

Cystic Fibrosis all about nutrition

Healthy eating and cystic fibrosis

The Cystic Fibrosis Trust is grateful to the dietitians from the Cystic Fibrosis Dietitian Group UK (CFDGUK) who prepared the information in this leaflet.

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Introduction

This publication has been developed to be a general guide about the nutritional needs of an adult with cystic fibrosis (CF) who is a healthy weight and wants to maintain their weight. We have another leaflet called [‘Achieving a healthy weight in CF’](#) for anyone who wants to gain weight or finds it difficult to do so. A link to all our nutrition leaflets is on the back page.

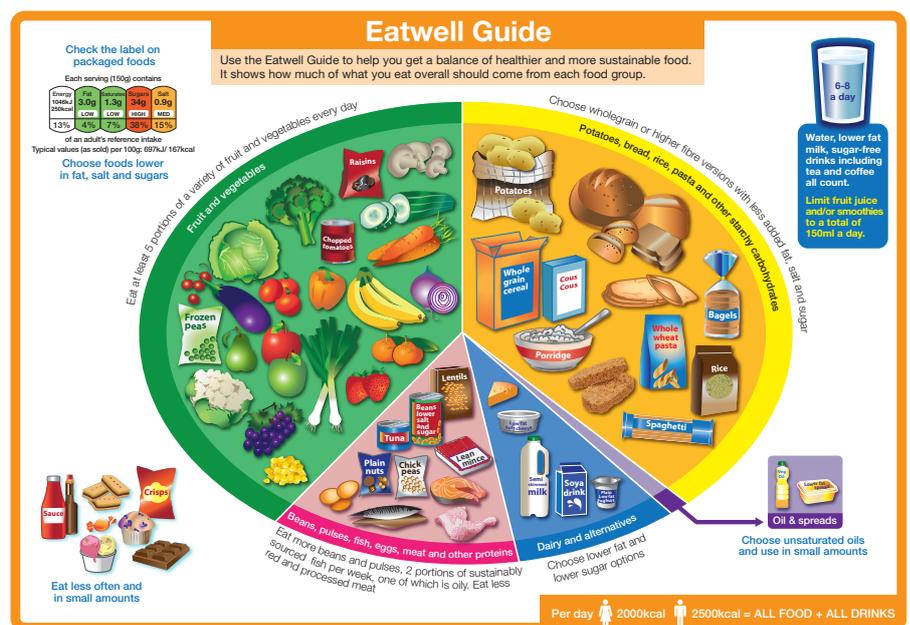
A new publication has been produced to explore some of the issues people with CF can face around their body image, and provides support and advice for dealing with these issues. Some of the topics covered in the booklet include weight and perceptions of weight, body shape, postural changes, muscle mass, abdominal distension and scarring. Visit cysticfibrosis.org.uk/bodyimage to download or order the booklet.

What is a healthy body weight?

For cystic fibrosis, good nutrition and a healthy body weight have been directly linked to having better lung function, reduced frequency of chest infections and can help people feel better. Many people with CF have a healthy body weight and want to maintain this while making healthy food choices. Body mass index (BMI) is a measurement of weight versus height. In CF, an ideal BMI range for most females is 22-25kg/m² and is 23-25 kg/m² for most males. (If you do a lot of exercise or sports and have built up your muscle mass, you may want to ask your dietitian about other measurements which assess for a healthy weight as BMI may not be a good guide for you.)

What should I be eating?

In the UK, the Eatwell Guide is recommended for the general population as an example of a balanced diet. This should be the basis for the CF diet and you should choose some foods from each group every day. The basis of everyone’s diet should be the three main macronutrients: protein, carbohydrates and fat.



Source: www.nhs.uk/live-well/eat-well/the-eatwell-guide/

Am I getting the balance right?

Complex carbohydrates

Complex (starchy) carbohydrates are digested and absorbed slowly, and so the energy they provide is released steadily. Foods in this group include potatoes, bread, cereals, rice and pasta. Each meal should be based around a complex carbohydrate food.

Some complex carbohydrates contain fibre, a nutrient that is not digested by the body and remains intact as it passes through the gut. Fibre helps to form and move stool through the gut and reduces the risk of developing constipation. It is also a prebiotic, which means it helps feed the good bacteria in your gut. This can be helpful when taking antibiotics.

It is a good idea for everyone's diet to regularly include foods that are high in fibre. These foods include whole grain foods such as granary and seeded breads, brown rice, wholegrain pasta, wholegrain breakfast cereals (eg porridge, Weetabix®) and products made with wholemeal flour.

Protein foods

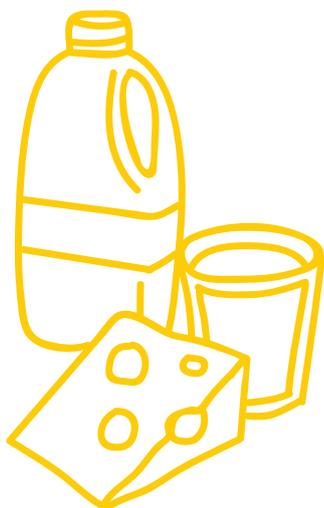
Protein is needed to help build and repair the body's tissues; muscles, skin, hair and nails are all made up of protein. Foods in this group include meat, poultry (eg chicken, turkey), fish, eggs, beans, pulses, nuts and meat alternatives (eg textured vegetable protein and Quorn™). You should include a protein food with two to three meals or snacks per day.

Many protein foods are good sources of iron and zinc. Iron is essential for healthy red blood cells, and zinc helps with making new cells and enzymes. Meat, fish and eggs also contain vitamin B12, which is involved in making red blood cells and keeping the nervous system healthy. Oily fish such as salmon, fresh tuna, mackerel, trout, pilchards and sardines contain omega 3 fats. These are good for heart health, so it is recommended that everyone aims for one portion of oily fish per week.

Milk and dairy foods

Milk and dairy foods (eg cheese, yoghurt) contain calcium, protein and vitamins A & D. These are all important to keep bones strong and healthy. Full-fat varieties of these foods are often recommended for people with CF to help them maintain a healthy weight. You may be able to try some of the lower fat options if you are able to maintain a healthy weight without the additional calories.

Adults with CF are at risk of developing low bone mineral density, which can weaken bones and increase the risk of bone fracture. A daily intake of 1000–1300mg of calcium is recommended to help keep bones strong and healthy, and you should aim to include four to six portions of dairy foods each day. A portion is 200ml milk, one small pot of yoghurt or 40g of cheese. If you do not eat dairy foods, ask your CF dietitian for information on non-dairy sources of calcium. More information on calcium can be found in our leaflet about [nutrition and calcium](#), (see the links on the back page).



Fruit and vegetables

Fruit and vegetables are an excellent source of vitamins and minerals and also contain fibre (especially if you leave the skins on). In the UK, it is recommended that everyone aims for five portions per day (fresh, tinned, frozen or dried all count).

One portion of fruit or vegetables would be:

- Two small satsumas, kiwis or plums
- Handful of berries (eg strawberries, raspberries) or grapes
- One apple, banana, pear, orange or nectarine
- One slice of melon, one large slice of pineapple or two slices of mango
- One tablespoon of dried fruit (eg raisins)
- One small glass (150ml) of fruit juice (juice only counts once a day)
- Two broccoli spears or four tablespoons of green beans
- Three tablespoons of cooked vegetables (eg peas, carrots)
- Small bowl of salad

Fats

Fats contain essential fatty acids and fat-soluble vitamins A, D and E. Fats are a good source of energy. There are lots of different messages around dietary fat, which can get very confusing and are not always helpful. In the UK, the three common types of dietary fat are monounsaturated, polyunsaturated and saturated fats.

In the general population, eating too much saturated fat has been associated with an increased risk of heart disease. This has not been found in people with cystic fibrosis. Polyunsaturated and monounsaturated fats are not associated with an increased risk of heart disease.

All fats contain the same amount of energy, so use monounsaturated and polyunsaturated fats where possible when catering for the whole family.

Different sources of dietary fat include:

Polyunsaturated fats

- Oily fish such as salmon, tuna (fresh or frozen) and sardines
- Vegetable oils such as sunflower, soya and sesame
- Seeds such as flaxseed and sunflower
- Nuts such as walnuts and pinenuts

Monounsaturated fats

- Oils such as olive, rapeseed and peanut
- Nuts such as macadamia, peanuts, almonds and cashews

Saturated fats

- Fat on meat, or skin on chicken and duck
- Lard, butter and cream
- Full-fat dairy products
- Oils such as coconut and palm



Trans fats are mentioned a lot in the media and a high intake of these is associated with an increased risk of heart disease. Many manufacturers have reduced the amount of trans fats in their products and average intakes in the UK are lower than the recommended maximum levels. The main source of trans fats in the UK is deep-fried foods, as they are formed during deep fat frying. It is best to keep deep-fried foods as an occasional treat.

Further information on healthy eating

You can read more about healthy eating on the NHS websites Change4Life (www.nhs.uk/change4life) and (www.nhs.uk/livewell/goodfood).

Meal Ideas

The meal ideas below can be adapted for a vegetarian diet by substituting the animal protein ingredient for your favourite vegetarian alternative.

Breakfast

- Cereal with fruit and milk
- Porridge with raisins
- Bagel with cream cheese and a glass of fruit juice
- Beans, avocado, cheese or egg on toast and a glass of fruit juice or milk
- Toast with nut butter and a glass of milk

Lunch

- Pasta salad with cold meat or tinned fish
- Couscous with cubes of ham or cheese and chopped peppers and cucumber
- Toasties – try cheese and ham, bacon and brie or avocado, mozzarella and pesto
- Sandwiches with bread, wrap, pitta or bagel and one of the following fillings:
 - Tuna mayonnaise
 - Ham, cheese and tomato
 - Hummus and grated carrot or watercress
 - Ham or turkey and coleslaw
 - Egg mayonnaise and cress
 - BBQ chicken or chicken tikka pieces with lettuce and tomato
 - Cold pork and stuffing

Dinner

- Chilli with rice or jacket potato
- Spaghetti bolognaise
- Filled pasta with tomato sauce
- Chicken or lentil curry served with rice and naan bread
- Chicken, steak or bean fajitas
- Tuna and vegetable pasta bake
- Pizza – either homemade or add extra toppings such as mushroom, sweetcorn and peppers



Fatty and sugary snack foods

Foods such as crisps, chocolate and sweets provide energy but not many other nutrients. They usually do not require any preparation and are easy to eat. Such foods are not needed regularly if you are able to maintain a healthy weight.

Alternative snack ideas that are more nutritious include:

- Salted nuts such as peanuts, cashews or mixed nuts
- Sticks of vegetable such as carrots, pepper and cucumber with hummus or sour cream and chive dip
- Peanut or almond butter on crackers
- Pumpkin or sunflower seeds, to snack on or to sprinkle on cereal or salads
- Fruit salad with Greek yoghurt
- Malt loaf with olive oil-based spread
- Cheese and crackers
- Chocolate nut spread on wholemeal toast
- Mashed avocado on wholemeal toast
- Cereal and milk
- Cereal bars
- Popcorn
- Fresh or dried fruit

How much should I drink?

It is important for everyone to get enough fluid to stay hydrated. For people with CF, not getting enough fluid can make sputum thicker and more difficult to clear from your airways. It can also increase the risk of constipation or Distal Intestinal Obstruction Syndrome (DIOS), a blockage in the gut. You will find more information in our leaflets called [‘Gastrointestinal issues in cystic fibrosis’](#) and [‘Staying hydrated and cystic fibrosis’](#). (More about our leaflets on the back page.)

You should aim for eight to ten drinks a day. You may need more in warmer weather or during exercise. An easy way to tell if you are getting enough fluid is the colour of your urine. The better hydrated you are, the paler your urine will be. If you are drinking enough, your urine should be a straw or pale yellow colour.

What counts as fluid?

- Water
- Milk
- Fruit juice and smoothies. These provide water and nutrients but contain sugar so only have one glass per day, this counts towards your five-a-day
- Sugar-free drinks
- Fizzy or still soft drinks: these are high in sugar so drink in moderation
- Fruit/herbal tea
- Tea
- Coffee



I need to take enzyme capsules. Does that change what I eat?

The majority of people with CF are pancreatic insufficient. This means their pancreas does not produce the digestive enzymes needed to break down and absorb the food they eat. These people take enzyme capsules to help absorb their food. If you do not need to take enzyme capsules you can usually follow a balanced diet without any extras. If you do take enzymes, you probably need to eat more to provide some extra energy (also known as calories). Calories are just a way of measuring energy, like grams is a way of measuring weight.

If my BMI is above the target range for CF and I'd like to lose some weight, how do I do this?

Some people with CF find it easy to put on weight and occasionally would like to lose a few pounds. There are many fad or detox diets available that often promise quick results with minimal effort. These are not recommended as they can waste your time and risk your health. If you are thinking about losing some weight, you should speak to your CF dietitian who will be able to provide some healthy advice about dieting.

What is a fad diet?

A fad diet is a diet where you eat a very restrictive diet of a few foods or an unusual combination of foods. Such diets may suggest avoiding or severely limiting a whole food group (eg dairy products, or a staple food such as wheat), promoting eating mainly one type of food (eg the 'cabbage soup diet'), or avoiding all cooked food (the 'raw food diet').

These fad diets often make misleading weight loss claims. They can risk your health if you follow them for any length of time.

What is a detox diet?

The idea behind detoxing is that occasionally we need to clear the 'toxic waste' from our body to stay healthy. Some of the claims made about detox diets include improved digestion, improved energy levels and boosted immune system.

Our body has its own built-in mechanism to detoxify and remove waste and toxins so detox diets are unnecessary.



Cystic Fibrosis Trust

The information in this leaflet is general, please discuss it with your dietitian for a more personalised look at the topic.

This leaflet is part of a broad series on nutrition. Leaflets are available as online downloads and printed copies and can be found here: cysticfibrosis.org.uk/nutritionleaflets. You can also order the leaflets and our other publications from our helpline or download them here: cysticfibrosis.org.uk/publications.

Our helpline is open Monday to Friday, 9am–5pm, and can be contacted on 0300 373 1000 or by emailing helpline@cysticfibrosis.org.uk. Trained staff can provide a listening ear, practical advice, welfare/benefits information or direct you to other sources of support.

The information in this leaflet is based on clinical best practice, a consensus of opinion by dietitians within the CFDGUK and a consensus document on nutrition management of cystic fibrosis, which you can read here: cysticfibrosis.org.uk/publications.