



PHYSICAL FITNESS

PHYSICAL FITNESS: PART 1

What will be covered:

- What You Can Expect from this Program
- Daily Exercise Recommendations
- Physical Activity Readiness Questionnaire (PAR-Q)
- Barriers to Exercise
- Aerobic Exercise Overview
- Benefits of Aerobic Exercise
- Types of Aerobic Exercise
- Guidelines for Aerobic Exercise
- General Exercise Recommendations for Asthmatics
- Optimizing Hydration



What You Can Expect from this Program

- Learn the importance of physical activity and how to better incorporate it into your life.
- Learn how to make healthy lifestyle changes that work for YOU.
- Establish a healthy relationship with physical activity.
- Identify basic nutrition principles that will energize and fuel your body before, during, and after your workouts.

Daily Exercise Recommendations

Adults should get at least 150 minutes of moderate-intensity exercise per week. These exercise recommendations can be met through either:

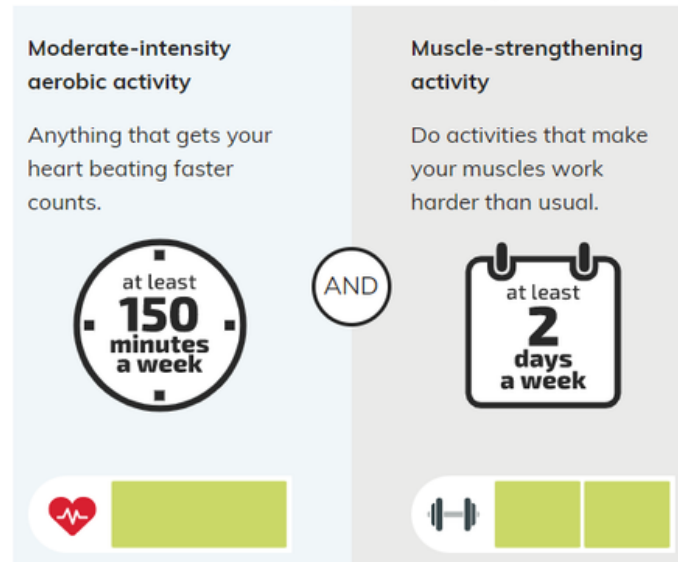
- 30–60 minutes of **moderate-intensity** exercise (5 days per week)
- 20–60 minutes of **vigorous-intensity** exercise (3 days per week)

One continuous session or multiple shorter sessions (of at least 10 minutes) are both acceptable to accumulate the desired amount of daily exercise. You can also do a mix of moderate and vigorous intensity exercise to meet the recommendations.



Moderate-intensity physical activity means working hard enough to raise your heart rate and break a sweat while still being able to carry on a conversation. Brisk walking and bicycling are examples. **Vigorous-intensity** physical activity is more strenuous. During vigorous physical activity, it is difficult to comfortably carry on a conversation. Running, basketball, and swimming are examples. It is also recommended that adults participate in **muscle-strengthening activities**, such as weightlifting, at least two times per week.

Adults need a mix of activity to be healthy:



Source: U.S. Department of Health and Human Services

How much exercise are you currently getting per week?

___ 0-30 min. ___ 30-60 min. ___ 60-90 min. ___ 90-120 min. ___ 120-150 min.

Physical Activity Readiness Questionnaire (PAR-Q)

The Physical Activity Readiness Questionnaire (PAR-Q) is a self-screening tool that can be used by anyone who is planning to start an exercise program. It is often used by fitness trainers and wellness coaches to determine the safety or possible risk of exercising for an individual based on their answers to specific health history questions. It may also be a helpful tool for you to determine if you are ready to begin your own exercise program.

Barriers to Exercise

Of the barriers listed below, check the ones that keep you from exercising regularly:

- | | |
|---|--|
| ☐ Fear of injury | ☐ Expense of equipment, clothing, or gym membership |
| ☐ Dislike exercise | ☐ Lack of time |
| ☐ Embarrassment or social discomfort | ☐ Lack of energy |
| ☐ Boredom | ☐ Don't want to "bulk up" |
| ☐ Other _____ | |



Tips to Overcome Exercise Barriers

It can be difficult to begin an exercise program, especially if exercising is new to you or you are not in the habit of exercising. However, once you identify your barriers, it will be much easier to find ways to overcome them.

Fear of Injury

Having a fear of getting injured is understandable. If you are not already in shape, it is possible to injure yourself if you start out too fast or do too much too soon. Start slow and start where you are. Do not overdo it! Give your muscles a chance to adjust to exercising. Once your body has adjusted, exercising regularly will actually help prevent injuries.



How many days per week are you currently physically active? _____

How many days per week do you currently participate in structured exercise? _____

Dislike Exercise

If you do not enjoy exercising, think of the things you **do** enjoy doing. You are more likely to stick to a physical activity program if it is convenient and enjoyable. Remember to add variety to your workouts so that you do not get bored. Do not be afraid to try new types of exercise if what you have already tried is not working for you.

What types of physical activity have you enjoyed doing in the past that have worked for you? _____

What types of exercise (if any) have you found that you do not enjoy? _____

Embarrassment or Social Discomfort

Start small. If you are embarrassed to go to the gym, start in the privacy of your home. Do not force yourself to do something you are uncomfortable with. Doing some form of exercise is better than doing nothing. Once you are in the habit of exercising, it will become less intimidating, and more comfortable and enjoyable. The more experience you gain and the more benefits of exercise you recognize in your life, the easier it will be for you to leave your "exercise comfort zone".

Do you prefer to exercise at home rather than a gym setting?

___ Yes ___ No ___ Sometimes

Are there other locations in which you are comfortable exercising?

Do you prefer to exercise alone or with other people? _____

If you prefer to exercise with someone else, who do you know that would be willing to exercise with you? _____



Boredom

Exercise can involve more than a treadmill and set of weights. There are numerous ways in which you can increase your heart rate. Choose activities that you enjoy doing and that are accessible for you. Different exercises target different muscles. Varying your routine will help you work all the muscle groups.

Do you typically perform the same exercises?

___ Yes ___ No ___ Sometimes

Do you prefer to exercise in one block of time or to break it up into shorter sessions? _____

Are there any new exercises or types of exercise you would be interested in trying? _____

Expense of Equipment, Clothing, or Gym Membership

Being physically fit does not require expensive equipment.

Using your own body weight can be beneficial for both cardio and strength training and is free! Gym memberships are not necessary for incorporating exercise into your life. In addition to exercising outdoors, there are many exercises you can do indoors when the weather is not ideal. For example, there are plenty of online exercise videos or fitness apps to guide you through a workout if you do not know where to begin.



Are you interested in trying at-home workouts?

___ Yes ___ No

Are you interested in using exercise videos or fitness apps to guide your at-home workouts?

___ Yes ___ No

Time Management

Making time for exercise can be tricky, especially if exercise is not a high priority for you. Start by scheduling out your day with the items that are absolutely necessary, like work and school. Next, schedule in time to exercise, just as you would work and class. You are more likely to complete your exercise routine if you have it scheduled. Remember that you can also break your workout into three ten minute mini sessions or two fifteen minute mini sessions throughout the day rather than one thirty minute block of time if that works better for you.

Would you be interested in creating an exercise schedule for the coming week?

___ Yes ___ No

On how many days per week is it realistic for you to commit to exercising? _____



Lack of Energy

Schedule exercise during the time you know you usually have the most energy. If you are tired at the end of the day, avoid scheduling your exercise routine at night. If you struggle to get out of bed in the morning, avoid planning to exercise in the morning when you will need to wake up even earlier than usual. Remember that it is important to listen to your body. Be committed to your goals and plans, but recognize when your body is too tired and do not overdo it, especially at the beginning. Rest is necessary to let your body recover and grow stronger after a workout.

Learn to differentiate between everyday fatigue and the type of fatigue that will make you more susceptible to injury. For example, feeling sleepy in the afternoon is probably not normally a good reason to skip your exercise time, but pain or intense muscle soreness might be an indicator that your body needs more time to recover.



What time of day is best for you to exercise (morning, afternoon, evening)? _____

If you are already in the habit of exercising, do you usually exercise at this time?

___ Yes ___ No ___ Sometimes

If you are not already in the habit of exercising or do not currently exercise during your times of high energy, what changes will you make in order to schedule your exercise time to match your energy levels? _____

Don't Want to Bulk Up

Muscular hypertrophy is another term for muscle growth. When speaking of large amounts of muscle growth, you may hear this referred to as "bulking up". Most people are not naturally going to gain large amounts of muscle mass only by participating in muscle-strengthening exercises for the recommended two days per week (although this is still very important for overall health). While the recommended amount of muscle-strengthening activity will contribute to less body fat and increased lean mass and muscle definition, large, noticeable amounts of muscle growth only happen when individuals participate in structured resistance training more than the recommended two days per week and follow a more specific nutrition plan.



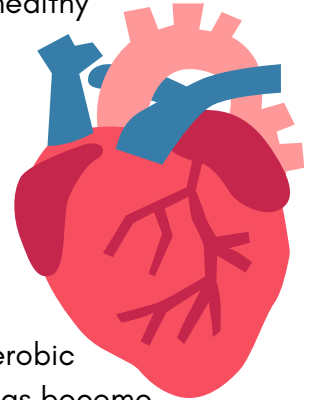
Aerobic Exercise Overview

Regardless of age, weight, or athletic ability, aerobic activity is important for your health. Aerobic exercises require extra oxygen. These types of exercises increase your heart rate and increase blood flow to your muscles by widening the small vessels that carry blood to your muscles. The widened vessels also carry away waste products, helping to maximize the amount of oxygen in your blood.

Benefits of Aerobic Exercise

Aerobic exercise is extremely beneficial to your health. Here are a few reasons why:

- **Develops a stronger and more efficient heart.** More oxygen is required with aerobic exercise. This increases the efficiency and ease at which the heart can distribute oxygen to the rest of the body. Aerobic exercise may also help lower blood pressure.
- **Helps manage and maintain a healthy weight.** Remember that a healthy weight looks different for every body. Regular exercise will help your body achieve and maintain the weight that is healthy for you.
- **Decreased risk of developing diabetes, heart disease, and obesity.** Regular exercises lowers blood pressure, decreases LDL cholesterol (the "bad" cholesterol), increases HDL cholesterol (the "good" cholesterol), and improves circulation to reduce the risk of blood clots.
- **Increased lung capacity and exercise endurance.** With regular aerobic training, the muscles your body uses to bring air in and out of your lungs become stronger.
- **Improved sleep quality.** At least 30 minutes of regular exercise each day will increase the amount of deep sleep you get. However, exercising too close to bedtime may interfere with your sleep. It may be helpful to finish exercising at least 3 hours before bedtime.
- **Increased endorphins.** Endorphins are the natural painkillers released by the brain that lead to a feeling of wellbeing.
- **Decreased depression, stress, and anxiety.** The release of serotonin and endorphins during exercise can relieve many of the symptoms of depression and anxiety. Exercise is a great stress reliever.
- **Increased energy.** Regular exercise will increase your stamina. Improved sleep quality resulting from aerobic exercise will also provide you with more energy throughout the day.
- **Prevents certain types of cancer.** Regular physical activity lowers your risk of developing many types of cancer, including breast, prostate, colon, endometrium, and pancreatic cancers. Consistent exercise helps you maintain a healthy weight, which strengthens the immune system and regulates your hormones.
- **Prevents risk of chronic diseases.** Exercise will help to lower blood pressure and achieve healthy cholesterol levels and a healthy weight.



Which of these benefits are most important to you? _____



Types of Aerobic Exercise

When you hear the term aerobic exercise, your mind may automatically go straight to running or biking. While these are great examples of aerobic exercise, there are so many more! Today, we will cover low-impact aerobic exercise, sports, aerobic classes, and at-home aerobic exercises, but remember that this only just begins to skim the surface.

Low Impact Aerobic Exercise

Low impact aerobic exercises include activities that do not put extra stress on your joints. For example, jump roping is a high impact exercise. Low impact exercises are especially helpful for individuals who have knee, back, ankle, or arthritis pain because they place low strain on the body. Low impact aerobics include walking, water aerobics, biking, swimming, rowing, bodyweight squats, and push ups.

Do you currently participate in any of these types of activities? ___ Yes ___ No ___ Sometimes

If yes, which ones? _____

If not, which ones (if any) would you be interested in trying? _____



Sports

Participating in sports is not only a great way to incorporate aerobic exercise into your life, it can also be a great social activity and a lot of fun! Get a group of friends together and go play at the park or join an organized community league.

- Tennis
- Basketball
- Football
- Golfing (without a cart)
- Volleyball
- Pickleball
- Frisbee
- Racquetball
- Baseball/Softball
- Soccer

Do you currently participate in any of these types of activities?

___ Yes ___ No ___ Sometimes

If yes, which ones? _____

If not, which ones (if any) would you be interested in trying? _____



Aerobic Classes

There are many aerobic classes offered at local recreational centers and gyms. With so many different types of classes available, you should be able to find at least one you enjoy! One benefit of attending fitness classes is the social atmosphere. It can be much easier to exercise when you are led by an instructor and surrounded by other people doing the same thing. Although different locations provide different classes, here are a few you might find:

- **Zumba:** This class fuses Latin rhythms and easy to follow dance moves to create an interval training session to tone and sculpt your body while burning fat.
- **Body Pump/Power Pump:** These classes are for increasing lean muscle mass and burning fat while using barbells for resistance.

- **Tread:** These classes are done on the treadmill. Combinations of intervals of walking, hill climbing, power walking, and running are used.
- **Spin:** These classes allow the participant to control his or her own resistance on a stationary bike as guided by an instructor. Cycling tones and strengthens muscles and burns calories while increasing cardiovascular endurance.
- **Circuit Training:** Circuit training classes are similar to the Body Pump classes, except the participants usually perform strength training exercises on machine weights instead of with free weights. They alternate between arm and leg muscle groups to create an aerobic workout.

Do you currently participate in any of these types of activities?

___ Yes ___ No ___ Sometimes

If yes, which ones? _____

If not, which ones (if any) would you be interested in trying? _____



At-Home Aerobic Exercises

You do not need to go to a gym to participate in aerobic exercise. Aerobics are an easy activity to do at home. Consider going for a walk or a run when the weather is nice, purchasing a stationary bike for your home, or using online videos or fitness apps to guide your workouts. You may find guided workouts of many types online, including:

- **Pilates:** This type of exercise is designed for those with limited range of motion and weak core muscles. These classes strengthen and tone the entire body.
- **Kick boxing:** Kick boxing classes are a higher intensity type of aerobic exercise and include punching and kicking motions. This can be beneficial for your heart, balance, and coordination.
- **Step Aerobics:** Step aerobics classes use single or double steps to increase intensity and provide a fun, powerful workout. You can do these on your front porch or the stairs in your apartment complex!
- **Basic Cardio Workouts:** Any workout that increases your heart rate is an aerobic exercise. You can use your own bodyweight as the resistance.

Do you currently participate in any of these types of activities?

___ Yes ___ No ___ Sometimes

If yes, which ones? _____

If not, which ones (if any) would you be interested in trying? _____

Guidelines for Aerobic Exercise

When beginning an exercise program involving aerobic exercise, be sure that you are cleared to exercise and that you start small to avoid injury. Here are a few other considerations:

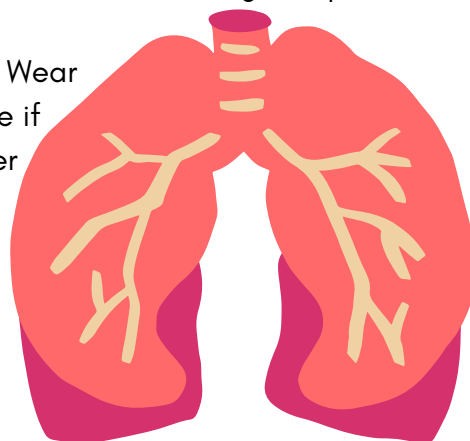
- **Warm up and cool down.** It is very important to warm up and cool down before and after exercise to avoid injury to muscles, tendons, and ligaments. Warm ups and cool downs should generally involve stretching, self-myofascial techniques, and/or low-intensity cardio focused on the muscles that you will be using during your workout.
- **Schedule a workout program.** You will get the most benefits when you exercise regularly and consistently. Having a set time and a plan for your workouts will make it more likely for you to stick with it.
- **Get a training buddy.** Having support from family and friends makes it easier to stick to your goals. You will be more likely to exercise if there is someone there to hold you accountable.
- **Intensify your training in stages.** Doing so will provide the most benefits with the lowest amount of risk. Start at a slow pace and progressively increase both the amount of time you spend exercising (volume) and the pace of your activity (intensity) as your fitness levels increase.
- **Set goals.** Set short-term and long-term goals. Celebrate your successes!



General Exercise Recommendations for Asthmatics

Exercise-induced asthma is triggered by vigorous or prolonged exercise. Most people with chronic asthma also experience symptoms of asthma during exercise. Both those with chronic asthma and those who suffer from exercise-induced asthma can still participate in physical activity. Just remember to use caution and be smart.

- Select exercises that raise the heart rate, increase the respiratory rate, and are relatively easy on the lungs. Among asthmatics, swimming is one of the best tolerated exercise modalities.
- Avoid asthma triggers as much as possible. For example, asthmatics allergic to pollen should exercise indoors.
- Avoid exercising outdoors on polluted or cold, dry days. Wear a mask or scarf to warm and moisten the air you breathe if the exercise must occur outside on a cold day. Whenever possible, exercise in warm, humid air.
- While exercising, keep an inhaler on hand and breathe through the nose as much as possible.



Optimizing Hydration

Between 60% and 70% of your body is made of water. Water helps with blood flow, digestion, transporting nutrients, and regulating temperature. Most women should drink around 11.5 cups per day and most men should drink around 15.5 cups per day, although the exact amount needed will vary based on illness, pregnancy, weather, altitude, and large amounts of dietary protein and fiber. As a general rule of thumb, aim to drink 4 to 6 ounces of water for every 15 minutes of exercise. In most healthy adults, the color of your urine is a good indicator of how hydrated you are. Very light to pale yellow urine means you are adequately hydrated while darker shades may mean you are dehydrated.

How much water are you currently drinking per day? _____
How much water do you drink while exercising? _____

While exercising for long periods of time (typically 90 minutes or more), you will need to replenish your carbohydrate/electrolyte stores. Sports drinks, such as Gatorade or Powerade can be beneficial in these instances. Salting your meals to taste and consuming plenty of fruits and vegetables will also help to ensure adequate electrolyte intake.

Hydration Tips

- **Keep water handy.** You will be less likely to drink as much as you need if it is not easily accessible.
- **Be aware of caffeine intake.** While you may think you are staying hydrated by consuming large amounts of soda, the sodium in these types of drinks can affect your fluid balance.
- **If you do not enjoy water, slowly increase your intake.** Try adding lemons, limes, or other flavorings to enhance the taste. Use a water filter. Store your water in the fridge to keep it at your preferred temperature.



Your Goals

1. _____

2. _____

Sources

- American Dietetic Association
- Mayo Clinic
- American College of Sports Medicine
- National Academy of Sports Medicine
- United States Department of Health and Human Services
- Johns Hopkins Medicine
- American Cancer Society

PHYSICAL FITNESS: PART 2

Think about the goals you set last week. Were you able to accomplish them? _____

What went well? _____

What could be improved? _____

What will be covered:

- Strength Training Overview
- Benefits of Strength Training
- Strength Training Basics
- Posture
- Bone Strength
- Types of Strength Training
- Exercising Through Aches and Pains
- Optimizing Protein and Carbohydrate Intake



Strength Training Overview

When the body is placed under stress, it adapts to the stressor. This is called the principle of adaptation. Strength training (also known as resistance training) puts the body under stress and forces the body to change. Engaging in strength training has numerous benefits. It is recommended that individuals participate in muscle-strengthening activities at least two days per week.

How many times per week do you currently participate in strength training exercises? _____

What type(s) of strength training do you typically engage in? _____

What barriers make it difficult for you to participate in strength training? _____

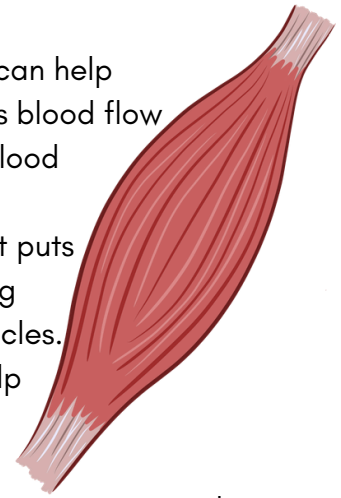
Benefits of Strength Training

Although strength training may seem intimidating, once you have learned the basics, you will find that it provides many benefits and is worth the effort. Here are a few of the benefits:

- **Decreases risk of injury.** Resistance training strengthens your connective tissues (tendons and ligaments), which reduces the risk of injury to your joints.
- **Improves body composition.** Strength training increases lean mass (muscle) and decreases body fat.
- **Boosts metabolism.** Lean mass requires more energy to maintain than body fat, which leads to more calories expended both while exercising and while at rest.



- **Helps prevent age-related loss of muscle and strength.** Both bone and muscle mass naturally diminish with age, but consistent resistance training can help prevent and delay it.
- **Improves blood pressure and cholesterol.** Any type of exercise can help improve blood pressure and cholesterol. Strength training increases blood flow to the muscles, which helps to widen blood vessels and decrease blood pressure.
- **Prevents osteoporosis.** Osteoporosis is reduced bone density that puts an individual at risk of bone fracture. It is especially common among older women. Resistance training strengthens bones as well as muscles.
- **Decreases lower back pain.** Stronger abdominal muscles can help fix muscle imbalances that cause lower back pain.
- **Strengthens tendons, ligaments, muscles, and bones.**
- **Improves mood.** As with aerobic exercise, strength training releases serotonin and endorphins, which create a feeling of wellbeing.
- **Sharpens focus.** Regular strength training (and other forms of exercise) help improve attention.
- **Controls blood sugar levels and diabetes.** Strength training can improve insulin sensitivity and improve glucose tolerance. Extra muscle gives your body a place to store glucose, which means building muscle mass can help keep your body's glucose levels in normal ranges.
- **Improves sleep quality.** Regular exercise enables you to fall asleep faster and enjoy a deeper, more restful sleep.
- **Strengthens the heart and lungs.** Because strength training increases blood flow throughout the body, it teaches the heart and lungs to distribute oxygen more efficiently.
- **Reduces symptoms of depression and anxiety.** Strength training increases blood, oxygen, and other chemicals in the brain that help reduce stress hormones, such as cortisol.
- **Reduces risk of chronic disease.** Lowered blood pressure, improved cholesterol levels, and the maintenance of a healthy weight lower your risk for chronic diseases, such as stroke and heart disease.
- **Increases stamina.** The stronger you get, the longer it will take you to fatigue.



Strength Training Basics

The American College of Sports Medicine recommends that adults participate in 2–3 strength training sessions per week per muscle group. During each session, you should



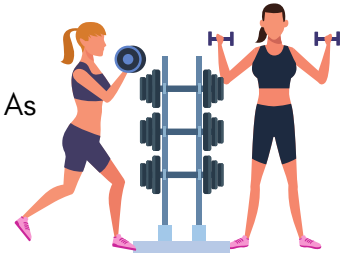
complete 8–12 repetitions of 8–10 different exercises. Be sure to alternate your workouts throughout the week so that your body has adequate time to rest, heal, and rebuild.

Frequency

Frequency refers to how often you exercise. Strength training should be incorporated at least 2 days per week. Avoid working the same muscles on consecutive days. Allow at least 48 hours before working a specific muscle group again. Your body needs time to repair torn muscle fibers.

Resistance Level

When just beginning to strength train, start out with a light weight. As a general rule, if it is easy for you to do 10 repetitions, increase the amount you are lifting by approximately 5 pounds.



Reps and Sets

Rep is short for repetition. A repetition is one complete movement of an exercise (ex. how many times you lift the weight). A set is a group of repetitions. Rest approximately 1-2 minutes between each set if you are working the same muscle. Circuit training is a type of strength training in which you perform a series of exercises with minimal rest in between each. This allows you to work many muscle groups while keeping your heart rate elevated.

Whole Body Strength Training

It is important to train all major muscle groups, not just a few specific muscles. Plan workouts that involve your arms, shoulders, back, neck, abdominal muscles, and legs. Include exercises that involve many different movement patterns, such as squatting, hinging, pushing, pulling, and rotating. This will ensure that you train all parts of your body equally.

Which muscle groups do you currently strength train? _____

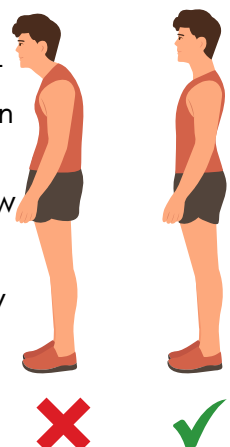
Are there any muscles groups you need to begin to include in your routine? _____

Are there any movement patterns you could include more of in your routine? _____

Posture

Your body's musculoskeletal system is a finely balanced and tuned machine. It allows you to stand upright, walk, run, jump, and play. One of the reasons it works so well is because of your posture. Over time, poor posture can result in back and joint pain caused by muscle tightness and weakness. Strength training can often help correct posture. To check for posture weakness, follow these simple steps:

- Stand with your back against the wall and your feet about 4 inches away from the wall. Make sure your shoulder blades and glutes are both touching the wall.



- Pull your head back to touch the wall and level your chin with the floor. Pull your shoulder blades towards each other and flatten them on the wall. Press your arms to the wall with your thumbs pointing forward and reach your fingertips towards the floor.
- Pull your belly button in and check that there is space about 2 fingers wide between your low back and the wall. Make sure your knees are not locked out and your feet are pointing forward and directly under your hips.
- Stand as tall and still as you can. Breathe for 1 minute.

Was any part of that exercise difficult to do? ____ Yes ____ No

If yes, list the areas of your body that were uncomfortable. _____

The areas you have the hardest time holding yourself straight is where your postural weakness is or will be in the future. These are the areas you can focus on correcting through strength training.

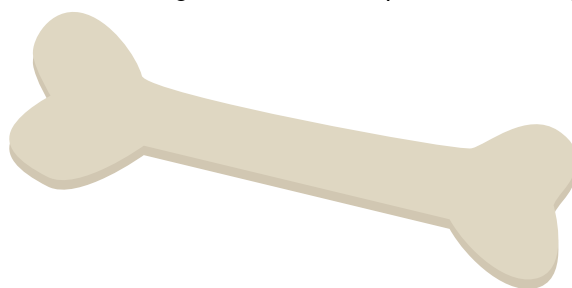
Be sure to maintain good posture while strength training to avoid injury. Here are some tips to keep in mind during strength training:

- Lifting should be done by bending at the knees, keeping the back in an upright position.
- Act as though you are squeezing a lemon between your shoulder blades.
- Pull your belly button in towards your spine.
- Keep your knees slightly bent at all times.
- Place your feet so that they are hip and shoulder width apart with your toes pointing straight forward at all times.



Bone Strength

Strength training has a direct positive impact on bone strength and bone loss. When a muscle contracts, the stress of the contraction is transmitted to the bone. This stimulates the activity of osteoblasts (bone building cells), which build and strengthen bones along the lines of stress. The more muscle and bone strength you can build earlier in life, the less likely you will be to experience osteoporosis, falls, and other injuries later in life. However, it is never too late to start and reap the benefits of strength training. Some signs that you may have weak bones are a family history of osteoporosis, chronic low back pain, stooped posture, a bone fracture that occurred easier than expected, or early menopause (before age 45). (There is a direct relationship between the lack of estrogen after menopause and impaired bone strength.)



Types of Strength Training

There are many strength training modalities. Try several kinds to find what you like. Varying your routine by incorporating many types of strength training can be helpful in ensuring that you work all of your muscles and move them in many different ways. Working the same muscles in the same movement patterns over and over without varying your routine can lead to injury.

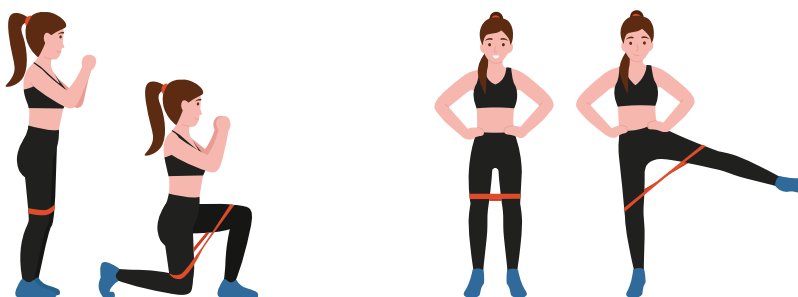
Body Weight Exercises

Strength training can be done without any equipment. You can build strength by using your body weight as the resistance. Strength training without equipment is convenient, free, easy to do, and can be done anywhere. Examples of body weight exercises are push-ups and lunges.



Resistance Bands

Resistance bands (also known as elastic resistance) are another easy way to begin incorporating strength training. Elastic resistance training can help improve coordination, balance, and joint stabilization because the tension present throughout the exercise requires you to use and strengthen your stabilizing muscles. They can be used to strengthen both your upper and lower body. Resistance bands come in a variety of colors, thicknesses, and shapes. The thicker the rubber, the more resistance it will provide. Do not stretch your elastic band more than 250% of its resting length to avoid breaking it and causing injury. To create more resistance, use a thicker band or two bands of the same medium resistance at the same time. Resistance bands are inexpensive, can be used anywhere, and are great for all fitness levels. They can be a great tool for beginners or can be used to add intensity to traditional movements.



Medicine Balls

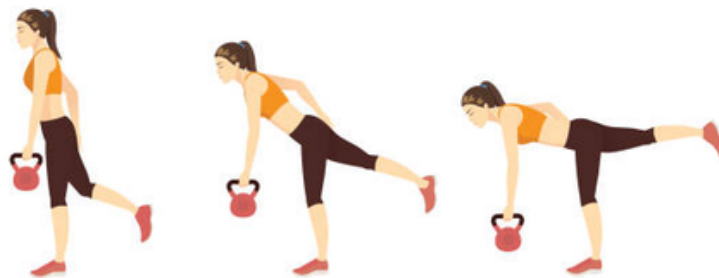
Medicine balls can be thrown and caught or used as a source of resistance for simple movements, such as a squat. Medicine balls come in a variety of weights, sizes, and materials. They can be made of hard rubber, leather, or other leather-like materials and weigh between 1 and 30 pounds. The higher velocity (speed) involved in the movement, the lighter the

ball will need to be. Medicine balls can help develop muscular strength and endurance, but are especially helpful in developing power (the body's ability to produce the most amount of force in the least amount of time). Using proper technique and maintaining good posture is extremely important in preventing injury while using medicine balls.



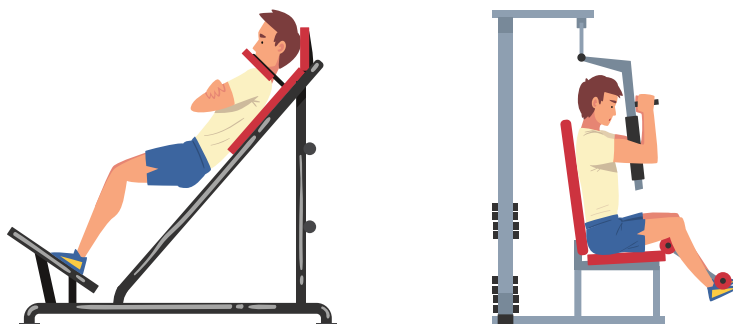
Kettlebells

Kettlebells are cast iron balls with flat bottoms and a handle on top. They can weigh anywhere from 5 to over 140 pounds. Kettlebells are unique in that the center of mass is away from the handle. As a result, kettlebell exercises can help improve stabilization, coordination, balance, strength, and endurance. Again, awareness and proper technique when using kettlebells is important to prevent injury and strain.



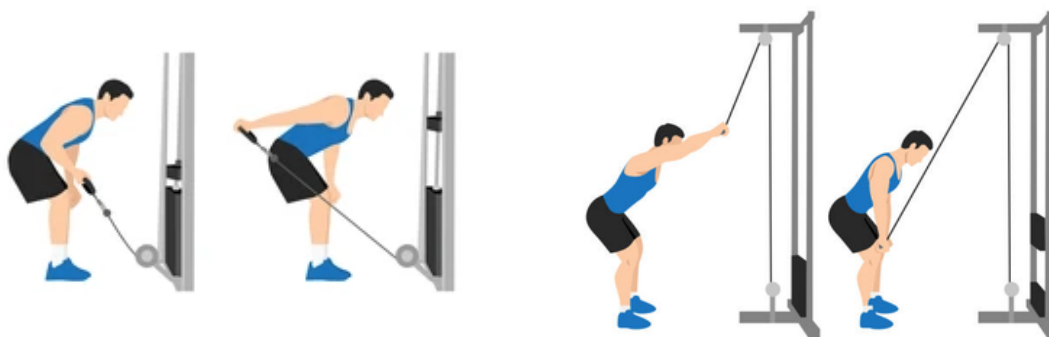
Machine Weights

Machine weights (also known as strength-training machines) are another great tool for individuals new to the weight room. They can be much less intimidating than free weights because most of them are easy to use and include instructional diagrams or pictures. They are also safer than free weights, do not require a spotter, and the weight can be adjusted more efficiently. Machine weights are useful when trying to build strength or endurance. The disadvantage of machine weights is that they involve a limited range of motion and do not increase coordination or stability as much as free weights. This is also a more expensive form of strength training given that you will likely need a gym membership to access these types of machines.



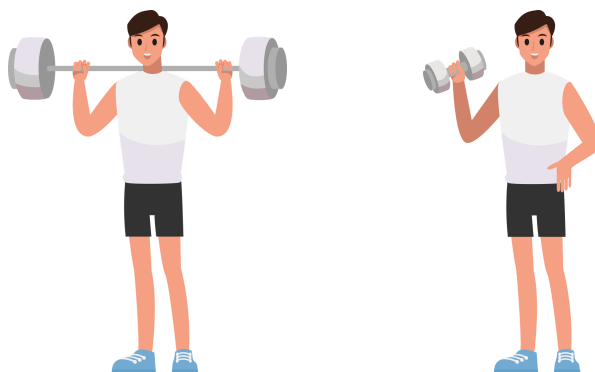
Cable Machines

Cable machines provide lots of freedom of movement, like free weights, but are safer than free weights because they do not require a spotter. Cable machines can be used to work all body parts and can help develop balance, muscle growth, endurance, strength, and power. Cable machines can also help strengthen the core and promote stability because many of the exercises are done while standing instead of sitting, as with many machine weights. The important thing to remember when working with cable machines is that the resistance (or line of pull) needs to be aligned with the muscle being worked. If you are trying to do a bicep curl with a cable machine, the resistance from the cable should be pulling your arm straight down, not out to the side.



Free Weights

Free weights, such as barbells and dumbbells, offer the most variety, range of motion, and versatility of all the types of strength training. They can be used to work all body parts and can improve stability, balance, muscle growth, endurance, strength, and power. Some free weight exercises may be difficult for individuals just starting an exercise program and can be intimidating for those not familiar with them. They are also potentially more dangerous and many require a spotter for safety. Again, good posture, technique, and awareness must be used to ensure that you remain injury-free.



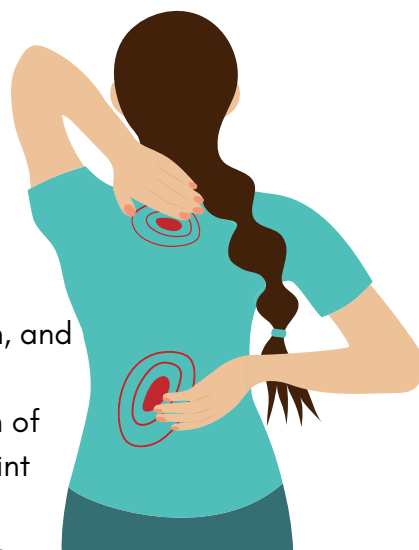
Which (if any) of these types of strength training have you tried before? _____

Which (if any) of these types of strength training would you like to try in the future? _____

Exercising Through Aches and Pains

Muscle soreness or discomfort that occurs 24 to 48 hours after exercise is normal, especially when you are not in the habit of regular exercise. However, if the pain is severe or incessant, be sure to rest and seek help if you need it. Be sure not to overdo it, especially at the beginning when your body is getting accustomed to exercise and may be more susceptible to injury. Increase the amount and intensity of exercise slowly and gradually. Here are some guidelines to keep in mind when you experience pain or discomfort:

- **Joint pain or discomfort:** Joint pain of any degree should not be ignored or dismissed. Pain in the ankle, knee, elbow, or wrist is especially concerning because it is rarely muscle-related pain.
- **Localized pain or discomfort:** If the pain is sharp or occurs at a specific location, it could be an early indicator of an injury.
- **Persistent pain or discomfort:** If the pain persists for longer than two weeks or gets worse, see a healthcare professional – especially if the pain does not respond to standard treatment methods, such as rest, ice, compression, and elevation.
- **Swelling in or around the area of pain:** Swelling is a sign of injury and should not be ignored. Swelling in or around a joint can cause pain and stiffness in that joint.
- **Disruption of normal routine:** Pain that disrupts your sleep patterns or interferes with work and other activities could be an indicator of a more serious problem.
- **"Side Stitch":** You may also hear this referred to as a "side cramp". It is a painful, burning sensation that occurs near the upper portion of the abdominal wall where it meets the rib cage. To reduce the pain, breath deeply and reduce the intensity of your workout.
- **Chest pain:** Pain in the chest can be caused by many things. If you feel pain in your chest while exercising, do not try to push through it. Seek medical help to determine if it is something that you should be concerned about or that requires treatment.



Optimizing Protein and Carbohydrate Intake

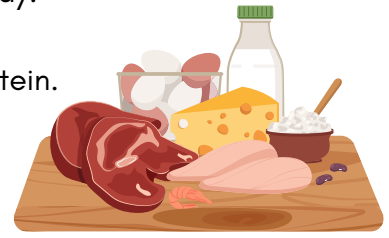
Making sure that you are eating enough protein and carbohydrates before and after exercising is important because these nutrients provide energy for your body and help the body repair itself after a workout.

Protein

The primary function of protein is to build, repair, and maintain organ and muscle tissue. It also helps produce hormones, helps the body balance fluids, and assists the immune system in functioning properly. Protein helps keep your blood sugar stable and helps you stay full longer.

Protein is made up of amino acids. There are 20 amino acids that your body uses to make proteins. 9 of these proteins are considered *essential* amino acids and 11 are considered *non-essential*. Essential amino acids are proteins you must consume because your body cannot make them. Non-essential amino acids can be created by your body.

Meat, fish, poultry, legumes, and dairy are common sources of protein. Animal products, soy products, and quinoa are *complete proteins* because they provide all 9 of the essential amino acids. Whole grains, beans, peas, lentils, nuts, and seeds are *incomplete proteins*. You can still get all of the amino acids you need by eating a variety of incomplete proteins.



To optimize your protein intake, choose protein options that you enjoy. Eating protein throughout the day at meals and snacks will help you stay full longer and will help keep your blood sugar levels stable. While many believe that eating large amounts of protein will result in increased muscle bulk, extra protein alone will not build muscle. An adequate amount of protein combined with structured, consistent resistance training can help to improve body composition over time.

What could you do to optimize your protein intake? _____

Carbohydrates

The primary purpose of carbohydrates is to provide energy for the body. Carbohydrates contain 4 calories per gram. They are broken down into glucose (sugar) molecules and travel through your bloodstream to give energy to your cells. Carbohydrates are stored in your liver and muscle tissue and are used for quick energy when your blood sugar levels drop. Grains, fruits, and vegetables are great sources of carbohydrates, although some can also be obtained from dairy.

There are two kinds of carbs: simple and complex. Simple carbs can be broken down and digested very quickly, giving you a short-lived burst of energy, but will not keep you full for very long. White bread, white rice, and refined cereals are examples of simple carbs. Complex carbs are long chains of glucose in the form of starch and fiber. They will keep you full longer because they contain fiber and will give you more long-term energy. Fruits, vegetables, whole wheat bread, brown rice, and whole grain cereals are examples of complex carbs.

To optimize your carbohydrate intake, balance your consumption of simple and complex carbohydrates to ensure that you are fueling your body and providing it with all of the necessary vitamins and minerals.



Your Goals

1. _____

2. _____

Sources

- American Dietetic Association
- Mayo Clinic
- American College of Sports Medicine
- National Academy of Sports Medicine
- United States Department of Agriculture
- American Council on Exercise
- University of Washington: The Whole U
- National Strength and Conditioning Association



PHYSICAL FITNESS: PART 3

Think about the goals you set last week. Were you able to accomplish them? _____

What went well? _____

What could be improved? _____

What will be covered:

- Flexibility Overview
- Benefits of Flexibility
- Flexibility Myths
- Flexibility Basics
- Types of Flexibility Exercises
- Optimizing Fat Intake



Flexibility Overview

Flexibility is the ability of your soft tissues to stretch normally and of your joints to move through their full range of motion. Flexibility is influenced by genetics, connective tissue elasticity, joint structure, muscle strength, body composition, sex, age, activity level, and previous injuries. Flexibility combined with full joint range of motion results in proper mobility, or the ability to move freely. Poor flexibility can lead to improper body movements that can result in pain or injury.

How many times per week do you currently participate in flexibility exercises? _____

What kind of flexibility training do you typically engage in? _____

What barriers make it difficult for you to participate in flexibility training? _____

Benefits of Flexibility

Flexibility is a frequently overlooked and neglected aspect of physical fitness, but its importance cannot be ignored. Here are a few of the benefits of incorporating flexibility training into your exercise plan:

- **Increased range of motion.** Every joint has an ideal range of motion that allows you to move freely while remaining stable. The range of motion of a joint is partially dependent on the flexibility of the connecting muscles.
- **Improved circulation.** Flexibility training improves blood circulation by helping the muscles warm up and increasing oxygen and nutrient flow to the muscles.



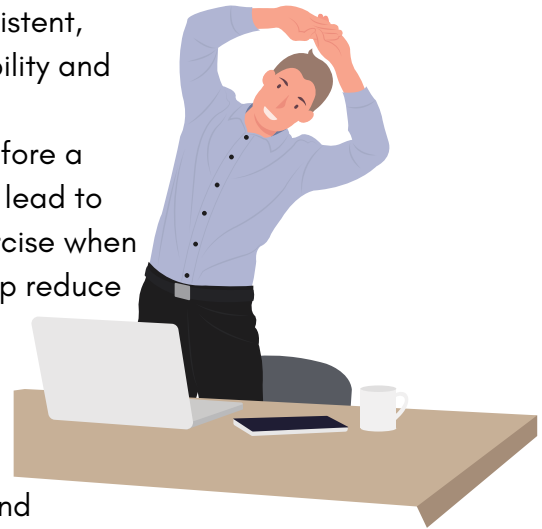
- **Improved posture.** Stretching the muscles of the lower back, shoulders, and chest can help the back remain in good alignment.
- **Reduced muscle stiffness.** Gentle kneading, rubbing, and stretching encourages blood flow and the release of lactic acid throughout the muscles, which relieves pain and stiffness.
- **Reduced risk of muscle strain and injury.** Flexible muscles and mobile joints are less likely to be overstretched and injured.
- **Lower back pain relief.** Increased flexibility of the hamstrings and quadriceps and core strength will help relax your back muscles, which will relieve pain and stiffness there.

Which of these benefits are most important to you? _____

Flexibility Myths

Here are a few common misperceptions about flexibility training. Consider how any of these myths have influenced your own perceptions of the importance of flexibility.

- **Stretching a couple times a week is plenty.** Consistent, frequent stretching is the best way to increase flexibility and range of motion and reduce the risk of injury.
- **Static stretching should come first.** Stretching before a workout when your muscles are cold and at rest can lead to muscle strains and tears. Static stretching after exercise when the muscles are warm is more beneficial and will help reduce muscle soreness in the coming hours and days.
- **Stretching will not improve my performance.** Dynamic stretching of the muscles that will be used during your workout is a great way to warm up and prepare your muscles for more intense movements and will help you perform at your best.
- **Stretching after a workout is unnecessary.** Stretching after a workout will reduce delayed-onset muscle soreness and the risk of potential injury.
- **Stretching one muscle group will only relieve pain or strain in that area.** Soreness in one area does not necessarily mean that those muscles are tight. For example, lower back pain could be an indication of tight hip flexors or hamstrings. Because everything in your body is connected, stretching one area could benefit many areas of your body.
- **All individuals need the same amount of stretching.** Flexibility is dependent upon many factors. For example, working long hours at a desk can lead to stiff muscles. Those that have more sedentary jobs or lifestyles may benefit from more frequent stretching.



- **"I'm already flexible so there is no need to stretch."** Dynamic stretching and warming up will help prevent injury no matter how flexible you are. Eliminating flexibility training will decrease blood flow to the muscles and may decrease your flexibility over time.

Flexibility Basics

As a general rule, you should stretch a minimum of three times per week, but stretching more frequently will result in even greater benefits. Flexibility training is easy to incorporate frequently because it can be done anywhere. You should also incorporate flexibility training both before and after you exercise. Be sure to incorporate a variety of stretching exercises for all of your muscle groups. Stretch your muscle to the point of tension, but not to the point of pain. If you feel pain, you have gone too far. Be gentle. Remember to breathe through your stretching. The greatest increases in flexibility and range of motion will happen when flexibility training is done while the muscles are warm.

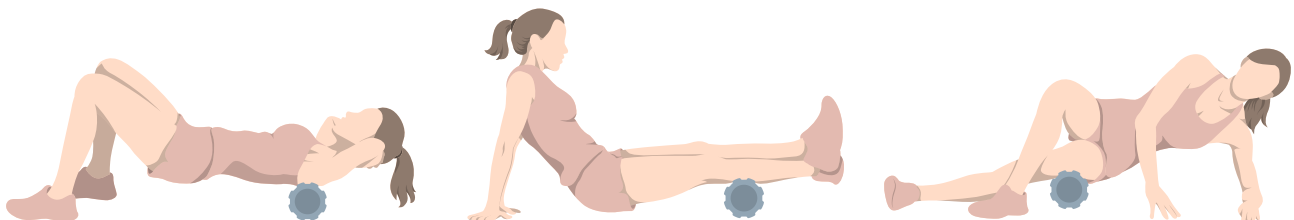


Types of Flexibility Exercises

There are many types of flexibility exercises. Try a variety so that you can identify the ones that you enjoy most and that are most beneficial to you.

Self-Myofascial Rolling

Myofascial refers to the body's connective tissues, including the muscles that surround bones and joints. Myofascial rolling can be done with a foam roller, a handheld roller, or a massage ball. The compression of the roller can help increase blood flow to the area and relax the connective tissue. The compression will also trigger the brain to send more tissue relaxers and pain blockers to the tissues being rolled. Self-myofascial rolling can help reduce pain, improve joint range of motion, and correct muscle imbalances. To properly perform this technique, gently roll over the muscle until you find a tender spot, sometimes referred to as a "knot". Sustain pressure on the tender spot for a minimum of 30 seconds or until you feel the knot release. This pressure will help to release the tension in the muscle. Self-myofascial rolling is a great warm-up before exercise and can help prepare the body for static stretching.



Static Stretching

Static stretching is the process of holding a muscle at the point of tension (not pain). As the muscle is held in a stretched position for a prolonged period of time, a relaxation response is triggered. There are two types of static stretching: active and passive. Static active stretching requires opposing muscle groups to hold the limb in position for the stretch. Static passive stretching uses body weight or an external force to hold the limb in place. For example, standing on one leg and holding the opposite leg out in front of you is a static active stretch because the quadriceps are actively holding the stretched limb up. Holding your leg out in front of you and resting it on a chair would be considered a static passive stretch. The same muscle is being stretched, but static active stretching requires other muscles to work. During static stretching, the limb itself does not move and the end position is typically held for at least 30 seconds. Static stretching is often most effective when done at the conclusion of a workout. Be sure to ease slowly in and out of each stretch. Do not bounce while stretching. Bouncing can cause you to stretch the muscle too far.



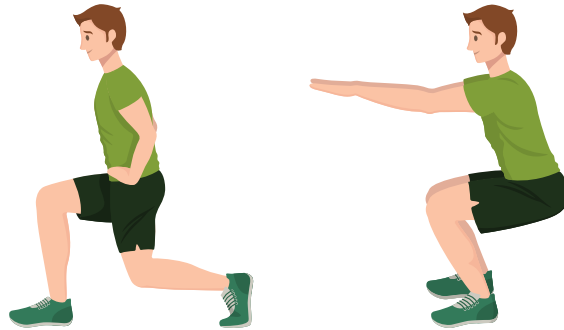
Active Stretching

Active stretching involves moving a joint through a range of motion. When a muscle contracts, its opposing muscle (or antagonist) receives a signal from the brain to lengthen. The opposite is also true. When a muscle is lengthened, its antagonist contracts. Active stretching increases flexibility by involving multiple muscles. For example, lying on your back and lifting one leg in the air to stretch your hamstring both increases the length of the hamstring and contracts the quadriceps, which allows the hamstring to elongate even more. 5 to 10 repetitions of each active stretch is typical and they are held for 1 to 2 seconds each. Active stretches are a great warm up for high intensity exercise.



Dynamic Stretching

Similar to active stretching, dynamic stretching also takes a joint through a full range of motion. The difference lies in the fact that instead of relying on the antagonist muscle to stretch the desired muscle, active stretching uses the force produced by the muscle you want to stretch and the body's momentum to take the joint through the full range of motion. Dynamic stretches that are similar to the movements going to be performed during a workout are often used as an effective warm up. Jumping jacks, squatting, and leg swings are examples of dynamic stretches. 10 to 15 repetitions of 3 to 10 exercises is typical for an exercise session.



Which of these types of flexibility exercises have you tried in the past? _____

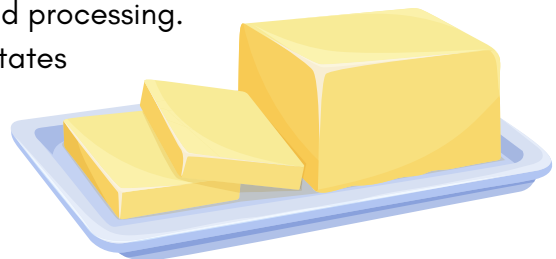
Which (if any) would you like to try incorporating in the future? _____

Optimizing Fat Intake

In addition to providing energy, fats provide satiety and satisfaction to your food. Fats contain 9 calories per gram. Fat protects your inner organs, insulates your body, improves brain function, and helps absorb the fat-soluble vitamins (vitamins A, D, E, and K). When it comes to fats, remember that the type of fat you consume is often more important than the amount.

Saturated Fats

Saturated fats come mainly from animal sources and are solid at room temperature. These types of fats raise your LDL cholesterol levels and lower your HDL cholesterol levels, which increases your risk of developing high blood pressure, heart disease, and strokes. You do not need to completely eliminate saturated fats from your diet. Work to include more unsaturated fats when possible. Cheese, butter, processed meats, coconut oil, and fried foods are examples of foods containing saturated fats. *Trans fat* is a type of saturated fat that occurs naturally in animal products and artificially during food processing. Artificial trans fats have been banned in the United States since 2018.



Unsaturated Fats

Unsaturated fats are liquid at room temperature. These types of fats lower blood pressure, improve blood cholesterol levels, decrease your risk of heart disease, and assist your body with blood sugar control. *Monounsaturated fats* are found in a variety of foods and oils, such as olive oil, peanut oil, almonds, and avocados. *Polyunsaturated fats* are mostly found in plant-based foods and oils. Omega-3 and Omega-6 are polyunsaturated fatty acids. Examples of foods containing polyunsaturated fats are fish, soybean oil, walnuts, flax seed, and sunflower seeds.



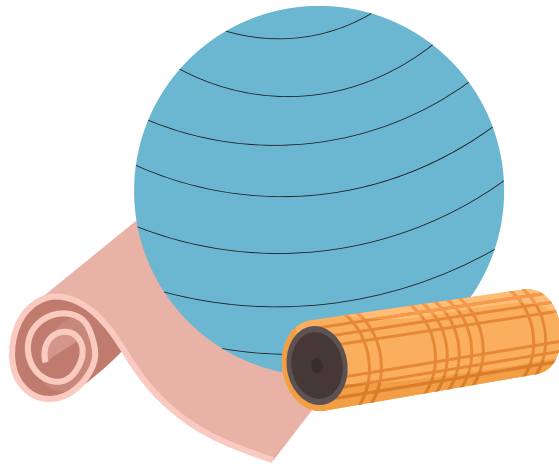
What changes do you need to make to improve your fat intake? _____

Your Goals

1. _____
2. _____

Sources

- American Dietetic Association
- Mayo Clinic
- American College of Sports Medicine
- National Academy of Sports Medicine
- United States Department of Agriculture
- Harvard Health Publishing
- American Council on Exercise
- Cleveland Clinic



The table below lists resources you can find online to learn how to properly perform many types of flexibility training exercises.

Type of Exercise	Resources
Self-Myofascial Rolling	• NASM Guide to Foam Rolling • NASM Online Exercise Library
Static Stretching	• ACE Exercise Database and Library • NASM Online Exercise Library
Active Stretching	• ACE Exercise Database and Library • Cleveland Clinic – Active Stretching: What It Is and How To Do It
Dynamic Stretching	• NASM Online Exercise Library • Harvard Medical School Dynamic Stretches Video