

## **Nutrition and Cystic Fibrosis: Patient Information**

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### **Introduction:**

Due to the advancements in Cystic Fibrosis (CF) care, the dietary recommendations for people with CF have changed over the past few decades. Nutrition guidelines in CF now suggest that dietary advice should be individualized based on nutritional goals and other medical problems related to CF. The registered dietitian in the CF multidisciplinary team can help determine your nutritional needs as well as enzyme replacement and vitamin management.

### **Nutritional goals in CF:**

- **Carbohydrates-** Around 50% of all calories in a CF diet should come from carbohydrates. Carbohydrates are naturally found in breads, cereals, grains, dairy products, fruit, starchy vegetables, and in smaller amounts in non-starchy vegetables. Your body breaks down carbohydrates into glucose (sugar), which is the main source of energy for cells, tissues, and organs.
- **Fat-** Guidelines state that adults with CF should get about 35-40% of their daily food intake from fats. There are four main types of fats; polyunsaturated, monounsaturated, saturated and unsaturated (Trans). Polyunsaturated and monounsaturated fats are considered 'healthier' fats as they contain "good" cholesterol. Saturated fats are still often good options for some patients with CF who have low cholesterol levels. Unsaturated (Trans) fats are considered the least nutritionally beneficial source of fat. Your dietitian will be able to recommend specific daily requirement based on your energy needs.
- **Protein-** Protein plays an important role in building and repairing muscles and bones, as well as making hormones and enzymes. Generally, protein should make up about 10-15% of the diet for people with CF. Your dietitian will be able to recommend specific daily requirement based on your needs.
- **Enzyme replacement:** The pancreas is affected in CF and this is referred to as pancreatic insufficiency. The pancreas is blocked with mucus, preventing the body from breaking down and digesting food naturally. If the pancreas cannot work properly then Pancreatic Enzyme Replacement Therapy will be required to assist with digestion of food.
- **Fat-soluble vitamins:** People with CF, particularly those with pancreatic insufficiency, often have deficiencies in 'fat-soluble' vitamins A, D, E and K. The body's inability to absorb these vitamins could lead to deficiencies that can affect the health of bones and eyes, as well as the body's ability to fight infection; therefore, most people with CF require vitamin supplements

### **Cystic Fibrosis Related Diabetes (CFRD):**

CFRD is a type of diabetes unique to people with CF. One of the functions of the pancreas is to make a hormone called insulin. Insulin helps the cells use glucose for energy. Therefore, treatment with insulin can help the body use glucose effectively and keep blood sugars within target. Insulin replacement allows patient with CFRD to maintain weight, ensure good health and help improve lung function. Your dietitian and/or certified diabetes educator (CDE) will also be able to help you learn how to count carbohydrates to help minimize blood sugar spikes and improve management of CFRD.

### **Talking to Your CF Health Care Team:**

If you are concerned about your weight, your diet, or your overall CF health, talk to your care team about your concerns. They will look at the whole picture regarding your nutrition, supplements, and meal-time habits and work with you to ensure that your meals are healthy and well balanced. You should be closely monitored by your care team when making any changes to your diet and your nutrition should be addressed regularly at routine visits.

### **For More Information:**

<https://www.cff.org/managing-cf/nutritional-basics>

<https://www.cff.org/managing-cf/vitamins>

<https://www.cff.org/managing-cf/enzymes>