



# Information about cancer

This chapter may help you answer simple questions about what cancer is and how it is treated. There are more than 200 different types of cancer and a range of treatments. Being aware of what the treatments involve and their possible side effects can prepare you to support students, families and colleagues affected by cancer.

## What is cancer?

Cancer is a disease of the cells, which are the body's basic building blocks. The body constantly makes new cells to help us grow, replace worn-out tissue and heal injuries. Normally, cells multiply and die in an orderly way.

Sometimes cells don't grow, divide and die in the usual way. This may cause blood or lymph fluid in the body to become abnormal, or form a lump called a tumour. A tumour can be benign or malignant.

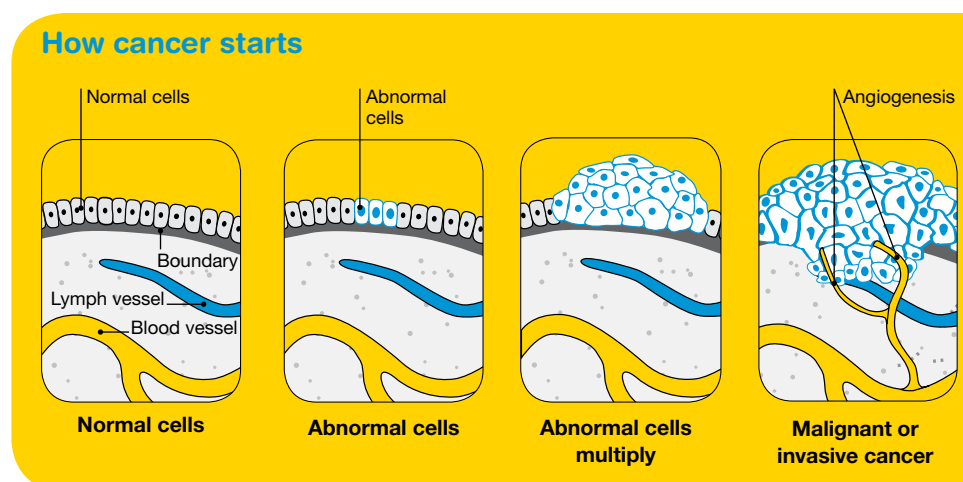
**Benign tumour** – Cells are confined to one area and are not able to spread to other parts of the body. This is not cancer.

**Malignant tumour** – This is made up of cancerous cells, which have the ability to spread by travelling through the bloodstream or lymphatic system (lymph fluid).

The cancer that first develops in a tissue or organ is called the primary cancer. A malignant tumour is usually named after the organ or type of cell affected.

A malignant tumour that has not spread to other parts of the body is called localised cancer. A tumour may invade deeper into surrounding tissue and can grow its own blood vessels (angiogenesis).

If cancerous cells grow and form another tumour at a new site, it is called a secondary cancer or metastasis. A metastasis keeps the name of the original cancer. For example, breast cancer that has spread to a lung is known as metastatic breast cancer, even though the person may be experiencing symptoms caused by problems in the lung.





There are more than 200 different types of cancer, each with its own name and treatment. Most areas of the body can be affected by cancer. Some cancers are more common than others (see page 10).

## Treatments and side effects

Cancer and its treatment can have physical, cognitive and emotional impacts. There are a number of ways for staff to help a student or colleague manage these impacts in the school setting (see pages 30, 32 and 52).

People with cancer may have one type of treatment or a combination of treatments. The table on the next page provides an overview of the most common cancer treatments and their side effects. Some side effects occur immediately; others appear weeks or months later. For more information, call Cancer Council 13 11 20 or visit your local Cancer Council website.

### How long will treatment take?

Some cancer treatments take a few months, and others take a number of years. An initial phase of intensive treatment may be followed by a longer period of maintenance treatment.

If cancer cells and symptoms reduce or disappear after treatment, the person is said to be in remission. If the cancer comes back after a period of improvement, it is called a recurrence or relapse.

Some people experience a recurrence of cancer after a period of remission. If this happens to someone in your school community, they may need extended support from school staff.

### Cancer is not:

- contagious
- caused by something someone has said, or a punishment for bad behaviour
- caused by stress
- a death sentence.

### How cancer spreads

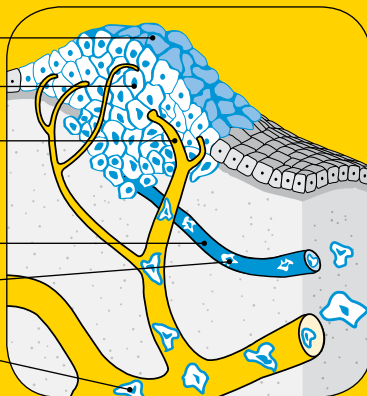
Primary cancer

Local invasion

Angiogenesis –  
tumours grow their  
own blood vessels

Lymph vessel

Metastasis –  
cells invade other parts  
of the body via blood  
vessels and lymph vessels



## Common cancer treatments

	Description	Side effects
Chemotherapy	<ul style="list-style-type: none"> <li>• Chemotherapy is the use of drugs to kill or slow the growth of cancer cells.</li> <li>• The drugs are most commonly given through a vein (intravenously), but can also be given orally as tablets.</li> <li>• They act throughout the body and particularly affect cells that divide rapidly, such as cancer cells or the cells in a person's hair, skin or nails.</li> <li>• Treatment may take several months and is usually given in courses (cycles) of 1–3 weeks with rest periods in between.</li> </ul>	<ul style="list-style-type: none"> <li>• Side effects of chemotherapy depend on the drugs used and the stage of treatment.</li> <li>• They may appear rapidly (within a few hours) or later (2–4 weeks).</li> <li>• Short-term side effects may include nausea, vomiting, hair loss, mouth ulcers, sun sensitivity and lowered immunity.</li> <li>• Long-term side effects may include tiredness and problems with concentration, memory and executive functioning – these can affect work or school performance for many years (see page 32). Some chemotherapy drugs can cause infertility.</li> </ul>
Radiotherapy	<ul style="list-style-type: none"> <li>• Radiotherapy uses high-energy beams directed onto a specific area to kill or damage cancer cells so they cannot multiply.</li> <li>• It can be used to treat the original (primary) cancer or the symptoms of a cancer that has spread (metastasised).</li> <li>• The radiation affects all cells exposed to it, but cancer cells are the most affected.</li> </ul>	<ul style="list-style-type: none"> <li>• Side effects appear throughout a course of radiotherapy, but particularly near the end.</li> <li>• Short-term side effects may include nausea, headaches, tiredness, hair loss and reddening of the skin near the area that has been treated.</li> <li>• Tiredness can persist for many weeks, especially after radiation to the head area.</li> <li>• Long-term side effects may include sun sensitivity, learning difficulties, growth failure, thyroid nodules, infertility, hair loss and (rarely) a second cancer later in life.</li> </ul>
Surgery	<ul style="list-style-type: none"> <li>• Surgery involves the partial or total removal of a tumour.</li> <li>• It sometimes requires removal of a part of the body (e.g. amputation).</li> </ul>	<ul style="list-style-type: none"> <li>• The most common side effect is pain at the site of the operation.</li> <li>• Other possible side effects include infections and reactions to the anaesthetic.</li> <li>• Some kinds of surgery require prolonged rehabilitation such as physiotherapy.</li> <li>• An amputation can change physical appearance and ability, and may require the use of mobility aids such as a wheelchair or prosthesis.</li> </ul>
Steroid therapy	<ul style="list-style-type: none"> <li>• Steroid therapy uses corticosteroid drugs to reduce nausea or swelling.</li> <li>• The drugs may be given orally or by injection.</li> </ul>	<ul style="list-style-type: none"> <li>• Short-term side effects include mood swings, fluid retention, behavioural changes, sleep problems, increased facial hair, increased thirst and appetite, muscle weakness, weight gain, stretch marks and acne.</li> </ul>

	Description	Side effects
Stem cell and bone marrow transplants	<ul style="list-style-type: none"> <li>• A stem cell transplant is a long, demanding process that replaces stem cells destroyed by disease, chemotherapy or radiation (stem cells normally live in the bone marrow and give the body a constant source of blood cells).</li> <li>• It may also be called a bone marrow transplant, a peripheral blood stem cell transplant or a cord blood transplant (depending on the source of the stem cells).</li> </ul>	<ul style="list-style-type: none"> <li>• Lowered immunity makes the person highly susceptible to infections, particularly in the first six weeks.</li> <li>• The treatment may involve many months off school or work and prolonged isolation.</li> <li>• Families living outside a major city may need to relocate for the treatment.</li> <li>• The donor cells sometimes attack normal cells, a reaction called graft-versus-host disease (GVHD). This can occur soon after the transplant or many months later and require more time away from school or work.</li> </ul>
Hormone therapy	<ul style="list-style-type: none"> <li>• Certain hormones stimulate the growth of some cancers. Hormone therapy either blocks or removes hormones from the body to slow or stop the growth of cancer cells.</li> <li>• It is mostly used for adults with breast, prostate, ovarian or thyroid cancer.</li> </ul>	<ul style="list-style-type: none"> <li>• Side effects for men may include tiredness, weight gain, hot flushes, breast tenderness, depression and osteoporosis.</li> <li>• Side effects for women may include blood clots, weight gain, generalised swelling, hot flushes and irregular menstrual periods.</li> </ul>
Targeted therapies	<ul style="list-style-type: none"> <li>• Targeted therapies are new drugs that attack cancer cells while minimising harm to healthy cells.</li> <li>• They may be used instead of or together with chemotherapy.</li> </ul>	<ul style="list-style-type: none"> <li>• Side effects vary depending on the drug.</li> <li>• They may include fevers, allergic reactions, rashes, diarrhoea and blood pressure changes.</li> </ul>
Complementary therapies	<ul style="list-style-type: none"> <li>• Complementary therapies are used alongside conventional cancer treatments and may help with managing their side effects.</li> <li>• The therapies focus on physical and emotional wellbeing.</li> <li>• Examples include acupuncture, yoga, massage, meditation, music therapy and art therapy.</li> </ul>	<ul style="list-style-type: none"> <li>• Side effects depend on what type of complementary therapy is used.</li> </ul>
Alternative therapies	<ul style="list-style-type: none"> <li>• Alternative therapies are unproven therapies that are used in place of conventional treatment.</li> <li>• They are often promoted as 'cancer cures' without scientific testing.</li> <li>• Examples include shark cartilage, magnet therapy and drastic diets.</li> </ul>	<ul style="list-style-type: none"> <li>• Some alternative therapies may cause serious side effects or interfere with conventional cancer treatment.</li> </ul>



### Chapter checklist

- ✓ Cancer is a disease of the body's cells – there are over 200 different types of cancer.
- ✓ Cancer is quite rare in children and adolescents.
- ✓ Children and adolescents get different types of cancer from adults.
- ✓ Type and length of treatment depends on the type of cancer and whether it has spread.
- ✓ Different treatments cause different side effects – short-term and long-term.
- ✓ Common side effects include fatigue, nausea, pain, loss of appetite, weight gain or loss, sun sensitivity, hair loss, swollen arm or leg (lymphoedema), diarrhoea, constipation, depression, difficulty thinking clearly, and concentration and memory issues.
- ✓ Students who have had cancer may need support throughout their schooling.

## Who gets cancer?

An estimated one in two Australians will be diagnosed with cancer in their lifetime. In Australia, more than 120,000 people are diagnosed with cancer every year.<sup>1</sup> People over the age of 50 are the most likely to be diagnosed with cancer, and children are the least likely. Unfortunately, however, some children and young people are diagnosed with cancer.

In adult men, the most common forms of cancer are prostate cancer, bowel cancer, melanoma, and lung cancer. Adult women are most often diagnosed with breast cancer, bowel cancer, melanoma, and lung cancer.

### Cancer in children and adolescents

In Australia, about 1000 school-age children develop cancer every year<sup>2</sup>, which means that at any time there are thousands of school students who have had cancer. Advances in diagnosis, treatment and follow-up care mean the overall survival rate for children and adolescents is now more than 80%.<sup>3</sup> This can vary depending on the age of the patient and their diagnosis.

Cancers affecting children generally differ from those affecting adults. Childhood cancers usually occur in different parts of the body and are not usually linked to lifestyle or environmental factors. They tend to be more responsive to chemotherapy, and children often tolerate the treatments better.

The treatments can cause long-term side effects, however, and some of these may not appear until years later (see page 32). This is particularly the case for a child who was treated at a young age. Any student who has survived cancer should receive appropriate support throughout all the years of their schooling (see pages 32–33).

### Childhood cancers

The most common types of childhood cancer are:

- **leukaemia** – a cancer that affects the blood cells; the two main types are acute lymphoblastic leukaemia and acute myeloid leukaemia
- **brain tumours** – the most common types in children are gliomas (starting in the brain's glial cells) and medulloblastoma (starting in the cerebellum, the lower back part of the brain)
- **neuroblastoma** – a cancer of the nerve cells involved in the development of the nervous system
- **lymphoma** – a cancer that develops in the lymphatic system; the two main types are Hodgkin lymphoma and non-Hodgkin lymphoma
- **sarcoma** – a malignant tumour that develops in the bone, muscle or connective tissue.