

## Benefits of Bariatric Surgery

### **Severe Obesity: Why the Need for Surgical Intervention**

Severe obesity is one of the most serious stages of obesity. You may often find yourself struggling with your weight and essentially feeling as if you're trapped in a weight gain cycle. In addition, you most likely have attempted numerous diets – only in the end, to see your weight continue to increase.

More than a decade ago, The National Institutes of Health, better known as NIH, reported that individuals affected by severe obesity are resistant to maintaining weight loss achieved by conventional therapies, such as consuming fewer calories, increasing exercise, commercial weight-loss programs, etc.). The NIH recognized bariatric (weight-loss) surgery as the only effective treatment to combat severe obesity and maintain weight loss in the long term.

### **How Can Bariatric Surgery Help Me?**

When combined with a comprehensive treatment plan, bariatric surgery may often act as an effective tool to provide you with long term weight-loss and help you increase your quality of health. Bariatric surgery has been shown to help improve or resolve many obesity-related conditions, such as type 2 diabetes, high blood pressure, heart disease, and more. Frequently, individuals who improve their weight find themselves taking less and less medications to treat their obesity-related conditions.

Significant weight loss through bariatric surgery may also pave the way for many other exciting opportunities for you, your family, and most importantly – your health.

### **How Does Bariatric Surgery Work?**

Bariatric surgery, such as gastric bypass, gastric sleeve, and laparoscopic adjustable gastric banding, work by changing the anatomy of your gastrointestinal tract (stomach and digestive system) or by causing different physiologic changes in your body that change your energy balance and fat metabolism. Regardless of which bariatric surgery procedure you and your surgeon decide is best for you, it is important to remember that bariatric surgery is a “tool.” Weight loss success also depends on many other important factors, such as nutrition, exercise, behavior modification, and more.

By changing your gastrointestinal anatomy, certain bariatric procedures affect the production of intestinal hormones in a way that reduces hunger and appetite and increases feelings of fullness (satiety). The end result is reduction in the desire to eat and in the frequency of eating. Interestingly, these surgically-induced changes in hormones are opposite to those produced by dietary weight loss. Let's take a closer look at the differences in hormonal changes between surgery and dietary weight loss:

- **Bariatric Surgery and Hormonal Changes**

Hormonal changes following bariatric surgery improve weight loss by maintaining or enhancing energy expenditure (calories burned). In fact, some surgeries even increase energy expenditure relative to changes in body size. Thus, unlike dietary weight loss, surgical weight loss has a higher chance of lasting because an appropriate energy balance is created.

- **Dieting and Hormonal Changes**

In dietary weight loss, energy expenditure is reduced to levels lower than would be predicted by weight loss and changes in body composition. This unbalanced change in energy can often lead to weight regain.

Significant weight loss is also associated with a number of other changes in your body that help to reduce defects in fat metabolism. With increased weight loss, you will find yourself engaging in more physical activity. Individuals who find themselves on a weight-loss trend often engage in physical activity, such as walking, biking, swimming, and more. Additionally, increased physical activity combined with weight loss may often improve your body's ability to burn fat, lead to a positive personal attitude, and decrease stress levels. Massive weight loss, as a result of bariatric surgery, also reduces hormones such as insulin (used to regulate sugar levels) and cortisol (stress hormone) and improves the production of a number of other factors that reduce the uptake and storage of fat into fat storage depots. Physical activity is also a very important component of combating obesity.

Bariatric surgery may improve a number of conditions and biological actions (hormonal changes) to reverse the progression of obesity. Studies find that more than 90 percent of bariatric patients are able to maintain a long-term weight loss of 50 percent excess body weight or more.

Bariatric surgery can be a useful tool to help you break the vicious weight gain cycle and help you achieve long term weight loss and improve your overall quality of health and life.

## **Long Term Weight Loss Success**

Bariatric surgeries result in long-term weight-loss success. Most studies demonstrate that more than 90 percent of individuals previously affected by severe obesity are successful in maintaining 50 percent or more of their excess weight loss following bariatric surgery. Among those affected by super severe obesity, more than 80 percent are able to maintain more than 50 percent excess body weight loss.

## **Improved Longevity**

Several large population studies find that individuals affected by severe obesity who have had bariatric surgery have a lower risk of death than individuals affected by obesity who do not have surgery. One of these studies found up to an 89 percent greater reduction in mortality throughout a 5-year observation period for individuals who had bariatric surgery when compared to those who did not. Another large population study comparing mortality rates of bariatric and non-bariatric patients found a greater than 90 percent reduction in death associated with diabetes and a greater than 50 percent reduction in death from heart disease.

The mortality rate for bariatric surgery (3 out of 1000) is similar to that of a gallbladder removal and considerably less than that of a hip replacement. The exceptionally low mortality rate with bariatric surgery is quite remarkable considering that most patients affected by severe obesity are in poor health and have one or more life-threatening diseases at the time of their surgery. Therefore, as regards mortality, the benefits of surgery far exceed the risks.

## **Improvement/Resolution of Coexisting Diseases**

The exceptionally high reduction in mortality rates with bariatric surgery are due to the highly significant improvement in those diseases that are caused or worsened by obesity.

Bariatric surgery is associated with massive weight-loss and improves, or even resolves (cures), obesity-related co-morbidities for the majority of patients. These co-morbidities include high blood pressure, sleep apnea, asthma and other obesity-related breathing disorders, arthritis,

lipid (cholesterol) abnormalities, gastroesophageal reflux disease, fatty liver disease, venous stasis, urinary stress incontinence, pseudotumor cerebri, and more.

Bariatric surgeries also lead to improvement and remission of Type II diabetes mellitus (T2DM). In the past, diabetes was considered to be a progressive and incurable disease. Treatments include weight loss and lifestyle changes for those who are overweight or obese and antidiabetic medication, including insulin. These treatments help to control T2DM but rarely cause remission of the disease. However, there is now a large body of scientific evidence showing remission of T2DM following bariatric surgery. A large review of 621 studies involving 135,247 patients found that bariatric surgery causes improvement of diabetes in more than 85 percent of the diabetic population and remission of the disease in 78 percent. Remission of T2DM was highest for the bilio-pancreatic diversion with duodenal switch (BPD/DS) with a remission rate of 95 percent, followed by the Roux-en-Y gastric bypass (RYGB) with remission in 80 percent of patients, and the adjustable gastric band (AGB) with a remission rate of 60 percent. Other studies comparing remission of diabetes between surgeries found comparable rates between the laparoscopic sleeve gastrectomy (LSG) and RYGB, i.e. 80 percent.

Causes of improvement or remission of diabetes have not been completely identified. Improvement of T2DM with AGB is related to weight loss. However, with other surgeries, such as the LSG or RYGB, diabetes remission or improvement occurs early after surgery – well before there is significant weight reduction. In fact, some bariatric patients with T2DM leave the hospital with normal blood sugar and without the need for antidiabetic medication.

## **Changes in Quality of Life and Psychological Status with Surgery**

In addition to improvements in health and longevity, surgical weight-loss improves overall quality of life. Measures of quality of life that are positively affected by bariatric surgery include physical functions such as mobility, self-esteem, work, social interactions, and sexual function. Singlehood is significantly reduced, as is unemployment and disability. Furthermore, depression and anxiety are significantly reduced following bariatric surgery.