

Diet and diabetes gravidarum

Dietetics



Beter voor elkaar

What is diabetes gravidarum (diabetes during pregnancy)?

During pregnancy, the amount of glucose (sugar) in the blood of the mother-to-be sometimes gets too high.

If the OGTT (oral glucose tolerance test) shows that the level exceeds 6.1 mmol/l (when fasting) and/or 7.8 mmol/l after two hours, this is known as diabetes gravidarum. If this happens to you, you will receive dietary advice to normalize your blood-glucose (blood-sugar) values, try to bring them down to less than 5.3 mmol/l when fasting, 6.7 mmol/l two hours after a meal, and less than 7.0 mmol/l at bedtime.

Diabetes gravidarum (diabetes during pregnancy) is a type of diabetes, generally temporary, that can occur after the 24th week of pregnancy. Diabetes gravidarum occurs under the influence of hormones that are formed during pregnancy.

Having diabetes means you have problems maintaining your blood-glucose levels. The carbohydrates that we consume are converted to glucose in our intestines.

The glucose is transported through our intestines to the blood. The blood carries the glucose to the cells of our body (for instance, in our muscles and brain). Once there, the glucose acts as a source of energy.

We need insulin in order to get glucose out of the blood and into our body cells. Insulin is a hormone made in the pancreas.

Insulin keeps the amount of blood-glucose in our body in balance. During a normal pregnancy your body makes extra insulin. This counteracts your temporary reduced sensitivity to insulin. This doesn't happen in cases of diabetes gravidarum, or insufficiently, and the levels of blood-glucose remain too high.

You need more insulin because:

- your body has to work harder;
- pregnancy hormones are counteracting the insulin.

If your body is incapable of making sufficient insulin, the amount of glucose in your blood will rise. The excessive amount of glucose goes to the baby, who will grow heavier as a result. A heavy baby can cause problems during birth. After the pregnancy, your insulin requirement will normalize. In most cases your blood-glucose will also normalize.

It is estimated that one in twenty pregnant women develop pregnancy diabetes, although we do not have exact figures for the Netherlands.

If you had diabetes gravidarum in the past, you have a 50% chance of developing type 2 diabetes later in life and a bigger chance of diabetes gravidarum during any subsequent pregnancy. This means it is important to continue to eat healthy after your pregnancy and to keep an eye on your weight.

Carbohydrates

A lot of the glucose in your blood comes from your diet. Carbohydrates are converted to glucose as your food is digested.

Carbohydrates is a collective name for:

- Starch: this is found in bread, potatoes, rice, couscous, legumes, macaroni and other pastas;
- Milk sugar (lactose):: all sorts of milk (products), even unsweetened types such as milk, buttermilk, custard, yoghurt, curd;
- Fruit sugar (fructose): this is found in fruit, fruit juices and fruit purees, even the unsweetened types;
- Sugar from the sugar bowl: this is found in biscuits, cake, ice-cream, sweets, liquorice, etc.

Purpose of the diet

In order to make sure your blood-glucose does not get too high, it is important to spread your consumption of carbohydrates over the day. Leave at least 2 hours between mealtimes and snacks that contain carbohydrates. This ensures that just a small quantity of glucose gets into your blood at these moments and prevents peaks in your blood-glucose levels.

In fact, it is better to eat 6 small meals than 3 large meals a day.

Sugar

Limit your intake of sugar and products that contain sugar, such as:

- sweet sandwich products, such as jam, honey, sprinkles, syrup (you can eat limited amounts of peanut butter and sugar-free/low-sugar jam);
- lemonade (syrops)/fizzy drinks;
- tea or coffee with sugar;
- cake, biscuits, sweets, ice-cream, chocolate;
- fruit juice or fruit puree;
- fruits in syrup;
- custard and fruit yoghurt with sugar.

Sweeteners

A sweetener is a good replacement for sugar.

However, you should limit your intake. Do not drink more than 3 glasses a day of drinks containing sweeteners. Examples of sweeteners are saccharine, aspartame, sorbitol and cyclamate. These are the sweeteners used in, for instance, coffee, tea and light fizzy drinks.

Practical tips

Introduce a little variety into your meals by replacing carbohydrates in your daily menu with other dishes or foods that contain just as many carbohydrates.

The following is a list of alternative foods you can use to replace other foods containing carbohydrates (while still obtaining the same number of carbohydrates). This folder suggests a number of alternative variations.

Bread (never eat more than 2 slices of bread as a meal)

Instead of 1 slice of bread (ca. 15 g carbohydrates) you could eat:

- 2 (wholewheat) rusks;
- 2 small slices of (brown) knäckebröd (crispbread);
- 3 slices of a baguette (weighing 10 g each);
- 1/2 a currant bun;
- 1 slice of currant bread or raisin bread.

Savoury toppings

Savoury toppings such as cheese and processed meat provide hardly any carbohydrates, so they will not raise the level of your blood-glucose.

Milk and milk products

Instead of 1 glass with 150 ml semi-skimmed milk (7 g carbohydrates), you could drink:

- 1 glass of buttermilk;
- 1 small dish of low-fat yoghurt;
- 1 small dish of low-fat curd.

Potatoes and alternatives

Potatoes and other alternatives such as rice and pastas are the most important sources of carbohydrates in our meals. Instead of 4 small potatoes (200 g, ca. 32 g carbohydrates), you could eat:

- 4 large spoons of mashed potato;
- 3 large spoons (150 g) of cooked (high-fibre) pastas, such as macaroni and spaghetti;
- 3 large spoons (150 g) of cooked legumes such as brown beans, white beans, field peas, lentils;
- 2 large spoons (100 g) of boiled (brown) rice;
- 2 slices of brown bread;
- 6 slices of a (brown) baguette (weighing 10 g).

A large spoon is a normally heaped serving spoon (+/- 50 g).

Fruit (eat a portion of fruit 2 hours after a meal, as a snack, but not 2 portions at a time).

An average portion of fruit (ca. 15 g carbohydrates) could be:

- 1 apple, 1 orange, 1 pear, 1½ grapefruit, 2 nectarines, 3 mandarins, 2 kiwis, 1 slice of a fresh pineapple, 1 dish of cherries, 1 small banana, 3 plums, 7 apricots, 10 grapes, 300 g strawberries, 200 g melon or a quarter of a mango;
- 1 small dish of fresh fruit (125 g).

Deserts (desert should be eaten 2 hours after your meal)

Instead of 1 small dish of 150 ml custard without added sugar (12 g carbohydrates), you could eat:

- 1 small dish of non-fat yoghurt or buttermilk or semi-skimmed milk with ½ a portion of fruit;
- 1 small ready-to-eat non-fat fruit yoghurt without added sugar;
- 1 small dish of porridge without added sugar;
- 1 small dish of non-fat yoghurt or buttermilk or semi-skimmed milk with 1 tablespoon or muesli or cruesli;
- 1 small dish of semi-skimmed milk with 2 tablespoons of cornflakes;
- 1 ice-lolly.

Snacks (always allow 2 hours between snacks and meals)

For a snack (ca. 15 g carbohydrates) you could choose:

- 1 slice of bread with 'light' margarine or a savory topping;
- 1 portion of fruit (see above);
- 1 small slice of (wholewheat/low-sugar) Dutch spiced cake (25 g per slice);
- 2 wholewheat biscuits;
- 1 Evergreen;
- 1.5 Sultanas ;
- 5 salted biscuits (e.g., Tuc);
- 2 tablespoons of dried fruit and nuts;
- 4 tiny pieces of toast or 3 slices of a baguette (weighing 10 g each), with, e.g., vegetable salad, cheese or sliced meat.

Drinks

A number of drinks do not contain any carbohydrates. These are tea and coffee without sugar, tap water and mineral water, light fizzy drinks, bouillon or low-fat soups with no binding agent. You can drink as much of these as you like. As extra you can drink one glass of tomato juice or vegetable juice a day without omitting something else from your diet.

Unrestricted products

You can eat and drink the following products without having to omit something else from your diet as they have no effect/hardly any effect on the blood-glucose:

- raw vegetables (wash them well);
- sugar-free chewing gum;
- tea/coffee without sugar;
- (mineral) water;
- light fizzy drinks;
- bouillon or soup without a binding product (do not eat daily if you have high blood pressure);
- cheese;
- (processed) meats;
- nuts;
- egg (not every day);

- olives.

Your dietician can advise you on the best way of adjusting your mealtimes and spreading them over the day. This can vary per person, depending on the blood-glucose levels measured.

A healthy diet

In order to be able to keep to the diet in a way that is healthy and sustainable, it is important to introduce variety into your diet.

People often think they need to eat and drink more, or even twice as much, during pregnancy. This is not the case at all.

It is true that pregnancy demands a little extra energy, but most women are less active during pregnancy, so they use less energy. This is why you do not need to eat a lot of extra food. A mother and her baby will automatically get sufficient nutrients with the recommended basic diet.

The following basic diet is the average that is needed each day during pregnancy:

Bread	4–7 slices
Potatoes, rice, pasta or legumes	4 pieces or 4–5 serving spoons (200 g)*
Vegetables	5 serving spoons (200 g)
Fruit	2 portions (200 g)
Milk products	450 ml milk products and 2 slices of cheese
(Processed) meat, fish, egg and meat substitutes	100–125 g (weight after preparation, including processed meat)
(Low-fat) margarine, baking oils and similar fats	40 g (low-fat) margarine, 15 g baking oils/fats
Drinks	1.5–2 liter

*Quantities in consultation with your Diabetes Gravidarum dietician.

Apart from folic acid and vitamin D, you do not need to take extra vitamins and minerals during pregnancy. Pregnant women who nevertheless do want to take extra vitamins and minerals are advised to opt for a multi-vitamin product especially designed for pregnant women and to keep to the recommended dose. This supplies the right amount of folic acid and vitamin D and is safe.

More information

Diabetes Vereniging Nederland [Netherlands Diabetes Association]

P.O. Box 470
3830 AM Leusden
T 033 4630566
www.dvn.nl

Voedingscentrum

[Dietary Centre]

You can contact the Voedingscentrum for all your questions about nutrition:

Stichting voedingscentrum Nederland

[Netherlands Dietary Centre Foundation]

P.O. Box 85 700
2508 CK The Hague
T (070) 306 88 88 (weekdays from 09:00 – 17:00 hours)
F (070) 350 42 59

For current information, consult the internet:

www.voedingscentrum.nl; this is also where you will find a list of brochures in the 'webshop'.

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The contents of this folder were drawn up by the Dietetics Department of Ikazia Hospital Rotterdam, using the following brochures and articles:

- Informatie diabetes gravidarum, Ikazia Hospital, 2009.
- Guideline 24: Diabetes mellitus and pregnancy/diabetes gravidarum; Dieetbehandelingsrichtlijnen 2010 Uitgevers (1-1-2004);
- information from the website, www.voedingscentrum.nl;
- information from the website, www.diabetesfonds.nl.



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