



How does cancer start, grow and spread?

Types of cancer

Cancers can be grouped according to the type of cell they start from. There are 5 main types. The most common type is carcinoma.

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The main types of cancer

Our bodies are made up of billions of cells. The cells are so small that we can only see them under a microscope.

Cells group together to make up the tissues and organs of our bodies. They are very similar but vary in some ways because body organs do very different things. For example, nerves and



muscles do different things, so the cells have different structures.

There are more than 200 types of cancer and we can classify cancers according to where they start in the body, such as breast cancer or lung cancer.

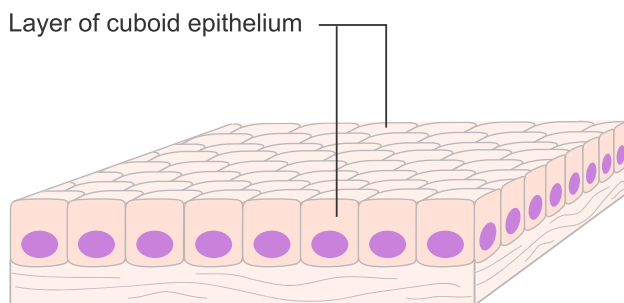
We can also group cancer according to the type of cell they start in. There are 5 main groups. These are:

- carcinoma – this cancer begins in the skin or in tissues that line or cover internal organs. There are different subtypes, including adenocarcinoma, basal cell carcinoma, squamous cell carcinoma and transitional cell carcinoma
- sarcoma – this cancer begins in the connective or supportive tissues such as bone, cartilage, fat, muscle or blood vessels
- leukaemia – this is cancer of the white blood cells. It starts in the tissues that make blood cells such as the bone marrow.
- lymphoma and myeloma – these cancers begin in the cells of the immune system
- brain and spinal cord cancers – these are known as central nervous system cancer

Carcinomas

Carcinomas start in epithelial tissues. These tissues:

- cover the outside of the body such as the skin
- cover and line all the organs inside the body such as the organs of the digestive system
- line the body cavities such as the inside of the chest cavity and the abdominal cavity



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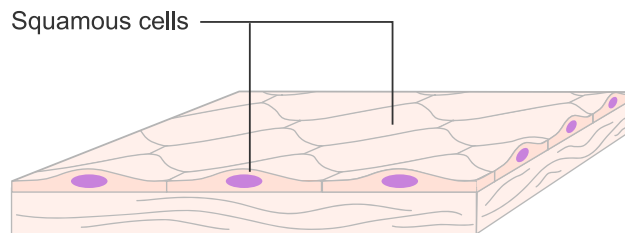
Carcinomas are the most common type of cancer. They include many breast, lung, bowel and prostate cancers.

There are different types of epithelial cells and these can develop into different types of carcinoma. These include:

- squamous cell carcinoma
- adenocarcinoma
- transitional cell carcinoma
- basal cell carcinoma

Squamous cell carcinoma

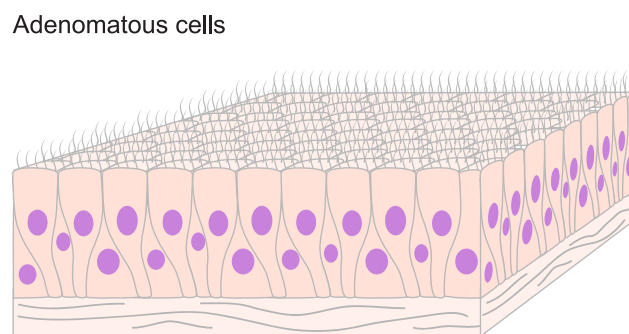
Squamous cell carcinoma starts in squamous cells. These are the flat, surface covering cells found in areas such as the skin or the lining of the throat or food pipe (oesophagus).



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Adenocarcinoma

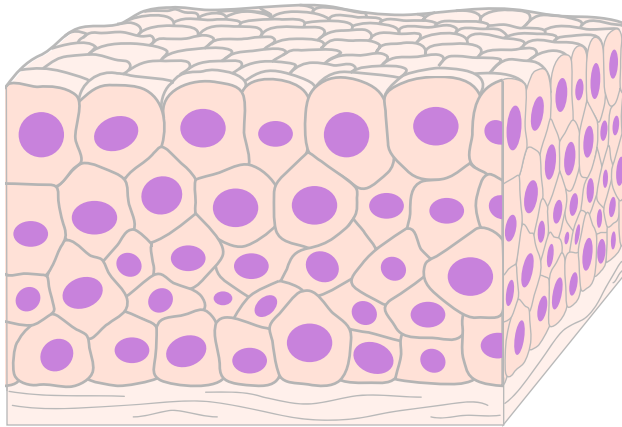
Adenocarcinomas start in glandular cells called adenomatous cells. Glandular cells produce fluids to keep tissues moist.



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Transitional cell carcinoma

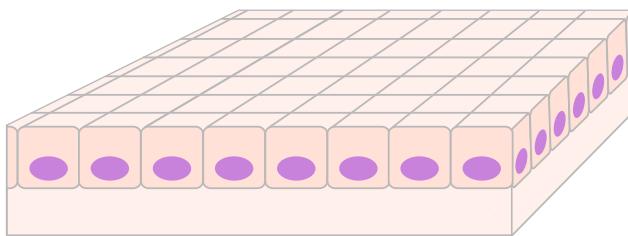
Transitional cells are cells that can stretch as an organ expands. They make up tissues called transitional epithelium. An example is the lining of the bladder. Cancers that start in these cells are called transitional cell carcinoma.



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Basal cell carcinoma

Basal cells line the deepest layer of skin cells. Cancers that start in these cells are called basal cell carcinomas.



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Sarcomas

Sarcomas start in connective tissues. These are the supporting tissues of the body. Connective tissues include the bones, cartilage, tendons and fibrous tissue that support organs.

Sarcomas are much less common than carcinomas. There are 2 main types:

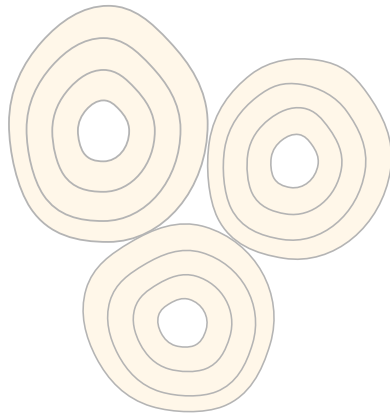
- bone sarcomas
- soft tissue sarcomas

These make up less than 1 in every 100 cancers (1%) diagnosed every year.

Bone sarcomas

Sarcomas of bone start from bone cells.

Bone cells called osteocytes



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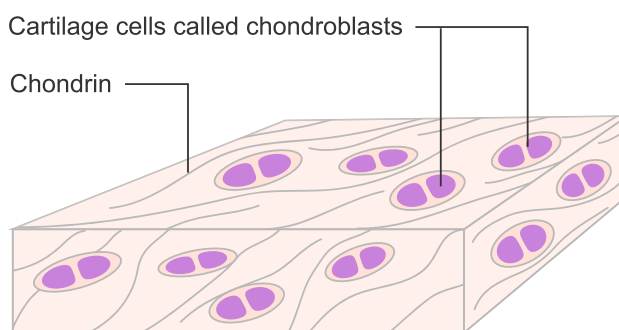
[Read about bone cancers](#)

Soft tissue sarcomas

Soft tissue sarcomas are rare but the most common types start in cartilage or muscle.

Cartilage

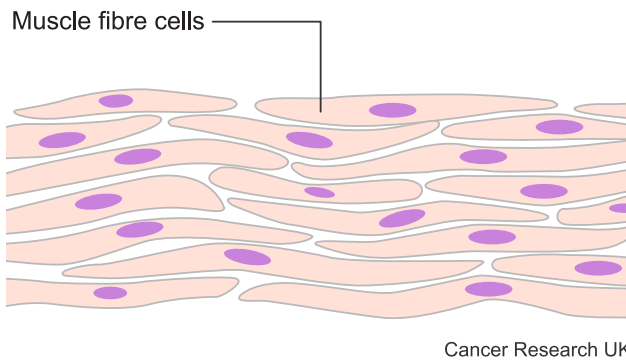
Cancer of the cartilage is called chondrosarcoma.



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Muscle

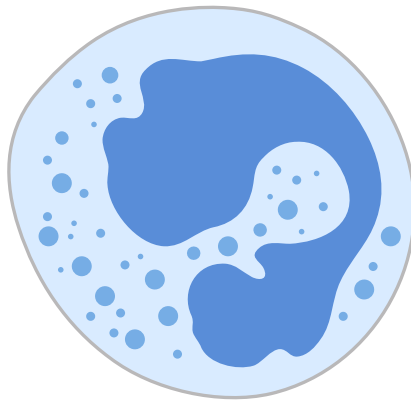
Cancer of muscle cells is called rhabdomyosarcoma or leiomyosarcoma.



[Find out more about soft tissue sarcomas](#)

Leukaemias – cancers of blood cells

Leukaemia is cancer of the white blood cells. The bone marrow makes too many white blood cells. The blood cells are not fully formed and so they don't work properly. The abnormal cells build up in the blood.



White blood cell
(leucocyte)

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Leukaemias are uncommon. They make up only 3 out of 100 of all cancer cases (3%). But they are the most common type of cancer in children.

[Find out more about the different types of leukaemia](#)

Lymphomas and myeloma

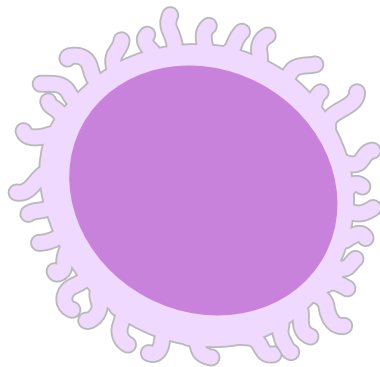
Other types of cancer are lymphomas and myeloma, They are cancers of the lymphatic system . The lymphatic system is a system of tubes and glands in the body that filters body fluid and fights infection.

[Read more about the lymphatic system and how cancer may affect it](#)

Lymphomas

Lymphoma is cancer that starts in the lymph glands or cells of the lymphatic system. The lymphatic system runs all through the body so lymphoma can start just about anywhere.

It happens because some of the lymphatic system white blood cells (lymphocytes) start to divide in an abnormal way. And don't die as they should. These cells start to divide before they become fully grown (mature) so they can't fight infection.



Lymphocyte

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The abnormal lymphocytes start to collect in the lymph nodes or other places such as the bone marrow or spleen. They can then grow into tumours.

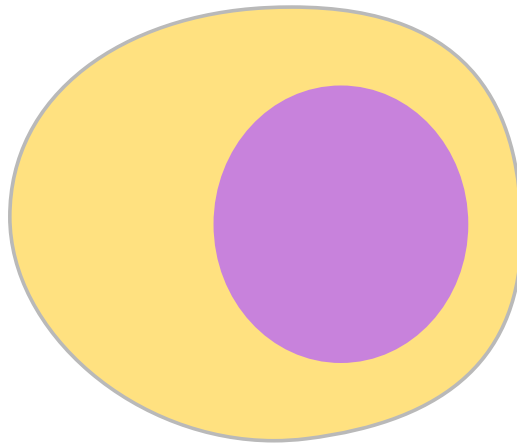
Lymphomas make up about 5 out of every 100 cancer cases (5%) in the UK.

[Find out about lymphomas](#)

Myeloma

Myeloma is a cancer that starts in plasma cells. Plasma cells are a type of white blood cell made in the bone marrow. They produce antibodies, also called immunoglobulins, to help fight

infection.



Plasma cell

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Plasma cells can become abnormal and multiply out of control. They make a type of antibody that doesn't work properly to fight infection.

Myeloma makes up about 2 out of every 100 cases of cancer (2%) in the UK.

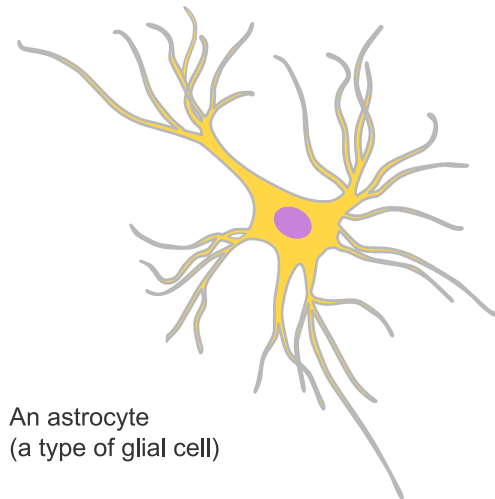
[Find out more about myeloma](#)

Brain and spinal cord cancers

Cancer can start in the cells of the brain or spinal cord. The brain controls the body by sending electrical messages along nerve fibres. The fibres run out of the brain and join together to make the spinal cord, which also takes messages from the body to the brain.

The brain and spinal cord form the central nervous system. The brain is made up of billions of nerve cells called neurones. It also contains special connective tissue cells called glial cells that support the nerve cells.

The most common type of brain tumour develops from glial cells. It is called glioma. Some tumours that start in the brain or spinal cord are non cancerous (benign) and grow very slowly. Others are cancerous and tend to grow and spread.



An astrocyte
(a type of glial cell)

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Brain and spinal cord tumours make up about 3 out of every 100 cases of cancer (3%) in the UK.

[Read more about brain tumours and spinal cord tumours](#)

References



- The Textbook of Uncommon Cancers (5th edition)
Raghavan and others
Wiley Blackwell, 2017
- Cancer: Principles and Practice of Oncology (12th edition)
VT DeVita, TS Lawrence, SA Rosenberg
Wolters Kluwer, 2023
- Cancer and its Management (7th edition)
J Tobias and D Hochhauser
Wiley-Blackwell, 2015
- AJCC Cancer Staging Manual (8th edition)
American Joint Committee on Cancer
Springer, 2017
- Ross and Wilson Anatomy and Physiology in Health and Illness (14th edition)
A Waugh and A Grant
Elsevier Ltd, 2023
- TNM Classification of Malignant Tumours (8th edition)
International Union Against Cancer
James D. Brierley (Editor), Mary K. Gospodarowicz (Editor), Christian Wittekind (Editor)
Wiley-Blackwell, 2016

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Related links

How cancers grow



To start with, cancer cells stay inside the body tissue from which they have developed. The cancer cells grow and divide to create more cells and will eventually form a tumour. Once a cancer can stimulate blood vessel growth, it can grow bigger.

Genes, DNA and cancer



DNA stands for deoxyribonucleic acid. It is like a code containing all the instructions that tell a cell what to do. It is made up of genes. Your genes carry all the information that makes you, you.

We know that it is common to struggle with your mental health when you have

How cells and tissues grow



Body tissues grow by increasing the number of cells. Cells in many tissues in the body die and are replaced by new cells. This happens all the time in the body of some adults.

We have information to help



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