

ASK AN EXPERT

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What is cancer?

A

Cancer refers to any one of more than 200 different diseases characterised by the uncontrollable multiplication and development of abnormal cells. It has the ability to infiltrate and destroy normal body tissue. It often has the ability to spread to distant parts of the body. Many cancers form solid tumours although cancers of the blood like leukaemia does not form tumours.

Cancer comprises the five major groupings, namely: carcinoma, sarcoma, melanoma, lymphoma, and leukaemia:

- Carcinoma is a cancer that starts in the skin or the tissues that line other organs.
- Sarcoma is a cancer of connective tissues such as bones, muscles, cartilage, and blood vessels.
- Leukaemia is a cancer of bone marrow, which creates blood cells.
- Lymphomas and myeloma are cancers of the immune system.
- Melanoma is a cancer of melanocytes, the cells that form pigment.

Cancer is the second-leading cause of death in the world.

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How common is cancer?

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According to the World Cancer Research Fund there were an estimated 18 million cancer cases around the world in 2018, of these 9.5 million cases were in men and 8.5 million in women.

South African statistics are not very dependable (being outdated with known under-reporting) – the latest available statistics are those for 2014 which shows that 37 787 women and 36 790 men were diagnosed with cancer in 2014. According the South African National Cancer Registry (2014) women have a lifetime (0 – 74) risk of developing a cancer of 1:8 and men have a lifetime (0 – 74) risk of developing a cancer of 1:7.

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Who gets cancer?

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Cancer usually develops over a period of time and previously most people diagnosed with cancer were 65 years of age or older. While it has been more common in older adults, cancer is not exclusively an adult disease — cancer can be diagnosed at any age.

Cancer can occur at any age, but nearly 9 out of 10 cancers are diagnosed in people aged 50 and older. People of all racial and ethnic groups can get cancer.

The most common risk factors for cancer include aging, tobacco use, sun exposure, radiation exposure, chemicals and other substances, some viruses and bacteria, certain hormones, family history of cancer, alcohol consumption, poor diet, lack of physical activity, or being overweight.

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What are the 7 major warning signs of cancer?

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- Change in bowel or bladder habits
- A sore that does not heal
- Unusual bleeding or discharge
- Thickening or lump in the breast or elsewhere in the body
- Indigestion or difficulty in swallowing
- Obvious change in a wart or mole

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What causes cancer?

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Cancer is caused by accumulated damage to genes, often referred to as gene mutations. Such changes may be due to chance or to exposure to a cancer causing substance. Any substance that can cause cancer is called a carcinogen. A carcinogen may be a chemical substance, such as certain molecules in tobacco smoke.

The International Agency for Research on Cancer (IARC) has identified the following groups of carcinogens:

- | | | |
|------------|-----------------------------------|--------------|
| • Group 1 | - Carcinogenic to human | - 20 agents |
| • Group 2A | - Probably carcinogenic to humans | - 82 agents |
| • Group 2B | - Possibly carcinogenic to human | - 311 agents |

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Can radiation cause cancer?

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Radiation of certain wavelengths, called ionizing radiation, has enough energy to damage DNA and cause cancer. Ionizing radiation includes radon, x-rays, gamma rays, and other forms of high-energy radiation. Radiation may disassemble atoms and cause DNA damage in cells, leading to

potentially serious side effects, including cancer. Ultraviolet light from the sun may also damage skin cells and increase the risk of melanoma or other types of skin cancer.

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Is cancer genetic?

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- Cells in the human body work together, dividing and reproducing in a strictly controlled and coordinated fashion.
- DNA replication is an essential part of cell division, whereby the cell makes an identical copy of its genome before it divides
- Mistakes or 'mutations' can occur during DNA replication, changing the genome of the new cell being formed
- Most of these mistakes are quickly repaired by the cell's machinery, but sometimes mistakes are missed and the change in the DNA remains
- If these mutations occur in genes that control growth (proto-oncogenes and tumour suppressor genes), uncontrolled cell growth can occur, which can lead to tumour formation and cancer
- Proto-oncogenes encourage cells to multiply. If these genes become mutated, they tell the cell to multiply all the time and are then called oncogenes
- Tumour suppressor genes stop the cell from multiplying. If these genes become mutated and stop working, the cells may carry on multiplying
- To become cancerous, a cell must acquire mutations in several growth-controlling genes
- Mutations can accumulate over many years before a cell becomes cancerous. This is why most types of cancer are common in older people

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Can injuries cause cancer?

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Injuries cannot cause cancer. It is a common myth that injuries can cause cancer. The fact is that falls, bruises, broken bones, or other such injuries have never been linked to cancer. Sometimes a person might visit a health care professional for what is thought to be an 'injury' and cancer is diagnosed.

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Can stress cause cancer?

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Research has shown that people who experience intense and long-term (i.e., chronic) stress can develop digestive problems, fertility problems, urinary problems, and even a weakened immune

system. People who experience chronic stress are also more prone to viral infections such as the flu or common cold and to have headaches, sleep trouble, depression, and anxiety.

Although stress can cause a number of physical health problems, the evidence that it can cause cancer has never been established scientifically. Some studies have indicated a possible link between various psychological factors and an increased risk of developing cancer, but others have not.

Apparent links between psychological stress and cancer could arise in several ways. For example, people under stress may develop certain behaviours, such as smoking, overeating, or drinking alcohol, which increases the risk for cancer. Or someone who has a relative with cancer may have a higher risk for cancer because of a shared inherited risk factor, not because of the stress induced by the family member's diagnosis.

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What are the risk factors for cancer?

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The most common risk factors for cancer include aging, tobacco use, sun exposure, radiation exposure, chemicals and other substances, some viruses and bacteria, certain hormones, family history of cancer, alcohol consumption, poor diet, lack of physical activity, or being overweight.

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Is cancer contagious?

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No, cancer is not contagious and can, therefore, not spread from person to person. The only times that cancer can 'spread' from one person to another, is following an organ or tissue transplant.

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Can cancer be prevented?

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No, cancer cannot be prevented. One can, however, do a lot to reduce one's risk of getting cancer by:

- Do not use tobacco
- Stay clear of vaping until research has shown it to be safe
- Do not drink alcohol. Should one decide to drink alcohol, try and limit its consumption to the absolute minimum. There is no known safe level of alcohol consumption.
- Eat a healthy diet. A Registered Dietitian (RD) experienced in dealing with cancer patients should preferably be consulted to ensure that the patient receives adequate nutrition. For individualised nutritional advice, consult a registered dietitian in your area by visiting:

- <http://www.adsa.org.za/Public/FindARegisteredDietitian.aspx>
- Limit red meat consumptions
- Avoid consuming processed meats, or at least limit its consumption

Food Safety Tips:

Food safety tips are especially important for people undergoing and recovering from cancer treatment.

- Wash hands frequently. Use plenty of soap and warm, running water for at least twenty seconds.
- Use a safe hand sanitiser for cleaning hands when soap and water are not available
- Wash or sanitise hands every time without fail:
 - after using the toilet
 - before eating
 - before and after each step of food preparation
 - after handling garbage
 - after touching pets
 - after sweeping the floor or wiping down the counters
- Keep cutting boards, counter tops, and utensils thoroughly cleaned
- Change, launder, and discard sponges and dish towels often
- Keep raw meat, poultry, seafood, and eggs away from ready-to-eat foods
- Always use a separate cutting board for raw meat, poultry, and fish
- Cook food thoroughly at proper temperatures. Use a food thermometer to make sure foods are safely cooked
- Properly wrap and refrigerate foods promptly
- Refrigerate or freeze leftover foods within one hour to limit growth of bacteria
- Thaw frozen meat and poultry in the refrigerator, microwave, or cold water. Do not leave it out on the kitchen counter
- Pay attention to food product expiry dates (best before dates). If in doubt, throw the product out

Maintain a healthy weight – prevent obesity

Be as active as possible – prevent inactivity

Protect self against the sun:

- Avoid midday sun. Stay out of the sun between 10 am and 4 pm, when the sun's rays are strongest.
- Stay in the shade. When you're outdoors, stay in the shade as much as possible. Sunglasses and a broad-brimmed hat helps, too.
- Cover exposed areas. Wear tightly woven, loose fitting clothing that covers as much of your skin as possible. Choose bright or dark colours, which reflect more ultraviolet radiation than do pastels or bleached cotton.
- Do not skimp on sunscreen. Use a broad-spectrum sunscreen with an SPF of at least 30, even on cloudy days. Apply sunscreen generously, and reapply every two hours — or more often if you're swimming or perspiring.
- Avoid tanning beds and sunlamps

Get vaccinated:

- Hepatitis B. Hepatitis B can increase the risk of developing liver cancer.

- Human papillomavirus (HPV). HPV is a sexually transmitted virus that can lead to cervical and other genital and anal cancers as well as squamous cell cancers of the head and neck. The HPV vaccine is recommended for girls and boys between ages 9 and 12 (before becoming sexually active). The US Food and Drug Administration (FDA) recently approved the use of vaccine Gardasil for males and females ages 9 to 45.

Avoid risky behaviours:

- Risky behaviours can lead to infections that, in turn, might increase the risk of cancer.
- Practise safe sex. Limit your number of sexual partners and use a condom when you have sex. The more sexual partners you have in your lifetime, the more likely you are to contract a sexually transmitted infection — such as HIV or HPV. People who have HIV or AIDS have a higher risk of cancer of the anus, liver and lung. HPV is most often associated with cervical cancer, but it might also increase the risk of cancer of the anus, penis, throat, vulva and vagina.
- Do not share needles. Sharing needles with people who use intravenous drugs can lead to HIV, as well as hepatitis B and hepatitis C — which can increase the risk of liver cancer.

Get regular screening and medical care:

- Regular self-examinations and screenings for various types of cancers — such as cancer of the skin, colon, cervix, breast and prostate — can increase chances of discovering cancer early, when treatment is most likely to be successful. Ask a health professional about the best cancer screening schedule.

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Does sugar feed cancer?

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Sugar does not feed cancer; neither does sugar make cancer grow faster. All cells, including cancer cells, depend on blood sugar (glucose) for energy. Giving more sugar to cancer cells does not speed their growth. Likewise, depriving cancer cells of sugar does not slow their growth.

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How is cancer diagnosed?

A

The following may be used to make a cancer diagnosis:

- Complete physical medical examination
- Signs and symptoms provided by an individual
- Taking a family health history
- Biopsy – taking a specimen of body tissue (including body fluids) to be examined by a pathologist

Imaging:

- Computerised Tomography (CT scan)
- Magnetic Resonance Imaging (MRI scan)
- Positron Emission Tomography (PET scan)
- Ultrasound
- X-ray
- Bone scan
- Nuclear medical scan
- Mammogram

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How is cancer treated?

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Cancer is best treated by using one, or a combination of:

- Surgery
- Chemotherapy
- Radiation therapy: External beam radiation therapy / Brachytherapy (internal radiation therapy)
- Targeted therapy
- Hormone therapy
- Immunotherapy
- Adjuvant therapy
- Neo-adjuvant therapy
- Bone marrow transplant
- Cryoablation (freezing and thawing of cancer cells)
- Radiofrequency ablation (use of electrical energy to heat cancer cells)
- Clinical trials

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How do doctors decide how to treat cancer?

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Once a patient has been diagnosed with cancer, the treating physician (oncologist) considers the following to determine the best course of action / treatment:

- The cancer itself. The oncologist will go through all the test results to find out how “risky” the cancer is. Cancers that have been diagnosed early generally need less treatment than more advanced cancers, which might need a more complex treatment regimen.
- Available treatments for the particular cancer. The treating physician (oncologist) usually considers first-line treatments, second-line treatments, adjuvant treatments, etc.
- The overall health of the patient. Oncologists consider the patient’s age and any other health problems he/she may have (co-morbidity). Understanding how frail or robust the patient is, becomes important when talking about treatment options and regimens.

- The wishes of the patient. The patient is part of the decision making process. Each individual values different aspects of cancer care and treatment differently. In some cases, people will accept a slightly higher risk of cancer coming back in exchange for something else, like a treatment with a lower risk of side effects or choosing radiation to avoid surgery.

Afterwards patient and oncologist(s) will decide on care and treatment goals. Is the cancer curable? Yes, commence and continue with treatment regimen. If the cancer is not curable, can the treatment slow its growth and minimise symptoms? From there, decisions regarding a specific treatment regimen is decided upon.

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What are the possible side effects of cancer treatment?

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Side effects, if they occur, vary from person to person, even among those receiving the same treatment and may include one or more of the following. Items are given in no particular order and is not necessarily a complete list of possible side effects of cancer treatment:

- Alopecia (hair loss)
- Anaemia
- Changes in taste or smell
- Cognitive problems (chemo brain), memory and concentration problems
- Constipation
- Dental and gum problems
- Diarrhoea
- Dry mouth
- Fatigue
- Fertility issues in boys and men
- Fertility issues in girls and women
- Flu-like symptoms
- Infection and Neutropenia
- Loss of appetite
- Mouth and throat problems
- Nausea and vomiting
- Oedema including Lymphoedema
- Organ-related inflammation
- Pain
- Peripheral neuropathy
- Sexual health issues in men
- Sexual health issues in women
- Skin and nail changes
- Sleep problems
- Sore mouth and /or throat
- Thrombocytopenia (bleeding and bruising)
- Urinary and bladder problems

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Is cancer treatment worse than cancer?

A

A cancer diagnosis is not necessarily a death sentence. With early detection, diagnosis and treatment, most cancers can be adequately treated with partial or complete remission as the ultimate goal. The journey may not always be easy, however, one should not concentrate on less pleasant experiences of the cancer and / or its treatment. One should rather have faith and concentrate on the hope that one will ultimately go into remission. Cancer treatment should also not always be seen as “doing it for oneself” but also doing it for loved ones who would like to have one around for years to come.

Newer treatments in the form of immunotherapy cause fewer, if any, side effects.

People with cancer should look more deeply for meaning in their lives. They should endeavour to understand their purpose in life, not why they got cancer. Spirituality is a way to look at the world and how to make sense of one’s place in it. Spirituality can include faith or religion, beliefs, values, and “reasons for being”. With faith as a foundation, spirituality (and religion) can be seen as by-products, those things or ways of life which allow the individual to live out his or her faith. Further, while faith is grounded within an individual, spirituality (and religion) are dynamic. These all work together to be able to cope better with cancer and its treatment. Cancer treatment need not be worse than the cancer.

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What is remission?

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A cancer patient can be in partial remission, which means he / she may be able to take a break from treatment as long as the cancer does not begin to grow again. Complete remission means that tests, physical examinations, and scans show that all signs of the cancer have disappeared. Some doctors also refer to complete remission as “no evidence of disease (NED)”. If a patient remains in complete remission for 5 years or more, some doctors may say that the cancer is cured.

Another view of remission is as follows: Remission means that the signs and symptoms of the cancer are reduced. Remission can be partial or complete. In a complete remission, all signs and symptoms of cancer have disappeared.

‘Cure’ means that there are no traces of the cancer after treatment and the person has the same chance of getting the same, or another, cancer as any other member of the public.

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Can cancer be cured?

A

There is currently no ‘cure’ for cancer. However, many scientists (oncologists) believe that some of the current immunotherapy treatments are capable of ensuring complete remission, which means

that all signs of the cancer have gone. The early detection and treatment of cancer can significantly improve the chances of either partial or complete remission.

'Cure' means that there are no traces of the cancer after treatment and the person has the same chance of getting the same, or another, cancer as any other member of the public.