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Principal Investigator	Andrea Kelly, MD, MSCE and Michael Rickels, MD, MS
Study Title:	Emergence and Progression of Abnormal Glucose Tolerance in Cystic Fibrosis (AIM 1)

Purpose:
The purpose of this research study is to test how high blood sugar develops and worsens over time in some people with cystic fibrosis.

Brief Description
The mechanisms underlying cystic fibrosis related diabetes (CFRD) pathophysiology must be better defined if care for people with CFRD is to be optimized or if development of CFRD is to be interrupted. Detailed studies of insulin secretion in CF are required to achieve this goal since 1) subtle insulin secretion defects may contribute to worsening pulmonary function and nutritional status, 2) treatment of these early abnormalities may be beneficial, and 3) insulin secretion defects are not adequately depicted by oral glucose tolerance test (OGTT). Current Clinical Guidelines for CFRD recommend annual OGTT in all CF patients 10 years. Four glucose tolerance categories can be defined in CF, based on one and two-hour plasma glucose concentrations during an OGTT. The earliest changes involve variable postprandial hyperglycemia, occurring earlier than two-hours: 30-, 60-, and 90-minute glucose levels during an OGTT are frequently elevated and may provide a more sensitive method for detecting glucose intolerance than 2-hour values. Delayed and blunted insulin secretion is found during OGTT even in CF patients without CFRD. Additionally, the role of incretins in CF and CFRD is unclear. Incretin secretion in CF has been reported to vary from impaired to normal to in some cases excessive for GIP. Incretin secretion will be documented in this study during the mixed-meal tolerance test conducted with pancreatic enzyme replacement. Incretin action has not been studied to date in CF. The present study protocol has been designed to determine B-cell responsiveness to the incretin hormones GLP-1 and GIP in patients with CF across the spectrum of glucose intolerance. The second-phase insulin response during conduct of a glucose-potentiated arginine (GPA) test will serve as the primary outcome measure.

Eligibility
Participant may be eligible for this study if they meet the following criteria:

Conditions: Fibrocystic Disease, Pancreatic Cystic Fibrosis, Cystic Fibrosis, Diabetes

Age: Between 18 - 99 years old

Gender: Male or Female

Compensation (if applicable)
You will be compensated $75 for visits involving OGTT, $200 for visits involving MMTT, and $200 for visits involving GPA. If you are <18 years old, the total compensation will be split equally between you and your parent. You may also receive small gifts.

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