UNDERSTANDING

YOUR WEIGHT-LOSS OPTIONS

An educational resource provided by

OAC
Obesity Action Coalition

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ABOUT THE OAC

The Obesity Action Coalition (OAC) is a more than 52,000 member-strong 501(c)(3) National non-profit organization dedicated to giving a voice to the individual affected by the disease of obesity and helping individuals along their journey toward better health through education, advocacy and support. Our core focuses are to raise awareness and improve access to the prevention and treatment of obesity, provide evidence-based education on obesity and its treatments, fight to eliminate weight bias and discrimination, elevate the conversation of weight and its impact on health and offer a community of support for the individual affected. To learn more about the OAC, visit **www.ObesityAction.org** or contact us at (800) 717-3117.

UNDERSTANDING YOUR WEIGHT-LOSS OPTIONS

More than 93 million Americans are affected by the disease of obesity. Obesity carries with it various other diseases, such as type 2 diabetes, hypertension, sleep apnea and more. Combined with obesity, these conditions may greatly impact an individual's quality of health and life.

Treating obesity can often be difficult. If you're affected by obesity, you know first-hand that addressing your weight and improving your health is not always an easy task to accomplish. The scope of weight-loss options are wide and can often be confusing and intimidating.

It is important to note that all methods for addressing obesity should be utilized as "tools" as part of a comprehensive approach to addressing your weight and improving your health. There is no single treatment. A combination of the appropriately selected tools and lifestyle modification are essential in a successful obesity treatment and weight management plan.

Please Note: Before choosing any weight-loss option, please contact a healthcare professional to decide which option is best for you. Throughout this brochure, you will notice next to each weight-loss option we have listed the type of weight category, according to body mass index (BMI), for which each weight-loss option is most commonly utilized. Often times, it may be necessary to combine more than one weight-loss option to achieve the best outcome and improve your health. To calculate your BMI, please view the BMI chart on page 46.

Deciding which treatment option is best for you is an important first step. In this brochure, we will detail the most common weight-loss options available today:

- **Behavior Modification**
- **Community-based Programs**
- **Commercial Weight-loss Products and Programs**
- **Physician-supervised Weight-loss**
- **Bariatric Surgery and Devices for Obesity**

BEHAVIOR MODIFICATION
(Weight maintenance, Overweight, Obesity and Severe Obesity)

Behavior plays a significant role in weight management. Modifying behaviors that contributed to developing obesity is one way to treat the disease of obesity either alone or in conjunction with other treatments. A few behavior change strategies include:

- Self-monitoring
- Increasing physical activity
- Becoming educated about the body and how to nourish it appropriately
- Engaging in a support group
- Setting realistic goals

SELF-MONITORING:

Though scientists have now proven that losing weight is more complex than simply taking in fewer calories than you burn off, keeping track of how many calories you consume and how active you are continue to be beneficial to successful weight-loss and weight maintenance. Because self-monitoring is critical for success with lifestyle changes, it is important to look at the various self-monitoring techniques.

Self-monitoring refers to the observing and recording of eating, drinking and physical activity patterns, followed by feedback on the behaviors. The goal of self-monitoring is to increase self-awareness of target behaviors and outcomes, thus it can serve as an early warning system if problems arise and can help track success.

Some commonly used self-monitoring techniques include:

- Food diaries
- Regular self-weighing
- Exercise logs
- High-tech tools such as pedometers, accelerometers and metabolic devices

All of these techniques can be utilized simultaneously to track patterns in daily activity. You can then use these patterns to determine which behaviors tend to result in weight gain versus weight-loss. To optimize your weight-loss, focus on making the healthy patterns part of your long-term lifestyle change.

With technology advancements, self-monitoring techniques are changing and improving to help defeat some of the major barriers to adherence. The bottom line is that no matter how you do it, self-monitoring should be an important part of your weight-loss, weight maintenance or healthy lifestyle change.

PHYSICAL ACTIVITY:

Studies have proven that individuals affected by obesity who maintain an optimal level of fitness have lower risk of heart attacks than individuals affected by obesity who are not very fit. Regular physical activity is necessary for good health. It is primarily important for someone who is trying to lose weight or maintain a healthy weight. Exercise can not only help to control weight, but it also contributes to healthy bones and emotional health. Be sure to check with your doctor that you are healthy enough to exercise before embarking on an exercise routine.

To maintain your weight, the Centers for Disease Control (CDC) recommends 150 minutes of moderate aerobic activity, 75 minutes of vigorous activity or an equivalent mix of the two each week. This recommendation can vary, however, depending on your fitness level and abilities, so consult with a healthcare professional for your individual needs.

Aerobic activity of 240 to 300 minutes per week may add additional benefits to reduced calorie intake.

Moderate and Vigorous Physical Activities

Physical activity does not have to be strenuous to be beneficial. Someone who has been sedentary but wants to get started with an exercise program should begin by incorporating a few minutes of activity into each day.

Moderate: Moderate activity is physical activity ranging from 64 to 76 percent of maximum heart rate. Moderate intensity activity causes a slightly increased rate of breathing and it feels "light" to "somewhat hard."

Examples of moderate intensity activities:

- Brisk walking (a 15 minute mile)
- Yard/house work
- Leisure bike ride
- Playing with family
- Light swimming

Vigorous: Vigorous intensity is physical activity greater than 76 percent of maximum heart rate. Vigorous intensity activities result in increased rates of breathing and sweating and feel from "somewhat hard" to "very hard." It is quite difficult to hold a conversation when performing this type of activity

Examples of vigorous intensity activities:

- Competitive sports such as soccer or basketball
- Jogging
- Hiking
- Cycling
- Aerobics

Developing Your Physical Activity Goals

Once you have decided why you want to exercise and make a commitment, then you can set a SMART goal and use the FITT principle to make a plan.

Your goals should be SMART

S **Specific:** Choose one specific behavior modifier per goal to work on.

M **Measurable:** Can you measure this against a baseline?

A **Attainable or Action-based behaviors:** Is the goal attainable? Use action words when writing goals such as "I will" and "I do," rather than "try, should, would, could."

R **Realistic:** Do you have honest and realistic expectations of yourself with your time, body, likes/dislikes?

T **Timely:** Is the time allotted reasonable and manageable for you right now? And, when will it conclude?

Then use the FITT principle to develop your physical activity plan:

F **Frequency:** How often?

I **Intensity:** What percentage of your target heart rate do you exercise? How hard do you plan on working?

T **Type:** What mode of exercise are you using (walk, swim, aerobics, bike, dance, weights, yoga, Pilates, etc.)?

T **Time:** How long can you exercise per day? (This does not have to be all in one session. Time can be divided throughout the day.)

Now, let us look at how to put these two principles together and start our plan. Here are some examples of poor and well-written goals:

Poor Goals:

- I want to increase my cardiovascular exercise.
- I need to lose weight.

These goals are too general and do not clearly define the plan.

SMART Goals:

- I will increase my exercise by walking Monday, Wednesday and Friday two times a day for 15 minutes each time. I will walk at a pace that is somewhat difficult.
- I will record my food intake and exercise every day. My goal is to stay under 2,000 calories and to exercise 150 minutes this week.

These SMART goals are specific and allow you to easily determine if you are following your plan or not.

Remember these few things about exercise:

- Make it simple.
- Make it realistic.
- Make it happen.
- Most importantly, make it fun!

The most important commitment YOU make is to YOUR health and wellness.

EDUCATION AND YOUR BODY:

Although we often take it for granted, the body is a complex system. Recognizing this and making an effort to learn more are essential to your weight-loss and health. There are a wide variety of ways you can learn about your body, ways to properly nourish it and more, such as:

Talk to Your Primary Care Provider (PCP) – Discussing your weight with your PCP is an excellent place to start. It is important to be prepared for this visit. Here are some quick tips to help you prep for your visit:

- Write down food consumed in a food diary (even snacks).
- List any exercise activities you participate in daily, weekly.
- List any family history of conditions (type 2 diabetes, heart disease, etc.).
- Bring a list of any medications and dietary supplements you currently take (hint: almost all pharmacies can easily print this information for you for free).

Speak to a Dietitian – Dietitians are an excellent resource for an individual wanting to lose weight and improve health. Quite often, we think we know what's healthy for our bodies, but we are commonly mistaken. Dietitians can provide you with the following:

- Meal plans
- Information on foods and how they impact your weight and health
- Help developing nutritional goals

SUPPORT GROUPS:

The journey of weight-loss can often be a difficult one and a lonely one. We all know that one person who can "eat anything and not gain a pound." Realistically, this is not true for the majority of Americans. Most individuals battling obesity or severe obesity find themselves needing support. Support groups are an excellent resource to share your story and learn from others. Here are some quick tips to help you find and engage in support groups:

- Ask your PCP for support group references. There are a wide variety of support groups available (women-only, men-only, faith-based, etc.).
- Don't be afraid to speak up and share your story. There's a good chance someone is thinking the same thing you are.
- Not ready to meet face-to-face? There are numerous online support groups available. Ask your PCP or dietitian for some of their favorites.

SETTING REALISTIC GOALS:

When developing your goals for weight-loss, exercise, eating healthy and more, it is important to keep them realistic. Quite often, individuals become frustrated when they do not see immediate weight-loss results. It is important to not let yourself become frustrated with your weight-loss plan. Changing your diet, incorporating exercise and more can all be significant life changes and they need to be taken seriously. Here are a few tips for developing realistic goals:

- Average weight-loss is one to two pounds per week.
- Start slow with exercise and find an activity you enjoy.
- Ask your spouse, family member or friend to exercise with you.
- Make meal times a family affair. Have your children help with cooking and let them choose healthy foods as well.
- Recognize your progress. Continue a proactive mindset and remember that each day is another day forward.
- Don't be afraid to ask for help. Feel like you might be slipping with your eating or exercise routine? Talk to a family member, friend or healthcare professional and they'll help you get back on track.

Conclusion:

Behavior modification is the cornerstone of any weight-loss option. It may also be one of the most difficult aspects of weight-loss or weight maintenance. Our behaviors are engrained in our daily routines, families, lifestyles and more. Don't expect to change your behaviors in one day or even one week for that matter. It will take time, but it is important to stick with your behavioral changes, as they will greatly help you in your weight-loss journey.

Always remember, YOU are the leader of your healthcare team!

COMMUNITY-BASED PROGRAMS

(Weight Maintenance, Overweight, Obesity and Severe Obesity)

This section reviews different types of community-based and support programs available to help you improve your weight and health. These programs often include a group or one-on-one setting where you will discuss your weight, emotions, issues with food and more.

Community-based programs can be an excellent way for you to learn from other individuals who are also dealing with issues of weight. They are also a good source of motivation and will keep you accountable with others. The programs mentioned in this brochure are not all-inclusive, and you should research programs available in your area to find the best fit.

TOPS CLUB INC. (TAKE OFF POUNDS SENSIBLY)

Founded in 1948, TOPS is the original non-profit weight-loss support group. TOPS does not sell foods, endorse products, promote quick fixes or push a one-size-fits-all meal plan. TOPS provides members in thousands of chapters across the U.S. and Canada with the information and support needed to make healthy lifestyle changes they can enjoy for a lifetime.

How does it work?

No foods are required, and none is off limits. When it comes to healthy eating, TOPS advocates portion control and balanced eating within two healthy frameworks: the USDA's MyPlate, and the Food Exchange System developed by the Academy of Nutrition and Dietetics and the American Diabetes Association. Many dietitians use these same frameworks for teaching healthy eating.

TOPS offers tools, tips and meal planning ideas for using MyPlate and the Exchange System in its membership magazine and other materials. Members are encouraged to move more and eat a greater variety of healthy foods in smaller portions as well as change habits and thinking patterns with the aid of weekly group support.

Weekly TOPS meetings, led by volunteers, focus on making small, steady lifestyle changes that provide lasting weight-loss and better health. Each meeting includes a confidential weigh-in so members can stay accountable to the scale, a brief educational program on nutrition, fitness, health or behavior change, and an opportunity to share challenges and successes from the previous week *if the member chooses to share.* Weekly meetings provide a supportive, educational environment where people are encouraged and not judged.

Members are urged to consult with their regular doctor or healthcare provider to set a realistic, healthy goal weight and a calorie level that is safe, effective and sustainable.

Weight-loss:

TOPS stands for "Take Off Pounds Sensibly." The organization advocates slow, steady weight-loss using techniques and small behavior changes that members can naturally incorporate into their day and keep for a lifetime. A recent university study of 42,500 TOPS members found that those staying in TOPS for three years were able maintain their weight-loss throughout that time and lost as much weight as dieters using popular commercial weight-loss programs.

The first visit to any chapter is free. The annual cost to join TOPS is $28 for chapter or online membership. Chapter members also pay local chapter dues, which vary by community but average $5 or less per month. Fee and chapter dues cover the costs of weekly weigh-in and meeting, chapter materials, subscription to the magazine, quick-start guide and online tools. Support online includes facilitated online chat, recipes and self-care program as well as online weight and exercise trackers.

Concerns:

TOPS can't do the work for you. You only get out of TOPS what you put into it. Regular attendance and participation in a local chapter (or online community) are necessary for success. Each chapter tends to take on its own personality, reflecting the ages, backgrounds and interests of its members. Finding a local chapter that is a "fit" for your personality and schedule is important.

YMCA'S DIABETES PREVENTION PROGRAM

As a leading nonprofit for strengthening community through youth development, healthy living and social responsibility, the Y believes that all people should be able to live life to its fullest, healthiest potential. In the YMCA's Diabetes Prevention Program, a trained Lifestyle Coach will introduce topics in a supportive, small group environment and encourage participants as they explore how healthy eating, physical activity, and behavior changes can benefit their health.

How does it work?

The 12-month, group-based program consists of 25 on-hour sessions led by a trained Lifestyle Coach who facilitates a small group of people with similar goals. You will discuss topics such as healthy eating, increasing physical activity, reducing stress, problem solving, and much more. The program will also help you stay motivated to maintain progress toward program goals with six monthly sessions during the second half of the program.

Behavior Change:

Based on research funded by the National Institutes of Health, the program has been shown to reduce the number of new cases of type 2 diabetes by as much as 58 percent. The reduction was even greater, 71 percent, among adults aged 60 years or older.

The YMCA's Diabetes Prevention Program goals include:

- Lose seven percent of your body weight
- Gradually increase your physical activity to 150 minutes per week.

The YMCA's Diabetes Prevention Program focuses on small, measurable, reasonable goals to give participants confidence they can make the necessary changes to reduce their risk for type 2 diabetes and live healthier lives.

The group support participants receive helps to keep them motivated and encouraged. Participants spend a year surrounded by supportive people with common goals.

Healthy Eating – Eating smaller portions, reducing your fat intake, and discovering healthier food options has been proven to help prevent the onset of type 2 diabetes.

Increasing Physical Activity – Studies have repeatedly shown that moderate physical activity (walking, swimming, mowing the lawn) for as little as 30 minutes, five days a week can help improve your blood pressure, raise your good cholesterol and prevent blood flow problems.

Losing Weight – It has been shown that reducing your body weight by even a small amount can offer tremendous benefits for people at risk for diabetes.

Concerns:
As with all support-based programs, you must take part in the program to experience the results. The main focus of this program is to prevent diabetes; however, weight is also addressed as weight and diabetes are related. You must also be diagnosed with pre-diabetes or be at risk of developing type 2 diabetes to enter the program.

COMMERCIAL WEIGHT-LOSS PRODUCTS AND PROGRAMS

(Weight maintenance, Overweight, Obesity and Severe Obesity)

This section reviews some of the most popular types of commercial weight-loss products and programs.

Non-clinical methods can take many forms. They include, but are not limited to, widely available weight management programs, such as Weight Watchers, health coaches, diet books, Web sites such as **www.eDiets.com** or **www.SparkPeople.com**, over-the-counter (OTC) medications such as alli®, body monitoring devices such as BodyMedia® or bodybugg®, meal replacement items, meal replacement systems programs such as Jenny Craig and Nutrisystem, and support groups. Some non-clinical weight management methods may require you to use the program's foods or supplements, and there may be fees for professional services.

The range of weight-loss methods available is wide, and the claims they make are equally as wide. Some of the claims are reasonable ("Lose 1-2 pounds per week") and some are outlandish ("A bikini body in 30 days!"). It is important to remember that not all methods and claims are reviewed by the Food and Drug Administration (FDA), who ensure the safety and effectiveness of medical devices and prescription and OTC weight-loss medications but not weight-loss supplements or books.

A good rule of thumb is if a product or claim sounds too good to be true, it probably is. A reasonable goal is to lose about a pound or two a week. For most people, that means consuming 500 calories less per day, exercising more and eating more nutritious foods. If a weight-loss method claims to help you lose significantly more than one to two pounds a week, steer clear of it.

DIET BOOKS

It is not uncommon for people to turn to popular diet books when seeking to lose or manage weight. Diet books have been around since at least the mid-19th century, so clearly there is an enduring market for those seeking to improve their weight and health in this way.

How do they work?

One of the primary benefits of following a weight-loss program from a book is the cost. Most books are relatively inexpensive to purchase or can be obtained for free from a local library. Most do not require you to invest in packaged foods or other tools. You are usually looking at some form of dietary change and portion control, often paired with exercise and self-monitoring. For most people, the cost to follow the diet will be similar to what they already spend on the food they eat now.

Weight-loss:

Depending on your ability to follow the program, you may experience a one to two pound weight-loss per week.

Concerns:

The cons of using a diet book as your means of weight-loss include verifying the safety and efficacy of the plan. Authors trying to sell books are often biased, as they profit from book sales, and they may not have the qualifications necessary to provide health advice. With the huge variety of plans available, the simple truth is that some diet books are good and others are not, and if you are not an expert, you may have a hard time choosing what ones are acceptable.

Marketdata Enterprises reported that in 2009-2010, 80 percent of dieters were using a self-directed program such as a book or Web site, so if this is what you are choosing, you are definitely not alone.

In addition, using a book as your diet plan usually means you're attempting to make a change on your own. For many people, especially those with health challenges like diabetes or with larger amounts of weight to lose, attempting to make the change on your own may reduce the chance of success and/or increase the risk of having complications. For this reason, it is always good to let a healthcare professional know if you are embarking on a weight-loss plan and to discuss the pros and cons with them.

Examples of popular diet books that advocate weight-loss methods generally deemed by dietitians to be safe and reasonably effective include:

- The South Beach Diet
  by Dr. Arthur Agatston
- The Atkins Diet
  by Dr. Robert Atkins
- The Volumetrics Eating Plan
  by Barbara Rolls
- Eat This, Not That
  by David Zinczenko with
  Matt Goulding

ONLINE/WEB-BASED DIET PROGRAMS

Like diet books, web-based diet programs come in many shapes and sizes. Some are free, some charge a fee. Some are nutritionally sound, some are not.

How do they work?

A number of these programs offer an online version of their programs **(www.weightwatchers.com)** or books **(www.southbeachdiet.com** or **www.jillianmichaels.com)** while others, such as **www.eDiets.com** or **www.SparkPeople.com**, may allow users to select from a variety of programs to suit their needs. Most online sites offer simple tools like recipes, meal ideas, eating out tips, workouts and progress tracking. Forums or chat-style discussions, which allow users to connect with one another for tips and ideas, are commonly found at these sites. Many sites offer "add-on" services (usually for a fee) such as a personal counselor, more in-depth tools or prepared meals. Many now also have "apps" that can be loaded onto a computer, tablet or smartphone to help with self-monitoring, reminders, shopping and more.

Weight-loss:

Depending on your ability to follow the program, you may experience a one to two pound weight-loss per week.

Concerns:

Like diet books, a self-directed web-based diet program may suit your needs if you are looking for flexible tools to help you manage your weight. In addition, both diet books and web-based diet programs allow people to use regular grocery store food, which most people prefer. As the quality of the eating plans vary both in their nutrition and safety, especially for those with certain medical conditions, it is best to discuss the plan you have chosen to follow with a healthcare professional before you start.

DIETARY SUPPLEMENTS

Perhaps the most complex set of products targeting individuals seeking to lose weight are dietary supplements. While manufacturing of dietary supplements is regulated by the FDA, companies marketing products in this category do not have to seek pre-market approval. This means that products do not have to undergo studies proving to the FDA they are safe or effective before being sold.

How do they work?

While dietary supplements may contain ingredients that claim to support weight-loss or improved body composition, one needs to examine the action of each ingredient individually, as well as in relation to the other ingredients and to other medications one may be taking in order to judge the supplement's potential effectiveness. If you are considering using a dietary supplement for weight-loss, it is best to take a list of its ingredients to a healthcare professional or pharmacist to determine if the product is right for you. Further guidance from the Federal Trade Commission (FTC) on this topic can be found here:

www.ftc.gov/bcp/edu/pubs/consumer/health/hea03.shtm.

Weight-loss:

Weight-loss results from dietary supplements is often difficult to measure as there are many supplements available that may or may not work in conjunction with another weight-loss strategy, such as exercise or changes in dietary restrictions. As with any weight-loss program, a one to two pound per week weight-loss is recommended for safety and health.

Concerns:

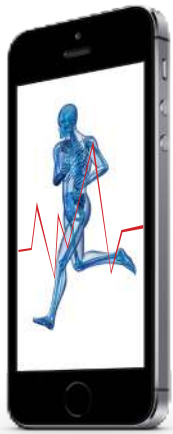
While companies are supposed to follow FDA and FTC guidance for advertising and claims, it is clear that many do not. Thus, it is not uncommon to see ads for dietary supplements claiming that you can lose weight rapidly without changing the way you eat, or without lifestyle changes. The influence of celebrity promoters can contribute to the perception that a product may offer a miracle cure for obesity. In fact, good scientific evidence that they work is generally lacking.

BODY MONITORING

A new method of controlling one's weight has grown in popularity in the last few years – body monitoring. There are many different devices available and all come with a host of options, such as online tools, smartphone apps and more.

How do they work?

Body monitoring involves wearing a device, usually an armband or a gadget carried in one's pocket, that tracks a sufficient number of bodily processes (skin temperature, movement, acceleration, heat flux and more) to be able to accurately report how many calories the wearer has burned. Combined with a detailed record of what one eats (that the wearer creates by entering items into an online log), it's possible for someone to look at their calorie balance (calories in vs. calories out) and get a detailed understanding of why they are gaining or losing weight. This in turn allows them to make adjustments accordingly. Body monitors are significantly more accurate than pedometers, which only measure steps taken and not the intensity of activities.



Weight-loss:

Body monitoring devices alone will not result in weight-loss. These devices are meant to be used along with a weight-loss option.

Concerns:

Body monitors cost about $100 to $250 and require an online access fee of around $7-10 per month. The benefit of using a body monitor is that a wearer will get a good understanding of which of their activities burn calories best. The downside is that food logging can become tiring, and the ability of a body monitor to accurately calculate calories depends entirely on how well the wearer tracks their food consumption. In addition, not everyone wants to wear an armband or carry a device at all times.

OVER-THE-COUNTER DRUGS

Currently alli® (orlistat) is the only approved over-the-counter (OTC) drug for weight-loss, which means the FDA has reviewed the product and found it to be safe and effective when used as directed.

How does it work?

The product alli® is a lower potency of the prescription drug Xenical® (orlistat). It is the only FDA-approved weight-loss medication that is available OTC and available at a higher dose with a prescription. It is a capsule that is usually taken three times per day before a meal that contains dietary fat. It works by decreasing the amount of fat your body absorbs. This means that only 2/3 of the calories that you take in from fat will be absorbed. The other 1/3 of the calories gets carried away in the digestion tract as stool. The company that makes this drug (GlaxoSmithKline Consumer Healthcare) also offers a Web site with education and support tools for users at **www.myalli.com**.

Weight-loss:

The average weight-loss is about 5 percent of your weight after one year. In a person who weighs 200 pounds, this would mean 10 pounds of weight-loss.

Concerns:

It does not work well for people who are already on a low-fat diet since their calories from fat are already low.

Individuals using alli® on a regular basis should take a daily multivitamin as there is potential for deficiency in some vitamins. One of the advantages of alli® is that its side effects are limited to the gastrointestinal system. Common side effects are cramps, gas, stool leakage, oily spotting and gas with discharge that improve with a lower fat diet.

COMMERCIAL WEIGHT-LOSS PROGRAMS

Utilizing a commercial weight-loss program is one of the most popular options for someone affected by obesity. Commercial weight-loss programs often provide various resources such as pre-packaged meals, support and more. Programs usually offer a 1,000 to 1,500 calorie-per-day diet plan which produces weight-loss of about 1-2 pounds per week. The slow down of weight-loss is not unique to these approaches. It is true of any weight-loss program because as you begin to weigh less, you burn fewer calories.

Because commercial plans vary greatly, the FTC recommends asking the following questions before engaging in a program:

- How much, on average, do clients regain long-term?
- What is your maintenance and follow-up program?
- What rate of weight-loss does your program aim for?
- Does the program emphasize balanced food choices and exercise?
- Are you required to buy specially formulated foods or supplements?
- What are the costs of membership, weekly fees, brand food, supplements and counseling?
- What are the credentials of those running the program?
- What are the health risks?

In this section, we will examine some of the most popular commercial weight-loss programs by separating them into two different categories: "Meal Replacement" and "Non-meal Replacement." Let's take a brief moment to examine these two categories:

Meal Replacement

Meal replacement through pre-packaged meals can be appealing because of the convenience and ease of choice they offer; however, when meals are pre-packaged, participants may not learn the basics of nutrition and healthy eating. In such a case, weight maintenance becomes difficult and people quickly regain the weight they've lost. Pre-packaged meals may also be expensive (this claim is dependent on the normal weekly food cost an individual would incur).

Liquid meal replacement plans, if used for too long, may be harmful because they can cause nutritional deficiencies. Also, people often have trouble sticking with these programs for continued weight-loss because of the difficulty of maintaining a "normal" lifestyle. Unfortunately, when participants have not learned the principles of healthy eating and portion control, they often resume prior eating patterns.

Non-meal Replacement

Some programs do not require meal replacement as part of their program. Their main goal is to teach you about healthy eating patterns, behavior modification and incorporating physical activity. While this is helpful long term, behavior change does not happen overnight and can be a challenging adjustment at first.

Overall, a safe and effective commercial program will offer educational materials that have been reviewed by a licensed healthcare professional. These materials will include information on healthy eating plans, exercise and behavior therapy.

Commercial Weight-loss Programs That Use Meal Replacements

NUTRISYSTEM

Nutrisystem, founded in 1972, offers pre-packaged meals delivered to your home, and dietary counseling. Years ago Nutrisystem was a storefront business but for more than a decade the company has offered an online & telephonic weight-loss program, complete with counseling and menu planning.

Nutrisystem features portion-controlled foods and structured meal plans that are both high in protein and low in glycemic index (GI). Low-GI means that the foods do not cause your blood sugar to rise sharply. For people with diabetes, a low-GI diet can help keep blood glucose in control. Nutrisystem's program for people with or at risk of type 2 diabetes, Nutrisystem D, has been proven effective in three clinical trials to date.

How does it work?

Nutrisystem plans, tailored for men and women, encourage you to consume three meals and two or three snacks per day. The plans offer about 130 different pre-packaged foods to choose from. Foods are home-delivered, typically in shipments every four weeks, after you place an order online or over-the-phone. You have to purchase additional fruits, vegetables and dairy products on your own. These are grouped into three categories: SmartCarbs (nutrient-rich, high-fiber carbohydrates), PowerFuels (lean proteins and healthy fats) and Vegetables (non-starchy ones, which can be eaten freely). A meal planner explains how and when to add these foods into your diet. The program has an active online community, including discussion boards and dietitian-led chats. Counseling, for those who want it, is available and included with most Nutrisystem programs.

Weight-loss:

With the recommended fruits, vegetables and dairy products, this diet plan can be considered well-balanced. Participants following the plan's diet and exercise recommendations should see about a one to two pound per week weight-loss. Research on Nutrisystem customers showed an average weight-loss of 18 pounds at three months and 27 pounds at six months.

Concerns:

Evidence is mixed for Nutrisystem's claim that low-GI foods are better for weight-loss. Some research finds a small weight-loss advantage for low-GI diets over high-GI ones, but other studies find no difference. Whether or not a low-GI diet is "better" for weight-loss, Nutrisystem's meal programs are low in calories and are designed to meet national nutrition guidelines; so, this should be a healthy way to lose weight.

Another concern is that participants using pre-packaged meals do not necessarily learn good nutrition, which makes maintaining weight-loss difficult once they return to buying food on their own. In 2011, Nutrisystem began to address this with "transition and maintenance" plans that reduce the number of pre-packaged foods and increase the focus on preparing and choosing healthy meals in the proper portions. Counselors are also available throughout the program and during transition and maintenance to educate about good eating habits.

The final concern is the cost of the food. Membership is free and there is no long-term contract; the Nutrisystem foods cost about $230-$350 for a 28-day package. This does not include the additional fruits, vegetables and other food that you must purchase on your own. Although Nutrisystem claims that the full cost of eating while on the program is about 15 to 40 percent less than what the average American spends on food, some consumers would rather buy food week-to-week. Some employers and health plans subsidize or reimburse program costs.

JENNY CRAIG

Founded more than 30 years ago, the Jenny Craig Program offers a clinically proven comprehensive approach to weight-loss that includes nutrition, exercise and behavior modification. The Program is developed by registered dietitians in consultation with an expert Science Advisory Board. It provides nutritionally balanced menus that combine portion-controlled foods with the client's own fresh fruits and vegetables, whole grains, low fat dairy and heart healthy fats. The program is delivered by trained personal consultants in weekly motivational one-on-one consultations, in center, over the phone or via Skype. Consultants partner with members to identify personal motivators, set weekly menu and activity plans, monitor progress, overcome obstacles and positively reinforce success.

How does it work?

A typical menu day on Jenny Craig consists of three meals and three snacks per day, which, in combination with the added grocery items, adds up to an individualized menu calorie level that is based on your gender, age, height, weight and level of physical activity. The standard menu caloric distribution is 50-60 percent carbohydrate, 20-30 percent fat and 20-30 percent protein. For the Jenny Craig for type 2 diabetes menu, the caloric distribution is 45 percent carbohydrate, 30 percent fat and 25 percent protein. Menus offer more than 80 items and provide < 10 percent calories from saturated fat and added sugars and 0 grams trans fat.

For the first half of your program, you primarily follow menus that include Jenny Craig foods for seven days a week. For special events or other times when you need an alternate option, your Consultants will offer guidance for meals on your own. When you have lost half of your total weight-loss goal, you make the transition to five to six days of menus that include Jenny Craig foods and one to two days of your own foods. When you reach your goal weight, you transition to your own foods, with the option to continue with one meal/snack per day to maintain consistent calories for more successful weight maintenance. Throughout your program, you work with your Consultant to utilize behavioral strategies to address challenges like emotional, social and unconscious eating and dining out, as well as to build an enjoyable, active lifestyle. The program also provides an online menu tracker/mobile app, recipes and community forums for added support.

Weight-loss:
Jenny Craig is a well-balanced, scientifically proven program on which you can expect to lose 1-2 pounds per week on average. A 2010 independent trial, published in the *Journal of the American Medical Association*, demonstrated a 10 percent weight-loss for Jenny Craig participants at one year and seven percent weight-loss at two years. Based on these outcomes, as well as the program's similarity to the CDC's Diabetes Prevention Program (DPP) curriculum, Jenny Craig has been awarded pending recognition as a DPP program.

A 2014 clinical trial of people with type 2 diabetes, demonstrated a 9 percent weight-loss at one year with greater improvements in diabetes control and heart risk factors as compared to usual care.

For both programs, Jenny Craig participants achieved three times greater weight-loss when compared to usual care. Based on their review of the effectiveness of commercial weight-loss programs in the *Annals of Internal Medicine*, researchers at Johns Hopkins University rated Jenny Craig as one of the most highly effective program for sustainable weight-loss at one year, recommending it for physician referral and benefits coverage by health insurers/employers.

Concerns:
From the beginning, members are learning how to incorporate healthy foods (a variety of non-starchy vegetables, reduced/nonfat dairy products, whole grains and heart healthy fats) into their menus. The daily menu is a model for learning nutritional balance, variety and moderation in food choices. For long-term success, it's important to not only follow the menus but self-monitor their food and activity choices and practice behavioral strategies to both lose the weight and change their behaviors.

Counselors are not dietitians, however they have been trained to deliver an evidence-based program that is developed by registered dietitians as is recommended by the 2013 Obesity Guidelines.

Program costs include an enrollment fee of $99 with a monthly membership of $19. Daily food costs ranges between $15 and $23.

SLIM-FAST

(Available in supermarkets, grocery stores and pharmacies)

Slim-Fast has been around for more than 25 years and offers relatively quick weight-loss by substituting a calorie-controlled, sweet-tasting fortified meal replacement shake or bar for some of your regular meals. The program offers online support that includes weight, diet and exercise charting, chat rooms with online buddies, chat sessions with registered dietitians, a weekly newsletter, exercise programs and meal planning.

How does it work?

The diet plan is centered around two Slim-Fast meal replacements. One meal consists of a "Meal-on-the-Go" shake or bar and the other is a similar shake or bar combined with 200 calories of your favorite healthy foods. The third meal is a "sensible meal" of about 500 calories, with 1/2 of your plate filled with veggies, 1/4 with lean protein (such as chicken without the skin), 1/4 with starch, a salad on the side and fruit for dessert. A snack of 120 calories is also offered during the day. Fruits and vegetables (about 3-5 servings) are encouraged in addition to the meals and snack.

As dieters approach their weight maintenance phase, they can replace the shakes or bars with two additional "sensible meals;" however, Slim-Fast provides little instruction on transitioning from portion-controlled products back to regular foods, an omission which is likely to leave dieters struggling to maintain their weight-loss or relying on Slim-Fast products indefinitely.

Weight-loss:

Overall, if followed correctly, the plan does encourage additional fruits and vegetables and it stays at or above 1,200 calories a day, leading to more balanced consumption than traditional liquid diets.

Meal replacement diets such as Slim-Fast are appealing because of their simplicity and convenience. If you plan to use Slim-Fast, you should consider doing so under the supervision of a healthcare professional, who can help teach you how to transition yourself from the shakes and who can monitor for potential complications of a fast weight-loss.

Concerns:

The shakes are about $1.40 and the meal replacement bars about $1. The biggest drawback is that dieters may not receive comprehensive information about nutrition, which means that as they transition back to regular foods, which they are likely to do eventually, weight gain may be inevitable. Also, the recommended calorie level may be too low for some dieters.

Commercial Weight-loss Programs That Do Not Use Meal Replacements

WEIGHT WATCHERS

Weight Watchers was founded in1963 and offers weight-loss guidance and support. The plan emphasizes a well-balanced diet and encourages lifestyle changes and increased physical activity.

How does it work?

Weight Watchers program is called Beyond the Scale, which still emphasizes weight-loss, but does it in a broader context of eating healthier, moving more and making time for yourself. Beyond the Scale offers an approach to healthier living that allows people to personalize the program and define their own success both on and off the scale.

The Weight Watchers food plan, SmartPoints, is consistent with the 2015-2020 Dietary Guidelines for Americans to make healthier eating simple by translating complex nutrition information into one simple number, giving each food and beverage a SmartPoints value. Everything is still on the menu with SmartPoints, but it does encourage a healthier pattern of eating with more fruits, vegetables and lean proteins, and less sugar and saturated fat. Members are given a personalized daily SmartPoints target based on their height, weight, age and gender and also receive weekly SmartPoints to provide flexibility for

occasions when members may eat more than usual. With SmartPoints, people can choose the foods they want to eat at home, in restaurants, in the workplace – or anywhere else food shows up in their lives.

Fitness is also a core component of Beyond the Scale. The focus is on helping members fit fitness into their lives. Each member gets a personalized FitPoints goal based on their current level of activity and encourages using tools such as the Weight Watchers FitBreak app. Weight Watchers also has supportive tools, including helpful content and a social media community within its app called Connect.

Members can follow the program in-person at weekly group meetings or privately through its OnlinePlus or Personal Coaching offerings.

Weight Watchers' Beyond the Scale program is firmly supported by science. It builds on the recommendations of the United States Preventative Services Task Force and other expert panels for lifestyle programs that work – combining dietary and physical activity recommendations with behavioral counseling, tools for self-monitoring, accessible and plentiful meeting times, and support from leaders and members through Connect and 24/7 Expert Chat.

Weight-loss:
Overall, Weight Watchers nudges members toward a healthier pattern of eating and members typically lose 1-2 pounds per week. Weight Watchers is one of the few commercial weight-loss programs whose ability to produce weight-loss has been clinically proven repeatedly through research studies.

Weight Watchers has multiple programs that range in cost: in addition to a $20 starter fee for any membership, OnlinePlus has a base rate of $19.95 per month; meetings has a base rate of $44.95 per month; and Personal Coaching has a base rate of $54.95 per month.

Concerns:
While Leaders have lived the experience (all Leaders have lost weight on Weight Watchers and kept it off) and are trained in behavioral methods to support weight-loss, they are not licensed dietitians. Therefore, if there are special dietary requirements, it is always best to consult with a dietitian. Another concern is that foods that are zero in point value can have as much as 60-80 calories in them. Eating a lot of these zero point value foods throughout the day can slow or stop weight-loss, especially for smaller older women or for people with slower metabolisms.

EVALUATE YOUR CHOICES

If you are in the market for a commercial weight-loss program, you will find that you are faced with hundreds of choices, many with claims sounding too good to be true. It is important when choosing a commercial program to evaluate them based on what will work for you. As a wise dieter once said, "The best diet is one you can stick with."

Tips for Evaluating Commercial Weight-loss Programs

Make sure whatever plan you choose:

- Promotes gradual weight-loss
- Teaches you how to make permanent lifestyle changes
- Encourages exercise
- Does not exclude major food groups
- Does not make certain foods "bad" or "illegal"
- Does not make outlandish weight-loss claims

PHYSICIAN-SUPERVISED WEIGHT-LOSS

(Overweight, Obesity and Severe Obesity)

Physician-supervised weight-loss programs provide treatment in a clinical setting with a licensed healthcare professional, such as a medical doctor, nurse, nurse practitioner, physician assistant, registered dietitian and/or a psychologist. These programs typically offer services such as nutrition and physical activity counseling and behavioral therapy.

The cost to participate in a physician-supervised weight-loss program varies depending upon the services offered. Health insurance companies may cover some or all of your treatment particularly if you have weight-related health conditions such as heart disease, hypertension or diabetes.

The Initial Consult:

A physician, physician assistant or nurse practitioner specializing in obesity treatment provides the initial consultation. The initial consult involves a focused medical evaluation for diseases related to obesity and causative factors, along with a physical examination. In addition, the medical professional will obtain a weight history, which includes past diet attempts, and may conduct a thorough psychological history.

Many patients come to the clinic with undiagnosed diabetes, high cholesterol, thyroid disorders, abnormal liver tests or obstructive sleep apnea. Additional testing may be recommended depending upon the medical history and physical findings.

Overall, the physician management of obesity may include:

- Behavior Modifications (diet and exercise)
- Pre-packaged Meal Replacement Plans
- Pharmacotherapy (weight-loss medications)

Behavior Modifications:

Diet and exercise are often the front-line of defense when it comes to weight-loss and most individuals affected by obesity do struggle with this; however, diet and exercise should be the first place for you to start. Regardless of treatment choice, lifestyle modification through diet and exercise is essential to the success of any weight-loss program. For more information on behavior modification, please turn to page 4.

Diet

It seems simple right? We just need to control the calories that we consume. Unfortunately, deprivation from foods we are used to eating is difficult to accept by our bodies and minds. In addition, when dieting, the body reacts very quickly by activating compensatory mechanisms that increase appetite and slow metabolism. This makes dieting even harder. As a result, the weight-loss achieved by diet alone is about 5 percent of total body weight.

Dieting today is not what "dieting" was 10 or 15 years ago. With the integration of technology, you can easily log your daily caloric intake and keep track of what you eat. There's even a mobile app that allows you to take a picture of your food and it will tell you how many calories are in it!

Physical Activity

Physical activity is an important addition to diet, as it boosts metabolism and increases weight-loss. Physical activity is particularly important in helping to maintain weight-loss long-term.

There are many tools available to help you find the right exercise for you. From smartphone apps to full-service fitness centers equipped with all the bells and whistles, you can easily make exercise a part of your daily routine. Start slow by simply going for a walk each day and build up to more intense exercises such as jogging, swimming, biking, weight lifting and more.

Pre-packaged Meal Replacement Plans

Pre-packaged meal replacement plans are a medically supervised weight management program that utilizes meal replacement products and behavior change counseling to help patients reach and maintain their weight-loss goals. These programs work to help patients transition to self-prepared meals and offer patient education and support. Some of the available programs on the market today include OPTIFAST®, Health Management Resources (HMR), Advanced Health System (AHS), New Direction (Robard Corporation) and Medi-fast.

How do they work?

Individuals who are interested in starting a supervised weight management program must do so through a healthcare professional. Most programs will list participating providers in the area on their Web site.

A medically supervised weight management program consists of various phases individualized to the needs of the person seeking weight loss. The phases include some type of a meal replacement phase to achieve initial weight-loss and eventually transitions to a phase of self-prepared foods for long term weight management. In addition, patients have the guidance of a team of healthcare professionals, access to group or individual counseling, as well as other support options. Programs may vary slightly.

Weight-loss:

Individual results will vary, but patients may lose as much as 50 pounds or more in 18-24 weeks.

Concerns:

As with any meal replacement program, there are concerns regarding the ability of participants to be able to re-adjust to eating healthy outside the program once completed. Additionally, insurance coverage varies depending on provider; therefore, individuals interested in the program should contact their provider to understand whether all or a portion of the program fees are covered. Individuals may consider it expensive if it is not covered by insurance.

MEDICAL WEIGHT MANAGEMENT:

Who Qualifies for Obesity Medications?

Although everyone is hopeful for a fast and easy way to lose weight, nothing has been shown to replace a prudent, calorie-controlled diet along with behavior modification and an increase in physical activity as a cornerstone for all obesity treatments. Other options, such as the use of weight-loss medications, can be considered if weight-loss levels out at a still unacceptable range or if medical problems are not adequately controlled.

The next tool that can be used to achieve weight-loss and health improvement is medication. Medical Weight Management may be offered to individuals affected by obesity who have failed to achieve weight-loss through diet and exercise alone.

Currently there are several medications that are approved by the FDA for weight-loss:

- phentermine products (Adipex-P® or Suprenza®) *
- orlistat (Xenical® or alli®) †
- lorcaserin HCl (BELVIQ®) †
- naltrexone HCl and bupropion HCl (CONTRAVE®) †
- phentermine-topiramate ER (Qsymia®) †
- liraglutide injection (Saxenda®) †

*Approved for short term use
†Approved for chronic (long term) use

Note: None of the obesity medications discussed in this brochure should be taken while pregnant or attempting to become pregnant. One medication, Qsymia®, has specific FDA warning label information around the use of birth control due to birth defect risk. If you have any questions regarding these medications, please contact a healthcare provider.

Let's take a closer look at each of these medications and learn how they work:

PHENTERMINE (Adipex-P® or Suprenza®)

How does it work?

Phentermine is a medication available by prescription that works on chemicals in the brain to decrease your appetite. It also has a mild stimulant component that adds extra energy. Phentermine is a pill that is taken once a day in the morning time. Tolerance to this medication can develop, so it is often used for only several months at a time. Common side effects are dry mouth and sleeplessness.

Weight-loss:

The average weight-loss is 4-5 percent of your weight after one-year. In a 200 pound person, this means about 10 pounds of weight-loss.

Concerns:

Due to its stimulant effect, a person's blood pressure and heart rate may increase when on this medication; therefore, you must be monitored closely by a physician who is experienced in prescribing this medication. It cannot be used in patients with some heart conditions (such as poorly controlled blood pressure), glaucoma (increased pressure in your eye), stroke or overactive thyroid. There is some concern for abuse, but this is minimal if the medication is appropriately used as directed by a healthcare professional.

ORLISTAT (Xenical® or alli®)

How does it work?

The medication alli® is a lower potency of the prescription drug Xenical® (orlistat). It is the only FDA-approved weight-loss medication that is available over-the-counter and available at a higher dose with a prescription. It is a capsule that is usually taken three times per day before a meal that contains dietary fat. It works by decreasing the amount of fat your body absorbs. This means that only 2/3 of the calories that you take in from fat will be absorbed. The other 1/3 of the calories gets carried away in the digestion tract as stool. The company that makes this drug (GlaxoSmithKline Consumer Healthcare) also offers a Web site with education and support tools for users at **www.myalli.com**.

Weight-loss:

The average weight-loss is about 5 percent of your weight after one year. In a person who weighs 200 pounds, this would mean 10 pounds of weight-loss.

Concerns:

It does not work well for people who are already on a low-fat diet since their calories from fat are already low.

Individuals using alli® on a regular basis should take a daily multivitamin as there is potential for deficiency in some vitamins. One of the advantages of alli® is that its side effects are limited to the gastrointestinal system. Common side effects are cramps, gas, stool leakage, oily spotting and gas with discharge that improve with a lower fat diet.

LORCASERIN HCI (BELVIQ®)

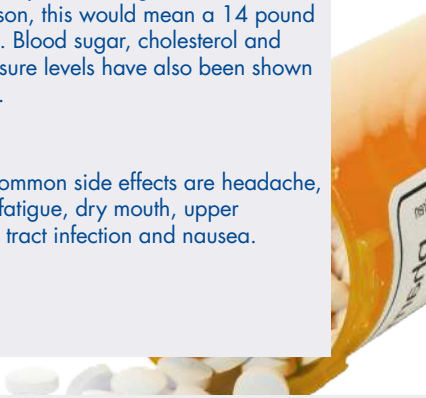
How does it work?

Lorcaserin HCI was approved in June 2012 by the FDA and became commercially available in June 2013. It works by helping you feel full while eating less, and it works on the chemicals in your brain to help decrease your appetite.

Weight-loss:
In individuals who took the medication for one-year, it has been shown to have an average of 7 percent weight-loss. In a 200 pound person, this would mean a 14 pound weight-loss. Blood sugar, cholesterol and blood pressure levels have also been shown to improve.

Concerns:

The most common side effects are headache, dizziness, fatigue, dry mouth, upper respiratory tract infection and nausea.



NALTREXONE HCI AND BUPROPION HCI (CONTRAVE®)

How does it work?

CONTRAVE®, approved in 2014 by the FDA, is a combination of two medications that have been approved for other medical problems. Naltrexone is a medication used for the treatment of narcotic and alcohol dependency. Bupropion is used as an antidepressant and for helping people stop smoking. When used in combination, these two medications work together in the brain to decrease appetite and control eating.

Weight-loss:
Among individuals who took the medication for one year, 65 percent of the study subjects lost at least 5 percent of their body weight. In a 200 pound person, this would mean a 10 pound weight-loss. Also, 39 percent lost at least 10 percent of their body weight. In a 200 pound person, this would mean a 20 pound weight-loss. Improvements in bad cholesterol, triglycerides and good cholesterol were also seen.

Concerns:

The common side effects are nausea, constipation, headache, dry mouth, vomiting and dizziness.

PHENTERMINE-TOPIRAMATE ER (Qsymia®)

How does it work?

This combination medication was approved by the FDA in July 2012. Topiramate is a medication used in migraine prevention as well as seizure prophylaxis. It was found that a common side effect of this medication was weight-loss. Phentermine, as described in this brochure, helps to increase your energy and decrease your appetite.

Weight-loss:

Among individuals who took the highest does of Qsymia® (15 mg phentermine and 92 mg of topiramate ER) for one-year, they achieved an average of 14.4 percent weight-loss. In a 200 pound person, a 14.4 percent weight-loss would mean a loss of 29 pounds. Cholesterol levels have also been shown to improve.

Concerns:

The most common side effects were dry mouth, constipation and pins-and-needle feeling in extremities. Qsymia® should NOT be used in women of childbearing age who are not using at least one reliable form of contraception. Topiramate ER, a component of Qsymia®, has been known to cause birth defects.

LIRAGLUTIDE INJECTION (Saxenda®)

How does it work?
Liraglutide, approved in 2014 by the FDA, is an injectable medication that increases our natural production of insulin, which is needed to regulate the levels of sugar in the blood. It decreases the production of a hormone that opposes insulin called glucagon. It also slows down the emptying of the stomach. Lastly, it works in the brain to reduce the amount of food consumed. As such, it has been used for the management of diabetes for the last few years.

Weight-loss:
In four trials consisting of more than 5,000 individuals, participants received 3mg of liraglutide daily. The outcomes showed that among individuals who took the medication for one year, 73 percent of the study subjects lost at least 5 percent of their body weight. In a 200 pound person, this would mean a 10 pound weight-loss. Also, 41 percent lost at least 10 percent of their body weight. In a 200 pound person, this would mean a 20 pound weight-loss.

Concerns:
The most common side effects are nausea, vomiting, diarrhea, and constipation.

Follow-up Visits:

Patients are given the opportunity to revisit a topic or obtain more information on an area of interest during follow-up visits. The frequency of and interval between follow-up visits is determined on a patient-by-patient basis. Frequent visits (every 3 to 4 weeks) are encouraged until initial weight-loss goals (5 to 10 percent of body weight) are achieved. At that point, less frequent visits are typically scheduled as needed for individual patients. However, since obesity is considered a chronic life-long problem for many individuals, periodic continual follow-up is recommended.

The best weight-loss results are achieved with a comprehensive program involving physicians, dietitians and behavioral specialists providing individual guidance and treatment. Most importantly, the major weight-loss benefit is the improvement of diseases caused by obesity. Although weight-loss achieved by diet, exercise and medications seems modest, research has shown that weight-loss as low as 5 percent of initial body weight can lead to favorable improvements in blood pressure, cholesterol, glucose levels and insulin sensitivity. The risk of developing heart disease is reduced the most in patients who have impaired glucose tolerance, type 2 diabetes or high blood pressure. Moreover, this beneficial effect can be carried on for many years after losing weight.

BARIATRIC SURGERY AND DEVICES

(Obesity, Severe Obesity)

Bariatric surgery is a safe and effective treatment option for those affected by severe obesity. Moreover, these same procedures have also been recognized for their impact on metabolic or hormonal changes that play a major role in hunger (the desire to start eating) and satiety (the desire to stop eating) as well as improvement and/or resolution of conditions that can occur as a result of severe obesity.

Bariatric surgery is a recognized and accepted approach for both weight-loss and many of the conditions that occur as a result of severe obesity; however, not all people affected by severe obesity will qualify for bariatric surgery. There are certain criteria that a person must meet in order to be a candidate for bariatric surgery.

Today, there are also FDA-approved bariatric devices available for the treatment of obesity, such as intragastric balloons. These devices are not approved for the treatment of severe obesity.

Please Note: *It is important to note that there are risks involved with bariatric surgery, as well as any other surgical procedure. Before making a treatment decision, it is important to discuss these risks with your primary care provider and/or surgeon. The OAC also encourages individuals to discuss these risks with their family members. To maintain consistency throughout our materials, total body weight-loss is used when comparing all surgical treatment options. You may encounter other post-surgery materials that report/discuss weight-loss as "excess body weight." For accuracy, be sure to ask your provider what method they're reporting when discussing surgical options for weight-loss.*

Indications:

At the 1991 National Institutes of Health (NIH) Consensus Conference, bariatric surgery was considered an accepted and effective approach that provides consistent, durable weight-loss for individuals affected by severe obesity. Furthermore, the NIH identified several criteria for candidacy for bariatric surgery, including:

- Body Mass Index (BMI) = a number calculated based on a person's height and weight:
    - BMI>40, Severe obesity (or weighing more than 100 pounds over ideal body weight)
    - BMI 35-40 with significant obesity-related conditions (type 2 diabetes, high blood pressure, sleep apnea or high cholesterol)
- No endocrine causes of obesity
- Acceptable operative risk
- Understands surgery and risks
- Absence of drug or alcohol problem
- No uncontrolled psychological conditions
- Failed attempts at medical weight-loss (diets, other weight-loss options)

Consult with your primary care provider (PCP) and insurance provider to see if you are a candidate.

Benefits:

Within two to three years after the operation, bariatric surgery usually results in a weight-loss of 10 to 35 percent of total body weight, depending on the chosen procedure. Those considering bariatric surgery should talk to their PCP about what their personal expectations should be for loss of excess weight. In addition, co-morbidities, such as diabetes, high blood pressure, sleep apnea and others are often reduced or may go into remission. Most will find they require fewer medicines throughout time and many will discontinue their medicines completely.

Risks:

Research indicates that some patients who undergo bariatric surgery may have unsatisfactory weight-loss or regain much of the weight that they lost. Some behaviors such as frequent snacking on high-calorie foods or lack of exercise can contribute to inadequate weight-loss. Technical problems that may occur after the operation, like separated stitches, may also contribute to inadequate weight-loss. There are also other potential complications that may occur which have been listed below with each of the various procedures.

Remember, bariatric surgery is not the "easy way out." This treatment option is a tool that patients use to lose weight. Surgery is a resource to help reduce weight and maintain weight-loss. Lifestyle adjustments encompassing behavioral, diet, physical activity and psychological changes are required for you to maintain a healthy quality of life. Continued positive weight-loss relies upon your desire and dedication to change your lifestyle with a proactive approach.

Throughout this section, you will see terms, such as "metabolic," "non-metabolic," "laparoscopic" and "open," in which you may not be familiar. Prior to reading about the different surgeries, we have provided you with a brief description of some of the most commonly used terms when talking about bariatric surgery.

Open vs. Laparoscopic Procedures

In each section, you will see the surgeries described as being performed "open" or "laparoscopic." Currently, laparoscopic procedures are more common than open procedures. The approach will depend on several factors, including surgeon experience as well as your surgical and medical history, which may influence one approach to be used over the other. Please be sure to discuss the surgical approach with your surgeon.

"Open" – The open procedure involves a single incision that opens the abdomen, which provides the surgeon access to the abdominal cavity. The incision can vary in length from as little as three inches to as large as six or more inches.

"Laparoscopic" – In laparoscopic surgery, a small video camera is inserted into the abdomen allowing the surgeon to conduct and view the procedure on a video monitor. Both camera and surgical instruments are inserted through small incisions made in the abdominal wall. The number of incisions will vary depending on the surgical procedure and surgeon experience. Some surgical procedures can be performed via a single incision while other procedures may involve six or more small incisions.

Metabolic vs. Non-metabolic

The operations in this group help patients lose weight by altering their gastrointestinal tracts. Examples include the vertical sleeve gastrectomy (VSG), Roux-en-Y gastric bypass (RNYGB), and the biliopancreatic diversion with duodenal switch (BPD/DS).

"Metabolic Operations" –
The operations in this group help patient lose weight by altering their gastrointestinal tracts. By doing this, it changes the patient's physiological response to fat loss. After metabolic surgery, there is a change in the way that gut hormones are secreted. The result is that after surgery, in the face of fat loss, patients don't have to fight their hunger which is helpful when attempting to lose weight.

Recent research indicates that each bariatric surgery works not only through the anatomical and mechanical changes from the procedure itself, but through metabolic changes in the "gut hormones." Numerous studies have examined pre-operative and post-operative gut hormone levels after bariatric surgery. A brief summary of hormonal changes after each bariatric procedure is provided in the next sections. Some of these hormones are:

- **Ghrelin:** functions primarily to stimulate appetite
- **Glucagon-like peptide 1 (GLP-1):** mechanism of action includes increased satiety and reduced stomach emptying
- **Peptide YY (PYY):** reduces appetite and increases efficiency of digestion and nutrient absorption

"Non-metabolic Operations" –
The options in this group provide significant weight-loss without altering the physiology of energy (fat) storage. Examples include the laparoscopic adjustable gastric bands (LapBand® and the Realize Band®) and Neuromodulation (VBLOC®). They are considered non-metabolic options because they do not alter the body's normal mechanisms that occur when dieting. With bandings and with dieting, orexigenic hormones increase and anorexigenic hormones decrease.

In addition to these terms, there may be other words, topics or descriptions that you might not understand. If so, make sure to speak with your surgeon further to gain a better understanding.

BARIATRIC SURGERY PROCEDURES

There is a great amount of importance and responsibility associated with choosing a weight-loss treatment option. Choosing which type of bariatric surgery is right for you can be a difficult task. It is our goal to provide you with education regarding the different types of bariatric surgeries. This knowledge can assist a discussion between your physician and you in deciding the most appropriate treatment selection for you. Proper follow-up and participation in a multidisciplinary program that stresses lifestyle modification (dietary, behavioral and exercise changes) will improve the chances that a bariatric surgery patient will maximize their weight-loss and maintain it for a lifetime.

Available bariatric procedures include:

- Adjustable Gastric Banding (LAP-BAND®, Realize Band®)
- Sleeve Gastrectomy
- Roux-en-Y Gastric Bypass
- Biliopancreatic Diversion with Duodenal Switch
- Neuromodulation (VBLOC®)

Qualifications for Sleeve Gastrectomy, Roux-en-Y Gastric Bypass and Biliopancreatic Diversion with Duodenal Switch are all the same; however, the LAP-BAND® and the VBLOC® both have different indications. The LAP-BAND® has been FDA-approved for patients with a lower BMI (BMI is at least 40 or with a BMI of at least 30 with one or more obesity-related condition), and the VBLOC® has been FDA-approved for patients with a BMI of 35-39.9 with obesity-related conditions or for people with BMI of 40-45. The Realize Band® has been FDA-approved for patients with a BMI of at least 40, or a BMI of at least 35 with one or more obesity-related conditions. Please be sure to discuss the various surgical options with your physician to determine which procedure is best for you and your medical and surgical history.

Adjustable Gastric Banding

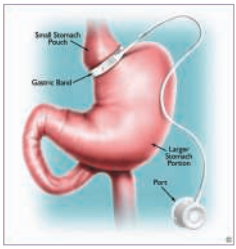


Photo courtesy of Ethicon

Sleeve Gastrectomy

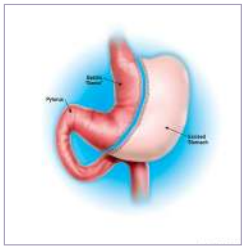


Photo courtesy of Ethicon

Roux-en-Y Gastric Bypass

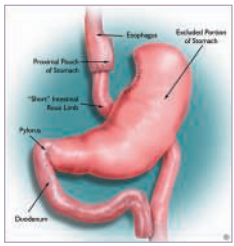


Photo courtesy of Ethicon

Biliopancreatic Diversion with Duodenal Switch

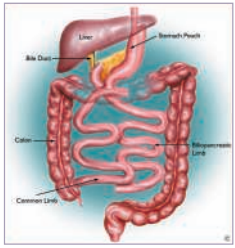


Photo courtesy of Ethicon

Neuromodulation

Photo courtesy of EnteroMedics Inc.

ADJUSTABLE GASTRIC BANDING (NON-METABOLIC)

What is Adjustable Gastric Banding and how is it performed?

Examples of adjustable gastric banding include the LapBand® and the Realize Band®. This operation involves placing a silastic "belt" around the upper part of the stomach. The "belt" essentially separates the stomach into two parts: a tiny upper pouch and a larger lower pouch.

The band is connected by tubing to a port or reservoir that sits below the skin of the abdominal wall, usually around the belly button (the port site varies widely by surgeon). The port cannot be seen (and often cannot be felt) from the outside.

Inside of the "belt" is a balloon that can be filled by placing fluid through the port. As the balloon is filled, it slows the passage of food from the upper pouch into the lower pouch. As the band is progressively filled, patients will feel "full" with smaller amounts of food. You will work with your surgeon to determine the number of band fills or adjustments appropriate for you.

Weight-loss:

Weight-loss with an adjustable gastric band is typically slow and steady. Band patients generally lose one to two pounds per week during the first year after band placement. On average, by year one, band patients lost approximately 14 percent of their total body weight (weight at time of procedure). In a 350 pound person, this would mean a 49 pound weight-loss. By year three, band patients lost approximately 15.9 percent of their total body weight (weight at time of procedure).

Metabolic/Hormonal Changes:

↑ Ghrelin = ↑ hunger

There are several features that make the adjustable gastric band appealing. There is minimal stress to the body at the time of surgery, because the band is almost always done laparoscopically and does not involve cutting the stomach or rerouting the intestines. Most patients can go home the same day or the next morning. Recovery from surgery is usually quick and most people return to work a week or so after surgery. The adjustability of the band makes it unique among weight-loss operations. This feature allows the possibility of making band adjustments based on the individual weight-loss goals and needs of the patient. The stomach and intestines aren't bypassed, so vitamin, mineral and nutrition problems after banding are less common. Many programs still recommend vitamin supplementation after banding. While it is a non-metabolic procedure, some patients have reported a reduction in feelings of hunger.

Complications:

Patients contemplating adjustable gastric banding must be comfortable with the thought of having a medical device in them for life. Although the band has an excellent safety profile, there are complications that can occur with any weight-loss operation, and the band is no different. It is important for patients to have routine follow-up with their healthcare team for adjustments and monitoring.

About 30-50 percent of patients will require a second operation to address a problem with their band.

Potential complications include band slippage or gastric prolapse, band erosion through the stomach or tubing leakage. The risk of death from band surgery is equal to or less than 0.1 percent (1 in 1000) within 30 days after surgery, although many centers report even lower rates. The adjustable gastric band can be removed, if necessary.

It is important to realize that the band is not a "short-term" fix. It is intended to be left in your body indefinitely. As with other medical devices implanted in the body, long term effects (20 to 30 years) are unknown at this time with the band.

Adjustable Gastric Banding

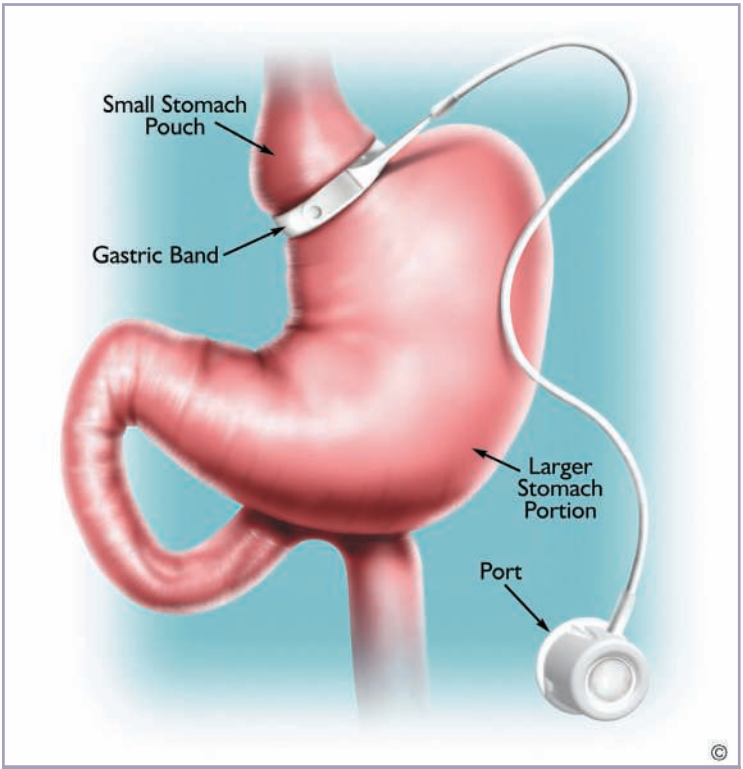


Photo courtesy of Ethicon

After banding, especially in the first year after surgery when band adjustments may be required more frequently, patients need to be available for regular follow-up with their healthcare team. In deciding if banding is right for you, it is important to consider both time and distance involved in traveling to where the adjustments will be performed. Adjustments are made by filling the band through the port with fluid through a needle.

Band patients do not suffer adverse effects from eating sugars (dumping syndrome), so they need to be more disciplined in their food choices. Things like sodas, ice cream, cakes and cookies slide through the band easily, but obviously these choices will not lead to the desired goal of significant weight-loss.

Conclusion:

Adjustable gastric banding is an effective weight-loss operation that can lead to meaningful, long-term weight-loss. No matter what weight-loss operation is chosen, individuals need to change their lifestyle and learn to work with the surgery in order to be successful.

SLEEVE GASTRECTOMY (METABOLIC)

What is a Sleeve Gastrectomy?

The sleeve gastrectomy (LSG) originated as the restrictive part of the duodenal switch operation. In the last several years, it has been used by some surgeons as a staging procedure prior to a duodenal switch in very high risk patients. It has also been used as a primary, stand-alone procedure by some bariatric surgeons.

How is the Sleeve Gastrectomy performed?

The majority of LSG's performed today are completed laparoscopically. During the LSG, about 75 percent of the stomach is removed, leaving a narrow gastric tube or "sleeve." No intestines are removed or bypassed during the procedure and it takes about one to two hours to complete. When compared to the gastric bypass, the LSG can offer a shorter operative time that can be an advantage for patients with severe heart or lung disease.

Weight-loss:

The LSG procedure greatly reduces the size of the stomach and limits the amount of food that can be eaten at one time. It does not cause decreased absorption of nutrients or bypass the intestines. After this surgery, patients feel full after eating very small amounts of food. LSG may also cause a decrease in appetite. On average, by year three, sleeve patients lost approximately 21 percent of their total body weight (weight at time of procedure). In a 350 pound person, this would mean a 74 pound weight-loss.

Metabolic/Hormonal Changes:

In addition to reducing the size of the stomach, the procedure reduces the amount of the "hunger hormone," ghrelin, produced by the stomach. The duration of this effect is not clear yet, but most patients have significantly decreased hunger after the operation.

↓ Ghrelin = ↓ hunger
↑ PYY = ↑ satiety
↑ GLP-1 = ↑ satiety

Complications:

LSG has been used successfully for many different types of individuals affected by severe obesity. Since it is a relatively new procedure, there is no data regarding weight-loss or weight-regain beyond three years. The risk of death from LSG is 0.2 percent (2 in 1000) within 30 days after surgery.

The risk of major post-operative complications after LSG is 5-10 percent, which is less than the risk associated with gastric bypass. This is primarily because the small intestine is not divided and reconnected during LSG as compared to the bypass procedures. This lower risk and shorter operative time is the main reason for use as a staging procedure for high-risk patients.

Complications that can occur after LSG include: a leak from the sleeve can result in an infection or abscess, deep venous thrombosis (blood clot) or pulmonary embolism, narrowing of the sleeve (stricture) requiring endoscopic dilation and bleeding. Major complications requiring re-operation are uncommon after sleeve gastrectomy and occur in less than 5 percent of patients.

Sleeve Gastrectomy

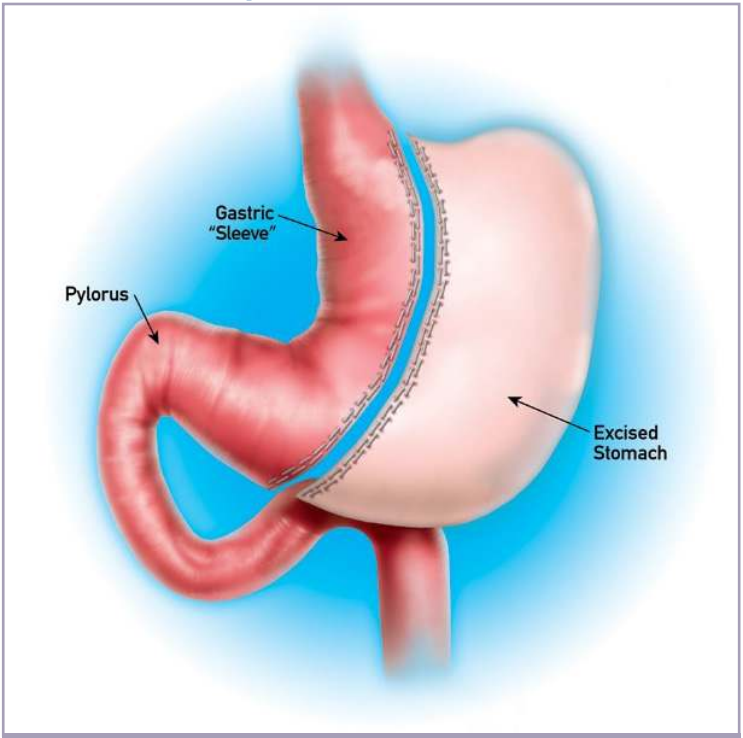


Photo courtesy of Ethicon

Conclusion:

LSG is a bariatric surgery procedure that can lead to significant weight-loss. As with any bariatric surgery procedure, the best results are achieved when the surgery is combined with a multi-disciplinary program that focuses on lifestyle and behavioral changes.

ROUX-EN-Y GASTRIC BYPASS (METABOLIC)

What is a Roux-en-Y Gastric Bypass?

The Roux-en-Y gastric bypass operation has been performed since the late 1960's to achieve significant weight-loss in people affected by severe obesity. The operation leads to weight-loss as a result of two different mechanisms:

- A small stomach pouch reduces the amount you can eat.
- A small amount of intestine is bypassed leading to earlier release of gut hormones that make you feel less hungry.

How is it performed?

A gastric bypass can be done through a single long incision (open) or through a series of small incisions (laparoscopic). Regardless of how the operation is done, the "inside part" is the same.

The surgery involves three basic steps:

1. Dividing the large stomach into two separate stomachs, thus creating a small pouch (proximal pouch of stomach) and a larger excluded lower pouch (remnant pouch of stomach)
2. Bypassing part of the small intestine (creating the "Short" Intestinal Roux Limb)
3. Attaching the bypassed intestine (Roux Limb) to the proximal pouch

The operation can usually be done in two hours or less, but this will depend on many factors. Most patients will need to stay in the hospital for two to three days after their operation and should be ready to return to full activity within two weeks.

How does it work?

To understand how a gastric bypass leads to weight-loss, it is helpful to review what you probably learned in grade school: Human Digestion. When we swallow food, it goes down the esophagus and into the stomach. The stomach is able to hold huge amounts of food (think about a hot dog eating contest). The stomach then churns the food and mixes it with digestive juices to break the solid food down into a liquid form. That liquid food then leaves the stomach and goes into the small intestine where it can be absorbed to help fuel our bodies.

The small gastric pouch created during the gastric bypass limits the amount of food (calories) a person can eat during a meal. The pouch will initially hold a very small amount of food (about half a shot glass full or one tablespoon), however, by one-year after surgery, a gastric bypass patient will be able to eat a meal equal in size to what a seven or eight-year-old child could eat. Although the meals after gastric bypass surgery are much, much smaller than what they were before surgery, they still give the individual the same "full" or "satisfied" feeling they used to get with a much larger meal.

Until food is broken down into the liquid form, it cannot be absorbed by the small intestine. After a gastric bypass, the food does not turn into liquid until it leaves the "Short Intestinal Roux Limb" (see image of gastric bypass). The "Short Intestinal Roux Limb" therefore does not absorb all of the nutrients from food that is eaten (called malabsorption). This also means vitamins and minerals aren't as well absorbed, so gastric bypass patients must be on vitamin and mineral supplements for the remainder of their life. The "Short Intestinal Roux Limb" does not handle sugar or starches well so gastric bypass patients must limit their intake of sugary and starchy foods. If they don't, they may experience something

Roux-en-Y Gastric Bypass

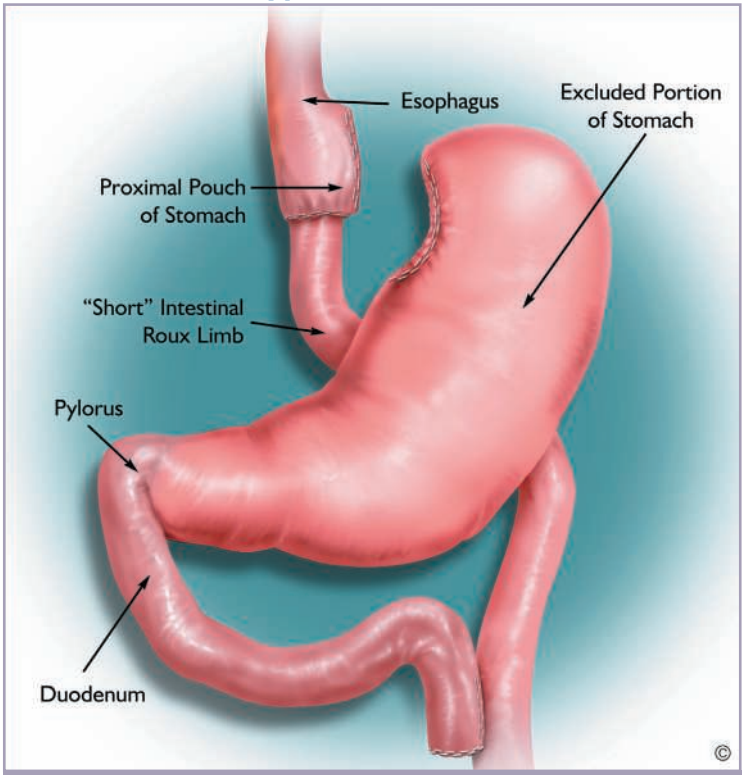


Photo courtesy of Ethicon

referred to as "Dumping Syndrome." Usually 10-15 minutes after eating a sugary or starchy food, the individual who is "dumping" begins to experience many of the following symptoms:

- Sweating
- Flushing skin
- Rapid heart rate
- Dizziness
- Low blood pressure
- Abdominal pain
- Vomiting
- Diarrhea
- Shakiness
- Fainting

Dumping typically lasts 30-45 minutes and then will go away. This gives the gastric bypass patient plenty of time to reflect on the food choice that they made that led to the dumping. For many people who have had a gastric bypass, dumping or the fear of dumping helps them make better food choices and stay away from foods that have tempted them in the past.

Weight-loss:

On average, by year one, bypass patients lost approximately 34 percent of their total body weight (weight at time of procedure). In a 350 pound person, this would mean a 119 pound weight-loss. By year three, bypass patients lost approximately 31.5 percent of their total body weight (weight at time of procedure).

Metabolic/Hormonal Changes:

In addition to reducing the size of the stomach, the procedure reduces the amount of the "hunger hormone," ghrelin, produced by the stomach. The duration of this effect is not clear yet, but most patients have significantly decreased hunger after the operation.

↓ Ghrelin = ↓ hunger
↑ PYY = ↑ satiety
↑ GLP-1 = ↑ satiety

Complications:

The major complications that can occur early on after gastric bypass include bleeding, leakage, infections, bowel blockages, blood clots in the lungs (pulmonary emboli) and death. The chance of dying in the first 30 days after a gastric bypass is around 0.2-0.5 percent (2 to 5 in 1000).

Long-term complications that can occur after a gastric bypass include strictures, ulcers, hernias, weight regain, vitamin and mineral deficiencies and malnutrition. Most of the long-term problems linked to the gastric bypass operation can be prevented by follow-up with your healthcare team.

Conclusion:

Gastric bypass is a weight-loss operation that can lead to significant and sustained weight-loss by reducing food intake and altering gastrointestinal hormones. While there are short and long-term risks associated with the surgery, most of these issues can be prevented through close follow-up. As with any weight-loss operation, the best results are achieved when the surgery is combined with a multi-disciplinary program that focuses on lifestyle and behavioral changes.

BILIOPANCREATIC DIVERSION WITH DUODENAL SWITCH (METABOLIC)

What is a Biliopancreatic Diversion with Duodenal Switch?

The Biliopancreatic Diversion with Duodenal Switch (BPD/DS) is often an open operative procedure; however, it may be performed laparoscopically.

How is the Biliopancreatic Diversion with Duodenal Switch performed?

The outer margin of the stomach is removed (approximately two thirds—similar to a sleeve gastrectomy) and the intestines are then rearranged so that the area where the food mixes with the digestive juices is short.

A portion of the stomach is then left with the pylorus still attached and the duodenum beginning at its end. The duodenum is then divided, allowing for the pancreatic and bile drainage to be bypassed. It is a pyloric saving procedure, which eliminates the "dumping syndrome" that is inherent to gastric bypass.

Weight-loss:

This procedure results in decreased absorption of fat, calories and other nutrients which may result in increased weight-loss. Foods high in fat content are not easily absorbed and will be eliminated along with the usually high calories associated with the high-fat. On average, by year three, BPD/DS patients lost approximately 35 percent of their total body weight (weight at time of procedure). In a 350 pound person, this would mean a 123 pound weight-loss.

In all bariatric surgery procedures, carbohydrates and sugars are absorbed, so eating foods high in sugar (and calories) will still cause unwanted weight gain or difficulty to lose weight. Additionally, emphasis is placed on nutritionally beneficial and nutrient dense foods. The BPD/DS allows patients to increase portion size throughout, allowing for greater diversity in food consumption at each meal.

Biliopancreatic Diversion with Duodenal Switch

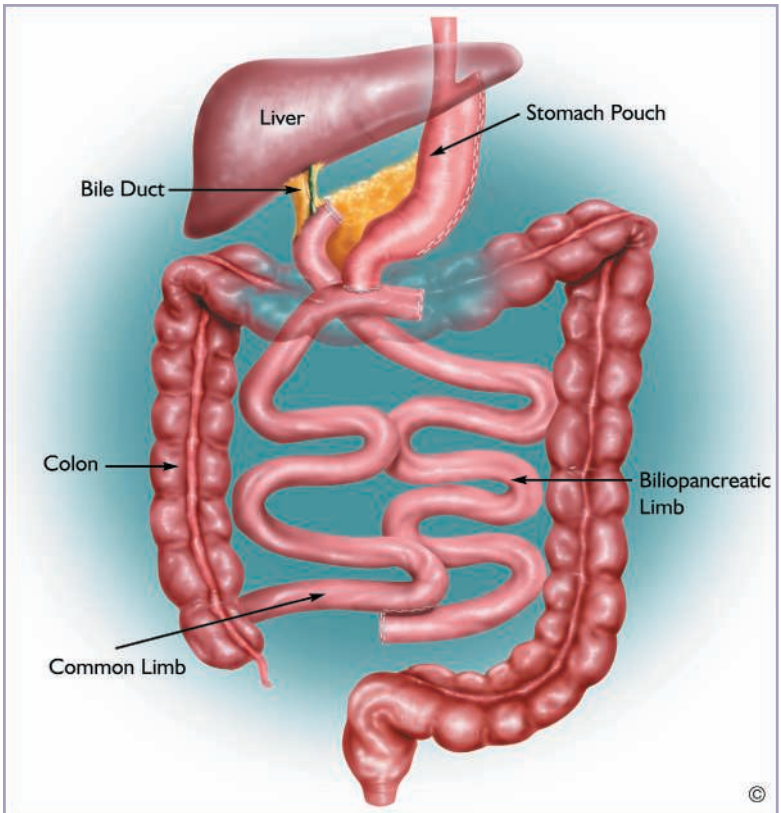


Photo courtesy of Ethicon

Metabolic/Hormonal Changes:

The nature of BPD/DS has a positive impact on weight-loss and health via metabolic mechanisms. The alimentary limb absorbs proteins and sugars from ingested food but also secretes the hormone GLP-1 in the presence of undigested food. BPD/DS rearranges this portion of the intestine which causes food to be introduced into the alimentary limb earlier and ultimately enhances GLP-1 secretion.

↓ Ghrelin = ↓ hunger
↑ PYY = ↑ satiety
↑ GLP-1 = ↑ satiety

Complications:

When performed as an open procedure, the BPD/DS requires a much longer recovery period (usually six to eight weeks), causes the greatest risk for infection (due to the size of the incision, increased operative time and exposure of the digestive organs) and usually carries a 25 percent chance for development of incisional hernia post-operatively (due again to the length of the incision). The BPD/DS also carries the highest risk of nutritional deficiencies post-operatively.

Vitamin B-12 deficiencies are not created by the BPD/DS. Of course, all patients are monitored for iron and B-12 as well as other fat-soluble vitamin deficiencies. BPD/DS patients are specifically monitored for fat-soluble vitamin deficiencies (A,D,E,K) along with zinc.

Patients who undergo BPD/DS are able to enjoy nutritional foods and eat more normally without the restriction of a small pouch (one to two ounces) as in a gastric bypass.

The BPD/DS is a more invasive operation. According to a recent analysis, BPD/DS carries a mortality rate of 1.1 percent (about 1 in 100) within 30 days after surgery.

Conclusion:

Patients are always encouraged to maintain the commitment to lifestyle and food changes associated with weight-loss. BPD/DS patients are asked to first increase protein intake; then vegetables; and lastly, if able at all, breads, pastas or rice in very limited amounts.

VBLOC® NEUROMODULATION (NON-METABOLIC)

What is VBLOC® Neuromodulation?

Neuromodulation is a newly FDA-approved medical device that involves the implantation of electrodes onto the lower stomach to block the vagus nerves (known as VBLOC®) powered by a battery that is implanted under the skin of the abdominal wall. It was recently approved by the Food and Drug Administration (FDA) for people with a BMI of 35-39.9 with obesity-related conditions or for people with BMI of 40-45.

How is the VBLOC® surgery performed?

The vagus nerves are a primary communication pathway between the brain and the autonomic system, which controls much of the activity of the stomach, pancreas and other areas related to appetite and digestion. The vagus nerves play a critical role in food processing and in signaling the feeling of fullness and in prolonging the absence of hunger through nervous control.

Weight-loss:

On average, by year one, VBLOC® patients lost approximately 10 percent of their total body weight. In a 240 pound person with a BMI of 41, this would mean about a 24 pound weight-loss. On average at 18 months, patients maintained that weight-loss at a total body weight-loss of 9.5 percent and out to 30 months, weight-loss proved to be durable at approximately 8 percent total body weight-loss.

Metabolic/Hormonal Changes:

Neuromodulation is considered to be a non-metabolic procedure since it does not influence gastrointestinal incretins (hormones).

Complications:

The device appears safe, with less than 4 percent of the patients in the study reported to the FDA having device-related complications – the most common of which were nausea and heartburn.

Conclusion:

In the documents submitted to the FDA, the patients that had VBLOC® therapy lost almost 9 percent more excess weight than patients that received a sham surgery with a sham (fake) implant. Because of its safety, efficacy and a positive benefit-risk correlation, the FDA approved the device giving people who are affected by severe obesity another evidence-based option.

VBLOC® Neuromodulation Therapy

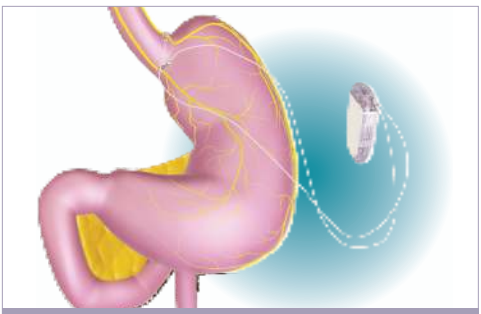


Photo courtesy of EnteroMedics Inc.

BARIATRIC DEVICES

Bariatric devices are a safe, effective treatment option for individuals with severe obesity. For individuals who do not want or do not qualify for bariatric surgery, these are a treatment option. The bariatric devices available now are intragastric balloons. There are two intragastric balloons currently approved by the FDA: the ORBERA™ Intragastric Balloon and the ReShape™ Dual Balloon. Both devices have a similar procedure for insertion and removal, as well as for consultation. *PLEASE NOTE: If you have previously had a specific type of bariatric surgical procedure, you may not be medically eligible for an intragastric balloon. Please discuss this potential issue with your bariatric surgeon.*

INTRAGASTIC BALLOON OPTIONS (NON-METABOLIC)

What are Intragastic Balloons?

Intragastric balloons are soft, yet durable, silicone spheres that take up space in a patient's stomach and help reinforce proper portion control by providing a feeling of being full with less food consumption.

Who Qualifies for an Intragastric Balloon?

Intragastric balloons are intended for adult patients who have a Body Mass Index (BMI) of 30-40 kg/m2, and who have tried other weight-loss programs but were unable to lose the weight or keep it off. Intragastric balloons are also an option for individuals who do not want or do not qualify for more invasive bariatric surgery.

How Does an Intragastric Balloon Work?

Intragastric balloons occupy existing space in your stomach for six months, serving as built-in portion control so you may feel full and satisfied with less food. After six months, the balloon is removed in the same way it was placed, endoscopically. Through a procedure done under a mild sedative, it is deflated and then removed through the esophagus and mouth.

ORBERA™

The ORBERA™ Intragastric Balloon is a single balloon that is inserted into the stomach using an endoscope, and is then filled with saline (salt water) until it is about the size of a grapefruit.

ORBERA™ Intragastric Balloon

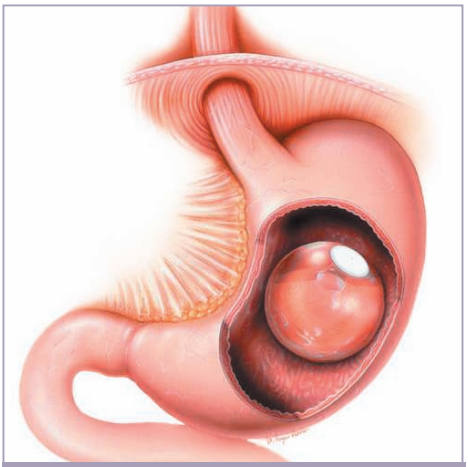


Photo courtesy of Apollo Endosurgery

Weight-loss:

U.S. clinical trial data on ORBERA™ showed that within six months, the average person lost 3.1 times the amount of weight as compared with diet and exercise alone. In real numbers, that means patients with ORBERA™ lost an average of 21.8 pounds (10.2 percent of their body weight) after the device had been in place for six months. The clinical trial for ORBERA™ also demonstrated that three months after the device was removed (nine months after device placement), ORBERA™ patients maintained an average weight-loss of

19.4 pounds. During the trial, those patients who participated in a behavior modification program, including diet, exercise and emotional coaching, but did not receive the ORBERA™ balloon, only lost an average of 7 pounds (3.3 percent of their body weight).

Concerns:

Following the procedure, you may experience some discomfort as your stomach gets used to the intragastric balloon. Side effects may include nausea, vomiting and gastric discomfort during the first week. These symptoms can be with medications and working with your healthcare provider. These side effects are normal and should be expected.

RESHAPE™ DUAL BALLOON

The ReShape™ Dual Balloon is two separate silicone balloons with a silicone tube in the middle. The dual balloon device is inserted into the stomach using an edoscope and filled with saline.

ReShape™ Intragastric Dual Balloon

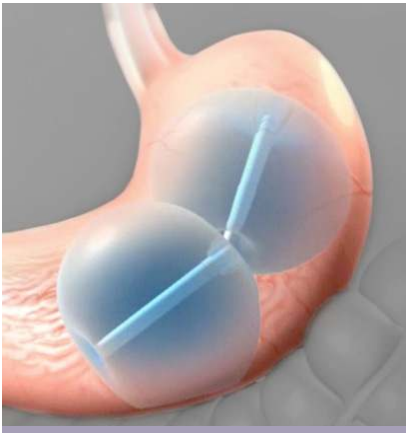


Photo courtesy of ReShape Medical, Inc.

Weight-loss:

A clinical study, called the REDUCE Pivotal Trial, was performed at eight hospitals in the United States. In that study, patients that had the ReShape™ procedure lost 2.3 times as much weight as patients who only received diet and exercise coaching. In a study of the ReShape™ procedure in commercial use in Europe, ReShape™ patients on average lost 32 pounds and maintained 98 percent of their weight-loss within the first year.

Concerns:

In the clinical study of 265 patients, the most common side effects of the ReShape™ procedure were vomiting, nausea and abdominal pain. These conditions are to be expected as the stomach gets used to the presence of the balloon, and they generally go away after three to five days.

CONCLUSION

It is important to remember that there is no "one-size-fits-all" approach to weight-loss. An option that worked for a friend or family member may not work for you, and that is okay. Treating obesity can be very difficult and addressing your weight or underlying issues contributing to your weight is not always easy. Regardless of your chosen treatment option, you should always look at your option as a "tool" in treating your weight.

It is our hope that you have thoroughly enjoyed this resource and will share it with others affected by obesity. The Obesity Action Coalition (OAC) is proud to stand as the nation's leading National non-profit organization, with a growing membership of more than 52,000 whose sole focus is to help individuals with obesity through education, advocacy and support. The OAC's membership is comprised of a diverse group of individuals and organizations who share a common goal to effect change when it comes to obesity. Whether it's working to improve access to obesity treatments, getting the needed education about obesity out to those who need it or working to eliminate weight bias and discrimination, OAC members are passionate advocates for the cause and for the 93 million individuals affected.

The OAC is an excellent resource for you and your loved ones affected by the disease of obesity, severe obesity or childhood obesity. The OAC provides the public with a wide variety of free resources that you can utilize to help you in your weight-loss journey. From our *Understanding Obesity* Series to our *Your Weight Matters Brand*, which includes the *Your Weight Matters* Campaign, the *Your Weight Matters* National Convention and *Your Weight Matters Magazine*, we strive to provide you with the most objective evidence-based information on weight and health. Remember, **Your Weight Matters – FOR YOUR HEALTH!**

OAC
Obesity Action Coalition

If you are interested in learning more about the OAC and our free resources, please visit our Web site at **www.ObesityAction.org**.

MEMBERSHIP APPLICATION

Obesity Action Coalition

Join the nation's leading non-profit that represents individuals impacted by excess weight and obesity.

1. OAC MEMBERSHIP CATEGORIES *(select one)*

- ❑ **Individual Membership:** $10/year
- ❑ **Institutional Membership:** $500/year
- ❑ **Chairman's Council Membership:** $1,000+/year

WHY JOIN THE OAC?

The OAC is a more than 52,000 member-strong 501(c)(3) National non-profit organization dedicated to giving a voice to the individual affected by the disease of obesity and helping individuals along their journey toward better health through education, advocacy and support. Our core focuses are to raise awareness and improve access to the prevention and treatment of obesity, provide evidence-based education on obesity and its treatments, fight to eliminate weight bias and discrimination, elevate the conversation of weight and its impact on health and offer a community of support for the individual affected.

2. DONATION ADD-ON

Add-on Donation: Make a General Donation

Make a tax-deductible donation to the OAC when joining as a member. Your donation helps the OAC's educational and advocacy efforts.

- ❑ **$5**
- ❑ **$10**
- ❑ **$25**
- ❑ **$50**
- ❑ **$100**
- ❑ **Other** _____

3. MEMBERSHIP/DONATION ADD-ON TOTALS:

Membership Fee: +$_____

Donation Add-on (*optional*): +$_____

PAYMENT: $_____

PAYMENT INFORMATION

- ❑ Check (payable to the OAC) for $_____.
- ❑ Credit card for my TOTAL, including add-ons, of $_____.
  - ❑ Discover®
  - ❑ Visa®
  - ❑ MasterCard®
  - ❑ Amex®

Credit Card Number: _____

Expiration Date: _____

Billing Zip Code: _____

CV Code:_____

CONTACT INFORMATION

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Email: _____

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4511 North Himes Ave., Ste. 250
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Mem-UYWLOBrochure

JOIN ONLINE! To join the OAC online, please visit **www.ObesityAction.org** and click on the "Get Involved" tab.

NOTES

PIECING IT TOGETHER

Depending on your BMI, it is important to consider all weight-loss options and discuss them with your healthcare team and family. All of the options mentioned throughout this brochure can be utilized as "tools" as part of a comprehensive approach to address your weight and health. A combination of the appropriate selected tool and lifestyle modification are essential in a successful obesity treatment plan.

Weight in Pounds

Height	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280
5'0"	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55
5'1"	24	26	28	30	32	34	36	37	39	42	44	45	47	49	51	53
5'2"	23	25	27	29	31	33	34	36	38	40	42	44	46	48	50	51
5'3"	23	24	26	28	30	32	33	35	37	39	41	43	44	46	48	50
5'4"	22	24	25	27	29	31	32	34	36	38	40	41	43	45	46	48
5'5"	21	23	25	26	28	30	31	33	35	37	38	40	42	43	45	47
5'6"	21	22	24	25	27	29	30	32	34	36	37	39	40	42	44	45
5'7"	20	22	23	25	26	28	29	31	33	35	36	38	39	41	42	44
5'8"	19	21	22	24	25	27	28	30	32	34	35	37	38	40	41	43
5'9"	19	20	22	23	25	26	28	29	31	33	34	36	37	39	40	41
5'10"	18	20	21	23	24	25	27	28	30	32	33	35	36	37	39	40
5'11"	18	19	21	22	23	25	26	28	29	31	32	34	35	36	38	39
6'0"	17	19	20	21	23	24	25	27	28	30	31	33	34	35	37	38
6'1"	17	18	19	21	22	23	25	26	27	29	30	32	33	34	36	37
6'2"	16	18	19	20	21	23	24	25	27	28	30	31	32	33	35	36
6'3"	16	17	18	19	21	22	23	24	26	28	29	30	31	33	34	35
6'4"	15	17	18	19	20	21	23	24	26	27	28	29	31	32	33	34
6'5"	15	16	17	19	20	21	22	24	25	26	27	29	30	31	32	33

Overweight Obesity Severe Obesity

290	300	310	320	330	340	350	360	370	380	390	400	410	420	430	440	450
57	59	61	63	65	67	69	71	72	74	76	78	80	82	84	86	88
55	57	59	61	63	64	66	68	70	72	74	76	77	79	81	83	85
53	55	57	59	61	62	64	66	68	70	72	73	75	77	79	80	82
52	53	55	57	59	60	62	64	66	67	69	71	73	74	76	78	80
50	52	53	55	57	59	60	62	64	65	67	69	70	72	74	76	77
48	50	52	53	55	57	58	60	62	63	65	67	68	70	72	73	75
47	49	50	52	53	55	57	58	60	62	63	65	66	68	69	71	73
46	47	49	50	52	53	55	57	58	60	61	63	64	66	67	69	70
44	46	47	49	50	52	53	55	56	58	59	61	62	64	65	67	68
43	44	46	47	49	50	52	53	55	56	58	59	61	62	63	65	66
42	43	45	46	47	49	50	52	53	55	56	58	59	60	62	63	65
41	42	43	45	46	48	49	50	52	53	55	56	57	59	60	61	63
39	41	42	44	45	46	48	49	50	52	53	54	56	57	58	60	61
38	39	41	42	44	45	46	48	49	50	52	53	54	56	57	58	59
37	39	40	41	42	44	45	46	48	49	50	51	53	54	55	56	58
36	38	39	40	41	43	44	45	46	48	49	50	51	52	54	55	56
35	37	38	39	40	41	43	44	45	46	48	49	50	51	52	54	55
34	36	37	38	39	40	42	43	44	45	46	48	49	50	51	52	53

Normal Weight = 18.5 - 24.9 | **Overweight** = 25 - 29.9 |
Obesity = 30 - 39.9 | **Severe Obesity** = Greater than 40

GAINING ACCESS TO TREATMENT

Individuals affected by severe obesity rely on their insurance provider to assist them in the process of seeking access to safe and effective medical treatment. Many times they experience difficulty when working with their insurance providers, such as repeated denials of claims. In addition, the process often times seems complicated, and physically and emotionally draining. For more information on working with your insurance provider, please visit the OAC Web site and view the OAC's Insurance Guide, titled "Working with Your Insurance Provider: A Guide to Seeking Weight-loss Surgery."

Order the OAC's Most Popular Resources Today!

The OAC offers a wide variety of **FREE** educational resources. OAC materials may be requested by contacting the OAC National Office.

Understanding Excess Weight and Its Role in Type 2 Diabetes: Discusses risk factors for type 2 diabetes, how it is tested and even questions you can ask a health professional.

Understanding Obesity Stigma: Information about weight bias and how it can affect individuals with excess weight or obesity.

Your Weight Matters Magazine: Among the OAC's most popular resources, each issue of the magazine includes a wide variety of articles written by experts including topics such as nutrition, exercise, a question answered by a doctor and many others!

Understanding Obesity: Find out how environment, behavior, genetics and other factors influence an individual's weight, and what you can do to improve your health.

The OAC Offers Resources in Spanish!

Take advantage of our Spanish educational brochures and order today by contacting the OAC National Office:

Entendiendo la Obesidad
Entendiendo la Obesidad Severa

View all of the OAC's educational resources online by visiting **www.ObesityAction.org** today!

JOIN OUR CAUSE! The OAC's more than 52,000 members are making a difference for individuals affected by obesity. Add your voice to the cause today by joining online at **www.ObesityAction.org** or by filling-out the membership application included in the back of this brochure!

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Obesity Action Coalition

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