



# Your guide to diabetes and how to control it. Including other handy hints



## What is diabetes?



Diabetes is a serious life-long health condition that occurs when the amount of glucose (sugar) in the blood is too high because the body can't use it properly. If left untreated, high blood glucose levels can cause serious health complications.

There are two main types of diabetes: Type 1, 2, 3, 4, and 5. They're different conditions, caused by different things, but they are both serious and need to be treated and managed properly.

## What is Type 2 Diabetes

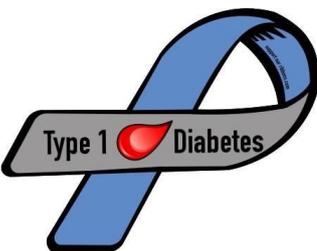


In **Type 2** diabetes, the body doesn't make enough insulin, or the insulin it makes doesn't work properly, meaning glucose builds up in the blood.

**Type 2** diabetes is caused by a complex interplay of genetic and environmental factors. Up to 58 per cent of **Type 2** diabetes cases can be delayed or prevented through a healthy lifestyle.

About 90 per cent of people with diabetes have Type 2.

There are a range of more rare types of diabetes – correct diagnosis and management of these types are equally important.



## What is type 1 Diabetes

Type 1 diabetes is an autoimmune condition where the body attacks and destroys insulin-producing cells, meaning no insulin is produced. This causes glucose to quickly rise in the blood.

Nobody knows exactly why this happens, but science tells us it's got nothing to do with diet or lifestyle.

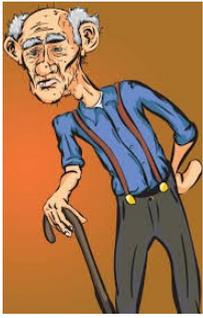
About 10 per cent of people with diabetes have Type 1.

## Type 3 Diabetes?



Type 3 diabetes is a title that has been proposed for Alzheimer's disease which results from resistance to insulin in the brain

## Type 4 Diabetes



Scientists use this to describe age-related insulin resistance that occurs in lean, elderly people.

While type 1 diabetes is a result of the immune system destroying insulin-producing cells and type 2 diabetes is caused by diet and obesity, type 4 diabetes is associated with older age, rather than weight gain.

## LADA



Latent autoimmune diabetes in adults, or LADA, is a less common form of diabetes that usually affects people over the age of 30. In LADA, initial type 2 diabetes symptoms eventually develop into a condition resembling type 1 diabetes.

People with LADA make enough insulin at first, but their immune system later begins making antibodies against insulin-producing cells of the pancreas. Patients will usually require insulin injections as part of their treatment. It is estimated that up to 10 percent of people with type 2 diabetes have LADA.

## Double Diabetes



Double diabetes occurs when someone who already has type 1 diabetes develops a resistance to the insulin medication they are taking, similar to type 2 diabetes. This condition is more and more frequently seen in children, especially those who are overweight or obese.

Diabetes requires careful management to keep blood glucose in check, but specific diabetes treatment plans depend greatly on the type – which is why talking with your doctor and identifying what type of diabetes you have is the essential first step.

## Gestational Diabetes



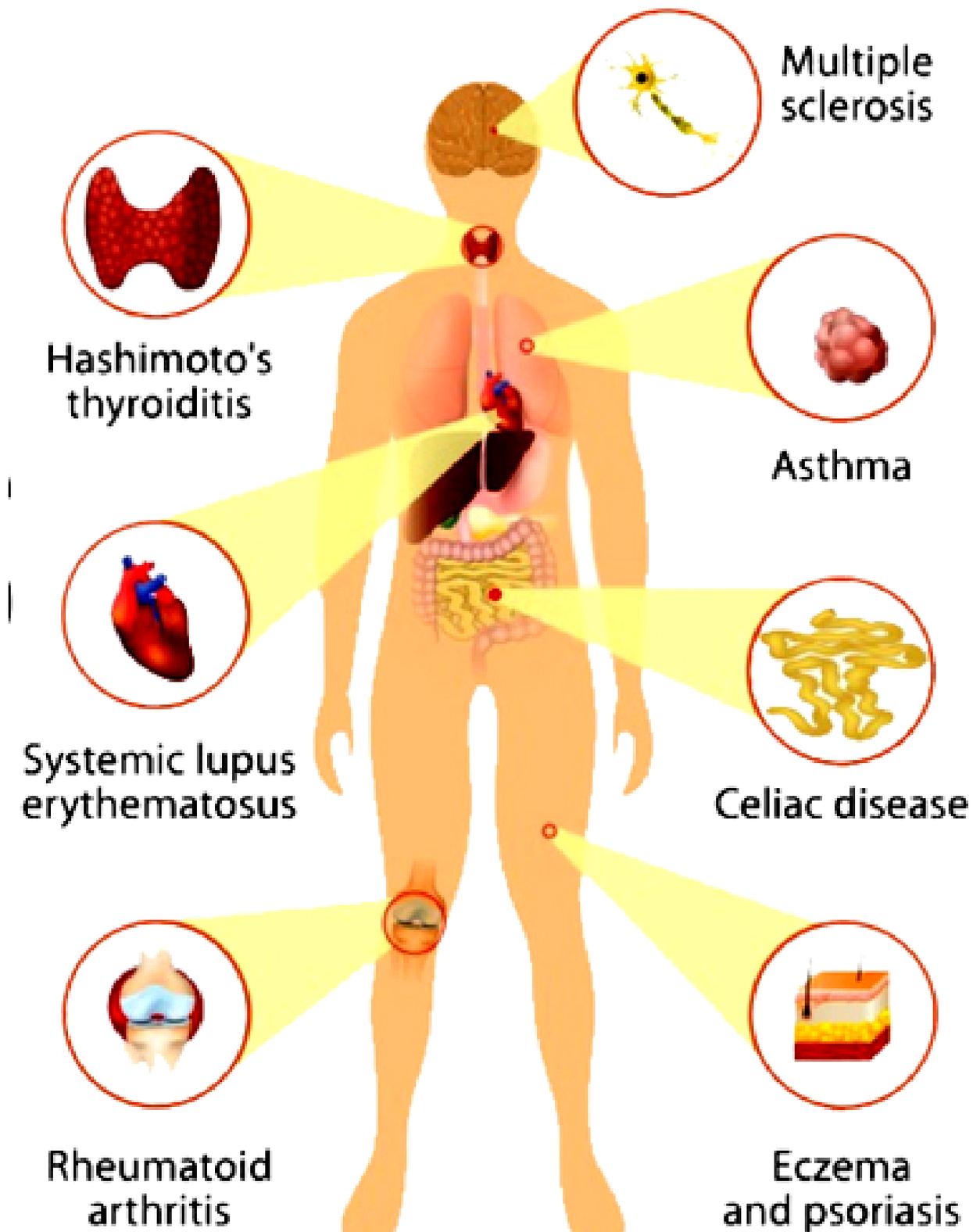
Gestational diabetes is high blood sugar that develops during pregnancy and usually disappears after giving birth.

It can occur at any stage of pregnancy, but is more common in the second half.

It occurs if your body cannot produce enough insulin – a hormone that helps control blood sugar levels – to meet the extra needs in pregnancy.

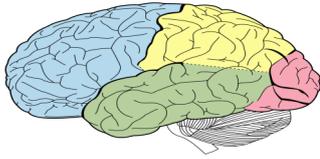
Gestational diabetes can cause problems for you and your baby during and after birth. But the risk of these problems happening can be reduced if it's detected and well managed.

# The physical effects of diabetes and the human body



There are many physical signs and symptoms that affect the human body. From the head to the bottom of your feet. Here is a list of the following signs and symptoms that can affect a person that has diabetes:

### Risk of a stroke



A risk of a stroke for someone with diabetes, is four times higher than for someone without diabetes

### Loss of consciousness

Without treatment, diabetic ketoacidosis can lead to loss of consciousness

### Visual disturbances



Damaged blood vessels in the eyes can cause visual disturbances like floaters. If they are left untreated, this could potentially lead to blindness.

### Cataracts and glaucoma



If you have diabetes, you have a greater risk of getting cataracts and/or glaucoma compared to people who do not have Diabetes

### Extreme thirst



Extreme thirst is one of the main noticeable symptoms with people that has diabetes

### Sweet-smelling breath



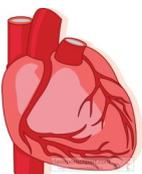
Breath that has a sweet scent may indicate high levels of ketones, a serious complication of diabetes.

### Risk of infections



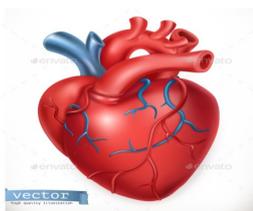
Diabetes can also raise your risk of bacterial, fungal, and yeast infections. Your feet are also most vulnerable to infections

### Risk of heart disease



High blood pressure and damaged blood vessels put added strain on the heart, increasing the risk of cardiovascular disease (CVD)

## Diabetes and Heart Disease-what is the connection?



High blood glucose in adults with diabetes increases the risk for heart attack, stroke, angina, and coronary artery disease. 1. People with type 2 diabetes also have high rates of high blood pressure, lipid problems, and obesity, which contribute to their high rates of CVD. (Chronic Vascular Disease).

Over time, high blood glucose from diabetes can damage your blood vessels and the nerves that control your heart and blood vessels

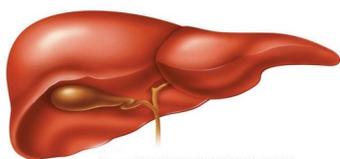
People with diabetes tend to develop heart disease at a younger age than people without diabetes. In adults with diabetes, the most common causes of death are heart disease and stroke.

## Links between diabetes and dementia



Research has shown that diabetes can increase the risk of developing both Alzheimer's disease and vascular dementia. It is also thought that diabetes-related blood vessel damage could lead to a reduced blood flow to the brain, which may be a factor in Alzheimer's disease development.

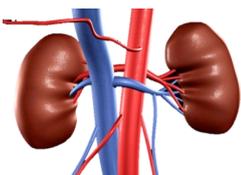
## The liver and diabetes



Diabetes raises your risk of non-alcoholic fatty liver disease, a condition in which excess fat builds up in your liver even if you drink little or no alcohol.

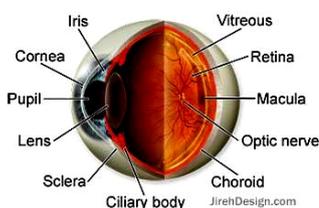
Fatty liver disease itself usually causes no symptoms. But it raises your risk of developing liver inflammation or scarring (cirrhosis).

## Kidney functioning and diabetes



Diabetes can damage this system. High levels of blood glucose make the kidneys filter too much blood. All this extra work is hard on the filters. After many years, they start to leak and useful protein is lost in the urine

## Diabetes and eye diseases



Diabetic retinopathy affects blood vessels in the light-sensitive tissue called the retina that lines the back of the eye. It is the most common cause of vision loss among people with diabetes and the leading cause of vision impairment and blindness among working-age adults. Diabetic macular edema (DME).

## Diabetes and gum disease



Diabetes causes blood vessels to thicken, which slows the flow of nutrients and the removal of harmful wastes. This can weaken the resistance of gum and bone tissue to infection. Bacteria. When diabetes is poorly controlled, high glucose levels in mouth fluids may help germs grow and set the stage for gum disease.

## Diabetes and fungal infections



Fungal Infections. The culprit in fungal infections of people with diabetes is often *Candida albicans*. This yeast-like fungus can create itchy rashes of moist, red areas surrounded by tiny blisters and scales. These infections often occur in warm, moist folds of the skin.

## Can Type 2 diabetes cause dementia?



When diabetes is not controlled, too much sugar remains in the blood. Over time, this can damage organs, including the brain. Scientists are finding more evidence that could link Type 2 diabetes with Alzheimer's disease, the most common form of dementia and the seventh leading cause of death in the United States.

## Can Type 1 diabetes cause dementia?



However, when the researchers further adjusted the data to account for factors such as sex, age, race, stroke, peripheral artery disease and high blood pressure, the link between type 1 diabetes and dementia decreased.

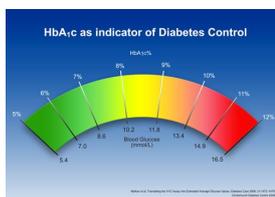
## Diabetes and gangrene



Diabetes mellitus is a condition where the body is unable to control the blood sugar. Normally the body has a good immune system that fights against microbes and invading organisms that may lead to infections. The white blood cells are the main fighters in this respect to keep the body protected.

In patients with diabetes, the immune system of a person is affected. In addition, the blood vessels are damaged due to the excessive blood sugar running in the veins.

## Diabetes and HbA1c



By measuring glycated haemoglobin (HbA1c), clinicians are able to get an overall picture of what our average blood sugar levels have been over a period of weeks/months. For people with diabetes this is important as the higher the HbA1c, the greater the risk of developing diabetes-related complications.

## High blood pressure



If you have diabetes, you are at a considerable increase of developing high blood pressure

## Fatigue and lack of energy



Overall kidney and pancreas problems can cause you to feel more tired than usual. This can also make it significantly harder for you to concentrate

## Gastroparesis



Poor blood sugar management can cause delayed emptying of your food from your stomach. This can cause severe bloating, heartburn and nausea

## Pancreas malfunction



A poorly functioning pancreas won't produce the right amount of insulin that your body needs, in order to convert glucose into energy

## Excessive urination



If you have diabetes, you urinate quite frequently

## Protein in the urine

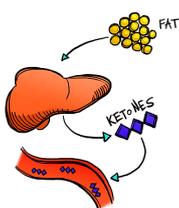
High levels of protein in your urine may mean that your kidneys have some damage and aren't functioning properly

## Damaged blood vessels



Too much glucose in your system can cause restricted blood flow, leading to a variety of symptoms and damage to the blood vessels. Smokers with diabetes are at an extra higher risk

## Ketoacidosis



To make up for the lack of insulin, your body uses other hormones to turn fat into energy. This produces high levels of toxic acids called ketones. Although, these can be life threatening

## Nerve damage



Diabetes causes certain nerve damage. This often feels like 'pins and needles'. Damaged nerves can also alter your perception of heat, cold and pain. It also increases the risk of injuries

## Dry cracked skin



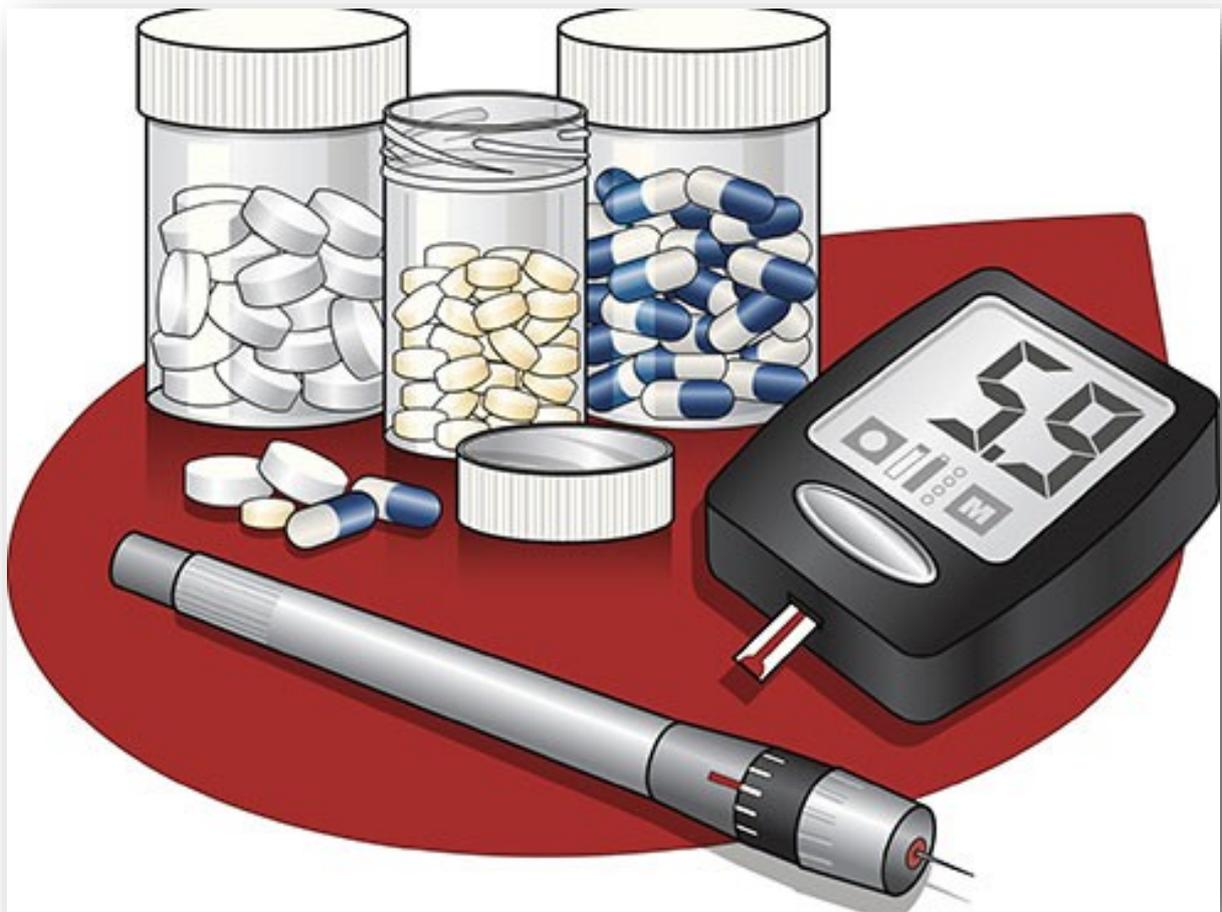
Uncontrolled high blood sugar eventually causes the body to lose certain fluids at a faster rate. It can lead to dry, cracked skin, especially on the feet

## Foot problems



Diabetes increases your risk of calluses, infections or ulcers of the foot. This can be caused by nerve damage from high blood sugar and an increase in circulation to your feet

# Diabetes







## Relevant food categories from Best Choice to Avoid Eating



### Cereal Food

#### Best Choice

Contain least fat, salt, sugar

Fibre rich foods such as wholemeal bread, wholegrain breakfast cereals, brown rice & pasta, porridge oats, crispbreads.

#### Good Choice

Contain a little fat, salt, sugar

Other plain breads, white rice & pasta, teacakes and pancakes.

#### Occasional Choice

Contain more fat, salt sugar

Sugar coated cereals, semi-sweet biscuits.

#### Avoid

Contain too much fat, salt sugar

Sweet cream filled biscuits, croissants, brioche & pastries, e.g. Danish.



### Fruit & Veg

#### Best Choice

Contain least fat, salt, sugar

Plenty of fruit, veg, Potatoes (baked, boiled or steamed), pulses, and raw salads. Include all fresh, frozen, dried or tinned.

#### Good Choice

Contain a little fat, salt, sugar

Olives, avocado, Chips, (cooked in suitable oil), stir fry veg. Fruit sweetened with minimal sugar.

#### Occasional Choice

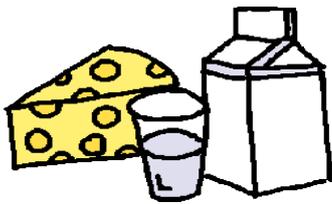
Contain more fat, salt sugar

Fruit in syrup: crystallised fruit, veg (including chips & roast potatoes) fried in suitable oil (see fats).

#### Avoid

Contain too much fat, salt sugar

Vegetables with butter or other fat added, fried in saturated fat (including chips & roast potatoes), coleslaw or other salad inc. crisps & other savoury snacks



## Eggs & Dairy

### Best Choice

Contain least fat, salt, sugar

Skimmed milk, low fat varieties of cottage cheese, fromage frais. Very low fat yoghurt, egg whites.

### Good Choice

Contain a little fat, salt, sugar

Semi-skimmed & soya milk, reduced fat cheese / alternatives made from sunflower oil. Low fat yoghurt or fromage frais. Frozen low fat yoghurt.

### Occasional Choice

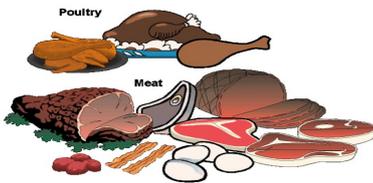
Contain more fat, salt sugar

Milks: skimmed, condensed, evaporated, goat, sheep, full/medium fat. Cheese: Camembert, Gouda, Brie, cheese spreads. Eggs: boiled, poached. No + salt

### Avoid

Contain too much fat, salt sugar

Milks: condensed, whole, dried with added veg fat, crème fraiche, goat, greek yoghurt. Cheese: cream, stilton, cheddar. Eggs: fried, scrambled, omelette.



## Meat or Poultry Alternatives

### Best Choice

Contain least fat, salt, sugar

Chicken & turkey with skin removed, veal rabbit, game. Quorn or tofu. Soya protein meat and substitute. Diablo cooked without fat.

### Good Choice

Contain a little fat, salt, sugar

Small portions of very lean trimmed beef, lamb & pork. Ham & Gammon (very lean.)

### Occasional Choice

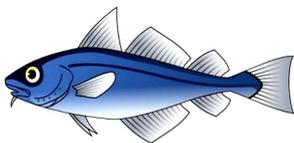
Contain more fat, salt sugar

Lean mince low-fat burgers. Liver, Kidney, tripe, duck (without skin), low-fat pate, lean bacon (grilled not fried). Nuts.

### Avoid

Contain too much fat, salt sugar

Fatty meats, meat pies, hamburgers, sausages, sausage rolls, salami, pates, & meat pates. Pork pies, scotch eggs & coconut.



## Fish

### Best Choice

Contain least fat, salt, sugar

All varieties of fish, especially oily fish. If buying tinned, choose fish in brine and in oil. Drain off excess.

### Good Choice

Contain a little fat, salt, sugar

Fish fried in suitable oil, Shellfish e.g. prawn, lobster, shrimp, crab. Tinned fish in oil. Drain excess.

### Occasional Choice

Contain more fat, salt sugar

Any fish battered or bread crumbed. If fried, use unsaturated fat.

### Avoid

Contain too much fat, salt sugar

White bait, fish roe, e.g. taramasalata, fried fish or fish products in saturated fat, fish paste.



## Fats

### Best Choice

Contain least fat, salt, sugar

Small amounts only. See next column.

### Good Choice

Contain a little fat, salt, sugar

Veg fat spreads or low fat spreads labelled high in poly-unsaturates. Fats & oils of named origin such as sunflower, olive in small amounts.

### Occasional Choice

Contain more fat, salt sugar

### Avoid Eating

Contain too much fat, salt sugar

Butter, hard margarines, veg oils from unspecified source & hard veg fats., dripping, lard, suet, peanut, cream.



## Sauces & Dressings

### Best Choice

Contain least fat, salt, sugar

Herbs, spices, lemon juice, garlic, pepper.

### Good Choice

Contain a little fat, salt, sugar

Low fat mayonnaise, salad cream or vinegar-ette using suitable oils. (see fats)

### Occasional Choice

Contain more fat, salt sugar

Other low-fat or low-calorie Mayonnaise

### Avoid

Contain too much fat, salt sugar

Dim sum (fried). Pastry dishes, quiche, samosa, suet dumplings & puddings. Cream soups.



## Prepared Food

### Best Choice

Contain least fat, salt, sugar

Pasta with tomato / free sauce, kedgeree, potato crust pies with fish, veg, poultry filling. Fat-free homemade soups, consommé, clear broth.

### Good Choice

Contain a little fat, salt, sugar

Low fat recipe meals, potato crust pies with lean meat filling, homemade soups with lean meat, veg chicken or pulses.

### Occasional Choice

Contain more fat, salt sugar

Pasta in cream sauce. Packet soups.

### Avoid

Contain too much fat, salt sugar

Dim sum (fried). Pastry dishes, quiche, samosa, suet dumplings & puddings. Cream soups.



## Sweets, Jams, cakes & Spreads

### Best Choice

Contain least fat, salt, sugar

Jelly (low sugar), fruit puree, whips & puddings made with skimmed milk. Sugar free artificial sweeteners, reduced sugar jam & marmalade.

### Good Choice

Contain a little fat, salt, sugar

Jam, marmalade, honey. Chutney & pickles.

### Occasional Choice

Contain more fat, salt sugar

Marmite & Bovril. Chutney's & pickles (if no salt restriction). Fruit crumble, fruit flan, milk puddings like custard, rice, sago etc. Tray bakes/cakes. Using suitable ingredients.

### Avoid

Contain too much fat, salt sugar

Cakes, pastry, puddings & biscuits made with saturated fats. Chocolate spreads, chocolate, toffee, fudge, butterscotch, Carob chocolate, coconut bars.



## Drinks

### Best Choice

Contain least fat, salt, sugar

Plenty of water or low calorie soft drinks, tea with fat milk or without milk, unsweetened fruit juice, mineral water.

### Good Choice

Contain a little fat, salt, sugar

In moderation: coffee with skimmed / semi-skimmed milk, low calorie malted drinks.

### Occasional Choice

Contain more fat, salt sugar

Sweetened drinks, malted milk or hot chocolate drinks made with skimmed milk.

### Avoid

Contain too much fat, salt sugar

Whole milk drinks, cream based liqueur's / drinks, coffee with coffee whiteners.

## Nutritional Support



A diabetes diet is a healthy-eating plan that's naturally rich in nutrients and low in fat and calories. Key elements are fruits, vegetables and whole grains. In fact, a diabetes diet is the best eating plan for most everyone.

## What is a good breakfast for a diabetic?



“Having a source of healthy carbohydrates along with protein and fiber is the perfect way to start the morning.” Eating foods at breakfast that have a low glycemic index may help prevent a spike in blood sugar all morning long — and even after lunch

## Choosing the Best Fruits to Eat for Diabetes



Consider these high-antioxidant fruits as your best options to eat for a healthy diabetes diet:

- Grapes
- Apples
- Berries
- Citrus fruits
- Pineapple
- Mango
- Papaya
- Cantaloupe
- Apricots

## What fruits diabetics should avoid?



The following fruit servings contain about 15 grams of carbohydrates:

- 1/2 medium apple or banana.
- 1 cup blackberries.
- 3/4 cup blueberries.
- 1 cup raspberries.
- 1 1/4 cup whole strawberries.
- 1 cup cubed cantaloupe or honeydew melon.

## What is a good snack for a diabetic?



When you have type 2 diabetes, a smart strategy for controlling your blood sugar levels is to think of snacks as miniature versions of meals and plan your carbs accordingly. Snacks with a good mix of protein, fat, and fi-

bre will help keep hunger at bay and your blood sugar on an even keel throughout the day.

## What kind of sweets can diabetics eat?



People with diabetes can still enjoy something sweet from time to time. However, it's important to know what impact certain foods can have on your blood sugar. The key is to manage portions. There are many recipes on the web today that are tasty and low in carbohydrates and do not use any artificial sweeteners. Examples of some

diabetic-friendly desserts that may or may not have artificial sweeteners include:

- granola (with no sugar added) and fresh fruit
- graham crackers with nut butter
- angel food cake
- sugar-free hot chocolate sprinkled with cinnamon
- sugar-free fudge popsicle
- sugar-free gelatin made with fresh fruit with sugar-free whipped topping
- sugar-free pudding with sugar-free whipped topping



# How To Look After Your Feet



## Why is foot care important?

Diabetes can affect the sensation in your feet and also impair the circulation to the feet. Diabetes also increases the risk of infections. Skin can therefore be easily damaged and the damaged skin can have poor blood supply which takes longer to heal. This also increases the risk of developing an ulcer— an area of broken skin, infection can set in and more serious problems can develop. Here are some tips for foot care to help problems in the future.

## Top 10 Foot Care Tips

### 1. Look after your diabetes



In general, good control of diabetes reduces the risk of developing complications.

Reducing blood pressure and lowering cholesterol also lowers the risk of future problems.

### 2. Check your feet daily



Check your feet every day. Include the bottom of your feet. Check for blisters and breaks in the skin. If you have pain or signs of infection (discharge, redness, increased warmth or swelling). But if you can't reach or see well, use a mirror

### 3. Wash your feet daily



Wash your feet in warm water and mild soap. You must rinse and dry your feet thoroughly, especially between your toes. Never soak your feet and always test the temperature of the water with your elbow, NOT your feet as the sensation could be impaired.

### 4. Look after your skin



Moisturise your feet when your skin is dry. Avoid putting cream on broken skin and between the toes.

### 5. Look after your nails



Trim nails regularly straight across and file them with an emery board, this is to reduce sharp edges affecting other toes. It is best to cut them when they are soft after a bath or a shower. Never cut down the nail as this increases the risk of an ingrowing toenail. If you feet are at high risk, or you can't cut them properly, please see a podiatrist,

### 6. Always wear shoes and socks



Never walk around barefoot, you could damage your feet without knowing. When getting new shoes, make sure they are well fitted and comfortable with laces (for men). For women, avoid socks, stockings and tights that have bulky seams and avoid elasticated tops which affecting circulation. Always check the inside of your shoes to make sure nothing has fallen in them. Check the bottom of your shoes to make sure nothing sharp has pierced the bottom. Avoid high heels or pointed toes.

## 7. Avoid sudden temperature change



Never sit in front of a warm fire to warm your feet and never place your feet direct onto hot water bottles. Heating pads or radiators. Keep feet warm by wearing socks. Use sunscreen on the tops of your feet and ankles and wherever sitting, put your feet up.

## 8. Be more active and keep fit



Keep active by exercising your feet and ankles.

Whenever possible, put your feet up. Don't smoke—it reacts to your circulation and increases other problems.

## 9. Seek advice immediately if you get problems



If you discover breaks in the skin, minor cuts, sores or blisters, cover them with a dressing and see a podiatrist, practice nurse or GP immediately. If these people are not available and there is no sign of healing after 1 day, go to the local A+E department. Do not attempt to remove hard skin or corns yourself. Do not burst intact blisters.

## 10. Attend your clinic appointments



Attend your podiatric and diabetic clinic appointments regularly so that you are informed and advised about your feet, so that your feet are monitored and checked for any new changes or damaged so that any specialist footwear can be necessary,

For more information about diabetes, please see contacts below.



**Diabetes UK Central Office**

Wells Lawrence House  
126 Back Church Lane  
London, E1 1FH  
0345 123 3299  
helpline@diabetes.org.uk  
www.diabetes.org.uk



**Diabetes.co.uk**

Technology House  
Sir William Lyons Road  
University of Warwick Science Park  
Coventry, CV4 7EZ  
024 76 712 201.  
www.diabetes.co.uk



**NHS Choices**

Howard Street Community Health Centre  
Howard Street, Burnley BB11 4PQ  
01282 473120  
<https://www.nhs.uk/pages/home.aspx>

For nutritional advice, please contact your local G P diabetic dietitian, hospital diabetic dietitian or even the local Health Trainers.

**Grimsby**

Diana, Princess of Wales Hospital  
Scartho Road. Grimsby  
North East Lincolnshire  
DN33 2BA  
(01472) 875218

**Scunthorpe**

Scunthorpe General Hospital  
Cliff Gardens, Scunthorpe  
North Lincolnshire  
DN15 7BH  
(01724) 290043

**Goole and District Hospital**

Goole and District Hospital  
Woodland Avenue, Goole  
East Riding of Yorkshire  
DN14 6RX  
(01724) 290043



**The Wellbeing Service**

The Knoll  
Knoll St, Cleethorpes DN35 8LL  
01472 325500  
wellbeing@nelincs.gov.uk  
<https://www.nelincs.gov.uk/health-and-wellbeing/>

For more information, please contact the following:



**Name of your G.P** \_\_\_\_\_

**Address** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Tel Number** \_\_\_\_\_



**Name of your Nurse** \_\_\_\_\_

**Address** \_\_\_\_\_

\_\_\_\_\_

**Tel Number** \_\_\_\_\_



**Name of Diabetic Nurse** \_\_\_\_\_

**Address** \_\_\_\_\_

\_\_\_\_\_

**Tel Number** \_\_\_\_\_



**Name of your Podiatrist** \_\_\_\_\_

**Address** \_\_\_\_\_

\_\_\_\_\_

**Tel Number** \_\_\_\_\_



**Name of your Pharmacist** \_\_\_\_\_

**Address** \_\_\_\_\_

\_\_\_\_\_

**Tel Number** \_\_\_\_\_

For more information about Diabetes Awareness, please contact the nearest Diabetes forum.

You can also join the **NEL Diabetes Support Group**, based at Open Door in Albion Street, Grimsby. Every 3rd Monday of the month from 1 pm to 3 pm.

And Scartho Library



Printed and Promoted by Peers Connections Group c/o 179A Oxford Street,  
Grimsby, DN32 7NX. 07505 701150  
**Email:** [peersconnectionsgroup@gmail.com](mailto:peersconnectionsgroup@gmail.com)  
**Web:** [www.posdisablednelincs.org](http://www.posdisablednelincs.org) **Twitter:** [peersconnectgr1](https://twitter.com/peersconnectgr1)  
**Facebook:** [peers connections group N E Lincs](https://www.facebook.com/peersconnectionsgr1)