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CANCER SUPPORT

A practical guide to living with and after cancer

DIABETES AND CANCER TREATMENT



Together with Macmillan

DiABETES UK
KNOW DIABETES. FIGHT DIABETES.



'I was diagnosed with type 2 diabetes just before the cancer. I focused on treating the cancer first, but it became more complicated when I needed surgery.'

Clare, living with cancer and diabetes

About this booklet

This booklet is about diabetes and cancer treatment. It is for anyone who has been diagnosed with cancer and also has diabetes. You may also want to read it if you have been told you have an increased risk of developing diabetes because of your cancer treatment.

The booklet explains how some cancer treatments can affect your diabetes and make it difficult to control your blood sugar. It also has some tips to help you cope with side effects of cancer treatment if you have diabetes.

We hope it helps you deal with some of the questions or feelings you may have. We cannot give advice about the best treatment for you. You should talk to your doctor, who knows your medical history.

For more information

We have produced this booklet in partnership with Diabetes UK. It does not explain diabetes in detail. For more information about diabetes, contact Diabetes UK. You can call their helpline on **0345 123 2399 (0141 212 8710** in Scotland), Monday to Friday, 9am to 6pm, or visit **diabetes.org.uk**

If you have more questions about cancer, call the Macmillan Support Line free on **0808 808 00 00**, Monday to Friday, 9am to 8pm, or visit **macmillan.org.uk**

If you would prefer to speak to us in another language, interpreters are available. If you are deaf or hard of hearing, use textphone **0808 808 0121** or Text Relay.

We have some information in different languages and formats, including audio, eBooks, easy read, Braille, large print and translations. To order these visit **[macmillan.org.uk/otherformats](https://www.macmillan.org.uk/otherformats)** or call **0808 808 00 00**.

How to use this booklet

The booklet is split into sections to help you find what you need. You don't have to read it from start to finish. You can use the contents list on page 3 to help you. It is fine to skip parts of the booklet.

We have included quotes from people who have cancer and diabetes. Some are from Clare, who is on the cover of this booklet. Others are from our Online Community. Clare and others have chosen to share their experiences with us. To share your story, visit **[macmillan.org.uk/shareyourstory](https://www.macmillan.org.uk/shareyourstory)**

If you find this booklet helpful, you could pass it on to your family and friends. They may also want information to help them support you.

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ABOUT DIABETES AND CANCER

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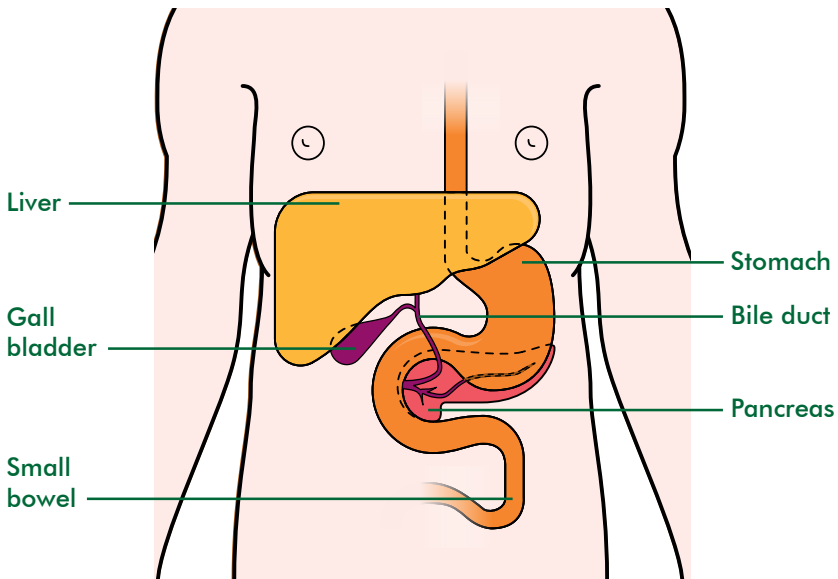
What is diabetes?

Diabetes is a condition where the amount of glucose in the blood is too high. Glucose is a type of sugar. Our bodies use sugar for energy.

When we eat, food is broken down in the stomach and the small bowel. This is so the different nutrients, including sugar, can pass into the blood. Normally, the hormone **insulin** controls the amount of sugar in the blood. It helps move sugar into the body's cells, where it is converted into energy. Insulin is produced in a gland called the pancreas.

If the pancreas stops making insulin, or doesn't make enough, too much sugar stays in the blood. This is called **hyperglycaemia**. Sometimes insulin is produced but it doesn't work properly. This is called **insulin resistance**.

The pancreas



There are two main types of diabetes:

- **type 1 diabetes**, where the pancreas doesn't make any insulin
- **type 2 diabetes**, where the pancreas doesn't make enough insulin or the insulin doesn't work properly.

Type 2 diabetes is a lot more common than type 1. About 9 in 10 people with diabetes (90%) have type 2.

Causes and risk factors of diabetes

Type 1 diabetes is an autoimmune condition. This is when the body's immune system attacks healthy parts of the body by mistake. In type 1 diabetes, part of the pancreas is attacked and destroyed. The pancreas is then unable to make insulin. We don't know why the immune system does this.

Type 1 diabetes can happen at any age, but it is more common in children and young adults. It can sometimes run in families.

People can develop type 2 diabetes because of certain risk factors:

- **age** – the risk of developing type 2 diabetes increases with age
- **genetics** – your risk increases if you have a close family member (parent, brother or sister) with type 2 diabetes
- **weight** – being overweight will increase your risk, especially if you have fat around your waist
- **ethnicity** – people of South Asian, Chinese, African-Caribbean and black African origin are more likely to develop type 2 diabetes.

Some medicines used to treat other conditions can increase the risk of developing diabetes. This is called **drug-induced diabetes**. These medicines include steroids that are commonly used to treat cancer (see pages 30 to 34).

Signs and symptoms of diabetes

When too much sugar stays in the blood, our bodies cannot use it for energy. We try to find energy from other sources, such as fat stored in the body. Our bodies get rid of the extra sugar by passing it out in the urine. This can cause the following symptoms:

- passing a lot of urine, especially at night
- being really thirsty
- feeling very tired
- losing weight for no obvious reason
- itching in the genital area or getting thrush a lot
- cuts and wounds that take a long time to heal
- blurred vision.

The symptoms of type 1 diabetes usually develop quickly. With type 2, the symptoms are usually less obvious and develop slowly over a number of months or years. This means that someone may not realise they have developed type 2 diabetes. Drug-induced diabetes can sometimes develop quickly.

Talk to your GP if you think you have symptoms of diabetes. But remember, these symptoms can be caused by many other conditions.

Treating diabetes

The aim of treatment is to keep the amount of sugar in your blood as normal as possible. This helps to manage symptoms and prevent complications developing later in life. Type 1 and type 2 diabetes are treated in different ways.

Type 1 diabetes

Type 1 diabetes is treated with insulin. Insulin is given by injections or with a pump. Keeping to a healthy weight, eating a balanced diet and being more physically active are also important.

Type 2 diabetes

Type 2 diabetes can be managed by:

- making lifestyle changes, such as keeping to a healthy weight, eating a balanced diet and being more physically active
- taking tablets and medicines that help to reduce the amount of sugar in the blood
- taking insulin, but this is less common.

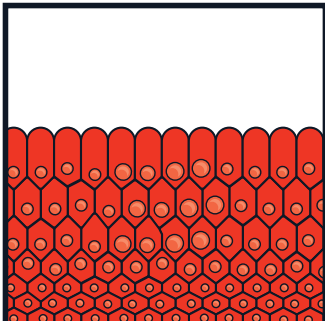
Many people with type 2 diabetes have a combination of treatments.

What is cancer?

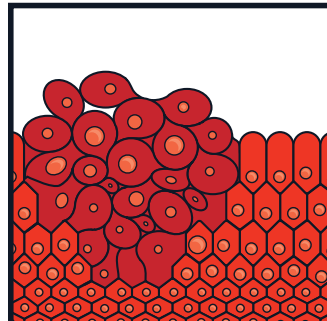
Cancer starts in cells in our body. Cells are tiny building blocks that make up the organs and tissues of our bodies. They divide to make new cells in a controlled way. This is how our bodies grow, heal and repair. Cells receive signals from the body telling them when to divide and grow and when to stop growing. When a cell is no longer needed or can't be repaired, it gets a signal to stop working and die.

Cancer develops when the normal workings of a cell go wrong and the cells become abnormal. The abnormal cell keeps dividing making more and more abnormal cells. These eventually form a lump (**tumour**). Not all lumps are cancerous. Doctors can tell if a lump is cancerous by removing a small sample of tissue or cells from it. This is called a **biopsy**. The doctors examine the sample under a microscope to look for cancer cells.

Normal cells



Cells forming a tumour



A lump that is not cancerous (**benign**) may grow but cannot spread to anywhere else in the body. It usually only causes problems if it puts pressure on nearby organs.

A lump that is cancer (**malignant**) can grow into nearby tissue. Sometimes, cancer cells spread from where the cancer first started (the **primary** site) to other parts of the body. They can travel through the blood or lymphatic system. When the cells reach another part of the body, they may begin to grow and form another tumour. This is called a **secondary cancer** or a **metastasis**.

Diabetes and cancer risk

It's estimated that about 1 in 5 people with cancer (20%) also have diabetes.

People with diabetes are more at risk of developing certain types of cancer. We don't know exactly why this is.

Type 2 diabetes and some types of cancer have some similar risk factors. For example, being overweight increases the risk of developing diabetes and cancers of the gullet (oesophagus), bowel, breast, womb and kidney. Both diabetes and cancer are also more common in people as they get older.

People with type 1 diabetes have an increased risk of developing cancer of the:

- cervix
- stomach.

People with type 2 diabetes have an increased risk of developing cancer of the:

- pancreas
- liver (primary liver cancer)
- womb (endometrium)
- bowel (colon and rectum)
- bladder
- breast.

People with type 2 diabetes have a lower risk of developing prostate cancer. It is not clear why this is.

Cancer and risk of diabetes

Some types of cancer can increase your risk of developing diabetes. You are at a greater risk of developing type 1 and type 2 diabetes if you have:

- cancer of the pancreas
- primary liver cancer
- bowel cancer.

Reducing your risk of cancer if you have diabetes

If you have diabetes, you can help to reduce your risk of developing cancer by:

- keeping to a healthy weight for your height
- eating a healthy diet
- keeping active
- not smoking.

We have more information to help you with these lifestyle choices. Visit [macmillan.org.uk/healthylifestyle](https://www.macmillan.org.uk/healthylifestyle)

Diabetes UK also have some useful information to help you lead a healthy lifestyle. Visit [diabetes.org.uk/guide-to-diabetes/managing-your-diabetes/healthy-eating](https://www.diabetes.org.uk/guide-to-diabetes/managing-your-diabetes/healthy-eating)



PLANNING YOUR CANCER TREATMENT

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How treatment is planned

Your cancer treatment will be planned by a team of health professionals. This team is called a multi-disciplinary team (MDT). Depending on what type of cancer you have, this may include a:

- surgeon
- medical oncologist – a doctor who specialises in treating cancer with chemotherapy and targeted therapy
- clinical oncologist – a doctor who specialises in treating cancer with radiotherapy, chemotherapy and targeted therapy
- radiologist – a doctor who specialises in reading scans and x-rays
- pathologist – a doctor who specialises in looking at cells under a microscope and diagnosing the cell type
- nurse specialist – a nurse who gives you information and support during treatment.

Your MDT will often include a pharmacist. They can give you information and advice about your medicines.

Your MDT will not usually include a diabetes specialist doctor or nurse. But some larger cancer centres may have one working as part of the team. If you have been diagnosed with diabetes, your diabetes team will often be asked for advice. When you meet your cancer doctor and specialist nurse you can ask if they have discussed your treatment with your diabetes team.

Managing two conditions

Having diabetes can sometimes complicate cancer treatment. Some cancer treatments can affect the amount of sugar in your blood. This means you and your cancer specialist may need to plan treatment more carefully. You may understand your diabetes and know the best way to manage it better than the team treating your cancer. It is important that your needs are considered and you're involved in planning your treatment.

If necessary, your diabetes treatment can be changed to fit around your cancer treatment. During treatment, you may need to change your diabetes medicine to keep a safe amount of sugar in your blood.

Some cancer treatments, such as chemotherapy (see pages 36 to 38), are given in cycles. This means you will have days when you have treatment, followed by days when you have no treatment (rest days). The level of sugar in your blood may go up and down at different times during each cycle of treatment, making it more difficult to manage. Your cancer doctor or specialist nurse will talk to you about your treatment plan.

Short-term increases in blood sugar are unlikely to have a long-term effect on your diabetes. But you may wish to talk to your diabetes team about possible ways to correct the higher blood sugars. Before your treatment starts, it's a good idea to contact your diabetes team. This is so they are aware you may need some extra support during your cancer treatment.

If you have lost a lot of weight before starting cancer treatment, the medicines you take to lower your blood sugar may need to be changed. Your diabetes team can give you advice about this.

Long-term health problems

Diabetes can cause long-term health problems for some people, such as:

- damage to the heart and blood vessels (cardiovascular disease)
- nerve damage (neuropathy)
- kidney damage (nephropathy)
- damage to the blood vessels in the eye (retinopathy).

Some cancer treatments can also cause these problems, or make them worse in people who already have them. If you have diabetes, you will often need extra tests and investigations to check your health and make sure you are fit enough to have cancer treatment.

During treatment, you may need to be monitored more closely than people who don't have diabetes. If treatment side effects become very severe, your cancer treatment may need to be adjusted. Your cancer doctors will sometimes suggest a different type of cancer treatment.

Adjusting or changing your cancer treatment may affect how well it works. But not changing it may cause serious long-term health problems. Your cancer doctor will talk to you about the benefits and risks of your treatment. You will be involved in any decisions to change your treatment.

Diabetes UK have more information on the other health problems caused by diabetes. Visit [diabetes.org.uk/guide-to-diabetes/complications](https://www.diabetes.org.uk/guide-to-diabetes/complications)

Controlling your blood sugar

When you are ill or stressed, the level of sugar in your blood increases. This helps your body fight the illness or deal with the stress. People who don't have diabetes produce more insulin to stop the sugar level getting too high. But if you have diabetes, your blood sugar level can keep increasing.

While you are having cancer treatment, it is important to try to keep your blood sugar within a safe range. This won't always be possible, and a slightly high blood sugar isn't a big problem if it is only for short periods of time. But very high blood sugars should be avoided. They can cause symptoms such as being more thirsty and passing a lot of urine, leading to dehydration. This may increase the risk of developing other problems while you are having cancer treatment, such as infection and poor wound healing (see pages 68 to 73).

High blood sugar levels may also weaken the immune system. This needs to be strong to fight the cancer.

Some people with diabetes are very used to managing their food and medicines. They may not find it difficult to keep their blood sugar levels normal during treatment. But if you have only recently been diagnosed with diabetes, or often have problems controlling your sugar levels, you may need more help. Talk to your diabetes specialist nurse before you start your cancer treatment. They can give you more advice.

Some people with diabetes, especially those with type 2, may not monitor their blood sugar. But everyone with diabetes who is planning cancer treatment should regularly monitor their blood sugar. If you don't already have monitoring equipment, ask your diabetes team to get you some. They can tell you how to test your blood sugar, how many times to test a day and the sugar level you should be aiming for. You should be given the contact number of a diabetes specialist. You can call them to discuss anything worrying you about your diabetes.

We explain how different cancer treatments might affect your diabetes on pages 29 to 53. We also have information to help you manage your blood sugar if you're coping with any side effects of treatment (see pages 55 to 73).



Someone using a blood-testing kit

Going into hospital

You may need to spend some time in hospital during your cancer treatment. This will depend on the type of cancer you have and the treatment that is planned. You may have to stay in hospital for only a few hours. But you may have to stay overnight, for a few days or sometimes longer.

You will usually know when you are going into hospital. This means you can plan ahead to make sure that you have everything you need to manage your diabetes.

Your blood sugar levels may be higher or lower than usual while you are in hospital. This can happen because you are being less active and eating different food. It can also be caused by the stress of being in hospital (see page 19). Your blood sugar will be checked regularly and your doctors may need to adjust your diabetes treatment. They will discuss this with you first.

All the ward staff should know that you have diabetes, but it is a good idea to remind them when you first meet. They should also be up-to-date with your diabetes care. If you are not able to give them this information, they can contact your local diabetes team. You may also find it helpful to discuss your care with the hospital's diabetes team.

Being in hospital and having cancer treatment can make it more difficult to concentrate on your diabetes. It is important to ask the team looking after you for help if you are struggling to control your blood sugar.

Diabetes equipment

When you go into hospital, it is a good idea to take your own diabetes equipment. For example, you might want to take your blood-testing kit, insulin pen, or insulin pump if you use one. The hospital may not use the equipment you are used to. And they may not have all the equipment you need.

The nurses will check your blood sugar using the hospital equipment. You can use your own blood-testing kit too, if you prefer.

Diabetes medicines

If you are admitted to hospital overnight or longer, take your insulin or tablets with you. The hospital pharmacy should be able to give you the medicines you normally use, or a similar alternative. But not every ward or unit will have all the different drugs used to treat diabetes, so there can sometimes be a delay getting them.

You may only spend a few hours in hospital at a time, for example if you are having chemotherapy in a day unit. It's a good idea to take a packed lunch and your medicines with you. Try to stick to your normal routine as much as possible.

Tests and scans

Lots of different tests and scans are used to help diagnose cancer. Some of these tests are also used during treatment and as part of your follow-up care. Many of them will not affect your diabetes, but it is a good idea to contact the hospital before the test and tell them that you have diabetes. They can give you advice.

Some tests take a few hours. When you contact the hospital, ask how long you will need to be there. You can then plan ahead so that you have everything you need with you, such as your equipment and some food.

Some tests need a bit more planning. For example, you may need to stop eating for a few hours before some tests. And you may need to have an empty bowel.

The hospital staff will let you know how to prepare for the tests. You may need to go into hospital the day before. You can ask your diabetes team for more advice too.

If your blood sugar level goes too low (below 4 mmol/l) at any time before the tests, you should eat or drink a fast-acting carbohydrate, such as glucose tablets or Lucozade®. It's a good idea to take some glucose tablets with you when you go to the hospital.

Not eating before a test

You may be asked not to eat for a few hours before some tests, for example before an MRI (magnetic resonance imaging) scan or a CT (computerised tomography) scan. These scans are used to build up a detailed picture of the inside of the body.

Not eating can be a problem for people with diabetes. Because of this, you may be told you cannot eat for a shorter amount of time than people who don't have diabetes.

The hospital staff will give you information about when you can eat and when to take your diabetes medicines. It is important to follow this advice carefully. They should also give you an early morning appointment, to reduce the amount of time you cannot eat.

Having a colonoscopy or barium x-ray

These tests look at the lining of the bowel from the inside. The bowel needs to be completely empty, so you will need to follow a careful diet before the test and won't be able to eat for a few hours. You will also need to take a laxative.

You will be given information to help you control your blood sugars before, during and after the test. It is important to follow this advice. Contact your diabetes team if you are unsure about the best way to manage your blood sugars.

You should also be given a morning appointment for these tests. This helps to reduce the amount of time you cannot eat and drink. Contact the hospital if you have been given an afternoon appointment, as it may be possible to change the time.

Having a PET scan

A PET scan (positron emission tomography scan) uses low-dose radioactive sugar to measure the activity of cells in different parts of the body. It can be used to find out if a tumour is cancerous or non-cancerous, if it is growing and if it has spread to other parts of the body. A PET scan is often combined with a CT scan.

About two hours before the scan, you will have an injection of a sugary fluid with a small amount of radioactivity in it. The injection is given into a vein, usually in your arm. Cancer cells are usually more active than normal cells, so they take up more of the radioactive sugar. The sugar helps the cancer cells show up on the scan.

How well the PET scan will work depends on how well your diabetes is controlled:

- If your blood sugar level is high, the cancer cells may not take up much of the radioactive sugar. This is because they already have enough sugar from your blood. If the cancer cells don't take up the radioactive sugar, they won't be seen on the scan.
- If the amount of insulin in your blood is high, your normal cells are encouraged to take up more of the radioactive sugar. This means the cancer cells take up less sugar and don't show up on the scan as clearly.

Before a PET scan, everyone will have their blood sugar level checked. If the sugar level is too high, the scan may have to be postponed to another day.

Before the day of your PET scan, you should tell the scanning department that you have diabetes. They will be give you information about what and when to eat, and which diabetes medicines to take in the days before the scan. The information will also tell you what food and diabetes medicines you should take with you to the hospital. It is important that you follow this advice carefully.

The amount of radioactive sugar you are given is small and it should not affect your diabetes.

Scans using a dye (contrast medium)

Some types of scan involve having an injection of a dye that makes certain areas of the body show up more clearly. The dye is known as a contrast medium. It is used in many different types of scan, including:

- a CT scan (see page 25)
- an MRI scan (see page 25)
- an IVU (intravenous urogram) – a test to look at the urinary system
- a venogram or an angiogram – tests to look at the blood vessels.

A contrast medium can temporarily affect how your kidneys work. This can be a problem if you take the diabetes medicine metformin. If you take metformin, you will be asked not to take it on the day of your appointment and for about two days afterwards. You will be given information about when you should take it and how to manage your blood sugar during this time.



HOW CANCER TREATMENTS CAN AFFECT YOUR DIABETES

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Steroids

Steroids (sometimes called corticosteroids) are substances that are naturally produced in the body. They are made by the adrenal glands. There are two adrenal glands – one sits on top of each kidney.

Steroids help control many different functions in our bodies, such as the way the body uses food. They regulate our immune system and the balance of salt and water in our bodies. They also help to reduce inflammation.

Steroids can be manufactured into drugs and used for cancer treatment. They can be given as tablets or injections. There are different types of steroids and they all have different effects on the body. Common types of steroids used in cancer treatment are hydrocortisone, dexamethasone, methylprednisolone and prednisolone.

Steroids can be used:

- as part of your treatment to help destroy cancer cells and make chemotherapy more effective (see pages 36 to 38)
- to help reduce an allergic reaction to certain chemotherapy drugs
- in low doses as anti-sickness drugs
- to improve your appetite.

We have more information about steroids on our website at [macmillan.org.uk/steroids](https://www.macmillan.org.uk/steroids)

How steroids can affect your diabetes

Steroids can increase blood sugar levels in people who have diabetes and also in people who don't have diabetes. This can happen because:

- the liver produces more sugar during steroid treatment
- steroids make sugar less able to move out of the blood
- your body may become resistant to insulin while you are taking steroids.

If you are taking steroids, you may find it more difficult to control your blood sugar level. How your blood sugar is affected will depend on:

- the type of diabetes you have
- how you normally manage your diabetes
- which steroids you are taking
- how you are taking the steroids – your blood sugar may start to increase a day or two after taking steroid tablets, but could increase within a few hours of having a steroid injection
- the dose of steroids – the higher the dose, the more likely your blood sugar will increase
- the time of day you take the steroids
- how long you are taking the steroids for.

If you don't have diabetes but are at risk of developing it, you will be asked to monitor your blood sugar levels while you are taking steroids. Some people may need to start treatment to help control their blood sugar. Your doctor or nurse will talk to you about this.

Controlling your blood sugar when taking steroids

If you have diabetes, it is very important that your blood sugar levels are tested during steroid treatment.

Before you start taking any steroids, talk to your doctors about the best way to keep your blood sugar within your target range. If you don't already check your blood sugar, you will need to start checking it. If you do, you will need to check it more often.

Your doctor may also suggest you check your urine for **ketones**, especially if you have type 1 diabetes. Ketones are chemicals that can sometimes build up in the body when there is a severe lack of insulin. Ketones are toxic to the body and large amounts can be very serious. A high level of ketones in the body is called diabetic ketoacidosis (DKA). It mainly affects people with type 1 diabetes, but can affect anyone with diabetes who uses insulin. It can also affect people who control their diabetes with tablets and their diet, but this is rare.

Keep a record of your blood sugar levels and when you take the steroids. This is so you can see if there is a pattern. You can share the record with your doctors and nurses.

When you first take the steroids, it is a good idea to make sure you have enough blood-testing equipment with you at home (see page 23).

You should talk to your diabetes team or your GP as soon as possible if:

- your blood sugar levels are high (more than 15 mmol/l) on more than two or three occasions
- you feel generally unwell or develop any of the symptoms of diabetes, such as being really thirsty, having blurred vision, passing a lot of urine or feeling very tired.

If your blood sugar level continues to be high while you are taking steroids, your doctor or specialist nurse may change the dose of steroids. They may also change the time you take the steroids or suggest spreading the dose out during the day.

Your diabetes doctor may also change the way you control your diabetes:

- If you use your diet to control your diabetes, you may need to start taking tablets to control your blood sugar.
- If you already take tablets, you may need to increase the dose or start using insulin for a short time.
- If you already use insulin, you may need to increase the dose or use a different type of insulin.

Correction doses of insulin can be used to reduce very high blood sugars. These may not work as well when you are taking steroids. Your diabetes team can give you advice and may suggest you take more insulin.

You should never stop taking your steroids without talking to your cancer doctor first.

The amount of steroids you take as part of your cancer treatment will eventually be reduced and stopped. Ask your cancer doctor or nurse about this, so you can change your diabetes treatment.

Long-term risks of steroids

Sometimes steroids used to treat cancer can lead to permanent diabetes in people who were at risk of developing diabetes (see pages 7 to 8). This means that although the blood sugars may reduce once you stop taking the steroids, the diabetes may continue to need treatment. This is called steroid-induced diabetes and is like type 2 diabetes.



Chemotherapy

Chemotherapy uses anti-cancer (cytotoxic) drugs to destroy cancer cells. Cytotoxic means toxic to cells.

Cytotoxic chemotherapy drugs disrupt the way cancer cells grow and divide, but they also affect normal cells. These healthy cells can usually repair damage caused by chemotherapy but cancer cells can't and eventually die.

Chemotherapy is often used to treat cancer. It is sometimes used on its own, but is commonly used in combination with other cancer treatments.

How chemotherapy can affect your diabetes

When you have chemotherapy treatment, there is a risk that your blood sugar level may go too high or drop too low. This is because of the side effects of chemotherapy, such as sickness, diarrhoea and loss of appetite. We have more information about these side effects on pages 55 to 73.

Some chemotherapy drugs, such as asparaginase and busulfan, can cause your blood sugar level to rise. Your cancer doctor or chemotherapy nurse can tell you if the drugs you are having are likely to affect you.

Some chemotherapy drugs can damage the nerves in your body. This can lead to pain and a change in sensation called peripheral neuropathy. The pain can sometimes be worse if the nerves are already damaged by diabetes (see page 18). Peripheral neuropathy caused by chemotherapy is usually temporary.

The chemotherapy drugs most likely to cause peripheral neuropathy are the:

- platinum based drugs – cisplatin, carboplatin and oxaliplatin
- taxanes – docetaxel (Taxotere) and paclitaxel (Taxol)
- vinca alkaloids – vinblastine, vincristine and vinorelbine.

Talk to your cancer doctor if you are worried about peripheral neuropathy. They can give you more information about your treatment and give you advice on the best way to manage any pain.

Controlling your blood sugar when having chemotherapy

Before you start chemotherapy, talk to your doctors and nurses about any side effects you might get and the best way to manage your diabetes during treatment.

If you control your diabetes with your diet, you may find that your blood sugar levels still increase. So you may need to check your blood sugar more often than usual.

If you control your diabetes with tablets, your specialist may suggest you change the dose or ask you not to take them on the day of your treatment. You will need to check your blood sugar more often than usual.

If you use insulin to control your diabetes, you may need to change the type of insulin you use, increase the dose or reduce the dose. Your doctor may want you to stay in hospital when you have your first session of chemotherapy. This is so the nurses can closely monitor your blood sugar level and treat you if it gets too high or too low.

It is important to let your doctors know how well you are managing to control your blood sugar level during your chemotherapy. If you find it difficult to control the level, your cancer doctor may change the dose of the chemotherapy drug or change it for another drug that has fewer side effects. Your doctors will talk to you about this before making any changes.

It is usually possible to manage your blood sugar without making these changes.

If you feel unwell during your chemotherapy treatment, it can sometimes be difficult to know if it is a side effect of the chemotherapy or because your blood sugar is too high or too low. You should always check your blood sugar if you feel unwell.

You should talk to your doctor if your blood sugar levels are:

- always 10 mmol/l or higher and you feel unwell
- less than 4 mmol/l on more than two occasions.

We have more information about chemotherapy in our booklet **Understanding chemotherapy**. See page 92 for ways to order this.

Radiotherapy

Radiotherapy uses high-energy rays, usually x-rays and similar rays (such as electrons), to treat disease. It destroys cancer cells in the area that is treated. Normal cells can also be damaged by radiotherapy. They can usually repair themselves, but cancer cells can't.

Radiotherapy is carefully planned so that it avoids as much healthy tissue as possible. However, there will always be some healthy tissue that is affected by the treatment and this will cause side effects (see pages 55 to 73).

Radiotherapy is used to treat many different types of cancer.

How radiotherapy can affect your diabetes


During and immediately after radiotherapy, your blood sugar level may rise. This happens because the body releases extra sugar to help you cope with the treatment.

Depending on your diabetes treatment, your blood sugar may sometimes drop after the radiotherapy.

During your course of radiotherapy treatment, it is important to test your blood sugar more often than usual. Your diabetes team will be able to give you advice on how to manage your blood sugars. You may need to change your medicines or insulin.

If you inject insulin, avoid giving your injections in the area of your skin where you are having radiotherapy.

Our booklet **Understanding radiotherapy** has more information which you may find helpful (see page 92).



'I am not on insulin but take tablets. The only time it became a problem was when I needed surgery for a hysterectomy, so I was put on a drip.'

Clare

Surgery

Surgery means treating illness by cutting away body tissue. It's one of the main treatments for many cancers. The type of surgery you have and how it may affect you will vary depending on the type of cancer you have.

How surgery can affect your diabetes

Having diabetes may increase your risk of problems during and after surgery. For example, you may heal slower than someone who does not have diabetes (see pages 72 to 73). You are also more likely to get a wound infection if your blood sugar levels are not well-controlled (see pages 68 to 71).

If you have an operation to remove the pancreas, you will no longer be able to produce insulin to control your blood sugar (see page 6). After surgery, you will need to start injections of insulin and regularly test your blood sugar levels. A diabetes specialist team will support you with this.

If you have had part of the pancreas removed, the remaining pancreas may not be able to make enough insulin straight away. This means your blood sugar levels won't be controlled. You may need to have an insulin drip into a vein, called an infusion. You will usually only have this until the remaining pancreas recovers and starts to make insulin again. The ward staff will closely monitor your blood sugar during this time. If you don't already have diabetes, there is an increased risk of developing it in the future after this operation.

Planning your operation

To help prevent problems, your operation should be carefully planned and you will be closely monitored. Most operations for cancer are planned in advance, so you will have time to prepare.

You can help reduce the risk of any problems by keeping your diabetes as well-controlled as possible in the weeks before your operation. Your diabetes team can help you with this.

Before your operation, you should have an appointment at a pre-surgery assessment clinic. This is to discuss the plan for your care. Tell the doctors that you have diabetes and about any problems you have. Having surgery can be more risky if you have problems because of diabetes, such as problems with your heart, eyes or kidneys, or if you have lost any feeling in your feet. Your doctor may arrange for you to have tests to check your health before your operation.

Talk to your diabetes team about your operation. They can talk to your surgeon and make sure you get the best advice to help you prepare for surgery. This advice will depend on how you manage your diabetes:

- If you take tablets, you may be asked to stop them for a short time before and after the operation.
- If you use insulin, you may need to change the dose. You should not stop taking insulin.

Ask for some written information so you know exactly what you need to do and when.

You will also usually meet the doctor who puts you to sleep and makes sure you are safe during the operation (the anaesthetist). They will tell you how they will care for you and control your blood sugar during surgery.

The day of your operation

You will normally be admitted to hospital on the morning of your operation. Sometimes you may be asked to come in the day before the operation, so that the nurses can monitor your blood sugar levels. You may have a drip (infusion) of sugar and insulin to help keep your blood sugar levels well-controlled.

Your doctor will ask you not to eat or drink anything for a few hours before the operation. This is to help reduce the risk of you being sick.

Where possible, you should be the first person on the operating list for that morning or afternoon. This will help reduce the amount of time you cannot eat. The nursing and medical staff will plan the best way to manage your diabetes when you are not eating. This will depend on how long you cannot eat:

- If you miss one meal, you should be able to control your diabetes by adjusting your normal routine.
- If you miss two or more meals, you may need a drip of sugar and insulin for a short time. The amount of insulin you have will vary depending on your blood sugar level. Your nurses will regularly check this.

Having an operation can put you at risk of developing a blood clot in the leg. Compression stockings (also known as anti-embolic stockings) help to reduce this risk. You might be asked to wear a pair of compression stockings during your operation and for some time afterwards. But you should not wear them if you have any problems with feeling or circulation in your feet.

After your operation

You will be encouraged to look after your diabetes again as soon as possible after your operation. The nursing staff will help you do this. You may have trouble controlling your blood sugar at first. This may be because you are:

- not allowed to eat normally
- being sick
- in pain
- less active than normal
- stressed.

The nurses on the ward will check your blood sugar levels regularly. You will not be expected to manage your diabetes yourself until you are fit enough.

You will keep having the drip of sugar and insulin until you can start eating and drinking again. Some people will be able to eat very soon after their operation. For others, it may take longer. This will depend on the type of operation you have had. Your doctors will try to get you eating your normal diet as soon as possible. They will tell you how soon you can start eating and drinking again, and when you should start taking your usual diabetes medicines.

If you are in bed for a long time, you are at risk of developing bedsores (pressure sores). It is important that you move around the bed and change your position regularly. This is especially important if you have less feeling in your hands and feet, as you may not feel if you are developing a sore. You will be encouraged to get up fairly soon after your operation. The ward staff will help you with this if needed. Moving around will also help your blood sugar levels to return to normal.

Your nurse or doctor will tell you when you can go home. You may have to stay in hospital slightly longer than someone who doesn't have diabetes.

Any stitches, clips or staples in your wound are usually taken out 7 to 10 days after the operation. The wound may take longer to heal if your blood sugar levels are not well-controlled. Your practice nurse can remove any stitches. If you can't leave home, a district nurse can visit you.

If your diabetes is not well-controlled, you are more at risk of developing an infection (see pages 68 to 71). It's important to let your nurse or doctor know straight away if your wound becomes hot, painful or begins to bleed or leak any fluids, even after you go home.

Hormonal therapy

Hormones are substances produced naturally in the body. They act as chemical messengers and influence the growth and activity of cells. Hormones are produced by a number of different organs and glands, which together are known as the endocrine system.

Hormonal therapies work by changing the production or activity of particular hormones in the body. They are most commonly used to treat breast cancer and prostate cancer. There are several different types of hormonal therapy. They are usually given as tablets or injections. Treatment is often given for a number of years.

How hormonal therapy can affect your diabetes

Some hormonal therapy drugs can increase your blood sugar level. This means you will need to check your blood sugar levels more often. Sometimes, you may need to change your insulin or tablet dose. Your diabetes team will monitor you during treatment and can discuss this with you.

The following hormonal therapy drugs can affect your blood sugar:

- cyproterone acetate (Cyprostat[®])
- degarelix (Firmagon[®])
- diethylstilboestrol (Stilboestrol[®])
- goserelin (Zoladex[®]) – when given to men
- leuprorelin acetate (Prostap[®])
- medroxyprogesterone acetate (Provera[®])
- megestrol acetate (Megace[®])
- triptorelin (Decapeptyl[®], Gonapeptyl Depot[®]).

If you don't already have diabetes, there is a small risk of developing it when taking some hormonal therapy drugs. Usually the benefits of the hormonal therapy outweigh the risk of diabetes. Your doctor or specialist nurse can talk to you about this.

If you don't have diabetes but develop any of its symptoms (see page 8) while having hormonal therapy, talk to your doctor.

You can find out more about hormonal therapies on our website at [macmillan.org.uk/hormonaltherapy](https://www.macmillan.org.uk/hormonaltherapy)

Targeted therapy

Targeted therapies (sometimes called biological therapies) can be used to stimulate the immune system, control the growth of cancer cells or overcome side effects of treatment. They are used to treat many different types of cancer.

There are several types of targeted therapy drugs. They can be given by tablet, injection or drip (infusion).

How targeted therapy can affect your diabetes

Some targeted therapy drugs may temporarily affect your blood sugar level. Depending on which drug you are taking, your blood sugar level may increase or decrease. While you are having the treatment, you may need to check your blood sugar levels more often. Sometimes, you may need to change your insulin or tablet dose. Your doctor or specialist nurse will help you with this.

Your blood sugar levels should return to normal once you stop having targeted therapy treatment.

The targeted therapy drug sunitinib (Sutent®) can lower your blood sugar.

The following targeted therapy drugs can increase your blood sugar:

- bortezomib (Velcade®)
- dabrafenib (Tafinlar®)
- everolimus (Afinitor®)
- interferon (IntronA®, Rogeron-A®)
- nilotinib (Tasigna®)
- nivolumab (OPDIVO®)
- panitumumab (Vectibix®)
- rituximab (Mabthera®)
- temsirolimus (Torisel®).

If you don't have diabetes, but develop any of its symptoms (see page 8) while having targeted therapy, talk to your doctor.

There is more information about targeted therapies on our website at [macmillan.org.uk/targetedtherapy](https://www.macmillan.org.uk/targetedtherapy)

High-dose treatment and transplants

Some types of cancer are treated using a transplant of stem cells. Stem cells are blood cells at the earliest stage of development.

Treatment involves having high doses of chemotherapy and sometimes radiotherapy. It will often include treatment with steroids. High-dose treatment is used to destroy any remaining cancer cells and increase the chances of curing the cancer. After the treatment, you will have your own stem cells or stem cells from someone else (a donor) given back through a drip. These stem cells then grow and develop in the bone marrow to produce normal blood cells.

You will usually go into hospital for a few weeks while you recover from the high-dose treatment.

How high-dose treatment can affect your diabetes

High-dose treatment can cause severe side effects. These will vary depending on the type of treatment you have. You can read more about coping with different side effects on pages 55 to 73.

Your blood sugar level may go up or down because of the side effects of chemotherapy (see pages 36 to 38). And it may rise because of steroids you are taking (see pages 30 to 34).

You may need help managing your diabetes while you are recovering from high-dose treatment. You will need to check your blood sugar more often. And you will probably need to start taking medicines or change the medicines you take. Your doctor or nurse will give you more information.

We have more booklets about stem cell transplants with high-dose treatment. See page 92 for ways to order these.



Research trials

Cancer research trials are done to try to find new and better treatments for cancer. Trials carried out on patients are called clinical trials. There are benefits and risks to taking part in a clinical trial. The trials are made to be as low-risk as possible while making the benefits as great as possible for anyone who takes part.

All clinical trials have strict guidelines about who can take part. These are known as entry criteria or eligibility criteria. Anyone who wants to take part in a clinical trial must meet these criteria. All trials also have exclusion criteria. These explain who cannot take part. Exclusion criteria help to ensure the safety of people taking part and make sure the results are as accurate as possible.

Having diabetes may mean you cannot take part in some cancer research trials. Your cancer specialist can tell you whether you are suitable for a specific trial.

Our booklet **Understanding cancer research trials (clinical trials)** describes clinical trials in more detail. See page 92 for information on how to order this.



COPING WITH SIDE EFFECTS WHEN YOU HAVE DIABETES

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Feeling sick and being sick

Cancer or its treatments can sometimes make you feel sick or be sick. Chemotherapy, radiotherapy, hormonal therapy and targeted therapy can all cause sickness. Physical changes can cause these side effects too. For example, this might be because of damage to the liver or pressure on the brain. If you're feeling anxious about cancer and your treatment, this can also make you feel or be sick.

There are many different types of drugs that help treat sickness. These are called anti-emetics. They can be given as a tablet, an injection, a suppository or a skin patch. If you're having a cancer treatment which is known to cause sickness, you should start taking anti-emetics before your treatment starts.

Being sick can be a problem when you have diabetes. Because you may not be able to eat or drink, you could become dehydrated. This can be more serious for people with diabetes.

You will need to check your blood sugar more often, possibly every two to four hours. You may need to check for ketones (see page 32) if your blood sugar is very high and you use insulin to control your diabetes. If you have ketones, you should contact your diabetes team for advice straight away.

If you use insulin, you will usually have this before eating. But if you are sick, you may not absorb enough food and your blood sugar may drop too low. If you are sick after eating, check your blood sugar and try to eat something to stop the blood sugar getting too low. It is a good idea to have a fast-acting carbohydrate to hand, such as glucose tablets, sweets or fruit juice.

If you are being sick, you may need to change the dose of your insulin or change the type of insulin you use. You should not stop taking it.

If you use tablets to manage your diabetes, you may need to stop taking them while you are being sick. Your diabetes team can give you more advice.

Tips to help you cope with sickness

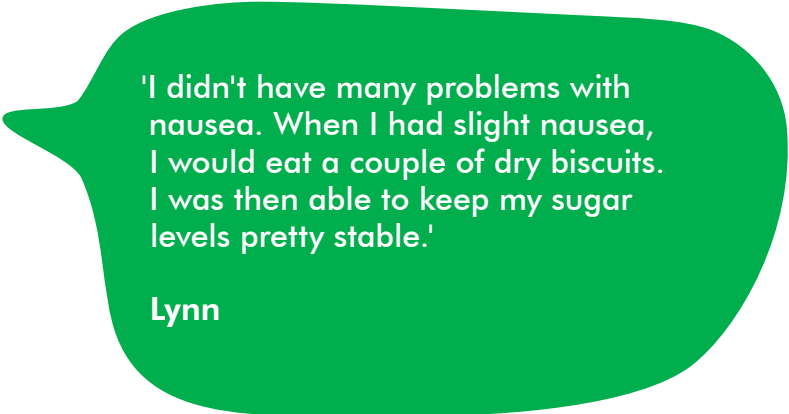
- It is important to plan ahead. Before you start any cancer treatment, talk to your cancer doctor or specialist nurse. Explain that you have diabetes and that you need to prevent sickness as much as possible.
- Ask your diabetes team for advice about managing sickness before it happens. They can tell you how to manage your diabetes when you are ill, known as the 'sick-day rules'. It is helpful for family or friends to know how to manage things too.
- Take your anti-sickness medicines as they are prescribed, even if you are not feeling sick. It is easier to prevent sickness before it starts than control it.
- Tell the doctor if the anti-sickness medicines are not working. They can give you different medicines that may work better.
- Try to stick to your normal diet and eat the same amount of carbohydrates that you normally do. But if you are struggling to do this, it is okay to eat foods you wouldn't normally eat.
- Try eating dry foods and avoid greasy, fatty or fried foods.
- Ginger can help reduce sickness. Try drinking ginger tea or eating ginger biscuits.
- Eat cold foods, such as yogurt and ice cream, or foods at room temperature, such as tinned fruit, dry toast and plain biscuits.
- If the smell of cooking makes you feel sick, eat cold meals or food from the freezer that only needs heating up.

- If feeling sick is putting you off food or you can't keep food down, replace meals with snacks or drinks that contain carbohydrates, such as glucose tablets, fruit juice or non-diet fizzy drinks.
- Try to keep drinking even if you can't manage to eat. Aim to drink a cup of fluid every hour.

If you can't keep any fluids down, contact the hospital as soon as possible. It is important to prevent dehydration.

You should talk to your diabetes team if you are worried about coping with sickness. They will be able to give you more advice.

We have more information about managing sickness and coping with eating problems – visit [macmillan.org.uk/sideeffects](https://www.macmillan.org.uk/sideeffects)



'I didn't have many problems with nausea. When I had slight nausea, I would eat a couple of dry biscuits. I was then able to keep my sugar levels pretty stable.'

Lynn

Diarrhoea

Diarrhoea means that you need to pass more bowel motions a day than is normal for you, and the stools (poo) you pass are looser than normal. It can be caused by chemotherapy, radiotherapy, targeted therapies and surgery. Sometimes other medicines, such as antibiotics, or an infection can also cause diarrhoea.

Some people with diabetes may already have diarrhoea. It can happen because the nerves that control bowel movements are damaged by high blood sugar levels (gastroparesis), but this is rare. If you already have diarrhoea, your symptoms could get worse during cancer treatment.

Your doctor or specialist nurse can tell you if you are likely to get diarrhoea because of your cancer treatment. They will tell you what you need to do if this happens.

Most diarrhoea caused by treatment is mild. But for some people, it can be severe and may lead to dehydration. It is important to avoid dehydration. Tell your doctor if you have diarrhoea or if it is getting worse. They can find out what might be causing it and give you anti-diarrhoea medicines.

If you have diarrhoea more than 4 to 6 times a day, contact the hospital on the numbers you have been given and speak to a doctor or nurse. Check it is safe to keep taking the medicines you have been prescribed, as some may need to be temporarily stopped if you are very dehydrated.

Tips to help you cope with diarrhoea

- Drink plenty of liquid (up to two litres a day).
- Avoid alcohol and coffee.
- Eat small, frequent meals of light foods, such as white fish, chicken, well-cooked eggs, white bread, pasta and rice.
- Cut down on high-fibre foods, such as cereals, raw fruit and vegetables.
- Eat your meals slowly.

If your diarrhoea is caused by radiotherapy or chemotherapy, changing your diet may not help. A dietitian can give you more advice about this. It's important to take the anti-diarrhoea medicines your doctor gives you.

If you have diarrhoea after surgery for bowel cancer, talk to your doctor, specialist nurse or a dietitian about what may help.

Eating problems

Loss of appetite

During cancer treatment, you may lose your appetite because you feel sick, you are too tired to eat, or foods taste different. This is usually a temporary side effect.

If you have diabetes and are unable to eat enough, your blood sugar may drop too low. This can lead to hypoglycaemia, known as a hypo. It's important to be aware of the early signs of a hypo, so you can treat it quickly. Make sure your family and friends are also aware of the symptoms, so they can help you.

Symptoms of a hypo include:

- sweating
- feeling dizzy
- fatigue (extreme tiredness)
- feeling weak
- looking pale
- confusion
- a faster heart rate than normal.

A good way to avoid a hypo is to eat regularly. If you can't eat solid food, you could sip sugary drinks.

While you are not eating your normal diet, you will need to check your blood sugar more regularly than normal. If your blood sugar level starts to decrease or you develop symptoms of a hypo, try eating or drinking a fast-acting carbohydrate, such as glucose tablets, sweets or fruit juice.

While you have a poor appetite, you may need to change your dose of insulin or tablets to help prevent hypos.

Your diabetes team can give you advice about avoiding hypos and how to manage them if they happen.

Tips to help improve your appetite

- Eat small amounts as often as possible. If you find your appetite is better at certain times of the day, make the most of this. You may need to change your diabetes medicines.
- Keep snacks handy. Bags of nuts, crisps or dried fruit, or a bowl of grated cheese, are light and tasty. If these are hard to swallow, try yoghurt or fromage frais. If you've recently had surgery or radiotherapy for bowel cancer, you may need advice about the best foods for you. Talk about this with your specialist nurse or doctor, or a dietitian.
- Try sweet or savoury nourishing drinks. These can replace small meals and can be sipped slowly through the day.
- Eat your meals slowly. Chew the food well and relax for a bit after each meal.

We have more information to help you improve your appetite in our booklet **Eating problems and cancer** – see page 92 for information on how to order this.

Bigger appetite than normal

Some medicines, such as steroids, may make you want to eat much more than usual. It's important to try to eat healthy foods as much as possible. Try to avoid foods that are high in carbohydrates and sugar, such as biscuits and sweets.

A balanced, healthy diet will help you avoid putting on too much weight. Having a healthy weight is important for managing your blood sugar levels.

We have more information in our booklet **Healthy eating and cancer** (see page 92).

Diabetes UK have more information and recipes to help you try to maintain a healthy weight. Visit diabetes.org.uk/enjoyfood

'I live on my own and sometimes don't have the energy to cook. I can't have ready-made stuff because it has a lot of sugar in it. A veggie stir-fry is good to try because it's healthy, cheap and quite easy.'

Clare



Lack of activity

Being active is an important part of a healthy lifestyle. It can help to:

- reduce tiredness and some side effects of cancer treatment
- reduce anxiety and depression
- improve your mood and quality of life
- strengthen your muscles, joints and bones
- look after your heart and reduce the risk of other health problems.

Being active can also help with your diabetes by:

- helping the body use insulin more effectively
- increasing the amount of sugar used by the body
- improving how you manage your diabetes
- helping you manage your weight.

During cancer treatment, there may be times when you don't feel like being active – and that is okay. You may feel very tired (fatigued) or not have much energy. You may also have side effects, such as sickness or pain, that stop you being active.

If you have diabetes, not being active can change your blood sugar level. This will depend on your situation, but you may need to test your blood sugar more often.

Your diabetes team can give you advice about managing your blood sugar while you are less active.

Ways you can be active

Choose activities you enjoy and try to do a mix of activities. You could try:

- Aerobic exercises, such as walking, dancing, running, cycling or swimming. These are good for your heart.
- Resistance exercises, such as lifting small weights or 'sit to stand' exercises that you can do at home. These help to strengthen muscles.
- Flexibility exercises, such as stretches, yoga, Tai Chi and Qigong. These can improve suppleness.
- Balance exercises, such as yoga, Tai Chi, Pilates and Qigong. These can help with balance and strength.

Tips to help you get more active

- Join an activity group or association.
- Walk or cycle to the shops.
- Keep a record of how active you've been.
- Set goals you can achieve.
- Take up activities you enjoy.
- Tell your friends about it. They may want to join you.

We have more information and a range of tools on our website to help you get more active – visit [macmillan.org.uk/beactive](https://www.macmillan.org.uk/beactive)

Risk of infection

The immune system protects the body from harmful bacteria and other organisms. Some types of cancer and its treatment can weaken your immune system, which can increase your risk of developing an infection:

- Chemotherapy, radiotherapy, targeted therapy and some types of cancer can reduce the number of white blood cells your body produces. White blood cells fight infection.
- Surgery makes a break in the skin. Our skin helps protect us from infection.

People with diabetes may be more at risk of developing an infection or a weaker immune system, especially if their blood sugar level is often too high. Your diabetes team can give you advice if you have problems keeping your blood sugar level under control.

During an infection, the body tries to fight it by releasing extra sugar into the blood. If you don't have diabetes, the pancreas (see page 6) will make more insulin to cope with the extra sugar. But if you have diabetes, the extra sugar will cause high blood sugar levels. This can make you feel more thirsty and pass more urine, which can lead to dehydration.

Symptoms of an infection include:

- a high temperature
- suddenly feeling unwell, even with a normal temperature
- a painful, swollen or hot wound
- feeling shaky or shivering
- a sore throat
- a cough
- diarrhoea
- needing to pass urine a lot.

If you develop any of these symptoms, it is important to talk to your doctors as soon as possible. They can give you antibiotics to fight the infection and help control your blood sugar level.

If you have an infection, you will need to check your blood sugar level more often. If you usually control your diabetes with diet, you may need to start taking medicines. If you already take medicines, you may need to change the dose. Talk to your diabetes team if you have an infection and your blood sugar level is high.



Tips to help you avoid infection

- Have good personal hygiene. Wash your hands regularly with soap and hot water, especially after going to the toilet or before preparing a meal.
- Have a shower or bath every day, and don't share towels.
- Avoid people with sore throats, colds, flu, diarrhoea or vomiting, or infections such as chickenpox. If you have contact with someone who has an obvious infection, ask your cancer doctor or nurse for advice.
- Stay away from crowded places as much as possible.
- Avoid using public swimming pools, jacuzzis or changing rooms. If you are doing sports or social activities, try to go at quieter times.
- Be careful if you have pets or work with animals. If you can, avoid handling any animal waste, such as litter trays or manure.

We have more information about avoiding infection on our website at [macmillan.org.uk/avoidinginfection](https://www.macmillan.org.uk/avoidinginfection)

Slow wound healing

After an operation, your wound will be closed using stitches or clips. These are usually removed after about 7 to 10 days. Some stitches are designed to slowly dissolve as the wound heals.

How long the wound takes to heal depends on the operation you have had. If you only had a small area of tissue removed, your wound will usually heal quickly. If you have had a bigger operation, it may take a few weeks to heal properly.

Wound healing can be slower if you:

- are older
- have an unhealthy diet
- smoke or use nicotine replacement
- are having cancer treatment, such as chemotherapy.

If you have diabetes and your blood sugar level is high, your wound can take longer to heal. Wound healing may also be slower in people who have had diabetes for many years. Over time, high levels of blood sugar can affect the nerves and lead to poor blood circulation and nerve damage. Wounds need a good blood supply to heal.

The longer a wound takes to heal, the more risk there is that it will become infected (see pages 68 to 71).

It is important to keep the wound clean and dry, to help it heal and prevent infection. After an operation, the wound will be covered with a dressing for a day or two. The ward nurses will change the dressing before you go home and tell you how to look after the wound when you are at home. If needed, the ward nurses will make you an appointment with your practice nurse, or arrange for a district nurse to visit you at home.

Contact the hospital doctor if you develop any symptoms of a wound infection.

Tips to help with wound healing

- Keep your blood sugar levels under control – ask your diabetes team for help if you are having problems.
- Get plenty of rest and sleep.
- Don't smoke.
- Eat a well-balanced diet, especially food that contains lots of:
 - protein – meats, beans, eggs and dairy products
 - vitamin A – dark green, leafy vegetables, orange and yellow vegetables, liver and cereals
 - vitamin C – citrus fruits, broccoli, spinach, tomatoes and baked potatoes
 - zinc – seafood, red meats and fortified cereals.

You can find more information about eating a healthy diet and giving up smoking on our website at [macmillan.org.uk/healthylifestyle](https://www.macmillan.org.uk/healthylifestyle)



ADVANCED CANCER AND DIABETES

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Controlling the symptoms of cancer

Some people may have advanced cancer when they are first diagnosed. For others, the cancer may have spread or come back after treatment.

Although it is rare for advanced cancer to be cured, people may live with it for a long time – sometimes for years. This may mean having different treatments when they are needed, or sometimes having ongoing treatment to control the cancer. During this time, many people carry on with their day-to-day lives and keep doing things that are important to them. Sometimes it may not be possible to control the cancer any longer, or a person may not be well enough to have treatment. In this case, doctors use treatment to control the symptoms of cancer.

Trying to manage diabetes effectively can be complicated if you have advanced cancer. This is because you may have a range of different symptoms that can make it difficult to control blood sugar levels. This includes symptoms such as loss of appetite, feeling sick, extreme tiredness (fatigue), and constipation or diarrhoea.

Some medicines used to help control symptoms, such as steroids and some painkillers, can affect blood sugar levels or the way that food is absorbed in the body. People with advanced cancer are often less active than normal, so their bodies use up less sugar. Advanced cancer can also change the way the body uses food, which can affect your blood sugar level.



Controlling your blood sugar

When you are first diagnosed with advanced cancer, you may still be quite well. You may be active and have a good appetite. At this time, your diabetes can be controlled normally. The treatments you may have to help control advanced cancer may have fewer side effects than treatments given to cure cancer, but they may still affect your diabetes.

One of the main aims of successfully controlling diabetes is to prevent long-term complications. As you become more unwell, this aim becomes less important. You don't have to be quite as strict with controlling your blood sugar level. But having very low or very high blood sugar levels can cause unpleasant symptoms, so keeping your blood sugar within a good range is still recommended.

As much as possible, you should always be involved with any decisions about how your diabetes is managed. Over time, your healthcare team can make changes to the doses of your diabetes medicines. These can be changed as your health changes. Your diabetes and cancer teams can offer your advice and arrange more help if needed.

If you use insulin to control your diabetes, you can keep monitoring your blood sugar and change your insulin dose if you need to. If you control your diabetes with tablets, the type of tablet may be changed or your doctor may suggest you start using insulin.

Towards the end of your life, it's normal to gradually lose energy. You may need to rest a lot during the day and may sleep most of the time. You may be only taking sips of fluid and not eating very much. At this time, there should be no restriction on what you eat. You also won't need to monitor your blood sugar level as often. If you are using insulin, the dose can be gradually reduced. If you have been taking diabetes tablets, they may be stopped. Your diabetes team will be able to help you with this.

If you need more support or information about coping with advanced cancer, you can call our cancer support specialists for free on **0808 808 00 00**.

'The support group has been a bit of lifesaver for me. It's good to talk things through with them.'

Clare



COPING WITH YOUR EMOTIONS

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Your feelings

When you are told you have cancer, it is common to feel overwhelmed by different feelings. It can be especially difficult if you are already coping with another condition, such as diabetes. There may be times when you struggle to manage your diabetes, particularly if you are feeling ill because of the cancer treatment.

Being diagnosed with cancer is a life-changing experience for most people. It can have a huge effect on your emotions, as well as on the practical parts of your life. You may be frightened, or feel angry, sad or depressed. You may have these feelings when you are diagnosed, during treatment, or when you're recovering and adjusting to life after treatment.

These feelings can be very difficult to cope with and sometimes people need more help. This happens to lots of people and doesn't mean you are not coping.

If you feel anxious, panicky or sad a lot of the time, or think you may be depressed, talk to your doctor or nurse. They can refer you to a doctor or counsellor who can help. They may also prescribe medicine to help with anxiety or an anti-depressant drug.

Our booklet **How are you feeling? The emotional effects of cancer** discusses the feelings you may have in more detail, and has suggestions for coping with them. See page 92 for information on how to order this.

Feeling alone

Some people feel alone because they don't have enough support. Family and friends may live far away, have other commitments or feel uncomfortable because of their own fears about cancer. Try to let your family and friends know how you feel and how they could support you more.

If you need more support, you can call the Macmillan Support Line for free on **0808 808 00 00** and talk to one of our cancer support specialists. You can also join a local support group, or chat to people on our Online Community and share experiences. See pages 88 to 89 for more information.

You can also call the Diabetes UK Helpline and talk to trained counsellors. Or you can join a Diabetes UK local group. See pages 86 to 87 for more information.

It's normal to have times when you want to be left alone to sort out your feelings. But if you find you are avoiding people a lot of the time, try to talk to your doctor or nurse.

YOUR EMOTIONS

We're here to help with the emotional and practical issues you and your loved ones might face following a cancer diagnosis.

Dealing with your emotions >

There are lots of emotions to deal with when you have cancer. We can help you work through them.

Who can help >

A lot of people can help to support you. We'll show you and guide you through treatment.

Managing day-to-day life >

Cancer can affect everything from work to exercise. We can help with the practical issues you might face.

When someone close to you has cancer >

It can be difficult for you and your loved ones to cope if you or a loved one has cancer. We have advice to help you cope.

Need to talk?
Call us free*
0800 808 00 00
Mon-Fri 9am-5pm, Sat 10am-4pm

Choose a cancer type
to get more specific
information

Choose a cancer type

FURTHER INFORMATION

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How Diabetes UK can help you

We are the UK's leading diabetes charity. Our vision is of a world where diabetes can do no harm. We provide information, advice and peer support, so people with diabetes can manage their condition effectively.

Diabetes UK Helpline

The Diabetes UK Helpline is a dedicated helpline for anyone with diabetes, and their family and friends. The confidential helpline is staffed by trained counsellors who can help you with any questions you have about your diabetes.

They can give you information about the condition, take time to talk things through, and help you with any emotional, social, psychological or practical worries you may have.

If you live in England, Wales or Northern Ireland, you can call **0345 123 2399**, Monday to Friday, 9am to 6pm.

If you live in Scotland, you can call **0141 212 8710**, Monday to Friday, 9am to 6pm.

Alternatively, you can email **helpline@diabetes.org.uk**

Information and support

We have lots of free information booklets and leaflets to help you manage your diabetes. You can order these from **shop.diabetes.org.uk** or by calling **0800 585 088**.

We also have an advocacy service that gives people with diabetes information to help them understand their legal rights and entitlements.

Support groups

A good way of finding support is to join a Diabetes UK local group.

These groups offer people living with diabetes a chance to meet and share experiences with others. They are all run by volunteers and usually meet once a month, often with a speaker on a topic like diet or exercise.

To find your local group visit **www.diabetes.org.uk/how_we_help/local_support_groups**

How Macmillan Cancer Support can help you

At Macmillan, we know how a cancer diagnosis can affect everything, and we're here to support you. No one should face cancer alone.

Talk to us

If you or someone you know is affected by cancer, talking about how you feel and sharing your concerns can really help.

Macmillan Support Line

Our free, confidential phone line is open Monday to Friday, 9am to 8pm. Our cancer support specialists can:

- help with any medical questions you have about your cancer or treatment
- help you access benefits and give you financial guidance
- be there to listen if you need someone to talk to
- tell you about services that can help you in your area.

Call us on **0808 808 00 00** or email us via our website, **[macmillan.org.uk/talktous](https://www.macmillan.org.uk/talktous)**

Information centres

Our information and support centres are based in hospitals, libraries and mobile centres. There, you can speak with someone face to face. Visit one to get the information you need, or if you'd like a private chat, most centres have a room where you can speak with someone alone and in confidence.

Find your nearest centre at **[macmillan.org.uk/informationcentres](https://www.macmillan.org.uk/informationcentres)** or call us on **0808 808 00 00**.

Talk to others

No one knows more about the impact cancer can have on your life than those who have been through it themselves. That's why we help to bring people together in their communities and online.

Support groups

Whether you are someone living with cancer or a carer, we can help you find support in your local area, so you can speak face to face with people who understand. Find out about support groups in your area by calling us or by visiting [macmillan.org.uk/selfhelpandsupport](https://www.macmillan.org.uk/selfhelpandsupport)

Online Community

Thousands of people use our Online Community to make friends, blog about their experiences and join groups to meet other people going through the same things. You can access it any time of day or night. Share your experiences, ask questions, or just read through people's posts at [macmillan.org.uk/community](https://www.macmillan.org.uk/community)

The Macmillan healthcare team

Our nurses, doctors and other health and social care professionals give expert care and support to individuals and their families. Call us or ask your GP, consultant, district nurse or hospital ward sister if there are any Macmillan professionals near you.

'Everyone is so supportive on the online community, they know exactly what you're going through. It can be fun too. It's not all just chats about cancer.'

Mal

Help with money worries

Having cancer can bring extra costs such as hospital parking, travel fares and higher heating bills. If you've been affected in this way, we can help.

Financial guidance

Our financial team can give you guidance on mortgages, pensions, insurance, borrowing and savings.

Help accessing benefits

Our benefits advisers can offer advice and information on benefits, tax credits, grants and loans. They can help you work out what financial help you could be entitled to. They can also help you complete your forms and apply for benefits.

Macmillan Grants

Macmillan offers one-off payments to people with cancer. A grant can be for anything from heating bills or extra clothing to a much-needed break.

Call us on **0808 808 00 00** to speak to a financial guide or benefits adviser, or to find out more about Macmillan Grants. We can also tell you about benefits advisers in your area. Visit [macmillan.org.uk/financialsupport](https://www.macmillan.org.uk/financialsupport) to find out more about how we can help you with your finances.

Help with work and cancer

Whether you're an employee, a carer, an employer or are self-employed, we can provide support and information to help you manage cancer at work. Visit [macmillan.org.uk/work](https://www.macmillan.org.uk/work)



Macmillan's My Organiser app

This free mobile app can help you manage your treatment, from appointment times and contact details, to reminders for when to take your medicines. Search 'My Organiser' on the Apple App Store or Google Play on your phone.



About our information

We provide expert, up-to-date information about cancer. And all our information is free for everyone.

Order what you need

You may want to order more leaflets or booklets like this one. Visit **be.macmillan.org.uk** or call us on **0808 808 00 00**.

We have booklets on different cancer types, treatments and side effects. We also have information about work, financial issues, diet, life after cancer and information for carers, family and friends.

All of our information is also available online at **macmillan.org.uk/cancerinformation**. There you'll also find videos featuring real-life stories from people affected by cancer, and information from health and social care professionals.

Other formats

We also provide information in different languages and formats, including:

- audiobooks
- Braille
- British Sign Language
- easy read booklets
- eBooks
- large print
- translations.

Find out more at **macmillan.org.uk/otherformats**

If you'd like us to produce information in a different format for you, email us at **cancerinformationteam@macmillan.org.uk** or call us on **0808 808 00 00**.

Help us improve our information

We know that the people who use our information are the real experts. That's why we always involve them in our work. If you've been affected by cancer, you can help us improve our information.

We give you the chance to comment on a variety of information including booklets, leaflets and fact sheets.

If you'd like to hear more about becoming a reviewer, email reviewing@macmillan.org.uk You can get involved from home whenever you like, and we don't ask for any special skills – just an interest in our cancer information.



Other useful organisations

There are lots of other organisations that can give you information or support.

General cancer support organisations

Cancer Black Care

Tel 020 8961 4151

Email

info@cancerblackcare.org.uk

www.cancerblackcare.org.uk

Offers UK-wide information and support for people with cancer, as well as their friends, carers and families, with a focus on those from BME communities.

Cancer Focus

Northern Ireland

Helpline 0800 783 3339

(Mon to Fri, 9am to 1pm)

Email

helpline@cancerfocusni.org

www.cancerfocusni.org

Offers a variety of services to people affected by cancer in Northern Ireland, including a free helpline, counselling and links to local support groups.

Cancer Support Scotland

Tel 0800 652 4531

(Mon to Fri, 9am to 5pm)

Email [info@](mailto:info@cancersupportscotland.org)

cancersupportscotland.org

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

cancersupportscotland.org

Runs cancer support groups throughout Scotland. Also offers free complementary therapies and counselling to anyone affected by cancer.

Maggie's Centres

Tel 0300 123 1801

Email

enquiries@maggiescentres.org

www.maggiescentres.org

Has a network of centres in various locations throughout the UK. Provides free information about cancer and financial benefits. Also offers emotional and social support to people with cancer and their family and friends.

Tenovus

Helpline 0808 808 1010

(Daily, 8am to 8pm)

Email

info@tenovuscancercare.org.uk

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

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

Aims to help everyone in the UK get equal access to cancer treatment and support. Funds research and provides support such as mobile cancer support units, a free helpline, an 'Ask the nurse' service on the website and benefits advice.

Counselling and emotional support

British Association for Counselling and Psychotherapy (BACP)

Tel 01455 883 300

Email bacp@bacp.co.uk

www.bacp.co.uk

Promotes awareness of counselling and signposts people to appropriate services across the UK. You can search for a qualified counsellor at **itsgoodtotalk.org.uk**

UK Council for Psychotherapy (UKCP)

Tel 020 7014 9955

Email info@ukcp.org.uk

www.psychotherapy.org.uk

Holds the national register of psychotherapists and psychotherapeutic counsellors, listing practitioners who meet exacting standards and training requirements.

Support for carers

Carers UK

Helpline

(England, Scotland, Wales)

0808 808 7777

(Mon to Fri, 10am to 4pm)

Helpline (Northern Ireland)

028 9043 9843

Email

advice@carersuk.org

www.carersuk.org

Offers information and support to carers across the UK.

Can put people in contact with support groups for carers in their area.

Advanced cancer and end-of-life care

Marie Curie

Helpline 0800 090 2309

(Mon to Fri, 8am to 6pm,
Sat, 11am to 5pm)

www.mariecurie.org.uk

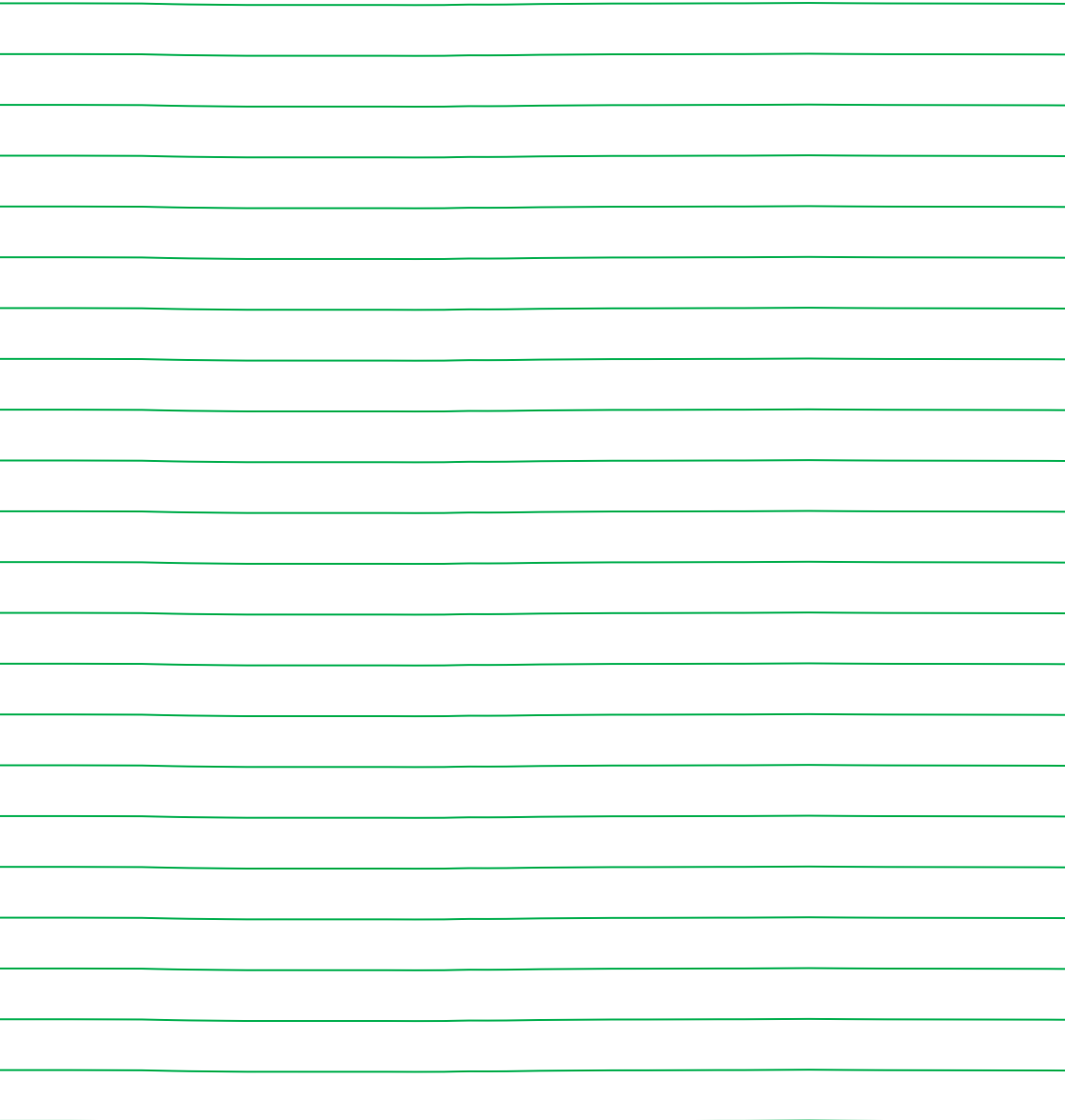
Marie Curie nurses provide free end-of-life care across the UK.

They care for people in their own homes or in Marie Curie hospices, 24 hours a day, 365 days a year.



You can search for more organisations on our website at macmillan.org.uk/organisations or call us on 0808 808 00 00.

YOUR NOTES AND QUESTIONS

A series of horizontal green lines spaced evenly down the page, providing a template for writing notes and questions.

Disclaimer

We make every effort to ensure that the information we provide is accurate and up to date but it should not be relied upon as a substitute for specialist professional advice tailored to your situation. So far as is permitted by law, Macmillan does not accept liability in relation to the use of any information contained in this publication, or third-party information or websites included or referred to in it. Some photos are of models.

Thanks

This booklet has been written and edited by Macmillan Cancer Support's Cancer Information Development team. It has been approved by our Chief Medical Editor, Dr Tim Iveson, Macmillan Consultant Medical Oncologist, and by Diabetes UK.

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Sources

We've listed a sample of the sources used in the publication below.

If you'd like further information about the sources we use, please contact us at **cancerinformationteam@macmillan.org.uk**

Bohannon Z. Treating diabetes in cancer patients. *OncoLog*. 2013. 58 (7).

Joint British Diabetes Societies for inpatient care (JBDS-IP). Management of adults with diabetes undergoing surgery and elective procedures: Improving standards. 2016.

Can you do something to help?

We hope this booklet has been useful to you. It's just one of our many publications that are available free to anyone affected by cancer. They're produced by our cancer information specialists who, along with our nurses, benefits advisers, campaigners and volunteers, are part of the Macmillan team. When people are facing the toughest fight of their lives, we're there to support them every step of the way.

We want to make sure no one has to go through cancer alone, so we need more people to help us. When the time is right for you, here are some ways in which you can become a part of our team.



Share your cancer experience

Support people living with cancer by telling your story, online, in the media or face to face.

Campaign for change

We need your help to make sure everyone gets the right support. Take an action, big or small, for better cancer care.

Help someone in your community

A lift to an appointment. Help with the shopping. Or just a cup of tea and a chat. Could you lend a hand?

Raise money

Whatever you like doing you can raise money to help. Take part in one of our events or create your own.

Give money

Big or small, every penny helps. To make a one-off donation see over.

Call us to find out more

0300 1000 200

macmillan.org.uk/getinvolved

Please fill in your personal details

Mr/Mrs/Miss/Other _____

Name _____

Surname _____

Address _____

Postcode _____

Phone _____

Email _____

Please accept my gift of £ _____

(Please delete as appropriate)

I enclose a cheque / postal order /
Charity Voucher made payable to
Macmillan Cancer Support

OR debit my:

Visa / MasterCard / CAF Charity
Card / Switch / Maestro

Card number

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Signature _____

Date / / _____

Don't let the taxman keep your money

Do you pay tax? If so, your gift will be worth 25% more to us – at no extra cost to you. All you have to do is tick the box below, and the tax office will give 25p for every pound you give.

- I am a UK tax payer and I would like Macmillan Cancer Support to treat all donations I make or have made to Macmillan Cancer Support in the last 4 years as Gift Aid donations, until I notify you otherwise.

I understand that if I pay less Income Tax and/or Capital Gains Tax than the amount of Gift Aid claimed on all my donations in that tax year it is my responsibility to pay any difference. I understand Macmillan Cancer Support will reclaim 25p of tax on every £1 that I give.

Macmillan Cancer Support and our trading companies would like to hold your details in order to contact you about our fundraising, campaigning and services for people affected by cancer. If you would prefer us not to use your details in this way please tick this box.

In order to carry out our work we may need to pass your details to agents or partners who act on our behalf.



If you'd rather donate online go to macmillan.org.uk/donate

Please cut out this form and return it in an envelope (no stamp required) to:
Supporter Donations, Macmillan Cancer Support, FREEPOST LON15851,
89 Albert Embankment, London SE1 7UQ

This booklet is for anyone who has been diagnosed with cancer and also has diabetes. You may also want to read it if you have been told you have an increased risk of developing diabetes because of your cancer treatment.

It explains how cancer treatments can affect your diabetes and make it difficult to control your blood sugar. It also has some tips to help you cope with the side effects of cancer treatment.

WE ARE MACMILLAN. CANCER SUPPORT

Questions about cancer? Call the Macmillan Support Line free on **0808 808 00 00**, Monday to Friday, 9am to 8pm, or visit **macmillan.org.uk**

DIABETES UK

KNOW DIABETES. FIGHT DIABETES.

Questions about diabetes? Call the Diabetes UK Helpline free on **0345 123 2399** (or **0141 212 8710** if you live in Scotland), Monday to Friday, 9am to 6pm, or visit **diabetes.org.uk**

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