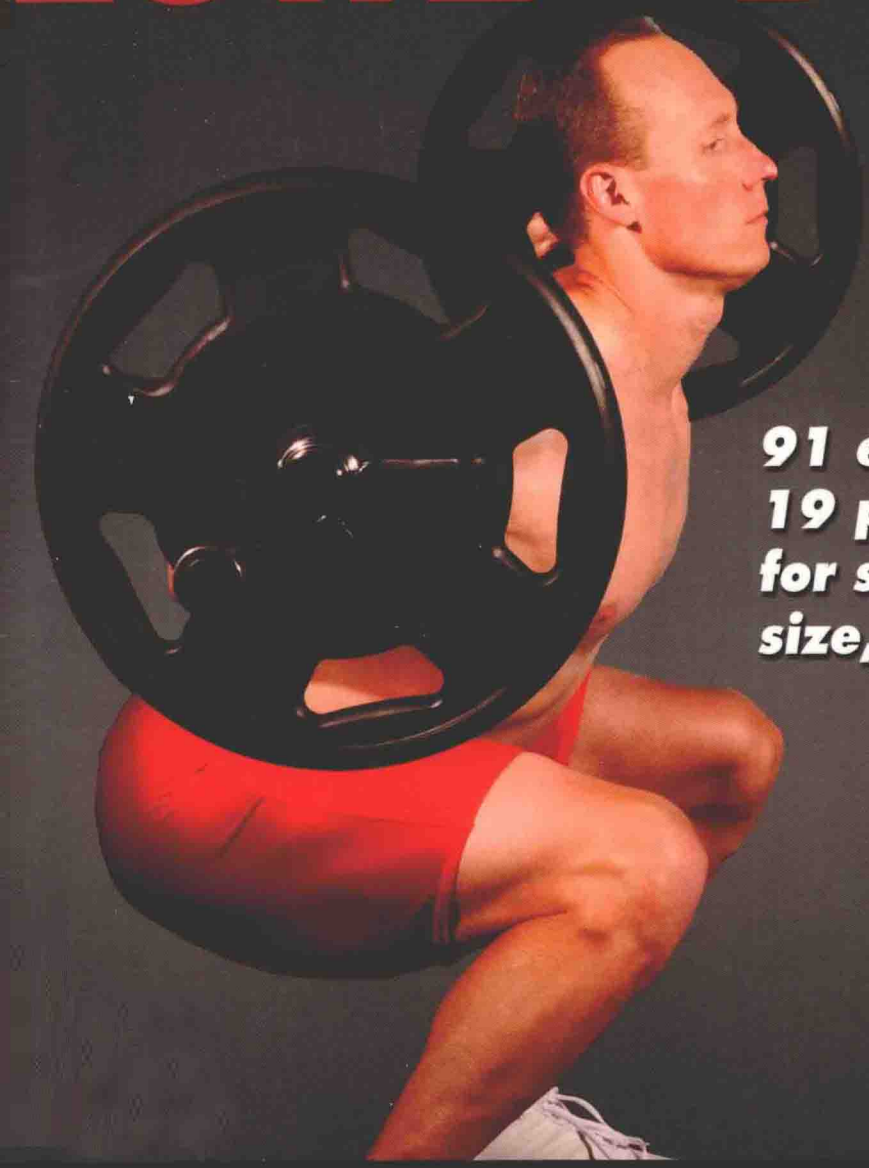
STRONGER LEGS & LOWER BODY



91 exercises and 19 programs for strength, size, and power

Tim Bishop

Stronger Legs & Lower Body

TIM BISHOP

Human Kinetics

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Introduction

People have been looking for ways to develop strength in the legs and lower body for over 2,000 years. Consider Milo of Croton, the wrestler who in the 6th century B.C. is said to have carried his baby calf every day until it was fully grown. As the calf slowly developed and gained size and strength, so did Milo. While our methods and understanding of resistance training have advanced since the time of Milo, people still strive to push their bodies to the limit in a quest for strength. And like Milo, people still use the principle of progressive resistance.

During the more than 25 years I have spent training, first as a professional athlete and then training others for professional sports, collegiate sports, strength development, mass development, and general health, I have seen firsthand the importance of a strong and stable lower body. It is the solid base from which other goals can be attained. I have seen this at the highest level of athletics right down to recreational golf. Hall of Famer and record-setting shortstop Cal Ripken is a fine example. In the off-season, he played very competitive basketball and performed strength training for the legs and lower body to keep his legs strong and powerful. His main focus, from a strength standpoint, was always legs and lower body, and he often told me how important his legs were in enabling him to stay competitive and perform at the highest level, day in and day out. His record of 2,632 consecutive major league baseball games suggests that he was doing something right! Of course, those who are not dedicated professional athletes have different goals and less time to devote to training. I've helped athletes at all levels achieve the type and degree of success they were seeking.

I wrote *Stronger Legs & Lower Body* to help you accomplish your goals, whatever they may be. Use the specific, progressive resistance exercises and programs to increase strength, and apply the advanced power development techniques and concepts to add challenge to your training. Use the variations to modify the exercises to suit your fitness level or to slightly alter the impact on the targeted muscles.

Think of this book as one that you can refer to often for guidance and direction as you plan and work through your training programs. Let it be your road map to training your legs and lower body. The exercises and programs will not only help you build a strong and stable base but will also have you looking and feeling better.

Stronger Legs and Lower Body is divided into three parts. Part I provides the background to help you understand the process of building strength. Part II contains complete descriptions of what I consider the best exercises for the lower body. Part III explains how to use programming to reach your goals, and it includes a variety of ready-made programs to suit particular target areas, methods of training, and time constraints.

To build strength, you must train hard on a consistent basis. The techniques and programs in this book will help you train effectively and efficiently so that you can reap the benefits that come from having stronger legs and a stronger lower body.

Exercise Finder

MUSCLE TRAINING TARGETS							
GLUTEAL EXERCISES							
Exercise	**Glutes**	**Quads**	**Ham-strings**	**Low back**	**Stabi-lizing muscles**	**Core**	**Page**
Body-weight squat	✓	✓					41
Barbell squat	✓	✓					42
Dumbbell squat	✓	✓					43
Smith press squat	✓	✓					44
Functional-trainer squat	✓	✓					45
Leg press	✓	✓					46
Walking lunge	✓	✓			✓	✓	47
Walking lunge with rotation	✓	✓			✓	✓	48
Bench single-leg squat	✓	✓					49
Step-up	✓	✓					50
Step-down	✓	✓					51
Single-leg press	✓	✓					52
4-way hip-machine extension	✓		✓				53
Ankle-weight standing hip extension	✓		✓				54
Ankle-weight all-fours hip extension	✓		✓				55
Miniband hip extension	✓		✓				56
Exercise-ball lying hip extension	✓			✓			57

Exercise	Glutes	Quads	Ham-strings	Low back	Stabi-lizing muscles	Core	Page
Double-leg bridge	✓		✓				58
Single-leg bridge	✓		✓				59
Miniband lateral walk	✓						60
Roman chair reverse hyperextension	✓		✓	✓			61
Sled push	✓	✓	✓	✓			62
Functional-trainer hip extension	✓		✓				63
Resistance-band hip extension	✓		✓				64
QUADRICEPS EXERCISES							
Exercise	**Quads**	**Glutes**	**Ham-strings**	**Hip flexors**	**Adduc-tors**	**Abduc-tors**	**Page**
Barbell squat on weight plates	✓	✓					67
Front squat	✓	✓					68
Exercise-ball squat	✓	✓					69
Split squat	✓	✓	✓				70
Single-leg squat	✓	✓	✓				71
In-place lunge	✓	✓	✓				72
Weighted-sled walking lunge	✓	✓	✓				73
Walking retro lunge	✓	✓	✓				74
Drop lunge	✓	✓	✓				75
Lateral lunge	✓	✓	✓		✓		76

(continued)

EXERCISE FINDER QUADRICEPS EXERCISES *(continued)*

Exercise	Quads	Glutes	Ham-strings	Hip flexors	Adduc-tors	Abduc-tors	Page
Slide lateral lunge	✓	✓	✓		✓	✓	77
Body-weight wide squat	✓	✓			✓		78
Straight-leg step-down	✓	✓	✓				79
Bench single-leg sit	✓	✓	✓				80
Machine leg extension	✓						81
Miniband low lateral walk	✓	✓				✓	82
Functional-trainer leg extension	✓						83
Functional-trainer straight-leg hip flexion	✓			✓			84
Manual-resistance leg extension	✓						85
Single-leg extension	✓						86
Wall sit	✓						87

HAMSTRING AND POSTERIOR CHAIN EXERCISES

Exercise	Ham-strings	Glutes	Quads	Hip flexors	Calves	Low back	Page
Trap-bar squat	✓	✓	✓		✓	✓	91
Straight-leg deadlift	✓	✓				✓	92
Good morning	✓	✓				✓	93
Romanian deadlift	✓	✓			✓		94

Exercise	Ham-strings	Glutes	Quads	Hip flexors	Calves	Low back	Page
Single-leg single-arm Romanian deadlift	✓	✓			✓	✓	95
Prone leg curl	✓	✓					96
Single-leg toe touch	✓	✓		✓	✓		97
Hamstring lower	✓	✓			✓		98
Double-leg straight-leg bridge	✓	✓			✓	✓	99
Single-leg straight-leg bridge	✓	✓			✓	✓	100
Double-leg flexed-leg bridge	✓	✓			✓	✓	101
Single-leg flexed-leg bridge	✓	✓			✓	✓	102
Roman chair hip extension	✓	✓				✓	103
Roman chair single-leg hip extension	✓	✓				✓	104
Prone negative leg curl	✓	✓					105
Manual-resistance prone leg curl	✓	✓					106
Functional-trainer leg curl	✓	✓					107
Exercise-ball supine leg curl	✓	✓			✓		108
Slide supine leg curl	✓	✓			✓		109
Prone single-leg curl	✓	✓					110

(continued)

LOWER-LEG EXERCISES						
Exercise	**Gastroc-nemius**	**Soleus**	**Tibialis anterior**	**Tibialis posterior**	**Hip flexors**	**Page**
Leg-press calf raise	✓					**113**
Leg-sled calf raise	✓					**114**
Standing calf raise	✓					**115**
Machine standing calf raise	✓					**116**
Functional-trainer standing calf raise	✓					**117**
Machine seated calf raise		✓				**118**
Seated calf raise		✓				**119**
Dynamic Axial Resistance Device (DARD) raise			✓			**120**
Resistance-band dorsiflexion			✓			**121**
Functional-trainer dorsiflexion			✓			**122**
Weight-plate seated dorsiflexion			✓			**123**
Heel walk			✓			**124**
Functional-trainer hip flexion with dorsiflexion			✓		✓	**125**
Standing dorsiflexion			✓			**126**
Resistance-band inversion			✓	✓		**127**

Exercise	Gastrocnemius	Soleus	Tibialis anterior	Tibialis posterior	Hip flexors	Page
Resistance-band seated dorsiflexion			✓		✓	128

EXPLOSIVE MULTIJOINT EXERCISES							
Exercise	Glutes	Quads	Hamstrings	Gastrocnemius and soleus	Erector spinae	Traps and delts	Page
Power clean	✓	✓	✓	✓		✓	132
Hang clean	✓	✓	✓	✓		✓	134
Power snatch	✓	✓	✓	✓		✓	136
Power jerk	✓	✓	✓	✓	✓	✓	138
Squat jump	✓	✓	✓	✓			139
Split squat jump	✓	✓	✓	✓			140
Vertical jump	✓	✓	✓	✓			141
Broad jump	✓	✓	✓	✓			142
Single-leg triple jump	✓	✓	✓	✓			143
Bench single-leg bounds	✓	✓	✓	✓			144

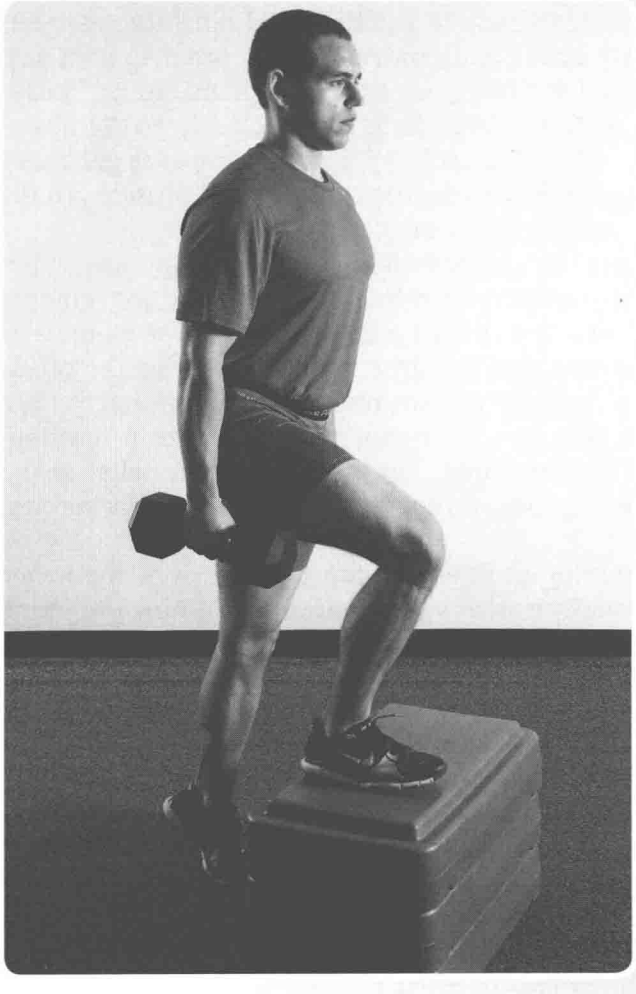
Contents

PART I

Training the Lower Body

CHAPTER 1

Lower-Body Anatomy



Understanding the anatomy of the lower body, particularly the muscle locations and their functions, will help you to get the most from the exercises and programs in this book. The muscles of the lower body work together to create a strong, stable base. Daily activities as well as athletics require the lower body to work in a synchronized manner; that is, while one muscle or muscle group is working, an opposing muscle or muscle group is supporting or stabilizing. Most muscles work in pairs called agonists and antagonists. During movement, the muscles responsible for moving a body part contract (shorten). These muscles are called agonists. The antagonist muscles work with the agonist muscles by elongating when the agonist shortens. The antagonist muscles return the body part back to the start position. A prime example of agonist and antagonist muscle groups in the lower body is the quads and the hamstrings.

In traditional weight training, and especially in bodybuilding, the muscles of the lower body are usually targeted individually. Recreational weightlifters usually isolate lower-body movements in order to gain size and simply look better. Bodybuilders, on the other hand, must isolate lower-body muscles because they will be judged very closely on definition and the overall appearance of each muscle. While these muscles generally work together, isolating and training specific muscles and muscle groups allow athletes to gain size and strength in specific areas.

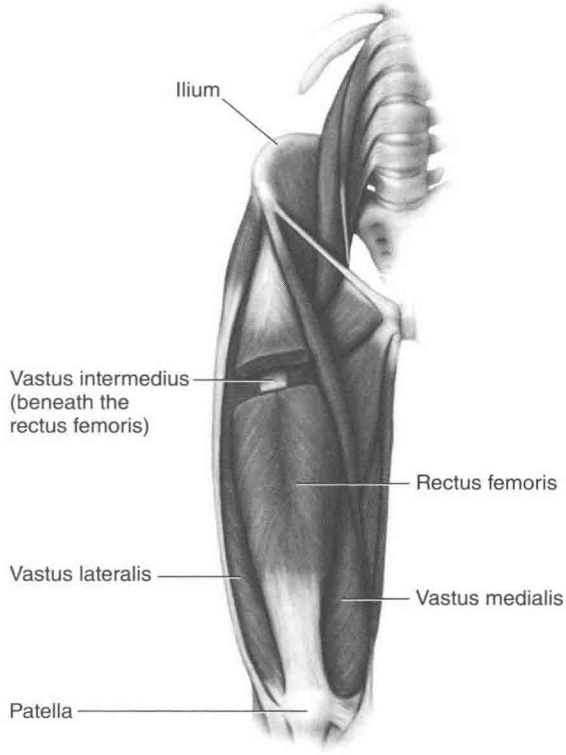
The disadvantage of isolation exercises is that they are not very functional; they do not mimic everyday movements or athletic movements that generally require the muscles to bear weight and work as a unit. For example, the leg-extension machine is a great tool for isolating the quadriceps muscle, but because you are seated, thus not bearing weight, and moving at only one joint, this exercise is not very effective in developing functional strength. The front squat, on the other hand, calls for the muscles to bear weight and produce movement at three joints: ankles, knees, and hips.

In the chapters to come, the muscles and muscle groups of the lower body are discussed individually so that you can develop training programs for those areas. Unilateral and multijoint exercises are also included later in the book because they help create a strong, stable, and injury-free lower body. Sport performance and strength and conditioning coaches, as well as athletic trainers and physical therapists, often use unilateral and multijoint exercises to develop strength, speed, power, and balance for sports or to help in the prevention and recovery from injury. Unilateral and multijoint exercises are also a great way to add variety to your program.

This chapter offers an overview of the muscles of the quads, hamstrings, lower leg, glutes, and hip. It includes the names, locations, and functions of each muscle or muscle group and tells you how to target these individual muscles and muscle groups in order to develop size, strength, and muscle balance using body-weight exercises, machines, and free weights.

This chapter lays the foundation for applying all of the techniques you will learn throughout the rest of this book.

QUADRICEPS



Muscles Involved

The quadriceps, or quads, make up the anterior (forward) portion of the upper leg. The quad muscles support the body in a standing posture and are involved in extending the lower leg. The quads are composed of four muscles: *rectus femoris* (located in the middle of the thigh), *vastus medialis* (located on the medial side of the femur or the inner thigh), *vastus lateralis* (located on the lateral side of the femur or the outer thigh), and *vastus intermedius* (located between the vastus lateralis and the vastus medialis on the front of the femur). These four muscles are the largest and most powerful muscles of the body.

The main function of the quad group is to extend (straighten) the lower leg at the knee joint. The rectus femoris originates on the ilium of the pelvis and continues to the patella via the patellar tendon. The vastus lateralis originates on the greater trochanter, the vastus medialis originates on the medial surface of the femur, and the vastus intermedius originates on the