Gestational diabetes and nutrition

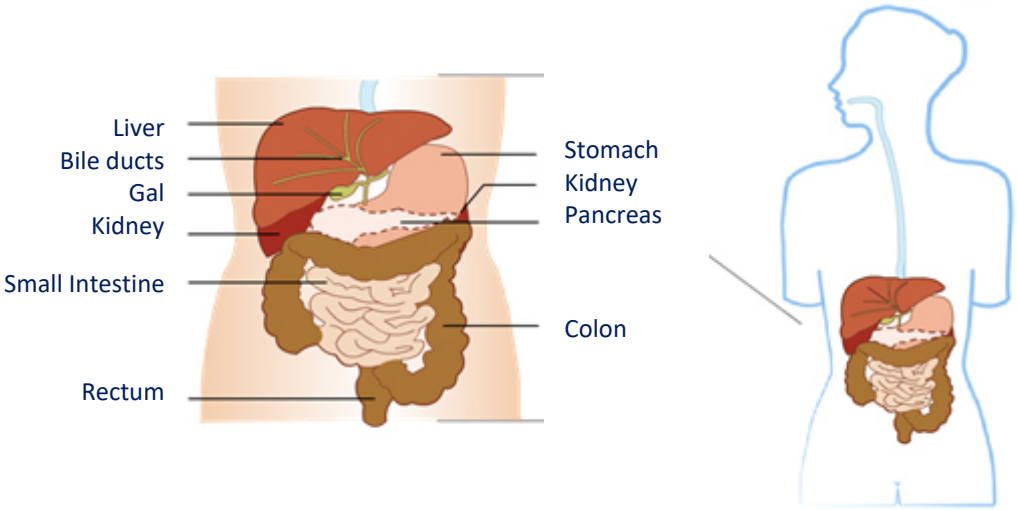
Gestational diabetes is also known as 'diabetes gravidarum' and is a temporary form of diabetes (diabetes mellitus). Gestational diabetes is usually detected from or after the 20th week of pregnancy and almost always disappears after the birth of the child. There is, however, a higher risk of developing diabetes mellitus in the first few years after a pregnancy. The recommendation is to have your GP check your fasting blood glucose levels annually for the first 5 years after a pregnancy with gestational diabetes.

This leaflet is intended to support the treatment provided by the dietitian. This leaflet contains information about the development, symptoms and consequences of gestational diabetes, a healthy diet during pregnancy, dietary advice for gestational diabetes, and exercise.

How does gestational diabetes develop?

During a pregnancy, a woman's metabolism changes. The body requires more insulin due to the additional tissue growth. The body also produces extra hormones that temporarily reduce its sensitivity to insulin, which in turn requires extra insulin.

Insulin is a hormone produced by the pancreas; it transports glucose from the blood to the cell, providing energy as a fuel. Insulin ensures that glucose can enter the cell. With gestational diabetes, the body is unable to sufficiently meet the extra insulin needs, causing an e levated blood glucose level. Gestational diabetes often has no symptoms.



The information in this brochure is general in nature and is intended to give you an idea of the care and guidance you can expect. In your own situation, other advice or procedures may apply. This brochure is therefore only an addition to the specific (verbal) information from your specialist or practitioner.

The risk of developing gestational diabetes is greater if:

- the previous child was heavier than 4,000 grams at birth;
- first-degree family members have diabetes;
- you have experienced a miscarriage;
- someone is overweight (BMI of 30 or higher) even before the pregnancy;
- you have Hindu, Moroccan or Turkish origins;
- if you have already had gestational diabetes.

Consequences

If the blood glucose level is too high, some of the glucose goes to the baby via the placenta. This makes the baby grow larger than normal, which can cause problems during the last part of the pregnancy and the delivery. To minimise this and other risks, it is important that gestational diabetes be treated.
Initially, treatment often consists solely of dietary and exercise recommendations. If blood sugar levels are still too high after 2 weeks, medication may need to be started. This is always done in consultation with the internist and gynaecologist.

Carbohydrates

The dietary advice will focus on the overall carbohydrate intake. Carbohydrates is an umbrella term for starch and various types of sugars. Carbohydrates are broken down into glucose, which is absorbed into the blood by the intestinal wall. After eating a meal with carbohydrates, blood glucose rises. The pancreas is activated and produces insulin.
We distinguish between different types of carbohydrates:

- starches, found in bread, potatoes, legumes, pasta and rice;
- fruit sugars, found in fruit and fruit juices;
- milk sugars, found in milk and dairy products (except cheese);
- sugar, found in sweet bread toppings, biscuits and baked goods, sweets and soft drinks.

Objective of treatment

The objective of the dietary treatment of your gestational diabetes is:

- as normal a blood glucose level as possible; we aim for a blood glucose value of: fasting ≤ 5.3 mmol/l and 2 hours after a meal ≤ 6.7 mmol/l);
- as normal growth as possible for your child;
- a balanced, varied diet with normal weight gain during the pregnancy.

A healthy diet

If you have gestational diabetes, you will receive dietary guidelines that will help keep your blood glucose levels stable. The foundation is healthy and nutritious food.
During a pregnancy, you will need a daily average of:

- 250g of vegetables;
- 2 portions of fruit;
- 4-7 brown or wholegrain sandwiches;
- 4-5 serving spoons of wholegrain products or 4-5 small potatoes;
- 25g of unsalted nuts;

- 3-4 portion of dairy products;
- 40g of cheese (2 slices);
- 40g of butter, margarine and cooking oil
- 1.5–2 litres of fluids (sugar-free beverages, if possible)

Per week, you will also need:

- 2 portions of fish (1 portion of oily fish, e.g. salmon and trout, and 1 portion of lean fish, e.g. plaice (schol) and tilapia; cook the fish thoroughly)
- 2-3 eggs
- maximum 500g of meat (cook the meat thoroughly; do not eat liver or liver-based spreads, such as liver sausage and paté)
- 2-3 serving spoons of legumes (e.g. lentils, chickpeas, beans)

These are only general guidelines; individual differences are possible, and the dietitian will discuss this with you.

Do not eat cheese made from raw milk (foreign cheeses labelled ‘au lait cru’ or ‘farm cheese’, for example).
Do not eat more than one sandwich per day with meat products containing liver, such as liver sausage, liver paste, paté, Hausmacher, Berliner sausage or sliced liver product ‘leverkaas’.

Apart from folic acid (until the 10th week) and vitamin D, you do not need to take any additional vitamins and minerals during your pregnancy.
It is also advisable to refrain from drinking alcohol or smoking throughout your pregnancy.

Sugar

The sugar in drinks and sweets causes a rapid rise in blood glucose levels. So, do not drink soft drinks, lemonade, fruit juices (incl. freshly squeezed or unsweetened) and other beverages that contain added sugar. Drink sugar-free beverages. Do not add any sugar or honey to tea and coffee

Sugar-free beverages:

- water, mineral water (you can add mint leaves or lemon slices);
- tea and coffee without sugar (max. 3 cups of green tea or black tea and 1 cup of coffee due to the high caffeine level);
- light soft drinks, sugar-free fruit drinks (e.g. Ranja: no more than 3-4 glasses per day due to added sweeteners.

Too much sugar is not part of a healthy diet and does not belong in a gestational diabetes diet. Sugar only provides energy, with no other nutrients such as vitamins and minerals. There are products available to which no sugar has been added or in which sugar has been replaced by a sweetener.

Examples include light soft drinks, sugar-free chewing gum and chocolate milk or fruit-flavoured yoghurt without added sugar. With normal consumption (up to a few servings per day), the sweeteners used do not pose a risk to your child.
We advise against eating so-called 'diabetic products', such as sugar-free chocolate, baked goods and liquorice.

Dietary advice

The treatment of gestational diabetes focuses on the following:

- Achieving a good distribution of carbohydrates throughout the day. This ensures that the glucose only enters the blood in small quantities, which prevents high blood glucose levels. Regular distribution means that the carbohydrate intake is spread out over three main meals and three to four snacks. Report any weight loss to your dietitian.
- Limit snacks to around 15g of carbohydrates.
- Do not skip meals and try not to go without food for more than 10 hours.
- Drink only sugar-free beverages.
- By preference, choose carbohydrates from wholegrain products, as well as legumes, potatoes, vegetables, fruit, nuts, seeds/kernels and dairy products. Besides carbohydrates, these foods also provide other important nutrients such as vitamins, minerals and dietary fibre.

Make sure you eat nutritious food. During a pregnancy, it is important to eat a healthy and varied diet to provide the mother and baby all the nutrients they need. For more information about nutrition during pregnancy, visit: www.voedingscentrum.nl/ikbenzwanger.

A diverse diet

It is important to have a diet that is rich in variety. This ensures not only that you eat a range of tasty, enjoyable foods,

it also ensures that you receive all the necessary nutrients. If you do vary your diet, we recommend keeping the amount of carbohydrates consumed per meal roughly the same. You can do this by replacing products with those that have the same amount of carbohydrates. See below for examples of dietary variations.

Options for variety

For 1 slice of whole-wheat bread, you can have:

- 2 whole-wheat rusks
- 2 whole-wheat crackers or crispbreads
- 1 slice of dark rye bread or 1 ½ slices of light rye bread
- 1 slice of whole-wheat currant bread or muesli bread
- ½ whole-wheat bread roll or a muesli bread roll
- 2 tablespoons of muesli or granola
- 2 tablespoons of oatmeal or Brinta

Savoury sandwich toppings (containing few to no carbohydrates)

- cheese
- cold cuts
- vegetable-based savoury spread
- peanut butter
- nut-based spread with no added sugars
- hummus
- sandwich spread
- cottage cheese
- eggs

Snacks (around 15g of carbohydrates)

- 1 apple, orange, pear, ½ banana, a peach, a bunch of grapes, a dish of strawberries, 3 tangerines, 2 kiwis
- Small bowl of yoghurt, quark or skyr with ½ portion of fruit or 1 tablespoon of muesli or granola
- 1 slice of whole-wheat currant bread
- 1 slice of wholegrain spiced breakfast cake (ontbijtkoek)
- 1 slice of whole-wheat bread with savoury toppings, such as cheese, meat, chicken, hummus, cottage cheese, peanut butter or egg
- 2 high-fibre or whole-wheat crispbread or whole-wheat rusks with savoury toppings
- 2 whole-wheat biscuits, 1 Evergreen bar or a muesli bar

For 1 portion of fruit (± 15g of carbohydrates), you can have:

- 1 apple, pear or orange
- 2 peaches or nectarines
- 2-3 mandarins
- 2 kiwis
- 1 mini banana or ½ standard banana
- 100g of grapes, mango or cherries
- 200g of melon or black currants
- 300g of red fruit (e.g. strawberries, raspberries, red currants, black berries)
- 25g dried fruit (e.g. figs, raisins, dates, apricots)

For 4 small potatoes (200g provides ± 35g of carbohydrates), you can have:

- 3 serving spoons (200g) of potato puree or baked potatoes
- 2 servings spoons of brown rice, couscous, bulgur or millet
- 3 serving spoons of whole-wheat pasta or whole-wheat noodles
- 4 serving spoons (240g) of cooked legumes (e.g. brown beans, white beans, kidney beans, lentils, chick peas)
- 1 whole-wheat tortilla wrap (50g) or roti
- 1 sweet potato (150g)
- 1 piece of cassava or yam (100g)

Exercise

Exercise helps get your blood sugar under control. Exercise causes the glucose from the blood to be absorbed by the muscles, where it is used as energy. Exercise can also improve insulin sensitivity, causing a drop in blood glucose.
For gestational diabetes, the recommendation is to do low-exertion exercise for at least 30 minutes a day according to your ability. This could include walking, cycling, yoga or swimming, depending on what is possible and feels good. It is safe to exercise during pregnancy, provided that you listen to your body. In addition to the positive effects on blood glucose, exercise can help reduce or prevent back pain and promote muscle strength and stamina.

Weight

During your pregnancy, it is important to keep an eye on your weight. A weight gain of approximately 10-15kg is normal. For women who are overweight or obese, less weight gain - approximately 7kg, is preferable.

If you are pregnant or breastfeeding, it is best not to try to lose weight. Trying to lose weight may cause a deficiency of, among other things, vitamins and minerals in you and/or your child. You will lose around five kilos after giving birth, and another four during the postnatal period. The remaining weight is a reserve for the period that you are breastfeeding. Women who are breastfeeding are generally more likely to lose weight than women who are not breastfeeding. Once you are no longer breastfeeding, you can further adjust your diet to reach your pre-pregnancy weight.

There are various websites, apps and brochures that show you how many carbohydrates different foods contain. A reliable app is the dietary food tracker app of the Netherlands Nutrition Centre Foundation (Voedingscentrum). The Netherlands Nutrition Centre Foundation website also contains a lot of useful information and a food tracker you can fill in. The Carbs&Cals app is in English.

In addition to dietary advice, the dietitian will give you a blood glucose monitor.
The dietitian will give you extensive instructions about this monitor during your consult.
You start by making two day curves. For this day curve, you will take measurements at the following moments:

- fasting (as soon as you wake up)
- 2 hours after breakfast
- 2 hours after lunch
- 2 hours after your evening meal

Depending on the results, your dietary recommendations may be adjusted. In consultation with the doctor, you may also need to start taking medication in addition to following your diet.

The target values are:
Fasting ≤ 5.3
2 hours after a main meal (breakfast, lunch, dinner) ≤ 6.7

After giving birth, you can stop the diet and the blood glucose measurements. Six weeks after the delivery of your child, your fasting blood sugar level will be checked. If it is normal, the treatment will be terminated. However, you will still have a significant chance of developing type 2 diabetes. We recommend having your GP test your fasting blood sugar level every year.

If you are overweight after the pregnancy and breastfeeding period, weight loss and an active lifestyle with adequate exercise can prevent the onset of type 2 diabetes. You can always ask for help from a dietitian or a lifestyle coach.

Questions

If you still have questions after reading this brochure, please contact the dietitians at ParaMáx during office hours on (040) 888 90 40.