

Guide to cancer



What is cancer?

Put simply, cancer is a disease of the cells in the body. Our bodies are made up of millions of tiny cells, most of which divide and multiply from time to time. These cells contain genes which control the multiplication and division of the cells. When an old cell is worn out or damaged a new cell is formed to replace it.

If the gene within the cell is damaged or altered the cell becomes abnormal. It is from this abnormal cell that each cancer is thought to start as the abnormal cell can divide and multiply out of control causing a tumour to form.

There are two broad categories of cancers. 'Carcinomas', the more common of the two, develop in the surface linings of organs. Cancers that appear in the cells of solid tissues, such as muscles, bones and blood vessels are called 'Sarcomas'.

Cancer is not just one condition. Some cancers are more serious than others, some are more easily treated and some have a better prognosis than others. In each case, it's important to know what type of cancer has developed, how large it is and whether it has spread. All of these factors will play a part in determining how well the cancer responds to treatment.

What are tumours?

A tumour is a 'lump' or 'growth' of tissue made up from abnormal cells. There are two types of tumour, benign and malignant.

Benign tumours

Benign tumours can form in various parts of the body. Unlike malignant tumours, benign tumours are not cancerous and do not tend to be life threatening. They grow slowly and won't invade or spread to other parts of the body, often causing no harm if left alone. In some instances benign tumours do cause problems and can have unwanted effects.

Malignant tumours

Malignant tumours are cancerous. They tend to grow quite quickly and invade nearby tissues and organs causing damage. The original site where a tumour first develops is called a primary tumour. Malignant tumours may also spread to other parts of the body to form 'secondary' tumours known as 'metastases'. This happens if some cells break off from the primary tumour and are carried in the bloodstream or lymph channels to other parts of the body. These secondary tumours may then grow, invade and damage nearby tissues, and spread again.

Not all cancers form solid tumours. Cancers of the blood, like leukaemia, develop from abnormal blood cells, which then attack other areas of the body by circulating in the bloodstream.

Why do cells become abnormal and who is at risk from cancer?

Whilst we are all at risk of developing cancer and many cancers seem to develop for no apparent reason, it is likely that most forms of cancer develop due to a combination of factors. In fact, there are certain riskfactors that are known to increase the chance that one or more of your cells will become abnormal. Some of these include:

- exposure to a carcinogen such as tobacco and UVA and UVB radiation
- age
- lifestyle factors
- infection
- your genetic make-up.

So, while cancer sometimes develops for no obvious reason and in some cases there is nothing much we can do to prevent it, for example where cancer is related to genetics, in other instances there are things that we can do to reduce the risk of cancer developing.

Stop smoking

It is estimated that smoking causes around a quarter of all cancers. Smoking is responsible for almost all lung cancers, and is a major risk factor for various other types of cancer including cancer of the mouth, throat, stomach, bladder and pancreas. Combine this with other smoking related illnesses such as heart disease and stroke and it's not surprising that giving up smoking is hailed as the best thing that you can do for your health.

The good news is it is never too late to stop smoking to greatly benefit your health. The heavier you smoke, the greater the risk. However if you quit, your risk goes down significantly as stopping smoking immediately reduces your risk of developing cancer and many other serious diseases. In fact, if you stop smoking in middle age before having cancer or some other serious disease you avoid most of the increased risk of death due to smoking.



Quick fact

One person dies from lung cancer every fifteen minutes in the UK, of which almost all cases are caused by smoking. ¹

Stay in shape

Being overweight or obese increases your risk of several cancers including cancer of the bowel, kidney, oesophagus and womb. It also increases the risk of breast cancer in women who have been through the menopause. As such you should try to maintain a healthy body weight, balancing the energy that you take in the form of food with the energy that you burn through physical activity.

Physical activity has been shown to reduce the risk of bowel cancer and may also reduce the risk of breast cancer. For an adult, 30 minutes of regular, moderateintensity physical activity per day is recommended. This equates to using up about an extra 200 calories. Moderateintensity physical activity should make your heart rate increase and should make you feel warm, slightly sweaty and slightly out of breath. Such activities may include jogging, swimming or taking a brisk walk.

However, don't worry if this seems a little daunting because the good news is that you don't have to complete the full 30 minutes all at once and the activity doesn't have to be strenuous. In fact it's possible to achieve your 30 minute a day target by making simple adjustments to your everyday life.

Quick fact

The majority of cancer cases (around 65%) occur in people aged over 65.¹ Examples of everyday activities that can contribute towards your daily exercise routine include:

- walking or cycling to and from work, or part of the way
- using the stairs instead of lifts
- walking short distances instead of taking the car, i.e. to the shops or to a friend's house
- doing heavy housework or doing it at a faster pace than normal
- DIY, such as painting or laying floors
- gardening.

Go for cancer screening

Cancer screening helps detect unusual changes in the body at an early stage. This makes treatment more effective. Screening saves lives and it is very important that you attend cancer screens where appropriate:

- Breast screening (mammography) is available to all women over the age of fifty years old. Mammography can detect very small breast cancers which can be treated very effectively. You should attend a screen every three years until you are seventy.
- Cervical screening, known as the smear test, can pick up abnormal cervical changes before cancer develops. In general, women are invited for a smear test every three to five years between the ages of twenty and sixty.



Be safe in the sun

Radiation is a carcinogen and too much exposure to the sun and sunburn increases the risk of developing skin cancer. People with fair skin, lots of moles or a family history of skin cancer are at extra risk. Children are also at greater risk as their skin is more sensitive and more easily damaged.

Most skin cancer cases could be prevented by being smart in the sun and taking care not to get burned. Here are some measures that you should take to help you be safe in the sun:

- avoid the sun between the hours of 11am and 3pm
- apply sun cream with a sun protection factor (SPF) of at least 15
- try to avoid strenuous outdoor activity such as sports or gardening when the sun is at its strongest
- cover up wear a wide brimmed hat and loose fitting clothes
- check your skin become familiar with existing growths and note any changes or new growths.

Eat & drink healthily

What we eat and drink also affects our risk of cancer. The following recommendations for a balanced diet will not only help you to minimise this risk, but will also help protect against other conditions such as heart disease and diabetes:

- eat at least five different portions of fruit and vegetables per day
- eat plenty of starchy foods such as bread, cereals, rice, pasta and potatoes – choose wholegrain versions of these foods for maximum effect
- limit your consumption of red and processed meat and try to eat more fish instead
- limit consumption of foods containing fat and sugar.

In terms of health, sensible drinking is very important. Whilst small amounts of alcohol may provide some protection against heart disease, drinking large amounts of alcohol can increase the risk of cancers of the mouth, voice box, oesophagus, liver and breast.

If you do drink, do not binge drink. Instead spread your drinking over the week. This means a maximum of 3-4 units per day for men and 2-3 units per day for women. Men should drink no more than 21 units per week and no more than 4 units in any one day. Women should drink no more than 14 units per week and no more than 3 units in any one day. Drinking more than recommended can have adverse effects on your health.



Quick fact

Cancer is one of the biggest killers in the UK, accounting for a quarter of all deaths. ¹

Practice safe sex

Some sexually transmitted infections can lead to cancer. Hepatitis B, a virus that can be spread through unprotected sex, is a common cause of cancer that starts in the liver. Also, almost all cases of cervical cancer are caused by Human Papilloma Virus (HPV). Whilst HPV infection is very common, thankfully most women who have had it will not develop cervical cancer.

You may not know if you or somebody else has an infection so it is always best to use a condom.

What treatment is available for cancer?

As previously mentioned, sometimes cancer occurs for no obvious reason and even after taking all of these precautions it is still possible for cancer to develop. While there is no cure for cancer, there are various treatment options.

Treatment options for cancer vary depending on the type of cancer and how far it has grown or spread. The three most common treatments are:

- Surgery: It may be possible to cut out a malignant tumour.
- **Chemotherapy**: This is a treatment that uses anti-cancer drugs to kill cancer cells, or to stop them from multiplying. There are various different types of drugs used for chemotherapy. The drug or combination of drugs selected depends on the type of cancer being treated.
- **Radiotherapy**: This is a treatment that uses high energy beams of radiation which are focussed on cancerous tissue. This kills cancer cells, or stops cancer cells from multiplying.

More recently other treatments have been introduced which include:

- bone marrow transplant
- hormone therapy
- immunotherapy
- gene therapy

For some cancers, a combination of two or more treatments may be used. A range of other treatments may also be used to ease cancer related symptoms.

If you have any concerns please do not hesitate in contacting your GP. There are also various other sources that you can refer to or contact for further help and information. Links to some of these can be found overleaf.

Quick fact

More than one in three people in the UK will develop cancer during their lifetime and approximately one in four of these will die as a result.¹

Useful Links

www.cancerresearchuk.org

www.cancerhelp.org.uk

www.cancerbackup.org.uk

www.cancerindex.org

References

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http://info.cancerresearchuk.org

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