

AFPA



AMERICAN FITNESS PROFESSIONALS & ASSOCIATES

Rehab Exercise Handbook For The **BACK**

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



EXERCISE LOG:

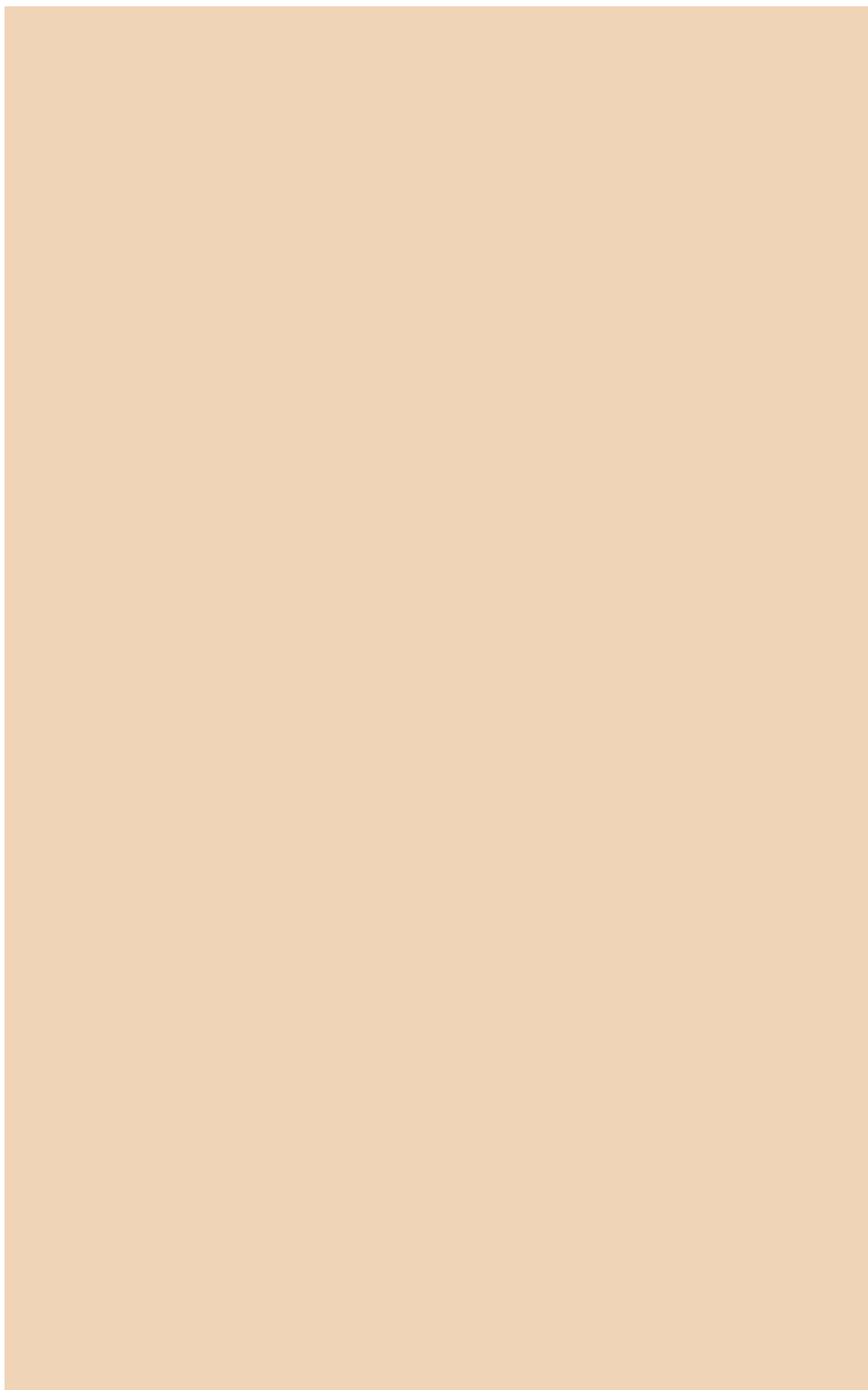
A complete guide to follow and record your progress, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with your therapist or physician.

BACK EXERCISES:

Level I: Neutral Back

Level II: Williams Flexion

Level III: Extension Exercises



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.

BACK

STRETCHING
&
STRENGTHENING
EXERCISE
PROGRAMS

LEVEL I: NEUTRAL BACK

Neutral back position refers to the position you are in when your back is causing the least amount of pain. Find your neutral back position while lying on your back with your knees bent, as shown in exercise 1. This is accomplished by slowly arching and relaxing your back, trying to find a pain free position of relaxation between these two extremes, termed the neutral position. After you find your neutral position tighten your abdominal muscles. You should not experience any pain. If you do, then you are not yet in your neutral position. After you have found your neutral position, and before proceeding, practice the breathing exercises described below. It is important to not hold your breath during any of these exercises. The neutral back program is a combination of stretching and strengthening.

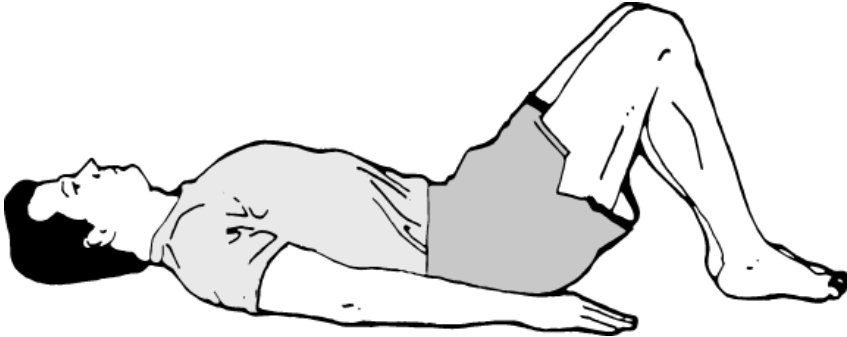
BREATHING

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.”

Back Exercise 1

Figure 1. Neutral back position. After you have comfortably attained this position begin with isometric exercises of the gluteal muscles. Maintain your neutral back position with your knees bent. Tighten the muscles in your buttocks and hold them taut for 10 seconds, then release. Continue this process of tightening and releasing.



PERFORM THIS EXERCISE FOR: ___ Sets
 ___ Times per day
 ___ Days per week

EXERCISE LOG:

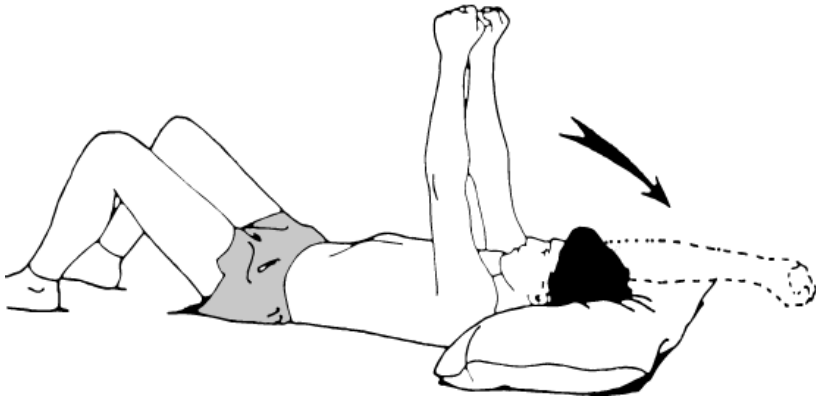
Record your progress in the log below, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with the therapist or physician.

EXERCISE - 1	DATE	DATE	DATE	DATE	DATE	DATE	DATE

Notes: _____

Back Exercise 2

Figure 2. Neutral back with arm lifts. Maintain your neutral back position with your knees bent. Slowly lift your arm overhead (do not swing your arm), moving it in a steady arc until you have reached as far overhead as you can. Hold it in this position for 5 seconds, and then slowly bring it back to your side. Repeat this for the other arm, and continue alternating in this pattern. You may need to use a pillow or a thick towel to minimize the discomfort of the floor on your shoulder.



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 - 2	DATE	DATE	DATE	DATE	DATE	DATE	DATE

Notes: _____

Back Exercise 3

Figure 3. One leg slides. Assume your neutral back position with your knees bent. Slowly slide one heel away from your body until your leg is straight, then slide it back to neutral position. Repeat this for the opposite side.



PERFORM THIS EXERCISE FOR: _____ Sets
 _____ Times per day
 _____ Days per week

EXERCISE LOG:

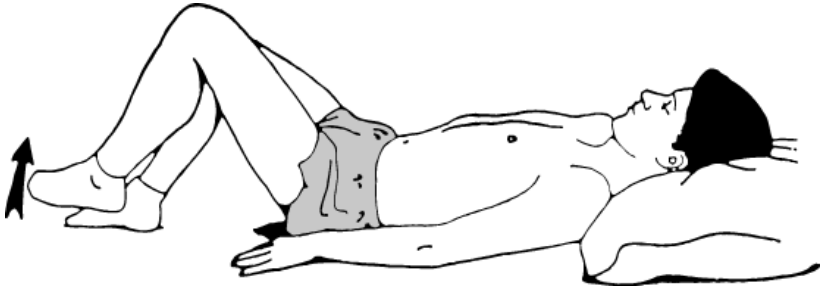
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EXERCISE - 3	DATE	DATE	DATE	DATE	DATE	DATE	DATE

Notes:

Back Exercise 4

Figure 4. *Marching.* Maintain your neutral position, with your knees bent. Lift one foot approximately 5-6 inches above the ground over 5 seconds, hold this for 5 seconds, and slowly lower your foot. Repeat this for the opposite side.



PERFORM THIS EXERCISE FOR: _____ Sets
 _____ Times per day
 _____ Days per week

EXERCISE LOG:

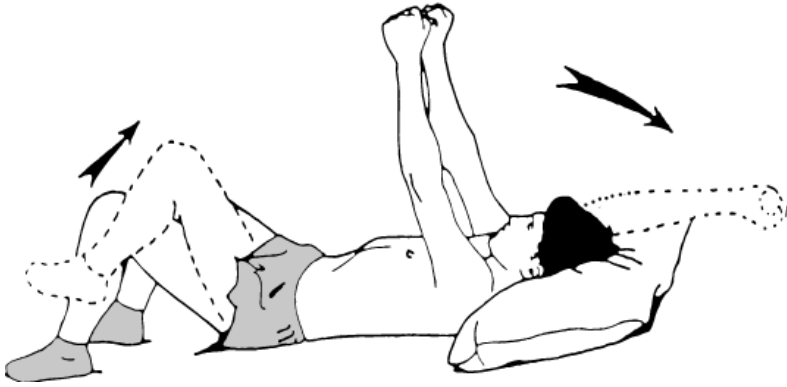
Record your progress in the log below, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with the therapist or physician.

EXERCISE - 4	DATE	DATE	DATE	DATE	DATE	DATE	DATE

Notes:

Back Exercise 5

Figure 5. Marching with hand raising. Maintain your neutral position with your knees bent. Lift one foot approximately 5-6 inches above the ground over 5 seconds, hold this for 5 seconds, and slowly lower your foot. At the same time you are raising your foot, swing the arm of your opposite side above your head as you did for the exercise in figure (2), then bring your arm down as you lower your leg. Repeat this using your other leg, raising the arm on the opposite side of your body and bringing it down as you lower your leg.



PERFORM THIS EXERCISE FOR: ___ Sets
 ___ Times per day
 ___ Days per week

EXERCISE LOG:

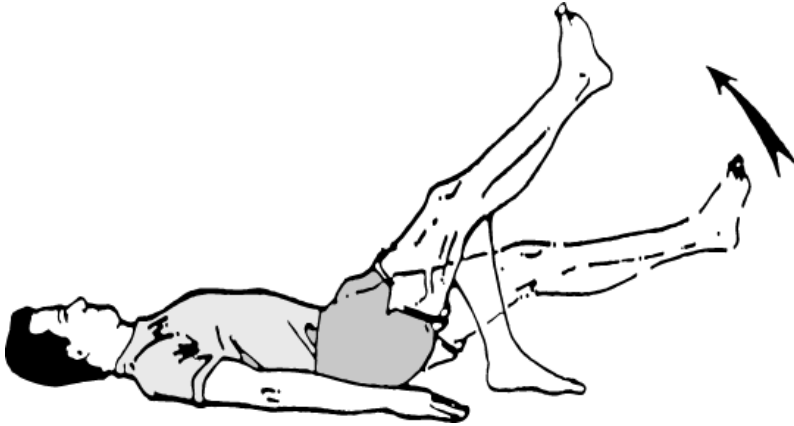
Record your progress in the log below, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with the therapist or physician.

EXERCISE - 5	DATE	DATE	DATE	DATE	DATE	DATE	DATE

Notes:

Back Exercise 6

Figure 6. *Straight leg raises.* Maintain your neutral position with your knees bent. Straighten one leg into the air over 5 seconds, hold this for 5 seconds and then lower your leg back to the bent leg neutral position. Repeat this for the opposite side.



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	DATE	DATE	DATE	DATE	DATE	DATE

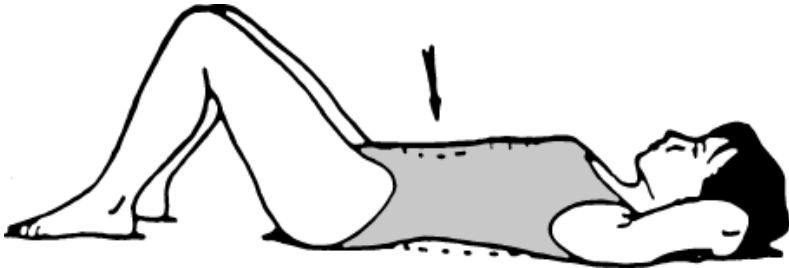
Notes:

LEVEL II: WILLIAMS FLEXION

Williams flexion exercises decrease the compressive load to the posterior intervertebral disc and also open the intervertebral foramen. These exercises consist of 4 stretching activities, exercises 7-10, and 4 strengthening activities, exercises 11-14.

Back Exercise 7

Figure 7. Back tightening. In this exercise try to push the small of your back into the floor, flattening your back throughout its length. Keep your hands together, underneath your head.



PERFORM THIS EXERCISE FOR: ___ Sets
 ___ Times per day
 ___ Days per week

EXERCISE LOG:

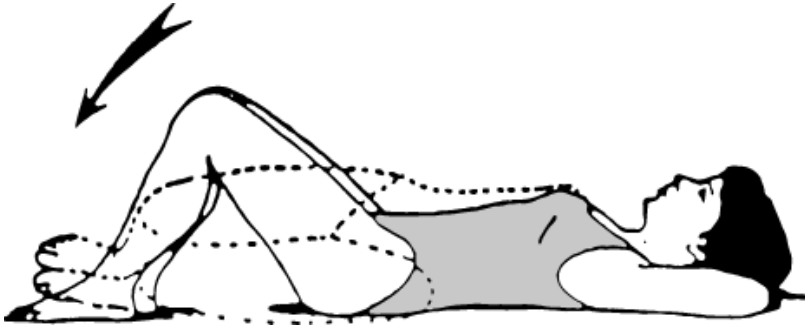
Record your progress in the log below, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with the therapist or physician.

EXERCISE - 7	DATE	DATE	DATE	DATE	DATE	DATE	DATE

Notes:

Back Exercise 8

Figure 8. Lower trunk rotation. After you have brought yourself into the flat-back position of exercise 7, slowly rotate your knees and legs as far over to one side as possible (keep your knees together), hold this position for 5 seconds and then slowly return to midline. Alternate sides and bring your knees just as far over to the other side. Rest your hands underneath your head.



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	DATE	DATE	DATE	DATE	DATE	DATE

Notes:

Back Exercise 9

Figure 9. Single knee-to-chest stretch. 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. Hold this for 5 seconds. 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	DATE	DATE	DATE	DATE	DATE	DATE

Notes:

Back Exercise 10

Figure 10. Double knee-to-chest stretch. Lay on a hard surface, such as the floor. Pull both knees to your chest until you feel a comfortable stretch in the buttocks and lower back. Hold this for 5 seconds, and then slowly return your legs to the floor.



PERFORM THIS EXERCISE FOR: _____ Sets
 _____ Times per day
 _____ Days per week

EXERCISE LOG:

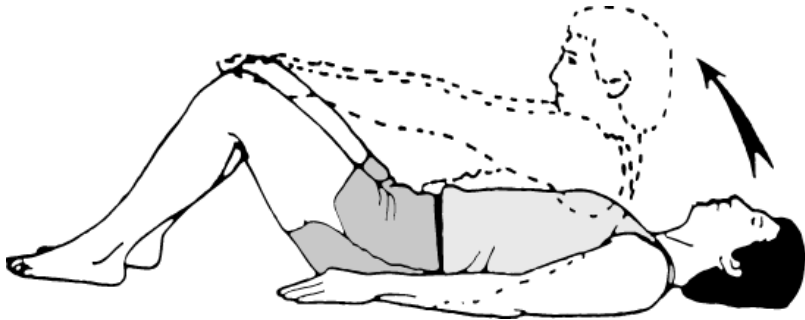
Record your progress in the log below, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with the therapist or physician.

EXERCISE - 10	DATE	DATE	DATE	DATE	DATE	DATE	DATE

Notes:

Back Exercise 11

Figure 11. *Straight curl-ups.* Assume your neutral back position with your hands resting at your side. Slowly rise straight up and touch your hands to your knees, hold them at your knees for 5 seconds and then slowly lower yourself to the floor. Do not jerk yourself up. If you cannot touch your knees initially then reach as far as you can, and work toward a goal of touching your knees.



PERFORM THIS EXERCISE FOR: _____ Sets
 _____ Times per day
 _____ Days per week

EXERCISE LOG:

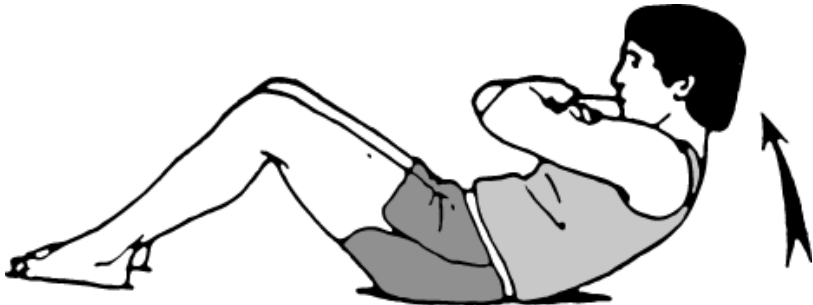
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EXERCISE - 11	DATE	DATE	DATE	DATE	DATE	DATE	DATE

Notes:

— Back Exercise 12 —

Figure 12. *Folded arm curl-ups.* Maintain your neutral back position and cross your arms on your chest. Curl-up until your head, neck, shoulders, and mid back are off the floor. Your low back should still maintain floor contact. Hold this position for 5 seconds, then slowly lower your body back to the floor.



PERFORM THIS EXERCISE FOR: ___ Sets
 ___ Times per day
 ___ Days per week

EXERCISE LOG:

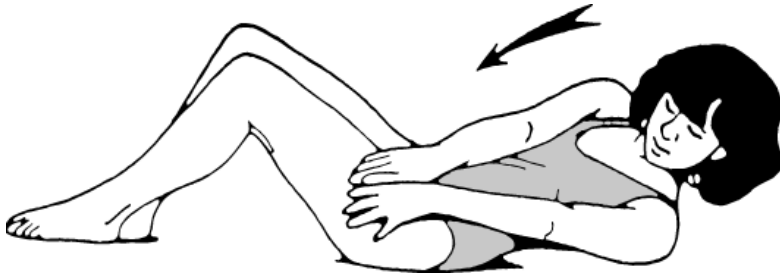
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EXERCISE - 12	DATE	DATE	DATE	DATE	DATE	DATE	DATE

Notes:

———— Back Exercise 13 ————

Figure 13. Diagonal curl-ups I. Maintain your neutral position with your hands coming together on your midline between your legs. Slowly raise your head and shoulders and rotate to one side, try to bring your hands down to the floor next to your hip. Hold this position for 5 seconds, then slowly lower your body back to the floor. Repeat this for the opposite side.



PERFORM THIS EXERCISE FOR: _____ Sets
 _____ Times per day
 _____ Days per week

EXERCISE LOG:

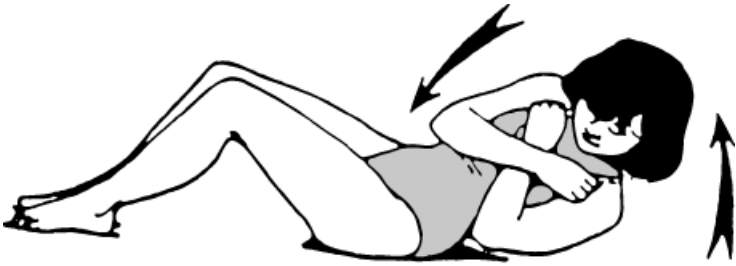
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EXERCISE - 13	DATE	DATE	DATE	DATE	DATE	DATE	DATE

Notes: _____

Back Exercise 14

Figure 14. Diagonal curl-ups II. Maintain your neutral position and fold your arms across your chest as shown in the illustration. Slowly raise your head and shoulders and rotate to one side. Curl-up until your head, neck, shoulders, and mid back are off the floor. Your low back should still maintain floor contact. Hold this position for 5 seconds, then slowly lower your body back to the floor. Repeat this for the opposite side.



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 - 14	DATE	DATE	DATE	DATE	DATE	DATE	DATE

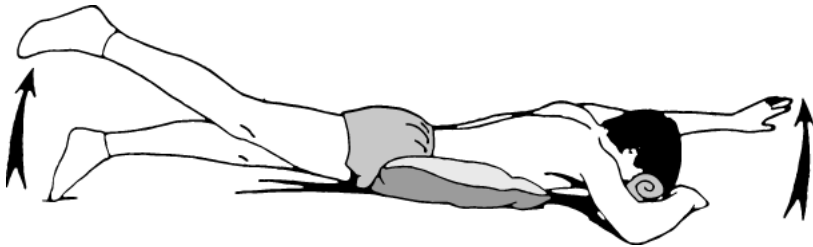
Notes:

LEVEL III: EXTENSION EXERCISES

This section is designed to stretch and strengthen the back extensor musculature. Rather than isolating specific muscles, these exercises address groups of muscles in the back, buttock, and upper leg.

Back Exercise 15

Figure 15. Prone leg raises and arm extension. These are performed lying on the floor on your stomach. You may wish to place a pillow under your abdomen and also a small pillow or thick towel under your forehead. Do not hyperextend your neck. First reach above your head with one arm, bringing it up in a sweeping, arc-like motion; do this several times. Repeat this for the other arm. After you have loosened up, lift this arm with the opposite leg, for example, lift your left arm with your right leg. Repeat this using your right arm with your left leg.



PERFORM THIS EXERCISE FOR: ___ Sets
 ___ Times per day
 ___ Days per week

EXERCISE LOG:

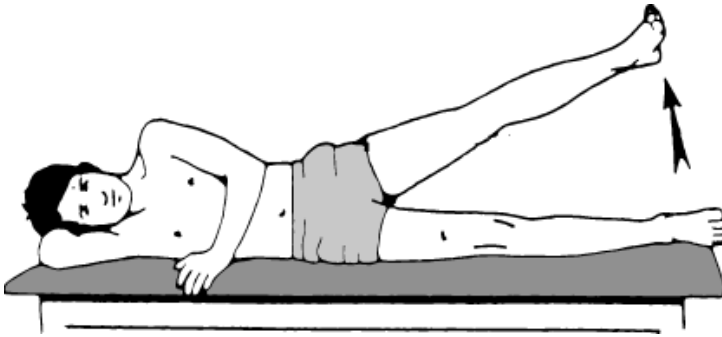
Record your progress in the log below, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with the therapist or physician.

EXERCISE - 15	DATE	DATE	DATE	DATE	DATE	DATE	DATE

Notes:

— Back Exercise 16 —

Figure 16. Leg Lifts. Lay on one side with your hand under your head. Take 5 seconds to raise your leg, hold it in position for 5 seconds, and lower it over 5 seconds. Try not to move your back or pelvis. After you have completed the required number of leg lifts for that side, roll onto the other side and do the same number of leg lifts.



PERFORM THIS EXERCISE FOR: _____ Sets
 _____ Times per day
 _____ Days per week

EXERCISE LOG:

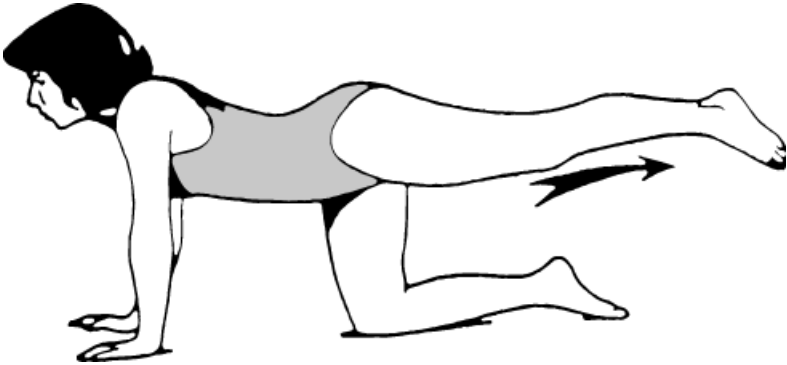
Record your progress in the log below, noting the number of repetitions or sets of each exercise completed. Record any additional notes you may wish to discuss with the therapist or physician.

EXERCISE - 16	DATE	DATE	DATE	DATE	DATE	DATE	DATE

Notes:

— Back Exercise 17 —

Figure 17. Leg Straightening. Straighten out your leg until it is in the position shown in the illustration. Hold it in this position for 5 seconds, and lower it over 5 seconds. Repeat for the opposite leg.



PERFORM THIS EXERCISE FOR: _____ Sets
 _____ Times per day
 _____ Days per week

EXERCISE LOG:

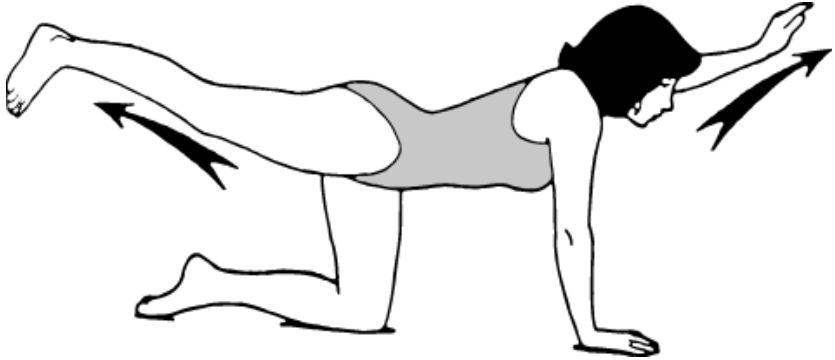
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EXERCISE - 17	DATE	DATE	DATE	DATE	DATE	DATE	DATE

Notes: _____

———— Back Exercise 18 ————

Figure 18. Leg and Arm Straightening. Lift your left arm with your right leg, bringing both your arm and leg straight out from your body so that they are parallel to the floor. Hold this position for 5 seconds. Repeat this exercise using the opposite limbs, lifting your right arm with your left 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 - 18	DATE	DATE	DATE	DATE	DATE	DATE	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.