

Session 3: Exercise Programming

Your Personalized Exercise Prescription

Your Kinesiologists personalize your exercise prescription for you so that you can achieve the most health benefits without harming your heart. Your exercise prescription will be based on a number of different factors, including:

1. Assessment & Medical History

- What your heart event and/or procedure was
- Any other health concerns or conditions that you have

2. Exercise Stress Test Results

- Your exercise tolerance level (amount of exercise that you can handle safely)
- Any symptoms that you may have noticed during the test
- Your heart rate and blood pressure before, during, and after the test
- Recommendations from the supervising physician

3. American College of Sports Medicine (ACSM) Guidelines for Exercise Testing and Prescription (10th edition)

- Your Kinesiologist will also be following recommendations from the most recent version of the ACSM Guidelines for cardiac rehabilitation

4. Preferred Type of Exercise

- Your Kinesiologist will work together with you to determine what types of exercise that you enjoy the most
- You'll also have to determine what your options are for participating in exercise and what equipment or resources you'll have available to you outside of the Rehab gym or in your home community
 - This is especially important when you've finished the program because you'll no longer have access to the Rehab gym



Your exercise prescription will be a specific plan of exercise and physical activities that will be structured using the **FITT Principle**.

FITT Principle

The FITT Principle is used as the foundation for your exercise prescription. It includes the Frequency (F), Intensity (I), Time (T), and Type (T) of exercise to be performed. All exercise prescriptions in the Cardiac Rehab Program are based on this framework. However, the exact makeup of each component of the FITT Principle will vary based on your individual characteristics. The table below outlines the definition of each component of the FITT Principle.

Table 1 – FITT Principle

Principle	Definition
Frequency	How often you exercise
Intensity	How hard you work during your exercise session
Time	The amount of time that your exercise is performed
Type	The type of exercise that you perform and/or the type of equipment that you use

**Adapted from American College of Sports Medicine Guidelines for Exercise Testing and Prescription (10th edition)*

Now, take a look at the Table below. Think about the Frequency, Intensity, Time, and Type of exercise that you were performing each week prior to entering Cardiac Rehab. As best you can, use this information to fill in the table.

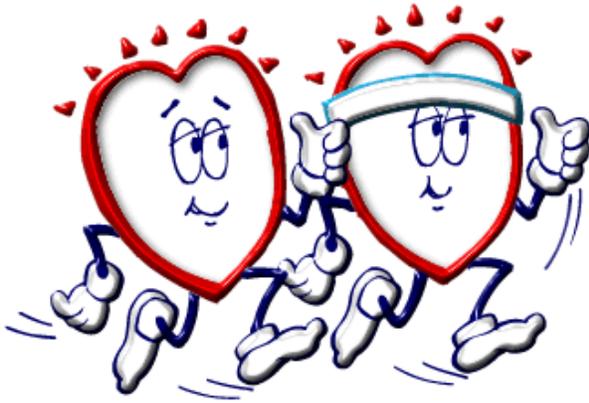
Table 1.1 – My FITT Principle Prior to Cardiac Rehab

Principle	Exercise
Frequency	
Intensity	
Time	
Type	

The Exercise Session

On the following pages, we will review how a proper exercise session should be structured. We will also review the Frequency, Intensity, Time, and Type of exercise that you should be performing in order to maintain and improve your health benefits.

Components of an Exercise Session



All exercise sessions should be structured to include the following four periods:

1. Warm-up
2. Training (FITT Principle)
 - a. Aerobic exercise
 - b. Resistance exercise
3. Cool-down
4. Flexibility/Stretching (FITT Principle)

1. Warm-up Period

Your exercise session will always begin with a warm-up. A warm-up helps your body to adjust and will prepare your heart, lungs, muscles, and blood vessels for more difficult activity. A warm-up also improves your range of motion (ROM), which may reduce the risk of injury during your exercise sessions.

- A warm-up should consist of 5-10 minutes of **fairly light** effort activity
 - That is an **11** on the **Borg Rate of Perceived Exertion (RPE) Scale** – See page 15 for instructions on how to track your effort
- An easy way to warm-up is to perform the same type of exercise that you'll be completing during your training period
 - Example: If you'll be walking on the treadmill during your training period, then warm-up by walking for 5-10 minutes at a slower pace than your prescribed exercise

2. Training Period

After your warm-up, you can progress to your training period at any time. During your training period, you'll be working within the heart rate range and effort level (RPE/METS) that has been prescribed for you. Your training period will include aerobic and/or resistance exercise. Performing a combination of both aerobic and resistance exercise can help you to achieve the most benefits toward your health and fitness. However, we typically focus on aerobic exercise for the first four weeks of the Cardiac Rehab Program before including resistance exercises.

a. Aerobic Exercise (Cardiorespiratory Fitness)

Aerobic exercise is the performance of an activity that you can sustain for a longer period of time. This helps to stimulate and strengthen your heart and lungs, which can make them work better over time. Regular aerobic exercise may also help you to manage your other cardiac risk factors by lowering your blood pressure, reducing your waist size, lowering your cholesterol, lowering your blood sugars, and improving your stress levels. The Table below outlines the recommendations for aerobic exercise, according to the FITT Principle, for maintaining/improving your health benefits.

Table 2 – FITT Principle for Aerobic Exercise

Principle	Aerobic Exercise
Frequency	At least 2-3 days per week as a minimum. We encourage you to try 5 days per week. More than 5 days per week could lead to injury if you're not well conditioned. Less than 5 days per week may not provide you with the same benefits to your health.
Intensity	Your Kinesiologist will show you how hard to work by providing you with a heart rate range and an effort level to work within. Sometimes it can be tricky to know if you're exercising at the right intensity. Refer to your exercise prescription and page 13 for monitoring instructions.
Time	We encourage you to accumulate 20-60 minutes of aerobic exercise per day. <ul style="list-style-type: none"> • This can be completed in bouts of at least 10 minute sessions • If your exercise capacity is limited, multiple shorter daily sessions (<10 minute) may be used as a starting point
Type	Cardiac Rehab gym equipment: <ul style="list-style-type: none"> • Treadmill, Nustep, upright and recumbent bikes, arm ergometer, stair stepper Home program and/or exercise outside of the Rehab gym: <ul style="list-style-type: none"> • Walking, biking, jogging, swimming, participating in sport/recreational activities, housework, gardening, splitting wood, mowing the lawn, exercise equipment available at home or at an accessible gym/recreation center, etc.

**Adapted from American College of Sports Medicine Guidelines for Exercise Testing and Prescription (10th edition)*

b. Resistance Exercise (Muscular Fitness)

Resistance exercise is any type of exercise that causes your skeletal muscles to contract. By doing so, you stimulate and strengthen your muscles, which makes them stronger and able to work longer. This can improve how well you perform activities of daily living like walking, stair climbing, and carrying groceries. As you get older you begin to lose muscle mass and strength. By consistently performing resistance exercise you can slow down that process, which can help you to take care of yourself, improve your quality of life, and live on your own for longer. Other benefits might include

improved balance, energy, sleep, and bone health as well as reduced muscle/joint pain, swelling, and fatigue. Resistance exercise may also help to manage your other cardiac risk factors by lowering your blood pressure, reducing your waist size, lowering your cholesterol, lowering your blood sugars, and improving your stress levels. The table below outlines the recommendations for resistance exercise, according to the FITT Principle, for maintaining/improving your health benefits.

Table 3. – FITT Principle for Resistance Exercise

Principle	Resistance Exercise
Frequency	2-3 days per week on nonconsecutive days (at least 48 hours between sessions). If your muscles feel sore then wait until you've recovered before performing your resistance exercises again.
Intensity	Your Kinesiologist will show you how hard to work by providing you with the amount of weight, number of repetitions, number of sets, and an effort level to work within. Sometimes it can be tricky to know if you're exercising at the right intensity. Refer to your exercise prescription and page 13 for monitoring instructions.
Time	In general, you'll be asked to perform 1-3 sets of 8-10 different exercises. <ul style="list-style-type: none"> • It may take you 30 minutes to complete your exercises
Type	Your Kinesiologist will help you determine what type of resistance exercises you'll perform (bodyweight, dumbbell, resistance bands) based on your characteristics. <ul style="list-style-type: none"> • You'll select equipment that is safe and comfortable to use • You'll use exercises that focus on all your major muscle groups

*Adapted from *American College of Sports Medicine Guidelines for Exercise Testing and Prescription* (10th edition)

3. Cool-down Period

You should always follow your training period with a cool-down. The purpose of a cool-down is to allow your heart rate, breathing, and blood pressure to return to rest level gradually. Skipping the cool-down period may also cause blood to pool in your legs and less blood flow to the heart and head, which can increase your chances of having symptoms such as dizziness.

- A cool-down should consist of 5-10 minutes of **fairly light** effort activity
 - That is an **11** on the **Borg Rate of Perceived Exertion (RPE) Scale** – See “Safe Exercise” for instructions on how to track your effort
- An easy way to cool-down is to perform the same type of exercise that you did during your training period
 - Example: If you walked on the treadmill during your training period then cool-down by walking for 5-10 minutes at a slower pace than your prescribed exercise

4. Flexibility/Stretching Period

Stretching is any type of exercise where you put your body into certain positions that lengthen your muscles or tendons. You should always stretch at the end of your exercise sessions, **after** your cool down, when your muscles are warm. If you want to stretch on a day that you won't be completing either aerobic or resistance exercise then make sure to warm up for 5-10 minutes before you begin stretching. Regularly stretching your muscles helps to improve your flexibility, increase your range of motion (ROM), and reduce your chance of getting injured during your exercise sessions. Stretching exercises can be placed into two separate categories called either **static** or **dynamic** stretches. Generally, static stretches are performed with no movement whereas dynamic stretches are performed with movement. Your Kinesiologist will provide you with a stretching exercise program to follow – See Appendix B: Program Stretches & Tracking Sheet. The table below outlines the recommendations for flexibility/stretching, according to the FITT Principle, for maintaining/improving your health benefits.

Table 4. FITT Principle for Flexibility/Stretching

Principle	Flexibility/Stretching
Frequency	At least 2-3 days per week. However, stretching every day is more beneficial.
Intensity	To the point of feeling tightness or slight discomfort, but no pain.
Time	It may take you 10 minutes to complete your stretches.
Type	Your Kinesiologist will provide you with stretching exercises. <ul style="list-style-type: none"> You'll perform both static and dynamic stretching exercises that focus on your major joints and limbs

**Adapted from American College of Sports Medicine Guidelines for Exercise Testing and Prescription (10th edition)*

How to Progress Your Exercise

Once you begin your program, your Kinesiologist will provide you with an Exercise Log Book. This book includes copies of each of the following:

- Your personalized Exercise Prescription Sheet
- Borg Rate of Perceived Exertion (RPE) Scale
- METs Chart
- Cardiac Rehab Stretches (See Appendix B: Program Stretches & Tracking Sheet)
- Exercise log sheets (See Appendix A: Blank Exercise Log Book Page)

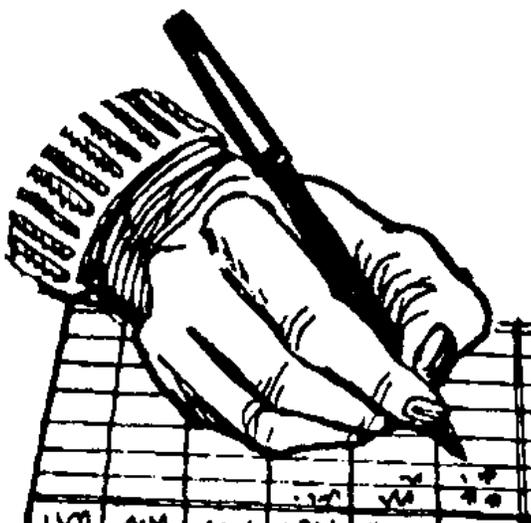


If you're interested in resistance exercise, then after the first 4 weeks your Kinesiologist will provide you with copies of:

- Your personalized resistance exercise program based on your goals and characteristics
- Exercise log sheets for resistance exercise

It's important to follow your personalized exercise prescription **AND** to record your workouts on the **exercise log sheets** provided. By recording your workouts, your Kinesiologist can safely progress your exercise by reviewing previous workouts and assessing your parameters (time, distance, heart rate, effort level, symptoms). Then, they can offer you suggestions or they may even decide to modify the components of the FITT principle on your Exercise Prescription Sheet and create a new copy for you. To ensure your safety, please speak to your Kinesiologist before progressing exercise on your own.

On the following pages, we will take a look at the components of the **exercise log sheets** and how to fill in your workouts. We will look at exercise log sheets for the In-Clinic Program, the Home Program, as well as an example of a resistance exercise log sheet.



How to Fill in Your Exercise Log Sheets

In-Clinic Program Logsheet

Each day that you come in to the Rehab gym you'll start by seeing your Kinesiologist so that they can record your **pre-exercise** parameters.

Once your pre-exercise parameters have been filled in, you can move into your exercise session. Your exercise session will always start with a **warm-up period**.

After your warm-up, you can begin your **training period** at any time. All of the equipment available to you in the Rehab gym is listed on your exercise log sheets. These include: Treadmill, Nustep, upright and recumbent bikes, arm ergometer, stair stepper. Be sure to record your workouts after you finish with each type of exercise.

Once you've completed your training period, you should finish with a **cool-down period** on the exercise equipment that you're currently using.

You can move into your **stretching/flexibility period** as soon as you feel comfortable to do so. Please follow the Cardiac Rehab stretches (Appendix B) provided for you.

Once you've completed your stretching/flexibility period, make sure to see your Kinesiologist before you leave so that they can record your **post-exercise** parameters.

Date: _____

PRE-EXERCISE MEASUREMENTS	
Resting HR: _____	BP: ____/____
WARM UP	
Time: _____	Type: _____
HR: _____	RPE: _____
TREADMILL	
Min: _____	MPH: _____ %Incline: _____
HR: _____	RPE: _____ Dist. _____
NUSTEP	
Min: _____	Level: _____ Dist: _____
HR: _____	RPE: _____ SPM: _____
UPRIGHT BIKE	
Min: _____	Level: _____
HR: _____	RPE: _____ RPM: _____
RECUMBENT BIKE	
Min: _____	Level: _____
HR: _____	RPE: _____ RPM: _____
ARM ERGOMETER	
Time: _____	Level: _____
HR: _____	RPE: _____
STAIR STEPPER	
Time: _____	Level: _____
HR: _____	RPE: _____
HALLWAY WALKING	
Dist: _____	Time: _____
HR: _____	RPE: _____
POST-EXERCISE MEASUREMENTS	
HR: _____	BP: ____/____
Comments: _____	

Home Program Logsheet

If you're unable to attend the In-Clinic Program or you've chosen to complete a Home Program then you may not have access to the Rehab gym equipment. Therefore, you'll be provided with Home Program exercise log sheets for aerobic exercise that you'll complete at your convenience. Do your best to record any exercise or physical activity that you complete at home or at work.

Example – Walking

Record the current week.

Record your effort level using the RPE Scale.

Describe how you felt during your exercise (e.g., felt good, tired, sore, etc.).

WEEK: Monday, December 31st - Sunday, January 6th

Date	Type of Exercise	Duration	10 Second Pulse			RPE (6 – 20)	How I felt	Comments
			Pre	During	Post			
January 1 st / 2019	- Brisk walk outside	- 30 min	10	20	10	13	- Felt good today	- No symptoms

Record the current date.

Record your exercise type.

Record the duration of your exercise in minutes and seconds.

Record the number of heart beats that you count in 10 seconds before, during, and after your exercise session.

Make note of any questions, concerns, or any symptoms that you noticed during your exercise.

Resistance Program

After the first 4 weeks of your Cardiac Rehab Program, you'll have the option to begin resistance exercises. Once you've been provided with a resistance program, you'll also be given log sheets for those specific resistance exercises. Do your best to fill in your log sheets. As soon as you complete a set, you should be recording your parameters into your resistance exercise log sheet.

Example – Bicep Curl

Jane has completed bicep curls as part of her resistance training program. She completed 10 repetitions in her first set using 8 lb dumbbells. In her second set, Jane was able to complete 12 repetitions. Jane didn't complete a third set. She filled in her tracking sheet as follows:

Record the current date.

		Date:	Date:	Date:	Date:	Date:	Date:	Date:	Date:	Date:	Date:	Date:	Date:
		Rps	Wt	Rps	Wt	Rps	Wt	Rps	Wt	Rps	Wt	Rps	Wt
Bicep Curl (Dumbbell)													
Sets: 1-3		Reps: 10-15		Frequency: every other day									
	Set 1	10	8 lbs										
		12	8 lbs										

The first row (Set 1) is where you'll record your first set under each date that you exercised. One set is equivalent to one round of reps of a particular exercise.

Under the reps (Rps) column, you'll record the number of repetitions that you completed. One rep is one complete movement of an exercise.

Under the weight (Wt) column, you'll record the amount of weight that you were able to use to complete your prescribed number of repetitions.

Session 3: What Have I Learned So Far?

1. What is the purpose of your exercise prescription?

2. What does the FITT Principle stand for?

3. What are the components of an exercise session?

4. What is the purpose of your exercise log sheets?
