



# GUIDE TO CANCER

Looking after your well-being

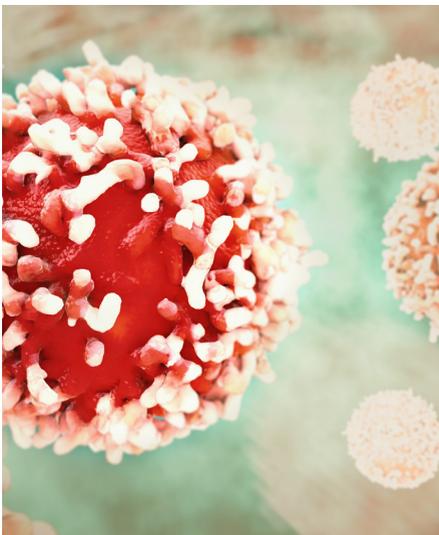
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## WHAT IS CANCER?

Our bodies are made up of millions of tiny cells, different cells have different functions to perform. Our cells continually divide to make more cells for growth and repair in your body. 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 or cells that each cancer is thought to start as the abnormal cell can divide and multiply out of control causing a tumour to form. Most cancers start due to gene changes that happen over a person's lifetime. More rarely cancers start due to inherited faulty genes passed down in families.



There are five main cancer groups.

- › **Carcinomas** - cancer that begins in the skin or in tissues that line or cover internal organs.
- › **Lymphomas** - cancers that begin in the cells of the immune system which normally fights infections and diseases.
- › **Leukaemia** - cancer that starts in blood forming tissue such as the bone marrow and causes large numbers of abnormal blood cells to be produced and go into the blood.
- › **Brain tumours** - these are known as central nervous system cancers.
- › **Sarcomas** - cancer that begins in the connective or supportive tissues such as bone, cartilage, fat, muscle, or blood vessels.

Because cancers can be so different, some cancers are more serious than others, some are more easily treated and some have a better prognosis and outcome 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 any 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. They usually have a covering of cells. In some instances benign tumours can cause problems depending on where they are growing and may 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 'metastasis'. 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 risk-factors 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. 4 in 10 cases of UK cancer can be prevented by lifestyle changes.

## STOP SMOKING

Smoking is the most important preventable cause of cancer in the world. 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 risks of death due to smoking.



## STAY IN SHAPE

Being overweight or obese increases your risk of several cancers including cancer of the bowel, kidney, oesophagus and womb. 1 in 20 cases of cancer in the UK are linked to weight. 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, moderate-intensity physical activity per day is recommended. This equates to using up about an extra 200 calories. Moderate-intensity 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.

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.



### QUICK FACT

You need to be registered with a GP to get your screening invitations.

## 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. In England, the screening programme is currently extending the age range to include women from 47 to 73 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 England, Northern Ireland and Wales, the NHS cervical screening programme invites women from ages 25 to 64 for cervical screening. Women aged 25 to 49 are invited every 3 years. After that, women are invited every 5 years until the age of 64. In Scotland, women aged 20 to 60 are invited for screening every 3 years. But in 2016, this will change to follow the same screening schedule as England, Northern Ireland and Wales.

## 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, red or fair hair, 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 t-shirt, hat and sunglasses.
- › check your skin – become familiar with existing growths and note any changes or new growths.

### QUICK FACT

Half the people in the UK will develop cancer during their lifetime Cancer Research UK according to This is using a new method of calculation. Longer life expectancies meant more people would be affected.



## 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
- › limit consumption of foods containing fat and sugar.

Some foods, such as red and processed meats and salt, increase the risk of developing cancer. While others, such as fruits, vegetables and high fibre foods, can help prevent the disease.

In terms of health, sensible drinking is very important. Whilst small amounts of alcohol may provide some protection against heart disease, drinking large amounts can increase the risk of some cancers. If you do drink, do not binge drink. Instead spread your drinking over the week. Try and have days of abstinence.

In the UK the government guidelines are given in units of alcohol. 1 unit of alcohol is the equivalent of 8g or 10ml of pure alcohol content. People are advised not to regularly drink more than:

- › 2 - 3 units a day for women
- › 3 - 4 units a day for men

That roughly works out as a limit of 1 drink a day for women, or 2 drinks a day for men.

Drinking more than recommended can have adverse effects on your health.



## 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.

### QUICK FACT

Alcohol causes 7 types of cancer, including breast, mouth and bowel cancers.

In the UK, girls aged between 11 and 14 are now offered the Gardasil HPV vaccine. This vaccine protects against genital warts as well as cervical cancer. Girls have 2 injections of the vaccine. The second injection is usually a year after the first but it can be any time between 6 to 24 months later. If girls take up the vaccination at school, the programme will ultimately prevent at least 7 out of 10 cancers of the cervix (70%) and possibly even more in the future.

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



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 and stem cell transplant
- › hormone therapy
- › gene therapy
- › biological therapies such as immunotherapy
- › bisphosphonates

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

Healthier diets could help prevent 1 in 10 cancers.



## USEFUL LINKS

You can also obtain more information from the following websites:

[www.cancerresearchuk.org](http://www.cancerresearchuk.org)

[www.cancerhelp.org.uk](http://www.cancerhelp.org.uk)

[www.cancerbackup.org.uk](http://www.cancerbackup.org.uk)

[www.cancerindex.org](http://www.cancerindex.org)

## REFERENCES

1. <http://info.cancerresearchuk.org>
2. [www.macmillan.org.uk/Aboutus/WhatWeDo/Ourresearchandevaluation/Researchandevaluation/Keystatistics.aspx](http://www.macmillan.org.uk/Aboutus/WhatWeDo/Ourresearchandevaluation/Researchandevaluation/Keystatistics.aspx)
3. [www.bbc.co.uk/news/health-31096218](http://www.bbc.co.uk/news/health-31096218)



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