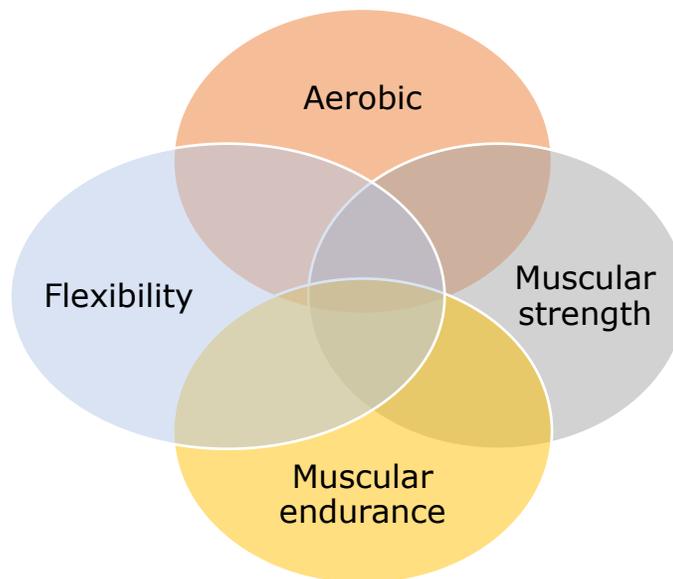




## Session 13: Strengthen Your Physical Activity Plan

Well-rounded physical fitness is made up of four parts: aerobic fitness (cardiovascular), flexibility, muscular strength, and muscular endurance. Each can be achieved by doing different types of activities. Each has its own benefits.



Up until now we have focused on moderate intensity physical activity (like brisk walking) and stretching exercises that improve aerobic fitness and flexibility. Improving muscular strength and endurance is also important, particularly as you get older.

**Muscular strength** is the ability of your muscles to use force in a short amount of time. Examples are the strength you need to lift a heavy object (a bag of groceries) or to get up off the floor with ease.

**Muscular endurance** is the ability of your muscles to move repeatedly without getting tired. It is a measure of how much energy you have to do things like climbing stairs, raking, and shoveling.

Resistance training (also known as strength training) will improve **both** muscular strength and endurance. It is any type of physical activity in which you move your muscles against resistance such as that provided by bands or weights.



## **Stay Stronger Longer: The Benefits of Resistance Training**

Your body is challenged every day to do many tasks that need a certain level of muscular strength and endurance. A safe resistance training program has many benefits and can help you maintain an independent lifestyle as you age.

### **Helps Prevent Diabetes**

- Can improve the body's ability to use insulin (a hormone released in your body to help regulate blood sugar) and maintain healthy glucose levels.
- Doing **both** resistance training and aerobic activity has been shown to be the most helpful in preventing diabetes.

### **Prevents Muscle Loss with Aging**

We naturally lose muscle mass with age. Resistance training:

- Can help preserve your muscle mass at any age.
- Firms and tones muscles. The GLB resistance training plan will not make muscles bulky or large or cause weight gain.
- Makes it easier to do daily chores such carrying groceries or doing yard work.
- Helps maintain **physical independence**.

### **Helps Maintain and Build Strong Bones**

By using your muscles and applying a moderate amount of stress to your bones, resistance training can:

- Increase bone density.
- Reduces the risk of osteoporosis and bone fractures.

### **Reduces Your Risk of Injury**

- Protects your joints from injury.
- Improves balance, coordination, and posture.
- Provides better mobility and balance, which leads to a lower risk of falling or being injured.

## Prevents Loss of Muscle Mass with Weight Loss

When you lose weight, it is normal to also lose some muscle mass.

- Resistance training can help reduce the amount of muscle mass you lose, more than aerobic training alone.
- Muscle burns more calories at rest than fat tissue. Having more muscles may help you lose weight and keep it off.

## Improves Your Sense of Well-Being

- Improves body image, self-confidence, and sleep.
- Reduces the risk of depression.

All these benefits confirm that maintaining muscular strength and endurance are very important. Strength is needed for activities of daily living such as:

- ✓ Getting in or out of a chair or car
- ✓ Carrying groceries
- ✓ Going up and down stairs
- ✓ Taking care of your personal needs
- ✓ Getting up off the floor

Can you think of any other activities of daily life that need strength and endurance?

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The GLB TBI goal is to do resistance training exercises **2 or more times per week.**

**Please note:** This strength training goal is *in addition* to your goal of 150 minutes of moderate intensity aerobic activity per week. Aerobic activity improves your heart fitness more than strength training.

The 2008 Physical Activity Guidelines for Americans clearly state that, *"in addition to aerobic exercise, adults should perform muscle-strengthening activities that involve all major muscle groups on 2 or more days per week."*



## The F.I.T.T. Principle A Guide for Resistance Training

F.I.T.T. is an acronym used to describe the components of a solid aerobic activity program and was presented to you in session 8. It can also be modified for use with resistance training to guide you in how to improve muscular strength and endurance in a safe manner.

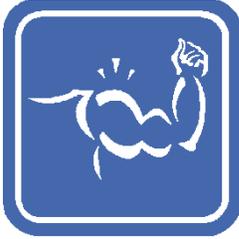
Here are some key definitions:

- **Range of motion:** the extent of movement around a specific joint
- **Repetition (or “rep”):** taking one exercise through its complete range of motion one time
- **Set:** a group of repetitions performed before resting. For example, Sadie does a wall push-up. She repeats it 10 times. This is one set.
- **RPE (Rating of Perceived Exertion):** Session 8 introduced this scale that allows you to rate from 1-10 how hard you feel you are working. For resistance training, aim to be working in the 5-6 range (“somewhat hard” to “hard”).

<b>F.I.T.T. for Resistance Training</b>	
<b>Frequency</b>	<ul style="list-style-type: none"> <li>• 2-3 days/week</li> <li>• Rest at least one day in between</li> </ul>
<b>Intensity</b>	<ul style="list-style-type: none"> <li>• 8-10 exercises*</li> <li>• 10-15 repetitions</li> <li>• 1-3 sets</li> <li>• RPE: “somewhat hard” to “hard”</li> </ul>
<b>Type</b>	<ul style="list-style-type: none"> <li>• Exercise bands, free weights, weight machines, body weight, milk jugs filled with water, etc.</li> </ul>
<b>Time</b>	<ul style="list-style-type: none"> <li>• 15-60 minutes</li> </ul>

\*At least one exercise should be performed on each major muscle group (e.g. chest, back, quadriceps (front of thigh), hamstrings (back of thigh), calves, shoulders, biceps, and triceps).

It is important that you don’t exercise the same muscle group two days in a row. Your muscles need time to rest and recover.



## **Keep it Safe: Guidelines for Resistance Training**

### **Check Your Equipment**

- Check the resistance band or tube for nicks, worn spots, or cuts.
- Be secure:
  - Always get a good grip on your band or other equipment.
  - If using resistance bands or tubing in a door, it is important to secure the band with a proper anchor for certain exercises.

### **Warm Up**

- Be sure to get your blood flowing by doing a warm-up for 5-10 minutes. This can be a low intensity activity like going for a short walk or walking in place.

### **Do Only the Exercises That You Are Able to Do Safely**

- Stop any exercise that causes pain or makes existing pain worse.
- If an exercise causes pain, speak to your health care provider or a physical therapist.

### **Do Not Hold Your Breath**

- Breathe throughout the exercise. Holding your breath can cause a dangerous rise in blood pressure.
- Exhale more often during the hardest part of the exercise, with each repetition.

### **Keep Each Movement Slow and Controlled**

- Avoid doing any exercises with fast jerky movements.
- For example, when doing a bicep curl, raise the band for 3 seconds and lower the band for 3 seconds.

### **Maintain Stable and Proper Posture for Each Exercise**

- Keep your back straight. Pull your belly button to your spine.
- Avoid rounding your shoulders. Keep shoulders relaxed.

### **Cool Down**

- Do some gentle stretches. Use the stretches from Session 4 as a guide.
- Or, walk around for a few minutes.



## Move it Forward: Guidelines for Progression

**Start Slow.** Gradual progression is key with resistance training.

- Is this your first time doing resistance training? Or is this your first time back after taking a break?
- Begin with 1 set of 10 repetitions (reps). Gradually work up to doing 3 sets of 10-12 reps. Over time, you can start to increase the number of sets and reps.

Here is a suggested plan for progression:

<b>Week Number</b>	<b>Number of Sets</b>	<b>Number of Reps</b>	<b>Intensity</b> (Rating of Perceived Exertion)	<b>Frequency</b> (days/week)
1-2	1	10	moderate	2-3
3-4	2	8	moderate - somewhat hard	2-3
5-6	2	10	somewhat hard	2-3
7-8	2	12	somewhat hard	2-3
9-12	3	8	hard	2-3
13-24	3	10-12	hard	2-3

### Rest

- Rest for 30-60 seconds after each set.
- Do not do strength training on the same muscles two days in a row.
- Do NOT skip the **warm up** and **cool down**.

### Progression is key

Once your body gets stronger it adapts to the resistance level you have been using. This is the time to move to the next level.

- Increase the intensity of your work-out program. Either increase the number of reps or the amount of resistance (see table above).
- After you have been doing an exercise regularly for at least 2 weeks, check your RPE. On the last rep, you should feel that you are not able to do much more and that you are close to fatigue.

**“NO PAIN, NO GAIN” is a MYTH, but slight SORENESS may occur.**

Some soreness is normal especially when you are getting started. If you have pain during strength training, STOP. Speak to your health care provider if you have lasting pain.



## **Group Lifestyle Balance Resistance Training Program**

GLB has created a sample resistance training program for you to try.

Equipment needed:

- Resistance bands or resistance tubing
- A good sturdy chair, preferably without arms
- A wall

You will also need:

- A copy of the suggested exercises with instructions
- A method to record and track your progress

Keep in mind all the points discussed in this session and give it a try.

We will spend time reviewing the exercises together as a group and revisit this topic later on in GLB.





## To Do:

### The Basics:

- Keep track of your weight.
- Record what you eat and drink using your preferred method. Come as close as you can to your calorie and fat gram goals.
- Record your physical activity using your preferred method. Come as close as you can to your activity goals.
  - Be physically active for at least 150 minutes per week.
  - Aim for an average of at least 50,000 steps per week.
- Keep moving throughout the day.

### What's New: Add Resistance Training

- Aim to complete the GLB Resistance Training program at least two times per week. Remember: Use resistance training exercises in addition to your aerobic (cardiovascular) program, not to replace it.
- Keep track of your resistance training program using the **GLB Resistance Training Log** or your preferred method.