



What is Cancer?



Cancer starts small

Every cancer starts in a cell. Some cells change from healthy cells to cancer cells. Cancer can affect any part of the body.

Life of a healthy cell

Healthy cells are your body's building blocks. Each body has trillions of cells. Cells form our bones, blood and tissue. They run the complicated systems that keep us alive. For example, some cells turn food into energy. Others protect us from illness. Each cell has special instructions (called **DNA**) to help it do its job.

Over time, your cells wear out. Your body constantly replaces old or damaged cells. For example, skin cells wear out and are replaced by new skin. This is part of the growing, living and healing process.

Your body makes new cells by dividing healthy cells. Each new "daughter" cell should have exactly the same DNA instructions as the "mother" cell.

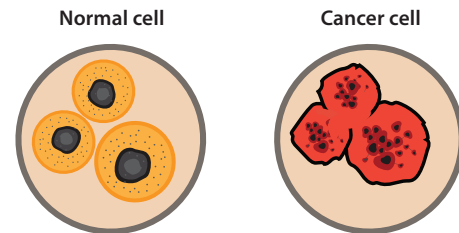
Cancer cells are different

When a cell is damaged, your body tries to repair it. If repairs don't work, the damaged cell is removed. However, sometimes, damaged cells divide and copy themselves. **Cancer** develops when a damaged cell grows and makes more damaged cell copies.

These bad copies may be missing some DNA instructions or they can have the wrong information.

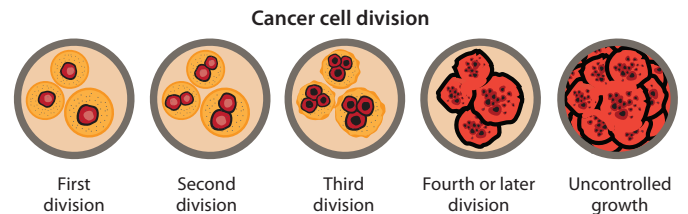
Cancer cells do not behave like healthy cells. Without proper instructions they keep dividing and ignore signals from normal cells. They clump together and can spread to other parts of the body.

There are more than 200 kinds of cancer.



Normal cell

Cancer cell



Cancer cell division

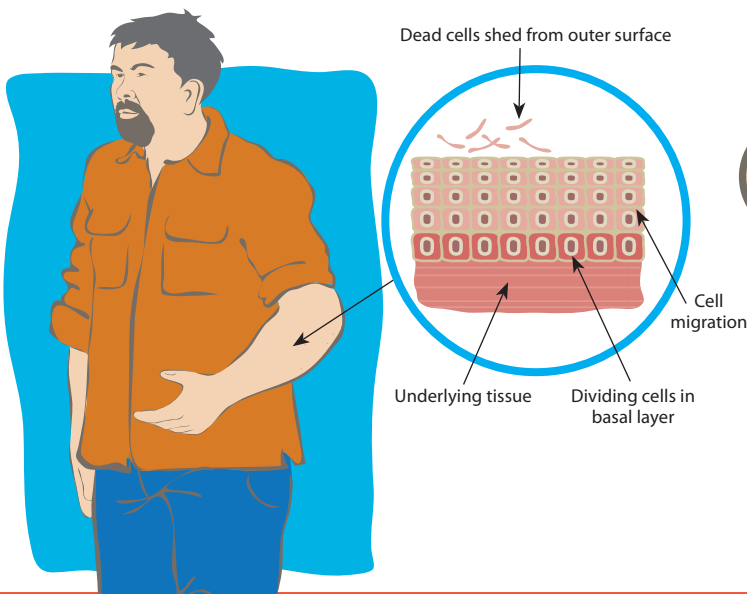
First division

Second division

Third division

Fourth or later division

Uncontrolled growth



What is Cancer?

How are cells damaged?

Normal “wear and tear” damages cells. Other causes of cell damage include not living a healthy life, environmental contaminants and inherited factors.

These other causes or **risk factors** can act together to increase cancer risk. For example, a smoker’s chance of lung cancer increases by at least 50 times if he or she is exposed to asbestos.



Key Facts

Stop cancer before it starts

- Don’t smoke
- Eat a healthy diet
- Be **moderately active** at least 30 minutes a day
- Stay a healthy weight
- Limit alcohol consumption
- Protect yourself from the sun
- Avoid exposure to **environmental contaminants** at home and at work

Does it make a difference? Yes!

Tobacco: Smokers are about 20 times more likely to develop lung cancer than non-smokers. The longer a person smokes and the more cigarettes smoked each day, the more the risk increases.

Body weight: About one-third of all cancers can be prevented by eating well, being active and maintaining a healthy body weight.

Drinking alcohol: Drinking about 3.5 drinks a day can double or even triple your risk of developing cancer of the mouth, pharynx, larynx and esophagus. Drinking increases the risk of developing colon cancer and breast cancer by 1.5 times.

Physical activity: Physical activity can help you maintain a healthy weight. People who are overweight or obese are at greater risk for cancer of the breast, colon and rectum, esophagus, kidney, pancreas and uterus.

Risk factors for cancer

The way you live, and where you live and work from day to day can damage cells, which may result in cancer:

- **Smoking or chewing commercial tobacco.**
The single most important thing you can do to reduce your risk of cancer is to live smoke-free.
- **Poor nutrition or being overweight.**
Having a healthy body weight reduces your cancer risk. Eat lots of veggies and fruit as well as fibre, and low amounts of fat and sugar to keep a healthy weight. Remember that red meat and processed meat increase your risk of cancer.
- **Being physically inactive.** Regular physical activity helps protect against cancer. It also helps you stay at a healthy body weight, which reduces your risk of cancer.
- **Drinking alcohol.** If you choose to drink, keep it to less than 1 drink a day for women and less than 2 drinks a day for men—any day of the week. Not drinking all week does not make it okay to drink more on a weekend, for example.
- **Not practicing safe sex.** Protect yourself and your partner from **sexually transmitted diseases**, some of which may cause cancer.
- **Environmental exposure.** Be aware of cancer-causing chemicals and pollutants at work, at home or in the environment. Reduce or remove exposure to them, especially for children.

Be aware of other risks

Your personal history and **genetics** also affect your chances of getting cancer.

- Old age—the longer you live and the more times your cells copy, the higher your cancer risk
- Other diseases you may have, such as hepatitis
- Family history of cancer
- For women, whether you had children and whether you breastfed them
- Rarely, people inherit damaged cells from their parents

👉 *Find out more about cancer risk factors from the Canadian Cancer Society at cancer.ca.*



What are the different kinds of cancer?

Not all tumours are cancer

Tumours can be either non-spreading (benign) or spreading (malignant).

Benign tumours are not cancer. They do not spread to other parts of the body and are usually harmless.

Malignant tumours are cancer. They grow and spread to other parts of your body. When a malignant cancer spreads to another part of the body, it is called **metastasis**.

Types of cancer

There are five main types of cancer:

- 1. Carcinomas** are the most common cancers. They begin in skin or tissues that line the internal organs. These include prostate cancer, breast cancer, lung cancer and colon cancer.
- 2. Sarcomas** start in bone, fat, muscle, joint, nerve, blood vessel or deep skin tissues.
- 3. Lymphomas** and myeloma are cancers of the lymphatic system, which includes the **lymph nodes** and plasma cells (part of the body's immune system).
- 4. Leukemias** are cancers of the white blood cells, and can be either acute (symptoms which appear and change or worsen rapidly) or chronic (symptoms which develop and worsen over an extended period of time).
- 5. Melanomas** are malignant cancers that start in the cells that colour your skin or eyes.

Remember—there are over 200 types of cancer. Every cancer develops differently. Some advance quickly. Others grow slowly or rarely spread.

Stages of common cancers

The stage of a cancer defines how far the disease has spread. This also helps determine how your health team will treat it.

Stage I. Local or in situ: Cancer that has not spread to neighbouring tissues.

Stage II. Early-stage: Cancer is only in the organ where it started to grow.

Stage III. Regional: Cancer has spread to the surrounding tissues or lymph nodes.

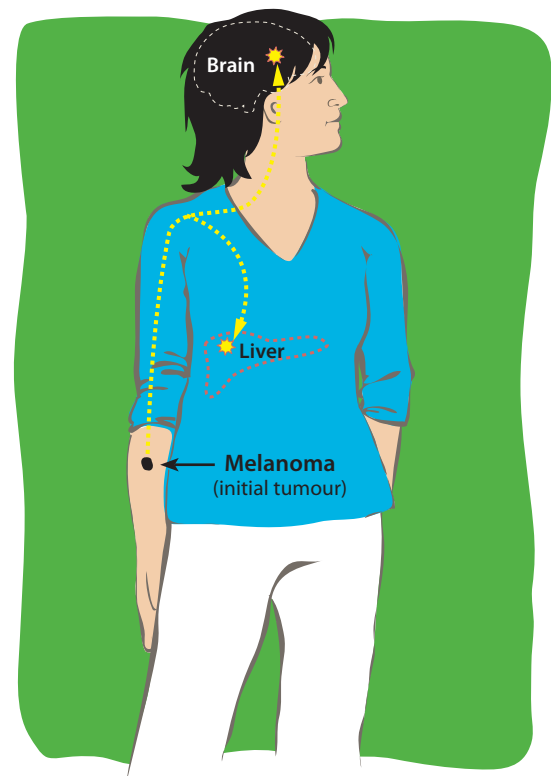
Stage IV. Distant, advanced or metastatic: Cancer has spread to other organs and body systems.

Other cancers

These four stages do not apply to brain cancers, blood cancers and childhood cancers, which are classified differently.

Cancer can start in one place and then spread to other parts of the body. That is why finding it early is important.

Some cancers, such as melanoma (skin cancer), can travel through the bloodstream to other parts of the body.



What is Cancer?



Key Facts

Cancer symptoms

There are many kinds of cancers. Each causes different symptoms.

The following symptoms may show that something is not right in the body. Visit a doctor if you have any of these problems.

- Change in bowel or bladder habits
- A sore that does not heal
- Unusual bleeding or discharge
- Thickening, lump, or swelling in the breast or any other part of the body
- Indigestion or difficulty swallowing
- Recent change in wart or mole
- Nagging cough or hoarseness
- Unexplained progressive weight loss or gain
- Unexplained fever, fatigue or pain

These symptoms DO NOT always indicate cancer. For example, 4 out of every 5 breast lumps are not cancerous. However, you should check to make sure!

How common is cancer?

Fewer than half of Canadians overall will develop cancer in their lifetime.

The most common cancers in men are:

- Prostate cancer
- Lung cancer
- Colon cancer

The most common cancers in women are:

- Breast cancer
- Lung cancer
- Colon cancer

The most common cancers for children are leukemias, which are cancers of the bone marrow and blood. They account for about 30% of all cancers in children.

About 4 people in 10 will develop cancer sometime in their lives, and 1 in 4 will die of the disease.



Source: Canadian Cancer Society's Advisory Committee on Cancer Statistics. Canadian Cancer Statistics 2015. Toronto, Ontario: Canadian Cancer Society; 2015.



How we find cancer

Cancer starts in one place in the body, at the cell level. The earlier we find and treat cancer, the better your chances are of recovery.

Sometimes we can find and treat small cell changes very early—for example, **hyperplasia or dysplasia** in cervical cells—to prevent cancer from developing.

However, cancer is not always obvious. You may have no symptoms. You might find a lump yourself, or experience unusual symptoms. Your doctor or nurse may discover cancer during a regular check-up.

The importance of early screening

Screening tests help find cancer early. The Ontario Health Insurance Plan (OHIP) offers free cancer screening for:

- Breast cancer—screening **mammogram**
- Cervical cancer—**Pap test**
- Colon cancer—**fecal occult blood test, colonoscopy** or **sigmoidoscopy**

First Nation people are less likely to be up-to-date with cancer screening tests compared to non-Aboriginal Ontarians. For example, First Nation women who are age-eligible for breast cancer screening (ages 50-74) and living on-reserve are less likely to have had a recent mammogram compared to off-reserve First Nation women and non-Aboriginal women of the same age.

👉 See the CCO fact sheets on breast cancer, cervical cancer and colon cancer screening for more information: cancercareontario.ca/FNIMresources

👉 Access to the Ontario cancer screening programs requires an OHIP card. You can apply for OHIP at any ServiceOntario location, which includes some libraries and band offices. In remote areas, you can apply for a new or replacement card at the local nursing station.



Key Facts

Canadian Cancer Society (CCS)

The CCS website offers detailed information for people with cancer and their families, including:

- Cancer information—types of cancer, diagnosis and treatment, and helpful tips, as well as prevention
- Support services, including financial support, transportation and accommodation

Website: cancer.ca

Ontario Health Insurance Plan (OHIP)

OHIP covers many medical services and hospitalization.

Website: health.gov.on.ca

Non-Insured Health Benefits Program

Canada's health benefit program supplements OHIP coverage for eligible First Nations people and Inuit.

Website: hc-sc.gc.ca

Diagnosis of cancer

If your doctor thinks you might have cancer, the next step is usually to examine some of your cells under a microscope. To do this, a cancer specialist will do a **biopsy**, which removes a small piece of tissue. The different types of biopsies include:

- Needle biopsy—using a needle to pull fluid from a lump
- Surgical biopsy—for example, removing a small piece of tissue

The specialist may also use **blood tests, ultrasound scans**, and **CAT scans** or **MRI scans** (which are like an X-ray), to help diagnose and identify cancers. The cancer may be examined internally by endoscopy, which views the site through a long tube with a camera.

If your doctor diagnoses you with cancer, he or she may do more testing to find out where the cancer started, how far it has spread and the best way to treat it. During and after treatment, some tests will be repeated to measure success.

What is Cancer?

How we treat cancer

Ontario's 14 Regional Cancer Programs offer treatment based on the best available science. Your treatment team may include oncologists (cancer doctors), family doctors, nurse practitioners, radiologists and mental health specialists. Traditional healers are welcome members of this team.

The Aboriginal Navigator is your guide throughout the diagnosis and treatment process. The Aboriginal Navigator can explain the science behind cancer treatment and help you incorporate traditional healing into your treatment if you wish. In this way, your cancer treatment can address you as a whole—both physically and spiritually.

Cancer treatment aims to remove cancer cells from your body and restore health. Your own cancer treatment plan will be based on:

- The type of cancer
- The size, location and stage of the disease
- Your general health

Treatment for cancer can be either:

- **Local**—treatment that focuses on cancer cells in the tumour and the nearby area, or
- **Systemic**—treatment that travels through the bloodstream to target cancer cells all over the body

The health team will recommend the best treatment for the type and stage of the cancer. Ideally, cancer treatment targets cancer cells while doing less damage to normal cells.

Treatments may include one or more of the following:

- **Surgery:** Removal of the cancerous tumour and sometimes surrounding tissue and lymph nodes
- **Chemotherapy:** Using drugs to kill cancer cells
- **Biological therapy (Immunotherapy):** Boosting the body's natural ability to fight disease or to lessen some cancer treatment side effects
- **Radiation therapy:** Using high-energy rays to kill cancer cells or stop them from growing and dividing

- **Hormone therapy:** Targeting certain cancers that depend on **hormones** for their growth
- **Transplant:** Providing new, healthy bone marrow, blood or **stem cells** to replace cells damaged by disease, chemotherapy or radiation

Side effects

Damage to healthy cells or tissues, or disruption of normal systems is sometimes unavoidable during cancer treatment and can cause **side effects**. The type and degree of side effects depend mainly on the treatment. However, side effects differ from person to person.

People do survive cancer!

More people are surviving cancer now, particularly when it is found and treated early. This is because some cancers progress slowly or are less likely to spread. People with **prostate** or breast cancer, for instance, tend to live almost as long as people without cancer, while people with lung cancer or **pancreatic** cancer are less likely to live as long.

The most important factor in **cancer survival** is early diagnosis. Getting a regular check-up and participating in a cancer screening programs are the first steps to early diagnosis.

Cancer Care Ontario screens for the most common cancers that have reliable tests (breast, colon and cervical cancer). Screening is free to Ontarians with OHIP coverage. Non-Insured Health Benefits cover travel to the nearest cancer screening centre.

You can help improve First Nations cancer survivorship by spreading the word—get checked and get tested!



What the words mean

Biopsy, tissue sample	A biopsy removes a small piece of tissue from a part of the body. The sample of tissue is then examined under the microscope to look for abnormal cells.
Blood tests	Blood for a blood test is taken from your arm with a small needle. The blood is checked in a laboratory. The results tell your doctor how well your body is working.
Cancer	A group of more than 200 diseases that can affect any part of the body. Cancer cannot be caught from someone else. It is a disease caused by damaged cells.
Colonoscopy	A test where a doctor or nurse looks through your rectum into your colon or gut to check your large intestine.
Colorectal cancer	Colorectal means the colon and rectum, which are parts of the gut located at the end of the digestive tract. If someone with colorectal cancer is diagnosed and treated when the disease is at an early stage, there is a good chance of him or her being cured.
CAT/CT scan	This special X-ray makes very detailed pictures of soft tissues in the body that do not show on ordinary X-ray pictures. CT means computerized tomography. CAT means computed axial tomography.
Dysplasia/ hyperplasia	Hyperplasia is an abnormal increase in the number of cells, causing enlargement of the affected part. Dysplasia refers to the replacement of a mature cell with a less mature cell type. Both are reversible if treated.
Environmental Contaminants	Chemicals, gases or radiation in food, air, earth, water or other surroundings that are harmful to human beings.
Fecal occult blood test or FOBT	The FOBT test detects small amounts of blood in your poop, which you would not normally see. Fecal means poop. Occult means unseen or invisible.
Genes, genetics, DNA	Genes are the instructions for making the human body. Each gene controls a particular feature (such as eye colour) or has a particular function in your body. Gene instructions are written in DNA (deoxyribonucleic acid).
HIV/AIDS	HIV, or the human immunodeficiency virus, weakens the immune system. HIV can develop into AIDS—acquired immunodeficiency syndrome—infections and illnesses (including cancer) that result from HIV infection.
Hormones	Chemicals made by your body to regulate how it works.
Lymph nodes, lymph glands	Parts of the immune system which defend the body against infection. Lymph nodes occur throughout the body, such as in the neck, armpits and groin. They swell if you have an infection and can be affected by cancer.
Mammogram	A screening test that takes special X-ray pictures of each breast to check for abnormal tissue or lumps. The test can be a bit painful but only lasts a few seconds.
Metastasis	Metastasis refers to cancer spreading. As cancer cells multiply, some may break off into the lymph channels or bloodstream. This lets cancer spread (metastasize) to lymph nodes nearby or to other areas of the body.
Moderately active	Being physically active enough to get warm, mildly out of breath and mildly sweaty.
MRI scan	A safe and painless test that uses a strong magnetic field and radio waves to create detailed computer pictures of tissues, organs and other parts inside your body. MRI stands for magnetic resonance imagery.
Pancreatic cancer	The pancreas is a gland that helps regulate blood sugar levels and insulin in the body. Pancreatic cancer is cancer of the pancreas.
Pap test	A routine test for women to check the cervix (entry to the uterus, where babies grow). During the test, some cells are removed gently with a plastic brush. The cells are checked under a microscope for early signs of cancer.
Prostate cancer	Only men have a prostate gland. It lies just beneath the bladder and is normally about the size of a chestnut. The prostate produces fluid to protect and enrich sperm. The prostate often gets bigger after the age of about 50.
Risk factors	Facts about you that affect whether you have a higher or lower chance of getting a disease.
Side effects	Unintended and undesirable effects of a drug or medical treatment.
Sigmoidoscopy	A check of the lower part of your gut using a sigmoidoscope, which is a small tube with an attached light source about the thickness of your finger. This is not usually painful but it may be a little uncomfortable.
Stem cells	Special cells that have the ability to develop into many different cell types (for example a brain cell or a blood cell).
Survival rates	A measurement of how many people who have had a disease and are still alive a given number of years later. For example, 96% of people diagnosed with prostate cancer are alive five years later, but only 17% of people diagnosed with lung cancer are alive 5 years later.
Tumour	A “swelling” or “mass” of disorganized new cells that have no useful purpose in the body.
Ultrasound scan	A painless test that uses sound waves to create images of organs and other parts inside the body.

Regional Cancer Program and Regional Cancer Centre locations

Local Health Integration Network / REGION	Regional Cancer Program	Regional Cancer Centre	Location and Contact
Erie St. Clair	Erie St. Clair Regional Cancer Program	Windsor Regional Cancer Program—Windsor Regional Hospital	2220 Kildare Road, Windsor, Ontario N8W 2X3 519-253-5253 wrh.on.ca
South West	South West Regional Cancer Program	London Regional Cancer Program—Victoria Hospital, London Health Sciences Centre	790 Commissioners Road East, London, Ontario N6A 4L6 519-685-8600 lhsc.on.ca
Waterloo-Wellington	Waterloo Wellington Regional Cancer Program	Grand River Regional Cancer Centre—Grand River Hospital	835 King Street West, Kitchener, Ontario N2G 1G3 519-749-4380 www.grhosp.on.ca
Hamilton Niagara Haldimand Brant	Hamilton Niagara Haldimand Brant Regional Cancer Program	Juravinski Cancer Centre—Hamilton Health Sciences	699 Concession Street, Hamilton, Ontario L8V 5C2 905-387-9495 jcc.hhsc.ca
Central West and Mississauga Halton	Mississauga Halton Central West Regional Cancer Program	Carlo Fidani Peel Regional Cancer Centre—Trillium Health Partners—Credit Valley Site	2200 Eglinton Avenue West, Mississauga, Ontario L5M 2N1 905-813-1100 trilliumhealthpartners.ca
Toronto Central North	Toronto Central Regional Cancer Program	Odette Cancer Centre—Sunnybrook Health Sciences Centre	2075 Bayview Avenue, Toronto, Ontario M4N 3M5 416-480-5000 sunnybrook.ca
Toronto Central South	Toronto Central Regional Cancer Program	Princess Margaret Cancer Centre—University Health Network	610 University Avenue, Suite 16-609, Toronto, Ontario M5G 2M9 416-946-4501 uhn.ca/PrincessMargaret
Central	Central Regional Cancer Program	Stronach Regional Cancer Centre at Southlake—Southlake Regional Health Centre	596 Davis Drive, Newmarket, Ontario L3Y 2P9 905-895-4521 southlakeregional.org
Central East	Central East Regional Cancer Program	R.S. McLaughlin Durham Regional Cancer Centre—Lakeridge Health	1 Hospital Court, Oshawa, Ontario L1G 2B9 905-576-8711 lakeridgehealth.on.ca
South East	South East Regional Cancer Program	Cancer Centre of Southeastern Ontario—Kingston General Hospital	25 King Street West, Kingston, Ontario K7L 5P9 613-544-2630 krcc.on.ca
Champlain	Champlain Regional Cancer Program	The Ottawa Hospital Cancer Centre—The Ottawa Hospital	501 Smyth Road, Ottawa, Ontario K1H 8L6 613-737-7700 ottawahospital.on.ca
North Simcoe Muskoka	North Simcoe Muskoka Regional Cancer Program	Simcoe Muskoka Regional Cancer Centre—Royal Victoria Hospital	201 Georgian Drive, Barrie, Ontario L4M 6M2 705-728-9090 rvh.on.ca
North East	North East Regional Cancer Program	Northeast Cancer Centre—Health Sciences North/Horizon Santé—Nord	41 Ramsey Lake Road, Sudbury, Ontario P3E 5J1 705-522-6237 hsnsudbury.ca
North West	North West Regional Cancer Program	Regional Cancer Care Northwest—Thunder Bay Regional Health Sciences Centre	980 Oliver Road, Thunder Bay, Ontario P7B 6V4 1-877-696-7223 tbrhsc.net



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