis or to organs and tissues outside the pelvis (like the lungs or liver). There is no standard treatment for them. Surgery is not expected to cure these cancers, but may be helpful in relieving symptoms, such as bowel or bladder blockages. Radiation may also be helpful in shrinking the cancer and improving symptoms. Chemo may also be an option. Experts recommend that these women enroll in a **clinical trial**.

**Recurrent vulvar cancer**

When cancer comes back after treatment, it's called **recurrent cancer**. Treatment
options depend on how soon the cancer comes back and whether the recurrence is local (in the vulva), regional (in nearby lymph nodes), or distant (has spread to organs such as the lungs or bones).

If the recurrence is local, it may still be possible to remove the cancer by surgery or by using combinations of chemo, radiation therapy, and surgery.

When the cancer has grown too large or spread too far to be surgically removed (it's unresectable), chemo and/or radiation therapy may be used to help relieve symptoms such as pain, or to shrink the tumor so that surgery may become an option. If treatment is given only to relieve pain or bleeding, it's called palliative (symptom relief) therapy.

It's very important to understand that palliative treatment is not expected to cure a cancer. Women with advanced vulvar cancer are encouraged to enter a clinical trial where they may get new treatments that might be helpful but are as yet unproven.

- References

See all references for Vulvar Cancer


Last Medical Review: November 3, 2017 Last Revised: January 16, 2018
Treatment of Vulvar Adenocarcinoma

If Paget's disease is present and there's no invasive adenocarcinoma, treatment is wide local excision or simple vulvectomy (see Surgery for Vulvar Cancer for details).

If an invasive adenocarcinoma of a Bartholin gland or of vulvar skin sweat glands is present, a partial radical vulvectomy is recommended with removal of inguinal (groin) lymph nodes on one or both sides of the body, depending on the location of the primary tumor.

Advanced vulvar adenocarcinoma is often treated with chemotherapy or radiation.

- References

See all references for Vulvar Cancer

Treatment of Vulvar Melanoma

Vulvar melanoma starts on the skin of the vulva. A partial vulvectomy (surgery to remove the tumor and a rim of healthy tissue around it), along with lymph node removal is the usual treatment for melanoma on the vulva. In some cases, radiation therapy, chemotherapy, and/or immunotherapy may also be used. These decisions are made on a case-by-case basis.

Treatment options depend on:

- How deep the melanoma is
- Where it is on the skin of the vulva
- Whether it's ulcerated (an open sore)
• Spread to lymph nodes
The cancer stage and the woman's age and personal preferences are also key.

If the melanoma has spread outside the vulva, other treatments may be needed. More on treatment of vulvar melanoma can be found in Melanoma Skin Cancer.

• References
See all references for Vulvar Cancer


Last Medical Review: November 3, 2017 Last Revised: January 16, 2018

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After Vulvar Cancer Treatment

Living as a Cancer Survivor

For many people, cancer treatment often raises questions about next steps as a survivor.

- **Living As a Vulvar Cancer Survivor**

Cancer Concerns After Treatment

Treatment may remove or destroy the cancer, but it is very common to have questions about cancer coming back or treatment no longer working.

- **Second Cancers After Vulvar Cancer**

Living As a Vulvar Cancer Survivor

For many women with vulvar cancer, treatment can remove or destroy the cancer. The end of treatment can be both stressful and exciting. You may be relieved to finish treatment, but yet it’s hard not to worry about cancer coming back. This is very common if you’ve had cancer.

For others, the cancer might never go away completely. Some people may get treatments to try and help keep the cancer in check or ease problems it's causing. Learning to live with cancer that does not go away can be difficult and very stressful.

Life after vulvar cancer means returning to some familiar things and also making some new choices.

Follow-up care
When treatment ends, your doctors will still want to watch you closely. It’s very important to go to all of your follow-up appointments. During these visits, your doctors will ask questions about any problems you may have and may do exams and lab tests or x-rays and scans to look for signs of cancer or treatment side effects. Almost any cancer treatment can have side effects. Some may last for a few weeks to months, but others can last the rest of your life. This is the time for you to talk to your cancer care team about any changes or problems you notice and any questions or concerns you have.

Lymphedema is a common side effect when lymph nodes are removed as part of surgery for vulvar cancer. Your doctor will talk to you about lymphedema and what you can do to try to keep it from starting. Be sure to tell your doctor about any swelling, heaviness, pain, or skin changes you notice in your genitals or your legs.

**Ask your doctor for a survivorship care plan**

Talk with your doctor about developing a survivorship care plan for you. This plan might include:

- A suggested schedule for follow-up exams and tests
- A schedule for other tests you might need in the future, such as early detection (screening) tests for other types of cancer, or tests to look for long-term health effects from your cancer or its treatment
- A list of possible late- or long-term side effects from your treatment, including what to watch for and when you should contact your doctor
- Diet and physical activity suggestions
- Reminders to keep your appointments with your primary care provider (PCP), who will monitor your general health care

**Keeping health insurance and copies of your medical records**

Even after treatment, it’s very important to keep health insurance. Tests and doctor visits cost a lot, and even though no one wants to think of their cancer coming back, this could happen.

At some point after your cancer treatment, you might find yourself seeing a new doctor who doesn’t know about your medical history. It’s important to keep copies of your medical records to give your new doctor the details of your diagnosis and treatment.
Can I lower my risk of vulvar cancer progressing or coming back?

If you have (or have had) vulvar cancer, you probably want to know if there are things you can do that might lower your risk of the cancer growing or coming back, such as exercising, eating a certain type of diet, or taking nutritional supplements. Unfortunately, it’s not yet clear if there are things you can do that will help.

Adopting healthy behaviors such as not smoking, eating well, getting regular physical activity, and staying at a healthy weight might help, but no one knows for sure. However, we do know that these types of changes can have positive effects on your health that can extend beyond your risk of vulvar cancer or other cancers.

About dietary supplements

So far, no dietary supplements (including vitamins, minerals, and herbal products) have been shown to clearly help lower the risk of vulvar cancer progressing or coming back. This doesn’t mean that no supplements will help, but it’s important to know that none have been proven to do so.

Dietary supplements are not regulated like medicines in the United States – they do not have to be proven effective (or even safe) before being sold, although there are limits on what they’re allowed to claim they can do. If you’re thinking about taking any type of nutritional supplement, talk to your health care team. They can help you decide which ones you can use safely while avoiding those that might be harmful.

If the cancer comes back

If the cancer does recur at some point, your treatment options will depend on where the cancer is located, what treatments you’ve had before, and your overall health. For general information on recurrence, you may want to see Understanding Recurrence.

Could I get a second cancer after treatment?

Women who’ve had vulvar cancer can still get other cancers. In fact, vulvar cancer survivors are at higher risk for getting some other types of cancer. Learn more
Getting emotional support

Some feelings of depression, anxiety, or worry are normal when cancer is a part of your life. Some people are affected more than others. But everyone can benefit from help and support from other people, whether friends and family, religious groups, support groups, professional counselors, or others. Learn more in Life After Cancer.

- References

See all references for Vulvar Cancer


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Second Cancers After Vulvar Cancer

Cancer survivors can be affected by a number of health problems, but often their greatest concern is facing cancer again. If a cancer comes back after treatment it is called a recurrence. But some cancer survivors may develop a new, unrelated cancer later. This is a second cancer. No matter what type of cancer you've had, it's still possible to get another (new) cancer, even after surviving the first.

People who have had cancer can still get the same types of cancers that other people get. In fact, certain types of cancer and cancer treatments can be linked to a higher risk of certain second cancers.

Survivors of vulvar cancer can get any type of second cancer, but they have an increased risk of:

- A second vulvar cancer (this is different from the first cancer coming back)
• Anal cancer
• Vaginal cancer
• Mouth and throat cancer
• Cancer of the voice box (larynx)
• Lung cancer
• Cancer of the brain and central nervous system

Many of these cancers are linked to smoking and/or infection with human papillomavirus (HPV), which are also risk factors for vulvar cancer.

**Follow-up after treatment**

After completing treatment for vulvar cancer, women will see their doctors regularly to look for signs of the cancer coming back, as well as a second vulvar cancer, or new cancers of the vagina and anus. Experts do not recommend additional testing to look for second cancers in women without symptoms. But be sure to let your doctor know about any new symptoms or problems, because they could be caused by the cancer coming back or by a new disease or second cancer.

Survivors of vulvar cancer should follow the American Cancer Society guidelines for the early detection of cancer and stay away from tobacco products. Smoking increases the risk of many of the second cancers seen in women treated for vulvar cancer.

To help maintain good health, survivors should also:

• Get too and stay at a healthy weight
• Adopt a physically active lifestyle
• Eat a healthy diet, with an emphasis on plant foods
• Limit alcohol to no more than 1 drink per day

These steps may also lower the risk of some cancers.

See Second Cancers in Adults for more information about causes of second cancers.