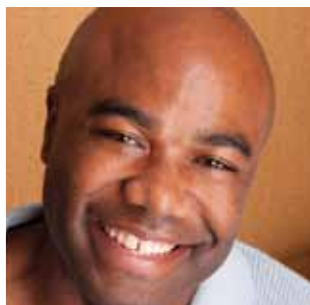


UNDERSTANDING
**YOUR
WEIGHT-LOSS
OPTIONS**



An educational resource provided by



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About the OAC

The Obesity Action Coalition (OAC) is the ONLY non-profit organization whose sole focus is representing the voice of those affected by excess weight and obesity. With more than 40,000 members nationwide, the OAC also proactively advocates on both the state and federal level for access to safe and effective weight-loss options. 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 38.



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**
- **Commercial Weight-loss Products and Programs**
- **Physician Supervised Weight-loss**
- **Bariatric Surgery**

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 modifiers 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 are arising 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!



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, weight-loss chains, 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 Nutri-system, 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 are online versions of in-person 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 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 (OTC) DRUGS

Currently alli® (orlistat) is the only approved 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 3-4 percent of your weight after one-year. In a person who weighs 200 pounds, this would mean eight 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 CENTERS/PROGRAMS

Utilizing a commercial weight-loss center or program is one of the most popular options for someone affected by obesity. Centers often provide various resources such as pre-packaged meals, support and more. Centers usually offer a 1,000 to 1,500 calorie-per-day diet plan which can provide quick weight-loss results; however, as weight-loss slows down, it is easy for people to get frustrated and discouraged.

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 centers 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 centers do not utilize meal replacement as part of their program. Their main goal is to teach you how to nutritiously feed your body and make smart food choices. While this is helpful long term, many individuals find it hard to adjust to 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 dietician-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; therefore, 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 during program and on your own.

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

The Jenny Craig program was founded more than 15 years ago and has 800 centers nationwide. It offers frozen or pre-packaged prepared meals to help with portion management and calorie control. Jenny Craig offers weekly one-on-one nutritional and motivational counseling. It was developed by registered dietitians and psychologists and focuses on lifestyle changes.



How does it work?

A typical Jenny Craig program consists of three meals and three snacks per day, which are calorie-controlled based on your height and weight. Sixty percent of the day's food comes from carbohydrates, 20 percent from protein and 20 percent from fat.

You are required to purchase main dishes from Jenny Craig for the first phase, which is defined as the first half of your total weight-loss goal. You work with your diet counselor to incorporate other foods, such as fruits, vegetables, dairy and grains, into your meals.

After the initial phase, you transition entirely to foods you purchase yourself; however, you are required to keep a food log and work with the diet counselors on making good food choices.

Weight-loss:

Overall, the Jenny Craig diet is a well-balanced, reduced-calorie diet in which you can expect to lose about one to two pounds per week. In a research study con-

ducted by Jenny Craig, participants who received the prepackaged food items and program free of charge lost an average of 16 pounds, or 7.9 percent of their initial weight after two years of treatment.

Concerns:

There are some concerns with this program. First, the program may not teach the basics of nutrition in the initial phase, which could lead to weight regain in the long run. Also, counselors are not dietitians and, as with many commercial programs, they are encouraged to sell products. Finally, the cost of the program averages about \$90 to \$125 per week. This includes only the entrées and snacks provided by Jenny Craig. You must purchase the additional fruits, vegetables, dairy and grains required from the grocery store.

The program offers fitness tapes and videos for purchase. Participants must also pay membership fees that run from \$10 to \$40 per month.

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 pro-

tein (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 in the 1960's and offers weight-loss guidance and support. The plan emphasizes a well-balanced diet and encourages lifestyle changes and exercise.

How does it work?

Weight Watchers offers two plans, so dieters can pick the one that better fits their lifestyle. The Flex Plan is based on a points system. All food is assigned a certain number of points according to calories, fat and fiber content. Dieters are allowed to consume a certain number of points each day based on their body weight and the number of pounds they want to lose. The Weight Watchers system teaches that all food can potentially be incorporated into a healthy eating plan, as long as the daily point values are not exceeded.

Dieters on Weight Watchers learn to balance their food choices. They can also trade physical activity for more points. A second option, the Core Plan, focuses on healthy foods (whole grains, fruits, vegetables and low-fat protein foods) which users can eat at will, without the need for tracking points.

Weight Watchers offers weigh-ins and weekly meetings, which can be private, online or in groups. In the weekly meetings, dieters receive a lot of encouragement, help, suggestions and strategies. No foods are forbidden, and no foods are required to be purchased.

In addition, most foods, even restaurant foods, already have points assigned to them, which makes keeping track of consumption a lot easier. Weight Watchers encourages dieters to keep a food log, which turns off a lot of dieters, but tracking

what you eat has been shown to have a strong positive effect on weight-loss. Weight Watchers counselors also teach the basics of nutrition and healthy lifestyle choices at the weekly meetings, which increases the chances of long-term success.

With Weight Watchers, dieters learn that higher fat and calorie foods can be incorporated into daily consumption but do "cost" more points and therefore must be traded off for less food later in the day or week or increased exercise, in order not to exceed point allowances.

Weight-loss:

Overall, Weight Watchers can teach healthy, balanced eating for a one to two pound per week weight-loss. Weight Watchers is most similar to what dietitians would teach (calorie counting and food logging), and most healthcare professionals regard it as a standard against which to measure other commercial programs. In a research study conducted by Weight Watchers in Europe, participants who received the program free of charge lost an average of 11 pounds of their initial weight after one year of treatment.

The cost of a Weight Watchers membership is about \$30, and meetings cost about \$10-\$15 per week, although some discount packages are offered. The online version costs about \$20 per month after a \$30 membership fee. Support online includes chat rooms, message boards, recipe ideas, meal plans and online journaling.

Concerns:

One concern is that while counselors are trained to provide the support and encouragement needed for weight-loss, they are not licensed dietitians. 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.

PHARMACOTHERAPY (WEIGHT-LOSS MEDICATIONS):

Please note: Some of the medications mentioned in this brochure have been FDA-approved, and may or may not be available at the time of the printing of this brochure.

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. Pharmacotherapy may be offered to individuals affected by obesity who failed to achieve weight-loss through diet and exercise alone.

Note: None of the 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.

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

- orlistat (Xenical® or alli®)
- phentermine products (Adipex-P® or Suprenza®)
- phentermine-topiramate ER (Qsymia®) (FDA-approved, available)
- lorcaserin HCl (Belviq®) (FDA-approved, please check with your physician for availability)



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

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 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 3-4 percent of your weight after one-year. In a person who weighs 200 pounds, this would mean eight 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.



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 can only be used for 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. Patients who receive phentermine can usually expect to see greater weight-loss than those who receive

non-pharmacologic care, on average about 13 pounds difference throughout 12 weeks as reported in one study.

Concerns:

Due to its stimulant effect, a person's blood pressure and heart rate can 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.



PHENTERMINE- TOPIRAMATE ER (Qsymia®)

How does it work?

This combination medication was approved by the FDA in July 2012. Topiramate is a medication used to treat seizures. 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 dose of Qsymia® (15mg phentermine and 92mg 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 taken during pregnancy since it has been associated with birth defects.

LORCASERIN (Belvii®)

How does it work?

Lorcaserin was approved in June 2012 by the FDA. It is like many of the other medications and works on the chemicals in your brain to help decrease your appetite.

Weight-loss:

Although it is not yet commercially available, 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.

Concerns:

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

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

(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.

**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.*



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 40 to 80 percent of excess 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 may 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 in this section 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 “malabsorptive,” “restrictive,” “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.” Although the laparoscopic procedure has increasingly gained in popularity and frequency, open procedures are still used in practice today. 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, providing 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.

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 physician further to gain a better understanding.

Malabsorptive vs. Restrictive

Throughout this section, the surgeries will be described as “malabsorptive,” “restrictive” or a combination of the two. Depending on the type of procedure that is determined to be best for your needs, each requires different lifestyle changes.

“Malabsorptive” – Malabsorptive procedures alter digestion, usually through the rerouting of the intestines, thus causing the nutrients in the food to be poorly digested and incompletely absorbed.

“Restrictive” – Restrictive procedures decrease food intake by creating a small upper stomach pouch to limit food intake.

Mechanical vs. Metabolic

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

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 surgical treatment selection for you.

The most commonly performed bariatric surgeries include:

- Adjustable Gastric Banding
- Sleeve Gastrectomy
- Roux-en-Y Gastric Bypass
- Biliopancreatic Diversion with Duodenal Switch

Qualifications for each of the procedures are the same with the exception of the LAP-BAND® which has received FDA-approval for lower BMI's. 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



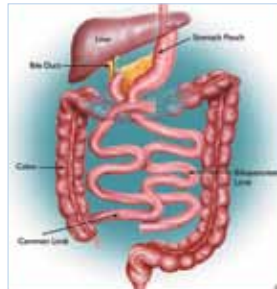
Sleeve Gastrectomy



Roux-en-Y Gastric Bypass



Biliopancreatic Diversion with Duodenal Switch



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ADJUSTABLE GASTRIC BANDING

What is Adjustable Gastric Banding and how is it performed?

This operation is a restrictive procedure and 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 (pictured on next page).

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. In the first year, the average percent of excess weight-loss is significantly less with the laparoscopic adjustable gastric band than after roux-en-y gastric bypass. By three years, the percentage of excess weight-loss can approach that of roux-en-y gastric bypass.

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.

Complications:

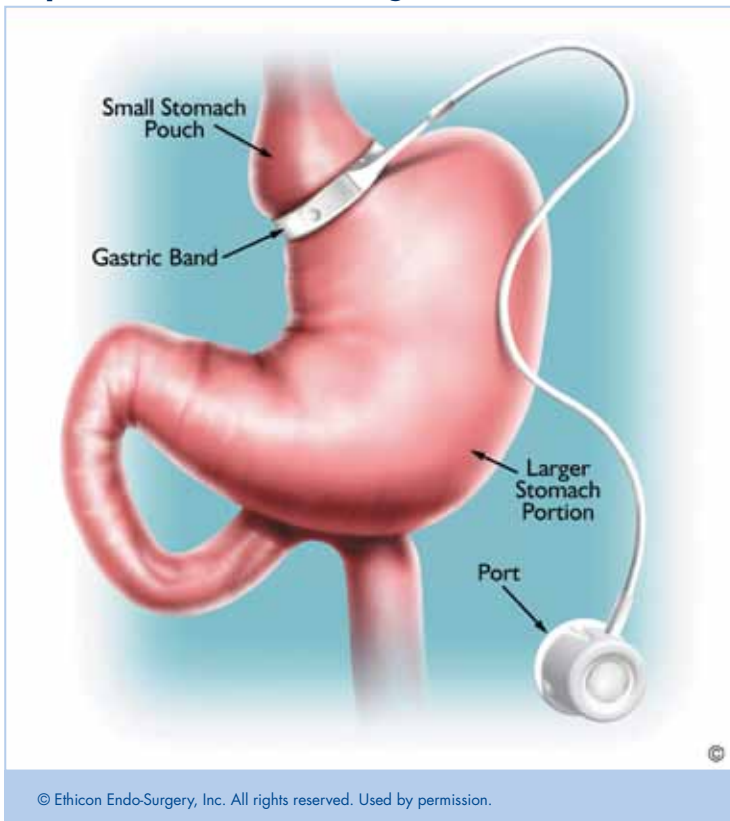
Patients contemplating adjustable gastric banding must be comfortable with the thought of having a medical device in them for life. Although the band has an excellent safety profile, there are complications that can occur with any weight-loss operation, and the band is no different. It is important for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

About 10 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,

Adjustable Gastric Banding



long term effects (20 to 30 years) are unknown at this time with the band.

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 type of bariatric surgery 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

What is a Sleeve Gastrectomy?

The sleeve gastrectomy (LSG) (pictured on next page) 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 roux-en-y gastric bypass or 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 roux-en-y 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:

LSG is a restrictive procedure. It 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.

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

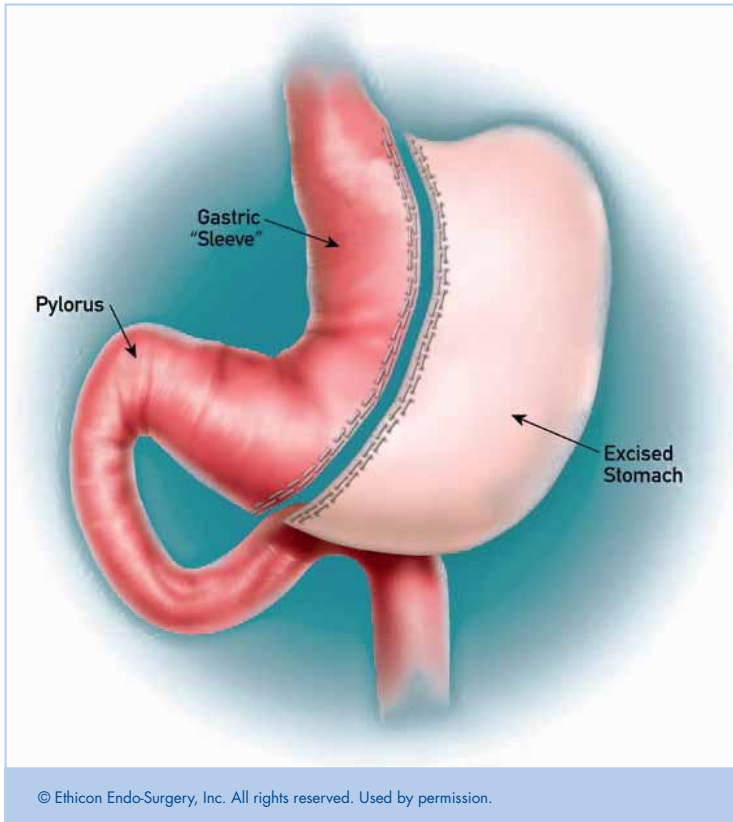
Complications:

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 roux-en-y gastric bypass or malabsorptive procedures, such as duodenal switch. 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 may 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



Conclusion:

Several studies have documented excellent weight-loss up to three years after LSG. In higher BMI patients who undergo LSG as a first-stage procedure, the average patient loses 40-50 percent of their excess weight in the first two years after the procedure. Patients with lower BMIs who undergo LSG will lose a larger proportion of their excess weight (60-80 percent) within three years of the surgery.

ROUX-EN-Y GASTRIC BYPASS

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 (restriction).
- 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 (pictured on next page):

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.

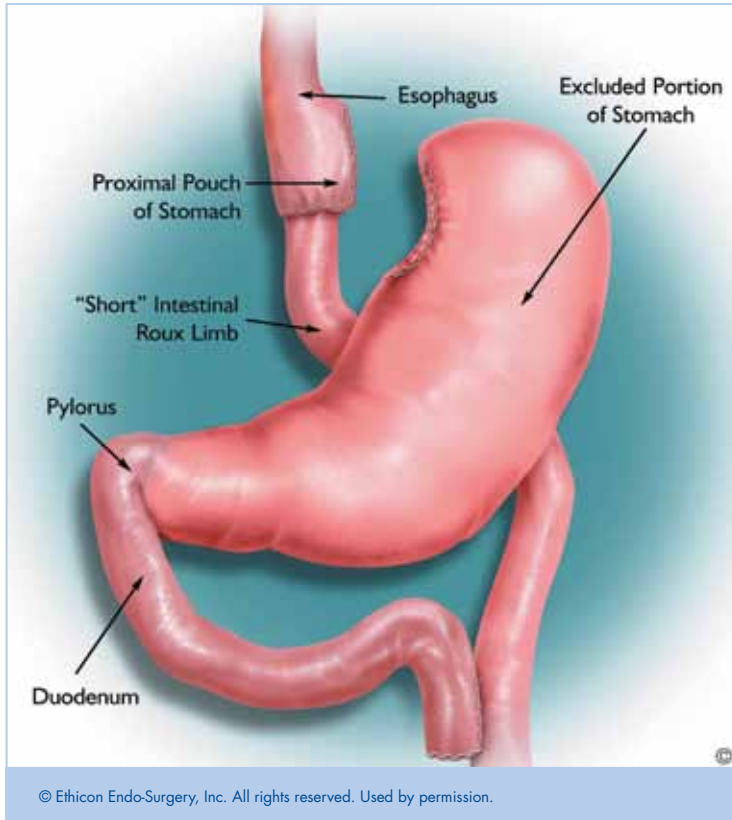
How does it work?

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 roux-en-y 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 roux-en-y 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 roux-en-y gastric bypass, the food does not turn into liquid until it leaves the "Short Intestinal Roux Limb" (see image of gastric bypass right). 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

Roux-en-Y Gastric Bypass



must limit their intake of sugary and starchy foods. If they don't, they may experience something 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:

Proper follow-up and participation in a multidisciplinary program that stresses lifestyle modification (dietary, behavioral and exercise changes) will improve the chances a gastric bypass patient will maximize their weight-loss and maintain it for a lifetime.

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 bariatric surgery procedure 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 type of bariatric surgery, 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

What is a Biliopancreatic Diversion with Duodenal Switch?

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

How is the Biliopancreatic Diversion with Duodenal Switch performed?

BPD/DS is based on a smaller stomach and combines a lower restriction and a high level of malabsorption. 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:

The procedure allows for increased malabsorption, resulting 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.

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.

BPD/DS patients enjoy “normal” sized food portions at meals. The BPD/DS allows patients to increase portion size throughout, allowing for greater diversity in food consumption at each meal.

Metabolic/Hormonal Changes:

In addition to the restrictive and mal-absorptive nature of BPD/DS, it also 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.

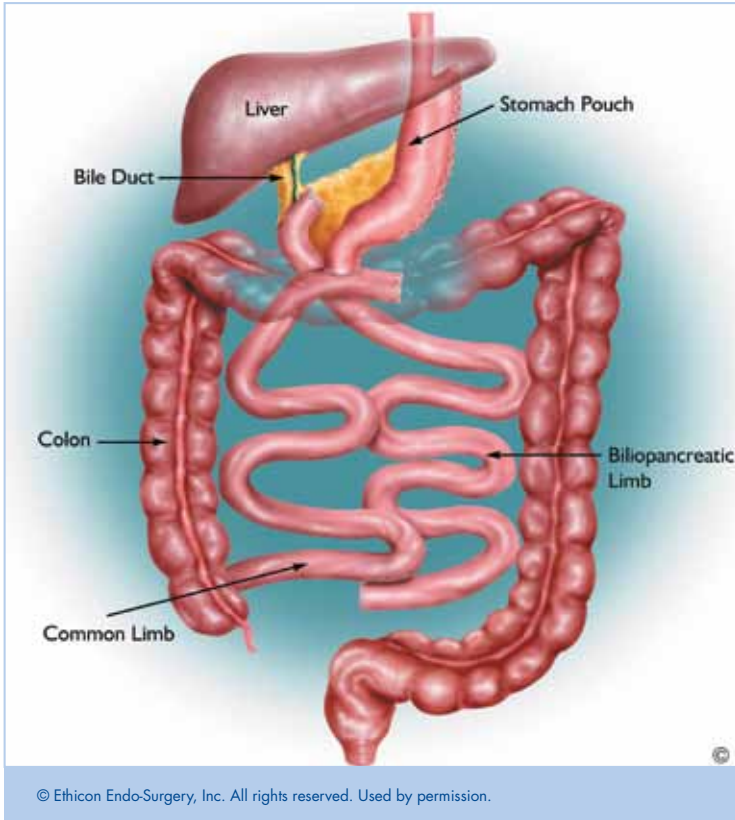
- ↓ Ghrelin = ↓ hunger
- ↑ PYY = ↑ satiety
- ↑ GLP-1 = ↑ satiety

Complications:

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 due to malabsorption.

Vitamin B-12 deficiencies are not created by the BPD/DS procedure. 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

Biliopancreatic Diversion with Duodenal Switch



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.



MEMBERSHIP APPLICATION

Join the **ONLY** non-profit organization that represents individuals impacted by excess weight and obesity.

1. OAC MEMBERSHIP CATEGORIES *(select one)*

- Individual Membership:** \$20/year
- Institutional Membership:** \$500/year
- Chairman's Council Membership:** \$1,000+/year

WHY JOIN THE OAC?

The OAC is the **ONLY** National non-profit organization whose sole focus is helping individuals affected by excess weight and obesity. The OAC needs every individual who is concerned about the cause to join our Coalition. With your voice, we can make a difference in education and advocacy for the millions of individuals impacted by this rising epidemic.

2. OAC MEMBERSHIP ADD-ONS

Add-on 1: Educational Resources

To order bulk copies of OAC resources, members can purchase educational packages *(not required for Institutional and Chairman's Council Members)*.

- Standard Package**
10-50 pieces/quarter \$50
- Deluxe Package**
51-100 pieces/quarter \$100
- Premium Package**
101-250 pieces/quarter \$150

Add-on 2: Make a General Donation

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

- \$5 \$10 \$25 \$50 \$100

Other Amount: _____

3. MEMBERSHIP/ADD-ON TOTALS:

Membership Category: \$ _____
 Add-on 1 *(if applicable)*: + \$ _____
 Add-on 2 *(if applicable)*: + \$ _____

TOTAL MEMBERSHIP PAYMENT: \$ _____

PAYMENT INFORMATION

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

Credit Card Number: _____

Expiration Date: _____

Billing Zip Code: _____

CONTACT INFORMATION

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Email: _____

Mail: OAC
4511 North Himes Ave., Ste. 250
Tampa, FL 33614

Fax: (813) 873-7838

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

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.

	160	170	180	190	200	210	220	230	240	250	260	270	280	290
5'0"	31	33	35	37	39	41	43	45	47	49	51	53	55	57
5'1"	30	32	34	36	37	39	42	44	45	47	49	51	53	55
5'2"	29	31	33	34	36	38	40	42	44	46	48	50	51	53
5'3"	28	30	32	33	35	37	39	41	43	44	46	48	50	52
5'4"	27	29	31	32	34	36	38	40	41	43	45	46	48	50
5'5"	26	28	30	31	33	35	37	38	40	42	43	45	47	48
5'6"	25	27	29	30	32	34	36	37	39	40	42	44	45	47
5'7"	25	26	28	29	31	33	35	36	38	39	41	42	44	46
5'8"	24	25	27	28	30	32	34	35	37	38	40	41	43	44
5'9"	23	25	26	28	29	31	33	34	36	37	39	40	41	43
5'10"	23	24	25	27	28	30	32	33	35	36	37	39	40	42
5'11"	22	23	25	26	28	29	31	32	34	35	36	38	39	41
6'0"	21	23	24	25	27	28	30	31	33	34	35	37	38	39
6'1"	21	22	23	25	26	27	29	30	32	33	34	36	37	38
6'2"	20	21	23	24	25	27	28	30	31	32	33	35	36	37
6'3"	19	21	22	23	24	26	28	29	30	31	33	34	35	36
6'4"	19	20	21	23	24	26	27	28	29	31	32	33	34	35
6'5"	19	20	21	22	24	25	26	27	29	30	31	32	33	34



Overweight Obese Severely Obese

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

Normal = 18.5-24.9 | **Overweight** = 25-29.9 | **Obese** = 30-39.9

Severely Obese = 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."



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OAC RESOURCES

The OAC provides numerous beneficial resources. To request materials, please contact the OAC National Office at (800) 717-3117 or send an email to info@obesityaction.org.

Brochures/Guides

- Understanding Obesity Series
 - Understanding Obesity Brochure
 - Understanding Obesity Poster
 - Understanding Severe Obesity Brochure
 - Understanding Obesity Stigma Brochure
 - Understanding Childhood Obesity Brochure
 - Understanding Childhood Obesity Poster
- Understanding Excess Weight and Type 2 Diabetes Series
 - Understanding Excess Weight and its Role in Type 2 Diabetes Brochure
 - Understanding Prediabetes and Excess Weight Brochure
 - Understanding Excess Weight and Type 2 Diabetes Brochure
- OAC Insurance Guide: *Working with Your Insurance Provider*
- State-specific Advocacy Guides
- BMI Chart

Magazine

- *Your Weight Matters Magazine* – OAC's quarterly education and advocacy magazine

E-Newsletter

- *Obesity Action Alert* – the OAC's free monthly electronic newsletter

OAC Web site – The OAC Web site features an "Obesity Treatments" section which details treatment options and provides more information concerning the topic.