

# Cystic fibrosis and nutrition

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People with cystic fibrosis can maintain healthy bodies with nutritional support and advice.

## Key points

- Depending on whether a person with CF is on modulator therapy or not, a well-balanced diet with adequate salt, fat, and extra vitamins are required to keep their bodies healthy.
- Many people with CF will need to take pancreatic enzymes to help digest their food.
- Speak to your CF team about high-energy food sources and other nutritional advice.

## Maintaining a healthy weight

For people with CF not on modulator therapy, a well-balanced, high-calorie diet with enough salt, fat and extra vitamins gives the body what it needs to function at its best. This is not a special diet, but a healthy normal diet with a few extras! Having a healthy body weight is linked to having good lung function.

Eating balanced meals that include a variety of vegetables and fruits, protein foods and whole grains is important. Vegetables and fruits are good sources of vitamins, minerals and fibre. Protein foods (both animal and plant-based) are an excellent source of many vitamins and minerals, including vitamins A and D, B vitamins, calcium, iron, zinc, phosphorus and magnesium. Whole grain products are a source of fibre, vitamins and minerals.



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Many people with CF will need to take pancreatic enzymes to help digest their food. Although the pancreas produces digestive enzymes, the channels between the pancreas and the intestine get plugged with sticky liquid. This prevents the digestive enzymes from

reaching the intestine and results in food not being broken down and absorbed. This may cause pain, gas, bloating and frequent large greasy bowel movements and can lead to poor growth, poor weight gain and/or even weight loss.

To improve nutrient absorption most people with CF take pancreatic enzymes with their meals and snacks. Enzymes usually work for about 60 minutes. If meals take longer than this, extra enzymes may have to be taken. Talk to your CF team about the amount of enzymes you need to take.

Typically, a person with CF who is not on CFTR modulator therapy, needs 10% to 30% more calories than a person without CF. They need more calories and their body uses more energy because:

- even with pancreatic enzymes the body does not absorb nutrients as well as in someone without CF
- some dietary fat (and therefore energy) will be lost in stools each day
- the effort of coughing and breathing is a bit harder than for others
- of the effort needed to fight lung infections

## High-energy food sources

Some simple, healthy food suggestions include:

- homogenized milk vs. 2% or skim
- table cream added to cereal, cream soups, milk and other recipes
- oil, butter or margarine added to foods
- sour cream added to potatoes and vegetables
- vegetables dipped in mayonnaise, sour cream dip or hummus
- cheese added to soups, salads, vegetables, casseroles, etc.
- avocado or olives added to salads or as an accompaniment
- nuts as snacks
- high-fat yogurt (10% milk fat)

# Vitamins

Vitamins are needed for healthy growth and development. Vitamins A, D, E and K are unique because they need fat in order to be 'soaked up' by your body. They are called "fat-soluble" vitamins. Even when someone with CF takes enzymes, they can still lose fat in their stool, which may contain those vitamins. If you do not take your vitamins, over time, you may develop low levels in your blood, known as "vitamin deficiency". To prevent deficiency in vitamins A, D, E and K many people with CF take a vitamin supplement with their enzymes.

| Vitamin | Importance   | Food sources  |
|---------|--|---|
| A       | Helps you see at night<br>Healthy skin<br>Fight infections<br>Growth   | Eggs<br>Liver<br>Tomatoes<br>Milk<br>Some vegetables and fruits |
| D       | Made by the skin when exposed to sunlight<br>Helps the body absorb calcium from the blood and move it into the bones to keep them strong and healthy | Eggs<br>Cereal<br>Milk  |
| E       | Needed for the body's ability to protect itself from getting sick  | Plant oils<br>Margarine<br>Some vegetables and fruits           |
| K       | Important to help blood clot<br>Helps bones grow in children   | Green vegetables<br>Plant oils<br>Margarine                     |

## Eating well for health

A healthy weight for someone's age and height is reflected by their BMI percentile. A BMI percentile is a measurement of someone's weight in relation to their height compared to

others of the same age and sex. In people with CF having a higher BMI percentile is related to having better lung function. A healthy weight and associated BMI percentile provide a cushion for the times when your body needs more energy such as during illnesses. Being a healthy weight also helps to strengthen your immune system.

Please visit [Teens.AboutKidsHealth.ca](https://teens.aboutkidshealth.ca) for more health information.

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