

# Cancer Association of South Africa (CANSA)



## Fact Sheet on Penile cancer

### Introduction

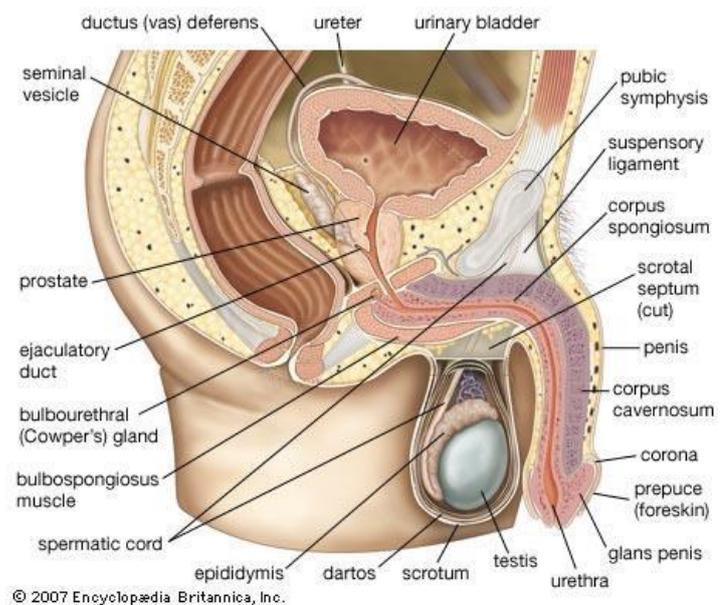
The penis is the male sex organ, reaching its full size during puberty. In addition to its sexual function, the penis also acts as a conduit for urine to leave the body.

The penis is made of several parts:

- Glans (head) of the penis: In uncircumcised men, the glans is covered with pink, moist tissue called mucosa
- Covering the glans is the foreskin (prepuce). In circumcised men, the foreskin is usually surgically removed and the mucosa on the glans transforms into dry skin

[Picture Credit: Anatomy Male Reproductive System]

- Corpus cavernosum: Two columns of tissue running along the sides of the penis. Blood fills this tissue to cause an erection
- Corpus spongiosum: A column of sponge-like tissue running along the front of the penis and ending at the glans penis; it fills with blood during an erection, keeping the urethra - which runs through it - open
- The urethra runs through the corpus spongiosum, conducting urine out of the body



An erection results from changes in blood flow in the penis. When a man becomes sexually aroused, nerves cause penis blood vessels to expand. More blood flows in and less flows out of the penis, hardening the tissue in the corpus cavernosum.

## Penile cancer

Penile cancer is cancer that develops within the skin and/or soft tissues of the penis. It is also referred to as cancer of the penis. Penile cancer is one of the rare cancers. If found early, the chances of curing penile cancer are very high.

Penile cancer can develop anywhere on the penis (including the soft tissue) but most commonly develops:

- under the foreskin in men who have not been circumcised
- on the head of the penis (glans penis)

### Engelsjerd, J.S. & La Gange, C.A. 2020.

“Penile cancer is an uncommon malignancy, but when diagnosed is psychologically devastating to the patient and can pose a difficult challenge to the treating urologist. Patient’s with this condition tend to delay seeking medical attention. This delay is associated with embarrassment, guilt, fear, and denial of the patient. Patients often attempt to self-medicate with lotions or creams before seeing a doctor. The delays in treatment may also be attributable to physicians as well. Many patients receive salves and antibiotics from their primary care physicians before seeing a urologist. This delay in diagnosis is serious, as it can decrease the likelihood of survival and limits the ability to retain a functioning and satisfactory result after surgical intervention.

In the discussion of penile cancer, it is important to review benign, premalignant, and malignant conditions and to differentiate between them. The most common penile malignancy is squamous cell carcinoma (SCC), but nonsquamous penile malignant neoplasms also exist including basal cell carcinoma, melanoma, sarcomas, and adenosquamous carcinoma. This chapter will focus mainly on squamous cell carcinoma, including the etiology, epidemiology, pathophysiology, histopathology, evaluation, and treatment of this tumor. The chapter will examine the importance of the pathologic stage and histologic features of the primary tumor, as well as any presence of lymph node (LN) metastasis in determining the prognosis and treatment planning for squamous carcinoma. The treatment options and follow up will be discussed in depth.”

### Incidence of Penile Cancer in South Africa

According to the outdated National Cancer Registry (2017), known for under reporting of cancer cases, the following number of penile cancer cases was histologically diagnosed in South Africa during 2014:

Group 2017	Actual Number of Cases	Estimated Lifetime Risk	Percentage of All Cancers
All Males	194	1:1080	0,49%
Asian males	6	1:1 481	0,62%
Black males	151	1:964	1,16%
Coloured males	10	1:2 291	0,10%
White males	27	1:1241	0,13%

The frequency of histologically diagnosed cases of penile cancer in South Africa for 2014 was as follows (National Cancer Registry, 2014):

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Group 2017	0 – 19 Years	20 – 29 Years	30 – 39 Years	40 – 49 Years	50 – 59 Years	60 – 69 Years	70 – 79 Years	80+ Years
All males	0	4	20	64	53	34	12	7
Asian males	0	0	1	0	3	1	0	1
Black males	0	1	1	58	42	24	7	3
Coloured males	0	2	1	3	2	2	0	0
White males	0	1	2	3	6	7	5	3

### Risk Factors and Causes of Penile cancer

The following may increase the risk and may affect the incidence of penile cancer:

- Circumcision just after birth, a procedure in which the covering of the tip of the penis is removed, appears to protect men from developing the disease.
- Phimosis, or an unretractable foreskin, has also been associated with up to a 10-fold increase in the risk of penile cancer.
- Poor hygiene with chronic retention of smegma.
- Having a sexually transmitted infection (such as HPV virus 16 or 18) may also increase a man's risk of developing penile cancer.
- The incidence of penile cancer is approximately eight-fold higher in HIV-infected men.
- Having unprotected sexual relations with multiple partners, which increases risk of contracting HPV.
- Smoking – it is thought to damage the DNA of cells in the penis and contribute to the development of penile cancer, especially in men with HPV infection.
- Psoriasis treatment - men who have been treated for psoriasis with a combination of a drug called psoralen and exposure to ultraviolet light have a higher rate of penile cancer.

### Signs and Symptoms of Penile cancer

Often the cancer is only visible when the foreskin is pulled back. Signs and symptoms of penile cancer may include:

[Picture Credit: Penile Cancer]

Often the first sign of penis cancer is a change in the skin of the penis

- skin thickening – the appearance of a painless nodule or a warty growth specially on the glans penis or foreskin
- change in the colour of the penis
- swelling at the end (glans penis) of the penis
- later signs may include a growth or sore on the penis - especially on the head of the penis (glans) or the foreskin, but also sometimes on the shaft of the penis
- there may be a discharge or bleeding



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- Smelly discharge underneath the foreskin
- most penile cancers are painless
- any abnormality of the penis, including warts, blisters, sores, ulcers, white patches, rash, bumps or lumps
- sometimes the cancers appear as flat, bluish-brown growths, or as a red rash, or small crusty bumps

These changes may occur with conditions other than cancer. Penis cancer is easier to treat if it is diagnosed early.

### **Diagnosis of Penile cancer**

If the doctor suspects that a patient may have penile cancer, one or more of the following tests may be used to make a cancer diagnosis and determine whether it has spread. These tests also may be used to find out if treatment is working.

- Biopsy - a biopsy usually is the first test performed to find out if you have penile cancer. The type of procedure depends on the type of tissue or lesion.
- Incisional biopsy - a small part of abnormal tissue is removed. This procedure is used most often for lesions that are larger, ulcerated or that appear to have spread deep into the tissue.
- Excisional biopsy - the whole growth or lesion is removed. Usually, this type of biopsy is performed for small abnormal areas. If the lesion is on the foreskin, the doctor may suggest circumcision.
- Fine needle aspiration (FNA) - this type of biopsy may be used to examine the tissue in lymph nodes. A thin needle is inserted into the groin area. Then cells are drawn out and looked at under a microscope.
- Imaging tests which may include:
  - CT or CAT (computed axial tomography) scans
  - MRI (magnetic resonance imaging) scans
  - PET (positron emission tomography) scans
  - X-Rays
  - Ultrasound

### **Akers, C. & Holden, F. 2020.**

“Penile cancer is a rare malignancy and, as a consequence, it is managed in just a few specialist centres across the UK. This article aims to provide health professionals with an introduction and update on the epidemiology and aetiology of penile cancer, as well as the techniques used to diagnose penile cancer and the current treatment options. The article highlights the importance of early diagnosis and the role that the clinical nurse specialist in plays supporting those diagnosed with the penile cancer and their families.”

## Types of Penile cancer

There are several types of penile cancer, including:

- Epidermoid/squamous cell carcinoma - ninety-five percent (95%) of penile cancer is epidermoid, or squamous cell, carcinoma. This means that the cells look like the tissues that make up skin when looked at with a microscope. Squamous cell carcinoma can begin anywhere on the penis, however, most develop on or under the foreskin. When found at an early stage, epidermoid carcinoma can usually be cured



[Picture Credit: Squamous Cell Carcinoma of Penis]

- Basal cell penile cancer - under the squamous cells in the lower epidermis (one of the layers of the skin tissues that cover the penis) are round cells called basal cells. These can sometimes become cancerous. This is also called non-melanoma skin cancer.
- Melanoma - the deepest layer of the epidermis contains scattered cells called melanocytes, which make the melanin that gives skin its colour. Melanoma starts in melanocytes and it is the most serious type of the skin cancer. This cancer sometimes occurs on the surface of the penis
- Adenocarcinoma - adenocarcinoma means that the cancer started in the glandular cells that produce sweat in the skin of the penis. This type is much rarer than squamous cell penile cancer.
- Sarcoma - about 1% of penile cancers are sarcomas, which are cancers that develop in the tissues that support and connect the body, such as blood vessels, smooth muscle and fat.

## Staging of Penile cancer

Once a penile cancer is found, it is necessary to perform more tests to see if the tumour has spread so that appropriate treatment can be recommended. These may involve imaging studies such as CT scans or MRI scans, or procedures such as a cystoscopy.

The extent of the tumour spread is also referred to as the 'stage'. The stage helps guide the doctor's recommendations regarding the optimal treatment for the penile cancer as well as the prognosis.

## Treatment of Penile cancer

When treated in its early stages, penile cancer can be cured in nearly all patients.

Surgery is the most common treatment, particularly for small superficial tumours.

- Mohs surgery - effective approaches to treating squamous cell tumours include Mohs surgery, which enables the surgeon to minimise damage to healthy tissue by progressively

removing as little tissue as possible for analysis thereby helping to maintain penile appearance and function.

- Cryosurgery - a method using liquid nitrogen to freeze and destroy abnormal cells, and laser surgery - an approach which uses a beam of laser light to vaporize cancer cells, can also be used for squamous and basal cell skin cancer.
- Extensive surgery - more invasive cancers may require extensive surgery, including removal of part of or the entire penis. Extensive surgery to remove the lymph nodes that are toward the penis is often necessary.
- Radiation therapy – radiation therapy may be recommended as an alternative to surgery for treatment of penile cancer and may help avoid partial or complete removal of the penis. Radiation therapy may be used to target affected lymph nodes in the groin and pelvic area or used following surgery to reduce the risk of the cancer recurring.
- Chemotherapy – chemotherapy may be used topically, which means the medication is placed directly on the skin, or systemically, with drugs given by injection or mouth.
- Penectomy - the surgical removal of part or all of the penis is the most common and effective procedure to treat penile cancer that has grown into the inside of the penis.
- Lymph node dissection - removal of the lymph nodes in the groin and/or pelvis may be performed to determine the stage to treat penile cancer.

**Chahoud, J., Kohli, M. & Spiess, P.E. 2021.**

“Penile squamous cell carcinoma (PSCC) is a rare cancer, with approximately 2000 new cases in the United States and 35,000 globally every year. Multiple risk factors are involved in PSCC, but most importantly, the high-risk human papillomavirus infection is thought to be present in approximately 50% of cases. Penile squamous cell carcinoma presents as localized or locally advanced disease. Multiple prognostic markers have been explored over the past 3 decades, but lymph node status remains the strongest predictor of clinical outcomes. Surgical decisions are based on the primary tumor pathologic findings, nodal clinical examination, and imaging results. Most patients with high-risk advanced PSCC benefit from a multimodal treatment approach combining chemotherapy with consolidation surgical treatment. The role of neoadjuvant chemotherapy with radiation therapy has not been well explored in PSCC. Prospective clinical studies, like the International Penile Advanced Cancer Trial, have been launched to provide high-level evidence for multimodal treatment. The International Penile Advanced Cancer Trial is the first randomized clinical trial among patients with PSCC and is currently accruing, with the expectation to generate results in 2023. Unfortunately, most patients with high-risk locally advanced PSCC will have relapsed or refractory cancer after cisplatin-based combination chemotherapy. These patients have dismal outcomes with salvage chemotherapy, highlighting the major unmet need to expand our knowledge of the disease's biology and develop clinical trials that use novel systemic agents. This narrative review synthesizes relevant publications retrieved from PubMed. Our aim is to discuss current approaches in the management of PSCC, summarize ongoing efforts to improve care, and identify future areas for enhancing our understanding of the disease.”

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### **Life Changes after Surgery of the Penis**

Partially or completely removing the penis is often the most effective way to cure penile cancer, but for many men this cure seems worse than the disease.

It is natural for a man facing treatment for penile cancer to suffer mental distress, depression and feelings of grief or despair. The better one can anticipate and prepare for these feelings in advance, the better the quality of life will be following treatment. Seek referral to a counselor, who can help sort through feelings to adjust to a 'new' body.

Effects on urination - most men are still continent after surgery - that is, they can still control the start and stop of urine flow. In certain cases, a partial penectomy leaves enough of the penis to allow relatively normal urination. Many men who have undergone a total penectomy must sit to urinate.

Effects on sexuality - if penile cancer is diagnosed early, treatments other than penectomy can often be used. Conservative techniques (such as topical chemotherapy, Mohs surgery, and laser surgery) may have little effect on sexual pleasure and intercourse once a patient has fully recovered.

Removing all or part of the penis can have a devastating effect on a man's self-image and ability to have sexual intercourse. Sexual partners may wish to consider counseling to help understand the impact of treatment for penile cancer and to explore other approaches to sexual satisfaction.



[Picture Credit: Penectomy]

After total penectomy, surgical reconstruction of the penis may be possible in some cases.

### **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: [www.sanctr.gov.za/](http://www.sanctr.gov.za/)

## Medical Disclaimer

This Fact Sheet is intended to provide general information only and, as such, should not be considered as a substitute for advice, medically or otherwise, covering any specific situation. Users should seek appropriate advice before taking or refraining from taking any action in reliance on any information contained in this Fact Sheet. So far as permissible by law, the Cancer Association of South Africa (CANSA) does not accept any liability to any person (or his/her dependants/estate/heirs) relating to the use of any information contained in this Fact Sheet.

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<http://www.macmillan.org.uk/Cancerinformation/Cancertypes/Penis/Penilecancer.aspx>

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**Squamous Cell Carcinoma of Penis**

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