

Cancer Association of South Africa (CANSA)



CANSA Fact Sheet on Cancer of the Vulva

Introduction

The vulva (from the Latin *vulva*) consists of the external genital organs in the female.

[Picture Credit: Cancer of the Vulva]

The vulva has many major and minor anatomical structures, including the labia majora, mons pubis, labia minora, clitoris, bulb of vestibule, vulval vestibule, greater and lesser vestibular glands, as well as the opening of the vagina. As the outer portal of the human uterus or womb, it protects its opening by a 'double door': the labia majora (large lips) and the labia minora (small lips). The vagina is a self-cleaning organ, sustaining healthy microbial flora that flow from the inside out.

What is Vulvar Cancer?

The external female genitalia, often known as the vulva, can develop cancer that is called vulvar cancer. The labia, clitoris, and vaginal entrance are all included in the area of skin known as the vulva, which surrounds the opening of the vagina.



The vulva has a sexual function - these external organs are richly innervated and provide pleasure when stimulated. The vulva also contains the opening of the female urethra, but apart from this has little relevance to the function of urination.

Cancer is a disease in which cells in a particular part of the body grow out of control. Cancer is always named for the part of the body where it starts, even if it spreads to other body parts later.

It is not always clear what causes vulvar cancer. This cancer starts on the area of skin that surrounds the urethra and vagina. This area of skin is called the vulva.

Vulvar cancer is a rare cancer of the external female genitals, with symptoms including persistent itching, pain, changes in skin colour or thickening, a lump or sore, and bleeding. Key risk factors include Human Papillomavirus (HPV) infection and vulvar intraepithelial neoplasia (VIN), a precancerous condition.

Vulvar cancer treatment often starts with surgery to remove the cancer and a small amount of surrounding healthy tissue. Sometimes vulvar cancer surgery requires removing the entire vulva. The earlier vulvar cancer is diagnosed, the less likely an extensive surgery is needed for treatment.

The Facts:

- Vulvar cancer is very rare, accounting for approximately 0.7 percent of all cancers in women. According to the National Cancer Registry (2023) vulvar cancer represents 2.23% of cancers among south African women.
- The HPV vaccine can prevent the strains of HPV responsible for most cervical, vaginal and vulvar cancers.
- Risk factors that may increase a woman's chances of developing vulvar cancer include age, infection with certain types of HPV, smoking and HIV infection.
- Symptoms of vulvar cancer include severe itching, burning and pain on the vulva – also during sexual intercourse.

Vulvar cancer is a rare cancer that forms in the tissues of the vulva – it develops slowly over several years. 'Vulva' is the collective name for all the female external sex organs, or genitals. it includes:

- Opening of the vagina
- Labia minora (inner lips)
- Labia majora (outer lips)
- The outer part of the clitoris
- Mons pubis
- Opening of the urethra
- Perineum

Vulvar cancer usually develops slowly over several years. Precancerous areas of tissue (lesions) typically develop first. Healthcare providers usually discover the abnormal growth in the outermost layer of your skin. These precancerous lesions are called vulvar intraepithelial neoplasia (VIN). (Mayo Clinic, 2025).

Trozzi, R., Anderson, G., Romano, V., Iacobelli, V., Giovannetti, A., Sabetta, G., Dababou, S., Ganev, A., Mazza, T., Adinolfi, M., Duranti, S., Camarda, F., Fragomeni, S.M., Federico, A., Ferrandina, G.M., Roma, C., Scollo, P., Marth, C., Zannoni, G.F., Fagotti, A., Garganese, G. & Nero, C. 2026.

Background: To clarify the prevalence and clinical utility of molecular biomarkers in vulvar cancer, we performed a review of systematic and high-quality narrative reviews, complemented by interrogation of public repositories containing genomic datasets. Our objectives were to (i) quantify biomarker prevalence across vulvar cancer subtypes, (ii) evaluate their prognostic and predictive value, and (iii) identify actionable therapeutic targets.

Methods: A review of reviews following the Joanna Briggs Institute's Manual for Evidence Synthesis was conducted using MEDLINE, Scopus, Web of Science, and ProQuest from inception to October 1, 2025 (PROSPERO CRD420251080015). Additional genomic data were obtained from cBioPortal, SRA, GEO, EGA, Zenodo. Eligible publications were systematic or high-quality narrative reviews (SANRA $\geq 8/12$) reporting the prevalence or clinical associations of molecular biomarkers in primary or recurrent vulvar malignancies. Systematic reviews were appraised with AMSTAR-2 and narrative reviews with SANRA by two blinded reviewers, with arbitration by a third when needed. Biomarkers' pooled prevalence estimates were generated, and prognostic or predictive associations were synthesized. Public sequencing datasets were examined to identify clinically actionable alterations.

Results: Thirteen reviews (four systematic with meta-analysis, and nine narrative) met the inclusion criteria. HPV-independent vulvar tumors showed high pooled prevalences of TP53 mutations (0.57, 95% CI 0.43-0.71) and CDKN2A alterations (0.16, 95% CI 0.09-0.25), both linked to poorer survival and increased recurrence. HPV-associated vulvar squamous cell carcinomas demonstrated strong p16^{INK4A} overexpression (0.84, 95% CI 0.72-0.94), correlating with more favorable outcomes. Recurrent PIK3CA, HRAS, and FGFR3 variants emerged as potential therapeutic targets. Activating

BRAF and c-KIT mutations were frequent in vulvar melanoma, while ERBB2/HER2 amplification was noted in invasive Paget disease.

Conclusions: Molecular profiling underscores the biological heterogeneity of vulvar cancer and suggests opportunities for improved risk stratification and targeted therapy. Validation in prospective biomarker-driven trials is needed before routine clinical adoption.

Conflict of interest statement

Declaration of competing interest N. C. reports grants from AstraZeneca and GH; honoraria/consultancy and speaker roles for AstraZeneca, GSK, MSD, GH, and Illumina; and travel support from AstraZeneca, MSD, and Illumina. F.A. reports grants from AstraZeneca and MSD; consultancy for Oncoinvent AS; and speaker/board roles for Covidien (Medtronic), GSK, pharmaand GmbH, and AbbVie.

Olawaiye, A.B., Cuello, M.A., Beriwal, S. & Rogers, L.J. 2025.

“Vulvar cancer is an uncommon gynecological malignancy primarily affecting postmenopausal women. No specific screening exists and the most effective strategy to reduce the incidence of vulvar cancer is the opportune treatment of predisposing and preneoplastic lesions associated with its development. Although vulvar cancer may be asymptomatic, most women present with vulvar pruritus or pain or have noticed a lump or ulcer. Therefore, any suspicious vulvar lesion should be biopsied to exclude invasion. Once established, the most common subtype is squamous cell carcinoma. The treatment of vulvar cancer depends primarily on histology, clinical, radiological, or surgical staging. Treatment is predominantly surgical and/or adjuvant radiation therapy, particularly for squamous cell carcinoma, although definitive concurrent chemoradiation is an effective alternative, particularly for advanced tumors. In those cases where vulvar cancer presents with distant metastases, systemic therapy is modeled after cervical cancer, a more common cancer where there is more robust data to guide treatment. Management should be individualized and carried out by a multidisciplinary team in a cancer center experienced in the treatment of these tumors.”

Conflict of interest statement

The authors have no conflicts of interest.

Tumour Grade vs Tumour Stage

A cancer's grade describes how abnormal the cancer cells and tissue look under a microscope when compared to healthy cells. Cancer cells that look and organise most like healthy cells and tissue are low grade tumours. Doctors describe these cancers as being well differentiated. Lower grade cancers are typically less aggressive and have a better prognosis.

While a grade describes the appearance of cancer cells and tissue, a cancer's stage explains how large the primary tumour is and how far the cancer has spread in the patient's body.

There are several different staging systems. Many of these have been created for specific kinds of cancers. Others can be used to describe several types of cancer.

One common system that many people are aware of puts cancer on a scale of 0 to IV.

- Stage 0 is for abnormal cells that haven't spread and are not considered cancer, though they could become cancerous in the future. This stage is also called “in-situ.”
- Stage I through Stage III are for cancers that haven't spread beyond the primary tumour site or have only spread to nearby tissue. The higher the stage number, the larger the tumour and the more it has spread.

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- Stage IV cancer has spread to distant areas of the body.
(University of Texas, MD Anderson Cancer Center. 2025).

The International Classification of Diseases 10th version (ICD-10)

The International Classification of Diseases (ICD) is designed to promote international comparability in the collection, processing, classification, and presentation of mortality statistics. This includes providing a format for reporting causes of death on the death certificate.

ICD serves a broad range of uses globally and provides critical knowledge on the extent, causes and consequences of human disease and death worldwide via data that is reported and coded with the ICD. Clinical terms coded with ICD are the main basis for health recording and statistics on disease in primary, secondary and tertiary care, as well as on cause of death certificates. These data and statistics support payment systems, service planning, administration of quality and safety, and health services research. Diagnostic guidance linked to categories of ICD also standardizes data collection and enables large scale research. For more than a century, the International Classification of Diseases (ICD) has been the basis for comparable statistics on causes of mortality and morbidity between places and over time. Originating in the 19th century, the latest version of the ICD, ICD-11, was adopted by the 72nd World Health Assembly in 2019 and came into effect on 1st January 2022.

The ICD-10 Code for malignant neoplasm of vulva, unspecified, is C51.9; moderate dysplasia of vulva N90.1; vulvar intraepithelial neoplasia II [VIN II] N90.1. (World Health Organization, 2025).

Incidence of Cancer of the Vulva in South Africa

According to the latest edition of the National Cancer Registry (2024) the following number of cases of cancer of the vulva cases was histologically diagnosed in South Africa during 2024:

Group - Females 2024	Actual No of Cases	Estimated Lifetime Risk	Percentage of All Cancers
All females	1 078	1:347	2,21%
Asian females	21	1:565	1,31%
Black females	929	1:317	4,04%
Coloured females	50	1:682	0,80%
White females	78	1:495	0,36%

The frequency of histologically diagnosed cases of cancer of the vulva in South Africa for 2024 was as follows (National Cancer Registry, 2024):

Group - Females 2024	0 – 19 Years	20 – 29 Years	30 – 39 Years	40 – 49 Years	50 – 59 Years	60 – 69 Years	70 – 79 Years	80+ Years
All females	3	35	262	427	200	89	37	25
Asian females	0	1	2	3	4	8	2	1
Black females	3	30	241	392	169	59	22	13
Coloured females	0	3	9	17	10	6	3	2
White females	0	1	10	15	17	16	10	9

N.B. In the event that the totals in any of the above tables do not tally, this may be the result of uncertainties as to the age, race or sex of the individual. The totals for 'all males' and 'all females', however, always reflect the correct totals.

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Causes and Risk Factors for Cancer of the Vulva

Several risk factors for cancer of the vulva have been identified. 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 the body's cells do.

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

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 papilloma virus (HPV) infection appears to have an important role.

The second process by which vulvar cancers develop does not involve HPV infection. Vulvar cancers not linked to HPV infection (the keratinising subtype) are usually diagnosed in older women (over age 55). These women often show mutations of the p53 tumour 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.

According to the IGCS, although the exact cause of vulvar cancer is not known, certain factors appear to increase the risk of the disease, including:

- Increasing age. The risk of vulvar cancer increases with age, though it can occur at any age. The average age at diagnosis is 65.
- Being exposed to human papillomavirus (HPV). HPV is a sexually transmitted infection that increases the risk of several cancers, including vulvar cancer and cervical cancer. Many young, sexually active people are exposed to HPV, but for most the infection goes away on its own. For some, the infection causes cell changes and increases the risk of cancer in the future.
- Smoking. Smoking increases the risk of vulvar cancer.
- Having a weakened immune system. People who take medications to suppress the immune system, such as those who've undergone organ transplant, and those with conditions that weaken the immune system, such as human immunodeficiency virus (HIV), have an increased risk of vulvar cancer.
- Having a history of precancerous conditions of the vulva. Vulvar intraepithelial neoplasia is a precancerous condition that increases the risk of vulvar cancer. Most instances of vulvar intraepithelial neoplasia will never develop into cancer, but a small number do go on to become invasive vulvar cancer. For this reason, your doctor may recommend treatment to remove the area of abnormal cells and periodic follow-up checks.
- Having a skin condition involving the vulva. Lichen sclerosus, which causes the vulvar skin to become thin and itchy, increases the risk of vulvar cancer.

(International Gynecologic Cancer Society (IGCS), 2024; American Cancer Society, 2025; Cancer Research UK, 2025).

Signs and Symptoms of Cancer of the Vulva

Signs and symptoms of cancer of the vulva may include:

- itching that does not go away
- pain and tenderness
- a lump
- bleeding that is not from menstruation
- skin changes, such as colour changes or thickening
- abnormal bleeding
- burning
- painful urination
- Pain during sexual intercourse
- wart-like growths (similar to genital warts)
- change in the appearance of an existing mole (specific to vulvar melanoma)
- itching
- local pain

(Centers for Disease Control and Prevention (CDC), 2024; Foundation for Women's Cancer, 2026; NHS UK, 2025).

Diagnosis of Cancer of the Vulva

If someone suspects that they may have cancer of the vulva, they should visit a medical practitioner that specialises in women's cancers (gynaecological cancer specialist).

Apart from a close examination of the vulval area, the doctor will also do a general medical examination of the patient to determine the general condition of health of the person.

The doctor may use a bright light and a magnifier to examine the vulva, so that the skin can be seen more clearly. He/she may then take small samples of tissue (biopsies) from any areas that look unusual. This may be done under a local anaesthetic.

The doctor will also usually do an internal examination to check the vagina, cervix and the neck of the womb for any abnormality. The doctor will use a speculum (a plastic or metal instrument) to hold the vaginal walls open. He/she may also take a cervical smear test (a small sample of cells taken from the cervix). The doctor may also examine the back passage (anus).

(Mayo Clinic, 2025; Cleveland Clinic, 2023; The University of Texas Southwestern Medical Center, 2025).

Treatment of Cancer of the Vulva

Treatment options for cancer of the vulva depend on the type and stage of the cancer as well as the person's overall health and preferences, and may include:

Surgery

Operations used to treat cancer of the vulva include:

- Removing the cancer and a margin of healthy tissue (excision).
- Removing a portion of the vulva (partial vulvectomy).

- Removing the entire vulva (radical vulvectomy).
- Extensive surgery for advanced cancer.
- Reconstructive surgery.
- Possible surgery to remove nearby lymph nodes.

Radiation therapy

Radiation therapy uses high-powered energy beams, such as X-rays, to kill cancer cells. Radiation therapy for cancer of the vulva is usually administered by a machine that moves around one's body and directs radiation to precise points on the skin (external beam radiation).

Chemotherapy

Chemotherapy is a drug treatment that uses chemicals to kill cancer cells. Chemotherapy drugs are typically administered through a vein in the arm or by mouth.

(Merlo, S. 2020; UT MC Anderson, 2026; Olawaiye, A.B., Cuello, M.A., Beriwal, S. & Rogers, L.J. 2025).

About Clinical Trials

Clinical trials are research studies that involve people. They are conducted under controlled conditions. Only about 10% of all drugs started in human clinical trials become an approved drug.

Clinical trials include:

- Trials to test effectiveness of new treatments
- Trials to test new ways of using current treatments
- Tests new interventions that may lower the risk of developing certain types of cancers
- Tests to find new ways of screening for cancer

The South African National Clinical Trials Register provides the public with updated information on clinical trials on human participants being conducted in South Africa. The Register provides information on the purpose of the clinical trial; who can participate, where the trial is located, and contact details.

For additional information, please visit: <https://pactr.samrc.ac.za/>

Summary for the Average Reader

Vulvar cancer is a rare gynaecological malignancy that forms on the external female genitalia, most commonly affecting the labia majora, labia minora, and perineum. It is primarily diagnosed in postmenopausal women, though its incidence has been rising among younger individuals.

Common Symptoms

The signs of vulvar cancer can be subtle and easily mistaken for common skin infections or dermatological conditions. You should have a doctor examine any of the following persistent changes:

- Persistent itching, burning, soreness, or pain in the vulvar region.
- A visible lump, swelling, wart-like growth, or open sore that does not heal.
- Skin alterations, including thickened patches that may turn red, white, or unusually dark.
- Unexplained bleeding or blood-stained discharge unrelated to menstruation.
- Pain during sexual intercourse.

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- Groin changes, such as hard or swollen lymph nodes in the groin creases.

Main Types

The cell type where the disease originates dictates the specific form of vulvar cancer:

- Squamous Cell Carcinoma (SCC): Accounts for roughly 90% of all cases. It splits into two main pathways: a keratinising type common in older women linked to chronic skin inflammation, and a basaloid type seen in younger women driven by persistent human papillomavirus (HPV) infection.
- Vulvar Melanoma: Represents 2% to 4% of cases, beginning in pigment-producing cells. Unlike typical melanoma, it is not caused by UV sun exposure.
- Adenocarcinoma and Rare Subtypes: These originate in glandular tissues (such as the Bartholin glands) or underlying soft tissues (sarcomas).

Risk Factors and Development

Vulvar cancer generally develops slowly over several years, often preceded by a precancerous condition known as Vulvar Intraepithelial Neoplasia (VIN). Main risk factors include:

- Advanced age (over half of cases occur in women aged 70 and older).
- High-risk HPV strains (specifically HPV 16 and 18).
- Chronic inflammatory skin conditions, such as lichen sclerosus.
- Smoking tobacco and conditions that compromise the immune system, such as HIV.

Diagnosis and Staging

Because there is no routine public screening program for vulvar cancer, early detection relies entirely on symptom awareness. If a lesion is spotted during a physical exam or a magnified colposcopy evaluation, a tissue biopsy is performed to confirm the diagnosis.

Once confirmed, the cancer is staged using imaging tests (like MRI or CT scans) from Stage I (confined entirely to the vulva or perineum) through Stage IV (spread to advanced organs or distant sites).

Treatment Options

A multidisciplinary medical team designs an individualized plan based on the cancer's stage, location, and cell type:

- Surgery: The primary intervention. This can range from a localized excision (removing the tumour with a clean boundary of healthy skin) to a partial or radical vulvectomy.
- Lymph Node Evaluation: Surgeons frequently perform a Sentinel Lymph Node Biopsy to check the first draining nodes for cancer cells, minimizing the risk of long-term leg swelling (lymphedema).
- Radiation and Chemotherapy: Often used together (chemoradiation) to shrink large tumours before surgery, eliminate remaining cells afterward, or manage advanced cases.

(AI Overview, 2026).

Medical Disclaimer

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