

**AFPA**



AMERICAN FITNESS PROFESSIONALS & ASSOCIATES

# Rehab Exercise Handbook **LOWER EXTREMITY**

**THIS HANDBOOK WAS DESIGNED TO IMPROVE THE  
ABILITY OF INDIVIDUALS TO ENGAGE IN  
SELF-DIRECTED  
EXERCISE AND THERAPY  
PROGRAMS!**



**LOWER EXTREMITY EXERCISES:**  
Level I: Stretching Exercises

**EXERCISE LOG:**  
A complete guide to follow and record your progress, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with your therapist or physician.

## INTRODUCTION

This book was designed to improve the ability of individuals to engage in self-directed exercise and therapy programs. Although they can be used in conjunction with a medical physician, physical therapist, personal trainer, or exercise physiologist, they are also adequate for self-study and application. The exercises are illustrated and described in visually appealing detail. They also provide a wide range of stretches and exercises that can be tailored to almost any condition, frequent or rare.

Self-care and rehabilitation are synonymous. Rehabilitation has more medical connotations, but someone does not need a medical condition to begin taking better care of themselves. Many of the conditions seen by physicians can be alleviated or substantially decreased through diligence with a home stretching or exercise program. This is becoming more important as people engage in jobs that overuse only a few muscles, for example, computer operators who maintain static positions of their neck, shoulder and arms for possibly an entire work day. Likewise, weekend warriors—whether they are doing battle on the ball field or the front lawn—frequently suffer from pain generated by strained muscles or ligaments that have been dormant the remaining six days of the week.

As with any exercise program, the input of a physician is necessary if an individual suffers from any type of chronic condition, e.g. heart disease, osteoporosis, diabetes, or chronic obstructive pulmonary disease. This is especially important if someone is just beginning a program after many years of sedentary activity. If there is any type of heart condition, you need to consult a physician before engaging in even the simplest of activities. Never underestimate the damage done by years of neglect or lack of activity.

The goal of this book, as with any approach to human health, is to promote a balance between the external environment and the internal body. Life is an interaction between mind, body and soul, that is shaped and influenced by job, family, and lifestyle. The latter has been sadly influenced to a large degree by television, time restraints, and commodities designed for a fast-paced existence. However, there is no short-cut to health. The good news is that very little time is required to maintain long term and cumulative gains. All that is needed is dedication, encouragement and the realization that everything that is done, no matter how minimal an effort, can add up to years of energy, relaxation, and improved health. I hope this book can contribute in some way to that path and outcome.

# LOWER EXTREMITY

STRETCHING  
&  
STRENGTHENING  
EXERCISE  
PROGRAMS

## **LEVEL I: STRETCHING EXERCISES**

Perform these stretches using the “rule of fives.” Take five seconds to bring yourself into the stretch, hold the position of maximum stretch for five seconds, and then release yourself from the stretch over a period of five seconds. Do the stretches in sets of five, and up to five times per day. Do only those stretches suggested by the therapist. It is important for you to breathe during any of these exercises. Review the breathing suggestions below.

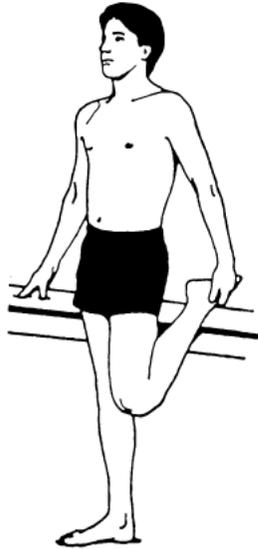
### **BREATHING**

Breathing is a natural pattern that can be utilized to provide additional comfort during the exercise program. Learning to breathe deeply and slowly helps you relax during exercises and stretches. Following is a script to help you breathe more appropriately.

“Begin by first noticing your breathing pattern before you start your program. Take in a deep breath, relax, and exhale all the air you possibly can. Do not force yourself to over-breathe on your inhaled breaths, but do try to empty your lungs as much as possible when you exhale. Do this in a rhythmic pattern before, during, and after either stretching or strengthening. This pattern of breathing will soon become more natural and you will find that it not only helps you deal with any discomfort that is part of your exercise program, but can also be used as a relaxation aid during the day, before sleep, or in periods of high stress.”

# — Lower Extremity Exercise 1 —

**Figure 1. Quadriceps stretch.**  
 This stretches the muscles that straighten, or extend, the leg. Supporting yourself against a table, grab your foot at the ankle and resist attempts to straighten your leg. You will feel a stretch in the front of your thigh. Repeat this for the opposite leg.



*PERFORM THIS EXERCISE FOR:* \_\_\_ Sets  
 \_\_\_ Times per day  
 \_\_\_ Days per week

**EXERCISE LOG:**

Record your progress in the log below, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with the therapist or physician.

EXERCISE - 1	DATE						

Notes:

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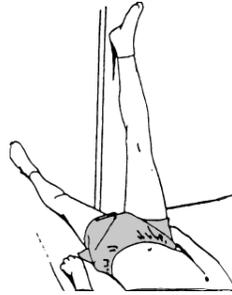


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# — Lower Extremity Exercises 2 - 3 —

## Exercise 2

**Figure 2. Hamstrings stretch.** This stretches the muscles that bend, or flex, the knee. Lie on the floor with one leg through a doorway, so that you can slide the other leg up the wall while you scoot yourself through the doorway with your hips, hand, and other leg. Repeat this for the opposite leg.



## Exercise 3

**Figure 3. Hamstrings stretch.** This is another type of hamstring stretch performed using a stool or chair. Place your foot on the chair and ensure that your balance is secure. Slowly lean forward, sliding your hands down the front of your lower leg until you feel a stretch. Hold the point of maximum stretch for five seconds.



**PERFORM THIS EXERCISE FOR:** \_\_\_\_\_ Sets  
 \_\_\_\_\_ Times per day  
 \_\_\_\_\_ Days per week

### EXERCISE LOG:

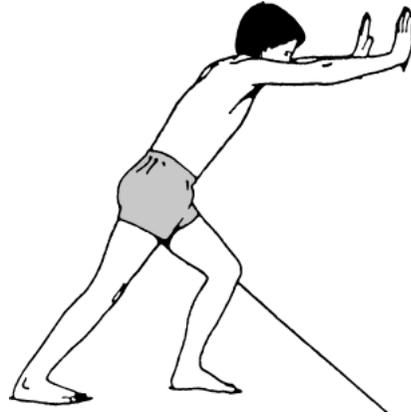
Record your progress in the log below, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with the therapist or physician.

EXERCISES -2-3	DATE						

Notes:

## — Lower Extremity Exercise 4 —

**Figure 4. Gastrocnemius stretch.** This muscle is one of two calf muscles that help you to stand on your tip toes. It crosses the knee joint and inserts on the upper leg bone so it is stretched by keeping your leg straight. Perform this stretch by leaning into a wall with your leg straight and your heel flat on the floor. Flex your arms to continue leaning into the wall until you feel a stretch in your calf. Perform the recommended number of repetitions and then repeat using the other leg.



*PERFORM THIS EXERCISE FOR:* \_\_\_ Sets  
 \_\_\_ Times per day  
 \_\_\_ Days per week

### EXERCISE LOG:

Record your progress in the log below, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with the therapist or physician.

EXERCISE - 4	DATE						

Notes:

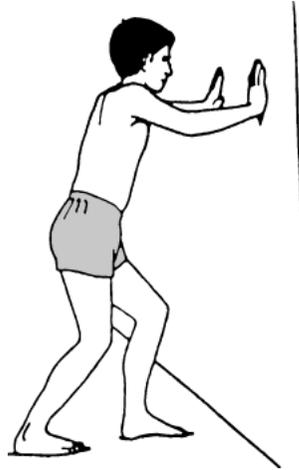
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## — Lower Extremity Exercise 5 —

**Figure 5. Soleus stretch.** This muscle is the other of the two calf muscles that help you to stand on your tiptoes. It does not cross the knee joint so it is stretched by keeping your leg bent. Perform this stretch by leaning into a wall with your leg slightly bent and your heel flat on the floor. Flex your arms to continue leaning into the wall until you feel a stretch in your calf. Perform the recommended number of repetitions and then repeat using the other leg.



*PERFORM THIS EXERCISE FOR:* \_\_\_\_\_ Sets  
 \_\_\_\_\_ Times per day  
 \_\_\_\_\_ Days per week

### EXERCISE LOG:

Record your progress in the log below, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with the therapist or physician.

EXERCISE - 5	DATE						

Notes:

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## — Lower Extremity Exercise 6 —

**Figure 6. Iliotibial band stretch.**  
 This structure can be a common source of hip pain. Perform this stretch against a corner wall. Keeping your back straight, lean your hip into the wall, then take the leg farthest from the wall and cross it in front of your other leg.



*PERFORM THIS EXERCISE FOR:* \_\_\_ Sets  
 \_\_\_ Times per day  
 \_\_\_ Days per week

**EXERCISE LOG:**

Record your progress in the log below, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with the therapist or physician.

EXERCISE - 6	DATE						

Notes:

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## — Lower Extremity Exercise 7 —

**Figure 7. Single knee-to-chest stretch.** This exercise stretches the gluteus maximus and the muscles of the low back. Lay on a hard surface, such as the floor. Pull one knee to your chest until you feel a stretch in the buttocks and lower back. Remember to hold these stretches for five seconds. Perform the recommended number of repetitions and then repeat for the opposite leg. Continue on to exercise 8.



PERFORM THIS EXERCISE FOR: \_\_\_ Sets  
 \_\_\_ Times per day  
 \_\_\_ Days per week

**EXERCISE LOG:**

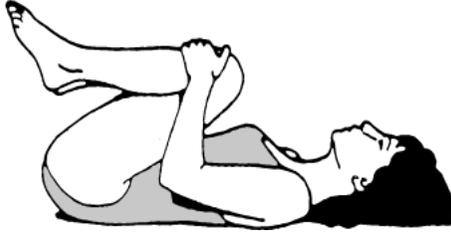
Record your progress in the log below, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with the therapist or physician.

EXERCISE - 7	DATE						

Notes:  
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## — Lower Extremity Exercise 8 —

**Figure 8. Double knee-to-chest stretch.** Pull both knees to your chest until you feel a comfortable stretch in the buttocks and lower back. Hold and release. Continue to exercise 9.



*PERFORM THIS EXERCISE FOR:* \_\_\_ Sets  
 \_\_\_ Times per day  
 \_\_\_ Days per week

**EXERCISE LOG:**

Record your progress in the log below, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with the therapist or physician.

EXERCISE - 8	DATE						

Notes:

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## — Lower Extremity Exercise 9 —

**Figure 9. Cross leg stretch.** Cross one leg over the other and gently pull toward your chest until you feel a comfortable stretch in the buttocks and lower leg. Hold and release; perform the recommended number of repetitions and then repeat for the opposite leg.



*PERFORM THIS EXERCISE FOR:* \_\_\_\_\_ Sets  
 \_\_\_\_\_ Times per day  
 \_\_\_\_\_ Days per week

**EXERCISE LOG:**

Record your progress in the log below, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with the therapist or physician.

EXERCISE - 9	DATE						

Notes:  
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## — Lower Extremity Exercise 11 —

**Figure 11. Piriformis stretch.** This exercise stretches the piriformis muscle, and other muscles that act to rotate the leg outward; they are known as the external rotators. Begin by sitting comfortably. Bend one leg at the knee and place this leg flat on the floor, as if you were going to sit cross-legged. Then bend the opposite leg at the knee, placing this foot on the outside of the knee of the leg that is on the floor. After you are comfortable, twist to bring over the arm on the same side as the leg in the crossed-legged position so that you can place it on the inside of your bent knee, reaching down to place your hand on the knee that is on the floor. Use your other hand to stabilize yourself as you twist back. Hold this position for five seconds. Rather than completely bringing yourself out of this position, just relax the arm on the outside of your knee. Straightening this arm is the force that helps you twist into the stretch. You will see how relaxing the arm relieves the stretch, and straightening it brings you into the stretch. This stretch sometimes takes a little practice.



**PERFORM THIS EXERCISE FOR:** \_\_\_\_\_ Sets  
 \_\_\_\_\_ Times per day  
 \_\_\_\_\_ Days per week

### EXERCISE LOG:

Record your progress in the log below, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with the therapist or physician.

EXERCISE - 11	DATE						

Notes: \_\_\_\_\_  
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### **DISCLAIMER NOTICE:**

These manuals are presented only as a summary of information for health care providers involved in the rehabilitation of musculoskeletal conditions. No standard of care is stated or implied. These manuals are not intended nor properly used as a substitute for treatment, only as an adjunct to aid clinical expertise. The exact protocol and progress employed is the determination of the health care provider who assumes all responsibilities for its application.