

# STUDY ABSTRACT MEAL REPLACEMENT

## Metabolic Response to a Pre-Op Liver Reduction Diet Using Bariatric Fusion® Complete Nutrition

**BACKGROUND:** It is recommended that Roux-en-Y gastric bypass be preceded by a 2 week high-protein liquid diet to reduce liver size. We sought to determine the effects of Bariatric Fusion® Complete Nutrition on insulin resistance in patients with morbid obesity and Type 2 diabetes mellitus (T2DM).

**METHODS:** 15 patients with morbid obesity and T2DM underwent a 2-week dietary intervention with Bariatric Fusion® Complete Nutrition consisting of four daily shakes (7g carb, 0g fat, 27g protein) mixed with water or skim milk (9 g carb, 0g fat, 6g protein). Patients were instructed to consume a minimum of 64 oz of clear liquids (i.e. water, flavored water, Crystal Light, Propel). Thus, the 14-day dietary intervention had a strict range of 560-920 calories distributed as 28-64g carb, 0g fat, and 108-144g protein. Anthropometric characteristics and a fasting blood draw were performed immediately prior to the start of the diet (day 0) and on the day of surgery (day 14).

**RESULTS:** Following the 2-week dietary intervention, weight was significantly decreased from  $340.0 \pm 72.9$  to  $328.9 \pm 72.9$  pounds ( $p < 0.001$ ). Also reduced were fasting plasma glucose ( $148.5 \pm 30.6$  vs.  $123.15 \pm 35.6$  mg/dL,  $p = 0.0169$ ) and insulin ( $19.0 \pm 11.0$  vs.  $13.5 \pm 5.7$   $\mu\text{u/ml}$ ,  $p = 0.0236$ ) concentrations. Insulin resistance as determined by the homeostasis model of assessment (HOMA-IR) was diminished from  $7.3 \pm 4.9$  to  $4.1 \pm 2.0$  ( $p = 0.0140$ ).

**CONCLUSION:** A 2 week Bariatric Fusion® Complete Nutrition diet was associated with significant weight loss and correction of the insulin resistant state in patients with morbid obesity and T2DM. These findings demonstrate a metabolic benefit of Bariatric Fusion® Complete Nutrition in addition to the technical benefit of reduction of liver size.

