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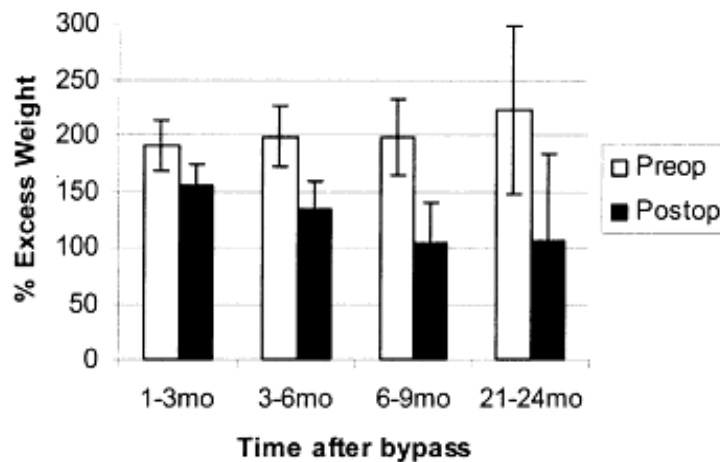
Description of Research:

Overweight and obesity are among the most common metabolic/nutritional disorders affecting the United States population with 31% of adults and 16% of adolescents now meeting Centers for Disease Control criteria for these conditions. As the obesity epidemic has unfolded, so too has the increase in prevalence of abnormalities of carbohydrate metabolism. The single most effective treatment for type 2 diabetes in severely obese adults may be gastrointestinal diversionary surgery (e.g., gastric bypass) to effect weight loss via a durable state of hypocaloric intake. While it is clear that rapid and profound weight loss can significantly improve carbohydrate metabolism in adults, it is not clear to what degree diabetes is reversible in these patients. The pathophysiology of type 2 diabetes in adolescents and children is not well understood and no studies have yet examined the effect of surgical weight loss on insulin resistance, insulin secretion, or glucose tolerance in severely obese young people. Understanding the relative benefits of surgically induced weight reduction on carbohydrate metabolism in adolescents compared to older subjects is important for determining optimal timing of this intervention. Dr. Inge will test the hypothesis that bariatric surgical intervention will more effectively improve insulin resistance, β cell dysfunction, and glucose tolerance in adolescents compared to adults. He will also assess the nutritional and metabolic complications of this procedure.

Collaborations:

Dr. Inge collaborates with Drs. Kirk, Seeley, Tschop, and Zeller studying the psychological impact of morbid obesity in adolescents. Also he works with Dr. Xanthakos exploring the genetic determinants of inflammation and fibrosis in livers of morbidly obese subjects. As a new member, Dr. Inge has not used DHC cores.

Representative Figure:



Reduction in excess weight after gastric bypass. Patient's height was measured by standing stadiometry and weight by electronic scale. Percent excess weight then was calculated as (patient's weight - ideal weight [the expected weight for BMI at the 50th percentile for age and sex])/ideal weight x 100. There were 10 patients at the 1 to 3-month postoperative interval, 8 patients at the 3 to 6-month postoperative interval, 4 patients at the 6 to 9-months interval, and 2 patients who were 21 to 24 months postoperative. Fig. 3 from J Pediatr Surg, 2004; 39: 442-447.