

Cystic Fibrosis-Related Diabetes (CFRD)



What is cystic-fibrosis related diabetes (CFRD)?

Diabetes is caused by high blood sugar, or glucose, a source of energy that comes from carbohydrates and needs a hormone called insulin to become fuel for energy. Insulin is produced in the pancreas. When the body doesn't produce enough insulin, glucose builds up.

Cystic fibrosis causes the pancreas to produce thick, sticky mucus, which can lead to scarring that disrupts insulin production and leads to CF-related diabetes (CFRD). CFRD is unique from the most common types of diabetes, type 1 and type 2, but shares some characteristics from both types.



How is CFRD diagnosed?

About **25% of adults living with CF have CFRD**. CFF recommends a yearly oral glucose test for all people with CF ages 10 and over. An oral glucose tolerance test is when a patient drinks a sugary liquid and their blood sugar is measured over specific periods of time to measure insulin resistance.



Symptoms of CFRD include:

- Feeling very thirsty
- Urinating more than usual
- Feeling overly tired
- Losing weight
- Declining lung function
- Increasing exacerbations and infections

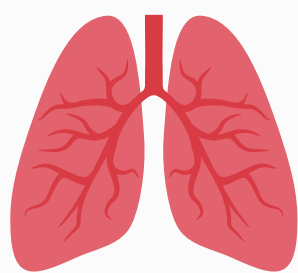
How is CFRD managed?

The goal of managing CFRD is to maintain a good nutritional status and an optimized blood glucose level. CFRD is managed by **taking insulin, monitoring blood sugar, eating a balanced diet, and exercising**. An energy-dense, high-fat, and balanced (40% fat, 40% carbohydrates, and 20% protein) diet is recommended to support CFRD management.

People may use insulin pumps or take injections to manage blood sugar. Some people monitor their blood sugar by wearing a device called a continuous glucose monitor, which checks blood sugar levels every few minutes. Others may test their blood sugar by pricking their finger using something called a “finger stick.”



Other Factors Impacting CFRD



Pregnant women living with CF may experience unique challenges related to CFRD and pregnancy, such as a high risk for hypoglycemia, altered digestion, fluctuating insulin resistance levels, and nutrition needs.

People who have had solid organ transplants may develop diabetes, which presents in 35-50% of adults with CF who have had lung transplants.

Mental Health Effects of CFRD

Living with CF and CFRD can be isolating and may affect social functioning, body image, emotional responses, chest symptoms and interpersonal relationships. CFRD may also increase depression risk.

Person-centered care, routines, improvements in CF symptoms and lung function, and living connected to values may help to promote CFRD management.

