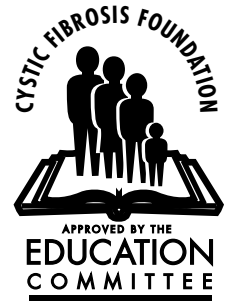


# Nutrition



## For Teens With Cystic Fibrosis

The teen years are both fun and hard, especially for teens with cystic fibrosis (CF). Teens grow physically, emotionally, intellectually, and socially, all at the same time. Teens with CF can do almost everything their peers do, like go to school, go to college, date, and plan careers. However, as a growing teen with CF, your nutrition needs are high. It is crucial that you care for your nutrition and lungs. Good nutrition is needed for growth, height, weight gain, and puberty. It also promotes health after growth is done. How you care for your body now affects your health for the rest of your life.

CF is a chronic, inherited disease that affects mainly the lungs and digestion. CF affects people differently. The basic problem in CF is an error in the salt and water exchange in some cells. This causes the body to make thick, sticky mucus, which clogs the lungs and leads to infection. The body needs more calories to fight infection. The mucus can also keep pancreatic enzymes from reaching the intestines to digest and absorb food. Without enzymes, maldigestion and malabsorption of food can occur. This causes greasy, large bowel movements and slow growth and weight gain.

### Important Nutrients For Teens With CF

**Calories:** Many teens with CF need 30–50% more calories than other teens. This means you need to eat 3,000–5,000 calories daily. Fat in food is the best source of calories.

**Protein:** The amount of protein you need is about 15–20% of your total calories. This means that 600–1,000 of your calories should come from sources of protein like meat, meat products, milk, milk products, fish, seafoods, soy products, beans, eggs, and nuts. Foods high in protein are often rich in vitamins, minerals, and fat.



**Iron:** You need more iron during puberty, when your muscle and blood volume increases. Meats, fish, seafood, spinach, beans, oatmeal, and raisins have a lot of iron.

**Calcium:** The body needs more calcium when bones are growing. CF-related malabsorption means less vitamin D is absorbed, so less calcium is absorbed. You may need 1,300 mg/d of calcium daily. Milk and milk products have a lot of calcium and vitamin D.

**Zinc:** Zinc helps immune function, growth, and wound healing. Meats, fish, seafood, beans, nuts, and seeds have a lot of zinc.

### Your Nutrition Plan

Eat a balanced, high-calorie diet with plenty of fat and protein. This will help you grow and be active.

#### High-Energy Lunches:

- Double cheeseburger, french fries, apple, ice cream

- Fried chicken, potatoes with gravy, vegetables
- Pizza with extra cheese, orange
- Macaroni with extra cheese, grapes
- Double ham-and-cheese omelet with vegetables
- Deli-sandwich with extra cheeses and meats

#### High-Energy Snacks:

- Mixture of nuts, raisins, dried apricots
- Apple pie with ice cream or cheese
- Strawberry shortcake with whipped cream
- Banana split
- Cheese, crackers, nuts
- Peanut butter crackers, muffins, bagels
- Frozen yogurt or ice cream with nuts and/or candy pieces
- High-calorie sports snack bars



#### High-Calorie Milkshakes:

- Homemade milkshakes with ice cream, cream, powdered milk, or instant breakfast powder, with fruit
- Store-bought, calorie-rich shake mixes

#### Supplements:

- Store-bought calorie and nutrition supplements

### A Balanced Diet

Eat fruits and vegetables! The pretty, deep colors of many vegetables and fruits tell you that these foods have extra vitamins, minerals, and antioxidants. Scientists are just starting to understand the importance of vitamins and antioxidants. They help your lungs fight inflammation and your immune system fight infections.

Grains, such as rice (especially brown rice), oats, wheat, and barley have a lot of carbohydrates, energy, and fiber. They also have protein, fat, iron, magnesium, and vitamins. Nuts have a lot of calories, protein, oils, vitamins, and minerals. Meat, fish, poultry, milk,

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yogurt, and cheese have a lot of protein, vitamins, and minerals that are crucial for growth and health.

## Pancreatic Enzymes

If prescribed, you must take pancreatic enzymes to help digest and absorb your food. If you forget or don't take enzymes, you may have trouble gaining weight and height and you may have more frequent, foul-smelling bowel movements. You also could get an intestinal blockage, called distal intestinal obstruction syndrome, if you take too many or not enough enzymes.

Take your enzymes just before you eat a meal or snack. Your CF dietitian or care provider can help you adjust your enzymes for your needs. Do not change your enzyme dose without talking to your CF dietitian or care provider.

## Vitamin Supplements

Your body needs vitamins and without them, you could not live. When fat is not absorbed, fat-soluble vitamins are not absorbed. You may need a prescription for special multivitamins that have more easily absorbed forms of vitamins A, D, E, and K. It is crucial that the vitamins prescribed be taken daily to give your body the nutrients it needs to be strong and to prevent the problems that come from vitamin shortage. Take vitamins with enzymes and food to aid absorption.

## Nutrition Supplements

You may be eating three meals and three or more snacks daily and still be having a hard time gaining or keeping weight. Your CF dietitian may suggest adding high-calorie supplements to drink.

## Feeding Tubes

If you have low energy, can't do the things you want to, or can't gain weight and height on the meals, snacks, and supplement drinks you are taking, tube feedings may help. Tube feedings will help you gain strength, energy, weight, and lung health. There

are many kinds of feeding tubes including gastrostomy tubes (buttons), nasogastric tubes (nose-to-stomach), and orogastric tubes (mouth-to-stomach). Many teens get calories through a feeding tube with a pump all night in private, and then have normal daytime meals and activities. There are many tube-feeding products. The CF Foundation or care center can give you a video on how to use tube feedings to help with weight gain.

## CF-Related Diabetes

Some teens and adults with CF also have CF-related diabetes. If you are older than 10 years, you will have your blood sugar checked yearly and when you go into the hospital. If your blood sugar stays too high, you will be sent to a diabetes specialist to decide the best way to care for your CF diabetes. Lung infections and steroids can make blood sugars go up.

## Exercise

Exercise can be fun and is helpful to people with CF when done safely and correctly. Exercise strengthens lungs and helps to clear lung mucus, which helps you stay healthy and gives you more energy. It also builds muscles and strong bones, as well as lowers emotional stress.

Choose an exercise you like. Brisk walking, running, swimming, biking, and jump roping are aerobic exercises that could help you feel better and build strong lungs. Don't exercise too hard! Listen to your body. Rest when you get tired. Exercise about 30 minutes, three times a week. Talk to your CF dietitian or care provider to learn more about activities that increase energy levels and strengthen lungs.

You will lose more salt when you sweat. Drink plenty of water, fruit juice, or sports drinks before, during, and after exercise. Eat high-salt foods like pretzels, chips, salted nuts and seeds and add more salt to your food. Check with your CF dietitian or care provider before taking body- and

energy-building supplements or power drinks. Some supplements might interfere with your CF medications.

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*If you have questions about "Nutrition For Teens With Cystic Fibrosis," or any aspect of CF care, call your CF dietitian or care provider.*

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