ALL ABOUT DIABETES

ESSENTIAL INFORMATION TO UNDERSTANDING DIABETES

DIABETES UK
CARE. CONNECT. CAMPAIGN.
CONTENTS

How this booklet can help you .................................................. 3

What is diabetes? ........................................................................ 4

Diagnosis ................................................................................... 7

Managing diabetes ..................................................................... 8

Eating well ................................................................................ 10

Short-term complications .......................................................... 12

Long-term complications .......................................................... 14

Coping with diabetes when ill .................................................. 17

Questions and answers ............................................................. 18

This information is available in large print and other formats. Please call Diabetes UK’s Supporter Services on 0845 123 2399.
This booklet is an introduction to diabetes for adults who:

✓ have been diagnosed with Type 1 or Type 2 diabetes
✓ are caring for or are family/friends of someone who has diabetes.

It provides you with information about:

✓ the two main types of diabetes
✓ how to live a healthy, active life with diabetes
✓ managing the condition
✓ the short-term and long-term complications associated with having diabetes
✓ frequently asked questions.

We hope that this booklet will help you learn more about diabetes and to understand that, if properly managed, having diabetes should not stop you from leading a full and active life.

It is important that the information in this booklet is used together with advice from your diabetes healthcare team.
Diabetes is a common life-long health condition. There are 2.9 million people diagnosed with diabetes in the UK and an estimated 850,000 people who have the condition but don’t know it.

Diabetes is when the amount of glucose in your blood is too high because the body cannot use it properly. This is because the pancreas does not produce any or enough insulin, or the insulin that is produced does not work properly (known as insulin resistance).

**Insulin** is vital for life. It is a hormone produced by the pancreas that helps glucose enter the cells where it is used as fuel by the body.

**Glucose** comes from digesting carbohydrate and is also produced by the liver. Carbohydrate comes from different kinds of foods and drink, including starchy foods such as bread, potatoes and chapatis, fruit, some dairy products, sugar and other sweet foods.

If you have diabetes, your body cannot make proper use of this glucose so it builds up in the blood and isn’t able to be used as fuel.

**Symptoms** of diabetes include passing urine frequently (especially at night), increased thirst, extreme tiredness, unexplained weight loss, genital itching or regular episodes of thrush, slow healing of cuts and wounds, blurred vision. Symptoms are quickly relieved once diabetes is treated and under control.
There are two main types of diabetes: Type 1 and Type 2.

**TYPE 1 DIABETES**
Type 1 diabetes develops when the insulin-producing cells in the body have been destroyed and the body is unable to produce any insulin.

Insulin is the key that unlocks the door to the body’s cells. Once the door is unlocked, glucose can enter the cells where it is used as fuel. In Type 1 diabetes the body is unable to produce any insulin so there is no key to unlock the door and the glucose builds up in the blood.

Nobody knows for sure why these insulin-producing cells have been destroyed but the most likely cause is the body having an abnormal reaction to the cells.

This may be triggered by a virus or other infection. Type 1 diabetes can develop at any age but usually appears before the age of 40, and especially in childhood.

Type 1 diabetes accounts for approximately 10 per cent of all people with diabetes, and is treated by taking insulin daily by injection or pump, a healthy diet and regular physical activity.

**TYPE 2 DIABETES**
Type 2 diabetes develops when the body can still make some insulin, but not enough, or when the insulin that is produced does not work properly (known as insulin resistance).

Insulin acts as a key unlocking the cells, so if there is not enough
insulin, or it is not working properly, the cells are only partially unlocked (or not at all) and glucose builds up in the blood.

Type 2 diabetes usually appears in people over the age of 40, though in South Asian and Black people, who are at greater risk, it often appears from the age of 25. It is also becoming more common in children, adolescents and young people of all ethnicities.

Type 2 diabetes accounts for approximately 90 per cent of all people with diabetes and is treated with a healthy diet and increased physical activity. In addition to this, medication and/or insulin is often required.

**Diabetes develops when glucose can’t enter the body’s cells to be used as fuel. This happens because either...**

- ...there is no key (insulin) to unlock the door to the cells...
  - as in **Type 1 diabetes**

  ![Insulin](image)

- ...or the key (insulin) is unable to unlock the door properly
  - and/or
    - ...the key (insulin) is there, but the lock doesn’t work properly...
  - as in **Type 2 diabetes**

![Insulin](image)
COMING TO TERMS WITH DIAGNOSIS

Diabetes does not wait for a convenient time in life to be diagnosed. Often people are already experiencing other stresses and complications in life (work, home, relationships or other illnesses for instance) at the time of diagnosis, that can make diagnosis even harder to deal with.

It is not unusual for people to experience some of the following thoughts and feelings:

✓ I was healthy and now I’m ‘ill’ – it feels unfair and I’m angry/depressed.
✓ What I eat may be risky and that makes me anxious.
✓ I have to change my whole life. What if I can’t manage?
✓ It’s all my fault.
✓ If I change my lifestyle perhaps my diabetes will go away.
✓ Complications are inevitable.
✓ My body is out of control, I feel helpless.

These feelings are very common and part of the process of adapting to having diabetes. Having thoughts like these does not mean that the person is not coping but may be that they need more information or support. This anxiety should lessen once more is learnt about the condition.

LIFESTYLE CHANGES AND CHOICES

Diabetes is serious and should be treated properly. To achieve the best possible diabetes care, it is essential for you to work with your diabetes healthcare team and use your combined experience and expertise to agree what care and support you need.

Although diabetes cannot yet be cured it can be managed very successfully. This is likely to involve lifestyle changes that will have enormous health benefits and allow you to continue your normal day-to-day life. You will read more about how to make lifestyle changes in the following pages.
The aim of managing your diabetes is to keep your blood glucose, blood pressure and blood fat levels as close to target as possible. This will also help reduce the risk of long-term complications (see page 14). Good control can be achieved through a combination of taking insulin and/or medication as prescribed, eating well and being physically active.

**BLOOD GLUCOSE LEVELS**

The table below is a general guide to the target blood glucose levels before and after meals:

<table>
<thead>
<tr>
<th>Type 1 diabetes</th>
<th>Glucose levels before meals</th>
<th>4–7mmol/l</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Glucose levels 2 hours after meals</td>
<td>less than 9mmol/l</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type 2 diabetes</th>
<th>Glucose levels before meals</th>
<th>4–7mmol/l</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Glucose levels 2 hours after meals</td>
<td>less than 8.5mmol/l</td>
</tr>
</tbody>
</table>

At least once a year your diabetes healthcare team should check your long-term blood glucose control. The most common test is HbA1c, which indicates your blood glucose levels over the previous 2–3 months. The general target is 48 mmol/mol (6.5 per cent) or below. Each individual's clinical needs will vary, so it is important to discuss with your diabetes healthcare team your individual blood glucose and HbA1c target levels, and whether home blood glucose monitoring is appropriate for you.
CONTROLLING TYPE 1 DIABETES

To help control blood glucose levels in Type 1 diabetes it is necessary to take insulin. Insulin can be administered in different ways, including via a pen, syringe or pump. There are six main types of insulin, which all work for varying lengths of time. Your diabetes healthcare team will discuss the option most suitable for you.

CONTROLLING TYPE 2 DIABETES

Type 2 diabetes is a progressive condition and over time it may be that following a healthy eating plan and being physically active is not enough to control blood glucose levels. If this happens, your diabetes healthcare team may advise you to start or change medication. Some people with Type 2 diabetes will also need to take insulin to help control their blood glucose levels.

BLOOD PRESSURE AND BLOOD FATS

The table below is a guide to blood pressure and blood fat targets. For your individual target levels speak to your diabetes healthcare team.

Diet and lifestyle changes may not be enough to achieve these targets and medication may also be needed.

MEDICATION

If medication is needed to achieve good diabetes control your diabetes healthcare team will discuss the best choice of treatment.

Increasing or changing diabetes medication is not a sign that your diabetes is becoming more severe, but that your diabetes healthcare team are working with you to improve your diabetes management.

If you are taking diabetes medication and/or insulin you are exempt from prescription costs. Ask at your doctor’s surgery for a FP92A form.

<table>
<thead>
<tr>
<th>Type 1 and Type 2 diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood pressure</td>
</tr>
<tr>
<td>130/80mmHg, or 125/75 if you have</td>
</tr>
<tr>
<td>kidney problems</td>
</tr>
<tr>
<td>Total cholesterol</td>
</tr>
<tr>
<td>less than 4mmol/l</td>
</tr>
<tr>
<td>LDL cholesterol</td>
</tr>
<tr>
<td>less than 2mmol/l</td>
</tr>
<tr>
<td>HDL cholesterol</td>
</tr>
<tr>
<td>1mmol/l or above for men 1.2mmol/l</td>
</tr>
<tr>
<td>above for women</td>
</tr>
<tr>
<td>less than 1.7mmol/l</td>
</tr>
<tr>
<td>Triglycerides</td>
</tr>
</tbody>
</table>
Food choices and eating habits are important to help manage diabetes, but it should be possible to continue to enjoy a wide variety of foods as part of healthy eating.

HEALTHY EATING TIP
It is better to make small changes that can be maintained, rather than extreme changes that can’t.

TEN STEPS TO EATING WELL
1. Eat three meals a day.
2. Include starchy carbohydrate foods as part of your diet.
3. Cut down on the fat you eat.
4. Eat more fruit and vegetables.
5. Include more beans and lentils in your diet.
6. Aim for at least two portions of oily fish a week.
7. Limit sugar and sugary foods.
8. Reduce salt in your diet to 6g or less a day.
9. Drink alcohol in moderation only.
10. Avoid diabetic foods or drinks.

For more information visit: www.diabetes.org.uk/food-and-recipes

Diabetes UK recommends that everyone with diabetes should see a registered dietitian at diagnosis, and then have regular reviews for specific advice on their eating habits. Ask your doctor to refer you.
KEEPING ACTIVE

Physical activity, combined with healthy eating and any diabetes medication that a person might be taking, will help manage the condition. Being active is good for all of us, but is especially important for people with diabetes to manage their condition.

Being more active often conjures up thoughts of expensive gym memberships, running on a treadmill and aerobics in a leotard – but this need not be the case. People can become more active by making small lifestyle changes, such as parking the car in the furthest spot in the car park or going for a walk during lunch breaks.

Every form of physical activity counts and adults should aim to be active daily. The recommended minimum amount of activity for adults is 150 minutes per week; one way to do this is to do 30 minutes on at least five days of the week. It is recommended that this activity is at moderate intensity, which means an increase in breathing rate, an increase in heart rate to the level where the pulse can be felt, and a feeling of increased warmth.

Activity can be spread out throughout the day into bite-size chunks that may help achieve personal goals and should be at a pace where you feel slightly out of breath to gain the full benefits.

Remember it is advisable to talk to your doctor/diabetes healthcare team before you start any new activity and once you are active on a regular basis. If you are on medication and/or insulin, this may need to be adjusted.

For more information visit: www.diabetes.org.uk/keeping-active

Quit smoking

If you have diabetes, it is particularly important that you don’t smoke. Smoking increases your risks of developing complications of diabetes and it may affect blood glucose control and increase insulin resistance.

Contact the NHS free smoking helpline: 0800 022 4332