

Cystic Fibrosis Related Diabetes

Cystic Fibrosis Related Diabetes (CFRD) is a unique type of diabetes that people with cystic fibrosis (CF) can get. It occurs in about 12% of children and 25-30% of adults with CF.

CFRD shares features with both type 1 and type 2 diabetes but is a different condition, with distinct risks and ways to be managed. In people with CFRD, the pancreas may not make enough insulin, similar to type 1 diabetes, or they can develop complete insulin resistance, similar to type 2 diabetes.

Causes

The pancreas normally releases a hormone called insulin to control the amount of glucose in the blood. However, in people with CF, thick, sticky mucus damages the pancreas over time, and this impacts the production of insulin. The onset of CFRD may be triggered by an exacerbation of CF, medication or it could be a gradual onset.

Symptoms

Symptoms of CFRD can include:

- Lack of energy/fatigue
- Weight loss
- Excessive thirst
- A decrease in lung function
- Increased hunger
- Increased urine output

Some people may experience symptoms and others have no symptoms at all. For this reason, people with CF are regularly screened for CFRD.



The Oral Glucose Tolerance Test (OGTT) is the most sensitive and the best choice for screening for CFRD and it is recommended annually for people with CF who are 10 years and older.

When symptoms are left untreated, CF symptoms can deteriorate and lead to:

- Increased thickness of mucus which is difficult to clear
- Reduced ability to fight infection
- Loss of muscle mass and loss of weight

Managing CFRD

The goal of managing CFRD is to keep blood sugar at normal or near-normal levels. Management is individualised but typically involves insulin, monitoring blood sugar levels, diet and physical activity.

It is important to manage CFRD to prevent complications such as nerve damage, retinal (eye) damage, kidney damage, and to help prevent weight loss, lung exacerbations and infections. Your CF and diabetes care teams can make a plan to help you successfully manage living with CFRD, including suitable eating and physical activity plans as well as the amount of insulin you need. When blood sugars are controlled, nutritional status, weight and lung function are improved, and health outcomes optimised.

Pregnancy and CFRD

Women with CF are more prone to developing CFRD due to an increased need to produce extra insulin during pregnancy. If you already have CFRD, careful monitoring and management are required to minimise risk to both mother and baby.

When planning a baby, an OGTT is recommended for those who have not been tested within the last 6 months.

CFWA support

Adults can apply for our Diabetes Sensor Subsidy which provides up to \$500/year towards the cost of diabetes sensors for those who do not receive assistance from National Diabetes Subsidy Scheme (NDSS.) Children are covered by the NDSS.

Useful resources

- [CFRD](#) (Perth Children's Hospital)
- [CFRD](#) (NEMO)
- [Diabetes WA](#)
- [CFWA subsidies](#)

Thank you to Sandra Wilberforce, Clinical Nurse Diabetes Educator, for input into this factsheet.