
EXERCISE

SMG BARIATRIC SURGERY



LEARNING OBJECTIVES

- Define aerobic and anaerobic exercise.
- List benefits of engaging in aerobic and anaerobic exercise.
- Discuss barriers to exercise and strategize ways to move past those barriers.
- Calculate your maximum heart rate and heart rate zones.
- Define the F.I.T.T. Principle and how it is applied to cardiovascular, flexibility, and strength training.
- Describe ways to prevent injury while exercising.
- Understand goals for exercise prior to and following bariatric surgery.



THINGS TO CONSIDER

- Before you begin any type of exercise program, check with your doctor first.
- Everyone starts at a different level. If you are new to exercising, it is important to start SLOWLY and work up GRADUALLY to reduce your risk of injury.
- Consider your past activity experiences, current abilities, and goals when getting started with exercise. Select activities that you enjoy and will help you work towards achieving your goals.
- Consult an exercise professional such as a personal trainer for supervised and individualized workouts and to ensure you are engaging in exercises properly.



GETTING STARTED WITH EXERCISE

- Physical exercise is any bodily activity that enhances or maintains one or more aspects of physical fitness.
- There are several different aspects of fitness, which include cardiovascular endurance, muscular strength and endurance, and flexibility. A balanced exercise program is one that includes exercises for all aspects of fitness.



TYPES OF EXERCISE

Aerobic (Cardiovascular) Exercise

- Stimulates the heart rate and breathing rate for a sustained period.
- Improves how well your heart and lungs deliver blood and oxygen to working muscles.
- During aerobic exercise, glucose is used as fuel as well as fat, which requires oxygen.

Anaerobic Exercise

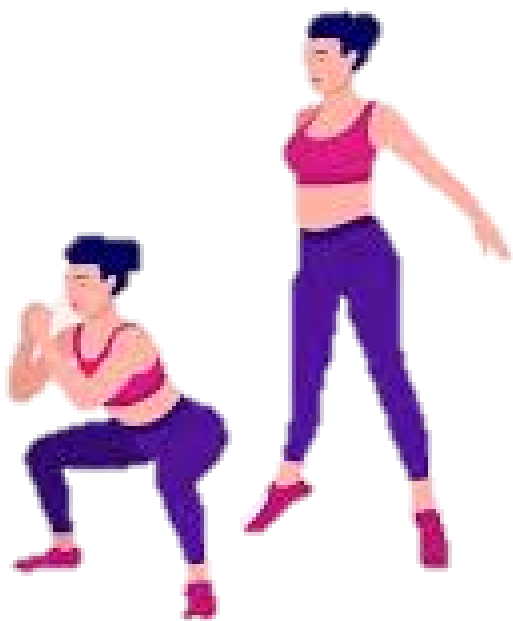
- Involves quick bursts of energy that are performed at maximum effort for a short time.
- During anaerobic exercise, your body requires immediate energy in the form of glucose.



AEROBIC EXERCISE EXAMPLES



ANAEROBIC EXERCISE EXAMPLES



Anaerobic

Sprints (while running, cycling, or swimming)

High intensity interval training (HIIT)

Weight lifting

Calisthenics (jump squats or box jumps)



BENEFITS OF AEROBIC (CARDIOVASCULAR) EXERCISE

- Assists with weight loss.
- Strengthens your heart.
- Reduces risk of heart attack and stroke.
- Lowers total cholesterol and helps control blood pressure.
- Reduces risk of type 2 diabetes.
- Increases insulin sensitivity and lowers your hemoglobin A1C level.
- Increases your stamina and reduces fatigue.
- Improves mood and feelings of well-being.
- Improves sleep quality.
- Activates your immune system.



BENEFITS OF ANAEROBIC EXERCISE

- Strengthens your bones and helps to prevent osteoporosis.
- Increases lean muscle mass.
- Improves resting metabolic rate.
- Improves the ease of performing activities of daily living.
- Improves self-confidence.



DAILY EXERCISE RECOMMENDATIONS

- The American Heart Association recommends healthy adults exercise for at least 30 minutes of moderate-intensity aerobic exercise at least 5 days per week.
- Incorporating strength training twice per week is a great way to balance out your routine.
- Perform anaerobic exercises such as HIIT workouts no more than two or three days per week and allow for a full day of recovery in between workouts.
- Example:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Cardio 30 minutes	Strength 15 minutes Cardio 30 minutes	Cardio 30 minutes	HIIT 30 minutes	Rest	Cardio 30 minutes	Strength 15 minutes Cardio 30 minutes

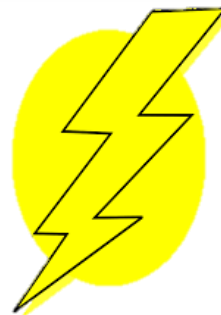


BARRIERS TO EXERCISE

Lack of Time



Lack of
Motivation or
Energy



Fear of Injury
or Pain



LACK OF TIME

- **Give yourself multiple opportunities throughout the day to exercise.** Aim to get several shorter bouts of walking in each day, such as before and after work and during breaks.
- **Make your home a fitter place.** Leave a resistance band or set of dumbbells in a visible place to help remind you to pick them up and exercise. Consider swapping your desk chair for a stability ball to engage your core when paying bills.
- **Exercise at your desk.** Try to take a short break every 1-2 hours to stretch and do a couple of exercises with your resistance band. Try to move as much as possible during the workday; when the phone rings, take the call standing up to burn 10 percent more calories than you would chatting in a chair.
- **Put it in ink.** You stick to the doctor's appointments and work meetings that are on your calendar, so why not take the same approach to exercise sessions? Every Sunday night, schedule them into your weekly planner (or your PDA). To make sure your family members are on board, place the calendar in a common area so they can see it. That way, workout times become public declarations and nonnegotiable parts of your routine.



LACK OF MOTIVATION OR ENERGY

- **Do your own thing.** If there's one golden rule to keep you moving, it's this: choose a workout that you find enjoyable. It doesn't take a rocket scientist to figure out that you are more likely to stick with an activity that you enjoy. If you enjoy being social, find an exercise buddy. If you enjoy reading, read or listen to a book when exercising. If you enjoy music, create a workout CD or playlist to help keep you going.
- **Think active and you'll become active.** Watch the fitness/exercise channel. Wear tennis shoes around the house. Read about exercise. Put your exercise bands or ball in a visible place. If you place your exercise equipment where you'll see it, you'll be reminded to use it.
- **Set goals and chart your progress.** Creating an exercise log or a pedometer log can help you see how far you've come and how much your fitness has improved! Reward yourself each time you reach a goal or milestone (but not with food).
- **Combat excuses before you make them.** Exercise in a place that's easy to get to. Each week, schedule your workouts in your planner or calendar and keep them as you would any other appointment. These short bouts are still effective and accumulate throughout the day.



FEAR OR INJURY OR PAIN

- **Start slow and take things at your own pace.** There is no rush when it comes to making a change that you intend to stick with you're the rest of your life. When you do exercise, be sure to include an adequate warm-up and cool-down period.
- **Listen to how your body feels.** Exercise will cause fatigue and some muscular discomfort, but it should not cause pain. If it does, back off and try a different type of exercise.
- **Consult a personal trainer or exercise specialist.** Be sure to let them know you are having or have had Bariatric surgery. Discuss any other physical limitations or concerns you have and then work together to create an exercise plan that you feel comfortable with.
- **If you lapse, don't collapse.** If you have been sedentary for years, moving energetically for 30 minutes 3-4 days a week is a major change. Not only must you get off the couch, but also must acquire a new habit that may at first make every muscle in your body grumble. Lapses are inevitable, so when you do falter, be forgiving. What do a few days or weeks matter when you're building a habit for life.



LONG TERM RESULTS

- Exercise helps you to break through weight loss plateaus and is the biggest predictor of long-term weight loss maintenance.
 - In an 18-month follow-up study published in *Obesity Surgery*, Barbara Metcalf and her colleagues found that patients who exercised showed a 28% higher loss of fat mass and an 8% higher gain in lean body mass than those who did not exercise, even though no differences in weight loss were observed between the groups.

Metcalf, B., et al. Weight Loss Composition: the Effects of Exercise Following Obesity Surgery as Measured by Bioelectrical Impedance Analysis, Obesity Surgery, 2005.



EXERCISE STRUCTURE – THE WARM UP

- Every workout should begin with a warm-up.
- Your body temperature rises and your heart and blood pressure increase.
- Muscles work better and are less likely to be pulled or strained.
- Should last about 10 minutes.
- Examples of warm up activities:
 - Arm circles
 - Arm swings
 - Marching in place



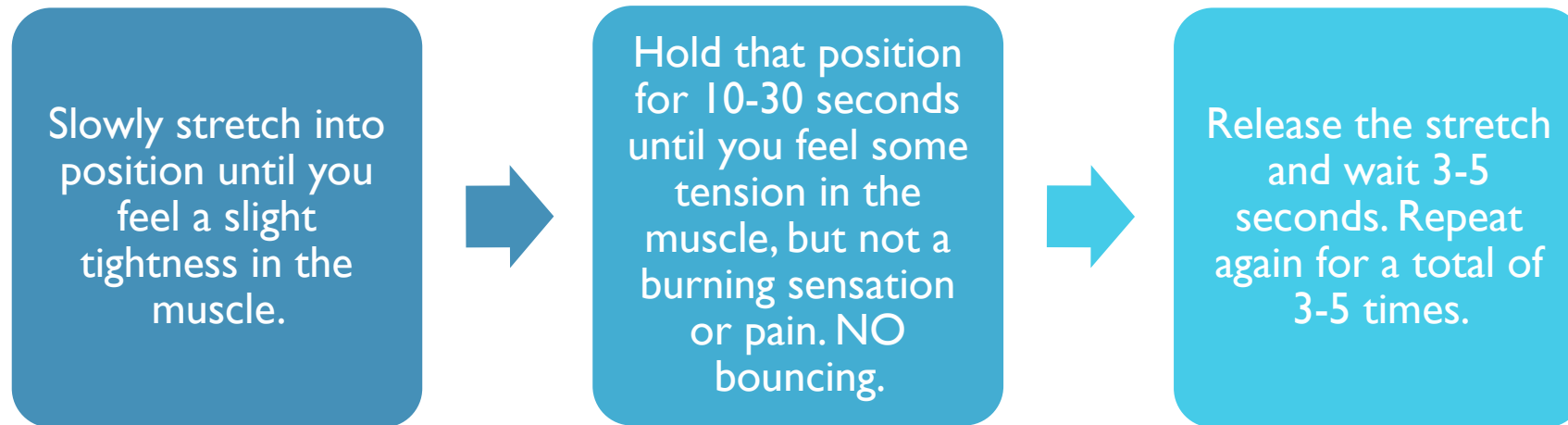
EXERCISE STRUCTURE – THE COOL DOWN

- Cooling down is equally as important as warming up.
- When you exercise, your heart beats faster to keep muscles supplied with blood, and the oxygen and fuel that it carries.
- When exercise abruptly stops, a sharp decrease in blood pressure can occur because blood begins to pool in your arms and legs.
 - This can lead to dizziness and fainting.
- A gradual cool down allows the body to adjust better.
- To cool down, decrease the intensity of your exercise for 5-10 minutes.
- Incorporate stretching exercise to help relieve soreness and loosen tight muscles.



EXERCISE STRUCTURE – MAKING TIME TO STRETCH

- Here are the basic steps to follow for proper stretching:



- If you have a stubborn area or tightness, search for “Resistance Stretching” on Google or YouTube for tips and videos.
- Stretching can also be used as a light activity for rest or recovery days.



DETERMINING YOUR HEART RATE

- Exercise, specifically aerobic exercise, makes your heart work harder and increases your breathing rate.
- The intensity of an exercise can be determined by how you feel or by how hard you are breathing.
- For general cardio training, you can use your heart rate to determine the intensity of your workout.

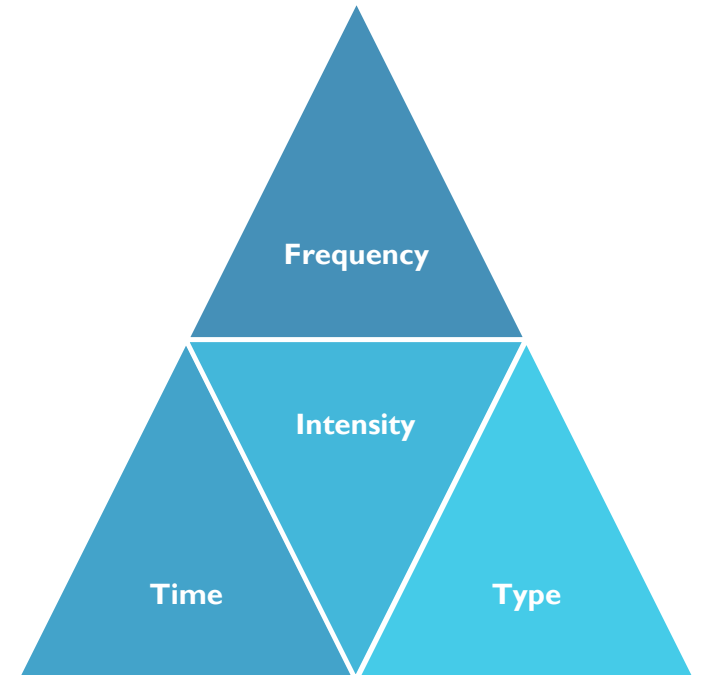
How to calculate heart rate:

- Step One: Estimate your maximum heart rate
 - **$220 - \text{Your Age} = \text{Maximum Heart Rate}$**
- Step Two: Determine your HR Zones
 - Zone 1 (50 to 60%) = sick days, recovery days or easing into exercise.
 - Zone 2 (60-70%) = endurances, weight loss, general fitness.
 - Zone 3 (70-80%) = stamina, improving fitness or training for a race.
 - Zone 4 (80-85%) = red line zone, avoid staying here for too long.



PUTTING IT ALL TOGETHER: THINK “F.I.T.T.”

- The F.I.T.T. Principle is a guideline to help you develop an effective exercise plan. This principle has four key parts that can be changed to help increase physical fitness, get past plateaus and prevent boredom.
- F.I.T.T. stands for:
 - **Frequency:** how often you exercise. This is the number of days per week or number of times per day.
 - **Intensity:** how hard or how tough the exercise is for you and your body.
 - **Time:** the amount of seconds, minutes or different strength exercises you do for your workout.
 - **Type:** the kind of exercise, movement, or piece of equipment you use.



F.I.T.T. RECOMMENDATIONS FOR CARDIOVASCULAR EXERCISE

- Frequency: 3-5 times per week.
- Intensity: 60-85% of your maximum heart rate.
- Time: Start with two, 10-minute sessions or one, 20-minute session of continuous activity. Work up to 60 continuous minutes over time.



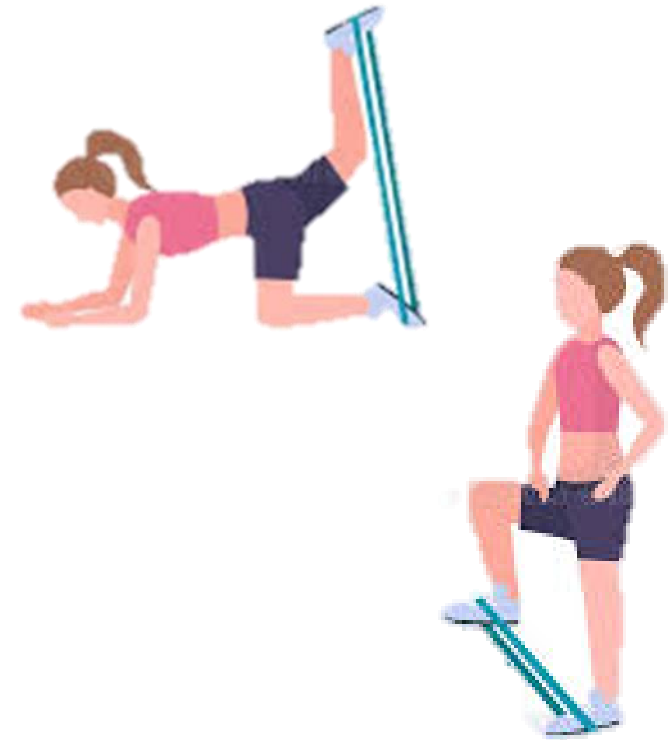
F.I.T.T. RECOMMENDATIONS FOR FLEXIBILITY TRAINING

- Frequency: Two to three times per week.
- Intensity: Four repetitions per muscle group.
- Time: Each stretch should be held for 10-30 seconds.



F.I.T.T. RECOMMENDATIONS FOR STRENGTH TRAINING

- Frequency: Two to three days per week.
- Intensity: Pick a weight you can comfortably lift for 15 repetitions (reps). As you increase your strength, you can increase the weight and decrease the number of reps.
 - The last few reps should feel difficult, but remember to keep good form!
- Time: Target your major muscle groups (chest, back, shoulders, thighs, and arms). Work up to two to four sets of 8-15 reps for each muscle group.



INJURY PREVENTION

- Always WARM UP and COOL DOWN.
- Stretch slowly and gently.
 - Include all muscle groups.
 - Hold each stretch for 15-30 seconds.
 - Breathe.
- Wear proper attire.
- Pay attention to hydration.
- Listen to your body.



INJURY PREVENTION, CONTINUED

- Do not ignore pain or injury.
 - Pain is the body's response to injury or overuse. As you get accustomed to exercise, you will better be able to distinguish between soreness and pain.
 - Soreness may develop one to two days after a workout and dissipate 24 to 48 hours later. Pain can occur immediately and persist with everything you do.
- For treatment of minor injuries not involving the eye, follow the RICE procedure:
 - Rest the injured area by reducing activity and immobilizing it.
 - Ice the affected area for 20 minute periods on, 40 minutes off, to help decrease inflammation and pain.
 - Compress the area by wrapping for at least 30 minutes to help prevent swelling.
 - Elevate the injured area above heart level. If pain or swelling worsens after 24 hours, see a physician.
- Seek medical help or:
 - Any eye injury.
 - Severe pain, disability, or numbness.
 - An injured joint or broken bone.
 - Minor injury which does not improve or heal within 3 weeks.
 - Infection, pus, red streaks, swollen nodes, or fever.



WHERE CAN I EXERCISE?

- Home
 - DVD workouts, On Demand fitness programs, Internet workouts (YouTube)
 - Simple equipment and household items that can be used for exercise purposes include: elastic bands, dumbbells, kettle bells, treadmill, elliptical, stationary bike, rowing machine.
- Gym
 - Offers a wide variety of equipment.
 - Some may have a track, basketball court, dance studios, or indoor/outdoor pools available.
 - Often have group classes led by a trainer such as Zumba, yoga, spinning, or combined cardio and strength classes.



CONSIDERATIONS

- Convenience
 - If you are looking at a gym, how far away is it from your home or work?
 - If you are wanting to work out at home, do you have space for weights, machines, or an area to exercise on the floor?
- Cost
 - If you are considering joining a gym, investigate the initial costs, payments, and membership renewal fees.
 - With home exercise equipment, cost comes from purchase of the equipment – mats, weights, machines, bicycles, etc. Don't forget to factor in maintenance and repair costs.
- Schedule
 - Plan out how you will fit your exercise routine into your life. Consider what the best time of day will be and how often you can feasibly go to a gym or make time at home.
- Personal Preference
 - Do what you like! The easiest way to maintain an exercise routine is to choose activities that are enjoyable, motivating, and make you feel good.



FUN FITNESS APPS

- Peloton: live and on demand bike and treadmill workouts plus strength, yoga, barre, etc.
- Obe Fitness: live and on demand strength, cardio boxing, dance, yoga, barre, pilates, etc.
- Strava: track walking, cycling, hiking, swimming, etc.
- Nike Training Club: multi-week training programs plus more than 100 standalone workouts
- Openfit: live and on demand classes with workouts ranging from 15-40 minutes
- Freeletics: quick, sweaty, efficient HIIT workouts
- Seven: 7-minute aerobic workouts



EXERCISE MYTHS

Exercise makes you feel hungrier.

- False. Moderate activity will not increase your appetite. Exercise fuels feelings of control and accomplishment and helps you to make healthier choices throughout the day.

You can “sweat” the weight off.

- False. Perspiration loss during exercise can account for some temporary weight loss. Don't be fooled though; it will be regained with the first glass of water you drink.

Your scale is the best measure of your exercise program.

- False. When you exercise, heavier, lean muscle tissue increases while lighter, fat is lost. In fact, you may gain a pound or two when you first start to exercise. Measure your success by evaluating the decreases in your body fat instead of just checking on the pounds.



BEFORE SURGERY

- Try to accumulate 30 minutes of moderate intensity aerobic activities 3-5 days per week. Aerobic activities could include walking, biking, water exercises or swimming, chair exercises, or using an elliptical.
- Aim to include 2-3 days per week of strength training. This can be done using your resistance bands, weight machines, or even your own body weight. Perform 2-3 sets of 10-15 repetitions for 8-10 different exercises that include the body's major muscle groups.
- Try to include stretching at the end each exercise session. Aim to hold each stretch for 15-30 seconds, including all of your major muscle groups.



AFTER SURGERY

- Take it slow! Remember that not everyone heals at the same pace. Pay close attention to your body and how movement feels so that you don't overdo it. Stop any exercise that causes pain- give yourself time to heal.
- Walk and move around at a leisurely pace. Try to avoid sitting for long periods of time. Try getting up every hour or two to walk around for 5-10 minutes, as you feel able.
- You'll be able to return to water exercises when your incisions have healed completely. While it varies from person to person, usually this is about 2 weeks after surgery.
- At approximately 2 weeks following surgery you'll be able to slowly start using the resistance bands again. Again, listen to how your body feels. You may just want to start with 1 set of each exercise.



REVIEW

Answer the following questions and send your responses to your Bariatric Dietitian as a message in your MySparrow app.

1. What are two benefits of exercise?
2. How many days should you aim to engage in cardio exercise per week?
3. What is one way to measure intensity of exercise?
4. What is one way to prevent injury while exercising?
5. Should you engage in physical activity other than walking during your two week post op recovery period?

