

Cancer Association of South Africa (CANSA)

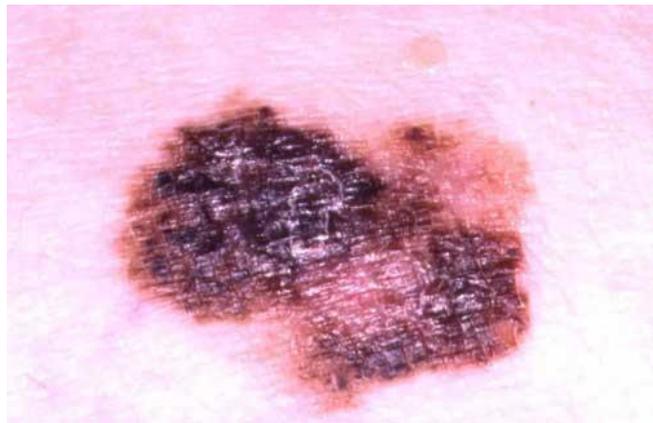


Fact Sheet on Malignant Melanoma of the Skin

Introduction

Malignant melanoma (sometimes referred to as only melanoma) is the most dangerous form of skin cancer.

[Picture Credit: Melanoma Picture]



These cancerous growths develop when unrepaired DNA damage to skin cells (most often caused by ultraviolet radiation from the sun or tanning beds) triggers mutations (genetic defects) that lead the skin cells to multiply rapidly and form malignant tumours. These tumours originate in the pigment-producing melanocytes in the basal layer of the epidermis. Melanomas often resemble moles. Some melanomas develop from moles. The majority of melanomas are black or brown, but they can also be skin-coloured, pink, red, purple, blue or white. Melanoma is caused mainly by intense, occasional UV exposure (frequently leading to sunburn), especially in those who are genetically predisposed to the disease.

Incidence of Skin Cancer Among Individuals of Colour

Most skin cancers are associated with ultraviolet (UV) radiation from the sun or tanning beds, and many people of colour are less susceptible to UV damage thanks to the greater amounts of melanin in the skin of individuals with a darker skin. Melanin is the protective pigment that gives skin and eyes their colour, however, people of colour can still develop skin cancer from UV damage.

Additionally, certain skin cancers are caused by factors other than UV - such as genetics or other environmental influences - and may occur on parts of the body rarely exposed to the sun. For

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November 2017

example, darker-skinned people are more susceptible to acral lentiginous melanoma (ALM), an especially virulent form of melanoma (the deadliest type of skin cancer) that typically appears on the palms of the hands and soles of the feet.

Acral lentiginous melanoma (ALM) accounts for about 5% of melanoma cases, and is a leading cause of skin cancer deaths. The disease initially appears as a bruise or nail streak on the skin. Most patients do not notice ALM until it has already begun to spread aggressively throughout the body. Bob Marley was killed from this form of malignant tumour under his toenail. ALM (also called subungual melanoma) affects people of Asian or African descent more than any other race or ethnicity.



[Picture Credit: Acral Lentiginous Melanoma]

Cancer	Percentage of All Cancers							
	Asian		Black		Coloured		White	
	Male	Female	Male	Female	Male	Female	Male	Female
Basal Cell Skin Cancer	5,83%	4,10%	3,47%	2,03%	22,37%	16,77%	38,73%	34,86%
Squamous Cell Skin Cancer	2,47%	2,07%	3,81%	2,19%	8,89%	5,73%	15,50%	11,90%
Malignant Melanoma Skin Cancer	0,60%	1,27%	0,74%	0,88%	1,71%	1,65%	3,28%	3,18%

(National Cancer Registry, 2013).

Incidence of Malignant Melanoma in South Africa

According to the National Cancer Registry (2013) the following number of Malignant Melanoma cases was histologically diagnosed in South Africa during 2013:

Group - Males 2013	Actual No of Cases	Estimated Lifetime Risk	Percentage of All Cancers
All males	819	1:183	2,28%
Asian males	5	1:1 936	0,60%
Black males	79	1:1 089	0,74%
Coloured males	71	1:219	1,71%
White males	663	1:47	3,28%

Group - Females 2013	Actual No of Cases	Estimated Lifetime Risk	Percentage of All Cancers
All females	723	1:349	1,98%
Asian females	13	1:568	1,27%
Black females	138	1:1 401	0,88%
Coloured females	67	1:413	1,65%
White females	506	1:72	3,18%

The frequency of histologically diagnosed cases of Malignant Melanoma in South Africa for 2013 was as follows (National Cancer Registry, 2013):

Group - Males 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 males	4	17	54	110	152	236	157	83
Asian males	0	0	2	0	1	1	0	1
Black males	2	3	7	13	16	14	20	4
Coloured males	0	2	4	12	13	17	19	4
White males	2	12	41	85	121	203	117	73

Group - Females 2013	0 – 19 Years	20 – 29 Years	30 – 39 Years	40 – 49 Years	50 – 59 Years	60 – 69 Years	70 – 79 Year	80+ Years
All females	4	20	73	119	149	125	127	94
Asian females	0	1	1	2	2	3	3	1
Black females	1	3	8	21	25	19	30	22
Coloured females	0	0	5	13	13	9	12	13
White females	3	16	59	82	105	93	81	57

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.

According to Krige (2010) there are distinct differences in malignant melanoma between black and white populations regarding the incidence, anatomical distribution, histogenetic types of melanoma, stage at presentation and prognosis. In South Africa, the incidence of malignant melanoma is 15 times less among dark skinned individuals than in among the white population. In fair or light-skinned populations, more than 90% of melanomas occur in sun-exposed skin whereas 60% of melanomas among Africans arise in non-sun-exposed skin, involving in particular, plantar, palmar, subungual (under the nail) and mucosal surfaces. The volar and subungual areas are the most common anatomical sites of malignant melanoma in black populations, with 70% of melanomas found on the lower limb and 90% of melanomas on the leg occurring below the ankle. These views are supported by Hudson & Krige (1995).

The ABCDE of Malignant Melanoma

Moles, brown spots and growths on the skin are usually harmless — but not always. Anyone who has more than 100 moles is at greater risk for melanoma. The first signs can appear in one or more atypical moles. That is why it is so important to get to know one's skin very well and to recognize any changes in the moles on your body. Look for the ABCDE signs of melanoma, and if you see one or more, make an appointment with a physician immediately. (Melanoma Skin Cancer Foundation).



A - Asymmetry

Should one draws a line through the picture of the mole on the right, the two halves will not match.



B - Border

The border of the mole on the right is uneven. The edges may be scalloped or notched.

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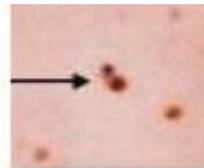
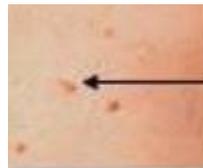
C - Colour

Having a variety of colours is another warning signal. A number of different shades of brown, tan or black could appear. A melanoma may also become red, blue or some other colour.



D - Diameter

Melanomas usually are larger in diameter than the size of the eraser on an ordinary pencil (6 mm), but may sometimes be smaller when first detected.



E - Evolving

Any change — in size, shape, colour, elevation, or another trait, or any new symptom such as bleeding, itching or crusting — points to danger.

(Skin Cancer Foundation).

Other warning signs are:

- A sore that does not heal
- A new growth
- Spread of pigment (colour) from the border of a spot to surrounding skin
- Redness or a new swelling beyond the border
- Change in sensation – itchiness, tenderness, or pain
- Change in the surface of a mole – scaling, oozing, bleeding, or the appearance of a bump or nodule

Metastatic Melanoma

"Metastatic" means that the melanoma has spread to one or more parts of one's body. It is also referred to as 'advanced' or 'Stage IV' Melanoma.

Although it cannot be cured, it can be treated. Melanoma starts in the cells that make melanin, the pigment that gives colour to one's skin. It can spread anywhere in the body, but it first tends to go to the lymph nodes (a network of glands that fight infection) near where it formed.

From there it can travel to organs like the brain, lungs, liver, and bones, as well as other areas of the skin -- including places far away from where it started (what doctors call the "primary site").

Causes of Melanoma - the sun's ultraviolet (UV) rays are the main cause. Artificial sunlight (such as from tanning beds) can also trigger melanoma of the skin. UV radiation damages the DNA in skin cells, prompting them to multiply rapidly and become cancer. Melanoma can happen after intense

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UV exposure (think of very bad sunburns), especially in people whose genes put them at risk for the disease. But it can also happen due to everyday UV exposure, without burning, over a long time.

Anyone can get melanoma, including people with dark skin.

- It is more likely if one is white, especially if one has light hair and eyes
- One has had many blistering sunburns, especially as a child or teenager
- One has several large or many small moles, including beauty marks and brown blemishes
- Unusual moles run in one's family
- If anyone in one's family has already had any type of skin cancer
- One's immune system is weak

Parts of the Body Affected by Melanoma - melanoma is often found on the belly, back, head, or neck in men, and on the arms and legs in women. But it can happen anywhere on the skin, including places that one might not expect, like the palms of one's hands, fingernails, the bottoms of one's feet, scalp, and even the genitals.

Symptoms - melanomas often resemble moles, and some develop from moles. Most are black or brown, but they can also be skin-coloured, pink, red, purple, blue, or white. Sometimes a change to an existing mole or to normal skin is the first warning sign of advanced melanoma.

Other clues depend on where the cancer has spread to:

- Lymph nodes - they may feel hard, swollen, and painful
- Skin - one may notice hardened lumps under one's skin
- Lungs - one may be breathless or have a cough that does not get better
- Liver - one may feel pain in the right side of the belly (under the lower right ribs) or not have one's usual appetite
- Bones - one may feel an ache in one's bones
- Brain - warning signs may include a headache that does not go away, weakness or numbness in one's arms or legs, seizures, and changes in the personality or mood

Other symptoms can include unexpected weight loss, and feeling very tired or not well in general. All of these symptoms can be caused by other conditions, so it is important to see a doctor to find out what is going on.

Screening for Malignant Melanoma

Consider the following screening options:

- *Skin examinations by a trained professional* - during the skin examination the professional person will conduct a head-to-toe inspection of the skin. This may include an examination with the use of a Dermoscope. This type of examination is currently offered by the Cancer Association of South Africa (CANSA).

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- *Skin examinations done at home* - a self-examination may help in determining where moles, freckles and other skin marks are on the skin. One can then, on a regular basis, inspect one's skin with the purpose of noticing any changes. It is best to do this standing in front of a full-length mirror while using a hand-held mirror to inspect hard-to-see areas. Be sure to check the fronts, backs and sides of the arms and legs. In addition, check the groin, scalp, fingernails, soles of the feet and spaces between the toes. It is often helpful to get a family member to assist in checking hard-to-see areas.

Increased Risk of Melanoma following Breast Cancer Diagnosis

Individuals who have had breast cancer has an increased risk for melanoma. Recent research shows a 29 percent excess risk for melanoma in breast cancer patients, as found in the largest group study of over 500,000 breast cancer patients. Higher-risk still were breast cancer patients age 50 or younger, who in a study by Goggins, *et al*, had a 46 percent higher risk of melanoma after breast cancer (Skin Cancer Foundation).

Diagnosing Malignant Melanoma

Sometimes malignant melanoma of the skin can be detected simply by looking at the skin, but the only way to accurately diagnose melanoma is by doing a biopsy. In this procedure, all or part of the suspicious mole or growth is removed, and a pathologist analyses the sample under a microscope.

Where Melanoma may Spread to in the Body

Should Melanoma spread (metastasis) it will most probably spread as indicated below:

Cancer Type:	Main Sites of Metastasis (Spread)
Bladder	Bone, liver, lung
Breast	Bone, brain, liver, lung
Colon	Liver, lung
Colorectal	Liver, lung, peritoneum (lining of abdomen)
Kidney	Adrenal gland, bone, brain, liver, lung
Lung	Adrenal gland, bone, brain, liver, other lung
Melanoma	Bone, brain, liver, lung, skin, muscle
Ovary	Liver, lung, peritoneum (lining of abdomen)
Pancreas	Liver lung, peritoneum (lining of abdomen)
Prostate	Adrenal gland, bone, liver, lung
Stomach	Liver, lung, peritoneum (lining of abdomen), ovaries
Thyroid	Bone, liver, lung
Uterus	Bone, liver, lung, peritoneum (lining of abdomen), vagina
Non-melanoma skin cancer	Very rare: lymph nodes, lung, bone (if in head/neck region)

Treatment of Malignant Melanoma

The best treatment for each individual patient depends on the stage of the malignant melanoma, age and overall health of the patient.

Treating early-stage melanomas

Treatment for early-stage melanomas usually includes surgery to remove the melanoma. A very thin melanoma may be removed entirely during the biopsy and require no further treatment. It may, however, be necessary for the doctor to remove the melanoma as well as a small border of normal skin and a layer of tissue beneath the skin. For people with early-stage melanomas, this may be the only treatment needed.

Treating melanomas that have spread beyond the skin

If the melanoma has spread beyond the skin, treatment options may include:

Surgery - surgery is used to remove affected lymph nodes. If the melanoma has spread to nearby lymph nodes, the surgeon may remove the affected nodes. Other additional treatments, before or after surgery, may also be recommended by the treating doctor.

Chemotherapy - chemotherapy uses drugs to destroy the cancer cells. Chemotherapy can be given intravenously, in pill form or both so that it travels throughout the body. Chemotherapy can be given via a vein in the arm or leg in a procedure called isolated limb perfusion.

Radiation therapy - this treatment uses high-powered energy beams, such as X-rays, to kill cancer cells.

Biological therapy - biological therapy boosts the immune system to help the body fight the cancer.

Targeted therapy - targeted therapy uses medications designed to target specific vulnerabilities in cancer cells.

Reducing the Risk for Malignant Melanoma

Many cases of skin cancer, including malignant melanoma, can be prevented by following the following precautions:

- Avoid midday sun. Avoid the sun when its rays are the strongest. For most places, this is between about 10:00 and 15:00. Because the sun's rays are strongest during this period, try to schedule outdoor activities for other times of the day, even in winter or when the sky is cloudy.
- Use a good quality sunscreen. Use a broad-spectrum sunscreen, preferably one with the CANSA Seal of Recognition.
- Wear protective clothing. Sunscreens don't provide complete protection from UV rays, so wear tightly woven clothing that covers your arms and legs and a broad-brimmed hat, which provides more protection than a baseball cap or visor does.
- Avoid tanning beds. Tanning beds emit UV radiation, which can increase the risk of skin cancer.

- Become familiar with the skin so changes can be noticed easily. If anything unusual is noticed, make an appointment with a doctor and point it out to him/her.
- Refer to the *CANSA Fact Sheet on Solar Radiation and Skin Cancer* – available on CANSA’s Website: www.cansa.org.za

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.

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Melanoma Picture

<http://www.thehypochondriac.com/melanoma.htm>

Melanoma Skin Cancer Foundation

<http://www.skincancer.org/skin-cancer-information/melanoma#panel1-1>

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<http://www.skincancer.org/skin-cancer-information/melanoma/breast-cancer-melanoma-link>

<http://www.skincancer.org/skin-cancer-information/ask-the-experts/can-darker-skinned-people-get-skin-cancer>

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