

HOW TO EXERCISE



A BARIATRIC PATIENT'S GUIDE TO FITNESS

JAMES MOFFETT M.S.
LEAH SARAGO CSCS, PFPS

TABLE OF CONTENTS

Welcome	1
Medical Considerations	2
Get Started	3
Metabolism	6
Intensity and Consistency	11
Mobility/Flexibility	17
Cardiovascular Capacity	20
Muscular Strength	27
Interval Training	35
Core	38
Active Recovery	41
Exercise Adherence/Forming Habits	44
Program Design and Considerations (Sample Program)	48
Your Success	52
References	53
About the Authors	55



Hello, and welcome! Congratulations on your decision to undergo weight loss surgery and regain control of your life. Your decision took courage and determination, but surgery is just the beginning of your journey to a happier and healthier life. A life that is free of the constant struggles and challenges of obesity. This guide serves to be a comprehensive resource to help you navigate exercise and fitness during your weight loss journey following bariatric surgery. We want to empower you to Live Your Own Success Story!

As your medical weight loss team has likely explained, exercise is a critical component of your long-term success with weight loss and weight management. This can be a very overwhelming reality. The fitness industry is a multi-billion dollar monster overrun with false information, pseudo-science, and notoriously unrealistic goals promoted by social media “fitness experts” - and that’s unfortunate. It paints the entire experience of health and exercise in a very negative and confusing light. It also makes it difficult to know who is right, what is realistic, and where to even start. Additionally, following a surgery that physically alters the capacity and/or absorption of food, the standard recommendations and guidelines for exercise need to be modified.

That is precisely why we created Bariatric Fitness Rx (BFRx) and wrote this manual – to navigate patients through the noise and find success. BFRx was founded by actual fitness experts with decades of academic study and practical application. We will breakdown the major components of exercise to provide a broad understanding of where your time and energy should be placed and debunk as much of the misinformation as possible.

You must accept upfront that exercise is a requirement for you to be successful in managing your weight. It is not optional! Surgery resets your body to give you the best chance at sustainable weight loss through restrictive, absorptive, and hormonal changes. But surgery and diet alone cannot give you long-term success. It must be met with consistent activity. The benefits of pairing exercise with surgery go far beyond just the calories you will burn, the muscles you will build, and the changes you will see in the mirror. Your entire body and mind will become healthier. Physiologically speaking, success begins when you turn your metabolism into a raging fire by building lean muscle mass and stoking that fire with consistent exercise. Ultimate success is when you adopt exercise into your life, not as a punishment, but as an activity you eagerly schedule each day. This will lead you down a path of moving pain-free and without limitation. It takes time and consistency – you can do it!





MEDICAL CONSIDERATIONS

Obesity wreaks havoc on almost every aspect of the human body. Therefore, **consult your medical team before engaging in any physical activity.** Bariatric Fitness Rx is not a licensed medical care provider and represents that it has no expertise in diagnosing, examining, or treating medical conditions of any kind. You should understand that when participating in any exercise or exercise program, there is the possibility of physical injury. If you engage in an exercise program, you agree that you do so at your own risk and assume all risk of injury to yourself.

As a basic rule, if it hurts, do something different. If the pain persists, see a medical professional. That being said, do not let your current limitations, aches, pains, and/or soreness deter you from getting active. Do not allow it to be an excuse. Regardless of your current fitness level, or any accompanying issues, you can, and must, find some way to get active.





More and more people are beginning to have a negative relationship with exercise if any at all. We aim to change that and build healthy attitudes and behaviors toward fitness. Part of that negativity stems from people viewing exercise as punishment and something that should be dreaded, and therefore, avoided. The truth is that exercise is a therapy for your mind and body. It is “you-time”. Can it be hard? Yes. Can it hurt? Sometimes. But do you always feel better, energized, and accomplished afterward? Absolutely – every single time.

The majority of people who begin a workout regimen quit within the first month. A lack of results is always the most common reason. Sometimes money or time is offered as an excuse, but it always boils down to results. If people saw results, money and time would not be an issue. However, without results, people become unmotivated and disengaged. Understand that results take time. Honestly, they take a long time. Once you accept that, you can embrace the journey – your journey. During your journey, it’s important to maximize your time and effort by progressing in the safest and most effective manner possible. To that end, general flow and progression should be followed. You will learn how in the pages to follow.

If you undergo weight loss surgery, you will lose weight and lose it fast. Since the weight will come off so fast, the changes in the mirror will happen much faster than for someone trying to lose weight without surgery. But this is precisely where long-term failure is hiding. The reason is two-fold. First, some patients utilize surgery as a complete solution and neglect or completely ignore diet and physical activity. With the weight coming off so fast, their decision is rationalized. Second, it has been thoroughly researched that a byproduct of weight loss is a reduction in metabolism [1,2,3,5,7,12]. This phenomenon is one of the body’s many survival mechanisms. Remember the raging fire mentioned earlier? Weight loss will extinguish that fire reducing it to a small candlestick. This is when weight loss slows (and for some, completely stops). The body doesn’t understand obesity and only recognizes a drop in caloric intake. This triggers the body to slow down its metabolism to conserve calories. In a calorie-restricted state, your body will also start to burn your muscle as an energy source. You must offset the drop in metabolism from weight loss by building muscle, or an absolute minimum, preserving the muscle you already have [1,15]. Building muscle takes time and a lot of effort, so be prepared.



Genetics, hormones, current strength and fitness level, nutrition, type of exercise, and intensity of training all play a significant role in the amount of muscle you can build in a given time. Most fitness professionals would agree that an “untrained” person (beginner) can realistically build 2-3lbs of muscle per month. Although the impact of bariatric surgery on the muscle-building process has not been studied, given the anecdotal evidence from “successful” patients coupled with the standard high-protein diets, it is highly unlikely there is any significant issue.

In addition to maintaining (or ideally increasing) your metabolism, exercise needs to emphasize safe programming, exercise selection, and exercise form to minimize your chances of injury. Unfortunately, injury can be a real possibility when you are a beginner and learning to push yourself. For example, you can progress too fast (either purposely or inadvertently) and over-train a muscle. Or you could perform advanced variations of exercises that your body is not primed or conditioned to handle. Exercise programming is as much an art as it is a science. And the more considerations an individual has (i.e. movement limitations, orthopedic concerns, dietary/energy restrictions) the more complex it becomes. But fear not, that’s why you have this guide!

You may now be thinking, “Great, it’s complicated...so what do I do and how do I start?”. We will get into that. But, as a general rule to consider, work capacity and movement quality trump everything else. Meaning, focus on increasing the amount of work (time doing an exercise) you can safely do (with proper form) before anything else. For example, if you can only do 5-minutes of walking, first work on being able to walk for 10-minutes. As you progress and feel more comfortable and confident, your focus can shift to building as much lean tissue (muscle) as possible through weight/strength/resistance training...while maintaining your endurance and flexibility.

It is no coincidence that after surgery, your surgeon wants you up and walking as soon as possible. Start this habit and never stop. Walk as much as you can as often as you can. In the beginning, this may be the only exercise you can handle. And that is okay; it is a great place to start! Once you can walk 4-5 times a week for 30 minutes, you are ready to advance. And advancing is key! Walking will not be enough as your body adapts and gets stronger. If you don’t continuously challenge yourself, your body will have no reason to change and improve. Following each walk, you must take time to work on your mobility and flexibility. Once you reach the walking benchmark, you will have a base level of conditioning to build upon. From there, you can start to incorporate strength training. That is a very general overview of your ideal progression. It is as much an art as it is a science, and there are many elements of health and fitness to consider.



What follows is a more detailed look into how your body responds to exercise, each of the major components of fitness, some tips and tricks, and a sample program at the end. We will go deep into some of these subjects because it's important to understand the "how" and "why". Our goal is to guide and empower you to live your success story!

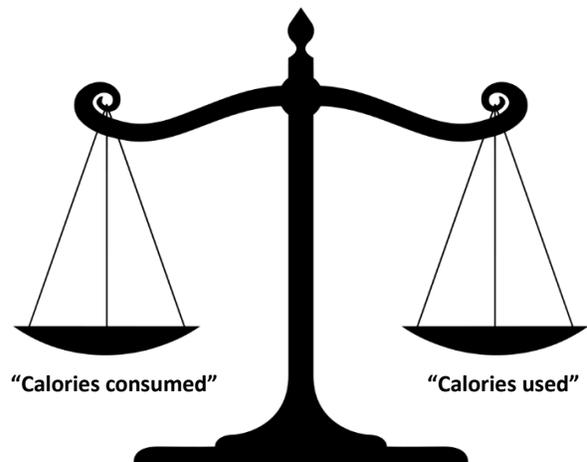
To make things even simpler and take the stress and the nervousness out of going to a gym, we created an entire four-month, at-home, workout system designed specifically for bariatric patients! It even stars real-life bariatric patients. This is, by far, the best, most efficient, effective, safest, and convenient option available to you. The [Therapeutic Movement and Exercise System](#) is the gold-standard in exercise for bariatric patients.





If we are going to talk about calories and their relationship with exercise, we need to first understand our metabolism. *Warning: we are going to get real sciencey...but it's important.*

Metabolism is the process of converting calories into usable energy for the body. When you think about calories and metabolism as it relates to weight management, imagine one of those old school balancing scales. One side would be labeled “calories consumed” and the other would read “calories used”. In this simplified example, if the scale tips towards “calories consumed”, you would gain weight. Conversely, if it tipped towards “calories used”, you would lose weight. And a balanced scale would indicate weight remaining constant.



“Calories consumed” will be left to the dieticians. “Calories used” refers to how many calories your body burns in a single day. A calorie is just a unit of energy, and every single thing your body does requires energy. What follows is the breakdown of how calories are used by your body. *Of note, there may be slight differences in nomenclature depending on who you talk to and their respective field of study but it all refers to the same thing.*

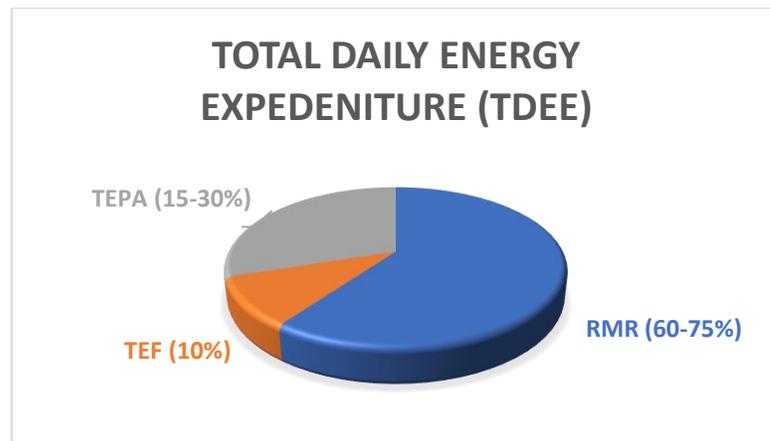
Total Daily Energy Expenditure (TDEE): The sum of all energy (calories) used by your body in 24 hours. It is comprised of the following three components.

Resting Metabolic Rate (RMR): Energy required to keep the body functioning at rest doing basic human processes (i.e. breathing, blinking, temperature regulation, organ functioning, etc.). This accounts for roughly 60-75% of your TDEE in the general population. Age, gender, body composition, and hormonal inputs are the biggest contributors to RMR.

Thermic Effect of Feeding (TEF): Energy required to digest food. This accounts for roughly 10% of your TDEE.



Thermic Effect of Physical Activity (TEPA): This is a measure of your movement for the day. It includes both structured exercise and general movement (i.e. cleaning, cooking, moving at work, etc.) – the general movement portion is now being called Non-Exercise Activity Thermogenesis (NEAT) [11] and is a crucial component of TEPA and weight management. This is all highly variable depending on your activity level but typically accounts for 15-30% of your TPEE.



Your eye is likely drawn to the massive percentage used by your RMR; this is the vast majority of your daily caloric usage. Here's the best part, you can increase your RMR. In fact, the goal of your physical training should be to increase your RMR as much as you can. Moreover, while working to increase your RMR, you will also increase your TEPA – even better! This is precisely what was meant earlier by turning your metabolism into a raging fire.

Before going further down the rabbit hole of TEPA and RMR, we should touch on some terms you will undoubtedly hear more of in your adventures in fitness – aerobic and anaerobic. These terms simply identify two of the more well-known types of metabolism that occur in your body.

Aerobic: Requires oxygen. Aerobic metabolism is the process of creating energy (burning calories) with the use of oxygen. Your body relies on this form of energy when it needs large amounts of sustainable energy – like going for a jog. Anytime you require large amounts of energy for longer than 60-120 seconds, it will be coming from here. The preferred fuel source for aerobic energy is fats and carbohydrates.



Anaerobic: Does not require oxygen. Anaerobic metabolism is the process of creating energy (burning calories) without the use of oxygen. Your body uses this when it requires large amounts of energy for shorter durations, like sprinting – or to get your metabolism up to speed for steady-state activity, like jogging. Anaerobic is utilized for activities lasting 30-120 seconds and is sourced from simple carbohydrates/glucose (sugar).

Caloric burn during exercise.

Hopefully, you are still awake, because now we get to apply all this knowledge. Remember the TPEE chart. Calories burned during exercise account for, at most, 30% of your daily usage. The advice here is: don't be *overly obsessed* with how many calories you are burning each time you exercise. Calories burned are important, but for a different reason than you may think. This is also where there is a slight departure from the standard weight loss advice of "you can't out-exercise a crappy diet". In the non-surgical population, a huge concept is that you cannot exercise long enough, or hard enough, to offset poor eating choices. It just isn't reasonable or practical to strictly rely on burning calories through exercise to balance your weight. Nor would it be in the least bit enjoyable, mostly because of the time commitment involved. The rules change as a bariatric patient because surgery has anatomically altered your body. You simply cannot (or should not) consume the same number of calories as someone who didn't undergo surgery. Therefore, in the surgical population, because the quantity of food is less of an issue, the quality of food reigns supreme. The focus of exercise does not *need* to be caloric burn because you do not have the same number of calories to "spare". Everyone, but especially bariatric patients, should be concerned with improving body composition, and not just by losing fat, but by building muscle. By extension, this will also improve your RMR (remember, that is the measurement of calories you burn while not even exercising). We will still explore how to burn more calories and understand how those mechanisms work because it's important to know how to adjust your workouts accordingly as your body adapts and your caloric intake changes.

A common concern is whether to focus on burning fat or carbohydrates during exercise. You may even hear "stay in the optimal heart rate zone for fat burning". BFRx response: it doesn't matter! The type of fuel your body uses (fat or carbohydrate) is almost completely based on the intensity of the exercise being performed [8]. If the exercise is not very demanding, your body will burn fat. As the exercise becomes more intense, your body will switch to burning carbohydrates. Fat takes longer to convert into energy. Therefore, if the exercise is not intense and the energy demand isn't immediate, your body has time to convert fat into energy. As the exercise becomes harder and energy is required more rapidly, your body loses the time needed to convert fats and therefore switches to using



carbohydrates, because the conversion from carbs to energy takes much less time. Isn't science fun?! The total calories you burn while exercising is a combination of the difficulty/intensity of the exercise and the time spent doing the exercise. Bottom line, you will burn more calories working your butt off for 30 minutes – burning carbs – than you ever could working in a more comfortable – fat burning zone – for an hour. In the end, anything you eat that your body doesn't immediately utilize will be stored as fat (for use as energy later...your body doesn't understand that beach season may be around the corner). Sparing you all the messy math, there are very rough estimates:

30 minutes of casual walking: 200 calories

30 minutes of easy jogging: 400 calories

30 minutes of running: 600 calories

You can burn 3x as many calories in the same 30-minute block of time by ratcheting up the intensity. You may not be able to run at all, let alone for 30-minutes...yet. But that *should be the goal*. Going for a walk is nice, and even therapeutic; but from a “burning calories” standpoint or when trying to stress your body to elicit a change, it doesn't do much. Keep in mind, a single pound of fat holds 3,500 calories. Sure, you may burn all fat by walking, but it may only be only 200 calories worth of fat...if you walked for half an hour. Or you could really push yourself and work up to running for the same amount of time and burn 600 calories. Would it be carbs? Yes, but the point is that it doesn't matter. Your time and effort are always better spent working as hard as you can for as long as you can.

The second consideration is the overall demand placed on your body. And this is really where the idea of burning as many calories as you can remains important in all populations – surgical and non-surgical. At lower intensities, there are minimal impacts on the rest of the body, and therefore, minimal responses and changes. Cranking up the intensity not only stresses your cardiovascular system to a greater degree but also your musculoskeletal system, including your joints and muscles. And as you are about to learn, building muscle is the most important thing you can do to manage your weight. While it isn't necessary to obsess over the number of calories you burn each time you exercise, it is important to make sure your intensity is high enough to force your body to respond.

It is important to highlight how intensity influences the number of calories burned and the type of fuel used. But please keep in mind, as a bariatric patient, the rules are slightly different, especially as you and your body are adjusting to the effects of the surgery. In the beginning, burning 600 calories isn't necessary, let alone realistic (You may only be consuming that many in an entire day!). What's



important here is to understand the concepts and apply them to your situation and recognize how things need to be adjusted as you progress.

Caloric burn after exercise

This is one of the most misunderstood and neglected parts of fitness, and yet, it is one of the most important components to embrace for maintaining a healthy lifestyle and weight. From a “calories-out” perspective, you need to consider not only what you burn during your workout, but also the number of calories you burn *after* you finish your workout. That’s right, your body needs to recover and repair from exercise, and that takes calories (meaning it burns calories!). Try and let go of how many calories you burn while exercising, and instead, just focus on working with intensity and on how your body will respond.

The effect of exercise is two-fold. First, following a workout, your body has to repair itself from the muscular “damage” that was caused. This is a unique process with a fancy term called Excess Post-Exercise Oxygen Consumption (EPOC). It is more commonly known as “afterburn”. Following a workout, particularly one heavy in strength or anaerobic training, your body needs to repair the tissue that was damaged and remove all the byproducts and waste that was created in the process. This all requires energy/calories. The research varies here, and many fitness “resources” from the consumer media industry like to inflate the number, but it is safe to assume that your body can burn an additional 100 calories for 24 hours following one moderately intense workout...just repairing itself [9,13]. Again, the intensity is key. Intensity dictates what your EPOC levels will do after your workout [3]. The harder you work, the higher the EPOC, the more calories burned repairing your body. Extrapolate that out; if you do resistance training three times a week, your body will be in a constant state of repair and you could burn an additional 300 calories every week! That’s the first part. The second, more important benefit is that the more you exercise, the stronger you become and the more lean body mass (muscle) you build. Muscle is your RMR’s best friend. Muscle “costs” significantly more calories to maintain than fat cells do. Every pound of muscle burns roughly 5-calories every day, approximately four times the amount of fat [4,14]. Therefore, by adding 10lbs of muscle to your frame (which isn’t much when spread across your entire body), your body will burn an extra 350 calories every week just to maintain that new muscle! That’s how you increase your RMR!

This may seem too good to be true. Here’s the caveat. To reap those rewards, there is a price to pay. Building muscle takes time and effort, but anyone can do it...you can do it. Let’s learn about that now.



INTENSITY AND CONSISTENCY



Before we finally blend it all, we must address two crucial principles: consistency and intensity. You must have both if you want to see any results. Exercise is can be hard, and not just physically. It can also be mentally and emotionally draining because there is a significant time delay on any visible results. Sure, exercise will make you *feel* better every time you do it. But some days, that just isn't enough – you want to *see* the results. Visible results take weeks and months to manifest, and that can be discouraging. It typically takes 6-8 weeks to see any sort of physical change. The good news for bariatric patients is that your timeline will be accelerated due to the rapid weight loss following surgery, nevertheless, be prepared for the long haul.

Consistency

The first principle is consistency. Think of consistency as an apple tree that you plant in your yard (or any plant for that matter). You bust your butt working out for a month straight, and sure, you feel better and stronger, but you don't *see* any difference. What you have done is water your tree and given it plenty of sunlight to the point that it is just about to break through the ground. So, so close to what is needed for the fruits of your labor to be *seen*, but you can't yet see the manifestation of your hard work. That is consistency. Consistency lays the foundation for success and change. Stay consistent long enough and the tree will burst through the ground having grown strong roots and even provide fruit. Not only will consistency yield physical results, but more importantly, it is the key to establishing exercise as a healthy, new habit (in the case of our tree, develop strong roots). Even better, once that habit is formed, it won't require constant motivation. Exercise will have morphed into something different altogether – time in your day just for you; your place of meditation, empowerment, and accomplishment.

Intensity

The second, absolutely critical, piece of the puzzle is intensity. Your body reacts and responds to stressors, good and bad. It responds so it can prepare itself for that same stressor should it come around again. Remember, your body's number one goal is survival. It doesn't care about anything else – beach season, high school reunions, the latest dietary craze – nothing. When physical stress is placed on the body, such as heavy weight, your body will respond by rebuilding those muscles and make them



stronger and more durable. Then, should that weight rear its ugly head again, the muscle is adequately equipped to handle it. Your body is constantly responding and adapting. However, if your intensity in any given activity is not high enough to overload your body, then your body simply has no reason to adapt.

Think of it this way; if you can walk a mile in 12-minutes, and only ever walk a mile in that 12-minute time, would your body need to adapt to overcome that stimulus? No! If you can do 10 pushups, and never struggle to do more than 10 pushups, would your body ever need to become stronger? No! Unless you are challenging your body to do more work – heavier, longer, faster – it has no reason to rebuild itself. Every workout your goal should be to get just a little stronger, get one more rep, add 5 more pounds of resistance, run faster, or walk further. Because if you continue to do the same work, your body does not need to change. Your body will only burn the calories required to do that work. Something else important to add here. You will not get stronger or faster every time you exercise. In the beginning, is it easy to make progress. But eventually, your development will slow and maybe even plateau. Then you will need a new stimulus/exercise/workout to promote more improvement. And that's ok! That's a great sign that your body has gotten much, much stronger. Nevertheless, your goal, and your mentality, should always be to push yourself and do just a little more than last time. It may not happen, but that is how you need to approach it.

How do you measure Intensity?

If intensity is so important, how do I measure it? How do I know if I am working hard enough? Both great questions! There are a few methods that have been developed over the years to try and calculate the appropriate intensity levels. However, it is a particularly difficult task as intensity can be very subjective, and it is all relative. What one person experiences as incredibly difficult, might be a breeze for someone who has been training for years. Additionally, and quite frankly, some people are simply “tougher” than others. So they are all estimates. Regardless of the method that you choose, what matters is that you challenge yourself (only you know if you are) and that you track your progress. Tracking your progress can take on a lot of forms from apps to old school pen-and-paper to simply reflecting upon how you felt after a run or workout. Tracking is so important because it shows where you started, and how far you have come. Imagine being able to look back a year (or ten) and see how much further you can run, or how much stronger you have become. It is incredibly motivating. No method is perfect or 100% accurate, and each has limitations. There is no “the best”, it requires self-awareness, honesty, and adjustments. Lastly, your threshold for what you perceive as difficult will



change over time. Not only will your body adapt and harden, but so will your mind. We will go over two of the most commonly used (and easiest) methods available.

Heart Rate (HR): HR is a great indicator of intensity. The mechanism here is very straight forward; the harder you work, the higher your heart rate becomes as your body needs more fuel (blood) to be delivered to the working muscles. There is an upper limit to the speed at which your heart can beat and pump blood (max HR), and this cannot be changed through training. Moreover, as you age, your maximum heart rate will decrease...you cannot change or stop that either. However, you can affect two other equally important components. First, although the maximum speed at which your heart pumps cannot be changed, you can change the amount of blood that is pushed out with each pump (stroke volume). Secondly, you can improve your body's efficiency at utilizing the blood that is delivered. Imagine trading in for a car with a bigger gas tank and a better fuel efficiency (mpg) rating. Here's the takeaway, as you become more fit, your HR will be lower doing the same amount of work as when you started. For example, let's say you started your fitness journey walking a mile in 15-minutes and that elevated your HR to 150 bpm (beats per minute). A couple of months later, walking that same 15-minute mile might only elevate your HR to 130 bpm. Then you would need to jog for 15-minutes to elevate your HR to 150 bpm.

Many training programs you will come across work off a percentage of your max HR. So how do you find out what your max HR is? There are two ways; you either have it precisely measured or you estimate it. To measure your true max HR you have a Stress Test done by exercise physiologists in a clinical setting. They hook you up to a ventilator and heart monitor and have you walk on a treadmill/ride a bike and find the upper limit of your heart. It is the most exact measure, but it isn't the most feasible. Instead, you can estimate it. To *estimate* your max HR, you can use one of the two equations below.

****both examples use an age of 45 years old****

Option 1: $220 - \text{age} = \text{estimated max HR}$

Example: $220 - 45 = 175 \text{ bpm}$

Option 2: $208 - (0.7 * \text{age}) = \text{estimated max HR}$

*Example: $208 - (0.7 * 45) = 176.5 \text{ bpm}$*



Training Heart Rates/Zones: This is where you will apply the max HR calculation. As mentioned, most training programs require you to work at a specific percentage of your max HR – this is called a “training zone”.

For example: A 45yr old looking to do 30-minutes of cardio at 65% of max HR.

max HR = 220 – (age) = 220 – 45 = 175 bpm

*65% of max HR = 0.65 * 175 = 113.75 bpm (you would round this to 114-115 range)*

Therefore, in this example, you would want to adjust your intensity throughout the 30-minutes to keep your HR around 115 bpm.

Rating of Perceived Exertion (RPE): Using the RPE is the simplest and most straightforward way of monitoring your intensity. Notice the word “perceived”; this just provides a simple way to articulate and track how your body *feels* during any bout of exercise. As you get stronger, the same workload will feel easier and lighter, and that’s how you know it is time to increase your intensity. There are slight variations to the two scales listed below, depending on who produced it, but the idea remains the same. On the scale, 1 is lounging around watching TV, and 10 is the absolute most you can do – you can’t push any harder or run any faster and your legs are going to give out at any moment. The majority of your exercise needs to be around the 6-8 range, depending on the activity and the duration. This range is where there is enough of a stimulus to elicit a positive response from your body, but not too intense such that it can’t be maintained long enough to get any real amount of work accomplished. The cool thing about the RPE scale is that it is a relative measurement. In the beginning, executing 5 pushups might register as a “9”, or more. But in a few weeks, those 5 pushups will only feel like a “4”. You would then have to do 10 pushups to get your body to respond.



RPE Scale	Perceived Exertion for Cardiovascular Exercise	
10	Maximum Effort	Full out sprint
9	Extremely Hard	Can't talk and cannot maintain for longer than a couple minutes.
7-8	Challenging	Getting uncomfortable – this is where change happens!
4-6	Moderate	Starting to breath heavily – walking briskly or an easy jog.
2-3	Light	Can easily be maintained for an hour – walking the dog.
1	Very, very light	Anything more than sleeping – reading a book.

RPE Scale	Perceived Exertion for Resistance Training	
10	Maximum Effort	"Hulk out!" This is 1-2 times max.
9	Extremely Hard	Look at my muscles! Might be able to do this 5 times.
7-8	Challenging	Feeling the pump – no way I could do this more than 10 times.
4-6	Moderate	I could probably lift this 20 times.
2-3	Light	An easy warm-up.
1	Very, very light	Turning the pages of a book...

Fitness Trackers/Heart Rate Monitors:

The easiest way to track your heart rate is by wearing a heart rate monitor. There are a lot of options out there. However, the most efficient is the type where you wear the strap/monitor across the chest (and display on a watch, etc.). That being said, the ones that track directly from the wrist do work just fine. In fact, most ask for your age and will calculate your max heart rate for you. But I'm sure you enjoyed the fun math homework earlier.

Fitness trackers are the next level of heart rate monitors, they incorporate movement sensors and heart rate monitors to try and establish activity and resting levels to extrapolate out a bunch of fancy data to read through. Used correctly that information can be extremely helpful. It also helps to keep you accountable with reminders and alerts. But, be careful with fitness trackers, there is another side to this coin. The same data that be used to motivate and promote consistency can also be misused and abused and actually derail your success.



Fitness trackers can take advantage of a very unhealthy mindset. “Getting your steps in” should not be considered your exercise for the day. Exercise is exercise. Walking around throughout your day should be just that...a part of your day. Parking far away from the door, always taking the stairs, playing with your kids, walking your dog...none of those should be categorized as exercise. Those are examples of living a healthy and active lifestyle. They are the absolute bare minimum and should be the starting point for everyone, not the goal.

Take time for yourself every day (or at least most days) to exercise. Exercise should make you sweat, breathe heavily, make your muscles ache, and be sustained for no less than 30 minutes every day. For the majority, “getting your steps in” or even going for a walk, does not satisfy those requirements. Walking is a great place to start. But it’s just that, a starting point. You must demand more of yourself and your body if you want it to change (and want those changes to last). Do not sell yourself short and do not anchor yourself to the bare minimum. Be active every day AND exercise. That is how you will achieve and maintain your goals.

Phew! You made it through the heavy science. Hopefully, it didn’t overwhelm or bore you too much, but instead provided you with a fundamental understanding of how your body responds to exercise and what it needs to be successful with weight loss and management. Now, let’s examine each of the individual components that make up fitness and should be incorporated into your healthy and active lifestyle.





Benefits:

- Increase range of motion (ROM)/pain-free movement
- Reduce overall achiness
- Reduce the risk of injury
- Stress relief and relaxation
- Improve circulation
- Improve posture

Flexibility and mobility are huge factors in your ability to move and move without aches and pain. No one wants their body to limit them from pursuing their passions or limit them from participating in life to the absolute fullest. Movement equals freedom. Exercise will provide you with that freedom and improving your flexibility will aid you in that process.

Unfortunately, our flexibility is the first and fastest physical attribute we lose with age, and that process is accelerated if we are inactive, and then magnified if you are overweight. This is concerning for a few reasons. First, and most noticeable, it causes an increase in joint aches and pains as well as overall body discomfort. Second, a lack in range of movement places our body at a greater risk for injury and falls. And lastly, as our body ages and stiffens, any existing musculoskeletal issues are magnified.

Obesity mechanically changes your joint structure and therefore affects your posture. As you lose the weight, it is essential that you “retrain” your body on how to stand, walk, and simply move by being overly aware of your posture and forcing your body into the “correct” position. This change alone will greatly reduce the stress and pain on your joints and overall body. Therefore, in conjunction with walking and building your cardiovascular capacity, improving your mobility is the most important place to start. Thankfully, it is also the easiest and most therapeutic place to begin.

Methods

- Bariatric Fitness Rx [Therapeutic Movement and Exercise System](#)
 - This is, by far, the easiest and simplest way to get started because all you have to do is follow along.



- There are three workouts designed specifically to increase your flexibility and mobility:
 - Yoga
 - Standing Mobility
 - Floor Mobility
- Yoga
 - Consider incorporating yoga into your regular exercise routine. Yes, it seems intimidating – new environment, crazy postures and positions, words you can't pronounce, but truthfully, its benefits are undeniable.
 - Beginner Recommendations:
 - Hatha: an introduction to the basic postures
 - Restorative/Yin: exactly as it sounds, relaxing and soothing
 - Iyengar: extreme attention placed on each posture, great for injury recovery
 - Advanced Recommendations:
 - Ashtanga: demanding class that flows through the same set of postures
 - Hot Yoga: extremely hot room (up to 105 degrees), with a fast flow through postures
 - Vinyasa: fast-paced flow through a lot of postures
- Static Stretching
 - Remember stretching during gym class?
 - Never stretch with “cold” muscles, always warm-up before static stretching.
 - Easy way to tell if you are “warmed up” ...just be sweating.
 - Perfect for after working out to help reduce soreness, promote recovery, and prevent stiffness.
- Dynamic Stretching
 - Think “active stretching”, it requires you to move through a movement and not just hold a stretch like the static version.
 - This is an essential part of every warm-up and can be done with “cold” muscles/body as it primes the body for your workout.
- Foam Rolling



- A cheaper version of getting a massage that is a form of self-myofascial release
- Can be done as part of a warmup to increase blood flow and flexibility or cooldown to help with recovery and soreness.
- Slight pain is healthy and necessary, but excessive will do more harm than good
- Mobility Drills
 - Specialized drills/movements to target and improve a specific range of motion.
 - Great as a warm-up before exercising.

Recommendations

- Frequency
 - Some form of flexibility/mobility should be performed every single day.
- Warm-up
 - All of the listed methods above can be done as a warm-up (or part of) except static stretching.
- Intensity
 - Mild
 - This is the one exercise modality that should be more about relaxation and self-care. You always want to strive for improvements, but this is the part where you are looking to nurture your body.
- Duration
 - 10-15 minutes a day (obviously longer if you are taking a Yoga class) will have an incredible impact on your body.
 - Individual stretches/movements should be held for 20-60 seconds.
- Other Tips
 - Move your body daily.
 - Even if you can only spare 5min, take time every day to stretch and work on your body's mobility and range of motion (ROM).
 - Breathe! Always, and very consciously.





Benefits:

- Improve heart and lung health
- Decrease blood pressure
- Decrease resting heart rate
- Improve mental health
- Provide stress relief
- Improve the body's ability to recover from exercise/activity
- Burn calories

Cardio! Most either love it or hate it...and more typically hate it. It makes sense; it's monotonous and sometimes painful. But here's some good news; while still incredibly important, steady-state cardio (or just "cardio") in the traditional sense (i.e. running/walking, the elliptical, biking, etc.), is not the king of all exercise as was once thought. You still need to do it, and do it often, but maybe not quite as much as you think. Before we jump deeper into that, let's first outline some of the most important benefits of cardio.

First, nothing builds your base level of conditioning like cardio. BFRx believes it is the best and least complicated way to build that critical foundation. For starters, it's free! So right there, some barriers and excuses are removed. Walking is great for increasing your cardiovascular capacity (initially) and establishing your base. It is also easily adjustable in terms of intensity so it shouldn't intimidate anyone. And because it isn't intimidating, it's an excellent place to begin establishing healthy habits and plan out time every day for self-love through exercise. It is important to note that your body will eventually adapt – as it always does – and you will plateau. Meaning the improvements taper off, and you will need to push yourself to do more to elicit a response from your body. This is a huge milestone and should be celebrated! Once you plateau, your base has been established and your body has acclimated and adjusted to the exercise. It means your body is prepared and ready to accomplish its next feat. A new, more challenging feat.

Second, cardio is one of the best methods to improve your body's natural ability to recover. Recovery needs to be examined under two categories: immediate and long-term. Immediate recovery



describes the time during the actual exercise. How fast your body recovers from set to set and exercise to exercise. Cardio does a phenomenal job of improving that capability. Long-term recovery is the time in between exercise days, or your “off-time”. We will explore recovery in depth later but recognize things like stretching, foam rolling, massage, nutrition, and low-intensity cardio all play a huge part in your body’s ability to recover. Low-intensity cardio the day after a more strenuous day of exercise is a great way to get the blood moving while being gentle on the joints and musculature to promote recovery and ease any lingering soreness.

The third is the most obvious, or the most highlighted benefit, and that is the caloric expenditure from cardio. Burning a significant number of calories through exercise takes a lot of time and a high level of intensity. This is another place where bariatric surgery puts you at an advantage. As a bariatric patient, you are not consuming the same number of calories as a non-patient, and therefore, don’t need to burn the same number of calories. To put it into perspective, a typical piece of fruit is approximately 100 calories. You need to walk for 15 minutes at a brisk pace to burn 100 calories. As you increase the duration and/or intensity of the activity, your body will burn even more calories. However, you must remember that your body always favors efficiency and will always work to be as efficient as possible. This means that as your body adjusts to exercise, you *will burn fewer calories doing the same amount of work*. Over time, that 15-minute brisk walk will no longer burn 100 calories, it may only burn 90, or 80 (just rough guesstimates). This is why it is so important to be consistently challenging yourself. Once you build your base and can keep it going for 30, 45, 60-minutes and able to ratchet up the intensity...that’s when you will start burning a significant number of calories. If that doesn’t seem all that enjoyable, fear not, cardio isn’t the only way to burn calories...but it certainly is the most straight forward.

The final point for cardio is the simplest and most pure – the therapeutic benefit of relaxing, reenergizing, or maybe even the joy of it. Ever heard of the “runner’s high”? This expression came about from a feeling of euphoria experienced while running. It is your brain releasing a flood of endorphins – the “feel good” hormone. Here’s the best part; you don’t have to “be a runner” or even run to experience this rush of endorphins. However, you do have to push yourself to get there. Endorphins are your body’s natural painkillers, and they are released by your brain in response to sustained physical discomfort. While you don’t have to go out and torture yourself, you do need to challenge your body. Not a bad deal, right? What a great way to boost your mood! Runner’s high requires you to push your body into a place of discomfort – not excruciating pain, but discomfort. So don’t look for it during your shorter, less intense bouts of exercise. But once your base is achieved and



you can really start pushing yourself...that's where you may find it. Runner's high aside, there is an abundance of literature surrounding the positive effects of exercise, specifically cardio (even better if done outdoors), on your psyche and mood. Think of it as therapy. Getting active outdoors is a fantastic way to burn calories, clear your mind, improve your mood, and even increase your energy. Take full advantage!

Here is the bottom line with cardio – it is a cheap and “easy” way to build your base level of conditioning, burn some calories, clear your mind, and improve your mood. If you love it...great, go nuts! But it doesn't have to be your “go-to” for exercise unless you really enjoy it. You have options. In fact, the more recent research tends to support that there is a new “king of exercise”, which we will learn about next.

Methods

- Steady-state exercise
 - A constant pace that is maintained for a set duration of time.
 - Think “going for a walk/jog”.
 - Pros: Great for building a base level of conditioning, recovery from a hard series of workouts (as you get more advanced), and its therapeutic effect.
 - Cons: Can be monotonous and boring for some. Takes a considerable time commitment to burn a significant number of calories.
- Interval training
 - An advanced variation of training where you alternate between a faster pace and a slower recovery pace.
 - Pros: Extremely time-efficient. Ideal for building speed, burning a lot of calories, and breaking through plateaus and the monotony of steady-state (if you don't enjoy it).
 - Cons: Simply put, it's hard. It requires a high-intensity level that must be trained to handle.
- Treadmill
 - Pros: Slightly gentler on joints than pavement and easy to track progress and/or challenge yourself by setting the speed/time/distance metrics. It's also “stationary”, so if boredom is an issue, you can always fire up Netflix/YouTube/etc.
 - Cons: Expensive. Not the most joint-friendly option.
- Elliptical



- Pros: Extremely joint-friendly.
- Cons: Expensive. Not the best use of your time if your only goal is to burn calories.
- Rower
 - Pros: Extremely joint-friendly and a great, full-body workout.
 - Cons: Because of the positioning, it can irritate those with low back issues.
- Stair Climber
 - Pros: If done correctly (i.e. not hold on and supporting all your weight on the handrails), this is a great option if you are looking to really challenge yourself and burn some calories while sparing your joints. You can also work a bit more “strength” by skipping steps/taking larger steps.
 - Cons: Expensive (unless you find a flight of stairs).
- Bike
 - Pros: An extremely joint-friendly and overall good workout. If this is something you have an interest in, I would strongly recommend a class or riding group to challenge yourself and get the most out of your time and effort.
 - Cons: Can be uncomfortable sitting in the seat (“saddle”) for that long. Also, non-weight bearing since you are mostly sitting which reduces some of the benefits.
- Swimming
 - Pros: The undisputed king of joint-friendly/low impact exercise. It is hard to find an exercise that will burn as many calories and work your entire body as swimming. Water aerobics is an okay place to start, but your goal here should be lap swimming. Not a great swimmer? Even better...the poorer of a swimmer you are, the more calories you will burn (because your body is inefficient at the movement).
 - Cons: Access to a pool. Must be able to swim. Boredom used to be an issue just staring at a lane line at the bottom of the pool, but now they have waterproof earbuds so you can listen to music.
- Hiking
 - Pros: Arguably the healthiest option for your mind because you are outdoors. You can keep it fresh and exciting by exploring new parks and trails.



- Cons: Weather may be a concern unless you are okay with channeling your inner Rambo. Make sure you distinguish between a leisurely stroll (which are good!) and a conditioning walk/jog/run. Remember, you have to challenge yourself if you want to improve.

Recommendations (Steady State)

- Frequency
 - 2-4 times a week with some considerable intensity, but “light” activities can/should be done daily.
- Warm-up
 - None needed, just start slow and speed up as your body warms.
- Intensity
 - This is where most people struggle, and nine times out of ten it is because the intensity is not high enough. You must challenge yourself.
 - The simplest rule for conditioning is “go as hard as you can for as long as you can”.
 - Generally speaking, your intensity should be high enough that you can talk but carrying on a full conversation would be uncomfortable/challenging (RPE of 5-8).
 - Conversational walks/hikes are great! But those are not considered conditioning bouts...save conversational walks for your recovery/off days.
 - Use the HR training chart below (coupled with an HR monitor) to help guide you and gauge your intensity.

% HRmax	HR Training Zone	
86+	Maximum Effort/Interval Training	Cannot physically sustain this pace for longer than a couple minutes.
71-85	Tempo/Threshold	Time to push – Uncomfortable to sustain for 5+ minutes
50-70	Aerobic	This is where your base conditioning happens.
Under 50	Warm-up, Easy	Anything more than sleeping – reading a book.



RPE Scale	Perceived Exertion for Cardiovascular Exercise	
10	Maximum Effort	Full out sprint
9	Extremely Hard	Can't talk and cannot maintain for longer than a couple minutes.
7-8	Challenging	Getting uncomfortable – this is where change happens!
4-6	Moderate	Starting to breath heavily – walking briskly or an easy jog.
2-3	Light	Can easily be maintained for an hour – walking the dog.
1	Very, very light	Anything more than sleeping – reading a book.

- Duration
 - 30-45 minutes should be your goal for “long” cardio days.
 - 20 minutes is a good goal for shorter, more intense days (if going shorter, then your intensity needs to be higher).
- Other Tips
 - Start slow and easy but maintain consistency.
 - For the first couple of weeks, focus on making time in your day for cardio and building a routine around your exercise...create the habit.
 - Once the routine is in place and you have a couple of weeks of consistency, it's time to work on pushing yourself. Let's say you are walking. Each time you go out, try to walk further, or walk the same distance but do it faster. Remember, if you aren't asking your body to do more than it can already handle, it will have no reason to adapt and change.
 - Focus on frequency, duration, intensity...in that order. This will help build your base.
 - Once you can complete 45 minutes (of whatever activity) 3-4 times a week, it's time to ratchet up your intensity.
 - For example, once you reach the above metric, increase your intensity/pace such that you can only do 20 minutes of the activity. Then work up to where you can keep that pace for 25, 30, 45 minutes. Then repeat!

Recommendations (Interval Training)

- Frequency



- 1-2 times a week.
- Warm-up
 - You must be adequately warmed up (sweating) before starting any interval training. Doing this type of training without warming up (known as “cold”) will inhibit performance and greatly increase your chance for injury.
- Intensity
 - This is the most important part but can vary greatly depending on how you are training. Intervals can be done with sprint: walk, sprint: jog, run: walk, fast walk: slow walk, etc. The “working set” is typically anywhere from 6–120 seconds with a slower recovery period of anywhere from 30 seconds–5 minutes (usually 3-5x what the “work” portion is). Regardless of the work: recovery ratio, the rule of thumb is to work as hard as possible during that “work” period.
- Duration
 - You can do interval training in 20-minutes or less (excluding warming up). The number of “sets” performed is typically determined by the length of the working period. The shorter the working period, the more reps performed.
- Other Tips
 - It is worth repeating, make sure you are adequately warmed up. These are max effort “reps” and your body needs to be prepared to handle the demand.
 - This is a great training tool to elicit a maximal training response if, and only if, you can push your body hard enough. Intensity is key.





MUSCULAR STRENGTH

Benefits:

- Increase in metabolism
- Improve cardiovascular functioning
- Strengthen joints
- Improve bone density
- Improve overall muscular strength
- Increase mobility/pain-free movement
- Prevent a decrease in metabolism while dieting
- Decrease blood pressure
- Provide stress relief

Strength training, also called resistance training or weight training, is the fountain of youth. No other exercise modality has as much impact across as many factors of physical health and capability as strength training. Nothing. And yet, it is probably the most misunderstood and most avoided. Muscular strength is important for far more reasons than just being strong. This includes hormonal control, promoting pain-free movement, protecting yourself from injury, joint and connective tissue health and strength, keeping your body healthy and capable, and improving mental health. In fact, strength training can have just as many benefits on your cardiovascular health as doing regular cardio like jogging. Not to overstate it, but strength training really is a miracle drug. But one of the best benefits of strength training, especially as it relates to weight management, is its effect on your metabolism.

That is a pretty radical claim... “fountain of youth”. As we age, our muscles atrophy, mostly from non-use but also from the natural aging process. The adage, “if you don’t use it, you lose it”, is all too true here; the majority of muscle loss is simply because we aren’t using them [15]. The reason for this comes down to survival. One of these survival mechanisms is that our bodies always strive for efficiency. Muscle is metabolically active tissue, meaning they burn calories just existing – and a lot more when they are being used. Just maintaining the muscle on your body requires calories; the more muscle mass you have, the more calories your body burns to feed them. This is not true of fat. More on this later, but this is a great thing for weight loss/management! Your body, as odd as this might seem,



does not want to exert energy and use up calories. Burning calories, especially to preserve muscle mass, is counter to the body's primal instincts of survival. If your body runs out of calories, it dies. Therefore, your body is always looking to retain as many calories as possible. This, unfortunately, is the exact opposite of what we are looking to achieve when working to lose weight. It is extremely important to understand that the human body is built to survive, not to look a certain way, or reflect a specific weight on the scale. Whenever you are dieting (in a caloric deficit) your body will automatically slow down its metabolism to preserve those precious calories [5,7,12]. Imagine you are on a 1,000 kcal diet after surgery. In short order, your metabolism will begin to decrease as a result of the metabolic deficit. Additionally, in time, if you are not building (or at least maintaining) your muscle mass, your metabolism will drop even more (because it doesn't have the same amount of muscle to feed). That decrease means your 1,000kcal diet is now too many calories, and you have to reduce your daily intake to say 900kcal (to be absolutely clear, these are just numbers picked to make the point). Given this understanding, and to help with weight loss or weight management, it is essential that you build – or at minimum, maintain – as much muscle mass as possible to offset the natural drop in metabolism due to dieting. Pack on metabolically active tissue and you will supercharge your metabolism. The higher your metabolism, the more calories you will burn throughout your day doing normal daily tasks such as breathing, sitting, reading, even watching tv.

Unfortunately, weight training is one of the most avoided exercise modalities. There is an understandable level of intimidation and discomfort clouding the entire thing. This causes many people to avoid it altogether. Walking into a gym can be intimidating enough, let alone walking into the weight area...we get it. No one likes feeling judged or insecure because of how they look or because they don't know what they are doing. Here are three recommendations for you. ONE, start with the weight machines. The machines tend to be much safer than free weights (barbells and dumbbells) since it protects your range of motion and teaches the proper movement patterns. TWO, many gyms offer a free consultation – take advantage of this to get set up on all the machines. If you can afford it, even hire a trainer to show you the basics and set you at ease. *Be careful with this, they can be very expensive and the quality (and qualifications) of trainers fluctuates very heavily...more on this later.* THREE, invest in training options in the comfort of your home. Training at home will help remove a lot of the obstacles and excuses that keep people from exercising. Excuses like time, traffic, childcare, and embarrassment are a few that training at home can eliminate. If you want the convenience and confidence of having a fully developed program specific to the bariatric patient that you can do at home, check out our [*Therapeutic Movement and Exercise System*](#).



Strength training should be where the bulk of your time and energy is spent. You will see super-human gains in your strength and progress almost immediately (which hopefully is a great motivator!). You may not see any changes in the mirror for a few weeks (typically 4+ weeks), but you will notice yourself getting stronger every time you “lift”. It’s an incredible training phenomenon that all beginners get to experience. Essentially your body is learning how to do a particular exercise. Therefore, for those first 4-6 weeks, the majority of your progress is neuromuscular...meaning in your brain. This is why it takes people so long to see changes physically manifested on their body because the brain adapts much faster than the muscles. This is also part of the reason why so many people abandon exercise because they don’t “see” the results. However, now that you understand the underlying mechanisms, be patient, and enjoy seeing how strong you become!

There is no other modality that will have as much influence on your overall body composition as strength training. It is the best way to “shape” your body. Building muscle, and then maintaining muscle, takes effort. The more muscle you try to build, the more calories your body will need to burn. And this is not just limited to the time while you are exercising. The real payoff comes when your body is recovering from exercise and constantly feeding your muscles. Remember that when you exercise, you are stressing and breaking down your muscles. Those same muscles then need to repair and rebuild themselves...that takes energy. Calories! So, if you want to burn more calories every single day while not at the gym...build as much muscle as possible!

Methods:

Below is a list of the most common strength training modalities. They are listed in the suggested order of progression based upon safety, typical learning curve, and best value for your time. Of note, this is working under the assumption that you are strength training without the guidance of a personal trainer or another qualified expert. Under those circumstances, many liberties can be taken because feedback on form, etc. would be immediate to ensure safety.

- Machine
 - Pros: Machines are not only the safest place to begin, but they are also the smartest starting point because they allow you to “learn” specific movement patterns that you may never have established. This is especially necessary if you are without a coach. Machines protect your joints, and many of them control the allowable range of motion. They also allow you to lift very heavy if you choose.



- Cons: The downside is that they neglect all the things that make free weights so great, which is consequently what makes machines so safe. Machines don't challenge your mobility or provide a huge stimulus to make your joints stronger, and the neuromuscular adaptations (your body learning how to move – those superhuman strength gains already mentioned) peak very early on.
- Bodyweight
 - Pros: Many consider bodyweight exercises, or “calisthenics”, to be the king of all exercises. And rightfully so. In reality, what is more, important than being able to move your own body? That is the point of all this exercise stuff anyways, to ensure that your body is capable of moving and performing when you need it. Bodyweight exercises challenge the primary movers (the main muscle you are trying to exercise) but also tax the supporting musculature (think the small, assistance muscles surrounding the joints). This is important because it helps in building stronger, more stable joints, and therefore helps with injury prevention. Additionally, free weights will test your mobility (which might very well be the most important component of your health and fitness as we all age) and build awesome neuromuscular patterns. Lastly, it will challenge your cardiovascular capacity. As you progress, every training session should incorporate some sort of bodyweight exercise.
 - Cons: Bodyweight exercises are very difficult because of the balance, stability, and control required (but this is precisely what makes them so great!). There is unlimited variability in the movements and modifications required, so you don't want to jump right into the deep end. They are almost like free weights in that respect. Unless you have a trainer to help you or are following along with our [Therapeutic Movement and Exercise System](#), I would suggest starting with the machines to master the basics.
- Free weights
 - Pros: Barbells, dumbbells, kettlebells – free weights are phenomenal and very hard to top in terms of benefit...if you know what you are doing (or are working out with someone who does). It is really hard to compete with the physiological adaptations/benefits that occur from the demand free weights place on your musculoskeletal system. Free weights will make your muscles stronger, your joints more stable, improve your flexibility and mobility, and build your cardiovascular capacity. Sounds like bodyweight exercises, right? The difference, or added benefit, is the increased load/weight throughout a very specific range



- of motion. The additional weight will serve to elicit an even greater response/adaptation from your body.
- Cons: If you do not know what you are doing, or do not have a knowledgeable and capable coach, do not use free weights. Otherwise, you have a good chance of one of two things happening. Number one, you get hurt. Free weights are great at building the supporting musculature and stabilizing joints all while testing your mobility, but you put yourself at a greater risk of injury if you do something incorrectly. And number two, if you decide to give it a shot anyway (love the motivation!), and go too light (meaning you don't actually challenge yourself with heavy enough weights...maybe in an attempt to avoid injury), then you are simply wasting your time.
 - HIT/Crossfit/Bodybuilding/Powerlifting/Strongman/etc.
 - Pros: These are advanced training protocols that implement the above to varying degrees. They are all extremely beneficial and effective (given your specific goals).
 - Cons: As with any “sport” or activity that integrates competition, there is a risk. Some more than others. The important thing to remember is, “what is your goal”? Just as important as is, “who is your coach”? Please, please make sure whoever is instructing you is qualified to do so. Lastly, you don’t start here. Give yourself, at minimum, 3-4 months to build a base level of conditioning.

Recommendations:

- Frequency
 - 2-4 times per week.
 - For the first 3-4mo, I would discourage you from lifting on consecutive days to allow your body adequate time to recover.
 - Start with full-body sessions. This means you work your entire body (upper body and lower) in the same workout. As you become more advanced (6mo+, you can break it up into more specific training – i.e. upper/lower, push/pull, etc.).
- Warm-up
 - 5-10 minutes of any type of cardio.
 - The goal is to break a sweat or be on the verge of breaking a sweat, before lifting to protect your muscles and maximize your training.



- Intensity

- 10 rep range.

- You want to shoot for roughly 10 repetitions of each exercise.

- As a general rule, you do not want to be going to absolute failure on each of your sets. Leave 2 reps “left in the tank”. For example, on a set of 10, you want the weight heavy enough that you could do 12 reps, but stop at 10.

- Once you can complete a given exercise for those 10 reps, the weight needs to increase next session to continue to push your body to respond and get stronger.

- This rep range keeps the weight heavy enough to elicit a good response while not overloading too much potentially leading to injury.

- As you become more advanced (6mo+), you can begin to alter the repetitions to train more specifically...or just to change things up.

- Power: 1-5 rep range
 - Strength: 6-10 rep range
 - Hypertrophy (muscle growth): 8-15 rep range
 - Endurance: 15+ rep range

- Ease into it...remember, in the beginning, you will get stronger fast.

- Use the RPE chart below. You usually want to stay in the 7-8 range.

RPE Scale Perceived Exertion for Resistance Training		
10	Maximum Effort	“Hulk out!” This is 1-2 times max.
9	Extremely Hard	Look at my muscles! Might be able to do this 5 times.
7-8	Challenging	Feeling the pump – no way I could do this more than 10 times.
4-6	Moderate	I could probably lift this 20 times.
2-3	Light	An easy warm-up.
1	Very, very light	Turning the pages of a book...

- Duration

- 30-45min (not including warm-up and cool-down)



- 2-4 sets per exercise
- 1-2 exercises per body part
- Focus more time and energy (therefore sets and exercises) on the larger muscle groups (think legs and back).
- Other Tips
 - BREATHE – it’s in all caps for a reason. Holding your breath is bad!
 - Exhale on exertion (think to exhale when pushing, or standing up...the part that makes you grunt).
 - Inhale on recovery.
 - Lift slow
 - Each rep should take 2-4 seconds to complete (up and back, out and back, etc.).
 - Lift controlled
 - Try to eliminate momentum from any movement (don’t let the weight “bounce”) and allow your muscles to fully contract.
 - Big parts first
 - You always want to start with your biggest muscle and “compound movements” (multi-joint) first.
 - Think hips, legs, back or squat, lunges, rows
 - Variation isn’t as necessary as many think, you need to allow the body to adapt to the stimulus/exercise.
 - Remember, in the beginning, you will get strong very quickly (first 4-8 weeks) and then you will slowly start to plateau...much like with weight loss after surgery.
 - Once you plateau, that is a good marker to change things up.

A quick note on hiring coaches/personal trainers/etc.

- *Hiring a personal trainer to help guide you through the fitness jungle can be a great decision. If you are ready to commit yourself, you need to know how to maximize your time and effort and get help sifting through all the erroneous exercise advice and tips people are constantly bombarded with.*
- *A word of caution – just like with any other profession, there are some incredible, inspirational, and qualified trainers, and there are some who...are not. You likely researched and interviewed a couple*



of surgeons before surgery. Treat hiring a trainer with the same level of scrutiny. The fitness certification industry has become big business, and many want to cash in on it; some even allow you to become a certified personal trainer over the weekend! Honestly, what level of a standard can be upheld with that kind of training? Other certifications only require you to pass an online test. That's like going to a surgeon who got their medical degree from the back of a cereal box. For a young adult with no pre-existing conditions, co-morbidities, orthopedic issues, or surgeries, that level of accreditation may be passable. The dietary restrictions alone following weight loss surgery pose a unique set of challenges that require a very experienced and educated trainer to navigate. Look for a trainer who has at least a Bachelor's degree in Kinesiology/Exercise Science and/or any certification from the American Council of Sports Medicine (ACSM) or National Strength and Conditioning Association (NSCA). Those organizations have the gold standard in Clinical Exercise Science and sports application; you can trust that they have a solid understanding of the human body and its relationship with movement and exercise.

- *The second consideration is the cost. Having worked in many commercial gyms, athletic performance facilities, and rehab centers, the average cost of personal training is around \$70/hour. That's the average, and many big-name gyms make you pay an additional premium for their "top tier" (more experienced) trainers. That adds up... fast, especially when you consider how many times a week you should be in the gym. Lastly, I would encourage you to fully read anything you sign. The contracts usually have a lot of teeth in them that you will want to know about.*



INTERVAL TRAINING



Benefits

- The most time-efficient method
- Maximizes calorie burn
- Supercharges metabolism
- Combines all the benefits of cardiovascular training and strength training

We have to discuss interval training which you may also hear called HIIT (high-intensity interval training). Interval training at its core is short bouts of very intense exercise followed by longer rest periods repeated for a given amount of time. Interval training is not exclusive to cardio exercises. You can mix in resistance training, core training, or simple bodyweight exercises in with the cardio, or even perform interval training without any cardio at all. The biggest barrier standing in peoples' way is that it requires an extremely high level of intensity to be effective and reap the benefits. This is not where you start your exercise journey, but it certainly is a great goal to strive to accomplish.

Interval training is hands down, the most time-efficient way to train. If you are short on time, interval training should be your choice every single time. But again, you have to be able to meet the intensity requirements and have reached a certain base level of conditioning. Research has shown repeatedly that this method of training can burn more calories in less time and increase exercise "after-burn" (remember EPOC? Excess Post-exercise Oxygen Consumption) when compared to traditional steady-state exercise [6,10,16]. If you recall, "after-burn" is an amazing phenomenon where your body continues to burn calories at an elevated rate during rest long after you have stopped exercising.

The bottom line, interval training is hard. But there's no denying its benefits or efficiency in terms of time. For the working adult who just wants to get more fit and be healthy, this is really what you should be doing. If you can push yourself, your body and mind will reap incredible results...and not spend all day doing it!

Methods

- There is no shortage of options out there for this. There are classes in commercial gyms, franchised "boutique" gyms, "boot camps", Tabata method, online options, fitness DVDs, etc.



- The most important advice we can give is to do your research and talk to your coach. Far too many “coaches” received their certification over the weekend and are in absolutely no position to be dealing with any population outside of a 17-25yr old with no health considerations. Many of these classes are cookie cutter to reach the masses and will not take into account specific needs.
- This is a great goal to have, to join these classes, but give yourself some time to build a base.
- Another option is to work with a trainer to develop a personalized training plan.
- Lastly, this can’t be overstated...BFRx created an entire at-home workout system designed specifically for YOU, the bariatric patient. It will build that base level and beyond!

Recommendations

- Frequency
 - 2-3 times per week.
- Warm-up
 - Warming up before doing any time of interval training is an absolute must.
 - You need your body to be sweating and primed to handle the demands of conditioning.
 - It is always smart to incorporate some sort of cardio and mobility into your warm-up.
- Intensity
 - Intensity is Key!
 - The working portion should never fall below an 8.
 - Your recovery should hover around 3.
- Duration
 - 20-30 minutes will get you some real results, provided the intensity is high enough.
 - Individual “sets” will vary greatly depending on the exercise being performed.
 - Some working sets can be as few as 5 (very heavy, very explosive movements) and some might last a minute (running a set distance). It is all variable, but the intensity is the key.
- Other Tips
 - Listen, in the beginning, 20-minutes is going to feel like an eternity, and you will be lucky to last 10-minutes. That’s ok, everyone starts somewhere, and everyone has a “day one”. You



will get better. Remember, just don't jump into the deep end and start your life of fitness with interval training.

- This is not something you do every day. 2-3 times a week MAX will get you some phenomenal results.





Benefits

- Improves pain-free movement
- Protects against injury
- Strengthens your spine and low back

Your core is comprised of the front part of your stomach (rectus abdominis) also known as the “six-pack”, the sides (obliques) also called the “love handles”, and the back (erector) muscles. These muscles all wrap around your abdomen to stabilize and protect your spine and internal organs acting like a corset. Core is so much more than just “getting abs” or a “flat stomach”. It is also one of the most mistreated parts of the body amongst exercisers, both beginners and long-time fitness enthusiasts. And yet, it is arguably the most important portion of your musculoskeletal system. It enables movement, transfers power from the lower to/from the upper body, and can either protect you from or lead you down the path to nagging aches and debilitating pain. You must train it, strengthen it, nurture it, and protect it.

Methods

- Static holds
 - Planks, bridges, etc.
 - Static means “not moving” – these are the safest type of exercises to perform. Therefore, the suggestion is to always start here.
 - While holding the position, focus on pulling your belly button into your spine and tighten your core as best as you can. Your goal is to make your body as rigid as possible.
- Flexion/extension
 - Sit-ups, crunches, leg lifts, back extensions, etc.
 - By far, the most common and overused (and abused) exercise type for the core.
 - It involves any exercises where the spine flexes or extends.



- These are still great exercises, but they should be used sparingly and in conjunction with the other listed options.
- Rotation
 - Twists, cross-over sit-ups, etc.
 - These are great options – often neglected – but need to be worked slowly and within your limits.
- Weighted carries
 - Farmers carry, overhead carry, Zercher holds, etc.
 - The BEST core exercises, also the most overlooked and misunderstood
 - Pick up something very heavy and carry it...the caveat is that you have to “brace” your core (make it as hard and rigid as possible) while you walk.
 - Your blood pressure will skyrocket, so take plenty of rest.
- Pilates
 - A great option if you have access to it (live classes, home workouts, YouTube).
 - This method helps you learn how to activate, brace, and control your core.

Recommendations

- Frequency
 - 2-3 times per week
 - Typically, people either totally neglect direct core training or go completely overboard training it every day.
 - Switch each time between training modalities (i.e. Day 1: static, Day 2: rotational, Day 3: weighted carries)
- Warm-up
 - This is one of the rare times that you can use core work as your warm-up.
 - The biggest exception here is if performing loaded lifts, then make sure you are adequately warm-up before starting.
- Intensity



- You want to avoid going to failure with any of the options listed above. Especially as you are learning your body, always leave a little left in the tank...meaning go to about 85% before stopping.
- Stick to the 4-8 range on the RPE scale.
- Duration
 - Core training should only take 5-15 minutes.
 - Of note on static holds, there is never any reason to hold a position for longer than 60 seconds (some might argue 30 seconds...they may not be wrong either).
 - Static holds/carries your goal should be 20-30 second reps.
 - Any other movement involving reps should aim for 10-20 reps.
- Other Tips
 - FOCUS – the key to training your core is to focus on your core while moving.
 - Bracing – keep your core as tight and rigid as possible through any movement. Imagine yourself getting ready to take a punch to the stomach.
 - Draw your navel in – imagine trying to pull your belly button out through your spine. Do this with your abdominal musculature...don't just “suck it in”.
 - Use slow, controlled, deliberate movement. This helps train the muscles and keeps you safe.





Benefits

- Increase and improve recovery
- Therapeutic...it just feels good
- Can provide a gentle boost to your metabolism
- Improve blood circulation
- Lower stress levels
- Improve heart-rate/blood pressure

Active recovery is not the same thing as rest. The two are separate and very distinct. Active Recovery is utilizing a low-intensity movement to recuperate the body from exercise. It is very therapeutic and an essential part of your health and physical improvement. Think of active recovery as a massage of your muscles, joints, connective tissues, and neuromuscular system. It involves active participation from you. Additionally, active recovery is important in increasing the blood flow around your body to deliver all the important nutrients your muscles and joints need to recover and grow stronger. The harder and more frequent your workouts, the more important active recovery comes. Rest, on the other hand, is just as important as active recovery but plays a very different role. Rest is just that...rest. It is your time to allow your mind and body to fully relax, recuperate, and reenergize from the week's mental and physical stressors. The one caveat here, you have to be working hard enough for your body to need to heal! If your workouts are just a daily walk, active recovery is never going to be needed. Intensity dictates the need for active recovery.

Since we are discussing recovery, now is a great time to cover muscle soreness. You wake up, get out of bed, and feel it. The soreness continues as you use finish getting ready for the day and sit into your car. Ever been there? A day or two after working out for the first time in a while, or even after trying a new workout, the soreness is there to remind you of your effort. But what is it?

DOMS... Delayed Onset Muscle Soreness. One of the big myths about DOMS is that it's caused by a build-up of lactic acid in the muscles (the burning sensation you get in your muscles during exercise). In reality, lactic acid buffers out and disappears from the muscle in minutes and has no relation to DOMS. The soreness you are experiencing is microscopic tears in the muscle. DOMS is just an indication that you caused mechanical damage to your muscle fibers. This is a good thing! It means your muscles were



worked; and now, they will have to repair themselves to come back stronger to handle the workload. So that soreness is a good reminder, it serves to let you know that you challenged yourself, and you will be stronger for it.

A word of caution; too much of a good thing can be bad. You don't want to be (and should not aim to be) sore following every workout. This can be a marker of overtraining. Overtraining isn't just something that elite/professional athletes need to be wary of. Overly eager beginners can suffer from overtraining by going too fast, too soon, and too often.

A couple of last facts regarding DOMS:

- It is at its peak 48-72 hours after exercising.
- Stretching immediately after exercise will help reduce the level of soreness.
- Eccentric exercise/movement is what leads to DOMS.
 - Eccentric is the stretching/lowering phase of an exercise (i.e. the sitting down phase of a squat or lowering yourself to the floor during a push-up or sit-up, the part where you should be inhaling).

After a week or two of consistent exercise, the soreness related to DOMS will dissipate. The following bouts of exercise should leave you with that tired-but-happy feeling of accomplishment minus the deep soreness. Consistency and active recovery are key to managing DOMS.

Methods

- Yoga
 - The less intense variations noted in the prior section
- Foam rolling
 - No need to work up a sweat prior, just roll out the large muscle groups giving extra attention to the tender spots.
- Stretching
 - Make sure your muscles are warm before stretching – go for an enjoyable walk.
- Walking
 - A relaxing, low intensity, low impact option to get the blood moving and help your body recuperate.



Recommendations

- Frequency
 - Try to dedicate one day a week.
- Warm-up
 - None needed.
- Intensity
 - Minimal – this is about recuperation and relaxation.
 - Think about a 2-3 on the RPE scale.
- Duration
 - Most people need about 20-45 minutes to fully relax their mind and body enough to make it worthwhile.
- Other Tips
 - Think of this as a treat yourself. Enjoy it, you earned it.



EXERCISE ADHERENCE AND FORMING HABITS



The truth of the matter is that the vast majority of Americans are NOT getting enough daily/weekly exercise. That isn't overwhelmingly surprising to anyone. However, what might be more shocking is the actual statistic; roughly 1 in 4 Americans are getting the recommended amount of exercise. And those recommendations are on the "minimum" side. The million-dollar question is "why". Is it a matter of time constraints, lack of knowledge, lack of confidence, lack of energy, ignorance of its importance, or laziness? It's likely different for everyone, but probably some combination of them all. The one clear fact is that it needs to change. If you want to be successful in your long-term weight management, exercise must become part of your lifestyle. There is simply no way around it.

Time. A lack of time is always one of the top three (if not the number one) excuse for not exercising. It is very cliched, but everyone has the same 24hrs in a day. If you can carry on a conversation about the latest "must watch" show, but still "don't have time to exercise" ...then it is simply a matter of priorities. Invest in yourself and the one body you have. That's a decision you must make for yourself. A workout partner and all the motivational videos in the world cannot help until you internalize that decision. If you work two jobs and just don't have the energy after working a double and then dealing with home life – cooking, kids, etc. – then let's re-examine what exercise could or should look like for you. Exercise should invigorate and empower you, not drain you. Yes, it will make you physically tired, but it will energize your mind and spirit. Eventually, it will give you more physical energy. Remember, exercise can come in many forms and it should still be done daily. On a particularly hard day of work and/or life, maybe exercise is a simple walk or a relaxing yoga session. In time, exercise will transform into your "happy place" and it will be the thing you turn towards to escape the stressors of life and recharge. Your real goal with exercise shouldn't be about the weight that you can lift, or miles you can run, but should be to get to a place where your workout time is your protected time, for you.

Let's not dwell on that any longer; you are committed to change. The great news is that exercise comes with its own built-in reward systems. True, the first few steps/days/weeks are the hardest, but as you learn to tolerate and eventually embrace it...the rewards are overwhelming. In fact, numerous clinical trials have even demonstrated that exercise is so powerful that it is used to treat depression. Remember the "runner's high" from before? It doesn't just stop with the endorphins



either. There are other, more subtle, benefits such as joining classes, activities, groups, teams, and building out your network of friends. Routine bouts of exercise train your brain to become more focused, and also helps it to relax. In short, it is one of the most beneficial (if not *the* most beneficial) medicines that *everybody* should be taking in regular dosages.

The beginning is the hardest. It's uncomfortable...physically, mentally, and emotionally. It is also riddled with obstacles, competing priorities, and excuses. If exercising regularly is new for you, then you will also be working against your brain. Part of your goal on this journey should be to develop exercise and fitness as a part of your day. In short, you need to develop a new habit. Habits are hard to form! Think of a habit as a highway – a paved, flat, wide highway. Highways exist to get you from Point A to Point B as quickly as possible. It's important to note here that it doesn't matter if this is a healthy or unhealthy habit, the highway looks the same. Now, this highway is highly efficient, and your brain loves efficiency. Efficient is easy, and it preserves energy. Your brain loves to preserve energy...remember it's all about survival. It doesn't matter if the habit is going for a daily walk, or smoking; to your brain, when it comes to a choice, it will always favor the wide-open highway...the path of least resistance. Conversely, any new behavior isn't a road at all. It isn't even a walking trail. It's just an idea...until you do it. But each time you engage in the new behavior, the idea begins to morph into a very rugged hiking trail, then a slightly improved hiking trail, then it gets a bit wider and maybe even groomed. Soon it's wide enough for a bike, and eventually, it will get paved, and so forth. Repeat the behavior enough and soon that pathway in your brain will be traveled enough to where it becomes a super-highway, it will become a new habit. However, developing the trail into a highway takes an immense amount of willpower. Because your brain doesn't like to create new pathways, it just wants to travel down the road that is already there. Every single day, you will have to make a conscious effort to prioritize and remove excuses and barriers to exercise. You will have to fight your brain which will be relentless in urging you to take the highway. Fight it. Take the path into the woods. How bad do you want it? Now that you understand how it works, and what you are up against, you can be prepared. And you can win!

Building a new habit requires willpower. You will need willpower every single time to choose the path in the woods over the highway. That is why motivation is so important. Motivation fuels willpower which allows you to create new, healthy habits. Think of willpower like a battery. Batteries drain and run out, but they can be recharged. Every decision you make throughout the day drains that battery just a little. Picture this: you get home after a long day at work, maybe you have family commitments to tend to, maybe not; either way, you are tired. Or maybe you stay at home and are exhausted from dealing with your little ones. Your battery will be drained. Do you think it will have



enough juice left to choose the little trail in the woods that has barely been walked that is full of rocks and tree stumps? Or do you think your brain is going to urge you to take the smooth highway? If you are trying to build daily exercise as a routine in your life, do it before your day starts. When you wake up, your battery is fully charged, and ready to take on difficult tasks that require a lot of its power. But that battery drains throughout the day which requires constant motivation to charge. Through repetition, as that path morphs into a highway, and you have formed the habit, exercise won't be a choice at all...it will just be another part of your day, like brushing your teeth in the morning.

Go beyond the weight loss and weight management. If you want to live fully and unrestricted and without pain (or less pain), you must be willing to sacrifice and put in the time and effort. Your day is filled with habits, whether you realize it or not. Some good and healthy habits, and some unhealthy or even destructive habits. We all have our struggles and battles. Everyone has a past and a story. Start small. Start slow. Even one small change done consistently every day will create a massive ripple effect of positivity in your life. Start with one thing, every day. And build on that.

- Start slow.
 - This isn't a race, and change won't happen overnight. There is no need to rush to a finish line that doesn't exist and burn yourself out.
- Start with something you enjoy.
 - Building new habits are hard enough, don't make it any harder than it needs to be. Even if it isn't the ideal workout or exercise, start with something you enjoy. Learn to make time for it, prioritize it, and even look forward to it.
- Workout buddy.
 - Working out with someone can multiply all the benefits. You have someone to keep you accountable. You can make a new friend or deepen an existing relationship. You will learn to push each other further and keep one another accountable because I guarantee there will be days when you don't want to take that first step.
- Pencil it in.
 - Schedule it like anything else on the day's agenda. Your health must be a priority...or soon, it will be the only priority.
- Treat yourself.
 - Every week, you earned it.



- Give yourself grace.
 - Life happens. No one is perfect. That's okay. Change doesn't happen overnight either. So be kind to yourself...but don't be easy on yourself either.
- Daily activities.
 - Don't limit your physical activity to your penciled exercise time. Life is movement and there are opportunities all around you. Park further away. Take the steps. Play with your kids/pets. Do yard work. Give your house that deep clean. Don't take shortcuts!
- Be financially invested.
 - Money is a great motivator. Free YouTube videos and free content is great. But people tend to care and value what they pay for. If you purchase a fitness DVD, or pay for the gym membership, or hire a trainer, maybe it will make it more "worth it" to you.
- Adopt the right mindset
 - Stop thinking of yourself as someone who is trying to get healthy or trying to start an exercise program or trying to lose weight. Instead, adopt a new identity that serves you and say aloud "I am an avid exerciser", or "I am health conscious". People will go to great lengths to protect whatever their identity might be, so change it and then use it!
- How badly do you want to be successful?
 - No one can do this for you. But YOU CAN DO IT. You've read this far haven't you? This isn't the most riveting and entertaining stuff, so that alone is an accomplishment and you care. You are that much closer to building healthy habits and Living Your Success Story!



PROGRAM DESIGN AND CONSIDERATIONS

Consistency and intensity will do amazing things to your body. But they must be used smartly. This is where the science of human movement that you have been learning meets the art. You must be consistent but allow time for rest and recovery. You can do cardiovascular exercise just about every day and your body will be able to recover. When it comes to resistance training, you need at least 48hrs between working muscle groups. Meaning, it would not be recommended to work your back muscles on Monday and then again on Tuesday – you would want to wait until Wednesday at the earliest. You must also exercise with the intensity needed to challenge your body and force it to respond. Work up to a level of intensity that is uncomfortable – not painful, but uncomfortable. Remember, be somewhere around the 5-8 level on the RPE scale. And lastly, record all your workouts. If you don't write it down, you can't see or make progress. Every time you exercise, try to improve by beating your last weight, or the number of reps, or time, or distance. Try to improve on just one thing every time.

Below is a very basic, but effective, workout plan to follow if you have a gym membership. This is included as a general guide. Follow it as closely as you can barring any limitations that you may currently have (i.e. joint injury, equipment restrictions). It is next to impossible to try and cover every exercise along with their variations and modifications (especially in a book), so the most effective and best “bang for your buck” is what is selected.

You will notice the program is only one week repeated for months. This is because of the need for consistency. If you change your workout every single time, your body has a hard time adapting because it is in a constant state of “confusion”. The more variation in your workout/programming, the more you are training the neuromuscular system, and the less you are training (and overloading) the actual muscles. Allow your body time to learn the movement so that it can be maximally overloaded, and you can gain the maximal amount of change. Some might argue that you risk plateauing without constant change, and this simply is not true. Usually, that is a marketing ploy. You can do the same program for 12-16 weeks and improve every single time. After that time, only minor tweaks are required to continue seeing improvement. Remember, consistency and intensity...it cannot be overstated.



You will also notice the program is structured with a goal/commitment of three-five days a week. Only three of the five days require you to be at the gym, the other two can be done at home. You must find the time and make this a priority. Life happens and it gets in the way; it happens to us all. If you miss a day, don't beat yourself up, just keep moving.

****There is a lot to consider when developing a training program...we encourage you to remove part of this burden and focus all your energy on execution and intensity. Use the [Therapeutic Movement and Exercise System](#). It's a four-month workout that is already planned for you and stars six real-life bariatric patients. No matter where you are in your weight loss journey or what your movement limitation may be, it can all be done at home with no-to-minimal equipment. All you have to do is show up. **This is your best option if you prefer to workout at home******

Sample Training Program

****Before starting this training program, you must be able to walk 3-4 days a week for 30-45 minutes. If you cannot do that, you are not ready for this program. You need to work on building your base before continuing to the next phase in your fitness journey. Once you meet that landmark, you are ready to advance.****

If you have any questions regarding the program below (how to do an exercise, confused by anything, etc.), please do not hesitate to reach out and ask on social media or at hello@bariatricfitnessrx.com.

Below are warm-up and cool-down video segments for you to do before every workout in the gym. Try and do these every time you exercise.

[Bariatric Fitness Rx: Warm-up](#)

[Bariatric Fitness Rx: Cool-down](#)



NOTES	
General	<p>Never skip the warm-up or the cool-down.</p> <p>Record everything and be amazed at your progress.</p> <p>Be CONSISTENT and apply INTENSITY.</p> <p>Day six is your make-up day. Life happens, make it up on day six if you need to.</p> <p>Learn your body, understand the difference between pain and discomfort. Discomfort is good and means progress.</p> <p>Modify any exercise as needed to accomplish your prescribed set/reps.</p> <p>Stay hydrated</p>
Lifting	<p>Remember to breathe</p> <p>Exhale during the exertion (the part of the movement that you might want to grunt during).</p> <p>Each repetition should take ~4 seconds: 2 seconds down, 2 seconds back up.</p> <p>Keep the motion very "smooth" (the weight should never "bounce" off of you).</p> <p>Be deliberate about working the muscle through the entire range of motion.</p> <p>Don't go all the way to failure on every set, meaning you should pick a weight that allows you to complete the prescribed repetitions (but still be able to do 1-2 more reps).</p> <p>Your RPE while you are lifting weights should be 6-8, make sure you are challenging yourself.</p>
Rest	<p>Rest for 30-60 seconds between sets.</p> <p>Take as little time as possible moving between exercises.</p>
Cardio	<p>Cardio on lifting days is only 10 minutes, so make sure you are pushing yourself to an RPE of 6-8.</p> <p>Light cardio days are just that...light. Just go outside for a brisk walk and get the blood moving.</p> <p>There are 2 Recovery/Light Cardio days, try to do them both but definitely do at least one.</p>



DAY ONE:	Full Body Weight Training		
	Date:		
	Sets	Reps	Weight
Squat Press	3	10-15	
Leg Curl	3	15	
Leg Extension	2	15	
Back Extension	3	10	
Back Row	3	10	
Chest Press	3	8	
Lateral Raise	2	10	
	Time	HR	RPE
Cardio (pick any machine)	10:00		

DAY TWO:	Recovery/Light Cardio		
	Date:		
	Time	HR	RPE
Rest or Light Cardio	20-30:00		3-4

DAY THREE:	Cardio and Bodyweight Training		
	Date:		
	Time	HR	RPE
Cardio (pick any machine)	20:00		
	Sets	Reps	Weight
Lunge	3	10/each	
Single Leg Toe Touches	3	10/each	
Assisted Pull-up	3	5*	
Push-up	3	5*	
Horizontal Row	2	5*	
*start at 5, and each workout add 1 until you get to 10 reps, then lower the amount of assistance needed and start over at 5...and repeat process			

DAY FOUR:	Recovery/Light Cardio		
	Date:		
	Time	HR	RPE
Rest or Light Cardio	20-30:00		3-4

DAY FIVE:	Full Body Weight Training		
	Date:		
	Sets	Reps	Weight
Deadlift or Leg Press	3	8	
Squat Press	3	15	
Abdominal Crunch	2	10	
Back (lat) Pulldown	3	10	
Overhead (Shoulder) Press	3	8	
Tricep Extension	3	8	
Bicep Curl	2	10	
	Time	HR	RPE
Cardio (pick any machine)	10:00		

DAY SIX:	Make-up Day or Rest		
Make up day (if needed) or Rest			

DAY SEVEN:	Rest		
Rest			





YOUR SUCCESS

That's it. You made it to the end! But this is just the beginning of your journey. I hope you are excited about your future and your possibilities. Your body will adapt and change *if* you are consistent and apply enough intensity. There is no limit for you! Much like most things, you will get out of exercise what you put into it. If you do the minimum amount of work (i.e. walk a few times a week), you will get minimal results. However, if you challenge yourself, and hold yourself to a higher standard to do the hard work, you will completely transform your body.

We are here to help you. Should you ever need any resources, have questions, please don't hesitate to reach out to us on social media or email (hello@bariatricfitnessrx.com). If you have a question, chances are hundreds of others have it as well and we are more than happy to answer them. Accountability is incredibly important, especially in the beginning while you build those healthy, new habits. I would encourage you to join us on social media and get the conversation going. A community is only as strong as its people. Tell a friend; let them benefit too! In fact, give them this to read. If you learned something here, let your bariatric practice know about it. Please help us spread the word so all patients have access to this resource.

You now have the WHY and the HOW. Whatever happens next, is up to you. No one can do it for you, but you are not alone...we are here. If you do the work, you will be successful. Just start. Take one extra step every day. When you look back at the end of the year, you will be blown away with your progress.

Go and Live Your Own Success Story!



REFERENCES

1. Aristizabal, J.C., Freidenreich, D.J., Volk, B.M., et al. (2015). Effect of resistance training on resting metabolic rate and its estimation by dual-energy X-ray absorptiometry metabolic map. *European Journal of Clinical Nutrition*, 69, 831-836.
2. Benardot, D. & Thompson, W.R. (1999). Energy from food for physical activity: Enough and on time. *ACSM's Health and Fitness Journal*, 3(4):14-18.
3. Borsheim, E & Bahr, R. (2003). Effect of exercise intensity, duration, and mode on post-exercise oxygen consumption. *Sports Medicine*, 33(14), 1037-1060.
4. Elia M. (1992). Organ and tissue contribution to metabolic rate. In: Kinney J.M., Tucker H.N., (Eds.). *Energy Metabolism: Tissue Determinants and Cellular Corollaries* (pp.61-80). Raven Press.
5. Fothergill, E., Guo, J, Howard, L. et al. (2016). Persistent metabolic adaptation 6 years after “The Biggest Loser” competition. *Obesity*. doi:10.1002/oby.21538.
6. Heydari, M., Freund, J. & Boutcher, S.H. (2012). The effect of high-intensity intermittent exercise on body composition of overweight young males. *Journal of Obesity*. doi:10.1155/2012/480467.
7. Hill, A.J. (2004). Does dieting make you fat? *British Journal of Nutrition*, 92, S15-S18.
8. Horowitz, J.F. & Klein, S. (2000). Lipid metabolism and endurance exercise. *American Journal of Clinical Nutrition*, 72, 558S-563S.
9. Knab, A.M., Shanely, R.A., Corbin, K.D. et al. (2011). A 45-minute vigorous exercise bout increases metabolic rate for 14 hours. *Medicine & Science in Sports & Exercise*, 43(9), 1643-1648.
10. Kravitz, L. (2014). Metabolic effects of HIIT. *IDEA Fitness Journal*, 11(5), 16-18.
11. Levine, J.A., Lanningham-Foster, L.M., McCrady, S.K. et al. (2015). Interindividual variation in posture allocation: Possible role in human obesity. *Science*, 307, 584-586.
12. Muller, M. J., Enderle, J. & Bosy-Westphal, A. (2016). Changes in energy expenditure with weight gain and weight loss in humans. *Current Obesity Report*, 5(4), 413-423. doi: 10.1007/s13679-016-0237-4.
13. Paoli, A., Moro, T., Marcolin, G. et al. (2012) High-intensity interval resistance training (HIRT) influences resting energy expenditure and respiratory ratio in non-dieting individuals. *Journal of Translational Medicine*, 10, 237.
14. Wang, Z., Ying, Z., Bosy-Westphal, A., et al. (2012). Evaluation of specific metabolic rates of major organs and tissues: Comparison between nonobese and obese women. *Obesity (Silver Spring)*, 20(1), 95-100. doi: 10.1038/oby.2011.256.



15. Westcott, W. (2012). Resistance training is medicine: Effects of strength training on health. *Current Sports Medicine Reports*, 11(4), 209-216. doi: 10.1249/JSR.0b013e31825dabb8.
16. Zhang, H., Tong, T. K., Qui, W. et al. (2017). Comparable effects of high-intensity interval training and prolonged continuous exercise training on abdominal visceral fat reduction in obese women. *Journal of Diabetes Research*. doi.org/10.1155/2017/5071740.



ABOUT THE AUTHORS

James Moffett earned his Master's Degree in Kinesiology from Indiana University after completing his undergraduate degree in Exercise Science from Ithaca College. He has worked with every client and patient population from cardiac rehabilitation to collegiate and professional athletes and sports teams. His vision is to help bridge the growing chasm between bariatrics and the exercise and fitness world by facilitating foundational programs that address the physical, emotional, and behavioral concerns and considerations for bariatric patients.

For 15 years, Leah Sarago has been creating and starring in groundbreaking and award-winning fitness videos and training systems. Her scientific, yet graceful, approach coupled with her passion for coaching others towards a healthy and active lifestyle has provided her with the opportunity to make a global impact in the fitness industry. Leah holds a B.S. from Ithaca College in Exercise Science and Dance, is a Certified Strength and Conditioning Specialist® (CSCS®), and a Pain-Free Performance Specialist (PFPS).



This eBook is for general informational purposes only. The author is not a medical professional and nothing in this publication constitutes medical advice. Any exercise program, including the exercise routines outlined in this publication, may result in injury. To reduce the risk of injury, consult your doctor before beginning any exercise program. The materials presented in this publication in no way substitute medical counseling. You must not avoid or delay medical treatment because of anything contained in this publication.

Copyright © 2020 Bariatric Fitness Rx

All rights reserved. No part of this book may be reproduced or used in any manner without the prior written permission of the copyright owner, except for the use of brief quotations in a book review.

To request permissions, contact the publisher at hello@bariatricfitnessrx.com.

www.bariatricfitnessrx.com

