

## Healthy eating and weight gain during pregnancy

This resource is for women with Cystic Fibrosis (CF) who are trying to become pregnant or who already are pregnant.

Nutrition plays an important role prior to conception, during pregnancy and beyond in women with Cystic Fibrosis (CF). It is important to know that nutrition and weight gain recommendations for pregnancy are different for women with CF than those without CF.

### Planning a pregnancy

A healthy pregnancy starts before you even fall pregnant. There is a better chance of having a successful and healthy pregnancy if you are at your best possible weight and nutritional status. Having a low body weight can reduce your chances of conceiving and affect the growth of the baby. Your dietitian will be able to advise you regarding your ideal weight in the preconception period. Increasing your folate intake through diet and supplements is important before you fall pregnant. There is more information about folate on Page 2 of this resource.

### Eating a healthy high energy diet

Eating a healthy high energy diet before and during pregnancy will benefit you and your baby. You need to include the following in your diet:

1. Energy foods (you need an extra 300kcal minimum/day)<sup>11</sup>
  - Healthy high fat foods should be eaten regularly to help you gain weight. Add extra fat to your diet by using more olive oil, avocado, nuts and seeds and full fat dairy products.
2. Protein foods include meat, fish, eggs and legumes (chickpeas, baked beans, lentils). Eat two serves of protein each day. A serve is equivalent to 1 cup of legumes, 65g of cooked red meat, or 80g cooked poultry.
3. High calcium foods (need >1500mg/ day): The best sources are dairy foods (milk, yoghurt, cheese). Aim to have 4 serves/ day; one serve is 250mL (1 cup) milk or 200g tub yoghurt or 2 slices (40g) cheese. Always choose the full fat varieties.

As the baby grows and there is less room in your stomach for food, it may be easier to eat smaller meals with regular snacks. You need to continue to take your pancreatic enzymes with all meals and snacks as advised by your dietitian.

### **Folate or Folic acid during pregnancy**

Folate (or folic acid) is needed for the growth and development of your baby. It is especially important in the month before you fall pregnant and the first trimester (three months) of pregnancy. A good intake of folate reduces the risks of your baby being born with some abnormalities such as spina bifida (a disorder where the baby's spinal cord does not form properly). Dietary sources high in folate include green leafy vegetables such as broccoli, spinach, bok choy, and salad greens, some fruits and cereals and breads with added folic acid.

All women planning a pregnancy and in the early stages of pregnancy should eat a variety of folate-containing foods (listed above) You should also take a folic acid supplement of 400 micrograms per day at least one month before and three months after you become pregnant.

### **Iodine**

Adequate iodine in pregnancy is essential for your baby's growth and brain development. Iodine is needed in higher amounts during pregnancy. It is now recommended that all pregnant women should take a supplement containing 150 micrograms of iodine. You still need to consume good food sources of iodine in addition to this supplement.

These food sources include:

- Vegetables,
- Bread with added iodine,
- Seafood, and
- Eggs.

## **Iron during pregnancy**

Iron is needed to form the red blood cells for you and your baby. It helps carry oxygen in your blood and is needed for your baby to grow. During pregnancy you need a lot more iron than when you are not pregnant. It is best to get the iron you need from your diet; however you may need a supplement if your levels become low.

Iron from animal food sources is absorbed more easily than iron from plant foods. The best sources of iron are lean meats (especially red meat), some vegetables (especially green leafy ones), legumes, and fortified cereals.

What you eat or drink may stop your body using iron from your diet. You should limit your intake of these:

- Drinking tea or coffee with meals
- Eating more than 2 tablespoons of unprocessed bran.

You can help your body get iron from the food you eat or drink by:

- Including vitamin C with meals (e.g. citrus foods, tomato, capsicum)
- Including animal protein with green leafy vegetables at a meal

## **Vitamins in pregnancy**

Most people with cystic fibrosis take vitamin supplements and will need to continue to take these before and during pregnancy.

Very high intakes of vitamin A in women without CF have been reported to increase risk of birth defects. In women with CF supplements of vitamin A are used to maintain normal blood levels. Blood levels should be checked at the beginning of each trimester. Supplementation should be <10 000IU/day if blood levels are low or normal, and ceased when levels are elevated. Vitamin D levels should be measured and supplemented if low.

Do not use over the counter vitamin and mineral supplements or herbal remedies without discussing them first with your doctor, dietitian or pharmacist.

## Eating fish during pregnancy

Fish is a safe and an important part of healthy eating. It is an excellent source of protein, is low in saturated fat, high in omega 3 fish oils and a good source of iodine. Omega 3 oils are important for growth of your baby's brain and eye development.

It is important to eat fish when you are pregnant but you need to be careful about the fish you choose. Some fish may accumulate mercury, which may be harmful to your baby's developing nervous system. The below table outlines the safe guidelines for fish intake.

Pregnant women and women planning pregnancy (1 serve = 150 g)
1 serve per <i>fortnight</i> of shark (flake) or billfish (swordfish/broadbill and marlin) and NO other fish that fortnight
<b>OR</b>
1 serve per <i>week</i> of Orange Roughy (Deep Sea Perch) or catfish and NO other fish that week
<b>OR</b>
2–3serves per week of any other fish and seafood not listed above

## Weight gain during pregnancy

It is important for your and your baby's health to eat well during pregnancy. Not enough weight gain can increase the risk of preterm birth and cause problems later in life. Women who are overweight or gain too much weight during pregnancy have a higher risk of:

- High blood pressure
- Gestational diabetes
- A large baby (macrosomia)
- Caesarean sections
- Birth defects

## How much weight should I gain?

The weight you should aim to gain depends on what your weight (and body mass index - BMI) was *before* you became pregnant. The average weight gain goal for most women with CF is >10kg.<sup>11</sup> This is different to weight gain recommendations for women without CF. It is normal for the rate of weight gain to vary throughout the pregnancy.

## **What should I do if I am not gaining enough weight?**

Not gaining enough weight means you and/or your baby may miss out on important nutrients. It is important to have three meals a day, and also have high energy between-meal snacks, such as morning tea, afternoon tea and supper.

If you are unable to increase your food intake, there are the following options:

- Using commercial nutrition supplements. These can be very useful but need to be taken on a daily basis in order to promote weight gain.
- Discuss with your dietitian which supplements are best for you and how many you will need to take daily.
- Even if you have tried supplements in the past, try them again as your tastes and the recipes may have changed!
- For some women, food and nutritional supplements are just not enough to gain weight during pregnancy, and it is worth considering tube feeding. These can be done at home and are normally given overnight so it does not interfere with your daily activities and eating. Some women with CF just need a short period of enteral tube feeding in the late weeks of pregnancy.

## **Being active during pregnancy**

Maintaining your physical activity during pregnancy has many health benefits for you and your baby. In most cases, pregnant women can continue with their usual exercise programs. Discuss this with your physiotherapist. Most activities are safe, as long as you:

- Take things easy
- Stop when you are tired
- Drink plenty of water
- Wear suitable clothing
- Do not become overheated
- Stop if you experience any pain that doesn't settle quickly.

You should avoid excessive stretching (your ligaments can be softened by the hormonal changes during pregnancy) and high impact activities or contact sports (e.g. running, surfing, water skiing, trampolining, gymnastics, netball, touch football or squash).

If you experience any of the following symptoms during or after physical activity stop and talk to your doctor:

- Contractions
- Vaginal bleeding
- Dizziness or unusual shortness of breath
- A headache
- Decreased foetal movements
- Sudden swelling of ankles, hands and face.

## **Food Safety**

Hormonal changes during pregnancy may make your immune system weaker. This can make it harder to fight infections. Foods are sometimes a source of infections so protecting yourself from food poisoning is important.

## **Listeria**

Listeria is a bacteria found in some foods, which can cause an infection called listeriosis. If passed on to your unborn baby it can cause premature birth, miscarriage or damage. It is important to avoid foods that are a high risk of containing listeria throughout your pregnancy.

Always keep your food 'safe' by:

- Choosing freshly cooked and freshly prepared food.
- Thawing food in the fridge or defrosting food in the microwave.
- Cooling left over food in the fridge rather than on the bench.
- Wash your hands, chopping boards and knives after handling raw foods.
- Make sure hot foods are hot (above 60 degrees Celsius) and cold foods are cold (below 5 degrees Celsius), both at home and when eating out.
- Make sure all food is fresh, used within the use-by date.
- Wash fruits and vegetables thoroughly before use
- Eat leftovers within 24 hours and reheat foods to steaming hot.
- Heat leftovers to above 74 degrees for over 2 minutes.
- Cook all meat, chicken, fish, and eggs thoroughly.
- Never re-freeze food once it has been thawed.

Foods that might contain *Listeria* and should be avoided include:

- Unpasteurised dairy products
- Soft cheeses such as brie, camembert, ricotta, and fresh fetta, unless they are cooked (yellow, hard cheese, and processed packaged cheese are safe)
- Soft serve ice cream and thick shakes
- All paté and ready to eat cold meats, including deli and packaged meats (e.g. ham, salami, cooked chicken)
- Ready-to-eat salads (from salad bars, buffets, supermarkets etc.)
- Raw or smoked seafood (including oysters, salmon, sashimi, sushi)
- Home prepared meats are normally free of *Listeria*, if used within 24 hours or if they have been frozen.

Some other bacteria and parasites can be harmful to your unborn baby.

In addition to the precautions above:

- Do not eat raw or undercooked eggs: eggs must be well cooked so that both the white and yolk are hard.
- Wear gloves when gardening and wash hands afterwards.
- Avoid contact with cats and use gloves when handling cat litter (cats can be a source of *Toxoplasmosis*— a serious infection that can cause defects or death in your baby).

## **Managing food-related side effects**

### **1. Nausea and Vomiting**

Many women suffer from sickness, usually in early pregnancy. Morning sickness is usually caused by the hormonal changes of pregnancy and can affect you at any time of the day. By the end of the fourth month of pregnancy, symptoms usually disappear or become much milder.

Some tips to help morning sickness:

- Eat small amounts every two hours — an empty stomach can cause nausea.
- Avoid smells and foods that make your sickness worse.
- Eat more nutritious carbohydrate foods: try dry toasts or crackers, breakfast cereals and fruit.

## 2. Heartburn

Heartburn, or reflux, is a burning feeling in the middle of the chest that can also affect the back of the throat. It is caused when acid moves from the stomach, back up the oesophagus. Heartburn is common in CF, but can worsen during pregnancy. This happens because hormonal changes during pregnancy relax stomach muscles, and also because as the baby grows, more pressure is put on your stomach.

Some tips to reduce heartburn:

- Eat small regular meals more often
- Avoid fatty, fried or spicy foods
- Avoid tea, coffee, carbonated drinks, chocolate drinks and alcohol
- Sit up straight while eating
- Do not bend or lie down after meals or wear tight clothes
- Sleep propped up on a couple of pillows.
- Eat in a calm, relaxed place
- Avoid peppermint and spearmint containing gums and herbal teas
- Avoid drinking at the same time as eating

## 3. Constipation

Constipation is common during pregnancy. Hormone changes may relax the muscles in your bowel, which together with pressure from the growing baby can slow down your bowel movements. It is important to have enough fibre, fluid and physical activity to avoid constipation. Good sources of dietary fibre include; vegetables, fruit, wholegrain and high fibre breakfast cereals, wholegrain bread, nuts, seeds and legumes. Water is the best drink. Make sure that you are taking the appropriate enzyme supplements, remembering to increase them with higher fat meals and snacks. Your doctor can prescribe medication to help relieve the problem.

## 4. Tiredness

Most women become tired at some stage of their pregnancy. Make the most of help offered for shopping or preparing food. Use ready-made meals or quick snacks if you are tired. Do not miss meals.



## 5. Gestational diabetes

Women with CF are at a higher risk of developing diabetes during pregnancy. You will have a glucose tolerance test when you first find out you are pregnant, and again later in your pregnancy. If you notice you are thirstier, passing more urine than usual, or, are failing to gain weight, contact your CF unit.

### Breastfeeding

Now that you are up to date on healthy eating for yourself you need to start thinking about nutrition for your baby when he or she arrives.

### Mothers & Babies are designed for breastfeeding.

Breastfeeding is the natural way to feed your baby.

Breastmilk is a complex food. It changes to meet the particular needs of each child from the very premature baby to the older toddler.

### Food for health

Breastfeeding has an amazingly positive effect on the health of both mothers and babies. For this reason, the World Health Organisation (WHO) and the Australian Department of Health recommend that all babies are breastfed *exclusively* (i.e. no other food or drinks) for around the *first 6 months* and then continue to receive breastmilk (along with complementary food and drink) into the child's 2nd year and beyond.

Research shows that the longer the breastfeeding relationship continues, the greater the positive health effects.

### Breastmilk provides:

- *Protection for baby* from infections such as ear, stomach, chest and urinary tract; diabetes, obesity, heart disease, some cancers, some allergies and asthma.
- *Protection for mother* from breast and ovarian cancers, osteoporosis and other illnesses.

### Preparing to succeed

Research shows that nearly all women are able to meet the breastmilk needs of their babies. Ask the midwife to put your baby skin to skin on your chest as soon as possible after birth. The midwife may help with baby attachment to your breast. You may need to plan your own treatments around breastfeeds, so the help and support of family and friends is essential.

## Postnatal care and your diet

It is important that you continue to have a high energy diet after the birth of your baby. Breastfeeding can increase your energy and fluid requirements, making it even more important to be including extra high energy foods and drinks in your diet when breastfeeding. Remember to increase your enzyme supplementation if the fat content of your food is high.

Content in this handout was informed by:

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