

CYSTIC FIBROSIS RELATED DIABETES (CFRD) INFORMATION SHEET

What is Cystic Fibrosis Related Diabetes?

Cystic Fibrosis-Related Diabetes (CFRD) is a type of diabetes that can develop in individuals with cystic fibrosis (CF). CFRD occurs in 20% of adolescents and 50% of adults with CF. CFRD is different than type 1 and type 2 diabetes.

Causes of CFRD

Glucose is a sugar that the body uses for energy and comes from the carbohydrates (starches) that a person eats. Insulin is a hormone made in the pancreas that moves glucose from the body's bloodstream into cells. Like people with type 1 diabetes, people with CFRD do not make enough insulin, which is called insulin deficiency. Insulin deficiency occurs from scarring of the pancreas from thick mucus. Like people with type 2 diabetes, people with CFRD are not able to use their body's insulin normally, which is called insulin resistance. Insulin resistance worsens with illness and steroid medications. In individuals with CF, insulin deficiency and insulin resistance generally progress over time.

Symptoms of CFRD

Common symptoms are frequent urination and increased thirst. These are caused by high blood glucose levels (hyperglycemia). Other symptoms include excessive fatigue, weight loss, increased risk for infection, and decrease in lung function.

Screening and Diagnosis

Yearly screening for CFRD is recommended to start by age 10. There are different ways to test for CFRD.

Screening Test	Diagnosis
Oral Glucose Tolerance Test (OGTT) <ul style="list-style-type: none"> • OGTT looks at how blood glucose levels change 2 hours after drinking a sugary drink called Glucola[®] • OGTT is the recommended screening test 	Fasting glucose level of 126 mg/dL or higher, or glucose level at 2 hours of 200 mg/dL or higher*
Fasting glucose level	Glucose level of 126 mg/dL or higher*
HbA1c	6.5% or higher*
Random glucose	Glucose level of 200 mg/dL or higher with symptoms of diabetes such as frequent urination and increased thirst

* If positive, should be repeated to confirm diagnosis.

Treatment of CFRD

CFRD is treated with insulin, which can only be given by injection. Without enough insulin in the body, the body loses muscle and fat. Loss of muscle can affect breathing, and loss of fat causes weight loss. Good nutrition and regular exercise are also very important. Individuals with CFRD should not limit calories or attempt to lose weight. Maintaining blood glucose levels at a normal level will improve symptoms and help prevent long-term problems.