

# Cancer Association of South Africa (CANSA)



## Fact Sheet on Kaposi Sarcoma

### Introduction

Kaposi Sarcoma (KS) is a cancer that causes patches of abnormal tissue to grow under the skin, in the lining of the mouth, nose, and throat or in other organs. The patches are usually red or purple and are made of cancer cells and blood cells. The red and purple patches often cause no symptoms, though they may be painful. If the cancer spreads to the digestive tract or lungs, bleeding can result. Lung tumours can make breathing difficult.

[Picture Credit: Kaposi Sarcoma]



Before the HIV/AIDS epidemic, KS usually developed slowly. In HIV/AIDS patients, though, the disease moves quickly. Treatment depends on where the lesions are and how bad they are. Treatment for HIV itself can shrink the lesions. However, treating KS does not improve survival from HIV/AIDS itself.

[Picture Credit: Kaposi Sarcoma 2]

### Kaposi Sarcoma

Kaposi Sarcoma (KS) is a multicentric, malignant neoplastic vascular proliferation characterised by the development of bluish-red cutaneous (on the skin) nodules, usually on the lower extremities, most often on the toes or feet, and slowly increasing in size and number and spreading to more proximal areas. The tumours have endothelium-lined channels and vascular spaces admixed with variably sized aggregates of spindle-shaped cells, and often remain confined to the skin and subcutaneous tissue, but widespread visceral (body organ) involvement may occur.

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## Incidence of Kaposi Sarcoma in South Africa

According to the National Cancer Registry (2014) the following number of Kaposi Sarcoma cases was histologically diagnosed in South Africa during 2014:

Group - Males 2014	Actual No of Cases	Estimated Lifetime Risk	Percentage of All Cancers
All males	979	1:320	2,66%
Asian males	6	1:979	0,65%
Black males	902	1:262	8,15%
Coloured males	34	1:890	0,81%
White males	36	1:831	0,18%

Group - Females 2014	Actual No of Cases	Estimated Lifetime Risk	Percentage of All Cancers
All females	669	1:555	1,77%
Asian females	1	1:7 977	0,08%
Black females	612	1:469	3,81%
Coloured females	36	1:1 064	0,88%
White females	20	1:1 495	0,12%

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

Group - Males 2014	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	18	129	391	234	88	34	16	8
Asian males	0	0	2	1	1	0	1	0
Black males	18	123	358	216	76	31	12	7
Coloured males	0	3	19	4	2	3	2	1
White males	0	3	10	13	8	1	0	0

Group - Females 2013	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	21	173	255	128	37	10	9	4
Asian females	0	0	0	0	1	0	0	0
Black females	21	157	233	113	34	9	8	4
Coloured females	0	12	14	8	1	0	1	0
White females	0	3	8	7	1	1	0	0

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.

## Causes of Kaposi Sarcoma

Kaposi sarcoma (KS) is a tumour caused by Human Herpes Virus 8 (HHV8), also known as Kaposi's Sarcoma-associated Herpes Virus (KSHV). It differs from other cancers as it starts in several areas of the body at once, while other forms of cancer start in one place and then spread.

Kaposi sarcoma is now far more common and spreads more aggressively through the body among patients with Aids.

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## Risk Factors for Kaposi Sarcoma

The following factors can raise a person's risk of developing KS:

- Ethnicity - people of Jewish or Mediterranean descent, as well as equatorial Africans, have a higher risk of developing KS
- Gender – men, generally, have a higher risk of developing Kaposi sarcoma than women
- Human herpes virus 8 (HHV-8) - this virus may be the cause for Kaposi sarcoma to develop. It is also called the Kaposi sarcoma herpes virus (KSHV).
- Immune deficiency - people with HIV/Aids and people whose immune systems are suppressed because of organ transplantation have a higher risk of developing Kaposi Sarcoma.
- Sexual activity - homosexual (active) men tend to have a higher risk of HHV-8.

## Signs and Symptoms of Kaposi Sarcoma (KS)

The first symptom of KS is usually skin lesions. Occasionally KS can also affect other parts of the body such as the lymph nodes, lungs, stomach or bowel. When this happens the symptoms will depend on the part of the body that is affected. Some people may have general symptoms such as fever, weight loss and loss of energy.



[Picture Credit: Kaposi Sarcoma Picture]

Skin lesions - these can range in colour from pink to brown, brown-red or reddish purple. KS can appear as a raised or slightly raised bump (nodule) or a flat area on the skin. The lesions can develop quickly. Although there may be a single area at first, it is possible for more than one to appear. Often the lesions merge to form a larger tumour. Any part of the skin can be affected, including the inside of the mouth.

Lymph nodes (glands) - if the lymph nodes are affected by KS, the nodes may become swollen but this generally causes few symptoms.

Swelling in the arms, legs and elsewhere - KS can cause damage to lymph vessels. These are part of the lymphatic system, which helps fight infection. When the lymph vessels are damaged this can lead to a build-up of fluid in the arms or legs. This is called lymphoedema. There can also be severe swelling of the face and scrotum (in males).

Lung problems - KS in the lungs can cause breathlessness and a cough which may be life threatening.

Digestive system (stomach and bowel) problems - KS may cause symptoms such as feeling nauseas and being sick (vomiting). The patient may also have trouble eating and/or swallowing

Anaemia - occasionally the lesions may bleed slowly, which over a period of time may cause anaemia (low numbers of red blood cells).

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## Types of Kaposi Sarcoma

There are five (5) main types of Kaposi Sarcoma (KS):

*Classic KS* - this type of KS is very rare and is usually only found on the skin, mainly on the lower legs and feet. It is most common in older men of Jewish or Mediterranean origin. It is a slow growing cancer and does not usually cause any problems. In the early stages, it does not usually need treatment. If the lesions are large, and in very visible areas on the body, the patient may be given radiotherapy to get rid of it. The doctor may also suggest freezing it with liquid nitrogen or removing it with a small operation.

*Endemic or African KS* - as the name suggests, this type of KS is found in parts of Africa, where HHV-8 infection is common. It is faster growing than Classic KS. It is more common in men, but women and children of all ages may develop it.

*Transplant KS found in people with weakened immune systems* – People who have weakened or damaged immune systems are most likely to develop this type of KS, for example, people who have had an organ transplant operation.

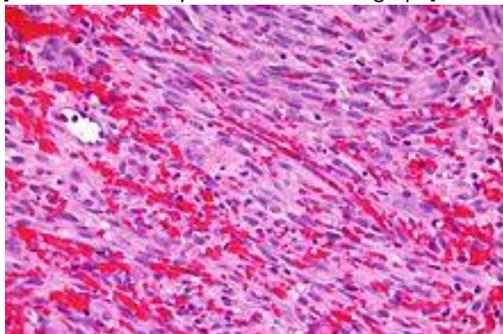
*Aids related KS* - this is the most common and fastest growing type of KS. If someone has Aids, the immune system is weakened. This increases the risk for developing KS.

*Non-epidemic Gay-Related Kaposi Sarcoma* - there is a type of non-epidemic KS that develops in (active) homosexual men who have no signs or symptoms of HIV infection. This type of Kaposi sarcoma progresses slowly, with new lesions appearing every few years. The lesions are most common on the arms, legs, and genitals, but can develop anywhere on the skin. This type of Kaposi sarcoma is rare.

## Diagnosis of Kaposi Sarcoma

To be sure that a lesion is caused by KS, the doctor will usually take a small sample of tissue from the lesion and send it to a laboratory to be analysed. This is called a *biopsy*. A specially trained doctor called a *pathologist* can often diagnose KS by looking at the cells in the biopsy sample under a microscope.

[Picture Credit: Kaposi Sarcoma Micrograph]



Micrograph of a Kaposi sarcoma showing the characteristic spindle cells, high vascularity and intracellular hyaline globs. H&E stain.

For skin lesions, the doctor may perform a *punch biopsy*, which removes a tiny round piece of tissue. If the entire lesion is removed, it is called an *excisional biopsy*. These procedures can often be done under local anaesthesia.

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Lesions in other areas, such as the lungs or intestines, can be biopsied during other procedures such as bronchoscopy or endoscopy.

Other tests may include:

- an oral examination, to check for lesions on the palate, tongue, gums, or tonsils
- a rectal examination, to check for lesions in the anus
- *endoscopy* - a procedure to look at organs and tissues inside the body to check for abnormal areas. An endoscope is inserted through an incision (cut) in the skin or opening in the body, such as the mouth. An endoscope is a thin, tube-like instrument with a light and a lens for viewing. It may also have a tool to remove tissue or lymph node samples, which are checked under a microscope for signs of disease. This is used to find Kaposi sarcoma lesions in the gastrointestinal tract.
- a *barium enema*, which allows doctors to track the progress of barium through the colon by using X-rays
- *sigmoidoscopy*, which involves using an endoscope or sigmoidoscope to view the lining of the rectum and colon
- chest X-rays, to check for lung lesions
- *computed tomography* (CT) imaging, which looks for lesions or other abnormalities
- *bronchoscopy* - a procedure to look inside the trachea and large airways in the lungs for abnormal areas. A bronchoscope is inserted through the nose or mouth into the trachea and lungs. A bronchoscope is a thin, tube-like instrument with a light and a lens for viewing. It may also have a tool to remove tissue samples, which are checked under a microscope for signs of cancer.
- *lung biopsy* - if bronchoscopy shows lesions in the lungs, the doctor can take a sample for microscopic examination (American Cancer Society; CHealth; Fox Chase Cancer Center).

### **Staging of Kaposi Sarcoma**

Staging is a way of describing where the cancer is located, if or where it has spread, and whether it is affecting the functions of other organs in the body. Doctors use diagnostic tests to determine the cancer's stage, so staging may not be complete until all the tests are finished. Knowing the stage helps the doctor to decide what kind of treatment is best and can help predict a patient's prognosis (chance of recovery).

### **Treatment of Kaposi Sarcoma**

Treatment of Kaposi sarcoma can be difficult due to the immunosuppressed state of many of the people who are affected. These people are at a high risk of infections from procedures. The doctor may recommend treatment based on the patient's general health as well as on where the lesions are, how extensive they are, and how many there are.

Generally, most cancers are treated by physical removal of the tumour or lesion (*cryotherapy* in this case), chemotherapy, radiation, or a combination. For people with Aids, anti-HIV medications are used against the virus. This can improve the person's overall health and help treat Kaposi sarcoma.

For skin lesions, some possible treatments are:

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- Cryotherapy - cryotherapy is a procedure that uses liquid nitrogen or other cryogens to freeze tissue. In cases of Kaposi's sarcoma, a doctor might freeze the lesions to destroy them.
- Locoregional therapy - locoregional therapy involves injecting chemotherapy agents directly into the Kaposi's sarcoma lesions.
- Radiation therapy - direct radiation therapy is another option to treat for the lesions. This involves aiming radiation directly at the spots. Some side effects associated with radiation include fatigue
- If the Kaposi's sarcoma has advanced and affects the internal organs, other therapies may be prescribed.
- Chemotherapy: as with many cancers, chemotherapy is an option in treating Kaposi sarcoma.

### **Prognosis (Outlook)**

The outlook for Kaposi's sarcoma depends on the form of the disease. Milder forms are rare and develop slowly. People with classic KS usually die of other causes or develop a second type of cancer. About one-third of people with classic Kaposi's sarcoma develop another cancer.

### **Reducing the Risk for Kaposi Sarcoma**

While it is not possible to prevent Kaposi sarcoma, a person can significantly reduce his or her risk by avoiding the known risk factors that raises the risk of HIV/Aids infection, especially by avoiding risky sexual practices, such as having unprotected sex and using intravenous (IV) needles that have been used by someone else.

### **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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## References and Sources Consulted or Utilised

### American Cancer Society

<http://www.cancer.org/cancer/kaposisarcoma/detailedguide/kaposi-sarcoma-diagnosis>

### Cancer.Net

<http://www.cancer.net/cancer-types/sarcoma-kaposi/risk-factors-and-prevention>

<http://www.cancer.net/cancer-types/sarcoma-kaposi/staging>

### Cancer Research UK

<http://www.cancerresearchuk.org/cancer-help/about-cancer/cancer-questions/kaposi-sarcoma>

### CHealth

[http://chealth.canoe.ca/channel\\_condition\\_info\\_details.asp?channel\\_id=12&relation\\_id=1619&disease\\_id=275&page\\_no=2](http://chealth.canoe.ca/channel_condition_info_details.asp?channel_id=12&relation_id=1619&disease_id=275&page_no=2)

### DermIS

<http://www.dermis.net/dermisroot/en/17313/diagnose.htm>

### Dermnet NZ

<http://www.dermnetnz.org/lesions/kaposi-sarcoma.html>

### Fox Chase Cancer Center

<http://www.fccc.edu/cancer/pdq/English/Patients/KaposiSarcomaTreatment.html>

### HIV Insight

<http://hivinsite.ucsf.edu/InSite?page=kb-06-02-03#S3X>

### InteliHealth

<http://www.intelihealth.com/IH/ih/IH/WSIHW000/9339/11078.html>

### Kaposi Sarcoma

<http://www.dermis.net/dermisroot/en/11060/image.htm>

### Kaposi Sarcoma 2

[http://www.google.co.za/search?q=kaposi+sarcoma+black+patients&source=lnms&tbm=isch&sa=X&ei=8bfvUaiqHjOhAf97oHgDA&ved=0CacQ\\_AUoAQ&biw=1366&bih=614#facrc=\\_&imgdii=\\_&imgrc=BLbtinsuPO2v\\_M%3A%3BTxRIV5ePCDWZ-M%3Bhttp%253A%252F%252Fweb.squ.edu.om%252Fmed-Lib%252FMED\\_CD%252FE\\_CDs%252Fhealth%252520development%252Fhtml%252Fclients%252Fskin%252Fhtml%252Fskin\\_067.gif%3Bhttp%253A%252F%252Fweb.squ.edu.om%252Fmed-](http://www.google.co.za/search?q=kaposi+sarcoma+black+patients&source=lnms&tbm=isch&sa=X&ei=8bfvUaiqHjOhAf97oHgDA&ved=0CacQ_AUoAQ&biw=1366&bih=614#facrc=_&imgdii=_&imgrc=BLbtinsuPO2v_M%3A%3BTxRIV5ePCDWZ-M%3Bhttp%253A%252F%252Fweb.squ.edu.om%252Fmed-Lib%252FMED_CD%252FE_CDs%252Fhealth%252520development%252Fhtml%252Fclients%252Fskin%252Fhtml%252Fskin_067.gif%3Bhttp%253A%252F%252Fweb.squ.edu.om%252Fmed-)

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**Kaposi Sarcoma Micrograph**

[https://en.wikipedia.org/wiki/Kaposi%27s\\_sarcoma](https://en.wikipedia.org/wiki/Kaposi%27s_sarcoma)

**Kaposi Sarcoma Picture**

<http://wwideco.com/tag/sarcoma/>

**MacMillan Cancer Support**

<http://www.macmillan.org.uk/Cancerinformation/Cancertypes/Kaposissarcoma/Symptomsdiagnosis/Signssymptoms.aspx>

**Medical News Today**

<http://www.medicalnewstoday.com/articles/173259.php>

**Medline Plus**

<http://www.nlm.nih.gov/medlineplus/kaposissarcoma.html>

**National Cancer Institute**

<http://www.cancer.gov/clinicaltrials/learningabout/what-are-clinical-trials>

<http://www.cancer.gov/about-cancer/treatment/clinical-trials>

**PubMed Health**

<http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001682/>

**University of California San Francisco**

[http://www.ucsfhealth.org/conditions/kaposi\\_sarcoma/index.html](http://www.ucsfhealth.org/conditions/kaposi_sarcoma/index.html)

**WebMD**

<http://www.webmd.com/hiv-aids/guide/aids-hiv-opportunistic-infections-kaposi-sarcoma>

**Wikipedia**

[https://en.wikipedia.org/wiki/Castleman%27s\\_disease](https://en.wikipedia.org/wiki/Castleman%27s_disease)

**Winchester Hospital**

<http://www.winchesterhospital.org/health-library/article?id=32653>

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