Effect of Real-Time Continuous Glucose Monitoring on Glucose Counterregulation in Long Standing Type 1 Diabetes

Principal Investigator	Michael Rickels, MD., MS
Study Title:	Effect of Real-Time Continuous Glucose Monitoring on Glucose Counterregulation in Long Standing Type 1 Diabetes
Purpose:	This study is designed to determine if wearing a real-time continuous glucose monitor (RT-CGM) has any effect on the reversal of hypoglycemia unawareness.
Brief Description	We are comparing type 1 diabetic patients who experience severe hypoglycemia unawareness (group 1) to two other groups: 1. Type 1 diabetic patients without hypoglycemia unawareness (group 2) 2. Patients who are not diabetic at all (group 3) We plan to study glucose production and symptom generation during insulin-induced hypoglycemia (metabolic testing) by subjecting each group to a pair of metabolic clamps (hypoglycemic and euglycemic) at baseline. Group 1 will have an additional two sets of clamps at 6 months and 18months after wearing the RT-CGM to determine if hypoglycemia avoidance can reverse unawareness.
Eligibility	The study is presently recruiting type 1 diabetic patients with severe problems with hypoglycemia.
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