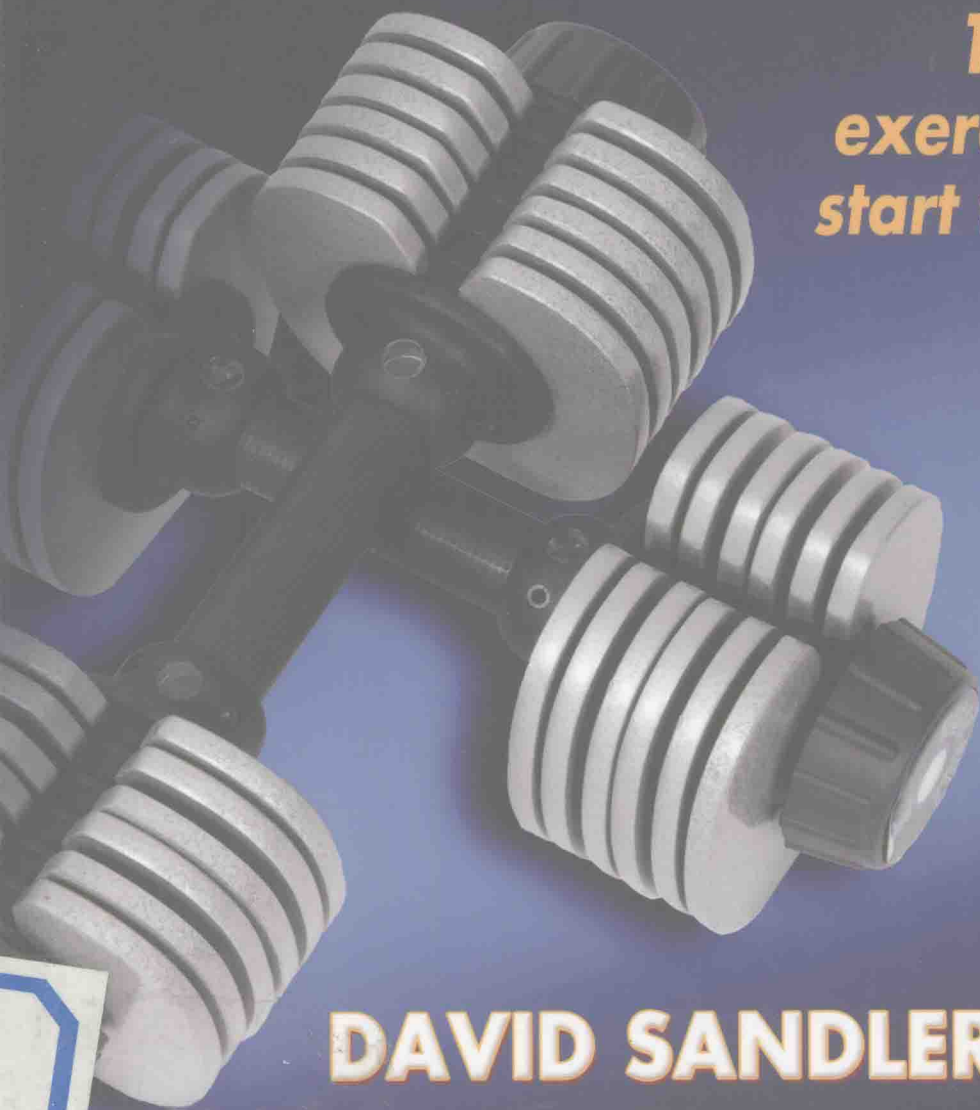


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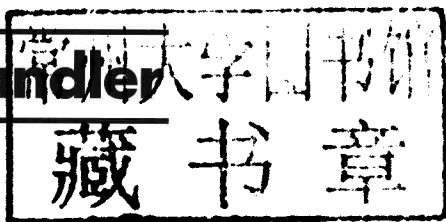
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*exercises to
start training*



DAVID SANDLER

FUNDAMENTAL WEIGHT TRAINING

David Sandler



Human Kinetics

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For my wife, Debbie, whose tireless efforts to support my crazy ideas have allowed me to learn, teach, and practice my craft. And for my son, Jack, you are my inspiration to be the best I can at whatever I do. I love you both very much!

EXERCISE FINDER

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| Exercise | Target area | | | | | | | | | | Page no. |
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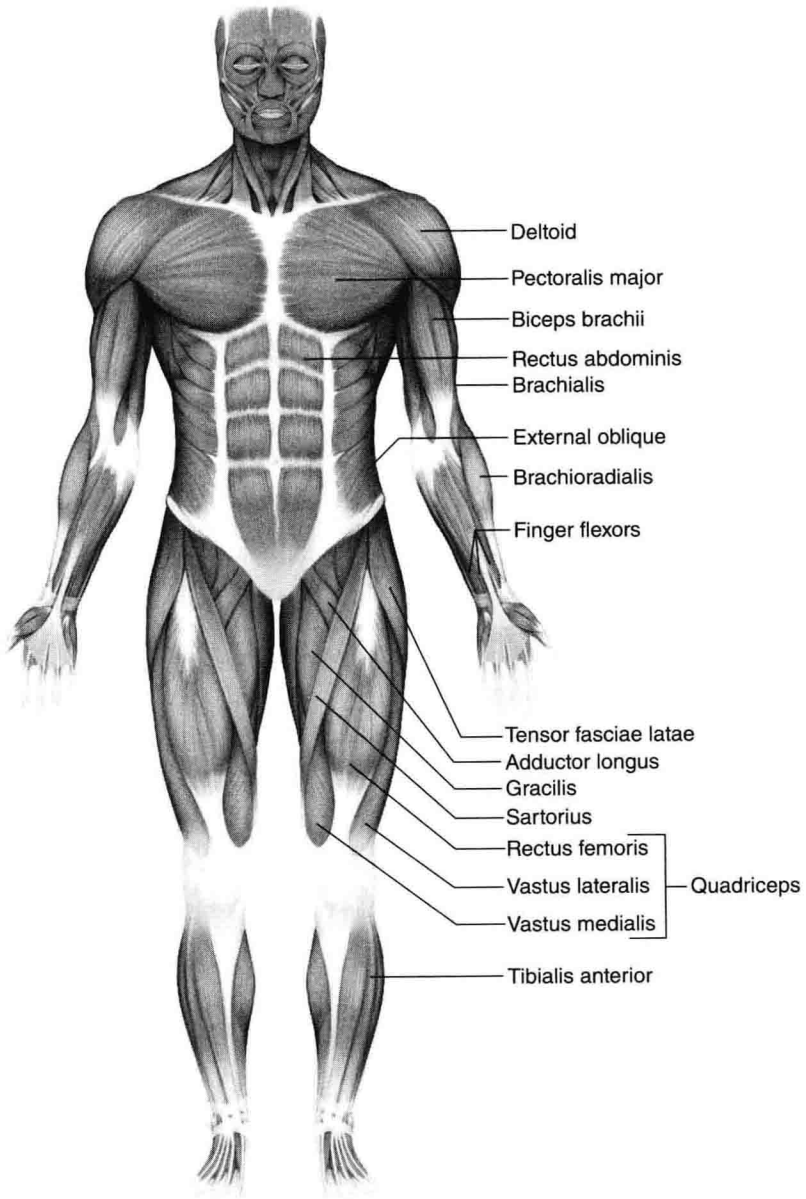
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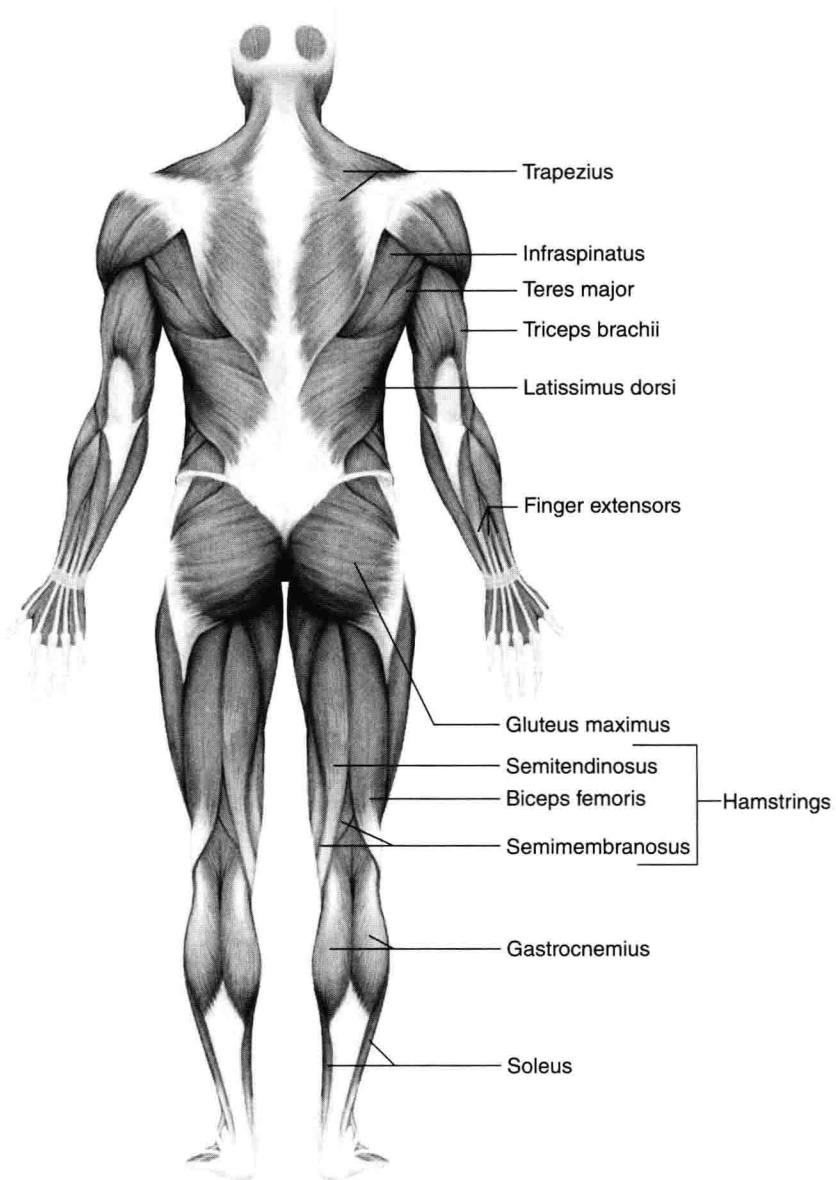
And lastly, on behalf of my brother, Mike, and sister, Lori, I want to thank our parents, Joyce and Steve, for their incredible support and never-ending patience with everything we have tried to do.

KEY TO MUSCLES



(continued)

Key to Muscles (continued)



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INTRODUCTION TO WEIGHT TRAINING

Good, you've decided to begin a weight training program. You've made the right move by choosing to do it properly. When exercises are performed correctly, resistance training can have terrific results, such as increasing strength, power, and muscular endurance; improving balance and coordination; and decreasing body fat. When poor technique is used, however, or no attention is paid to proper form, resistance training can lead to injury.

For most people, exercise presents many challenges, and adding a weight training program makes the task even harder. You've already completed the first step by picking up this book—you've chosen to get started! So now it is time to take control of your body and get in shape, not only to look and feel good but also to be able to perform both normal daily tasks and athletic movements.

Embrace weights and they will reward you far more than any other form of exercise can. Increase muscle density, and you will burn more calories. Increase muscle appearance, and you will feel better about yourself. Increase muscle size and endurance, and just about everything you do, such as walking up a flight of stairs, will feel easier. It is a win-win situation when weight training is part of your life.

WEIGHT TRAINING BASICS

Much of the lore surrounding weight training is based on modern principles from bodybuilding; early weight training dates back thousands of years, when humans were not only performing feats of strength but also training for them. However, it is only in the last two decades that we have come to realize that weight training can promote health and well-being. Because of its long and varied history, if you try to search for a single definition of weight training, you will find many. If you try to search for a single philosophy of weight training, you will find many. And if you try to search for a single program that can match your needs, well, good luck, because you will find thousands!

Additionally, a number of common myths surround weight training, including that it is dangerous, reduces flexibility, and can stunt growth. However, research has proven time and again not only that those statements are false

but also that the opposite may be true. In fact, weight training is one of the safest forms of physical activity, having a much lower injury rate than other common recreational activities like basketball, tennis, golf, or running. As long as you follow some simple guidelines, your weight training experience can be injury free.

Moreover, weight training can help prevent injuries that can be caused by other sports and activities. Whether you are playing a sport or walking on an icy street, injuries can occur at any time. Stronger bones, muscles, joints, and connective tissue will make you more resistant to the acute injuries that occur during falls or during collisions with opponents, but the real benefits of weight training come in the prevention of the chronic shoulder, knee, and back pain that can make everyday life more difficult.

Muscle imbalances resulting from undertraining or overuse appear to be a common cause of injury. Most sports and many of our daily activities force us into a position where one side of the body is used more than the other, leading to muscle imbalances. Muscle imbalances cause the body to move incorrectly, resulting in excessive strain on some muscles and joints. Some studies have noted that a muscle imbalance of greater than 10 percent between the right and left sides of the body increases the risk of injury by 20 times. Training the right and left sides separately using resistance tubing, dumbbells, and unilateral machines, which allow for each limb to move individually, can correct many of these imbalances and decrease your risk of developing chronic injuries and aches. But in general, a full-body weight training program will certainly reduce your risk of injury.

Since many people assume weight training “bulks you up,” it is often neglected, misunderstood, and when finally applied, done incorrectly. Weight training alone will not increase muscle size significantly (known as hypertrophy) unless you are on a program that applies specific techniques and principles for building muscle. This is good news for those looking to use weight training for health reasons but who do not wish to bulk up. Weight training can be used to improve muscular endurance, which tends to produce a more slender look and provide more regularly usable strength for everyday tasks, such as walking or yard work. If you are interested in improving your sport performance, weight training can improve strength and power, giving you that added edge over your opponents. In any case, everyone should engage in physical activity that includes a weight training program. But again, to see these specific results, your program must be designed to match your goals.

To understand the value of weight training, it is necessary to understand how the body works. The human body is more complex than any machine ever built, and it may be impossible to understand it completely. Over the past 100 years, research has unveiled some pretty cool stuff about the overall benefits of weight training, and we have come to better understand why our bodies increase in size, strength, and power when using external loads for resistance.

We know that when we weight train, we place a stress on the specific muscle being used, which causes microdamage to the muscle’s internal structures

THE ANTI-AGING REMEDY

There is a relationship between muscle size and strength and cardiovascular health and energy levels. This does not mean that you need to develop huge muscles to become strong or have a marathon runner's heart—even small increases in muscle size will dramatically increase strength. As one ages there is a steady decline in muscle mass and strength, which leads to chronic aches and pain, difficulty performing daily activities, and a loss of independence and quality of life. This deterioration in performance can start as early as age 30 and increases every year. We now know through research and practice that a moderately intense full-body strength training program performed two or three times per week can delay and even reverse the physical signs of aging. And even better news: It's never too late to start a weight training program. Muscle mass and strength can increase in people well into their 80s. There are many retired people who after taking up strength training are physically stronger and more fit than they were in their youth.

(e.g., the protein filaments myosin, actin, troponin, and tropomyosin). With adequate rest and nutrition, the damage is not only repaired to withstand the same stress but also fortified to battle even greater stresses. This was scientifically proven in the early 1920s when a physician by the name of Hans Selye discovered that all living tissue undergoes a general adaptation process whereby after infection or stress, the cellular activity increases, forming barriers and strengthening surrounding tissue so that it will be able to handle future stress. Whether scientifically understood at the time or not, the principle was applied to training as far back as mid-500 BC by Milo of Crotona, a farmer who lifted a calf every day while it grew to become a full-grown cow. It is considered the first application of one of our founding exercise principles (see the section “Gradual Progressive Overload”).

In the past few years, we have gained more insight into the tiny details of muscle physiology and have begun to combine laboratory animal research with human practical applications. We have found that muscle responds similarly in everyone, male or female, young or old, and that differences in results between persons are likely due to the type of training applied. Initially, much of the debate over size and strength gains focused on genetics; it is now understood that the specific nature of the training protocol is the most important factor.

This new information bodes well for all of you who label yourselves “hard gainers.” No matter when you begin your weight training program, you can expect to see remarkable results over time with the right training program.

Train hard, train properly, and you will see favorable results. The key is to decide what results you would like to achieve and then set out on your journey so that your destination matches your goals.

To get the specific results you want, you also need a plan and a commitment to working out. Many infomercials would have you believe that you can see results by working out for as little as a few minutes a couple of times per week, but it is not that easy. No you do not have to become an exercise addict. Neither do you have to make complete life-altering changes. But you do have to make a point of hitting the gym a few times a week for at least 30 minutes. Ideally, though, your workouts will be 60 to 75 minutes, including your warm-up and cool-down. Although you can get results with less, the best way to achieve success is to do it right. There really is no fast track, but there is a smart track that ensures success in the long run.

The amount of exercise needed to produce results is a hotly debated topic. One of the key ingredients in your exercise prescription is figuring out the right amount so that your body can recover, rebuild, and prepare for the next workout.

WEIGHT TRAINING PRINCIPLES

If you are to derive any real benefits from training, you need to understand the underlying principles of weight training. These principles provide guidance and a foundation for any well-designed training program.

Frequency, Intensity, Time, and Type (FITT)

FITT is the guiding principle by which all exercise programs are created. The variables of frequency, intensity, time, and type refer to the number of times you exercise, how many times you perform specific exercises, the length of the workout, and which exercises you perform. When developing your exercise program, almost everything you do within the program itself and during your day and week as a whole will have an effect on the outcome of your training program. If you exercise too frequently, you will not make the proper gains and may succumb to overtraining, a physiological term for your body's inability to recover properly. And if you work out too few times, you likely will not see any results from your efforts because your body hasn't been stressed enough to adapt.

On average, the weight training portion of your workout should last no more than one hour, and you should choose 10 to 12 exercises per workout. Training three times a week is ideal; however, any number of times a week is better than no times a week. Although a more advanced lifter may train four or five times a week, it is important to respect your body's ability to recover. Take at least 24 and preferably 48 hours of rest between workouts training the same body areas. As you will see in the exercise chapters, you can use a variety of equipment for resistance, including dumbbells, plate weight barbells, machines, resistance tubing, and even your own body weight.