

METABOLIC & BARIATRIC

SURGERY PROGRAM



WHAT EVERY PATIENT SHOULD KNOW BEFORE CONSENTING TO SURGERY



METABOLIC & BARIATRIC SURGERY PROGRAM

Fresno Heart and Surgical Hospital is dedicated to the fundamental principles of providing the best in outcomes, service and value. World Class Hospital. World Class Surgeons. World Class Program. World Class Care.

OUR MISSION

- Provide state-of-the-art, compassionate care.
- Collaborate with primary and other health care professionals.
- Continue to be a resource and referral destination for other bariatric/metabolic programs.
- Integrate with health care systems to provide continuity of life-long care.
- Continuous improvement through research and reporting of data.



OUR SURGEONS



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COMMITMENT TO EXCELLENCE

Choosing the right program is as important as the decision to undergo bariatric/metabolic surgery in order to optimize your health and alleviate the conditions associated with the disease of morbid obesity. Together, Fresno Heart & Surgical Hospital and Advanced Laparoscopic Surgery Associates Medical Group have created the finest and most comprehensive program in the Central Valley. Dedicated dietitians, therapists and nursing staff compliment our world-renowned surgeons to deliver exceptional service and care. Our hospital features specialized equipment, instruments and the Valley's only 256-slice CT scanner that delivers higher resolution with less radiation.

Fresno Heart & Surgical Hospital is home to Fresno's only 5-star HeathGrades® rated bariatric surgery program and is accredited by the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP).



WHAT IS MORBID OBESITY?

Morbid obesity is the leading cause of preventable death in the United States. It affects more than 65 million Americans and has become a world-wide epidemic.

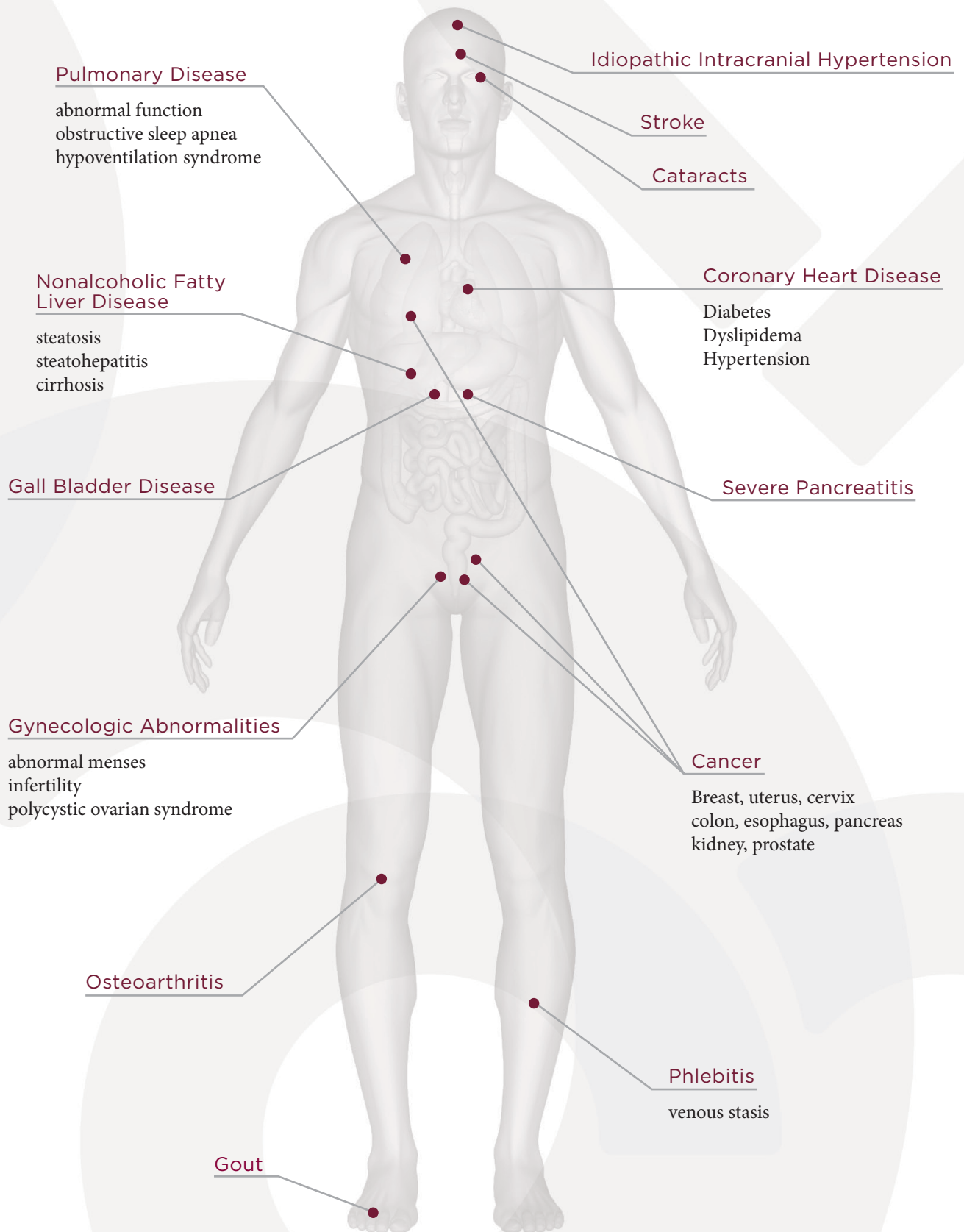
Morbid obesity is a chronic illness that is directly linked to other diseases such as diabetes, high blood pressure, obstructive sleep apnea, high cholesterol, heart disease, infertility and cancer.

Non-surgical treatments (medically supervised diet, behavioral and exercise programs) have been shown to be ineffective for the vast majority of patients.

Surgical interventions, in contrast, have been shown not only to provide control of obesity but of the other diseases as well. Currently, there are several operations available; each with different safety and performance profiles.

The decision to pursue a surgery is an important one; one which requires much consideration. However, the surgical procedure is only part of a comprehensive treatment program. Preparation, education, state-of-the-art technology and an integrated team approach to follow up is what distinguishes the Fresno Heart & Surgical Hospital Metabolic and Bariatric Surgery Program.

MEDICAL COMPLICATIONS OF OBESITY



WHAT IS MORBID OBESITY AND HOW IS IT TREATED?

Morbid obesity is a chronic disease; it is not a defect in one's personality or character. Although poorly understood, the cause is most likely multi-factorial and is thought to be a complex combination of genetic, environmental, cultural, metabolic and psychosocial factors.

Morbid obesity is associated with many other diseases. Although there are individual treatments for many of these conditions, surgical intervention can often lead to remission, or better control, quality of life and longevity as compared to non-surgical treatment or diet programs.

TREATMENT OF OBESITY

We have a interdisciplinary approach to the treatment of obesity

1. Diet
2. Exercise
3. Behavioral
4. Hypertension
5. Medication
6. Surgery

Although most medical treatment programs have failed to produce long term weight loss in 95-97% of patients studied, multidisciplinary programs that include behavior modification, medications, exercise, and proper nutritional counseling have produced weight loss sufficient to improve overall health. Surgical programs should also include these principles in order to reduce complications and achieve superior long-term weight maintenance.

OBESITY-RELATED CONDITIONS

- Diabetes Mellitus
- Hypertension
- Coronary Artery Disease
- Obstructive Sleep Apnea
- Degenerative Arthritis
- Venous Stasis Disease
- Steatohepatitis
- Gastroesophageal Reflux Disease
- Increased Risk of Some Cancers
- Gallbladder Disease
- Urinary Stress Incontinence
- Infertility

TREATMENT	BODY MASS INDEX (kg/m ²)					
	25-27	27-30	30-35	35-40	40-50	>50
DIET, EXERCISE, BEHAVIOR, MODIFICATION	✓	✓	✓	✓	✓	✓
MEDICINE		✓	✓	✓	✓	✓
ENDOSCOPIC/ENDOLUMINAL	✓	✓	✓	✓	✓	✓
SURGERY			✓	✓	✓	✓
STAGED OPERATIONS						✓



The severity of obesity is defined by its associated conditions as well as the body mass index (BMI). The BMI is calculated based on your weight to height ratio and is a gross measure as to your overall level of health risk. In general, the higher your BMI, the greater the risk of developing other metabolic disorders. Because all interventions involve some degree of risk, it is up to you and your physician to determine whether surgery is right for you.

In the past, interpreting the 1991 National Institutes of Health (NIH) guidelines for bariatric surgery, a BMI of 35 kg/m² was used as an indication for surgery. However, with the advent of safer, less invasive technologies, the risk/benefit ratio has shifted in favor of offering lower BMI individuals interventions, especially when other metabolic conditions, such as diabetes, are present.

We also know that the risk of surgery increases with increasing BMI and complexity of the operation. Therefore, the concept of staged operations; that is, performing an initial operation designed to lower overall risk, followed by a secondary, more definitive operation after significant weight loss is an option for patients whose BMI exceeds 50 kg/m².

Endoscopic or endoluminal procedures may prove to be even safer than traditional minimally invasive operations. Using natural orifices, such as the mouth, colon, or vagina, many complex operations are being performed under investigational license. It is hoped that these procedures will prove to be as safe and effective as our current therapeutic options and therefore might be applicable to patients with lower BMI's because of decreased risk.

WEIGHING THE RISKS		Body Mass Index (BMI)									
		26	27	28	29	30	31	32	33	34	35
DEATH / ALL CAUSES (versus BMI <19)				60%		110%			120%		
DEATH / HEART DISEASE (versus BMI <19)				210%		360%			480%		
DEATH / CANCER (versus BMI <19)				80%					110%		
TYPE II DIABETES (versus BMI 22-23)				1,480%		2,660%		3,930%		5,300%	
HIGH BLOOD PRESSURE (versus BMI 23)		180%				260%			350%		
DEGENERATIVE ARTHRITIS (versus BMI <25)								400%			
GALLSTONES (versus BMI <24)				150%				270%			
NEURAL BIRTH DEFECTS (versus BMI 19-27)							90%				

AM I A CANDIDATE FOR SURGERY?

Every patient is unique and risk assessment must be made on an individual basis. For most, the 1991 National Institutes of Health consensus conference provides the appropriate guidelines that insurance companies use to qualify patients for surgical treatment. However, just as there are patients who are not appropriate candidates for surgery despite a BMI of over 40 kg/m², there are patients who, by virtue of their obesity related conditions, are candidates for surgery despite a BMI of less than 35 kg/m².

Most insurance plans and surgical programs require documented participation in a medical weight loss or structured dietary program. In addition, you must demonstrate a clear understanding of what the surgery

entails – the risks, the benefits, the complications and compromises and the importance of long term follow up. Although the surgical procedure is a vital part of the program, you should consider it only a tool that allows you to attain your goals. Surgical weight loss is not a passive process. You must be an active participant in this process in order to maintain nutrition and optimize weight control.

We consider every patient a candidate for treatment - not necessarily surgery, and not necessarily at this time. Our mission is not just to provide state-of-the-art surgery; it also includes preparing you for the lifestyle changes and providing the life-long support you will need after surgery.

SUMMARY OF NIH CONSENSUS DEVELOPMENT CONFERENCE STATEMENT FOR GASTRO-INTESTINAL SURGERY FOR SEVERE OBESITY, 1991

- Patients whose BMI exceeds 40 are potential candidates for surgery if they strongly desire substantial weight loss.
- In certain instances, less severely obese patients (BMI 35-40) may be considered for surgery in the presence of high-risk co-morbid conditions such as diabetes mellitus or sleep apnea. Also, included are obesity related physical problems interfering with lifestyle such as employment, family function and ambulation.
- Patients seeking therapy for severe obesity for the first time should be considered for treatment in a non-surgical program with integrated components of a dietary regimen, appropriate exercise, and behavioral modification and support.
- Gastric restrictive or bypass procedures could be considered for well-informed and motivated patients with acceptable operative risks.
- Patients who are candidates for surgical procedures should be selected carefully after evaluation by a multidisciplinary team with medical, surgical, psychiatric, and nutritional expertise.
- The operation should be performed by a surgeon substantially experienced with the appropriate procedures and working in a clinical setting with adequate support or all aspects of management and assessment.
- Lifelong medical surveillance after surgical therapy is a necessity.





WHAT TYPES ARE AVAILABLE?

The idea of performing a surgical procedure for the complications of obesity is not new. The first such procedure was known as the “jejunio-ileal bypass” and was introduced over 50 years ago but then was abandoned in 1983 because of nutritional and other complications. Although effective and life saving in many cases, the risks outweighed the benefits for the majority of patients.

The lessons learned from this and subsequent operations have led to the development of a variety of procedures with better overall performance and safety profiles. “It’s not just about weight loss;” it is about carefully balancing food intake and calorie absorption while minimizing the effect on protein and other nutrient availability. In other words, maintaining proper nutrition is essential for good health and should not be compromised by the desire for maximum weight loss.

In the past, operations were characterized by terms such as “restrictive” and “malabsorptive.” Conceptually, this made sense: operations designed to limit food intake were restrictive, while operations that bypassed a portion of the intestinal tract were malabsorptive. However, our current understanding goes beyond these basic theories. For example, the adjustable gastric band, once considered merely restrictive, imparts satiety as its primary mechanism for sustained weight loss.

WHICH OPERATION IS BEST FOR ME?

Obesity is not a function of the size of one’s stomach or the length of one’s intestine; therefore, we cannot “dial-in” your weight loss by adjusting the size of your gastric pouch or intestine bypassed. Because of the complexity of the problem, we cannot predict with certainty which operation will be best for you.

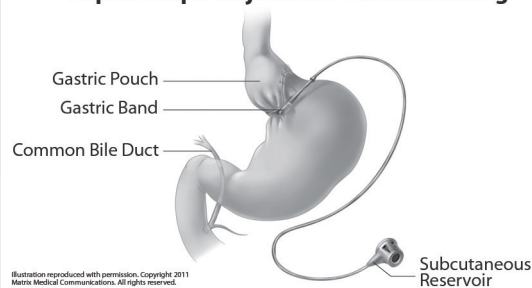
However, by attending support groups, speaking with other patients who have had similar operations, you will be able to make a more educated decision. There are many myths regarding bariatric/metabolic procedures; not all are true.

We have one of the largest and most comprehensive program and experiences in the world and will be delighted to help you with this decision.

“I will apply dietetic measures for the benefit of the sick according to my ability and judgement; I will keep them from harm and injustice.”

- Hippocratic Oath

Laparoscopic Adjustable Gastric Banding



ADJUSTABLE GASTRIC BAND

The adjustable gastric band is not a new operation; the first such implants were performed over 15 years ago. Although throughout the world, there are many manufacturers, there are presently only two that have FDA designation for use in the United States.

The advantages of this operation over other procedures is the lack of complexity in its placement and its adjustability. It is removable and does not require stapling or bypassing of the intestinal tract.

The device is made up of a soft silicone ring that is buried at the top of the stomach and a reservoir that is placed under the skin in an inconspicuous area.

The operation is performed laparoscopically, via minimally invasive techniques. Adjustments are performed in the office by accessing the port with a needle and instilling a measured amount of sterile saline solution.

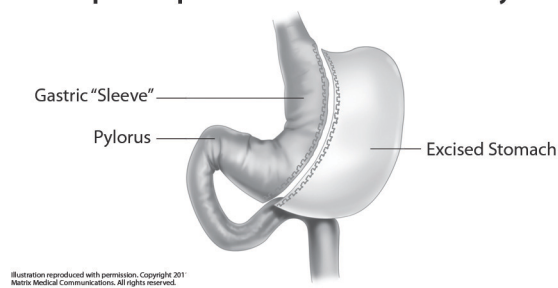
Weight loss, weight maintenance and abatement of co-morbid conditions have been shown to be excellent and sustainable, however, dependent on routine follow up and necessary adjustments.

Complications particular to this procedure include “slippage” or displacement of the band, erosion of the band into the stomach and wear and tear on the tubing or other parts of the apparatus, which can be repaired or replaced.

The adjustable gastric band is a safe, effective tool for the treatment of morbid obesity. Because there is no interruption or bypass of the intestine, malabsorption of nutrients is theoretically not an issue.

However, removal and conversion to other operations is a major endeavor. Weight loss is not as predictable as other operations and re-operations for “slippage” are common. For most patients, life-long risks are similar to other procedures.

Laparoscopic Vertical Sleeve Gastrectomy



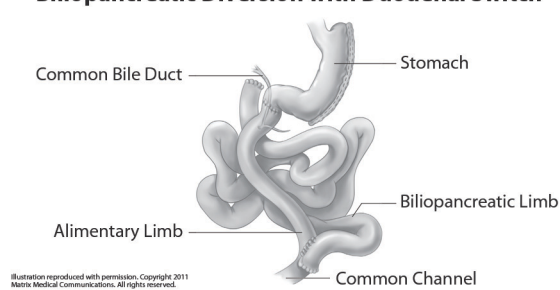
SLEEVE GASTRECTOMY

The sleeve gastrectomy, like the adjustable gastric band, does not bypass the intestinal tract. However, it requires removing 80-90% of the stomach capacity making this operation irreversible.

This operation is part of the duodenal switch procedure; without the intestinal bypass. Researchers observed that a significant number of patients achieved adequate weight loss and improvement of their medical conditions, without the need for the intestinal bypass.

Although relatively new, this operation shows promise as a primary operation, especially in patients who have had multiple operations or may need a liver transplant.

Biliopancreatic Diversion with Duodenal Switch



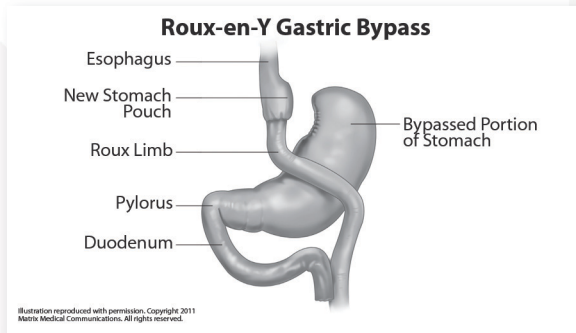
DUODENAL SWITCH

The duodenal switch combines the restrictive component of the sleeve gastrectomy with a highly malabsorptive component of the biliopancreatic diversion invented by Professor Scopinaro of Italy.

This powerful operation appears to achieve a greater degree of weight loss and control of the metabolic syndrome. However, its complexity and degree of malabsorption also impart a greater operative risk and long term nutrient deficiencies as compared to the other operations.

Side effects of the duodenal switch include diarrhea and flatulence that can be quite unpleasant and strong.

We are one of the few centers that can perform this procedure completely laparoscopically.



ROUX-EN-Y GASTRIC BYPASS

The Roux-en-Y gastric bypass consists of a very small gastric pouch separated from the body of the stomach. A portion of the intestine is then anastomosed to the pouch and attached lower so that bile and pancreatic juices are mixed with food further along the intestine.

These operations are performed laparoscopically; similar to the adjustable gastric band and sleeve gastrectomy. Modifications of this operation include varying the lengths of intestinal bypass and reinforcing the pouch with a permanent material. Researchers hope that these modifications will improve the performance (weight loss) and limit the phenomenon of weight regain.

Although the gastric bypass has been around for 40 years, how it works is still largely unknown. The discovery of gut hormones such as leptin and ghrelin and the changes in their secretion and action brought on by the gastric bypass and other operations may lead to a better understanding of how these operations work.

Specific complications of the gastric bypass include ulceration at the connection of the gastric pouch to the intestine, bowel obstruction from twisting or kinking of the intestine and leakage from any of the anastomoses.

As there is some intestinal bypass, it is important to take vitamin and calcium supplementation and to have these levels checked regularly.

REVISION OPERATIONS

Revision operations are very complex. We are one of the foremost centers specializing in this area. In addition, we can perform most operations laparoscopically, using minimally invasive techniques.

ENDOSCOPIC/ ENDOLUMINAL

With the advent of more sophisticated fiberoptic endoscopes and highly engineered flexible instrumentation, many procedures are being performed using natural orifices, such as the mouth or anus.

The advantages include the possibility of improved safety and leaving behind no visible scar tissue. With respect to secondary operations, such as the case for weight regain after a primary operation, the amount of internal scarring greatly complicates the second procedure.

It is postulated that by using endoluminal techniques, similar changes to the anatomy can be achieved without the dangers of a secondary operation.

Currently, these procedures and techniques are highly investigational.

STAGED OPERATIONS

There are times when performing a primary operation is either too risky or impossible because of your individual anatomy. A common cause of this is the observation of extreme enlargement of the liver often seen in individuals with a BMI greater than 50 kg/m². The location and density of the abdominal fat can vary from patient to patient and make it more difficult to construct an anastomosis or manipulate your bowel.

Your surgeon then has the option of aborting the procedure or performing an operation designed for temporary or limited weight loss, knowing that another operation will be necessary once your liver has shrunken in size. This is the concept of a “staged” procedure - performing two, less risky operations, rather than one, more risky, procedure. Our experience and ability to predict and prepare our patients ahead of time makes this possibility unlikely.

OUTCOMES OF SURGERY

Although scientific evidence overwhelming supports the surgical management of morbid obesity, less is known about the surgical management of the metabolic complications of obesity in patients whose BMI is less than 35 kg/m². However, there is ongoing research in this area and literature that supports offering procedures in this population of patients.

In general, the more complex an operation, the higher expected weight loss, but also the higher mortality.

Complications of metabolic and bariatric surgery are similar to other complex intestinal operations and include wound infections, bleeding, blood clots, stroke, heart attack, leakage, peritonitis, pneumonia and death, among others.

Complications related to malabsorption include specific vitamin and mineral deficiencies which may or may not be correctable with oral supplementation.

Some vitamin deficiencies exhibit symptoms too late to reverse even when corrected. This underscores the importance of routine follow up even if you are feeling fine.

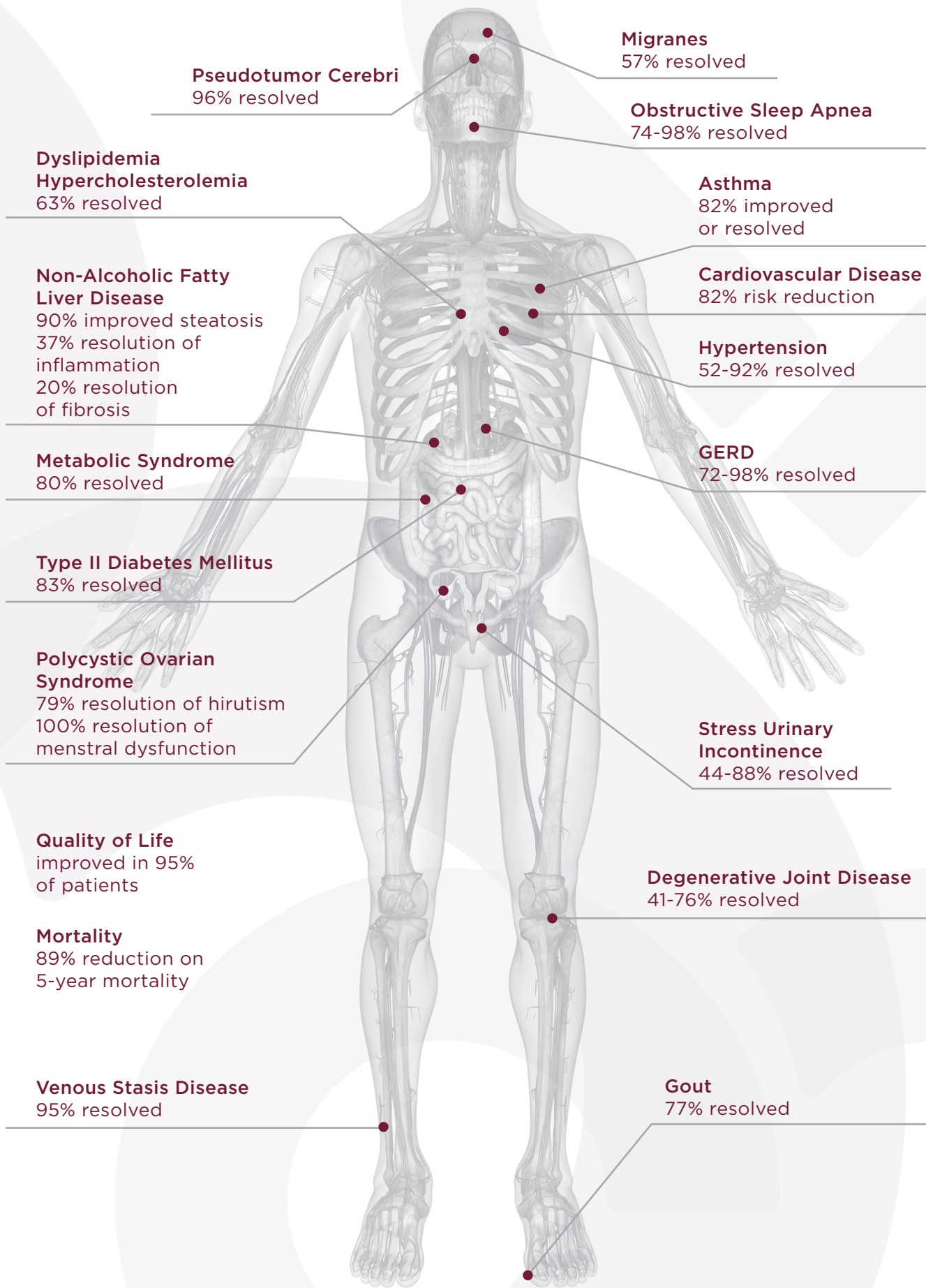
Weight regain or recidivism can occur with any operation and can be related to changing anatomy or behavior.

TREATMENT	% EXCESSIVE WEIGHT LOSS	DEATH
ADJUSTABLE GASTRIC BAND	40-50%	< 0.05%
SLEEVE GASTRECTOMY	50-75%	< 0.5%
ROUX-EN-Y GASTRIC BYPASS	65-80%	< 0.5%
DUODENAL SWITCH	70%	< 1.0%

CONDITION	IMPROVEMENT AND/OR RESOLUTION
Diabetes	84%
Hypertension	75%
Hyperlipidemia	94%
Sleep Apnea	87%

Buchwald et. al. JAMA 2004; 292; 1724-1737





OUTCOMES OF SURGERY

COMPLICATIONS OF BARIATRIC/METABOLIC SURGERY

The complications of bariatric/metabolic surgery are quite low compared to other elective operations such as gallbladder removal or hip replacement. In most patients, the potential benefits greatly outweigh the complications both in percentage and severity. However, every person is unique. Age, ethnicity, gender, associated medical problems, previous surgery, among a multitude of other factors determine your individual risks for surgery. The most important thing to remember is that complications can and will occur, the best programs take steps to prevent complications and have processes in place to take care of complications should they occur. The Fresno Heart and Surgical Hospital has earned its 5-star rating and reputation by doing just that. Continuous improvement. Dedication to quality outcomes. This is what defines our program.

INFECTION. BLEEDING. BLOOD CLOTS. CARDIAC EVENTS. PNEUMONIA.

These are complications of all surgical procedures and are not any more common in bariatric/metabolic procedures. All our patients receive antibiotics before and after surgery, blood thinner when appropriate and mechanical compression stockings to prevent blood clots, cardiac evaluation when indicated before surgery, instruction on deep breathing exercises among many other preventative measures - all designed for your safety.

LEAKAGE. STENOSIS. ULCERS. BOWEL OBSTRUCTION.

These are complications more common, but not limited to operations where there is stapling or cutting of the intestines such as the gastric bypass, sleeve gastrectomy and duodenal switch. Stenosis usually occurs at the third week and requires an endoscopic dilation (outpatient, most of the time) under sedation. This occurs in as many as 5% of our patients. Ulcers can occur anytime and are mostly seen in individuals who smoke or take aspirin-like products. Leakage from staple or suture lines usually requires another operation to establish drainage and repair. This is uncommon but can be very serious. Bowel obstruction due to adhesions or internal herniation is uncommon, but requires urgent attention. All of these complications can be managed laparoscopically

most of the time.

EXCESSIVE WEIGHT LOSS. VITAMIN AND MINERAL DEFICIENCY. CROSS ADDICTION.

Losing too much weight is usually due to other issues such as alcoholism or drug dependency. When we studied this issue, most of the patients who had a secondary addiction after surgery actually had the problem prior to surgery but chose not to disclose this to us. Vitamin and mineral deficiencies become more common and more severe, the more intestine is bypassed. Common prior to surgery, it is very common after surgery, but can be treated and prevented by simple oral supplements.

PAIN. VOMITING. NAUSEA. DIARRHEA.

These symptoms are not typical of the procedures we do today. When present, there is usually an anatomic, psychologic or behavioral explanation.

DUMPING SYNDROME.

This is not really a complication, but can be in its most severe form. This dumping is characterized by sweating, palpitations and light headedness. This is not the type of dumping that is associated with diarrhea. This is caused by low blood sugar in response to eating candy, cookies, or other artificially sweetened junk food. Sometimes this response is exaggerated despite proper eating habits and modification of your procedure may be necessary.

DEPRESSION.

Although healthier, many of our patients find that they need to take just as many antidepressants after surgery as they did before surgery. Surgery and weight loss is not the panacea for all of life's issues.

LOSS OF FRIENDS. ENVY. JEALOUSY. COMPETITION.

These are all human traits as well as the desire to be with individuals of similar interests. Smokers hang out together. So do drinkers. After surgery, you may be perceived to have the desire to abandon whatever lifestyle brought you together.

FREQUENTLY ASKED QUESTIONS

Q: *How long have you been performing bariatric/metabolic surgery? How many procedures have you done?*

A: Dr. Higa began performing gastric bypass surgery in the early 1990's, long before it became popular. Later, he and Dr. Boone helped to pioneer the laparoscopic techniques used by many surgeons today. Together, they have performed over 10,000 procedures.

Q: *How long do I stay in the hospital?*

A: On average, patients stay just overnight. However, we are not obliged to send you home until your team feels that you are ready.

Q: *Tell me about your program. Is there a fee or "hidden" charge common to other programs?*

A: We have dedicated and certified bariatric nurses, operating room teams, qualified anesthesiologists, dedicated bariatric psychology and nutritional support. We can deliver these services with no additional charge to you because of the efficiency and quality of our program.

Q: *Are there residents and interns involved in my care?*

A: The surgeons of ALSA are dedicated to education and teaching. There is always a senior level resident and a board-eligible fellow on the team. In addition, we host a number of visiting professors and surgeons from around the world who elect to come and observe our World Class Surgeons. However, your surgery and care will always be under the direct supervision of one of our distinguished staff surgeons.

Q: *Can my spouse or partner stay with me?*

A: Yes. As all of our rooms are private, a relative can stay with you.

Q: *I have had surgery elsewhere and am having problems. Can you help me?*

A: Yes! Our program welcomes patients from other surgeons regardless of where you had your initial surgery. We will use our experience, knowledge, expertise and networking with other surgeons and programs to find the best solution for your particular problem.

Q: *What insurances do you take?*

A: We take most insurances except for MediCal, but this changes often. Please contact us for up to date information.

Q: *Is there an age limitation?*

A: No.

Q: *Do I really need lifelong follow up?*

A: Yes. Obesity is an incurable disease. Vitamin and mineral deficiencies can occur without any symptoms or warning signs. Even if you move out of the area, we can coordinate your follow up with your primary care physician or connect you with a local surgeon whom we trust.

Q: *Do I really need to take a lot of vitamins after surgery?*

A: Actually, you probably need to take vitamins and calcium right now. It turns out that up to 60-70% of our patients are deficient in one or more nutrients prior to surgery. For most operations, a simple multivitamin with iron, vitamin B12 and calcium with vitamin D is all that is needed along with a quality diet.

Q: *I heard that everybody gains their weight back. Is that true?*

A: Most do not. Some do, depending on their follow up and resolve to change their lifestyle and habits.

Q: *Change? Why do I need to change?*

A: You do not have to change if you want to stay the same. This seems self-evident, but many patients suffer from the unreasonable expectation to lose weight without changing their lifestyle. Surgery makes it possible to change; to be satisfied with less food and to want healthy choices.

Q: *Will I lose my hair?*

A: Hair loss is common, but temporary in most cases. It is not due to protein or vitamin deficiencies, it is a physiologic response to stress.



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