Nutrition for Diabetes Mellitus

Dietetics

Ikazia ziekenhuis

Nutrition for diabetes mellitus

1. What is diabetes mellitus?

Diabetes mellitus is a condition in which there are problems in maintaining blood glucose levels. Glucose is derived from carbohydrates (sugars and starch) in the diet.
Carbohydrates are converted in the intestinal tract into glucose. Glucose enters the blood through the intestinal wall.
The blood brings glucose to the cells in the body (for example, the cells in the muscles and the brain). There, glucose serves as a source of energy.

In order to enable glucose to go from the blood and enter the cells of the body, insulin is required. Insulin is a hormone; it is made in the pancreas.
In diabetes mellitus type 1 there is a shortage of insulin or insulin is even no longer produced at all by the pancreas.
In diabetes mellitus type 2 insulin does not work properly. It may be that insulin is being produced insufficiently or that the body is insensitive to the insulin that is being produced (this is often the case with obesity).
The result is that the glucose cannot enter the cell and remains in the blood. The kidneys then excrete some of the glucose with the urine.
However, some glucose remains in the blood. Too much glucose in the blood causes physical complaints such as fatigue, thirst, itching and frequent urination.

The treatment of diabetes mellitus type 1 consists of the use of insulin (administered with a pen or pump) combined with nutritional advice.
The correct amount and type of insulin along with proper nutritional advice helps to normalize blood glucose levels.
The treatment of diabetes mellitus type 2 consists of the use of pills and/or insulin (and/or GLP−1 injections), combined with nutritional advice.
The correct amount and type of pills and/or insulin along with proper adherence to the nutritional advice helps to normalize blood glucose levels.

The treatment of diabetes aims at keeping the amount of glucose in the blood within the normal limits.
The target values are as follows:

Tabel 1: Target values diabetes mellitus

	Fasting blood sugar	Blood sugar after meals
Diabetes mellitus type 1	4,4 – 7,2 mmol/L	⩽ 10,0 mmol/L
Diabetes mellitus type 2	4,5 – 8,0 mmol/L	⩽ 9,0 mmol/L

There are some factors that may affect blood glucose levels in addition to nutrition. These include stress, pregnancy, fever, illness and side effects of certain medicines (birth control pills, corticosteroids such as prednisone, diuretics). These factors may have an increasing effect on the blood glucose levels. Exercising can both raise and lower the blood glucose levels.

Make sure you have a healthy body weight
A healthy weight is very important. If you are overweight, the insulin may not work properly. As a result, blood glucose levels remain too high and the insulin dose needs to be increased.
Together with the dietician you can decide what a healthy weight is for you. In order to lose weight, it is important to change your eating habits. You will have to eat fewer calorie–rich products, such as sweet and savoury snacks, fatty foods, sugar, soft drinks and alcoholic beverages. The amount of energy is indicated in kilocalories: 1 kilocalorie (kcal) = 4.2 kiloJoules (kJ).

Good nutritional advice is not one–sided, but includes a varied diet. You can continue with such nutritional advice for a long time. This makes it easier to get used to different eating habits. More exercise is necessary for weight loss and stimulates the functioning of insulin in the body. This also helps to lower the blood glucose levels. Try to exercise intensively for 150 minutes per week. Choose a form of exercise that you enjoy (biking, swimming, walking, aerobics etc.).

2. The nutritional advice

The basis of nutritional advice is a healthy diet. However, you need to pay extra attention to the carbohydrates and fats in the diet. Based on what you are used to eat and drink, a dietitian can discuss with you what your eating pattern should look like. Some guidelines are described below.

Divide the carbohydrates evenly throughout the day

Carbohydrates are a collective name for sugars and starches. Sugars are found in candy and soft drinks, but also in milk products, fruit and fruit juices.
Starches are found in bread and bread products, potatoes, rice, pasta and legumes. Everyone needs carbohydrates. They provide us with energy to be able to function.
In the case of diabetes, it is important that these carbohydrates are distributed evenly throughout the day and that (big) fluctuations in blood glucose levels are prevented.

In our food there are various types of carbohydrates:

- starches in bread, potatoes, rice, pasta and legumes;
- lactose in milk, buttermilk, custard, yoghurt and potted cheese;
- fructose in fruits, fruit juices and fruit puree;
- sugar in candy, soda, ice cream, cake, cookies, sweet sandwich fillings and sugar from the sugar pot.

Use sugar sparingly

Sugar is, like starch, a carbohydrate that is converted into glucose in the body. People used to think that those with diabetes mellitus should not use any sugar at all.
Nowadays, it is known that sugar in the diet (for example, a cookie) is possible. One has to take into account that sugar is a carbohydrate and therefore needs to be incorporated into the nutritional advice. Talk to your dietician about this.

Too much sugar is not good, that applies to everyone. Sugar has no valuable nutrients to the body other than calories. So be careful about the use of sugar and try to get used to a diet that is less sweet. If you use sugar

in coffee or tea, then there are good alternatives in the form of sweeteners. These sweeteners are also processed into light soft drinks.

In addition, there are various "sugar–free" products available such as pastries, cakes and chocolate. These products do not contain regular sugar, but may contain other carbohydrates. Often, they also contain a lot of (saturated) fat. Use of these products is therefore not recommended. Fruit juices labeled as 'unsweetened' or 'no added sugar' contain carbohydrates in the form of fructose. Drinking these fruit juices is also not recommended. Milk products with the label 'unsweetened' also contain carbohydrates, but in the form of lactose. These drinks cannot be used unlimitedly, but do fit into a compele nutrition.

Use fats and fatty products in moderation
In diabetes nutrition, the amount of fat and the type of fat plays an important part. With diabetes there is a greater risk of developing cardiovascular diseases.
To avoid this, it is wise not to eat too much fat.

In addition, the type of fat is important. Saturated fat increases the risk of cardiovascular disease, while the unsaturated fat recuces this risk. Saturated fat is found in foods of animal origin, such as meat, milk and cheese, as well as in some vegetable (plant based) foods, such as coconut, cocoa and palm oil (commonly used in snacks, cookies and ready–made products).Therefore, it is preferable to choose the lean meats, low–fat or semi–skimmed milk products and cheese with a lower fat content. Unsaturated fats are found in oil, low–fat and diet margarine, fatty fish and nuts.

Dietary fibre

A healthy diet contains a sufficient amount of fibre. Dietary fibre is the collective name for the indigestible components of the diet. They only occur in plantbased foods. Important sources of dietary fibre are vegetables, fruit, potatoes, whole grain bread, breakfast cereals, legumes and nuts. Dietary fibre is extremely important. It softens the faeces, stimulates the bowels to move and shortens transit intestinal time. On the other hand, dietary fibre forms an excellent breeding ground for the bacteria which are needed to digest everything well.

The intake of carbohydrates in the intestine is delayed by the use of dietary fibre. This can slow down the increase of the blood glucose level. For example, a slice of white bread gives a greater and faster increase in blood glucose than a slice of whole grain bread. Therefore, whole grain bread is preferable. Eating dietary fibres can ensure fewer fluctuations in the blood glucose levels during the day and provides better regulation of the diabetes.

3. How many carbohydrates should the diet contain in the case of diabetes?

The starting point for diabetes nutrition is to strive for a well–balanced eating pattern using the carbohydrates throughout the day. This usually matches with our daily Dutch diet with three main meals a day and sometimes a small snack. There is no ideal amount of carbohydrates for people with diabetes mellitus. Next to spreading the carbohydrates throughout the day, the quality of carbohydrates is also important. Carbohydrate sources which are high in fibre contain qualitatively good carbohydrates and are therefore preferred.

(Strict) low carb diet

A strict restriction of carbohydrates (less dan 70 grams of carbohydrates day) is not recommended for people with diabetes mellitus type 1 due to the risk of hypoglycemia and ketoacidosis (acidification of the blood with very serious possible consequences).
When you have type 2 diabetes and you are considering following a strict low carb diet (for example when you want to lose weight), it is recommended to only follow this diet in supervision of a medical specialist. The effects of a strict low carb diet on long term have not yet been sufficiently researched.
If you use SGLT2 inhibitors as medication (for example dapagliflozine/ Forxiga or empagliflozine/Jardiance), you have to use at least 70 grams of carbohydrates per day.

The distribution of carbohydrates throughout the day

The advice on the distribution of carbohydrates throughout the day depends on the therapy used to regulate the blood glucose level. With almost every type of therapy it is important to have a regular distribution of carbohydrates. When you use insulin twice a day (a pen with a combination of short– and long–acting insulin), it is necessary to have fixed amounts of carbohydrates during the day.

Intensive insulin therapy (insulin four times a day, per pen or pump) provides other dietary options.

A fixed amount of carbohydrates per meal is not necessary. It is possible to take more or less carbohydrates per meal, but only if the amount of insulin is adjusted.

It is essential in this case that you can count with carbohydrates. Adjusting the amount of insulin can be done in consultation with the doctor or diabetes nurse and the dietician.

If you are fully familiar with diabetes self–regulation (insulin–carbohydrate ratio), you can then determine your insulin amount per meal yourself.

Please note:

'Extra' carbohydrates, for which additional insulin is injected, may not always lead to high blood glucose levels. However, the energy (calorie) content of the diet does increase.

As a result, body weight may increase, which is not always desirable.

4. What do you need every day?

Tabel 2 provides the recommended daily amounts per age group and gender in order to get enough protein, vitamins and minerals. In all the quantities mentioned, it is the weight of products as they are eaten. It is important to vary within the product groups, so your body will get what it needs.

Tabel 2: Recommended daily amounts

	19–50 years		**51–69 years**		**70 years and older**	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Vegetables	250 g		250 g		250 g	
Fruit	2 pieces (200 g)		2 pieces (200 g)		2 pieces (200 g)	
Wholemeal bread	6–8 slices	4–5 slices	6–7 slices	3–4 slices	4–6 slices	3–4 slices
Wholegrain foods (such as rice, pasta, couscous) or potatoes	4–5 serving spoons (240–300 g)		4 serving spoons (240 g)	3–4 serving spoons (180–240 g)	4 serving spoons (240 g)	3 serving spoons (180 g)
Fish, meat, eggs, legumes (see table below)	1 portion		1 portion		1 portion	
Unsalted nuts	25 g		25 g	15 g	15 g	
Dairy products	2–3 portions (300–450 ml)		3 portions (300–450 ml)	3–4 portions (450–600 ml)	4 portions (600 ml)	
Cheese	40 g		40 g		40 g	
Oil and spreads	40 g		40 g		40 g	
Fluids	1.5–2 litres		1.5–2 litres		1.5–2 litres	

5. Practical tips

With a fixed amount of carbohydrates per meal you can vary with different products which have the same amount of carbohydrates.

In the list below a number of carbohydrate–containing foods are indicated along with other foods that approximately have the same amount of carbohydrates. In addition, the amount of fat in the food is also taken into account. A number of variation options are included in this brochure.

Bread

1 slice of bread (15 grams of carbohydrates) can be replaced with:

- 2 (whole wheat) rusks;
- 2 slices (whole wheat) crispbread;
- 3 pieces of (whole wheat) baguette bread (10 grams per piece);
- ½ raisin bun;
- 1 slice of raisin bread;
- 1 bowlof non–fat yoghurt or semi–skimmed milk with 1 tablespoon of muesli;
- 1 bowl of porridge (150 ml) made with semi–skimmed milk without sugar.

Sweet sandwich topping

Please note: sweet sandwich toppings raise your bloodsugar (in contrast to savory sandwich fillings). Be careful using it.
Fruit jam for 1 slice of bread has about 10 grams of carbohydrates, which is comparable to apple syrup, honey, fruit–flavoured sprinkles or marmalade. A portion of low–sugar jam contains 4 grams of carbohydrates. A portion of sugar–free jam contains 1 gram of carbohydrates. Chocolate sprinkles or chocolate spread are advised to only have as an exception. These products are rich in the less healthy saturated fats.
One serving of peanut butter contains 2 grams of carbohydrates for 1 slice of bread. Peanut butter is rich in healthy unsaturated fats and is a good choice for a sandwich topping.

Savoury sandwich topping
Savoury sandwich toppings, such as meats and cheeses are low in or without carbohydrates and therefore do not have an elevating effect on your blood glucose levels.
However, the full-fat variants are generally rich in the less healthy saturated fats. Therefore, preferably choose a lean variant such as 20+ or 30+ cheese or cheese spread, cottage cheese or lunch meats such as ham, roast beef and fricandeau.

Milk and dairy products
1 glass (150 ml) of semi-skimmed milk (7 grams of carbohydrates) can be replaced with:
- 1 glass of buttermilk;
- 1 bowl of (low-fat) plain yoghurt;
- 1 bowl of (low-fat) soft potted cheese.

Potatoes and substitutes
Potatoes and substitutes, such as rice and pasta, are the main carbohydrate suppliers of the main meal. Instead of 4 small potatoes (200 grams, about 32 grams of carbohydrates) you can have:
- 4 large spoons of mashed potatoes (250 grams);
- 3 large spoon of cooked (whole grain) pasta such as macaroni and spaghetti (150 grams);
- 3 large spoons of cooked legumes such as brown beans, white beans, capuchin beans, lentils (200 grams);
- 2 large spoon of cooked (brown) rice (125 grams);
- 2 slices of whole wheat bread;
- 6 pieces of whole wheat baguette bread (à 10 grams per piece).

Fruit
An average serving of fruit (15 grams of carbohydrates) may consist of:
- 1 apple, 1 orange, 1 pear, 1½ grapefruit, 2 nectarines, 3 tangerines, 2 kiwis, 1 slice of fresh pineapple, 1 bowl of cherries (150 grams), 1 small banana, 3 plums, 7 apricots, 10 grapes, 300 grams of strawberries, 150 grams of blueberries;
- 1 small dish of fresh fruit (125 grams).

Desserts

You can replace 1 small bowl of 150 ml custard without added sugar (for example Optimel) (14 grams of carbohydrates) with:

- 1 small bowl of low-fat plain yoghurt or potted cheese with 1/2 portion of fruit;
- 1 large bowl (200 ml) of low-fat fruit yoghurt without added sugar;
- 1 small bowl of porridge without added sugar;
- 1 bowl of low-fat plain yoghurt or potted cheese with 1 tablespoon of muesli;
- 1 popsicle.

Snacks

As a snack (around 15 grams of carbohydrates) you may choose for example:

- 1 slice of whole wheat bread with low-fat margarine and low-fat savoury sandwich filling;
- 1 portion of fruit (see above);
- 1 pre-cut slice of whole wheat ginger cake;
- 2 whole wheat biscuits;
- 1 Evergreen (= biscuit);
- 2 Sultanas [raisin biscuits];

As an exception:

- 1 slice of cake;
- 1 mini candy bar or 2 chocolates;
- 7 salty biscuits (such as Tuc);
- 2 tablespoons assorted nuts and raisins;
- 4 small pieces of Melba toast or 3 pieces of baguette bread (à 10 grams each) with, for example, vegetable salad, cheese or meat;
- 1 small bag of crisps.

Beverages
Some beverages do not contain any carbohydrates. These include tea and coffee without sugar, light/diet soft drinks, tap water and mineral water. These beverages do not have carbohydrates and you can have them without restrictions. Also, you can have one glass of tomato juice or vegetable juice per day without having to omit anything. Broth and low-fat, clear soups are allowed to a limited extent due to the amount of salt.

Products without carbohydrates
The following products can be used without omitting anything else or injecting additional insulin and therefore have little or no effect on blood glucose levels:
- raw vegetables (such as carrots, tomatoes and cucumber);
- sugar-free chewing gum;
- tea/coffee without sugar;
- (mineral) water;
- light/diet soda;
- eggs (2–3 per week, or 3–4 per week for vegetarians).

As an exception:
- broth or clear soup;
- cheese;
- meats and lunch meats;
- nuts (it is advised to have one handful of unsalted nuts per day).

Extras
Of course it is possible to occasionally take something tasty such as a biscuit, a piece of chocolate or a savory snack such as a small bag of chips. Think carefully in advance what you want to take and how much. This prevents you from eating more than you planned. Agree upon how often you want to use something extra. This can vary from 3 times a day to once a week depending on what you were used to doing. This makes the diet more attractive and it is easier to maintain it.

Tips for changing your eating habits

- Create a shopping list and buy no more than necessary;
- Do grocery shopping after eating, so with a full stomach;
- Get as few ready–made foods, sweets and snacks, as possible to store. You are then less tempted to eat them;
- Make sure that you eat at regular times and do not skip meals.

Tips for eating less

- Do not cook more than necessary, then you do not have to eat the leftovers;
- Eat slowly; take your time at the table. If necessary, lay down your cutlery until your mouth is empty again;
- Keep all food out of sight;
- Use smaller plates, glasses, bowls, etc.;
- Take small bites, chew the food well;
- Eat at fixed times and not in between meals;
- Eat in a regular place, for example, at the dining table. Set the table for each meal;
- Eat consciously by doing nothing else while eating, such as reading or watching television;
- Do something fun at times when you always feel like eating something;

6. Eating out, partying, going out

When eating out or going to a party, the time of the meal is usually different from what you are used to. You may also eat a little more than you are used to and the meals can have a bit more fat. You can then adjust the time of your insulin injection.

You may have the following possibilities:

- Take your insulin injection at a later time and/or;
- Divide the evening insulin into two or more portions and/or;
- Inject extra units of insulin.

Consult the diabetes nurse and dietician on what is most suitable for you. When you go out for dinner, wait to take your insulin injection until the main course is served. This will prevent a hypo (low blood glucose level) if you have to wait too long. You can also then better determine how many carbohydrates the meal contains and thus how much insulin you need to inject for it. If you decide to have a dessert, you could inject insulin separately for it.

Check your blood glucose level when you come home or before you go to bed. Excessively high blood glucose levels (through additional food) can be adjusted with short–acting insulin. A hypo (because of more activity (dancing) and alcohol) can be prevented by eating additional carbohydrates. How much that should be is decided in consultation with the diabetes nurse and dietician.

Alcohol

Alcohol has a blood glucose lowering effect. The liver has a task in breaking down alcohol. At that moment there is no (or an insufficient amount of) glucose going from the liver into the blood.
When using insulin, especially after several drinks, it is possible that the blood glucose levels become too low (hypoglycaemia). Often it is hard to determine whether the “dizziness” comes from (too much) alcohol or from a hypo.

The blood glucose lowering effect may occur up to 24 hours after alcohol consumption. It may therefore be necessary to eat a small amount of carbohydrates. This could be, for example, 3 pieces of Melba toast or a few handfuls of crisps. There is no objection to drinking 1 to 2 glasses of alcohol, just not every day.

Please note:

- Not on an empty stomach;
- Strong liquor (including gin, whiskey, cognac) does not contain carbohydrates;
- (If necessary) eat extra carbohydrates (crackers/crispbread/bread) when drinking alcohol;
- Before going to sleep, check your blood glucose levels;
- Beer, wine, sherry and port contain carbohydrates to a greater of lesser extent. Advice: Check the blood glucose before going to sleep.
- Alcohol after sports enhances the risk of a hypo; before going to sleep check the blood glucose and, if necessary, eat extra carbohydrates;
- Alcohol–free beer contains more carbohydrates than regular beer (with alcohol). Drinking alcohol–free beer therefore increases the blood glucose level.

7. Exercise

For those with diabetes mellitus, regular exercise reduces the risk of cardiovascular disease. It improves the physical condition and overall well–being. However, for people with type 1 diabetes, blood glucose regulation becomes more complicated by exercise. People with type 1 diabetes are very sensitive to all changes in insulin levels and the glucose supply and consumption. Through exercise it can be difficult to keep blood glucose levels stable. This is because exercise may lower the blood glucose levels. This effect may last 24 to 48 hours. However, with a correct adjustment of insulin dosage and carbohydrate intake, this can be compensated for.

Measuring your blood glucose level (before and after exercise) is essential for evaluating the effects of exercise, food and insulin dosage. How many carbohydrates and how much insulin is needed during a particular type of exercise can be calculated roughly. However it needs customization per person. You can find a rough indication in the table below, but keep in mind that it is different for everyone.

Table 3: Guidelines for exercising

Duration and type of exercise	**Blood glucose level before exercise**	**Insulin adjustment before exercise**	**Extra carbohydrates**
<30 minutes of light exercise	<5 mmol/l	Half	10–15 grams
	>5 mmol/l	Normal dose	None
30–60 minutes of moderate exercise	<5 mmol/l	Skip	30–45 grams
	5–10 mmol/l	Half	15 grams
	10–15 mmol/l	Normal dose	None
> 1 hour moderate exercise	<5 mmol/l	Skip	45 grams/hour
	5–10 mmol/l	Half	30–45 grams/ hour
	10–15 mmol/l	Half	15 grams/hour

As a rule of thumb, the following may apply: Inject half of the short–acting insulin during the meal which is eaten less than 2 hours before exercising. In addition, inject the insulin into a place that is the least actively moving during the exercise, for example in the abdomen instead of in the leg if you are running. For exercise that takes place more than 2 hours after the meal, the normal dose of short–acting insulin can usually be injected.
If necessary, eat extra food before and after exercising. Having to eat after exercising especially applies for exercise that lasts longer than 1 hour.

After exercising, hypoglycaemia can still occur in the recovery phase due to the increased insulin sensitivity and due to glucose consumption of the muscles. It may then be necessary to also inject less than the usual dose of insulin during the meal afterwards and also to use a lower dose of long–acting insulin in the evening/before the night. How much less varies per person. Depending on the nature of the exercise, additional carbohydrates must be used before, during and/or after exercise.

Please note: always discuss adjustments with the diabetes nurse or internist.

8. Hyper/hypo

Hyperglycaemia means that the blood glucose level is too high. You can recognize hyperglycaemia by the following characteristics: drowsiness, tiredness, dry tongue, frequent urination and the need to drink a lot.

With hyperglycaemia you can take various actions to reduce the blood glucose level, for example, drinking extra water or using extra short–acting insulin. Do not use extra short–acting insulin without the advice of the diabetes nurse.

In the case of hypoglycaemia, the blood glucose level is too low (less than 4 mmol/l). A hypoglycaemia can be expressed by: dizziness, tremor, poor eyesight, sweating, hunger, paleness, fatigue, headache and mood fluctuations.

It is important that you take action immediately with low blood glucose levels. If you are not sure if the blood glucose is too low, it is advisable to check the blood glucose first. If the value does appear to be too low (below 4 mmol/L), you should then eat/drink something with 16–20 grams of 'fast' carbohydrates, for example:

- 6 grape sugar tablets/Dextro;
- 1 glass of regular coke (150 ml);
- 1 glass of fruit syrup with water (40 ml syrup);
- 3–4 sugar cubes, dissolved in water.

When you have an insulinpump with CGM (Continuous Glucose Monitoring), you only need 10 grams of carbohydrates during a hypo instead of 16–20 grams.

The exact amount of carbohydrates in order to increase the blood sugar differs per person. When the blood sugar level is still below 4 mmol/l after 15–20 minutes, it is advised to have one of these products, which are

mentioned above, again.

When you are not having a meal or snack in the upcoming hour, it is also advised to have a snack with 'slow' carbohydrates, for example:
- 1 slice of brown bread with savoury sandwich topping;
- 2 whole wheat rusks or crispbreads with savoury topping;
- 1 portion of fruit.

If a hypoglycaemia occurs just before a meal, it is recommended to first have some fast carbohydrates. Then you can start the main meal. Inject your insulin in the dosage you are used to.
If a hypoglycaemia occurs in the evening, it is advisable to check the blood glucose level before you are going to sleep, in order to prevent a blood glucose level that is too low during the night.

9. HbA1c
When taking a blood sample, the HbA1c is often also determined. Red blood cells contain haemoglobin and are in the blood for approximately 2–3 months before they are broken down. In the blood, glucose can attach to the haemoglobin and not let go. This can give a good estimation of the average amount of glucose in the blood over 2–3 months: the HbA1c.

The aim for those with type 1 diabetes mellitus is to have an HbA1c below 53 mmol/mol.

More information

Voedingscentrum
For more information, contact the Nutrition Centre Stichting Voedingscentrum Nederland [Netherlands Nutrition Centre]
www.voedingscentrum.nl

Diabetes Vereniging Nederland [Netherlands Diabetes Association]
The Diabetes Vereniging Nederland [Netherlands Diabetes Association] also publishes various informational brochures and a journal, Diabc. This association also regularly organizes information gatherings about diabetes and everything that relates to it. Request more information at:
www.dvn.nl

Information in English:
www.diabetes.org.uk (The British Diabetic Association)
www.diabetes.org (The American Diabetes Association)
www.idf.org (The International Diabetes Federation)

This text was created by the Department of Dietetics of the Ikazia Hospital in Rotterdam (April 2025) using the following brochures and articles:

- NDF Nutrition Guidelines for Diabetes 2020.
- Voedingscentrum 'Schijf van vijf' (Nutritional Centre: the five principle ingredients of a proper diet)
- Voedingscentrum 'Eettabel' ;
- Dietary Treatment Guidelines, 2024; Diabetes mellitus type 1 in adults (new)
- Dietary Treatment Guidelines, 2017; Diabetes melltitus type 1 and 2 in adults (under revision).

Let op: *In deze folder staat informatie die belangrijk is voor u. Heeft u moeite met de Nederlandse taal? Lees deze folder dan samen met iemand die de informatie voor u vertaalt of uitlegt.*

Please note: *This leaflet contains information that is important for you. If you have trouble understanding the Dutch language, you should read this leaflet together with someone who can explain the information or translate it for you.*

Dikkat: *Bu broşür sizin için önemli bilgiler içerir. Hollandaca okumakta zorlanıyor musunuz? O zaman broşürü bilgileri sizin için çeviren ya da açıklayan biriyle okuyun.*

Uwaga: *Ta ulotka zawiera ważne dla Ciebie informacje. Masz trudności ze zrozumieniem języka holenderskiego? Przeczytaj tę ulotkę razem z kimś, kto przetłumaczy jej treść lub będzie w stanie wyjaśnić zawarte w niej informacje.*

انتبه: هناك معلومات مهمة بالنسبة لك في هذا المنشور. هل تواجه صعوبة في اللغة الهولندية؟ اقرأ إذن هذا المنشور مع شخص آخر يترجم أو يشرح لك المعلومات.

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