Making sense of cancer

Millions of people are affected by cancer – but what is it and what are scientists doing to cure it?

Around one in two people will be diagnosed with cancer in their lifetime. Although more than half of those who get cancer are over the age of 65, children can get it, too. Every year around 4,000 children in the UK are diagnosed with cancer. However, about eight out of 10 of these young patients will be treated successfully. Cancer can be scary, but scientists are working on lots of different ways to help treat it.

September is childhood-cancer awareness month and charities all over the UK are getting together to talk about cancer and raise money to help cure it. The theme each year is "Go gold". Lots of people will wear gold ribbons to acknowledge the brave children who are coping with the illness.

Find out more at moment-um.org/gogold or cclg.org.uk/CCAM

DID YOU KNOW?
Cancer has been around for millions of years – it has even been found in dinosaur bones.

What can I do to help a person with cancer?

Play and laugh together

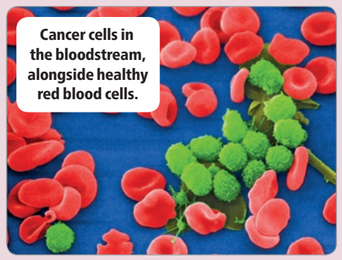
Talk to them about it openly

Give them lots of hugs

Ask if they need help tidying or cleaning

What is cancer?

Cancer is a broad term for a collection of diseases that are caused by abnormal cells in the body. Cells are very small units that make up all living things and there are many different types of cells in the body. Sometimes cells mutate (change their form or structure). When these abnormal cells multiply and grow out of control they start crowding out the healthy cells. This is cancer.



Cancer cells in the bloodstream, alongside healthy red blood cells.

There are more than 100 different types of cancer. The most common type of cancer in children is leukaemia. Childhood leukaemia is cancer of the blood, which can spread into bone marrow – the soft stuff in the middle of bones. Of the 4,000 or so children who are diagnosed with cancer every year, about 30% of these will have leukaemia. The types of cancer most common in adults are lung cancer, skin cancer and breast cancer.

Why do some people get cancer?

Scientists are unsure exactly why some people get cancer. Some types of the disease come from faulty genes. Genes are sections of DNA, a chemical that carries information about characteristics like eye and hair colour, which you inherit from your parents. Faulty genes contain a change that disrupts the genes' message. Other cancers can be caused by smoking, drinking too much alcohol or being overweight. However, often cancer just happens for no reason. Cancer can affect anyone, but it is more common in older people; it's very unusual in children. Cancer Research UK says that about one in 500 children in the UK will be diagnosed with some type of the disease. You can't catch cancer, so don't be afraid of people who have it.

Treating cancer

The most common treatments are chemotherapy and radiation therapy. Chemotherapy uses drugs to destroy cancer cells. The drugs can also affect how healthy cells work, which is why people who have chemotherapy can feel very unwell afterwards. After chemotherapy, healthy cells can usually repair themselves but cancer cells cannot.

Radiotherapy uses high-energy X-rays to destroy cancer cells. Radiotherapy can target a spot without affecting the rest of the body, but sometimes healthy parts get zapped, too. Again, the healthy cells can recover.

Getting better

After treatment, doctors will do more tests to see if the cancer has gone. If there is no sign of it, the patient is said to be in remission. Patients then need to have tests every year to check that the cancer doesn't come back. If there is no sign of the cancer after 10 years, doctors will usually say that the patient is cured.

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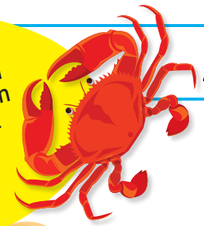
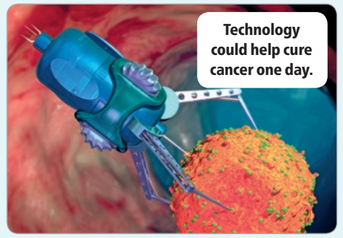
DID YOU KNOW?
The word cancer comes from the Greek word *karkinos*, which means crab. It's thought that it was named after the crab because cancer cells look a bit like a crab's legs.



What are scientists doing?



Technology could help cure cancer one day.

One treatment that scientists are working on is nanotechnology. Nanotechnology deals with extremely small things. Scientists have built microscopic boat-like structures filled with cancer-fighting drugs. These tiny structures are injected into a patient, where they search for cancer cells. Once they have found them, they sneak inside and release the cancer-fighting drugs, which kill the cells from the inside out.

First-hand account

Sam Sharland, now aged eight, was diagnosed with leukaemia just weeks before Christmas in 2013, when he was five years old. Since then, he and his family have been supported by Momentum Children's Charity, with trips and treats such as family tickets to see England play at Wembley, and a week's break at one of Momentum's New Forest holiday homes. Sam had his last course of chemotherapy in April this year and is doing very well.

FIND OUT MORE
Momentum Children's Charity supports about 150 families. For more information on how you can get involved, go to moment-um.org