Connecting the Dots between Fitness, Nutrition and Weight Loss



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DR. MICHEAL CLARK & NEAL SPRUCE

Two of the world's leading health and fitness authorities show you how to achieve your fitness and weight loss goals—permanently.

Praise for the Optimum Performance Training (OPT) system from the National Academy of Sports Medicine, upon which this book is based…

"I thank God everyday for NASM ... and the guys who are going to keep me healthy for the rest of my career." —Barry Zito, Cy Young, MLB All-Star

"Behind every good trainer and athlete there is an inspiring mentor with deep knowledge. For me that person has been NASM's Dr. Micheal Clark. I began my journey with NASM as a young aspiring trainer. It changed my life … their Optimum Performance Training program gave me the foundation to not only help change the lives of my clients, but also help me to inspire millions to improve their lives through proper exercise and nutrition."—Kim Lyons, NBC's The Biggest Loser, Celebrity Trainer

"I have seen firsthand the knowledge and experience NASM brings to the fitness industry. Their training methods are based on science and fact, not fads or guesswork, and they produce remarkable results. NASM's techniques have helped thousands worldwide achieve their fitness goals, including hundreds of professional and elite athletes."—Mark Mastrov, Founder of 24 Hour Fitness, Chairman of New Evolution Fitness Company

"NASM's Optimum Performance Training (OPT) is a huge benefit. It has a cumulative effect of your body. If your body is more captive every night, it is going to help you over the long term."—Steve Nash, Phoenix Suns, Two-time NBA MVP

"NASM has been an unparalleled education provider to myself and my staff. Corrective exercise has helped us provide our athletes with the best possible training and corrective strategies to keep them on the court."—Aaron Nelson, Head Athletic Trainer, Phoenix Suns

"NASM's OPT is at the core of everything I do with my celebrity clients. I've obtained numerous certifications from nationally recognized organizations, but NASM is simply the best. NASM has given me scientific, progressive knowledge that I apply to all of my client programs."—Patrick Murphy, NASM CPT, CES, Celebrity Trainer

dotFIT Me—
Your Smart Guide to Lose Weight, Get Fit and Feel Great!

The information in this book has been researched and efforts have been made to ensure that it is accurate. The authors and their publisher assume no responsibility for injuries suffered or damages or losses incurred during, or as a result of, the exercise programs found in this book. All of the exercises should be followed carefully and fully understood prior to attempting them. Always consult your physician or qualified medical professional prior to beginning any exercise program.

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www.nasm.org

Authors:
Dr. Micheal A. Clark
Chief Executive Officer of the National Academy of Sports Medicine

Neal Spruce
Founder and CEO of dotFIT, LLC

This book is dedicated to our families and friends,
and the colleagues and clients who developed the Optimum Performance Training system.

Foreword

It is an unfortunate truth that in this day and age we are awash in misinformation related to health and fitness. At the time of this writing, there were over 265,000 books on Amazon.com under the key word "diet," 214,000 under "fitness," and yet another 470,000 on the subject of "exercise." If you Google the same words, you will find an astonishing 235 million hits for the word "diet," 572 million for "fitness," and 196 million for "exercise."

Every day, when you read or watch the news, there are more scientific studies that disprove previous findings that were once thought to be absolute fact. We have been conditioned to believe that various recycled health and fitness fads and trends will help us in our quest for improved health. Millions of people go on diets every year to lose weight, with fewer than five percent able to keep the weight off. The rest gain all their weight back, and most pack on additional pounds to boot. With all the so-called "solutions" available to the public for weight loss and improving health, people around the world are paying the price with their health and their lives.

Billions of dollars are made on all this confusion from those trying to make a buck, and sadly, there is little chance of finding out the facts. Fortunately, Dr. Micheal Clark, Chief Executive Officer of the National Academy of Sports Medicine (NASM) and dotFIT founder, Neal Spruce, have provided real solutions and information in this book that actually helps you. As both the founder of 24 Hour Fitness and chairman of New Evolution Fitness, I have seen firsthand the knowledge and experience they bring to the fitness industry. Their

training methods are based on science and fact, not fads or guesswork, and they produce remarkable results. Their techniques have helped thousands worldwide achieve their fitness goals, including hundreds of professional and elite athletes.

So, look no further. Your search is over. Within these pages you will find a straightforward guide to teach you how to improve your health and get in shape without all the marketing hype and overinflated promises. Page by page, you will learn real solutions that will help you to lose weight, improve the way you look and feel, and, most importantly, how to change your lifestyle so you can permanently gain control of your health.

You can be assured that the information is factual because this book is not written by another self-proclaimed fitness guru trying to benefit from your lack of knowledge. All of the information is supported by NASM and dotFIT, two of the most prestigious fitness organizations in the world. With thousands of members across the globe, NASM has been the industry leader in certification, continuing education, and providing solutions and tools for health, fitness, sports performance, and sports medicine professionals for over 20 years. Because of its high standard in delivering fitness solutions, NASM is the top choice of certification for all 24 Hour Fitness personal trainers. For its part, dotFIT Worldwide, as the worldwide leader in personalized holistic health, nutrition and fitness solutions, also contributed significantly to this book.

Both organizations and their leaders joined together to write and publish this book, which delivers access to strategic resources and links that will help you achieve your goals, such as on-demand fitness coaching, how to find the best fitness facilities, locating personal trainers, information on credible health and fitness products, and everything you need to improve your health and your life. If you're fed up with trying to navigate through the minefield of health and fitness misinformation, read this book and take your first step on your journey to better living.

Mark Mastrov, Founder 24 Hour Fitness Worldwide
Chairman New Evolution Fitness Company

Introduction

Why Did We Write This Book?

When presented with the opportunity to write this book, our first thought was about how to provide readers with a real fitness system using evidence-based, time-tested, scientifically-valid information—and make it readable.

Our goal in every endeavor is to create success for the end-consumer, namely you. It has been our experience over the last 20 years that our industry is fraught with confusion, hype, and, to some extent, nonsense about what it takes to get fit and stay fit for life. Our intention in writing this book was to provide you with the necessary education, awareness tools, insider secrets, professional advice, and programming strategies to achieve success. We want to get down to business and help you achieve your personal health and fitness goals. Our role in the fitness industry has been to create the right solutions for professionals to deliver to you. While we still believe our professionals can create the best lasting impressions, we feel strongly that when you learn what it really takes to get fit, you will better understand the advice, motivation, and inspiration fitness professionals can offer you. So we decided to create the ultimate resource and fitness guide for you. Good luck, and let's get started!

Willpower. Determination. Desire. You have it in you. And you are ready; after all, you opened up this book and started reading. You may have many pressing questions: can I do the exercises, can I commit to a new lifestyle, how do I lose weight or get fit? But don't worry, these questions are all going to be answered for you. Right now, take a moment and congratulate yourself on making a decision to change. This is where it all starts, and you've already found success! You see, getting fit is going to take a bit of hard work — every great accomplishment takes hard work — but you've already overcome a big challenge; you've taken the first step. So get ready for the best move you have ever made; the move to health and fitness!

The desire to get fit is a constant presence. You may understand the benefits of exercise but getting started seems difficult. Years of experience have shown us that there are generally three reasons that you haven't started exercising regularly or, if you have, why you haven't yet achieved these goals:

- You weren't ready to commit to a different lifestyle.
- You didn't know how to get started and stay on the right track.
- You wanted a quick fix.

Here's the skinny: you know that quick fixes sound too good to be true. While the hope for an easy road exists, it doesn't. There is no "get fit quick" pill, exercise, or plan that will make your program an overnight success. And, unfortunately, if you aren't ready to commit to a new lifestyle, then success will always be just out of reach. However, we believe that people much like you want to get fit but generally don't know how; you don't know where to start or how to make changes that last. Well, don't worry. We know how. Our years of experience leading the fitness industry have helped us understand what it takes to reach your fitness goals. There are many tips and secrets behind your physiology that usually only trained professionals know. These principles are time-tested and backed by research. We have weeded out the myths and want to give you only the facts!

First, the fitness truth: to get fit you need to have three absolutes. Let's call them our essentials of fitness:

- Think better
- Eat better
- Move better

All three components must be addressed to live a fit and healthy life. Each component takes work — hard work — to achieve. But in the end, what you put into it will be what you take out of it. If you look at your path as a lifelong journey, your attitude toward change will focus on long-term and short-term success. This will inevitably enhance your results. Each of these three components can be broken down into smaller parts. Let's call them the inner workings of fitness.

Think Better

To think better you need to do these four things:

- Make realistic commitments—Fitness will require realistic investments of your time, energy, and will-power. Don't make promises you won't keep.
- Visualize your success—See yourself as you want to be. Mental imagery can provide numerous benefits, such as enhancing your belief in your abilities to achieve your goals.
- Define fitness for yourself—Dig deep and discover what it means to you to be fit and create smart goals.
- Commit to get and stay fit—When you make a promise, especially to yourself, it is important to keep it. Dedication is important when you want to achieve a goal. Without commitment, fitness will always be something you want, not something you have.

Eat Better

Eating better requires understanding the building blocks of nutrition and ignoring fad diets hyped by the mainstream media. Weight loss comes down to creating an energy deficit (eating less and moving more) while understanding what types of foods will help you lose weight but still feel energized and great throughout the day.

Move Better

Part of moving better requires several interconnected moving parts. Each of these is important to creating success in your exercise program.

- Assessments—Assessments will provide you with the best picture of your current fitness level and will help you measure your accomplishments.
- Cardiovascular conditioning—Your heart is the second most important organ (after the brain) and needs to be conditioned to achieve fitness success. The right cardio program can help you burn calories more efficiently while keeping you fit for increased activity.
- Flexibility—Your body needs to move efficiently. Overactive or underactive muscles can influence how you move, potentially leading to injuries. Therefore, you need to maintain proper posture and flexibility while you train.
- Core training—Your core is made up of your abdominals, low back, and hips. It needs to be trained to keep you strong from the inside out and create better movement patterns for the arms and legs.
- Balance training—Balance simply means being able to control your body during movement. In other words, training your body to control unwanted movement that might throw you off-base helps you avoid falls, spills, and unwanted injuries throughout your life.
- Resistance training—Keeping your body strong and increasing lean muscle mass are all integral to living a fit life. Resistance training is a key component of all

of the above. The more muscle you have, the higher your metabolism, the lower your body fat percentage is, and the more you can do.

Each small working part has a role in overall fitness and must be trained accordingly. A healthy and fit lifestyle will encompass all the larger components as well as the smaller, moving parts.

How to Use This Book

As you read this book, you may become overwhelmed by the information it contains. Don't worry! We wrote this book to serve your needs, and this required a tremendous amount of information. You don't have to read it all at once, but we won't mind if you do!

This book is your resource to understanding fitness and all the components involved with it. Read through it completely at least once, twice, or as many times as you need to help you understand what fitness is and how to achieve it. As you read through it, get involved. Take notes, use the exercises at the end of each section to assist you in your learning, dog-ear the pages, and mark areas to which you want to return. Ultimately, we want this book to look beat-up and overused. We wrote this book so that you can put it on the shelf as a resource or throw it into your gym bag and take it, your "personal trainer," to the gym. The more you bend the binding and mark up the pages, the happier we will be!

There are several tips, icons, and tools to help you along the way. We have peppered each chapter with evidence-based science (research tidbits), inspirational examples, and professional advice from the industry leaders to accompany you on your new endeavor. Take it all in! At the back of the book, there is an appendix that contains all the guides, worksheets, tip cards, charts, and definitions you will ever need. Along with that, we want you to have access to various resources that can help you learn more, read more, create more exercise programs, get one-on-one help from certified professionals, or ask questions from top fitness and nutrition experts.

Tips for Understanding the Icons, Tools, and Tips Throughout the Book

Throughout each section and chapter, you will see various icons, pictures, or symbols. Here is a list of what they mean. They are your reminder to make a note and mark the page.



Take a Tip from the Pros: Boxes like this one contain tips from certified professionals. These tips offer sage advice about how to set goals, perform exercises correctly, or create the right workout plan. These small tips are our way of providing you with your own personal trainer along the way!



A light bulb creates an "aha!" moment. These tips are meant to start you thinking more about what we are saying. They are short reminders about what it will take to achieve success.



Keys to Success can be found at the end of every section. These are summaries that highlight the key points we discussed to help you get the most out of what you just read.



The **Get Involved** icon informs you of an interactive guide that is meant to get you involved with the book. These sections are designed to start you thinking and acting on your goals, thoughts, desires, and plans to achieve fitness success.



The **A Bit of Research** icon lets you know the latest research on a particular topic. One of our goals is to provide evidence-based, scientifically-valid information on health and fitness. We want you to know we are giving you the best information out there.



A Bit of Inspiration is presented with the stories of real-life individuals who have achieved fitness success with the Optimum Performance Training™ (OPT) model — either on their own or with the help of an NASM certified personal trainer.



Online Resources can be found at **www.dotFIT.com**–where you can access the dotFIT Me nutrition and fitness program, try a supplement screener, find digital versions of the forms in this book, videos, tools, exercises, dotFIT supplements and more.

dotFIT Me—

Your Smart Guide to Lose Weight, Get Fit and Feel Great!

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Part 1:

The Building Blocks to Fitness

Chapter 1: Get Ready

How to Think Better

We know that you are prepared and ready to take action and get fit. How do we know this? Well, you picked up this book; you more than likely have decided to begin exercising and you've promised once again to start eating and living better. We have just a couple questions that may help you gain focus as you move along. Have you committed to your health and fitness beyond all barriers? Have you become the Controller of Every Obstacle (CEO) of your health and fitness? Before we can teach you to eat better and move better, we need to exercise your mind and train you to think better. After all, change first comes from a thought process—a choice, or better yet, a decision—to change.

Did you know that just 30 minutes of exercise, along with a sound nutritional plan, can turn 30 pounds of fat into 30 pounds of muscle in just four months? That means your body will burn more than 200 calories more per day even at rest! Did you know that walking for 30 to 60 minutes a day can help stave off diseases such as hypertension, diabetes, and even Alzheimer's?

The fact is, being fit can be fun and rewarding. All it takes is willpower and desire.

Every plan to lose weight or get fit starts with a thought. It may be a thought of being healthier, a thought of losing unwanted pounds, or a thought of happier times and smaller waistlines. Nevertheless, a single thought will provoke an action. In fact, weight loss success and failure depend on your thoughts. We want you to succeed!

All power is from within and therefore under our control.

—Robert Collier



Think Differently
The biggest challenge in fitness is not to our bodies, but to our minds.

As you'll read, change requires a tremendous amount of willpower, determination, and commitment. Without these factors, the best exercise and nutrition plan may not work. The bottom line is that your mind has to be fit before your body can follow. Let's begin with a simple decision to *think differently*.

Achieving fitness will require overcoming challenges and pushing past personal limits. Did we mention committing to a different lifestyle as well? Does that sound challenging? It can be, but you can do it. Changing your habits is not an easy task. However, to quote one of our most influential spiritual leaders, Buddha, "All that we are is the result of what we have thought." That is an extremely powerful statement to ponder as you begin your fitness quest. The power of change is in your hands, which means the most successful exercise you can begin with is the one that develops your mind. When you can get your mind fit — that is, learn to think better — your body will follow.

Your very first mental exercise is to begin thinking differently. You have made a preliminary choice to change your habits, exercise regularly, and eat better. You have started on the right path. However, for this new plan to work, you have to make a few more changes. There are four must-do exercises to keep you moving on the right path.

- Define what fitness means to you. Be clear, focused, and realistic about your definition of fitness. Create your fitness goals from your definition.
- Paint a mental picture of your fit and healthy life four weeks from the start of your program, and then through each quarter, year, and three years from now.
- Create a strategy to achieve your goals. Avoid over-promising and under-delivering when it comes to making your fitness strategy. Think of a way to reward yourself at each milestone that reinforces the new life you are living.
- Commit and prepare to not quit! Conquer the fear, uncertainty, and doubt that may hold you back.

First, you have to define your idea of fitness and determine your goals. Make your fitness objectives clear and focused. This first step is critical. If you can't define what fitness means to you, how can you achieve it?

Exercise 1:

Define Fitness for Yourself

What does fitness look like to you? How do you define living a fit and healthy life? Does it mean fitting into the size four clothes you wore in high school? Does it mean being able to run and play with your kids without wheezing? Your definition of fitness will translate to your fitness goals. If you want to reach your fitness goals, you must first be clear about what fitness means to you; then you can determine the goals you want to accomplish.

Being fit, overall, is such a lofty goal and can have several different meanings. We need you to be specific. The more specific you can be, the better your plan of action for achieving your goals will become.

Successful people envision their futures and specify the outcomes they desire so that they can channel their efforts toward those ends.

–Stephen Kraus, Psychological Foundations of Success

Fitness has a different meaning to everyone. While the concept of fitness might vary, the basis of fitness is universal: it is a state of good health or physical condition. Notice that we did not define fitness as having ripped abs or lean, sexy legs. However, those attributes are wonderful byproducts of fitness.

As experts, we look at fitness from a broad perspective. We see fitness as an all-encompassing lifestyle filled with healthier choices and actions that lead to a desired feeling or appearance. We consider fitness a physical, mental, and physiological need, since the overall benefits of fitness have been shown to decrease the risk of chronic diseases (the debilitating trio of heart disease, diabetes, and cancer), decrease symptoms of depression, and increase overall wellness, among innumerable other benefits. Our definition of fitness may not be the same as yours. This does not mean that you can't define fitness by how you look; we just want you to understand that the way you look may not define your fitness. For example, many models walking down the runways today appear fit to the untrained eye. They look lean, toned, and defined. But can they walk up a flight of stairs without hyperventilating? Are they making healthy eating choices? Many suffer from debilitating eating disorders or a



To think differently is to be different.



Take a Tip from the Pros: Successful people know what they want. They have a clear vision, define their goals precisely, and actively work to attain those goals each day.

Write down five reasons you want to be fit. Visit those reasons whenever you don't feel like exercising or get a bad case of the munchies. When you remind yourself of your reasons to get fit, you are less likely to get sidetracked.



Key to success: No matter how you define fitness—whether it's a desired physical appearance or an overall feeling—make your definition clear, concise, and achievable. This will help you in developing your fitness goals.

poor body image. Remember, looks can be deceiving! So to speak frankly, when you define fitness and start to create your fitness goals, make sure that you look at the entire realm of health and fitness. This will help make your definition and goals realistic and attainable.

Create Your Fitness Goals

Every effort to succeed in any endeavor began with the creation of a goal. Numerous studies conducted in the field of success psychology have shown that individuals who set goals have a far better chance of achieving them than those who do not. Think about it. Even our simplest daily tasks revolve around setting goals. For instance, the weekend is a few days away and you have guests coming to visit. You jot down a quick list of things to do before your guests arrive. These are your goals. The list serves as a reminder of what your goals are and helps you organize your thoughts and strategize about how to get them done. Next, you begin to perform tasks on the list and you systematically cross off the items that you have accomplished on the list, feeling a sense of achievement. Apply this to your fitness goals. It should come as no surprise that when you can define your fitness goals, you have a greater chance of achieving them, just like your to-do list.

As Stephen Kraus writes in his book, *Psychological Foundations of Success,* goal setting provides increased performance due to three factors:

> *Direction.* Goals direct action. They channel and focus effort in the direction chosen by the goal setter. As a result, they are empowering tools, enabling people to steer their lives in the direction of their choosing.
>
> *Motivation.* Goals stretch and push, resulting in greater effort and persistence. Goals clarify and make concrete your desired ends. Being aware of the gap between where you are now and where you want to be creates motivation to close that gap.
>
> *Strategy refinement.* After setting challenging goals, people think longer and more creatively about how to accomplish them and how to measure progress toward them.

While you may understand that goal-setting is important, you may be asking, how do I set effective goals? This might be the hardest part of goal setting. As professionals, we use the SMART approach to successful goal-setting.

S.M.A.R.T. Goal-Setting

Specific: Know exactly what you want from your fitness program.

Measurable: Set goals that can be measured by time, days, or numbers.

Aggressive: Challenge yourself and push your limits.

Realistic: Keep your goals achievable.

Time-bound: Create short-term goals that will help you increase your confidence and determination.

Specific

Get down to the nitty-gritty. Getting fit is not a goal, it is an idea. Fitting into a size six dress, getting fifteen-inch biceps, or running a marathon in two hours are specific goals. Specific goals force you to think about why you want to get fit and what it is you *really* desire. Do you want better abs, or do you want a ripped six-pack? Do you want to be able to play with your kids, or do you want to be able to run around the park for thirty minutes playing soccer with your kids? The more specific you can be about your goals, the more you can measure your success.

Measurable

Often quoted in business is the phrase "what gets measured gets done." This simply means that your goals need to be quantifiable. For example, a general goal would be to lose weight in four weeks; a measurable goal would be to lose eight pounds in four weeks. A measurable goal allows you to carefully track your progress each week by breaking your goal down; for example, creating four small victories of losing two pounds each week, and measuring your progress as you go. When you can create small victories for yourself, you avoid the risk of letting small setbacks turn into larger ones.

Aggressive

Sometimes you have to swing for the home run. If your goal is to increase your strength and you know that you can lift twenty pounds without any real effort, then your goal should be to lift eighty pounds. Creating goals you can achieve is important, but if you don't push yourself, you might not know what you can really accomplish. Remember that our limits are created by our fears, uncertainties, and doubts, all of which are created from our thoughts. We have the power to control fear, uncertainty, and doubt — or FUD. This does not mean



Key to success: The mind is one of the most powerful tools you can use to reach your goals. To enjoy your fitness journey, you need to know where you are going or why you want to get there.

Define "fitness" for yourself and then set your goals. SMART goals can help create success.

that you should set goals beyond your ability. If you've never run a marathon, your goal shouldn't be to shatter the world record when running it. Instead, determine what you feel your best effort is, and then set your goal to reach beyond it. Don't sell yourself short!

Realistic

Change does not happen overnight. If your goals are set too high, then the chances of reaching them are reduced. Yes, you need to challenge yourself, but keep your goals real. For instance, if losing ten pounds of body fat in one week is your goal, you have to be realistic about the time-frame and requirements to accomplish your goal. Using that example, in health and fitness there are some scientific realities that we need to share. First, if you eat more than you move, you will gain weight, no matter what the food is. Every food has calories. Second, there are 3,500 calories in one pound of fat. The body can lose about one to two pounds of fat per week, if your diet is perfect and your calorie deficit allows it. Therefore, if you set a fat-loss goal, don't expect the fat to melt off. Expect that it will take five to ten weeks for you to lose your body fat, at approximately two pounds per week. Set reasonable time limits and accomplishments.

Time-Bound

Think short-term, mid-term, and long-term. Set goals you can achieve tomorrow *and* in three months. Giving yourself a chance to reach short-term goals will help you move more confidently toward the long-term ones. For instance, if in a year you want to participate in a triathlon, create short-term monthly goals on the distances you want to run, swim, and bike as you gear up for the event. Giving yourself a time-frame also increases the importance of the goal. If you want to look great for a high-school reunion in five months, chances are you are going to focus on what you need to accomplish each month to be ready for the big reveal at the reunion.

Get Involved:

Define fitness for yourself. Take your time as you answer each question. Being clear and focused will help you get your mind on the right track to success. Use the following guide to help you.

To me, being fit means:

_____

_____

_____

Answer the following question to help you provide clarity to your definition.

I want to be fit so I can:

1. _____
2. _____
3. _____
4. _____
5. _____



Online Resource: You can download this form at www.dotFIT.com/getinvolved

Clarity Checklist:	Yes	No
1. Is your definition of fitness clear and concise?	☐	☐
2. Do your reasons for getting fit align with your definition of fitness?	☐	☐
3. Is your definition realistic and attainable?	☐	☐

Create your fitness goals. Remember that your goals should be clear, focused, and realistic.

What are my fitness goals?

1. _____

2. _____

3. _____

Now ask yourself, why are these goals important to me?

1. _____

2. _____

3. _____

How much time do I give myself to accomplish my three goals?
(Be sure to make your timeline realistic and reasonable, yet challenging)

Goal 1 due date: _____ Reward: _____

Goal 2 due date: _____ Reward: _____

Goal 3 due date: _____ Reward: _____

Clarity Checklist:

	Yes	No
1. Are your goals specific?	☐	☐
2. Are your goals measurable?	☐	☐
3. Are your goals aggressive?	☐	☐
4. Are your goals realistic?	☐	☐
5. Are your goals time-bound?	☐	☐
6. Do your goals align with your reasons for setting them?	☐	☐



Nothing great was ever accomplished that didn't first start as a vision.



Take a Tip from the Pros: Cut out photos from magazines or find old pictures that represent what you want to look or feel like as a result of your choice to get fit.

Create a picture board of these images to assist you in visualizing your desires. Place the board in your office at home or in an area where you can see the images each day as a quick reminder of what goals you are working to achieve.

Second, you need to envision your success. Yes, a little daydreaming about walking proudly down the beach as onlookers gawk at you longingly will help you get fit. Think of it as positive imagery; increasingly, research has shown that visualization can increase success.

Exercise 2:

Paint a mental picture of your fitness, not just what you want to look like or feel in four weeks, but in four years.

As the saying goes, "seeing is believing." When you picture your successes, you are better able to achieve them because they become vivid and attainable. Go ahead, sit back and picture yourself as you want to be. Are you running in the park with your kids, dancing in that little black dress, or looking muscular and chiseled, posing in front of a mirror? Visualization is a powerful tool used by athletes and therapists alike. The best athletes in the world take time to visualize their performances. Top professionals like Steve Nash and Tiger Woods visualize making plays or hitting winning shots over and over again. This helps them prepare for game-time stresses, opportunities, and challenges that they may encounter during the course of competition. Mental imagery has also worked to help individuals quit smoking or overcome stressful and fearful situations. By seeing yourself controlling your urges or defeating fearful situations, you can safely defeat obstacles. For instance, salespeople often use visualization to help them control their fear of rejection. By "seeing" themselves bounce back from a disinterested potential buyer, they feel less threatened by the rejection, increasing their ability to overcome their fear and better handle objections in the future.

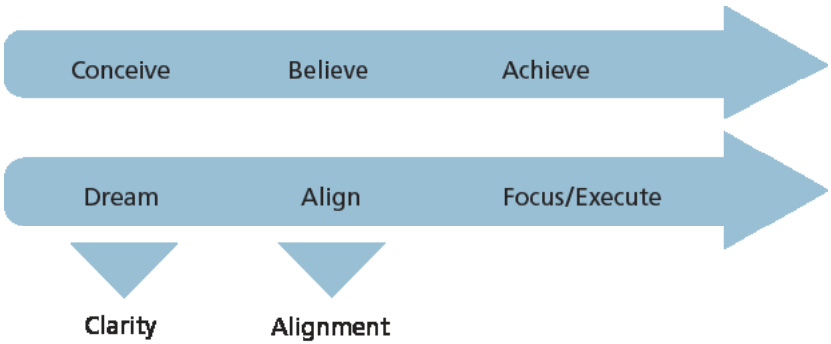
Psychologists say that visualization can increase performance and adherence to a goal by transferring mental practice to physical practice. Current research has shown that visualization creates an impression on the brain that simulates actual physical practice[1]. While physical practice is still the best (i.e., if you want to get fit, you still need to eat better and work out), mental practice is better than nothing at all. In essence, training the brain helps to train the body.

[1] Porter K, Foster J., *Visual Athletics*. Dubuque, Iowa: Wm. C. Brown Company Publishers; 1990.

"Visualization is another 'guaranteed success' –even if you doubt your ability to carry out a certain course of action, you can certainly visualize yourself doing it successfully. Much like 'acting like a success', mental rehearsal is obviously no substitute for actual behaviors, but as a supplement it can enhance performance, primarily by enhancing belief. Simply thinking about an event makes it seem more possible as you begin to construct mental scenarios of how it might occur and how you might make it happen."

–Dr. Stephen Kraus, *Psychological Foundations of Success*

Start by visualizing yourself accomplishing your goals. Envision how you will accomplish those goals. What will you be doing? What will you look like when your goals are accomplished? Be specific in your vision. If weight loss is your goal, visualize the exact clothes you want to fit into. Visualize what you want your body to look like.





A Bit of Research:
A study in the *Journal of Sport and Exercise Psychology* tested mental imagery.

Thirty-nine beginner golfers were grouped into either an imagery or control group. For three sessions, both groups were taught how to hit golf balls. The imagery group practiced in an imagery training session designed for this specific golf skill.

As a result, the imagery group spent significantly more time practicing the golf-putting task than the control group. In addition, the subjects in the imagery group had more realistic self-expectation, set higher goals, and adhered more to their training programs outside the experimental setting.

Martin KA, Hall CR., Using Mental Imagery to Enhance Intrinsic Motivation. *J of Sport and Exerc Psych;* 1995;17(1):54-69.



Online Resource: You can download this form at www.dotFIT.com/getinvolved



Key to Success: Whatever your goals are, taking a few minutes each day to paint a mental picture of how you want to be will help you achieve success. You have to believe you can reach your fitness goals, which means maintaining positive imagery and thoughts. Use a mental guide to help direct your thoughts.



Get Involved:

Take five to ten minutes and sit in a comfortable and relaxed environment. Allow yourself to think freely and begin to envision your fitness goals.

After you have created a mental picture of your goals, answer the following questions:

1. When I think about what being fit *feels* like, I envision the following:

In four weeks I want to feel like:

_____

_____

.

In three months I want to feel like:

_____

_____

.

In one year I want to feel like:

_____

_____

.

In three years I want to feel like:

_____

_____

.

2. When I picture what being "fit" *looks* like, I envision the following:

In four weeks, I want to look like:

_____

_____

In three months, I want to look like:

_____

_____

In one year, I want to look like:

_____

_____

In three years, I want to look like:

_____

_____

3. Fill out the following chart to help you reach your goals. Break your larger goals into even smaller milestones:

To reach my one-month goal each week, I must achieve the following:				
	Week 1	Week 2	Week 3	Week 4
My goal is: My reward is:				

To reach my three-month goal each month, I must achieve the following:			
	Month 1	Month 2	Month 3
My goal is: My reward is:			

To reach my three-year goal each year, I must achieve the following:			
	Year 1	Year 2	Year 3
My goal is: My reward is:			

Third, strategize. To put your goals in motion, you are going to need a solid game plan. Create a realistic plan for your success and avoid over-promising and under-delivering. You know the scenario: you swear to yourself that you are going to exercise every day and stop eating bad foods. You promise that you will spend thirty minutes a day doing cardio and that you will never buy another cheesecake as long as you live. Is this a promise to yourself that you can truly keep? Are you being realistic about your health and fitness?

Exercise 3:

Create your strategy and don't over-promise and under-deliver to yourself!

Start by putting together a realistic strategy that will enable you to reach your goals. Determine what will be realistic for you to accomplish. Can you exercise two days per week? Can you make time to prepare your own meals everyday? Create a plan to accomplish your goals and include who and what you will need to succeed. For instance, list how many days per week you can commit to physical exercise, what types of physical activities you enjoy, and what you will need to perform those activities. Once you have done that, make a daily, weekly, and monthly plan that includes those activities you listed and the time allotment to participate in them on that given day.

Understand that every strategy will have setbacks. Sometimes a road block is unavoidable. But how do you limit your obstacles? One method is to stop making promises you can't keep. Be realistic about your strategy to get fit and accomplish your goals. If your schedule doesn't permit you to make it to the gym every day, then don't tell yourself you will. Instead, tell yourself that you will walk the stairs instead of using the elevator at work, or schedule a ten-minute walk during lunchtime. Make commitments to yourself that you *can* keep. The best fitness strategy is one that fits into your lifestyle. If you are not a runner, don't take up the activity to accomplish your goals. If you like to run, then great, go ahead; but if you hate running, don't bother telling yourself you are going to run every day. Chances are you won't keep it up. The same goes for controlling your diet. If rice cakes are not your idea of a delightful snack, then why include them in your eating plan? You won't stick with something if you don't find *some* enjoyment in it. Many people may find that they don't like lifting weights or going to the gym. Does that mean they won't be able



The best plan is one that can be done.



Take a Tip from the Pros: Before you make a commitment to exercise, sit down and look at your schedule.

Consider your exercise session an important appointment or business meeting.

You wouldn't schedule a meeting you couldn't attend, so don't plan to exercise when you can't put in the time and effort.

Find the best time in your schedule, limit the duration of the exercise (whether it is ten minutes or an hour) to an achievable amount, and don't cancel your appointment!



Key to Success: To create a successful fitness plan, you must make smart choices that will lead to a healthy lifestyle.

Create a strategy that best serves your needs, lifestyle, and preferences — one that you can stick with.

to accomplish their goals? No. They may have to maneuver their fitness strategy a bit to find an activity that will help them accomplish their goals, but chances are, when they find what works for them, they'll stick to it.

When you reach the second part of this book, you will find several plans that will help you create the best strategy to achieve your fitness goals. Most of them are centered on exercise and cardiovascular activity due to the benefits we have seen by doing these activities. The plans are meant to guide you, but ultimately, we want you to create the strategy that will fit your preferences and lifestyle.



Get Involved:

Create your strategy using the following guide. Remember to include the three components of fitness: think better, eat better, and move better.

The three physical activities I enjoy most are (i.e., running, playing tennis, hiking):

1. _____

2. _____

3. _____

The number of days per week I can commit to physical activity is:

_____ days per week.

Think better

I will think better by doing these three things:

_____

_____

_____



Online Resource: You can download this form at www.dotFIT.com/getinvolved

Eat better

I will eat better by doing these three things:

_____

_____

_____

Move better

I will move better by doing these three things:

_____

_____

_____

Fourth, and most important, you need to commit and not quit! This is easily said, but not easily done. This means that you need to become the CEO of your life and your fitness. When your muscles ache, you're tired from a long day of work, or you feel too busy to stick to your plan, you can't give up or quit on yourself.



When the going gets tough, the tough keep going.



Take a Tip from the Pros: Sometimes the best reward is the one you give yourself. Outside of accomplishing your desired goals, give yourself a reason to stick to your fitness plan.

One great incentive is to put $100 away each month (put it in a place you can't get to easily, or have a trusted friend hold the money). If you have accomplished your goals for the month, then you can have the money back. If not, it stays put and you don't get the money until you make good on your promise to yourself.

Exercise 4:

Commit, and prepare not to quit!

This might be the hardest step of all. From earliest childhood, we are taught never to quit. Remember *The Little Engine That Could?* The lesson was simple: stick to what you've committed to and you will find success, even in the face of FUD. The same goes for fitness. Many people start a program and give up a short time later, never reaching their goals. Think of all the unused treadmills doubling as clothes hangers, and fitness equipment gathering dust in closets. It's not easy to keep yourself going, even if you start with the best intentions, which most people do. Overcoming obstacles is a part of everyday life. If you are driving to work and the road you usually take is closed, does that mean you should turn around and head home? No, you just find a different route. In fitness, there can be many obstacles if you allow it. You might not feel you have the time to exercise, you might be sore from exercising, or you might give up from not seeing results right away. These so-called obstacles will lead you to quit. But those barriers or obstacles aren't truly obstacles; they are FUD creeping into your mind, and they can be controlled by your mind. You have to be willing to overcome your FUD, be prepared to take alternative action when these molehills turn into mountains, and forgive yourself when you happen to slip up. After all, the road to success is paved with both setbacks and accomplishments.

Fear is a natural response that helps keep you safe. Unfortunately, it can keep you from pushing past your comfort zones and into new territories. When it comes to accomplishing your goals, it can construct a difficult roadblock. Whether it is fear of failure, fear of success, or fear of disappointment, if you allow fear to take over, then success can never be achieved. The good news is, fear can be managed. Using mental imagery as discussed in Exercise 2, you can control your fears by creating and overcoming fearful situations in your



Key to Success:
The only must-have equipment to help you get fit is the right mental attitude. You need to take charge to become the CEO of your life. Minimize the FUD, visualize, and maximize your success!

mind. When you can visualize yourself overcoming your fright, you are more likely to be able to minimize your fears in real life.

When you experience *uncertainty*, it is likely because you are entering into the realm of the unknown. You often fear what you don't know. But uncertainty can be overcome with preparation and guidance. As we mentioned in Exercise 3, create a strategy. The more prepared you are to accomplish your goals, the less uncertain the outcome becomes. Researching your goals and consulting trained professionals can help control your uncertainty.

To have *doubt* is to disbelieve or be skeptical. This obstacle is the greatest because you have to believe you can accomplish your goals. If you don't believe you can succeed, you won't. The mind is a powerful ally or enemy; which one it will be is your choice. You can overcome doubt by maintaining a positive outlook (focus on what you can do, not on what you can't), creating SMART goals, visualizing your success, and putting together the right strategy. If you think differently, you'll be different!

Finally, if you want to truly commit to your successes and not quit, be ready to forgive yourself. We all have setbacks at one point or another in our life. A setback is just that — it sets you back — it doesn't send you reeling off a fifty-foot cliff. Remember the valuable childhood lesson: "when you fall, get back up!" We learn the most from our setbacks. Be grateful for your setbacks because they can teach you valuable lessons. You will learn how to avoid them in the future. What better lesson is there?



Get Involved:

Learn to commit and not quit by overcoming your FUD. Use the following guide to help you.

My three fitness fears are:

1. _____

2. _____

3. _____

The three things I will do to minimize my fears are:

1. _____

2. _____

3. _____

The three things I am most uncertain of when it comes to my fitness goals are:

1. _____

2. _____

3. _____



Online Resource: You can download this form at www.dotFIT.com/getinvolved

The three actions I will take to prepare for the unknown are:

1. _____

2. _____

3. _____

The three things I doubt about myself when it comes to my fitness goals are:

1. _____

2. _____

3. _____

The three things I will do to believe in my ability to achieve success are:

1. _____

2. _____

3. _____

This is my commitment to myself.

In order to get fit, I promise myself that I will:

_____

_____

_____

_____

_____

_____.

Date: _____

Signed: _____



Online Resource: You can download a nicely designed Commitment to Myself pledge form suitable for framing and placing in a visible place from our website at www.dotFIT.com/getinvolved



A Bit of Inspiration:

Marcie is twenty-seven years old and stands five-feet six. Her latest weigh-in revealed that her weight had snuck up to 210 pounds without her even realizing it. She worked long, stressful days and always felt fatigued.

Marcie's daily routine was simple: after work, she would stop for fast food on her way home, spend the evening in front of the television, and go to bed a few hours later. One night, while sitting on the couch, Marcie decided to buy a gym membership and get help.

Marcie met with her fitness professional for four weeks and began to feel that she was making progress, but her weight did not drop. Although she was frustrated, she decided to train for four more weeks, hoping to see results. She did. Marcie lost six pounds and started to feel better. After her last session with the fitness professional, she decided to train on her own, having learned the necessary tools to work out correctly. She was on the right path.

But Marcie had a tough road ahead of her. She slowly slipped back into her old routine of working ten-hour days and letting her stress guide her choices. While she understood what it took to get fit (eat better, move more), she missed one very important principle. She had not committed to her new lifestyle, and she had not started to think better. Marcie was letting outside obstacles control her. She had a choice to make each day: she wanted to lose weight and feel better, but she wasn't ready to push past her limits and control her own obstacles.

After battling her weight for six more months, Marcie took action again. This time, Marcie was ready to commit to her new lifestyle. She had decided to live fit, and her choice to change her life meant she needed to overcome obstacles such as work, stress, and fatigue. She made a point of *thinking differently.* She understood that if she did not make her health a priority, she would always be battling her weight. She wrote out her fitness goals and took five minutes each day to remind herself about why she was choosing to make a change to her lifestyle. She took charge of her eating habits by making her own meals at home, preparing snacks to eat throughout the day, and learning to become a smart food shopper by reading food labels. She stopped thinking of her workouts as a chore, and scheduled her exercise times, taking at least thirty minutes per day to be active.

Marcie found that her workout appointment helped her deal with her stress and that she felt better after a good sweat session. In addition, she decided to move every day, even if it wasn't part of her workout. She made a game of seeing how much exercise she could do each day by climbing stairs, parking far from the front door of a building, and standing and pacing during phone calls. Now Marcie is sixty pounds lighter and can't stop moving — in fact, she *won't* stop moving! What was the secret to Marcie's success? She overcame the toughest obstacle in obtaining fitness, the mental workout.

Exercise Frequently Asked Questions:

What should I do if I get sidetracked?

Don't give up! As we mentioned earlier, sometimes we all fall down. That doesn't mean that all is lost! Refocus your energy and start again. Revisit your goals and determine where you may have encountered too large an obstacle to overcome. Once you have identified a "problem area," list the strategies you'll use to overcome that problem next time. Where there is a will, there is way! Be the problem solver!

Why are small, short goals better than larger ones?

Smaller goals aren't necessarily better; they are simply easier to attain, and you begin to gain confidence from reaching them. If your goals are set for too long in duration, you may lose track of them or they may seem too daunting. Small, short goals help you gain a sense of accomplishment and often inspire you to keep going when times are tough!

I never seem to reach my goal of weight loss. What will goal-setting do to help me lose weight?

Proper goal setting will help keep you on track and you can gain a sense of confidence and accomplishment. If ten pounds of weight loss is your goal, set the shorter goal of one pound per week. Every week you accomplish losing that one pound, reward yourself with something healthy like a new pair of running shoes, and congratulate yourself. Every time you achieve a small goal, you are on your way to the larger goal but you will gain confidence and a sense of pride in yourself along the way. Losing weight requires committing to exercise and proper nutrition and goal setting helps you keep that commitment.

How do I know if I am ready to achieve my weight loss goals?

Ask yourself why you wanted to pick up this book and read it. Ask yourself why you want to change. And then study your answer. Next, question your answer. Break down your reasons to get to the very core of why you decided to change. When you can uncover

the most significant reason as to why you want to change, most likely you will find your hidden motivation. The mental gymnastics will help you determine if you are ready to commit to a change. Your actions and attitude will keep you on track with reaching your goals, but when you truly know why you want to achieve something, it is easier to dedicate yourself to it!

Chapter 2: Nutrition

How to Eat Better

If you're active, you'll spend about an hour a day exercising. Therefore, it is important to understand how the other twenty-three hours of the day spent outside the gym can optimize your results. If you want great results that will last, then it is time to get real about nutrition. No, this does not mean you need to invest in rice cakes and roasted chicken breasts (although you can if you want to). Proper nutrition means a lifestyle change, not a fad diet, or worse, starvation. We want you to understand the facts behind proper nutrition and how to make food work for you, not against you!

Approaching and completing all tasks with a positive attitude, win or lose, guarantees a positive outcome.

–Neal Spruce, Founder and CEO of dotFIT

What is Nutrition?

Nutrition is simply the processes by which an animal or plant takes in and utilizes food substances (calories, protein, carbohydrates, fats, water, vitamins, and minerals). Proper nutrition can speed up the process of weight loss and muscle gain and can also improve health and enhance athletic performance.

We want to give you a basic understanding of the major food substances (calories, protein, carbohydrates, fats, and water) and the role they play in health and fitness. This will also provide insight into some fundamental guidelines for ensuring safe and optimal ranges of these basic food substances. This section is not, however, designed to create individualized diets for you or to prescribe dietary recommendations to treat any medical condition. We

recommend that you contact a qualified health-care professional (dietitian, doctor) who is trained to handle special circumstances that require specific dietary recommendations.

How Do I Lose and Gain Weight?

Focus on Calories

A *calorie* is simply a measurement of energy. The human body utilizes calories (or energy) from food and drink to perform work (metabolism, physical activity, etc.). In the fitness world, calories are usually mentioned in the context of altering body composition (lose fat and/or gain muscle). Although there are a myriad of misconceptions about becoming overweight and losing weight, the bottom line to losing and gaining weight/body fat comes down to the Law of Thermodynamics.

Simply stated, if you take in more calories than you burn (via exercise and metabolism), you will store the excess calories for later use and gain weight/body fat. In other words, if you continuously fill up your gas tank without depleting the gas through driving, eventually the gas tank will overflow, forcing the gas to spill out of the tank. This is the same as storing excess calories in your body. However, if you take in fewer calories than you burn, you will lose weight/body fat. If you consume the same amount of calories as you burn, your weight will remain the same. This can easily be expressed through the following:

Calories

- Consume more calories than you burn = weight gain
- Burn more calories than you consume = weight loss
- Consume the same calories as you burn = weight maintenance

Understanding this law gives you a concrete answer to the question "how do I lose weight?" Simply eat less and/or move more. Given this, if weight loss is your goal, then your body must be in a calorie deficit. Regardless of whether you eat a high-protein, low-carbohydrate or balanced diet, in order to lose weight, you must create a calorie deficit so your body will transfer energy from the storage units you carry around as fat. By including healthy fats, fruits, vegetables and limiting saturated fat within the proper calorie allotment, you help optimize your health and minimize the risk of chronic disease. As a result, you'll have a greater potential to live a longer and more productive life.



A Bit of Research: The longest and most comprehensive scientific study comparing different weight loss diets has confirmed that you lose weight when you reduce calories, regardless of the type of diet you follow.[1]

Four different diets with varying amounts of carbohydrate, protein and fat and similar amounts of calories, healthy fats, whole grains, fruits and vegetables were followed for two years. There was no difference in weight loss between the four diets.

A separate study revealed that consuming a more healthful diet with less fat and more fruits, vegetables and fiber does not result in weight loss if total calories are not reduced.[2]

[1]FM Sacks et al. Comparison of Weight-Loss Diets with Different Compositions of Fat, Protein, and Carbohydrates. N Eng J Med. 2009;360;859-73. [2]N Saquib et al. Does a Healthy Diet Help Weight Management Among Overweight and Obese People?" Health Education & Behavior. 2009;36(3):518-31. Champaign, IL: Human Kinetics; 1998.)

How Do I Become a "Successful Loser"?

Most people who attempt to lose weight eventually gain it back. This may be because those who try to lose weight make drastic changes, like going on a fad diet. Since drastic lifestyle changes are difficult to maintain, most fad dieters revert back to their old habits and regain the weight they lost. By making small changes, such as reducing portion sizes of the foods you currently eat and choosing lower-fat, lower-calorie items, you're likely to maintain these changes over time. So, how do you become a successful loser? Try following those who have already achieved success. You can lose weight and keep it off through the dotFIT Me nutrition and fitness program at www.dotFIT.com, where you can track your caloric intake, weight loss and actual fitness regimen. You can also participate in our social community of like-minded people. Studies show that tracking and measurement against your goals coupled with support yields much greater results for longer periods of time. Successful weight losers have a few things in common.

- They eat breakfast daily
- They eat a low-calorie diet
- They eat a consistent diet from day to day
- They are very physically active (mostly through walking)
- They weigh themselves regularly
- They watch limited television
- They stop small weight gains from getting larger

If your goal is weight loss, perhaps you can make one or more of these changes in your lifestyle to jump-start your success.

The Building Blocks of Proper Nutrition

A healthy diet is made up of a mix of carbohydrates, proteins, and fats, called macronutrients. Macronutrients provide your body with the essential nutrients it needs. Throughout the years, popular fad diets have promoted different ways to lose weight, such as eating a lot of protein or restricting carbohydrates, making dieters a little confused about what they should be eating. Fad diet claims sound appealing, telling you that you can lose weight in ten days eating only pasta, or drop thirty pounds of fat eating a high-protein



Online Resource: You can access 50,000 food items with specific caloric content and thousands of recipes through our dotFIT Me nutrition and fitness program.

dotFIT Me allows you to set, track and measure your nutrition and fitness goals based on your lifestyle.

diet. However, often these claims are too good to be true. Yes, weight loss comes down to calories. You may lose weight on these fad diets initially, but in order to feel energized and achieve lasting results, you need to make sure your diet is balanced. A healthy diet will require a balanced nutritional plan consisting of a variety of carbohydrates, protein, and fats. But how much of each is necessary, and are they all good for you? Let's learn some basics about each macronutrient.

Protein

Aside from water, protein is the most abundant substance in the human body. Due to its role in the growth and development of tissues, it is considered the "building block" for all tissues (muscle, skin, hair, etc.). Protein is also important for the development of hormones, antibodies, and enzymes, which are all critical for proper functioning of the human body. Protein can also be a source of energy if carbohydrates and fats are lacking in your diet.

Protein can be categorized into two types: complete and incomplete proteins. Proteins are made up of smaller units, called amino acids. Complete proteins contain all of the amino acids your body needs and include meat, fish, poultry, dairy, and soy products. Foods that are lacking or are very low in one or more essential amino acids are considered incomplete proteins. These foods include beans, grains, nuts, and vegetables. When possible, choose lean protein sources such as fish, poultry without the skin, beans, and soy products.

Ideally, protein should make up between twenty and thirty-five percent of an individual's total caloric intake. In general, your daily grams of protein equate to approximately half your weight in pounds. For example, if you weigh 150 pounds, you need approximately seventy-five grams of protein every day.

Protein recommendations:

	Strength Athletes	Active Exercisers	Endurance Athletes
Minimum acceptable intake:	1 g/kg/day	1 g/kg/day	1.4 g/kg/day
Adaptation period:	1.6 to 2 g/kg/day	1.2 to 1.8 g/kg/day	1.6 to 2 g/kg/day

Note: kg = kilograms. Convert your weight in pounds to kilograms by dividing your weight by 2.2.

Carbohydrates

Carbohydrates provide the foundation of a healthy diet. The body requires a constant source of carbohydrates, specifically glucose, for the brain and other cells. Although there are many claims about carbohydrates being "bad for you" or the cause of weight gain, the truth of the matter is you need carbohydrates to survive and thrive. Simple carbohydrates, or sugars, occur naturally in fruits, honey, milk, and other foods. Complex carbohydrates include starch and dietary fiber and are found in plant foods such as grains, legumes, potatoes, fruits, and vegetables. No matter the form, all carbohydrates are broken down and converted to a simple sugar called glucose or blood sugar; some glucose is stored in the liver and muscles in the form of glycogen.

Carbohydrates are the preferred source of energy for the human body, yielding four calories per gram. Providing the body with proper amounts of carbohydrates will keep the body from turning to protein as an energy source, allowing protein to do its job of tissue growth and repair.

Calorie Chart for Nutrients	
Nutrients	**Calories per gram**
Carbohydrates	**4**
Protein	**4**
Fat	**9**

Because carbohydrates are the body's chief source of energy, they should make up the bulk of an individual's diet. To alter body composition and maintain good health, carbohydrates should make up between forty-five and seventy percent of your diet depending on preference and activity level. Diets that are lower than forty percent in carbohydrates can result in cravings, hunger, and drops in energy levels. Good choices include whole wheat bread, pasta, rice, legumes, fruits, and vegetables. Oatmeal, bran, and bran products are also good options.

Fats

Fats are the densest source of energy in the body, yielding twice the amount of calories per gram compared to protein and carbohydrates (nine calories per gram). Although we tend to consider fat "bad," our bodies need some fat to function optimally. Along with their role as an energy source, fats have other important functions:

- They are the precursor (cholesterol) to hormones
- They bring in important nutrients such as vitamins A, D, E, and K
- They provide a sensation of fullness
- They allow a more efficient transmission of electrical signals in the body

Fats fall into two basic categories, saturated and unsaturated. Saturated fats are solid at room temperature (i.e., butter) whereas unsaturated fats are more liquid at room temperature (i.e., oil). Of the two, saturated fats are more commonly associated with heart disease and obesity and therefore, must be more closely watched in the diet. The recommended range for fat consumption is between twenty and thirty-five percent of your total daily calories. Due to fat's quality of helping you feel full, diets with less than ten percent fat may result in frequent hunger. Diets in excess of thirty-five percent fat can also lead to overeating due to a lack of food volume (foods high in fat have more calories in a smaller volume). Limit your intake of saturated and trans fats from butter, the skin on poultry, and fried foods. Most of your fat intake should be from naturally occurring fat in foods as well as unsaturated fats in nuts, oils, and salad dressings.

Water

Macronutrients	Percentage of Daily Diet
Carbohydrates	45%–70%
Proteins	10%–35%
Fats	20%–35%

Water, or overall fluid consumption, should also be consistent with your lifestyle. Adequate fluid intake may improve metabolic functions, liver function, endocrine gland function, and overall fluid status. Fluids may also help manage your appetite. Typical recommendations for fluid intake are ninety-six ounces (two to three liters or 10 to 12 eight-ounce cups) per day. Most of your fluid intake is met through the foods and beverages you consume, including juice, milk, and caffeinated beverages. (Note: drinking caffeine does *not* cause dehydration; not drinking enough fluid leads to dehydration.) If you exercise or live in a hot or humid climate, you'll need more fluid.

Create Your Food Budget

You now know that weight change basically comes down to calories. And if you create a calorie deficit then your body will have to tap into your fat stores, thereby losing those excess pounds. So how do you do it? First, watch your portion sizes! Most people underestimate the number of calories they consume, so this is an important step on the road to your weight loss goal.

You may think you know what you are eating each day, but the truth is, most of us don't remember all the "tastes" of food consumed, or just how many chips were eaten at the party last night. We just don't keep track all day long, and the calories pile up. We have become so accustomed to large portion sizes (think of the film *Super-Size Me*) that even healthy foods can be filled with more calories than you need. Calories lurk around us all day; remember that soda you had earlier, or what about that harmless little candy you popped in your mouth at your coworker's cubicle? Successful weight control includes tracking your food intake so you can take control of those calories. You can't manage something you're not aware of!

Here are some simple visual images you can use to help understand portion sizes:

Common Foods	What a Typical Serving Size Looks Like
2 ounces of dried spaghetti (yields one cup cooked)	The diameter of a nickel
1 cup of rice or pasta	The size of your fist
12-ounce potato	A baseball
3 ounces of meat	The palm of your hand
1 ounce of cheese	The size of your thumb

The best way to avoid making poor food choices or underestimating portions is to carefully track everything you eat (yes, candy counts). Use a small notebook or better yet the dotFIT Me online tracker on our website (see sidebar) and log the foods and beverages you eat for at least a few weeks. This will give you an idea of the types and amounts of foods you're consuming. Any food, whether it's healthy or not, that passes your lips has the potential to be stored as fat if you are not in a calorie deficit, so take the time to pay attention. We've listed several foods and the calorie content to give you an idea of how many calories you may be taking in each day.



Online Resource: Visit www.dotFIT.com to track your nutrition and exercise progress. It's amazing how motivating a little data can be!

Common Foods and Calories per Portion	Serving Size	Calories
Proteins		
Bacon – cooked	¾ oz weight	109
Beef – ground	1 oz weight	81
Beef – porterhouse	1 oz weight	61
Crab, Alaskan King – steamed	1 oz weight	27
Chicken breast – roasted	1 oz weight	56
Fish – salmon	1 oz weight	52
Carbohydrates		
Bagel – plain	1 oz weight	78
Bread – wheat bran	1 piece	89
Cereal – Cheerios	1 cup	89
Cereal – Special K	⅔ cup	83
Crackers – fat-free-wheat	9 each	77
Pasta noodles – spaghetti (cooked)	½ cup	78
Fat		
Dressing – Caesar salad	2 ½ tsps	44
Margarine – diet	2 ½ tsps	41
Nuts – peanuts, dry roasted	¼ oz weight	41

The second tip to creating a good food budget is to read the food labels! While baked chips may seem like a great snack alternative, read the label carefully. The calories may look low at first glance, but when you read the serving size, these calories may be listed for a small serving size of ten chips. One snacking session in front of the television and the next thing you know, you can't count how many chips you've eaten, but it's probably more than ten!

It's equally important to watch portions and calories in restaurant foods. Because restaurants often serve extremely large portion sizes and have hidden fat and calories

in their foods, you need to educate yourself. Be sure to ask for nutritional information from your favorite restaurants.

Examining food labels can be extremely helpful in weight loss, but you have to know how to read them! Let's start with some simple tips and explanations of a common food label.



Nonfat Milk
Serving Size 8 fl oz (240mL)
Servings Per Container 2

Amount Per Serving
Calories 80 Calories from Fat 0

	% Daily Value*
Total Fat 0g	0%
Saturated Fat 0g	0%
Cholesterol less then 5mg	1%
Sodium 130mg	5%
Total Carbohydrate 12g	4%
Dietary Fiber 0g	0%
Sugars 11g	
Protein 8g	

Vitamin A 8% • Vitamin C 4%
Calcium 30% • Iron 0% • Vitamin D 25%

* Percent Daily Values are based on a 2,000 calories diet. Your daily values may be higher or lower depending on your calorie needs.

	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Serving Size and Servings per Container

This part of the label tells you exactly how much of the product equals one serving size. This sets the stage for the rest of the label. All the information found below applies to the serving size shown. To accurately track calories, use a food scale and measuring cups to determine the amount you normally eat and calculate the number of servings and calories you consume and write it down. If you're like most people, you'll be surprised at how much you're eating. You can then adjust your portion sizes to meet your goal.

Calories

Here is where you will see how many calories are in one serving of this product. It is important to remember that a product that shows low calories may also have a very small serving size. In general, 40 calories is considered low, 100 calories is moderate, and 400 calories is considered high.

Calories from Fat

This tells you how many of the calories in one serving come from fat.

Total Fat

This section tells you how many grams of fat are in one serving. One simple tip is to look for foods with three grams of fat or less per 100 calories. This means that thirty percent or less of the calories will be from fat.

Saturated Fat, Cholesterol and Sodium

The amount of saturated fat is listed below total fat. This tells you how many of those fat grams come from saturated fat. This amount, along with the milligrams of cholesterol and the milligrams of sodium, is listed to educate consumers, particularly those who need to watch these numbers for health reasons, such as heart disease. Limiting the amount of these nutrients (including trans fat) is an important aspect of a healthful diet. General guidelines are as follows:

- Limit saturated fat to less than ten percent of your total daily calories
- Limit cholesterol to less than 300 milligrams per day
- Limit sodium intake to less than 2,400 milligrams per day (equal to one teaspoon of salt)

This means limiting the amount of butter, lard, high-fat meats (e.g. bacon, sausage), poultry with skin, fried foods, and baked foods, and emphasizing low-fat salad dressing and healthy fats, such as olive oil.

Total Carbohydrates

Here you see the number of grams of carbohydrate in each serving.

Dietary Fiber and Sugars

Both dietary fiber and sugar are carbohydrates. Most Americans eat well below the recommended daily amounts of fiber (25 grams for women; 38 grams for men), so be sure to fill up on high-fiber foods, such as whole grains, beans, fruits, and vegetables. These are nutritious and help prolong the feeling of fullness, which is critical if you're trying to

lose weight. A high-fiber diet that is low in saturated fat and cholesterol may help protect against heart disease.

Currently, there are no recommendations for the amount of sugar to consume daily. Keep in mind that naturally occurring sugars found in milk and fruit as well as added sugars are part of the amount listed. If you need to limit your sugar intake, choose foods that do not have sugar listed as the first or second ingredient. Examples of sugar include corn syrup, fruit-juice concentrate, sucrose, maltodextrins, and maple syrup. (Sugar does not cause obesity if you consume the same amount as, or fewer calories than, you burn.)

Added sugars include:

- Corn Syrup
- Fruit Juice Concentrate
- Sucrose
- Maltodextrins
- Maple Syrup

Protein

This shows you how many grams of protein are in one serving.

Vitamins and Minerals

Percent Daily Values (DV) are listed for Vitamin A, Vitamin C, calcium, and iron, nutrients that Americans don't get enough of in their diets.

Percentage Daily Value Guideline

The percentages listed on the right side of the label are based on a 2,000-calorie diet. Your recommended daily values may be much lower or higher depending upon your daily caloric intake. Items that are less than five percent of the DV are considered low, while twenty percent of the DV is considered high. Use the DV to either increase or decrease the amount of nutrients in your diet. For instance, if you're looking to increase the calcium in your diet, choose foods with at least twenty percent of the DV. If you're looking to cut back on the saturated fat in your diet, choose items that have less than five percent of the DV.

Additional Guidelines

Taking a daily multiple vitamin and mineral formula is a smart move to ensure you're getting all the micronutrients you need. After all, no one eats a perfect diet every day. In addition, most people don't get enough calcium and vitamin D in their diets, so you may



Key to Success:
Weight loss comes down to calories.

To lose unwanted pounds, create an energy deficit. Make sure that your diet consists of a mix of macronutrients: carbohydrates, protein, and fat. Follow the recommended percentages of each to keep your body energized and feeling healthy!

Track your calories and read the food labels and nutritional guides from restaurants to become aware of *your* nutritional choices.

When it comes to the next diet fad, ask yourself if you can stay on the diet the rest of your life. If not, you're likely to gain the weight back. Stick to the basics when it comes to nutrition, and you will lose weight for life!

want to consider adding these to your nutrition plan. Finally, there are numerous health benefits to consuming fish and/or fish oils regularly including reducing the risk of heart disease. For more information, visit the American Heart Association's website at *www.americanheart.org* or talk to a dietitian or your doctor.

Nutrition Chart

This section of the label gives you the guidelines for 2,000 and 2,500-calorie diets. These values do not take into consideration your individual requirements.

Frequently Asked Questions:

Is it true that carbohydrates make a person fat?

Absolutely not! Eating more calories than you burn makes you fat, whether those calories come from carbohydrates, proteins, or fats. Any amount of food that you eat above the amount of calories you burn will be stored as fat.

American's waistlines have expanded simply because people eat about 250 more calories per day than they did a decade ago and they move less because of technology and lifestyle.

Remember, unless you're eating too much of it, a single food doesn't make you fat; excess calories make you fat.

Will eating fat make me fat?

Absolutely not! Eating more calories than you burn makes you fat, whether those calories come from carbohydrates, proteins, or fats.

Will eating past 7:00 p.m. result in weight gain?

No! In fact, you can have your last meal in bed if you want; just don't consume more calories than you burn for the day. By the way, a day is twenty-four hours, so who cares when you eat your calories?

The body does not have an enzyme that decides that after 7:00 p.m. it will store items, especially carbohydrates, as fat. Everyone has a certain number of calories they can consume

without gaining weight. If you happen to change your daily schedule and end up eating a final meal or snack later in the evening without changing your calories, you are in no danger of accumulating weight as a result of that minor alteration. Ideally, however, you would spread your allotted number of calories throughout the day to prevent hunger and prevent wild fluctuations in blood sugar levels, which can sap your energy levels.

Does pasta make you fat?

Absolutely not! As we said on the previous page eating more calories than you burn makes you fat. It doesn't matter where those calories come from.

Does fruit or fructose make you fat?

No! Again, it's all about calories, calories, calories. Burn more calories than you take in and you will lose weight.

When attempting to lose fat, should I avoid fruit, wheat products, and/or dairy products?

No, but if you did avoid all of the above for any extended period, your diet would lack certain nutrients. Eating for fat loss or weight loss is confusing at best. The current, media-driven methods include carbohydrate slashing and drastic caloric reduction, both leading to weight rebound.

Is excess protein stored as fat?

Only if your total calories (combination of proteins, fats, and carbohydrates) exceed your maintenance needs, at which point all foods thereafter will be stored as fat.

If I want to lose fat quickly, should I do as much cardio as possible?

Not unless you love it. Reducing calories, as opposed to burning the extra calories, is by far an easier method of reducing weight quickly. That said, do a little cardio for your health, and don't lose weight too quickly—it will come back.



Success Story: A Nutrition Plan and Exercise Created Results

My client, a forty-four-year-old female educational administrator, began to see me as a nutrition client. She had tried multiple commercial diets, with no lasting weight loss success. She was 265 pounds and five-feet two (BMI at 46.9). She had never exercised and wanted to develop healthy eating habits for weight loss and life-long weight loss maintenance. Other than obesity, she had no significant disease risk factors. She was exercise resistant and initially refused to add an exercise program to support her weight loss.

Having followed many commercial weight-loss programs (books, groups, internet) with no success, we started with basic nutrition, rather than a "diet." We began with understanding the six healthy food groups (complex carbohydrates, lean protein, dairy, fruit, vegetables, and healthy fats) and eliminated fast food for the first month; she lost seven pounds.

Over the next month, we developed an exchange meal plan with designated servings of the six healthy food groups, providing 1,500 kcal, 30 g of fiber, and >64 ounces of water per day. We added back fast food one day per month. After sixteen weeks, she had lost twenty-six pounds, but then began to plateau (maintaining at 232 pounds).

To avoid the necessity of creating an even greater calorie deficit, I strongly encouraged her to begin a moderate exercise program. She agreed to work with me two mornings per week. We began walking for fifteen to twenty minutes, and after three weeks, extended that in five minute increments per week to forty-five minutes of brisk walking, flexibility, and core strengthening using a stability ball. We used a pedometer program (goal of 5,000 steps per exercise session), and added one additional session per week of unsupervised walking (on her own) each month. She remained injury free and began to lose weight again at a rate of one to two pounds per week.

She participated with me in the 5K Santa Monica Venice Christmas Run/Walk that we completed in forty-seven minutes.

It is now one year since the beginning of the relationship and she has lost fifty-seven pounds (BMI at 36.8). She has improved her dietary habits enormously and her family (two children and a husband) has benefited as well from healthier dietary habits. She welcomes physical activity and makes it a recreational choice when possible, in addition to walking two days per week with me and three on her own. She continues to have a goal weight of 165 (BMI at 29.2).

– Dominique Adair, MS, RD

Chapter 3: Exercise

How to Move Better

Now that you have trained your mind and prepared yourself to face all the challenges of getting fit and eating right, you are ready to make a move. Well, you're almost ready. According to the Bureau of Labor Statistics, more people today are spending time in office-related jobs, and more hours at work. This means more sitting, less work-related activity, and less daily activity in general. The latest research claims that decreased physical activity may lead to movement impairments and, potentially, injury. So, before you head into the gym and begin your exercise program, take a moment to understand how your body moves and how strength and cardiovascular training help create change.

Success is simple. Do what's right, the right way, at the right time.

–Arnold H. Glasow

What Moves Us?

Beginning your exercise plan involves understanding the basics of movement. So let's begin with a bit of anatomy and physiology.

There are three major systems in the body that create movement: the nervous, muscular, and skeletal systems. Movement is led by the nervous system. The nervous system



Beyond our minds, our bodies are subject to physical rules of movement that are governed by our nervous, muscular, and skeletal systems.



The size of our muscles does not indicate our strength. The nervous system controls how strong we become.

is the commander, telling the muscles when and how to move. The muscular system is the laborers; they take orders and contract and relax on the command of the nervous system. Muscles connect to the skeletal system and move and stabilize bones and joints. The skeletal system provides the framework of the body, protects our internal organs, and allows movement at the joints (ankles, knees, hip, etc.) so the body can move.





Our Nervous System

The nervous system consists of the brain, spinal cord, and nerves that run through the body and attach to muscle fibers (the elements that make up muscles). The brain is the command center, and the spinal cord acts as the communication highway from the brain to the body. Nerves connect the spinal cord to the muscles, further relaying the message from the brain. All this happens within milliseconds and without a conscious thought. Our nervous system creates and relays the commands to move. If the brain is not able to communicate to the muscles due to a disruption in the chain of communication (e.g., in a person who has a severed spinal cord or nerve damage), muscles will atrophy, and we won't move. Research has found that strength, *the ability to create internal tension to move an external resistance*, is based upon the nervous system's input to the muscle being challenged. In other words, strength is created by nervous system adaptation and not by how big our muscles become.

The nervous system is an important facet of an exercise plan. In the beginning of an exercise plan, early adaptations and strength gains come from the nervous system. Within two weeks of resistance training, you will become stronger. Each muscle is made up of numerous muscle fibers. Each muscle fiber has nerves attached to it. When we are sedentary, the body will call on as few muscle fibers as necessary to work, leaving other muscle fibers "dormant." When we begin to move more, do resistance training, or participate in challenging physical activity, the muscles are called upon to do more work. When this happens, more nerves are asked to recruit more muscle fibers, which are "awakened" and assist with the activity, thus increasing your strength.



Our Muscular System

The muscular system is made up of approximately 600 individual muscles that overlap each other in an intricate system. Each muscle is created with a set number of muscle fibers (genetically chosen). You cannot increase or decrease the number of muscle fibers in a muscle. Your muscle shapes are genetically chosen as well. Some people have long muscles with short tendons (the fascia that attaches muscle to bone), while others have short muscles with long tendons. Unfortunately, unless you decide to have surgery, you cannot change the shape of the muscles you were born with (i.e., increase a "peak" in a muscle or make a short muscle long). You can, however, change the size of muscle fibers and thus change the shape of the muscle overall (i.e., make a muscle bigger or fuller). Muscles can hypertrophy (get larger overall) or atrophy (get smaller overall). When you live a sedentary life, muscles can atrophy because they are not being challenged. However, when you begin to participate in resistance training or challenging physical activity, muscles will hypertrophy.



Key to Success: The nervous system is an important part of the movement chain. The more the nervous system sends out commands to a muscle, the stronger that muscle becomes.

Expect to increase your strength within the first two to three weeks of resistance training. This shows that your nervous system has adapted to your program and that you are on the path to success.



Muscle shapes are determined by your genetics. Train to get the most out of your heredity.



Take a Tip from the Pros: Many people think that by training certain ways (i.e., using special exercises) they can change the shape of a muscle — for instance, develop a "peak" in the biceps or get long, lean muscles.

The truth is our muscles are genetically determined with a certain number of muscle fibers and shapes. If you were not born with the capacity to have a peak in your bicep (short muscle, long tendons), or have long, lean muscles (long muscles, short tendons), short of painful surgery, you will never get it.
Focus on what you are given and train ***your*** body to look its best!

Muscles work in groups to move and stabilize our bodies. Our muscles consist of movers and stabilizers. Movers are the larger muscles, often called prime movers, that are called upon to move us. Stabilizers are generally smaller muscles, set deep into the spine and joints that help to stabilize them. Each group of muscles is important, as they must all work together to keep us moving.

Most resistance-training programs focus only on training the prime movers. While it is important to condition these muscles, we cannot neglect the smaller, stabilizing muscles that keep us strong internally. If these muscles aren't working as they should, our bodies can break down from the stress that we are putting on it. Consider this: training only the prime movers is like building a house on quicksand; you may begin to build a beautiful house, but pretty soon, the house will come tumbling down because the foundation is weak. When you begin your fitness program, it is important that you are first stable (i.e., that you have integrated training of the stabilizing muscles into your resistance-training plan), and then you can move to focusing on the prime movers. If you are wondering how you are going to put your programs together to include both the stabilizers and the prime movers, don't worry! In Part 2: Get Moving — we will break down each body part and focus on creating just the right training program for you.

Examples of Movers and Stabilizers



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Pecs



© 2006 Primal Pictures

Glutes



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Transversus Abdominus

(your body's internal weight belt)

Movers

- Chest muscles (pectoralis major, pectoralis minor)
- Back muscles (latissimus dorsi, rhomboids, trapezius)
- Abdominal muscles (rectus abdominus, external obliques)
- Shoulder muscles (anterior, medial and posterior deltoids)
- Biceps
- Triceps
- Butt muscles (gluteus maximus and medius)
- Thigh muscles (rectus femoris, vastus lateralis, vastus medialis, vastus intermedialis, hamstrings, adductors)
- Calf muscles (gastrocnemius, soleus)

Stabilizers

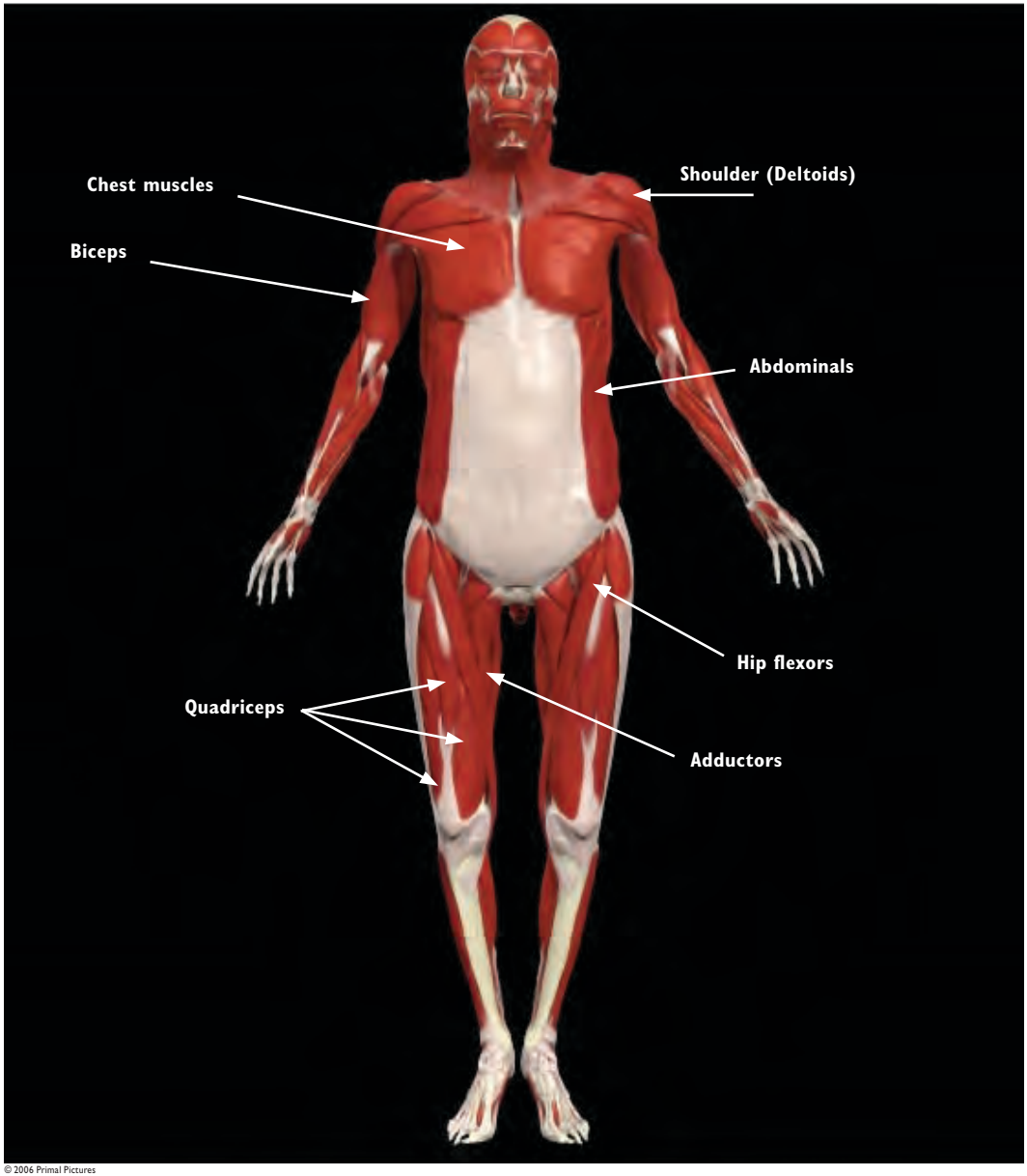
- Shoulder (rotator cuff: supraspinatus, infraspinatus, teres minor, subscapularis, teres major)
- Core (transverse abdominus, internal obliques)



Build a strong foundation first. Work from the inside out to remain free from injury.

Key to Success:
The muscular system helps us stabilize and move. It is made up of muscles that act to stabilize our bodies, the stabilizers, and muscles that act to move our bodies, the prime movers. When creating a resistance-training program, it is important to train both groups of muscles to keep you strong from the inside out.

Muscular System – Front



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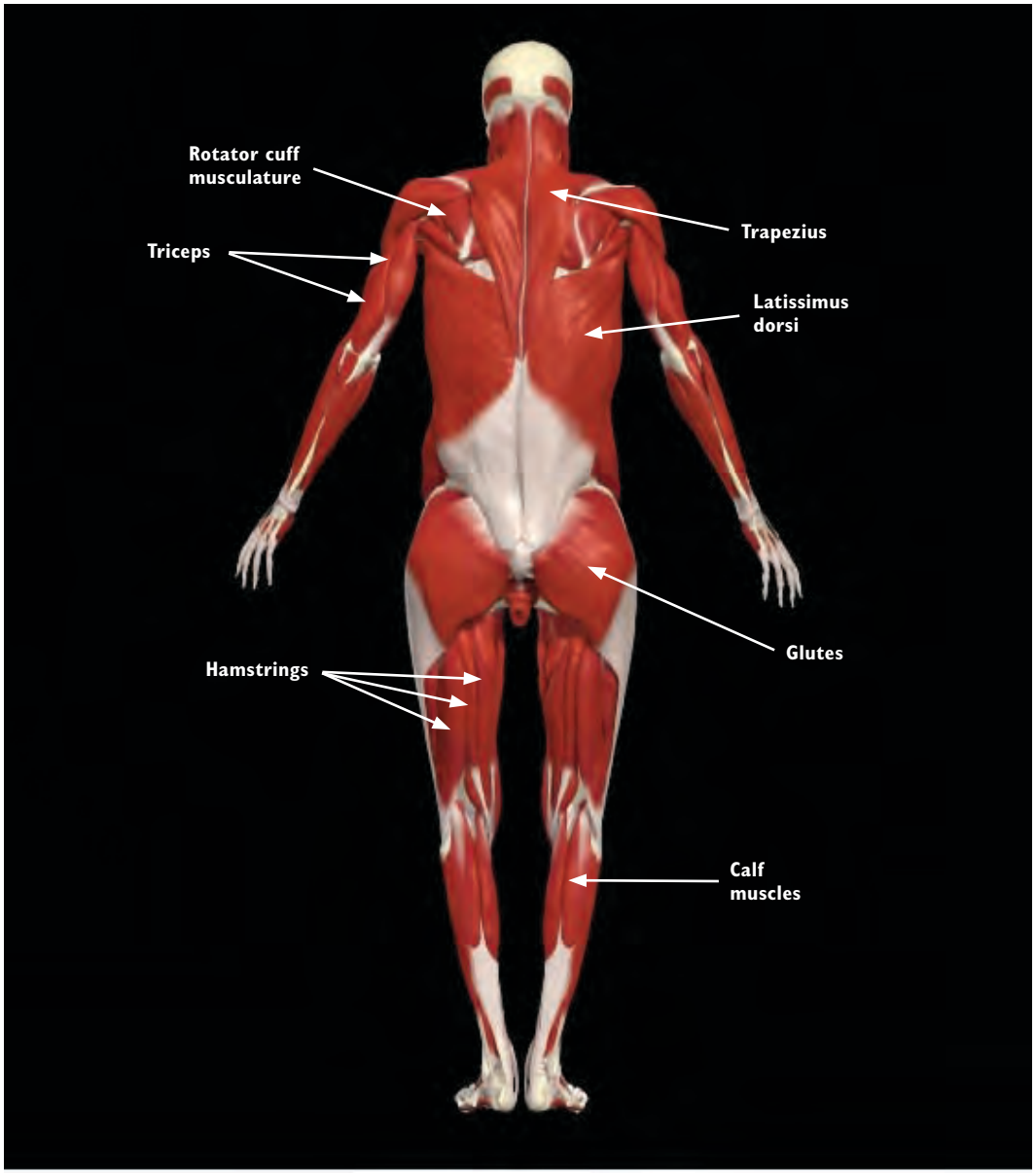
Back



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Key to Success:
Bones provide structure and protection, while joints allow for movement to occur. If muscles on one side of a joint are overactive, and muscles on the opposite side of the joint are underactive, the joint will not move as it is designed.



A Bit of Research:

Low Back Pain
Low back pain is one of the major forms of musculoskeletal degeneration seen in the adult population, affecting nearly eighty percent of all adults.

(Whiting WC, Zernicke RF., *Biomechanics of Musculoskeletal Injury.* Champaign, IL: Human Kinetics; 1998.)



Our Skeletal System

Here's some great party trivia: our bodies have, on average, 206 bones. Don't worry, we aren't going to make you memorize all of them. However, it's important to understand that all these bones provide the body's structure and keep our internal organs protected, while joints (where bones meet) allow movement to occur. There are different types of joints: those that permit a wide range of movement (like the shoulder joint), and those that provide limited movement (like those of the spine). Muscles surround joints and create movement by contracting and relaxing. Most noncontact injuries occur around joints. Joints can become misaligned due to overactivity or underactivity of muscles that surround them. If a muscle on one side of a joint is short and overactive, the muscle on the opposite side of the joint will be long and underactive, which will create an imbalance and limit the movement of the joint. This imbalance can lead to compensation and eventually a breakdown of the movement chain.

When this happens, injury can occur.

As talked about earlier, moving the body requires a chain of reactions. Each of the systems—nervous, muscular, and skeletal—is a link in the chain. If one of the links is broken or weak, the chain won't be strong.

The Movement Chain



Nervous system sends out the commands to the muscles.



Muscles take the commands from the nervous system to contract and relax.



Bones provide structure and help the body move via joints.

Movement Imbalances: The Faulty Chain

We know you want to put on your running shoes and head out the door. When you start exercising, you are gung-ho to get out there and move. However, it is important to make sure that your body is prepared for the demands of the activity. Earlier we talked about the movement chain. It is important to understand because each link in the chain of movement depend on each other. If a link is weak, the chain does not function as it should. Often, when we have a faulty chain, injury occurs.

Within the first few weeks of exercising, your body is going to go through several adaptations. You are going to start using muscles you have not used in a while and notice that some areas of your body are tight and some are weak. All of this is natural, as we tend to use certain muscles every day, whereas, we use other muscles only occasionally.

Faulty Movement Can Lead to Injury

If muscles are imbalanced (one muscle is overactive while its opposing muscle is underactive), then joints will not move properly, leading to a movement imbalance that affects the nervous system. If abnormal stresses are continually placed on the body, eventually the body will break down.



A Bit of Research:

Knee Injuries

An estimated 80,000 to 100,000 anterior cruciate ligament (ACL) injuries occur annually in the general U.S. population. Approximately seventy percent of these are noncontact.

(Prate RR, Pratt M, Blair SN, et al., *Physical Activity and Public Health. A Recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine.* JAMA 1995;273(5):402–407.)

Musculoskeletal Injuries

In 1988, more than twelve percent of the American population suffered a musculoskeletal impairment. More than half of these were spinal or back-related (shoulder and lower extremity injuries comprised eleven percent).

(Praemer A, Furner S, Rice, DP., *Musculoskeletal Conditions in the United States.* Rosemont, IL: Academy of Orthopedic Surgeons; 1992.



Key to Success: When muscles surrounding joints become overactive or underactive, they can alter the way the joint moves, changing the way the nervous system communicates with the muscles.

Movement imbalances can hamper the results of your exercise program, not allowing you to get the best out of your program and can even lead to injury.



Many people suffer from shoulder, knee, foot/ankle, and low back pain. These disabilities are often due to faulty movement patterns brought about by muscle imbalances. These imbalances can ultimately affect the results of your exercise program. If muscles can't work as they should, they are not going to be able to adapt. Strength and hypertrophy (enlargement of muscles) will be affected. Ultimately, you won't be able to get as strong since the nervous system will not be able to communicate effectively with the imbalanced muscles. In turn, the muscles will not be able to reach your desired size, strength, and shape.

If you suffer from joint pain or muscle or movement imbalances, don't fret. Part 2 of this book will help you tackle these issues head on!

In Chapter Five we will show you how to improve your flexibility to keep you aligned and moving correctly. For a vast library of videos, articles and tools that can show you how to move better, please visit www.dotFIT.com and click on the Fitness Vault.

How Does Movement (Exercise) Affect Our Bodies?

We walked you through anatomy; now, let's tackle some physiology. Do you know how change in your body occurs? How do you lose weight or gain muscle? We read different opinions every day; supposedly you can gain muscle by doing this exercise, or drop inches by doing that exercise. The promises are always there, but often fall short. Unfortunately, you might fall victim to them because you aren't sure how exercise affects your body. Well, there are a few simple, scientific principles you need to understand.



Our bodies adapt to the demands we place on them. NASM recommends moving at least sixty minutes a day, six days per week.

First, weight is governed by the Law of Thermodynamics. In order to create weight loss and lose inches, you need to expend more energy (calories) than you take in. Exercise allows you to burn calories. Whether you increase your cardio or resistance training, essentially it is movement, and movement burns calories. *The more you move, the more calories you burn*. In fact, the National Academy of Sports Medicine (NASM) recommends moving at least sixty minutes a day, six days per week.

However, while we all want to lose a few inches in specific problem areas, you can't spot-reduce. A single exercise, like ab crunches, will not help you lose the inches you want. The inches are made up of body fat. According to NASM exercise guidelines, the body can lose approximately 2.2 pounds of fat per week, given a 1,000-calorie deficit per day. You see, each pound of fat is 3,500 calories. You can lose one to two pounds of fat per week, but not much more than that. An increased energy deficit, beyond 1,000 calories per day, will lead to starvation, forcing the body to shut down and conserve as much energy as it can to survive. In this scenario, you will find that when starvation occurs, change will not happen. The body is focused on surviving the energy drought. Good nutrition, coupled with a comprehensive exercise plan, is the only way to lose the weight you want and keep it off. On the opposite end of the spectrum, in order to gain weight, you need to increase your calorie intake and expend less energy. Finally, if you want to maintain your body weight and composition, you need to balance your energy intake (calories) with your energy expenditures.

Repetitions are the number of times an exercise is repeated within a set. For example, one chest press motion equals one repetition.

Sets are a complete round of repetitions. Once you have completed the recommended amount of repetitions for each exercise, you will have completed a set. For example, twelve repetitions of a chest-press motion will equal one set.

Intensity is how much resistance or weight (in pounds or kilograms) you are using for an exercise. For example, when you are performing the chest press, your load might recommend for you to use ten-pound dumbbells.

Rest is the amount of time between exercise sets. For example, after your first set of chest presses, your rest will be thirty seconds before you start the next set of chest presses.

2 Second, building muscle increases the number of calories that you burn a day. Resistance training builds muscle. Muscle burns more calories than fat. If you want to increase your metabolism and look better, increase your lean body mass. When you look in the mirror and notice that your clothes aren't fitting as they once did, it isn't your weight that is changing the way you look, it's body fat. After all, weight is the number on the scale; body fat is what you are trying to lose in order to see your abs or reduce your hips. Many females have been afraid of lifting weights for fear of getting too big or buff. This is simply not the case. A woman's biology does not allow for excessive muscular enlargement. Women whose muscles are gigantic tend to have some pharmaceutical help.

What is Resistance Training?

Resistance training (often known as strength training or weight training) is anything that places resistance on the body and requires the body to create an internal tension to counter the force. Notice I did not say lifting weights? Lifting weights is one form of resistance training. Training with bands, medicine balls, and everyday items such as soup cans can be considered resistance training as well. No matter what you use to resistance train, the principle behind it is simple. Resistance training breaks down muscle. When muscle is broken down, the body works to repair the damage, rebuilding it stronger and larger than it was before. It is actually the recovery after resistance training that creates the change in muscle! When you are performing resistance-training exercises, be sure to give the muscles you are working at least forty-eight hours to recover before you work them again. This amount of time allows the muscles to be repaired. Without rest, the muscles cannot repair, leading to faulty movements, muscle imbalances and often injury. Within resistance training, there is some terminology that you need to become familiar with.

3 Third, if you perform the same exercise routine every day (do the same resistance-training program or the same cardio workout), your body will stop changing. Specifically, this is the principle of Specific Adaptation to Imposed Demand (SAID). Yes, it is a harsh reality. Let's say you decide to walk every day for thirty minutes. After about four

weeks, you will have to increase your speed or your distance to get better results than you did just a few weeks previously. This is commonly known as a plateau; your body adapts and learns to conserve energy. That's why you have to shake things up if you want to keep seeing results. We will teach you how in Part 2: How to Get Fit One Step at a Time.

4 Fourth, cardio training is crucial to good health. Keeping the heart healthy can help stave off debilitating diseases such as hypertension, diabetes, and atherosclerosis. In addition, cardio training burns more calories each day, helping create the energy deficit you need to lose inches. However, cardio training must be coupled with a good resistance-training plan to see maximum results. There are a few important factors to understand. First, while cardio training may burn a good amount of energy (calories) during the activity, it will not burn the same amount of calories as increased muscle mass will. Muscle burns calories all day long. Second, the heart pumps oxygen to our muscles. We need oxygen to burn fat. So, an efficient cardiovascular system will keep the heart pumping steadily, increase oxygen intake and distribution, and make our fat-burning engines (muscles) work better.

What is Cardiovascular Training?

Cardio training is the body's ability to transport oxygen continuously to muscles during work. This component of fitness includes the circulatory system, composed of the heart, blood, and blood vessels, as well as the respiratory system, which includes the lungs and air passages. When you train your heart to pump more efficiently—when you're cardio training—your heart's ability to transport oxygen increases through increased blood flow; your ability to work harder while still taking in oxygen increases, and you begin to use your body's energy sources (fat and sugar) more efficiently. These are all important factors when you begin exercising. Essentially, a more efficient heart allows you to work harder, burn more calories overall and helps create more change. Chapter Six will discuss cardio training in more detail, including how to perform your cardio correctly and pitfalls to watch for.



Online Resoures:
Visit www.dotFIT.com for tools and resources to help you achieve your goals.

What Tools Do You Need to Get Moving?

There are dozens of fitness tools available to you at retail stores, health centers, and websites. For a comprehensive list of tools and resources, visit our website at www.dotFIT.com where you can access thousands of articles, videos and programs. You may already be familiar with many items, while some may be brand new to you. We have compiled a list of tools you will need for your fitness program. It is important to become familiar with them. In Part 2 of this book we are going to begin to create your exercise program, which may require the use of many or all of the tools listed below. If these tools are not available to you, you can substitute household items for resistance-training tools, such as soup cans, milk jugs, etc. The tools listed below are used to help you, but the lack of available tools should never present an obstacle; there are always solutions!

Tools of Fitness

Foam Rolls

These are used for helping alleviate knots in muscles as a supplement to your flexibility program. These will be discussed more in Chapter Five in the section about flexibility.

Dumbbells



These might be the most widely used and versatile pieces of equipment. You will need a few different dumbbells of varying resistances for different parts of the body. For instance, shoulders might require lighter dumbbells, and legs might require heavier ones. You can purchase these weights separately or purchase a set of adjustable weights (e.g., SelecTech dumbbells from Nautilus) that allow you to adjust the load by simply moving a dial. Adjustable dumbbells might be a bit pricier but save space and money in the long run.

Barbells

These bars range from twenty to forty-five pounds and can be found lying on stands connected to flat, incline, or decline benches. You can also find these bars on or near a squat rack.



Medicine Balls

Medicine balls are weighted balls ranging from one to more than twenty pounds. These resistance balls have been used for decades by both athletes and fitness enthusiasts. They are portable and ideal for power training, in addition to training your core.

Stability Balls



Stability balls are often seen in fitness facilities. You will find these in all different colors and sizes. You can sit on, lie on, or use a ball for support. You will want to find the right-sized ball for you. The right ball makes a big difference when you are sitting or lying on it. If you are five-feet-five or shorter, a 55 cm ball is the right choice; if you are five-feet-six to six feet tall, use a 65 cm ball; if you are six-feet-one or taller, use a 75 cm ball.

Tubing/Resistance Bands





Tubing/resistance bands are elastic bands of varying thickness, which determines their resistance. Thicker bands offer more resistance; thinner bands offer less resistance. Each piece of tubing comes with a handle at each end and must be secured around a strong, stable object that will act as a holder. These bands offer more freedom for you to move your body within a range of motion that suits you best.

Benches/Seats



Weight benches can be found in the free-weight section of your local fitness facility. These benches can be flat, upright, or angled up or down. Most benches are adjustable, but some are fixed either in an upright or flat position.

Weight Machines

Fixed



These are common machines in a fitness facility. They are called "fixed" because they move in a fixed pattern of motion. They offer extensive support and movement guidance.

Cable-Based



These machines are relatively new to fitness facilities. These machines have fixed seats with little to no seat adjustments, but offer cables to push or pull. Cable-based machines allow for greater overall movement and can be adjusted to move within the range of motion of the user.

Balance Tools



These tools have been used to increase core and balance stability and strength. When you use one of these tools, it will challenge your ability to balance, which is helpful in teaching your body how to maintain control in different, challenging environments, as well as increase the number of muscles you use during an activity (thereby increasing the amount of calories you burn). You might see tools such as Dyna discs, Airex pads, or BOSUs. All of these tools will help you gain better balance and core stability.

Home Gym



A well-designed home gym can be a great alternative to working out in a public or private gym. Home gyms provide the ease and time efficiency necessary for busy exercisers to get their workouts done at home. Home gyms that allow you to work the entire body are a great investment, even if you also choose to join a health club.

Cardio Machines



Elliptical

This piece of cardio equipment moves the legs in an elliptical motion while pushing and pulling the arms. The elliptical incorporates many muscles, yet reduces potentially harmful forces from the impact. Since your feet never lift off the pedals, you reduce stress on the knees.



Treadmill

The tread, in the middle of the machine, offers continuous movement. You can control the elevation and speed of the treadmill. You can walk or run on this machine. Although you do have to absorb forces from your feet hitting the tread and platform, the forces are reduced.



Recumbent Bike

The recumbent bike offers a different approach to bike riding. While it does not allow you to use as many muscles during your cardio training, this machine creates less stress on the knees and low back when performing your cardio.



Stationary Bike

This piece of cardio equipment is a staple in most fitness facilities. It is similar to riding a bike; however, you stay in one spot. This machine helps to reduce stress on the knees.

Exercise Frequently Asked Questions

Can I exercise every day?

You can do some form of exercise everyday; however, you need to rest for forty-eight hours between bouts of resistance training. Remember that resistance training breaks down muscle, requiring the body to repair it—making it bigger and stronger. The body needs time to repair the muscles in order for change to occur. However, you can do some form of activity everyday; again, NASM recommends one hour of activity per day, six to seven days per week. For instance, you can take a daily two-mile walk, or perform cardio sessions on the days in between resistance-training sessions. Be aware that although you may want to dive into exercise head first, listen to your body. If you are achy, starting to feel exhausted and easily fatigued, you might be overdoing it! Cut back your daily exercise and allow your body to rest.

Do I need to do resistance training to lose weight?

Technically, no, but we suggest that you incorporate it into your weight-loss strategy. As you have learned, if you can create an energy deficit (more energy out, less energy in), then you will lose weight. However, if you want to lose that weight more quickly and efficiently, and keep it off longer, then resistance training is for you! Muscles are fat-burning machines; the more muscle you have, the more calories you burn every day at rest. Resistance training helps build muscle, as well as increasing bone density, enhancing function, and creating a toned appearance. Why wouldn't you choose an exercise with so many pluses?

Can I lose weight in one specific area (spot-training)?

Unfortunately, no. We all have problem areas that have us cursing our genetics or wishing we hadn't eaten that second helping last night at dinner. The body dictates where it wants to burn fat first. Don't give up though! While it may take more time, there is no limit to how much fat your body can burn; it's just energy. You will have to be strict with your nutrition and make sure that you keep your body in an energy deficit.

If I do resistance training, will I get big and bulky?

Maybe, but only if your genetics call for it, and usually only if you are a male. Men have a high level of the hormone testosterone, which creates large muscle growth. In contrast, women have low levels of testosterone and high levels of estrogen. A woman's biology does not allow her to grow very big muscles, unless she has help, but genetics may play a factor. We all have different body types. Some of us are more athletically built, which may produce a more bulky appearance. Learning to resistance train correctly will develop a lean, balanced physique. Part 2 of this book will help you better understand the right resistance-training program for you.

Can I do the same workout for three months?

Yes, but you will not achieve optimum results. Your body will adapt to the demands placed on it and stop producing change. Performing the same routine will allow the body to become better at the movements and conserve energy. Remember, if you want to lose weight, you need to expend energy! Also, overuse injuries can occur if you train the same way for months. The body must maintain a balance to avoid faulty movement. Your program should change every four weeks to avoid a plateau.

Can I get ripped abs like I see on television?

Absolutely! We all have a six pack; often, it's just covered by fat. Keeping your nutrition in check, maintaining an energy deficit, and performing the right exercises to develop the muscle will all work to help you get a ripped-ab appearance.

Can I lose ten pounds in one week?

Yes, but *not* safely! If you are strictly talking about your weight as measured on the scale, then you can lose ten pounds — that is, if you are dehydrated. Your weight fluctuates every day. While you can use the numbers on the scale as an objective measurement to show change in the body, it is your body composition that truly matters. You can lose only up to 2.2 pounds of fat per week (and that means being in a calorie deficit of 1,000 calories per day). Realistically, most bodies will lose one pound of fat per week, which means losing ten pounds will take about ten weeks.



Online Resources:

The dotFIT Me nutrition and fitness program is designed around your goals. Whether you want to lose weight, gain muscle, improve performance, relieve pain or increase energy you can quickly and easily personalize your goals.

www.dotFIT.com

When can I expect to see results from my fitness plan?

Right away! Expect to start feeling better, happier, and more energetic within the first week of starting an exercise plan. Strength gains will occur over the first two weeks of training as your body begins to realize that it needs to get stronger to handle the demands placed on it. As far as physical changes, it will take about four weeks to start to see the changes your body is making. You can lose four to eight pounds of body fat per month. This translates to better fitting clothes and a tighter overall feeling. You may even start seeing muscle popping through in different locations.



Success Story: Arthritic Executive Loses Ninety Pounds

My personal training client, a female telecommunications executive, had a degenerative disc disease in her spine, lupus, fibromyalgia, rheumatoid arthritis, liver disease, and depression. She eventually had back surgery on L4, L5, and S1, and was using a walker. Recovery was slow due to her rheumatoid arthritis. She did physical therapy in the pool after several months, then water aerobics four to five times per week. Her energy improved, her spirits were lifted, and she started to feel like she had accomplished something.

She continued exercising using different machines and was amazed by what she could do, even with her pain and illnesses.

Now my client is able to do more with her increased endurance. She has lost ninety pounds and now has definition in her arms, legs, and glutes for the first time in her life. Her quality of life has improved dramatically.

– Matt Provencher, NASM CPT

Part 2:

How to Get Fit One Step at a Time

Chapter 4: Assessment

Know Your Body

You need to know where you are beginning and plot the correct course of action based on where you want to be in four weeks or four years. You don't want to start your journey to fitness success without a plan, and the plan starts with assessments. What is your current fitness level? What is your starting body composition? Is your body prepared for the demands of exercise? These three questions help determine that you are on the right path.

Assessments are measurements that provide objective feedback about your goals. They are a method of gathering information that will allow you to compare current measurements with past ones and determine your progress. There are several different assessments that can be done to help you create the right exercise plan for your needs.

The first question you need to ask yourself is, *"am I ready?"* Before you begin any exercise plan, you should check with your doctor to see if there are any risks associated with starting an exercise regimen. On the next page is a Physical Activity Readiness Questionnaire (PAR-Q). Use this questionnaire to determine if there are any issues that must be addressed with your doctor before you begin your exercise plan. You can also complete this questionnaire online through our dotFIT Me program. In just seven minutes, you can create a complete fitness program based on your goals.

The backbone of success is usually found in old-fashioned, basic concepts like hard work, determination, good planning and perseverance.

–Mia Hamm



Online Resource: You can download this form at www.dotFIT.com/getinvolved



Get Involved:

Take the time to read the questions carefully, and place a check mark in the box indicating yes or no.

Physical Activity Questionnaire 1

	Questions	Yes	No
1	Has your doctor ever said that you have a heart condition and that you should perform only physical activity recommended by a doctor?		
2	Do you feel pain in your chest when you perform physical activity?		
3	In the past month, have you had chest pain when you were not performing any physical activity?		
4	Do you lose balance because of dizziness or do you ever lose consciousness?		
5	Do you have a bone or joint problem that could be made worse by a change in physical activity?		
6	Is your doctor currently prescribing any medication for your blood pressure or for a heart condition?		
7	Do you know of any other reason that you should not engage in physical activity?		

**If you said yes to one or more of the questions above, please consult your physician prior to engaging in exercise or physical activity. After a medical evaluation, seek advice from your physician about what type of activity is suitable for your current condition.*

Find Your Starting Point

After you have determined that you are ready for physical activity, it's time to get out the measuring tape, step on the scale, and possibly pinch yourself. There are several assessments that help you gain insight into your current health condition. You can use any or all of the assessments provided for you. You need to determine what method you want to use to track your progress. Let's start with a simple assessment that can help you determine how much of your weight is lean muscle mass and how much is fat. Body Mass Index (BMI) takes into consideration your weight and your height. Based on the numbers

corresponding on the chart below, you will fall into one of four categories: underweight, normal, overweight, and obese. Remember, this is your starting point. Your category will change once you begin exercising.

What you need: weight scale, measuring tape

Get Involved:

Your current weight:_____

Your current height: _____

Body Mass Index																	
BMI	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Height	Wt. (Lbs)																
4'10"	91	96	100	105	110	115	119	124	129	134	138	143	148	153	158	162	167
4'11"	94	99	104	109	114	119	124	128	133	138	143	148	153	158	163	168	173
5'0"	97	102	107	112	118	123	128	133	138	143	148	153	158	163	168	174	179
5'1"	100	106	111	116	122	127	132	137	143	148	153	158	164	169	174	180	185
5'2"	104	109	115	120	126	131	136	142	147	153	158	164	169	175	180	186	191
5'3"	107	113	118	124	130	135	141	146	152	158	163	169	175	180	186	191	197
5'4"	110	116	122	128	134	140	145	151	157	163	169	174	180	186	192	197	204
5'5"	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210
5'6"	118	124	130	136	142	148	155	161	167	173	179	186	192	198	204	210	216
5'7"	121	127	134	140	146	153	159	166	172	178	185	191	198	204	211	217	223
5'8"	125	131	138	144	151	158	164	171	177	184	190	197	203	210	216	223	230
5'9"	128	135	142	149	155	162	169	176	182	189	196	202	209	216	223	230	236
5'10"	132	139	146	153	160	167	174	181	188	195	201	208	216	222	229	236	243
5'11"	136	143	150	157	165	172	179	186	193	200	207	214	222	229	236	243	250
6'0"	140	147	154	162	169	177	184	191	199	206	213	218	228	235	242	250	258
6'1"	144	151	159	166	174	182	189	197	204	212	217	226	235	242	250	257	265
6'2"	148	155	163	171	179	186	194	202	210	218	225	233	241	249	256	264	272
6'3"	152	160	168	176	184	192	200	208	216	224	232	240	248	256	264	272	279

**National Institutes of Health (NIH), National Heart, Lung, and Blood Institute.*

Online Resource: You can download this form at www.dotFIT.com/getinvolved



Muscle weighs more than fat. However, muscle takes up less room in the body, so you may see your body shrinking, but your weight may not drop drastically in the beginning.

Chart and track your progress online at www.dotFIT.com

The number in the top row that corresponds with your height and weight represents your BMI. Read the chart below to determine where you are:

Underweight	Normal	Overweight	Obese
18.5	18.5–24.9	25.0–29.9	> 30

**National Institutes of Health (NIH), National Heart, Lung and Blood Institute*

If you measure 25.0 or above, please be sure to contact your physician and ask about exercise recommendations and contraindications before you begin your exercise plan.

While this measurement provides useful information about your starting point, the downfall is that it does not take into consideration how much of your weight is body fat and how much is lean tissue. Remember that muscle weighs more than fat. Use this assessment along with a body-fat assessment to gain more insight into your true composition and health.

Understand Body Fat

We know that body fat is not your favorite combination of words, but it's not all bad! Body fat is an essential part of the body and everyone needs body fat to survive. So, how do you find out where you stand?

Grab Your Measuring Tape

This next series of assessments will help you get detailed information about your body. You can go back every four weeks to remeasure and make sure you have progressed.

As we mentioned earlier, body composition change is what most people are truly after when they talk about weight loss or losing inches. If you decide to become a member of a health club, a fitness professional will be able to estimate your body fat by using calipers or a hand-held electrical impedance machine. However, if you decide to forgo the gym and want to estimate your body-fat loss, take a few measurements around different areas of your body and check your progress every four weeks.

What you need: a measuring tape. Check your progress every four weeks. Use the body composition formulas in the Appendix to help with insight into your current health condition and track your progress.

Get Involved:

You are going to measure a few different areas.

- Chest (measure the largest part)
- Waist (place the tape on top of your the belly button)
- Hips (measure the largest part)
- Thigh (measure the thickest part)
- Upper arm (measure the largest part, the biceps and triceps area)

When performing the measurements, make sure the tape measure is not too tight or too loose. You want to be able to put your pinky underneath the measuring tape so it is snug, but not pushing into your body. You will want to be consistent with your measurements. Whether you measure in the morning or evening, make sure you re-measure at the same time of day. This helps keep your reassessments more accurate.

Online Resource: You can download this form at www.dotFIT.com/getinvolved

Get Involved:

Track your progress here every four weeks.

	Week 1	Week 5	Week 9	Week 12
Date				
Chest				
Waist				
Hips				
Thigh				
Upper Arm				



Take a Tip from the Pros: Keep your assessment times consistent. If you have your body fat tested in the morning before you workout, make sure your next appointment is around the same time and that you do not workout beforehand.

What about Those Pinchers (Calipers)?

If you decide to become a health club member, most facilities offer free body-fat testing as part of your membership. Ask a fitness professional to perform a body-fat assessment. Most clubs use what are called body-fat calipers. These torturous-looking objects appear worse than they feel. Body-fat testing requires a professional to "pinch" or grab an area of skin and fat between the forefinger and thumb and pull it slightly away from the body, then place the calipers around the area. Your body fat is determined based on the combined amount that is pinched in different areas (usually from four to seven sites on your body). Make sure that you have the professional perform the test again after four weeks, and do it at the same time of day for more accurate results.

What Is a Healthy Amount of Body Fat?

There are two main categories of body fat: essential fat (needed for normal bodily functions) and storage fat (those pesky areas we don't like to see). Body fat is essential for functions such as body-temperature regulation, insulation, protection of internal organs, nerve-impulse conduction, and energy. We all need body fat, but too much could mean big trouble for your heart and body. Below is the table for recommended percentages of body fat for men and women:

	Women (Body fat %)	Men (Body fat %)
Essential fat	10–12	2–4
Athletes	14–20	6–13
Fit	21–24	14–17
Acceptable	25–31	18–25
Obese	32+	25+

**Taken from the National Institutes of Health*

Men need less essential fat, approximately three percent, while women need close to twelve percent for proper function.

Does Age or Gender Matter When It Comes to Body Fat?*

Unfortunately, we have to answer yes to both parts of the question. Women tend to carry more body fat naturally for what is regarded as reproductive purposes. Men need less, as noted on page 72. However, as we age, we all lose lean muscle mass and gain body fat. This is the normal aging process that can be slowed by diet and exercise.

As you grow older, you will see that the healthy body fat range increases — however, this does not mean that you cannot be lower than the healthy range — that will be dependant upon your lifestyle choices.

Find Your Current Fitness Level

Age (years)	Healthy Range of Body Fat for Females (%)	Healthy Range of Body Fat for Males (%)
18–39	21–32	8–19
40–59	23–33	11–21
60–79	24–35	13–24

**Taken from* Shape Up America *by Dr. C. Everett Koop.*

Okay, fifteen years ago you were a fitness phenom. You could hike a mountain in the morning, run a marathon in the afternoon, and still have time to hit the gym for a couple sets of squats at night. But that was fifteen years ago; where are you now? Grab your gym shoes and let's get moving. We are going to give you cardiovascular, strength, and movement assessments to make sure you know exactly what fitness level you're at so you can plan your program accordingly.

Get on the Starting Line

Your cardiovascular health is an important factor to your overall fitness level. Your heart must be able to keep up with the demands of your muscles when you are exercising.

What you need: access to a treadmill, appropriate workout attire, and gym shoes.

Online Resource: You can download this form at www.dotFIT.com/getinvolved

Get Involved:

The best cardiovascular test to perform is the Rockport Walk test.

Step 1: Determine your maximum heart rate by subtracting your age from the number 220 (220 minus age).

Maximum Heart Rate: _____





Step 2: Before you begin your exercise, take your resting heart rate. It is best to take your resting heart rate right after you rise in the morning. This will give you the most accurate measurement. Take your pulse at your wrist (place your index and middle fingers lightly on your wrist, below the thumb) or at your neck as shown for six seconds and multiply the number of beats you record by ten (six second pulse times ten). The resulting number will be your resting heart rate.

Resting Pulse: _____ **BPM (beats per minute)**

Step 3: Step onto a treadmill and walk one mile as fast as you can control without adding an incline. Record how long it takes you to walk one mile. After the mile is completed, immediately take your pulse to find your heart rate.

Heart rate after your one-mile walk: _____ **BPM**

Please re-record the results by downloading the worksheet from dotFIT.com, or you can also use the worksheet at the end of this section. Retest after four weeks. A lower heart rate and faster time to completion of a mile will indicate a progression and better cardiovascular health.

Step 4: Using your heart rate maximum (gathered in Step 1), multiply that number by the following figures to determine your heart rate training zones.

Zone 1: Maximum heart rate × .65 (.60 if you are on beta blockers) = _____

Maximum heart rate × .75 (.70 if you are on beta blockers) = _____

Zone 2: Maximum heart rate × .80 = _____

Maximum heart rate × .85 = _____

Zone 3: Maximum heart rate × .86 = _____

Maximum heart rate × .90 = _____

These zones represent training heart rate zones, which will be utilized in your cardio-conditioning programs discussed in Chapter Six.



Push Yourself

A great indication of upper-body strength and total body stabilization is the push-up. The push-up requires enormous upper body strength and total body stability.

What you need: Depending upon your level, you will need wall space, a desk, or a bench.



Online Resource: You can download this form at www.dotFIT.com/getinvolved



Get Involved:

The one-minute push-up test can help you understand your beginning strength level. There are two modifications you can use to perform this test: one for beginners, and one for stronger or more advanced exercisers.

Beginner: Use a wall (easiest position), desk (moderate difficulty), or bench (most difficult position for beginners) and get into push-up position. Keep your back straight, and your head and hips level with your back (don't allow your low back to sag). Keep your feet hip-width apart and your hands and arms in-line with your shoulders. Lower your body until your chest barely brushes up against the bench, desk, or wall and push back up to the starting position. (Your body should stay in a perfect line when you are performing the modified push-up.)

Test: Set your timer for one minute and begin performing as many push-ups as possible within the time limit. Record the number of push-ups completed (don't count push-ups in which you did not keep good form). Use the sheet at the end of this section to record the number of push-ups completed.

Intermediate/Advanced: Start in regular push-up position. Keep your back straight, your head and hips level with your back (don't allow your low back to sag). Keep your feet hip-width apart, and your hands and arms in-line with your shoulders. Lower your body until your chest barely touches the floor, then push back up to starting position. (Your body should stay in a perfect line when you are performing the modified push-up.)

Test: Set your timer for one minute and begin performing as many push-ups as possible within the time limit. Record the number of push-ups completed (don't count push-ups in which you didn't keep good form). Use the sheet at the end of this section to record the number of push-ups completed.

Retest after four weeks. Performing more push-ups in the allotted time will indicate increased strength and total body stability.

Push-Up Test

	Assessment 1 Date:	Assessment 2 Date:	Assessment 3 Date:
Number of Push-Ups			



Online Resource: You can download this form at www.dotFIT.com/getinvolved

Assessment Tracking Sheet



Body Measurements

Circumference Measurement Progress Chart Time of Assessment: _____				
	Week 1	Week 5	Week 9	Week 12
Date:				
Chest				
Waist				
Hips				
Thigh				
Upper Arm				



Heart Rate

	Assessment 1 Date:	Assessment 2 Date:	Assessment 3 Date:
Resting Pulse			

Exercise Frequently Asked Questions

What is an acceptable Body Mass Index (BMI)?

Underweight	Normal	Overweight	Obese
18.5	18.5–24.9	25.0–29.9	> 30

After you have calculated your BMI, refer to the chart to determine where your BMI should fall. Remember that BMI is useful to know but it does not take into consideration your lean muscle mass. Use this assessment in conjunction with a body-fat test to give you a better indication of your overall health.

What should my resting heart rate be?

This is a great question! Resting heart rates will vary, but on average a good resting heart rate will range from fifty beats per minute to seventy beats per minute. This number will vary for those individuals on beta blockers or other heart medication. High-level athletes can have resting heart rates around forty beats per minute. Generally, if your resting heart rate is higher than seventy-five beats per minute you may need to contact your physician prior to engaging in an exercise program.

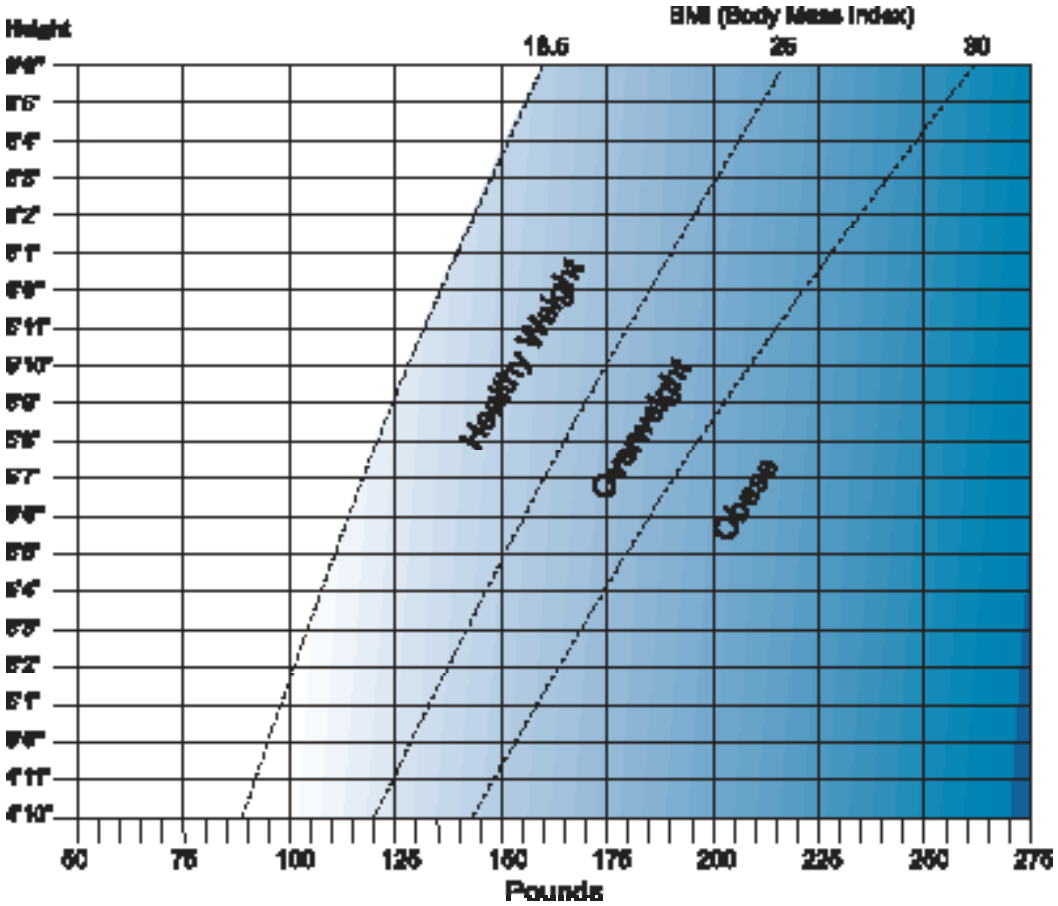
What if my heart rate is too high?

This can be a sign that you are out of shape or that you need to talk to your doctor before engaging in rigorous physical activity. It is always good to check with your physician prior to starting an exercise program and also get a full physical once per year.

What should I weigh?

What we tell our clients is, although we have norms for weight based on height, the amount of lean muscle you have will skew those numbers. Remember that muscle weighs more than fat. Which would you rather be: a one-hundred-ten-pound woman with thirty percent body fat, or a one-hundred-twenty-pound woman with eighteen percent body fat?

Following is a chart for weight norms based on height. *Find your height and weight and compare your numbers to those shown.*



Excerpt from the National Institutes of Health.
Measurements are taken without shoes and clothes.

I answered yes to some of the questions on my PAR-Q. Do I really need to see my doctor?

Please take the time to contact your physician. It is better to be safe than sorry! If there are any limitations on or contraindications to exercise, you need to know before you begin.

I want to get fit, but do I really need to do these assessments?

As we mentioned earlier, it is good to have a plan to achieve your goals and measure your successes. These assessments not only give you an idea of where you are starting, they also make you aware of your fitness levels. This helps you to stay safe while exercising, and may uncover potential problems or injuries down the road. We strongly recommend that you perform at least a cardiovascular assessment. The body-weight, circumference, and body-fat assessments are optional, but again, we recommend that you know your starting points so that you can celebrate your achievements as you work to reach your goals. What gets measured, gets done!



Success Story: Doctor Climbs Mount Kilimanjaro

My personal training client, a thirty-four-year-old male doctor, was five months away from going to Africa to climb Mt. Kilimanjaro. He had spent the previous two years losing fifty pounds through diet alone, but knew that in order to climb the largest peak in Africa, a fitness regimen had to be included. At the beginning, his shoulder, hip, and knee joints were all unstable; he couldn't even jog at a slow pace on the treadmill.

My client was not an athlete. He never participated in organized sports and never spent any time in the gym.

I started his program with a series of dynamic stretches, core movements, balance, and strength endurance. After I saw his advancement, the intensity, tempo, and movements became more challenging. I started to incorporate more total body movements and a lot of leg and ankle strengthening exercises. I had him do incline drills (forward, backward, and laterally) on the treadmill with a weighted backpack.

I received an email from my client that he successfully reached the top. He even mentioned there were several climbers coming down that didn't make it to the top that, as he put it, looked in much better shape and condition than he did.

– Jeremy Cheung, NASM CPT

Chapter 5: The Warm-Up

Make Your First Move

In the previous chapters, you trained your mind and learned healthy eating habits. Now, you need to make a move. The beginning of your workout is as important as the workout itself. Your warm-up should prepare your body for the activity you have planned. By incorporating flexibility, muscle-activation exercises, and a few total-body movements, you will increase your body temperature, warm up your muscles for enhanced movement, and get your mind ready for a great workout. Movement preparation is an integral component to a great workout, so take the time to make sure you complete each component of the warm-up before you do the rest of the workout. After all, if you can move without compensating, you will avoid injury and enhance the shape of each muscle you train! Let's get you warmed up.

Every human being is the author of his own health or disease.

—Buddha

Movement Preparation

Movement preparation is a series of activities designed to keep you moving safely and free from injury throughout your workout. In the last chapter, we talked about movement imbalances and making sure your body's structure was ready for increased activity. Taking stock of your body's imbalances is important; imbalances can easily lead to poor movements and injuries that may impede your progress. Movement preparation takes the information gathered from your assessment and shows you how to align your body and warm up prior to your exercise session. There are three key ingredients to movement: flexibility, muscle

activation, and dynamic flexibility. All of them are important, and they should be used in conjunction to get the best results.

Take a Tip from the Pros: Did you know increased flexibility=increased fitness?

According to a study published in *Medicine and Science in Sports and Exercise*, flexibility goes way beyond the call of duty. Researchers found that implementing a flexibility program of stretching 3 times a week for 10 weeks improves muscular strength, endurance and power! However, flexibility is as individual as nutrition and your training program.

Talk with an NASM certified professional trainers to determine the stretching program that meets your needs! www.dotFIT.com

Kokkonen J, Nelson AG, Eldredge C, Winchester JB (2007), *Chronic static stretching improves exercise performance.* Medicine and Science in Sports and Exercise 39(10), 1825-1831.

To Stretch or Not to Stretch — That Is the Question

Flexibility is one of the most talked-about components of fitness. There are many different theories about whether to stretch, when to stretch, and even how to stretch. We understand that flexibility can be confusing with so many different opinions floating around.

What Is Stretching?

Stretching has different forms, but is more commonly associated with static stretching (i.e. holding a muscle in a stretched position for roughly thirty seconds). Static stretching has been shown to decrease nervous system activity to the muscle, creating a more relaxed muscle. This is one form of stretching and is important for lengthening or relaxing a tight, overused muscle. One example would be stretching your calves. You would hold the calf stretch position for thirty seconds, reducing the tension in the calf muscle.



Calf Stretch 1

The other form of stretching we use is called dynamic stretching. This consists of using a controlled speed and moving a muscle through its entire range of motion around a joint, intentionally using all the muscles involved in moving that joint. You do not hold dynamic stretches. For example, a lunge could be considered a dynamic stretch. You would be dynamically stretching the hip flexors and thigh muscles of the leg in back while contracting the glutes to raise your body from the lunge position. Dynamic stretching is important to increase range of motion, core temperature, and nervous system activity, all of which prepare your body for enhanced movement. Dynamic flexibility can be used for a warm-up or, if time is short, it can be a workout in itself.



Dynamic Stretch Lunge 1

The last form of flexibility we are going to talk about is not considered stretching, but is used as a supplement to your stretches. This form of flexibility is called myofascial

release or foam rolling. Myofascial release may sound new to you, but chances are, you have done it before or had someone else do it to you. Have you ever had a massage? A massage therapist practices a form of myofascial release when he or she performs deep-tissue massage and releases the knots — also called trigger points — you have in muscles. Most of the time you feel these knots in your neck and back, but they occur all over the body. Wherever you have muscle, you can get a knot. These can build up over time, decreasing the muscle's ability to lengthen and contract correctly.

We use foam rolling to help eliminate these knots in muscle tissue. Foam rolling can't replace a deep-tissue massage given by a licensed massage therapist, since the therapist can get much deeper into your muscle tissue than foam rolling can. However, it is a form of massage you can do every day to warm up your muscles, loosen tight or tense areas, and increase the range of motion around a joint.

What Form of Flexibility is Best?

The simple answer is, all of them! All forms of flexibility are important in your warm-up. What is best for you is determined by what you need. While there may be some debate about whether to stretch, we, as professionals, look to science and current research to clear up the confusion surrounding stretching. Research has shown that muscles adapt to the demands placed on them. If a muscle is overused, it can become shortened. Muscles work in pairs around a joint. If one muscle becomes short, this can create an imbalance with the opposing muscle, which may become long. Let's use the hips as an example. The hip flexors (muscles that flex the hip) can become tight on individuals who sit for long periods throughout the day. Day after day, these muscles become overused and tight. The opposing muscles, the glutes (muscles that extend the hip), become lengthened (refer to the picture on the next page).

This imbalance changes the way the hips move, altering overall movement throughout the entire body. (Remember, the joints work together as a chain. If one link in the chain is not working correctly, they all suffer.) Given this, we look at flexibility a bit differently than those who hold more traditional views about stretching. Changes in muscle lengths can create changes in overall movement, limiting our potential strength and performance

Static stretching is holding a muscle in a lengthened position for thirty seconds. This helps to lengthen a short/tight muscle.

Dynamic stretching is moving muscles through their entire range of motion. This helps to activate muscles correctly and warm up the body.

Self-myofascial release (foam rolling) is applying pressure to knots in muscles and holding that pressure for thirty seconds. This helps alleviate knots in muscle tissue and increase range of motion around a joint.

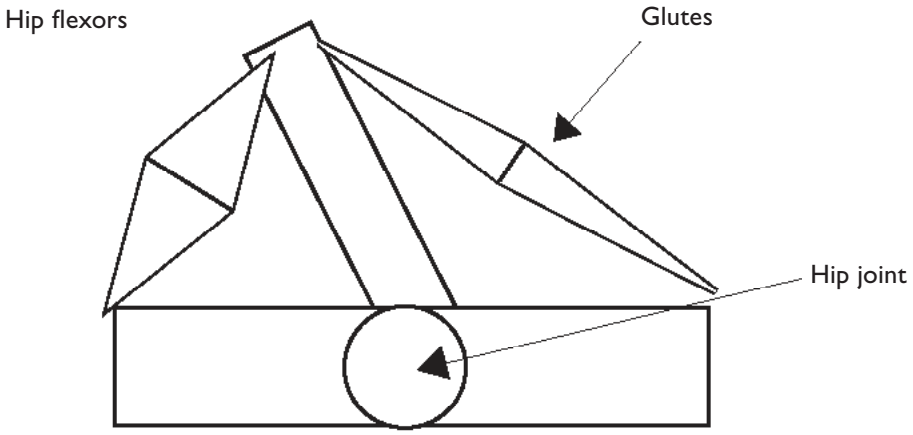


Online Resource: Visit www.dotFIT.com for video examples of proper stretching techniques



Everyone can benefit from different forms of flexibility. If you have muscle imbalances, then static stretching can help lengthen short, tight muscles.

Your static stretching program should be individualized to your needs and be followed by a muscle-activation strategy.



Muscle Imbalance

increases, and increasing our chance of getting injured. Therefore, we believe in individualized flexibility programs that incorporate stretching (both static and dynamic) as well as releasing knots in muscle tissue (myofascial release) and muscle-activation exercises to get long, weak muscles, to fire correctly. We take an integrated approach to flexibility, combining stretching and strengthening to increase and enhance movement. These two components must be done together to create muscular balance around the joints. Simply stated, to get back in balance, you have to lengthen one side and shorten the other. Using the example of the hips once again, if the hip flexors are tight, you need to relax and lengthen them, while on the opposite side, you need to strengthen or shorten the glutes. This powerful combination enhances movement, increases range of motion and will help you get the most out of your muscles!

To summarize, it is important to correct muscle imbalances. To do so, you must do the following four things:

- Inhibit the tight muscle with foam rolling
- Lengthen the tight, short muscle using static stretches

- Activate the weak muscle using muscle activation techniques as listed below
- Integrate all muscles to work together using dynamic flexibility as listed below

Remember, in addition to a structured flexibility plan, to even out muscle imbalances, you must activate the muscles on the opposite sides of the tight muscles.



Take a Tip from the Pros: Foam rolling should be done very slowly. The purpose of foam rolling is to roll out knots and relax the muscle. Rolling back and forth very quickly on the foam roll will excite the muscle, not *relax* it.

Muscle Activation

Muscle activation is an exercise technique that wakes up the muscles opposite the tight, short muscles. Stretching alone will not even out the body. The weak muscle needs to be strengthened to keep the opposite muscle from getting tight again. Muscle activation will focus on those weak muscles and strengthen them to keep your joints moving properly.

We are going to show you how to incorporate each form of flexibility and muscle activation into your program to get you moving on the right foot.

When Should I Stretch?

Flexibility training should be done at the beginning of your workout and at the end. While we are focusing on your warm-up in this chapter, we want to remind you that foam rolling and static stretching can be done at the end of your workout session as well. In fact, we recommend that you incorporate both components (foam rolling and static stretching) at the end of the workout, focusing on the muscles you trained that day.

How Do We Perform a Movement-Preparation Warm-Up?

Now that you know what you need to do, let's teach you how to do it! We recommend that you do your movement prep in the following order:

- Foam rolling
- Static stretching
- Activating weak muscles
- Dynamic stretching

A Bit of Research: A research report published in *"Physical Therapy,"* a sports medicine journal, reported that a home program of ischemic pressure (foam rolling) and static stretching can treat myofascial adhesions through reducing trigger-point sensitivity and pain intensity.

Hanten WP, Olson S, Butts N, Nowicki A., *Effectiveness of a Home Program of Ischemic Pressure Followed by Sustained Stretch for Treatment of Myofascial Trigger Points.* Phys Ther 2000;80(1):997–1003.

Let's start with foam rolling. Below you will find foam-rolling exercises for the major areas of the body. You can foam roll almost anywhere on the body; however, we recommend that you do not attempt to foam roll your low back area or neck due to the sensitive nature of these areas.

Foam Rolling

Foam rolling involves slowly moving the chosen muscle across the foam roll, stopping at trigger points (which feel like small deep bruises) and holding for thirty to forty-five seconds. Applying pressure to these knots helps release and smooth them out. Perform your foam rolling exercises before you stretch or participate in cardio.

Flexibility Chart	Sets	Duration
Foam rolling	1	30–45 seconds on the most tender spots
Static stretching	2	30–second hold
Muscle activation	1	10 repetitions (performed slowly)
Dynamic stretching	1	10 repetitions (performed in a controlled manner)

Foam Roll for Calves

1. Place foam roll under mid-calf.
2. Cross left leg over right leg to increase pressure (optional).
3. Slowly roll calf area to find the tenderest spot.
4. Apply pressure to the tender spot for thirty seconds.
5. Progress to the next tender spot and hold again.
6. Repeat on the opposite leg.





Muscles involved:
gastrocnemius, soleus

Foam Roll for Outer Calves

1. Place foam roll under outer part of calf.
2. Place left leg directly on top of right leg to increase pressure (optional).
3. Slowly roll outside calf area to find the tenderest spot.
4. Apply pressure to the tender spot and hold again for thirty seconds.
5. Repeat on opposite leg.





Muscles involved:
peroneal complex

Foam Roll for Outer Thigh

1. Lie with foam roll under side and slightly in front of hip.
2. Cross upper leg over lower leg, with foot touching floor and lower leg slightly raised off the floor.
3. Maintain proper head alignment (ears in line with shoulders).
4. Slowly roll upper portion of outer thigh, slightly in front of hip joint, to the knee.
5. Apply pressure to the tender spot.
6. Progress to the next tender spot and hold again.
7. Repeat on opposite leg.





Muscles involved:
tensor fascia latae, outside of vastus lateralis and IT band (not a muscle)



Be sure to keep your abs tight and spine in a straight line when foam rolling the outer calves!



Be sure to keep your abs tight and do not allow your low back to sag while foam rolling your inner thigh!

Foam Roll for Inner Thigh

1. Lie on stomach with one thigh extended slightly out to side and knee bent.
2. Place foam roll in groin region, under upper thigh.
3. Slowly roll inner thigh area to find the tender spot.
4. Apply pressure to the tender spot for thirty seconds.
5. Progress to the next tender spot and hold again.
6. Repeat on opposite leg.





Muscles involved:
adductor complex

Foam Roll for Hip Rotators

1. Sit on top of foam roll with roll positioned on the back of the hip.
2. Cross one leg over opposite knee (optional).
3. Lean into hip of crossed leg.
4. Slowly roll on back of hip area to find the tenderest spot.
5. Apply pressure on the tender spot for thirty seconds.
6. Progress to the next tender spot and hold again.
7. Repeat on opposite leg.





Muscles involved:
gluteus maximus, piriformis, gluteus medius

Foam Roll for Hip Flexors

1. Lie with foam roll positioned on the front of the hip.
2. Keep forearms on the floor with hands clasped, and legs slightly raised off floor.
3. Slowly roll on front of hip area to find the tenderest spot.
4. Apply pressure on the tender area for thirty seconds.
5. Progress to the next tender spot and hold again.
6. Perform on both legs at the same time.





Muscles involved:
vastus medialis, vastus intermedialis, rectus femoris, vastus lateralis



Be sure to keep your abs tight and do not allow your low back to sag while foam rolling your hip flexors!

Foam Roll for Latissimus Dorsi (Lats)

1. Lie on one side with arm closest to floor extended overhead with thumb pointed up.
2. Place foam roll in area under shoulder (directly under the armpit).
3. Slowly move back and forth to find the tenderest spot.
4. Apply pressure to the tender spot for thirty seconds.
5. Progress to the next tender spot and hold for thirty seconds.
6. Repeat on opposite side.





Muscles involved:
latissimus dorsi, pectoralis major



Be careful when foam rolling your lats! Do not roll over your rib cage!



Take a Tip from the Pros: Most clients tend to skip flexibility or perform the stretches very quickly. Avoid the temptation to skip stretching! This part of the program can be vital to your success. Stretching, done correctly, can enhance muscle function and allow for amazing results in muscle development and overall movement. Keep your body balanced!

Static Stretching

Static stretching requires you to hold a muscle in a lengthened position for thirty seconds. You should move slowly into a stretch, stopping at the point where you feel tension. If the stretch hurts, ease off and reduce the length of the stretch. After thirty seconds, the tension in the muscle being stretched should reduce, allowing for a greater range of motion in the muscle. This is a traditional form of flexibility used by many exercisers. Remember, while everyone needs a good stretch, not everyone should stretch the same muscles! You are only going to stretch the muscles that corresponded to a positive result in your overhead squat assessment. Refer to the chart below and stretch the muscles that appeared tight or overactive while you were squatting.

Flexibility Chart	Sets	Duration
Foam rolling	1	30–45 seconds on the most tender spots
Static stretching	2	30-second hold
Muscle activation	1	10 repetitions (performed slowly)
Dynamic stretching	1	10 repetitions (performed in a controlled manner)



Keep your abs tight and do not allow your low back to arch as you move into the stretch!

Static Calf Stretch

1. Stand facing a wall or sturdy object in a staggered stance (one leg forward toward the wall and the other leg extended back).
2. Place hands on wall at shoulder level and wider than shoulder-width apart.
3. Bend arms and move chest toward wall. Be sure to keep the back leg straight (contract the glutes and quads of the back leg).
4. Stop movement when a slight tension is felt in calf area of back leg.
5. Hold for thirty seconds.





Muscles being stretched: ***gastronomies***

Static Inner-Thigh Stretch

1. Sit on ball or chair with feet and legs wider than shoulder-width apart.
2. Draw abs in from belt line (keep abs tight).
3. Slowly move sideways on the ball by bending one leg, keeping the opposite leg straight.
4. Continue motion until a stretch is felt in the groin area of the straight leg.
5. Hold for thirty seconds.





Muscles being stretched:
adductor complex

Static Hamstring Stretch

1. Lie on floor with legs flat.
2. Flex hip and knee of one leg, creating ninety-degree angles in both joints.
3. With hands supporting one leg, slowly extend knee until tension is felt.
4. Hold for thirty seconds.







Muscles being stretched:
semitendinosus, semimembranosus, biceps femoris



When stretching the hamstrings, do not let your hips come up off the floor! Keep your back flat and abs tight!

CAUTION

When stretching the hip flexors, be careful not to allow your low back to arch. Keep your hips tucked under and hold abs tightly!

Static Kneeling Hip Flexor Stretch

1. Kneel on back leg with front leg bent at a ninety-degree angle.
2. Squeeze butt muscles and tilt pelvis under (tuck your tail) so shoulder, hip, and back knee are in alignment.
3. Hold for thirty seconds.





Muscles being stretched:
rectus femoris, iliacus, psoas, vastus intermedius, vastus medialis, vastus lateralis

CAUTION

When stretching the hip rotators, keep your hips on the floor and your back flat!

Static Hip Rotator Stretch

1. Lie on back with foot placed over opposite thigh.
2. Place hand on bent knee and slowly pull to opposite shoulder until a slight stretch is felt in the back of the hip (focusing on the hip with the bent leg).
3. Hold for thirty seconds.





Muscles being stretched:
piriformis, gluteus maximus, gluteus medius

Static Latissimus Dorsi (Lat) Stretch

1. Kneel in front of a stability ball or chair.
2. Place one arm on ball (thumb pointed up) and other hand on ground.
3. Reach arm forward until a stretch is felt along side the torso (under the armpit) and into the low back.
4. Hold for thirty seconds.





Muscles being stretched:
latissimus dorsi

CAUTION

When stretching the lats, do not allow your low back to arch or sag to the ground! Keep your abs in tight!

Static Chest Stretch

1. Stand in a door frame with one (or two) arm(s) placed on the frame, shoulder and elbow bent ninety degrees.
2. Slowly rotate upper body forward from door frame until a slight stretch is felt in the chest and front shoulder area.
3. Hold for thirty seconds.





Muscles being stretched:
pectoralis major, pectoralis minor, anterior deltoid

CAUTION

When stretching your chest, keep the shoulders down and don't allow them to hunch!



Take a Tip from the Pros: Muscle activation not only balances the muscles around a joint, but also helps to get the body to move more efficiently.

In order to move properly and get the most out of your muscles, they must be at the correct lengths. By strengthening weak muscles, you are creating a stronger body overall and enhancing the shape of the muscles being worked. In short, you are going to optimize your genetic potential!



When performing the calf raise, be sure to keep your toes turned in and quads tight.

Muscle Activation

Static stretching must be done in combination with muscle activation to help balance the muscles surrounding your joints. As we discussed earlier, muscles that become tight or short around a joint alter the muscles on the opposite side; these are called the antagonist muscles. These muscles can become long or weak and must be activated to keep the muscular balance. Again, stretch one side and strengthen the other. This will help keep your body balanced.

Flexibility Chart	Sets	Duration
Foam rolling	1	30–45 seconds on the most tender spots
Static stretching	2	30-second hold
Muscle activation	1	10 repetitions (performed slowly)
Dynamic stretching	1	10 repetitions (performed in a controlled manner)

Inverted Single-Leg Calf Raise

1. Stand on one leg with balance leg slightly internally rotated. Hold onto a stable object while performing the exercise.
2. Tighten abs and squeeze glutes.
3. Slowly rise onto the ball of the foot of the balance leg (lift the heel off the floor using the calf muscles).
4. Slowly return to the starting position.





Muscles being strengthened:
medial gastrocnemius

Tubing Adduction

1. Stand with feet hip-width apart, with tubing connected to a sturdy object and placed around the ankle of the leg directly next to the resistance.
2. Balancing on the opposite leg, keep floating leg straight and slowly move floating leg across the body pulling against the resistance.
3. Hold for two seconds and slowly return to the starting position.







Muscles being strengthened:
adductors



When performing tubing adduction, make sure your abs are tight and do not allow your hips to hike or torso to move!

Side-to-Side Tube Walking

1. Start with feet hip-width apart, knees slightly bent, and feet facing straight ahead.
2. Place tubing near ankles.
3. Keep abs tight.
4. Keeping feet and knees pointing straight ahead, take ten small steps sideways without allowing knees to turn in.
5. Repeat in opposite direction.







Muscles being strengthened:
gluteus medius,
gluteus maximus



Don't allow your body to rock back and forth while side stepping! Force your hips to work hard during the exercise!

CAUTION

When performing the balance with reach, keep your core and glutes tight!

Single-Leg Balance with Reach

1. Stand with feet hip-width apart, pointed straight ahead.
2. Lift chest, squeeze shoulder blades, and keep abs tight (draw in and brace).
3. Lift one leg directly beside balance leg.
4. Move lifted leg to the front of the body and hold for two seconds. Return to starting position.
5. Move lifted leg to the side of the body and hold for two seconds. Return to starting position.
6. Rotate hip out to side and move lifted leg to the rear of the body and hold for two seconds. Return to starting position.
7. Switch legs and repeat.





Muscles being strengthened: ***glutes, quadriceps, hamstrings, calves, adductors, core muscles, hip flexors***

CAUTION

When performing the cobra, keep the abs tight and don't allow your low back to arch too much!

Prone Cobra

1. Lie on abdomen, arms resting at the sides.
2. Tighten abs (draw in and brace), squeeze glutes, and pinch shoulder blades together.
3. Slowly and slightly, lift the chest.
4. Keep the chin tucked and look down at the floor.
5. Hold the top position for two seconds.
6. Slowly lower the chest.





Muscles being strengthened: ***mid/lower trapezius, rhomboids, core muscles***

Rotator Cuff Exercise

1. Stand parallel to a cable-resistance machine or tubing anchored on a heavy object.
2. Place arms at the sides. Using the arm on the opposite side of the resistance, place a towel or small, soft object in between the arm and the side of the body.
3. Bend the elbow and grab the handle of the resistance with palm facing in.
4. Slowly externally rotate the arm at the shoulder. Hold end position for two seconds.
5. Slowly return to starting position.





Muscles being strengthened: ***rotator cuff muscles (subscapularis, teres major, teres minor, infraspinatus, supraspinatus)***



When performing the rotator cuff exercise, keep the chest up and shoulders pulled back. No slouching!



Take a Tip from the Pros: When you have only fifteen minutes to exercise, dynamic stretches are great workout substitutes. Perform a circuit (one exercise followed immediately by another with limited rest in between) of five exercises and perform ten repetitions of each exercise.
This will get your heart pumping and your muscles working hard!

Dynamic Stretching

As we mentioned earlier, dynamic stretching uses a controlled speed to move a muscle through its entire range of motion around a joint, intentionally employing all the muscles involved in moving that joint. You do not hold dynamic stretches. Dynamic stretching works to increase range of motion, core temperature, and nervous system activity, all of which prepare your body for enhanced movement. Remember, dynamic stretching can be used for a warm-up or, if time is short, it can be used as a workout in itself.

Flexibility Chart	Sets	Duration
Foam rolling	1	30–45 seconds on the most tender spots
Static stretching	2	30-second hold
Muscle activation	1	10 repetitions (performed slowly)
Dynamic stretching	1	10 repetitions (performed in a controlled manner)



Don't arch your low back as you squat. Keep your knees in line with your toes, and don't let those knees move over your toes. You should be able to see the pointy part of your sneaker when you squat!

Prisoner Squats

1. Stand with feet hip-width apart, feet facing straight ahead.
2. Place hands behind head.
3. Keep abs tight.
4. Lower to squat position. Keep the hips back and make sure the weight of the body is being felt midfoot (between the arch of the foot and the heel).
5. Push back up to the starting position, squeezing the glutes and extending the hips forward at the starting position.
6. Rise onto the toes (like a calf raise).
7. Return to starting position.
8. Repeat ten times.



Lunge with Rotation

1. Stand with arms extended, hands clasped, feet hip-width apart, feet facing straight ahead.
2. Keep abs tight.
3. Step forward (medium step; not too long) and slowly bend at the ankle, knee, and hip, lowering the back knee down toward the floor.
4. Slowly rotate torso toward the front leg side.
5. Rotate back to the center point and push back up to the starting position.
6. Repeat on opposite side.
7. Perform ten repetitions.





Do not allow your low back to arch as you lunge down. Try to keep your shoulders back and chest up. This will maintain good alignment!

Push-Up with Rotation

1. Assume a push-up position with hands shoulder-width apart.
2. Keep abs tight and squeeze glutes.
3. Slowly lower body to the floor.
4. Slowly rise to the start position and rotate the body to one side, raising the arm toward the ceiling.
5. Hold for two to four seconds.
6. Return to start position.
7. Repeat on other side.
8. Perform ten repetitions.







Do not allow your low back to arch or sag when performing your push-up! Keep your head and hips in a straight line.



When squeezing the shoulder blades, be careful not to arch the low back excessively. Squeeze your glutes and keep the abs tight to help you avoid arching your low back.



Key to Success: Use this chart to help keep your warm-up organized.

Floor Cobra

1. Lie face down with arms extended, palms facing down.
2. Tighten abs (draw in and brace).
3. Slightly lift chest, squeeze shoulder blades together, and rotate arms to a thumbs-up position.
4. Hold for two seconds.
5. Slowly lower to starting position.



Flexibility Chart	Sets	Duration
Foam rolling	1	30–45 seconds on the most tender spots
Static stretching	2	30-second hold
Muscle activation	1	10 repetitions (performed slowly)
Dynamic stretching	1	10 repetitions (performed in a controlled manner)

Frequently Asked Questions

Should I stretch before I play a sport? I was told that it would decrease my performance.

This is a long-debated topic. Static stretching (one form of flexibility) will relax the muscle being stretched and could decrease performance if it is not performed correctly. However, remember that static stretching should be individualized (based on your movement assessment) and performed on muscles that are hyperactive or tight and might be inhibiting proper or enhanced movement. A common misconception is that static stretching is the only form of flexibility; it is actually only one of many forms of flexibility, including dynamic stretching. Before a game, use both forms of flexibility together. Static stretching can be done to inhibit areas that may be limiting proper movement, followed by dynamic stretching, which will raise core temperature, increase movement at the joints, and excite the nervous system (allowing the body ready to perform better). Flexibility is not all the same. Remember, the body needs balance. When done correctly, stretching can enhance your performance.

Will static stretching create long, lean muscles?

Unfortunately, no. Long, lean muscles are dependent upon your genetics. Long muscles are due to short tendons (the connectors of muscle to bone). If you are born with long tendons and short muscles, you will not be able to stretch your muscles beyond your muscles' length potential.

Can stretching decrease injury?

The jury is still out on this one! Using evidence-based research and clinical evidence, we have seen that a combination of flexibility techniques (foam rolling, static stretching, muscle activation, and dynamic stretching) can keep the body in alignment, creating the balance we mentioned earlier. When muscles are balanced around joints, joints can move optimally, keeping the movement chain intact. We have seen numerous professional athletes, recreational athletes, and gym-goers benefit from incorporating flexibility into their workout routines. Just remember that flexibility (keeping muscles at their proper lengths)

is one part of a program and must work with the proper strengthening techniques to make the most difference.

Is it true that I need to hold a stretch for one minute to get the most benefit?

When it comes to static stretching, a thirty-second hold is about as long as it takes to get the muscle being stretched to relax and lengthen a bit. However, the muscle being stretched should be statically stretched twice to get increased range of motion.

What is movement preparation, and is it really that important to my workout?

Movement prep helps keep the body moving free of injury by inhibiting overactive muscles, lengthening short muscles that may impede healthy joint movement, strengthening weak muscles that may allow for altered joint movement (which will alter the results of a program), and integrating dynamic movement to warm up the muscles and tissues while "lubing up" the joints. Movement preparation is a specific warm-up that can help you maximize your results. We think performing the right movement preparation is essential to any good exercise program.



Success Story: Teacher with Cerebral Palsy Drops Four Dress Sizes

My personal training client is a thirty-five-year-old elementary school teacher in San Bernardino, California. She has been dealing with cerebral palsy her entire life, and as a result, she has had several lower leg and upper leg/hip surgeries.

My client often sat slumped forward at the shoulders, with a forward head. The left side of her body was also weaker and less coordinated than her right. We started by using foam rolling on as many different body parts as possible. Next, we stretched many of the hip flexor muscles on her right side.

When she started training, she weighed about 142 pounds. She frequently missed work due to various aches and pains, and could not walk without the aid of crutches. During the first eighteen months of training, she described her pain as being reduced by eighty percent. She also missed fewer days of work. She is now able to walk without the use of crutches if she chooses, something she hadn't been able to do for twenty twenty years. And even though it wasn't one of our major concerns, her body composition changed dramatically. She lost ten pounds and dropped four dress sizes.

Warming up with foam rolling and stretching is very important and should be a part of anyone's exercise program.

– Larry Husted, NASM Master Instructor, MS, NASM CPT, CES, PES

Chapter 6: The Exercises

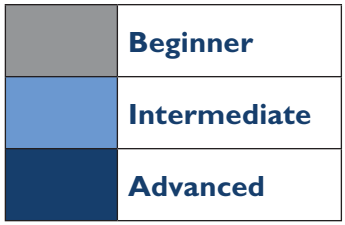
Get Moving

A pound of muscle burns three times more calories than a pound of fat, so get ready to burn those calories! It's time to get up and move! Burning calories and getting that lean, toned body are right around the corner. You are ready to burn off some fat and tone trouble areas, and this chapter will teach you how to do it. We will focus on exercise and exercise techniques to help you tone and strengthen all different parts of your body. Each section will zero in on a different region of the body, beginning with core and balance training, then breaking down the exercises into body parts such as chest, back, shoulders, arms (biceps, triceps), and legs. Each exercise will be accompanied by a picture, description of how to do it, tips for success, and progressive moves. The exercises are further broken down by levels. We have three levels of exercises: beginner, intermediate, and advanced. Each level is progressive, requiring more skill or an increased physical demand. The beginning level will help prepare you for the physical demands required in the intermediate and advanced levels. Each level can be challenging, even for those accustomed to a good sweat, so choose your exercises carefully and stay within your level until you are sure your body is ready for a greater challenge.

You can go online to www.dotFIT.com to watch thousands of videos in our Fitness Vault, which show the proper way to do each exercise.

For he who has health, has hope; and he who has hope, has everything.

—Owen Arthur



- **Beginner:** We recommend those new to exercise or those who have not exercised for a few months to start in our beginner level. In this level, the exercises will require you to choose lighter weights or resistances. Exercises in this level were chosen to help you build a strong foundation.
- **Intermediate:** For active individuals who play recreational sports or have been in the gym training for the last three to six months, we recommend the intermediate level. Within this level, exercises will allow you to choose moderate weights or resistances and require a higher level of strength and skill than in the beginner-level exercises.
- **Advanced:** For high-level recreational athletes or individuals who have been working out in the gym for more than six months, we recommend the advanced level. These exercises will allow you to utilize heavier weights or resistances and create a greater physical demand overall.

This color coding will be used throughout Chapter 7 when you begin your exercise program. Please remember to start slowly and allow yourself the time to advance in exercises. Pushing yourself too soon may lead to unwanted injuries. You will advance quickly as you move through your program, so take it easy when you start!



Progressions

At the end of most exercises we have a listed "progressions." These are techniques that you can incorporate into each exercise that will slightly enhance it or make it more difficult. These progressions are our way of turning one exercise into two or three exercises! We want you to have options and be able to get creative with exercise. Use them when you feel you're ready for a little more challenge or just want to shake things up once in a while!

In the next chapter, we are going to show you how to put all the exercises together, how many exercises to do for each body part, and the right recipe of sets and repetitions

to keep you successful. Again, this plan will be broken down into beginner, intermediate, and advanced levels. The workout plan will require you to choose only exercises within the appropriate level. Take some time and look through the exercises listed here for you and get ready for a great workout in Chapter 7!

Some Simple Movement Tips You Need to Know:

Before we begin, we want you to understand some basic terms for movement. Here are the movement terms we are going to use throughout this chapter:



Flex: this means to bend.
Example: flex the knee and hip.



Extend: this means to straighten.
Example: extend the knee and hip.



Extend: this means to straighten.
Example: extend the shoulder.



Flex: this means to bend.
Example: flex the shoulder.



Adduction: this means to move in toward the center of your body.
Example: Adduct the leg.



Externally Rotate: this means to turn out.
Example: externally rotate the arm.

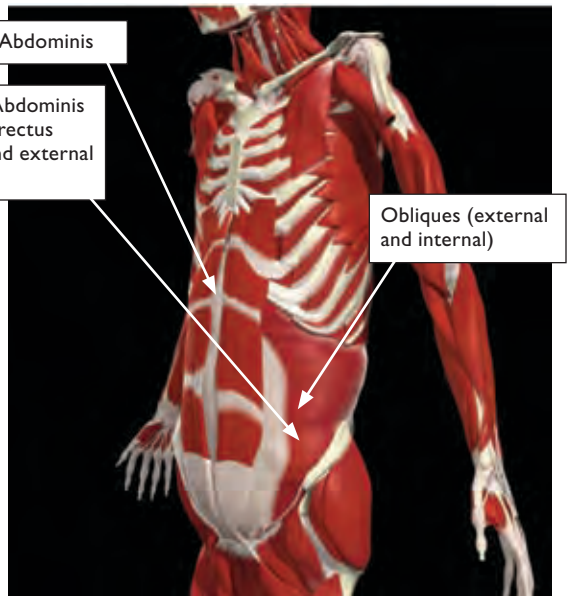


Internal Rotation: this means to turn in.
Example: internally rotate the arm.



Abduction: this means to move away from the center of your body.
Example: abduct the leg.

Core



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Some Muscle Knowledge

Transverse abdominis

Where is it? Located at the midsection, this muscle runs around the body.
What does it do? It contracts and draws the waist in like a corset. This helps protect the spine by supporting the spinal column.

Internal obliques

Where is it? Located underneath the external obliques, this muscle runs along the side (from the top of the hips and fascia of the low back to the middle of the abs).
What does it do? It helps to rotate the spine and hips. It also helps to bend (flex) to the side.

External obliques

Where is it? Located on top of the internal obliques, this muscle runs from the lower ribs to the middle of the abs.
What does it do? It helps rotate your spine and hips opposite the direction of the rotation; for example, the left external oblique is in charge of a right-direction rotation. It also helps bend (flex) to the side.

Rectus abdominus

Where is it? This muscle runs from the bottom of the pelvis to the bottom of the sternum.
What does it do? It helps bend forward (spinal flexion) and create backward hip rotation.

Erector spinae

Where are they? These muscles run up and down the spine (close to the vertebrae).
What do they do? They help move and stabilize the spine during movements such as walking and exercise.

Core Training

We are all enticed by the allure of a sleek, sexy stomach. And core training can help you get one!

Core training has worked hard to replace traditional abdominal training, and for good reason. While to some these terms may seem the same, abdominal training has been mainly associated with the rectus abdominus and external obliques, muscles you see with the sought-after "six-pack abs."

However, core training is more comprehensive. Core training helps the body create more stability by challenging all the muscles of the core, not focusing only on the abs. Essentially, core training strengthens the body from the inside out, exercising the stabilizers (muscles deep, near the spine) as well as the movers (external muscles). Core training incorporates traditional ab training such as crunches and reverse crunches along with nontraditional exercises such as marching and planks. Intrigued? Well, let's get to some basic science about the core.

The core is the body's center of gravity and the place where all movement begins. A strong core is necessary to keep the whole body stable, strong, and healthy. This helps keep all the muscles in the body firing optimally, allowing increased strength and better overall muscle tone. Within the core, the muscles are divided into two types: the stabilizers and the movers.

Stabilizers	Movers
• Transverse abdominis • Internal obliques • Lumbar multifidus • Pelvic floor muscles • Diaphragm • Transverspinalis	• Rectus abdominis • External obliques • Erector spinae • Latissimus dorsi • Hamstrings • Hip adductors • Hip abductors (glutes)

The Stabilizers

Would you build your house on quicksand? If you are training your external core muscles, and not your internal ones, you are doing just that!

The stabilizers are responsible for keeping the spine and pelvis stable, decreasing the chance for problems such as low back pain, disc herniation, or sciatic nerve impingement. In fact, research has found that individuals with low back pain (roughly eighty-five percent



Take a Tip from the Pros: Specific instructions from qualified professionals can help create killer abs!

According to an article published in the Journal of Orthopaedic and Sports Physical Therapy (2004;34 [1], 4-12), with specific expert instruction, clients can potentially alter the activation of the oblique and rectus abdominis muscles during a floor crunch.

This research indicates that good instruction on proper muscular emphasis and technique can help clients maximize their results and possibly create greater adherence to a home program (lessening the need for additional equipment.)



Build your internal foundation first. The stronger you are on the inside, the stronger you will be on the outside.



Take a Tip from the Pros: When performing core training exercises, tighten those abs first! By performing a draw-in technique and bracing the abs, you will keep the spine and pelvis stable while getting an intense ab workout!

of American adults) have decreased activation of the stabilizer muscles (as listed in the chart on page 111).[1,2] Many people focus on training the external core muscles., but without internal stability, the result may be unwanted motion of vertebrae and decreased strength, power, and muscular control.

The Movers

Once you are strong on the inside, then you can focus on strengthening the external muscles, or the movers of the core. The movers are responsible for flexion and extension of the spine and pelvis. These muscles not only look great, but also help us move better overall.

How Do I Train the Stabilization Muscles as Well as the Mover Muscles?



Get Involved:

Let's begin with a simple exercise: sit up straight (shoulders back, chest up, hips directly under your shoulders). From this position, place your hands on your belly button and slowly draw in your abs by pulling your belly button toward your spine. Next, with belly button drawn in, tighten your abs as you would if someone were to pretend to punch you in the stomach (this reflex will help you learn how to brace your abs). These two movements used together help keep your spine and pelvis strong and stable. When you perform the exercises following this section, the directions will ask you to tighten your abs. This is your cue to draw in and brace them. Performing this technique along with the following exercises will get those core muscles to fire correctly and enhance the shape and tone of the core muscles being worked.

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[1] Hodges PW, Richardson CA. Neuromotor Dysfunction of the Trunk Musculature In Low Back Patients. In: Proceedings of the International Congress of the World Confederation of Physical Therapists. Washington DC; 1995.

[2] Hodges PW, Richardson CA. Inefficient Muscular Stabilization of the Lumbar Spine Associated with Low Back Pain. *Spine* 1996;21(22):2640–50.

As we mentioned earlier, when training the core, the focus is first on training the stabilizers and second on training the movers (i.e. training from the inside out). We have put together three levels of core training: beginner, intermediate, and advanced. Remember to start slowly and at the right level for your body. We want to build a strong exercise foundation that will help you avoid injury, so stay within your level and be ready for a fast progression as your body gets stronger!



Key to success: Train your body from the inside out. Learn to increase stabilization strength, then focus on integrating movement strength; this will help keep both types of muscles firing optimally.



Be careful not to allow your lower back to sag!

Floor Arm/Leg Raise (Beginner)

1. Position the body on all fours (also called a table-top position).
2. Keep the abs tight (draw in and brace).
3. Keeping the back flat, slowly raise one arm with thumb up toward the ceiling and extend opposite leg behind the body.
4. Hold the extended position for two seconds and slowly return arm and leg to the floor.





Muscles involved: *core (transverse abdominis, internal obliques, multifidi, erector spinae)*



Progressions



Balance tools



Stability ball

To Progress This Exercise:

1. Place stability ball under abdomen.
2. Place a balance tool under knees.

Floor Bridges (Beginner)

1. Lie on the back with knees bent, feet flat on the floor, hip-width apart and pointing straight ahead.
2. Place arms out to the sides. (Be sure not to push with the hands; make the glutes work hard!)
3. Keep the abs tight (draw in and brace), and slowly push through the heels and squeeze the glutes while lifting the hips off the floor.
4. Lift hips off the floor until they are level with the shoulders.
5. Hold the top position for two seconds and slowly lower the hips.





Muscles involved: ***core (transverse abdominis, internal obliques, multi-fidi, erector spinae, gluteus maximus, hamstrings)***

Progressions







Balance tools

To Progress This Exercise:

1. You can bridge on a stability ball (place the ball under the head and shoulders).
2. Place the feet on a balance tool, such as an Airex pad.

Cobra (Beginner)

1. Lie on the abdomen with the arms resting at the sides.
2. Tighten the abs (draw in and brace), squeeze the glutes, and pinch the shoulder blades together.
3. Slowly and slightly, lift the chest off the floor.
4. Keep the chin tucked and look down.
5. Hold the top position for two seconds.
6. Slowly lower the chest.







Muscles involved: *core (transverse abdominis, internal obliques, multifidi, erector spinae)*



Progressions



Stability ball

To Progress This Exercise:

1. Place stability ball under abdomen.



Be careful not to arch your low back or raise your head too high.

CAUTION

Be careful not to allow your low back to sag or let your chin move toward the floor.

Plank (Intermediate)

1. Lie on the abdomen with feet together, toes tucked under, and forearms on the ground.
2. Tighten abs (draw in and brace), squeeze glutes, and lift the body off the ground, keeping a straight line from head to toe.
3. Look straight down, keeping the chin tucked in.
4. Hold the top position for two seconds.
5. Slowly lower the body.





Muscles involved: *core (transverse abdominis, internal obliques, multifidi, erector spinae)*

Progressions





Stability ball

To Progress This Exercise:

1. Place stability ball under arms (keep arms straight and hold for fifteen seconds).
2. Lift one leg off the ground.

Ball Crunch (Intermediate)

1. Position the body on the ball (ball placed under the low back) with knees bent at a ninety-degree angle.
2. Place the feet flat on the floor, hip-width apart, with feet pointed straight ahead.
3. Cross the arms over your chest.
4. Tighten abs (draw in and brace) and slowly raise the shoulder blades off the ball, rolling the rib cage toward the hips.
5. Hold the top position for two seconds and slowly lower shoulder blades to starting position.







Muscles involved: *core (transverse abdominis, internal obliques, multifidi, erector spinae, rectus abdominis, external obliques)*

Progressions





To Progress This Exercise:

1. Place arms behind head (this increases the load you have to lift).
2. Crunch and rotate side to side.



Keep your neck in a neutral position (chin tucked in).



Keep your abs tight as you lower your legs.

Reverse Crunch (Intermediate)

1. Lie on the back on a bench or floor with hips and knees bent at ninety-degree angles.
2. Keep the feet in the air and grip a bench, a couch, or a stable object for support.
3. Tighten the abs (draw in and brace) and lift the hips off bench while bringing the knees to the chest.
4. Slowly lower the hips to starting position.







Progressions





Muscles involved: *core (transverse abdominis, internal obliques, multifidi, erector spinae, rectus abdominis)*

To Progress This Exercise:

1. Rotate at the top of the reverse crunch.
2. Extend the knees and lift the hips off the bench while pressing the toes toward the ceiling.

Cable or Tubing Rotation (Advanced)

1. Stand with feet hip-width apart, knees slightly bent, and feet pointed straight ahead.
2. Hold a cable with both hands directly in front of chest, with arms extended and shoulder blades pulled back.
3. Tighten abs (draw in and brace) and squeeze glutes.
4. Rotate body away from weight stack using abs and glutes.
5. Pivot back leg and foot while extending the knee.
6. Slowly return to starting position.





Muscles involved: ***core (transverse abdominis, internal obliques, multifidi, erector spinae, glutes, external obliques)***



Progressions







Balance tools

To Progress This Exercise:

1. Use a medicine ball and rotate side to side.
2. Stand on a balance tool during cable rotation.



Be sure to pivot your leg and foot as you rotate.

CAUTION

Keep abs in during the exercise, and keep knees in line with toes.

Cable or Tubing Chop (Advanced)

1. Stand in a semi-squat position with feet shoulder-width apart and pointed straight ahead.
2. Hold a cable or tubing with both hands at knee level (use the knee closest to the weight stack) with arms straight.
3. Tighten abdominals (draw in and brace) and slowly lift the cable diagonally. Turn the body away from the resistance using the glutes and hips. Pivot the back foot!
4. Lift the resistance until the hands reach eye level and the back leg is straight.
5. Slowly return to the starting position.





Muscles involved: *core (transverse abdominis, internal obliques, multifidi, erector spinae, external obliques)*

Progressions



Balance tools

To Progress This Exercise:

1. Place a balance tool under your feet.

Cable or Tubing Lift (Advanced)

1. Stand with feet shoulder-width apart and pointed straight ahead.
2. Hold a cable or tubing with both hands at shoulder level (use the shoulder closest to the weight stack) with arms straight.
3. Tighten abdominals (draw in and brace) and slowly lower the cable diagonally. Turn the body away from the resistance using the glutes and hips. Pivot the back foot!
4. Lower the resistance until the hands reach eye level and the back leg is straight.
5. Slowly return to starting position.







Muscles involved: ***core (transverse abdominis, internal obliques, multifidi, erector spinae, external obliques)***



Progressions



Balance tools

To Progress This Exercise:

1. Place a balance tool under your feet.



Be sure to pivot the back leg as you rotate through the cable/ tubing lift.

Balance



Some Muscle Knowledge



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Gluteus maximus

Where is it? Located behind the hips, this muscle runs from the bottom of the spine to the outside of the thigh (femur).
What does it do? It externally rotates the thigh as well as straightening (extending) the hips.

Gluteus medius

Where is it? Located on the outside of the hips, this muscle runs from the top of the pelvis to the top of the thigh (femur).
What does it do? It helps externally rotate the hips and abduct the thigh (move the thigh out to the side).

Hip flexors

Where are they? Located at the lower portion of the spine and top of the hip, these muscles insert into the upper middle portion of the thigh (femur).
What do they do? They help bend (flex) the hip and rotate the thigh externally.

Hamstrings

Where are they? These muscles run from the bottom of the hip to the top of the lower leg.
What do they do? They help straighten (extend) the hip and bend (flex) the knee.

Quadriceps

Where are they? Located at the front of the thigh, these muscles run from the hips down to the bottom of the thigh (femur) and insert into the knee cap (patella).
What do they do? They straighten (extend) the knee and help bend (flex) the hip.

Calves

Where are they? Located at the back of the lower leg, these muscles run from the bottom of the thigh and top of the shin (tibia) to the heel.
What do they do? They bend (flex) the ankle.

Adductors

Where are they? Located in the middle upper thigh, these muscles run from the bottom of the hips to the bottom of the thigh (femur).
What do they do? They adduct the thigh (move the leg inward).

Balance Training

Don't worry, you won't be walking on a high wire. Nevertheless, good balance is essential to a solid fitness routine. Besides, balance training is by far one of the best ways to tone your hip and thigh muscles. It is also a great functional exercise because as we get older, we tend to lose our balance, which makes us prone to dangerous and debilitating falls. Keeping your balance might be one of the best things you can do to keep yourself moving, healthy and free from injury for many years!

Balance training requires good core control, a component of fitness we discussed in the last section. This means good control over the muscles that surround the ankle, knee, and hip, such as the calves, quads, hip flexors, adductors, and glutes. Balance training allows you to control your body when you move, no matter what environment you are in. For example, the first time you walk on sand, your ankles may roll or your knees may feel wobbly. The new walking environment challenges your balance, creating a need for increased muscle activation and stability of the ankle, knee, and hip to help you avoid a fall. The hip muscles play a major role in helping you control your entire leg. Balance training can increase your hip muscles' ability to contract, thereby enhancing the tone of the muscles. With balance training you get the best of both—increased stability and great-looking hips and thighs!

In the following section, we have broken down balance training into beginner, intermediate, and advanced levels. Please begin slowly to get the best results.



Balance training challenges you to control your body during movement.



Key to success: Incorporating balance training into your routine will enhance your body's ability to adapt to unstable environments, keeping your ankles, knees, and hips healthy, while simultaneously creating strong, toned hip and thigh muscles.



Keep your feet straight with your knees in line with the second and third toes or the pointy part of your sneaker.

Keep your abs tight and shoulder blades pulled back and down, with your chin tucked in.

Single-Leg Balance (Beginner)

1. Stand with feet hip-width apart and pointed straight ahead.
2. Lift chest, squeeze shoulder blades, and tighten abs (draw in and brace).
3. Lift one leg directly beside the balance leg. Keep the leg in line with the balance leg (do not allow the balance leg to float forward or behind the body).
4. Hold the balance position for five to twenty seconds.





Muscles involved: *gluteus maximus, gluteus medius, adductors, hamstrings, quadriceps, calves, hip flexors*



Progressions



Balance tools

To Progress This Exercise:

1. Place a balance tool under your foot.
2. Flex and extend the floating leg (bring the knee up and then extend the leg behind the body while maintaining balance).

Single-Leg Balance with Reach (Beginner)

1. Stand with feet hip-width apart and pointed straight ahead.
2. Lift chest, squeeze shoulder blades, and keep abs tight (draw in and brace).
3. Lift one leg directly beside balance leg.
4. Move lifted leg to the front of the body and hold for two seconds. Return to starting position.
5. Move lifted leg to the side of the body and hold for two seconds. Return to starting position.
6. Rotate hip out to side and move lifted leg to the rear of the body and hold for two seconds. Return to starting position.
7. Switch legs and repeat.





Muscles involved: *gluteus maximus, gluteus medius, adductors, hamstrings, quadriceps, calves, hip flexors*



Progressions



Balance tools

To Progress This Exercise:

1. Place a balance tool under your feet.



Keep your feet straight with your knees in line with the second and third toes or the pointy part of your sneaker.

Keep your abs tight and shoulder blades pulled back and down, with your chin tucked in.

CAUTION

Keep your feet straight with your knees in line with the second and third toes or the pointy part of your sneaker.

Keep your abs tight and shoulder blades pulled back and down, with your chin tucked in.

Single-Leg Lift and Chop (Beginner)

1. Stand with feet hip-width apart and pointed straight ahead.
2. Hold medicine ball (between five and seven percent of body weight) or tubing in hands with arms extended.
3. Lift chest, squeeze shoulder blades, and tighten abs (draw in and brace).
4. Lift one leg directly beside the balance leg and extend arms so the hands are outside the balance leg.
5. Lift medicine ball in a diagonal pattern, rotate the body using the hips, abs, and glutes until medicine ball is overhead.
6. Slowly return to starting position and repeat on opposite leg.





Muscles involved: *gluteus maximus, gluteus medius, adductors, hamstrings, quadriceps, calves, hip flexors*

Progressions



Balance tools

To Progress This Exercise:

1. Place a balance tool under your feet.

Single-Leg Squat (Intermediate)

1. Stand with feet hip-width apart and pointed straight ahead.
2. Lift chest, squeeze shoulder blades, tighten abs (draw in and brace), and place hands on hips.
3. Lift one leg directly beside balance leg.
4. Slowly squat as if sitting on a chair (push the hips out first) and lower the body to a point where you feel you can keep your balance.
5. Hold for two seconds and push through the heel, using the abs and glutes to help raise the body from the squat position.
6. Switch legs and repeat.







Muscles involved: *gluteus maximus, gluteus medius, adductors, hamstrings, quadriceps, calves, hip flexors*



Progressions



Balance tools



To Progress This Exercise:

1. Place a balance tool under your feet.
2. Reach down with the opposite arm from the balance leg and try to touch the shin.



Keep your feet straight with your knees in line with the second and third toes or the pointy part of your sneaker.

Keep your abs tight and shoulder blades pulled back and down, with your chin tucked in.

CAUTION

Keep your feet straight with your knees in line with the second and third toes or the pointy part of your sneaker.

Keep your abs tight and shoulder blades pulled back and down, with your chin tucked in.

Step-Up to Balance (Intermediate)

1. Stand with feet hip-width apart, toes pointed forward in front of a step or box (six to twenty-four inches high).
2. Tighten abs (draw in and brace). Keep arms extended at sides (holding dumbbells is optional).
3. Step onto box with one leg, keeping foot pointed straight ahead and knee lined up with toes.
4. Push through the heel of the foot on the step and bring opposite leg up to a bent knee and hip position (balance).
5. Hold top for two seconds and slowly lower floating leg down to the ground.
6. Step off box and repeat.





Muscles involved: *gluteus maximus, gluteus medius, adductors, hamstrings, quadriceps, calves, hip flexors*

Progressions



To Progress This Exercise:

1. Perform a side step-up to balance.
2. Perform a turning step-up to balance.

Lunge to Balance (Intermediate)

1. Stand with feet hip-width apart and pointed straight ahead.
2. Lift chest, squeeze shoulder blades, and tighten abs (draw in and brace).
3. Lunge forward, landing the heel of the lunge foot with foot pointed straight ahead and knee in line with toes. Both knees should be bent at ninety-degree angles, and back heel should be lifted.
4. Push off front foot through the heel, straightening back leg and lifting front leg up so the knee and hip are at a ninety-degree angle. Ending position should be a single-leg balance position.
5. Switch legs and repeat.





Muscles involved: *gluteus maximus, gluteus medius, adductors, hamstrings, quadriceps, calves, hip flexors*



Progressions



To Progress This Exercise:

1. Perform a side lunge to balance.
2. Perform a turning lunge to balance.



Keep your feet straight with your knees in line with the second and third toes or the pointy part of your sneaker.

Keep your abs tight and shoulder blades pulled back and down, with your chin tucked in.

CAUTION

Be careful not to allow your knees to move inside the foot during landing.

Multiplanar Hop to Balance (Advanced)

1. Stand with feet hip-width apart and pointed straight ahead.
2. Lift chest, squeeze shoulder blades, and tighten abs (draw in and brace).
3. Lift one leg directly beside balance leg.
4. Hop forward landing on the **opposite foot**. Hold for two seconds.
5. Hop backward, landing on the **opposite foot** in the starting position.
6. Switch legs and repeat.



Muscles involved: ***gluteus maximus, gluteus medius, adductors, hamstrings, quadriceps, calves, hip flexors***

Progressions



To Progress This Exercise:

1. Perform a side hop to balance.
2. Perform a turning hop to balance.

Double-Leg Box Hop-Up to Balance (Advanced)

1. Stand in front of a box, platform, or step (between six and eighteen inches high) with feet hip-width apart and pointed straight ahead.
2. Lift chest, squeeze shoulder blades, and tighten abs (draw in and brace).
3. Lift one leg directly beside balance leg. Using arms, jump up and land on top of box on **opposite leg**.
4. Hold balance position for two seconds and step down.
5. Switch legs and repeat.





Muscles involved: ***gluteus maximus, gluteus medius, adductors, hamstrings, quadriceps, calves, hip flexors***



Progressions

To Progress This Exercise:

1. Raise the box.
2. Perform a side single-leg hop-up to balance.
3. Perform a turning single-leg hop-up to balance.



Be careful not to allow your knees to turn in during landing.

CAUTION

Be careful not to allow your knees to turn in during landing.

Double-Leg Box Hop-Down to Balance (Advanced)

1. Stand in front of a box, platform, or step (between six and eighteen inches high) with feet hip-width apart and pointed straight ahead.
2. Lift chest, squeeze shoulder blades, and tighten abs (draw in and brace).
3. Lift one leg directly beside balance leg. Using arms, jump down and land on top of box on **opposite leg**.
4. Hold balance position for two seconds and step up onto box.
5. Switch legs and repeat.





Muscles involved: *gluteus maximus, gluteus medius, adductors, hamstrings, quadriceps, calves, hip flexors*

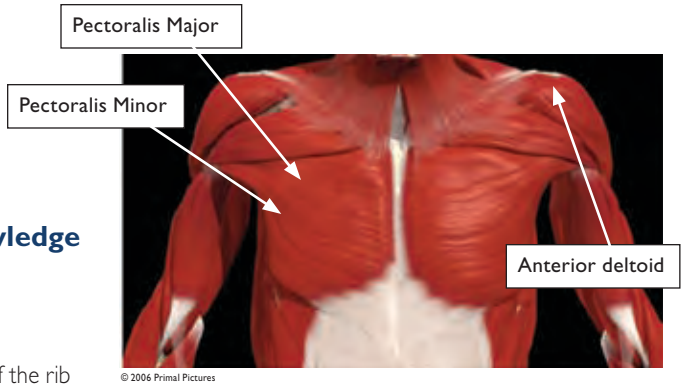


Progressions

To Progress This Exercise:

1. Raise the box to a higher height.
2. Perform a side single-leg hop-down to balance.
3. Perform a turning single-leg hop-down to balance.

Chest



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Some Muscle Knowledge

Pectoralis major

Where is it? Located in front of the top of the rib cage, this muscle runs from the clavicle and sternum to the top of the arm (humerus).
What does it do? It contracts and brings the arms to the midpoint of the body and internally rotates the arm.

Pectoralis minor

Where is it? Located under the pectoralis major, this muscle runs from the ribs to the top of the shoulder blades (scapulae).
What does it do? It helps move the shoulder blades forward.

Triceps

Where is it? Located at the back of the upper arm, this muscle has three parts. Each starts at a different location on the upper arm and shoulder blade and inserts into the elbow (ulna).
What does it do? It straightens (extends) the elbow and the shoulder.

Anterior deltoid

Where is it? This portion of the deltoid muscle runs from the clavicle to the upper arm (humerus).
What does it do? It helps bring the arms to the midpoint of the body and helps internally rotate the arm.

Take a Tip from the Pros: Because the pectoralis major is a fan-shaped muscle (the muscle fibers fan out from the spot where the fibers attach to the sternum and insert on the upper arm (the humerus), it can be trained in various planes of motion.

This is why you see fitness enthusiasts doing chest presses on an incline, flat, or decline bench.

To vary your workout, try training your pecs at different angles.



Muscles do not work in isolation. Every movement is a result of a team of muscles working together.



Key to success: Training the chest muscles involves a few other important muscles as well. All the muscles involved help you press, push, and throw, developing defined pecs, shoulders, and arms.

Chest Training

Push and press your way to great chest muscles. The chest muscles get a lot of attention in the gym; let's make sure you train them to their potential!

The chest muscles are involved in numerous daily activities such as pushing, pressing, and throwing objects. The chest muscles work in combination with a few other muscles to move the shoulder. As noted above, the muscles involved in training the chest are the pectoralis major, pectoralis minor, anterior deltoid (front shoulder muscle), and the triceps. While the pectoralis major is the main player in training the chest, there are several helper muscles that perform important tasks to allow the arms to move. The pectoralis minor also works to help move your shoulder blades while the triceps (the muscle on the back of your arms) helps with pushing and throwing. The anterior deltoid gets in on the action, helping move your arms forward and to the middle of your body. With each pushing, pressing, or throwing motion, each muscle listed must contract to create the motion. No muscle works in isolation! Given this, chest exercises work to enhance many more muscles than just the pecs, making these exercises a great part of a comprehensive upper body workout.

In the following section, we have broken down chest training into beginner, intermediate, and advanced levels. Please begin slowly to get the best results.

Ball Dumbbell Chest Press (Beginner)

1. Lie on stability ball with ball placed between shoulder blades.
2. Maintain a bridge position by squeezing the glutes and keeping the hips in a straight line with the shoulders, head, and knees.
3. Feet should be hip-width apart, and pointed straight ahead; keep abs tight (draw in and brace).
4. Hold a dumbbell in each hand, at chest level, with elbows bent and pointed out to the sides.
5. Press dumbbells straight up and together, extending elbows and contracting the pecs.
6. Slowly return dumbbells to the body.







Muscles involved: ***pectoralis major, pectoralis minor, anterior deltoid, triceps, core muscles, glutes***



Progressions





To Progress This Exercise:

1. Perform with alternate arms.
2. Perform with only one arm at a time.



Be careful not to arch your back during the chest-press exercise.

CAUTION

Be careful not to arch your back during the chest-press exercise.

Push-Up (Beginner)

1. Begin in a push-up position with knees bent and knees and hands on the floor, slightly wider than shoulder-width apart.
2. Tighten abs (draw in and brace) and squeeze glutes. Keep hips level and in a straight line from the shoulders to the knees.
3. Keeping back flat, slowly lower toward floor; stop when you feel the low back arch or the neck jut forward.
4. Push back up to starting position, extending the elbows and squeezing the pecs.





Muscles involved: *pectorals major, pectoralis minor, anterior deltoid, triceps, core muscles, glutes*

Progressions





To Progress This Exercise:

1. Perform with legs straight.
2. Perform with legs on a stability ball.

Standing Cable or Tubing Chest Press (Intermediate)

1. Stand facing opposite the resistance (back to the weight stack) with feet in a staggered stance position. Keep knees slightly bent and feet pointed straight ahead.
2. Tighten abs (draw in and brace) and hold a cable with handle attached in each hand. Keep palms facing down, with elbows bent and slightly below shoulder level.
3. Press cables forward and together, extending elbows and squeezing the pecs.
4. Slowly return to starting position.







Muscles involved: ***pectoralis major, pectoralis minor, anterior deltoid, triceps, core muscles, glutes***

Progressions





To Progress This Exercise:

1. Perform with alternating arms.
2. Perform with one arm.



Be careful not to arch your back during the chest-press exercise.



Be careful not to arch your back during the chest-press exercise.

Flat Dumbbell Chest Press (Intermediate)

1. Lie on a flat bench with knees bent.
2. Place feet hip-width apart, toes pointed straight ahead, and keep feet flat on the ground.
3. Hold a dumbbell in each hand, at chest level, arms bent and elbows pointing out to the sides.
4. Tighten abs (draw in and brace).
5. Press both dumbbells straight up and then together, extending elbows and squeezing the pecs.
6. Slowly return to starting position.







Muscles involved: *pectoralis major, pectoralis minor, anterior deltoid, triceps*



Progressions



To Progress This Exercise:

1. Perform with alternating arms.
2. Perform with one arm.

Incline Dumbbell Chest Press (Advanced)

1. Lie flat on an incline bench, feet flat on the floor and toes pointed straight ahead.
2. Hold a dumbbell in each hand, at chest level, with elbows bent pointing out to the sides.
3. Tighten abs (draw in and brace).
4. Press both dumbbells straight up and then together, extending elbows and squeezing the pecs.
5. Slowly return to starting position.







Muscles involved: *pectoralis major, pectoralis minor, anterior deltoid, triceps*

Progressions





To Progress This Exercise:

1. Perform with alternating arms.
2. Perform with one arm.



Be careful not to arch your back during the chest-press exercise.

CAUTION

Be careful not to arch your back during the chest-press exercise.

Chest-Press Machine (Advanced)

1. Sit at machine.
2. Make necessary adjustments for the machine to fit the body. Ensure that resistance is in line with the chest.
3. Select desired weight.
4. Tighten abs (draw in and brace).
5. Keep feet hip-width apart with knees in line with toes and toes pointed straight ahead.
6. Press weight forward until arms are fully extended.
7. Slowly return to starting position.





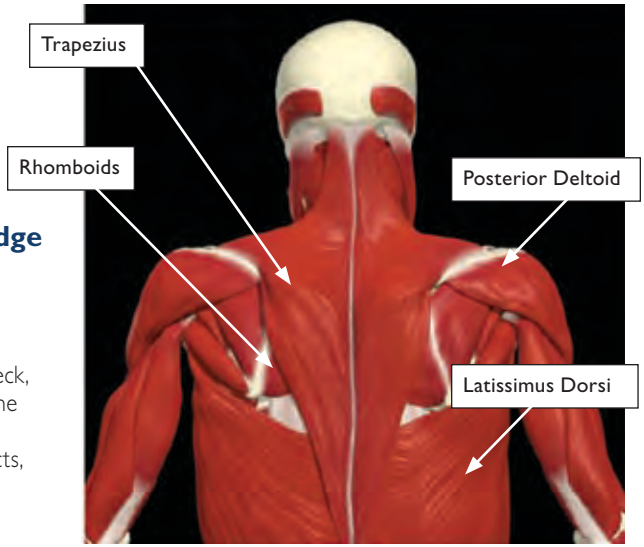


Muscles involved: *pectoralis major, pectoralis minor, anterior deltoid, triceps*

Back



Some Muscle Knowledge



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Trapezius

Where is it? Located in the upper back and neck, this muscle runs from the spine to the top of the shoulder blades and clavicle.
What does it do? It contracts, elevates, retracts, and depresses the shoulder blades.

Rhomboids

Where is it? Located under the trapezius muscle, this muscle runs from the vertebrae to the middle border of the shoulder blades.
What does it do? It helps retract and depress the shoulder blades.

Posterior (Rear) Deltoid

Where is it? Located on the rear part of the shoulder, this muscle runs from the insertion of the trapezius to the top of the upper arm (humerus).
What does it do? It helps externally rotate the upper arm (humerus) and pull the arm back.

Latissimus Dorsi

Where is it? Located at the low back, this muscle runs from the low back and hips to the top of the upper arm (humerus).
What does it do? It helps internally rotate the arm, extend the shoulder, and bring the upper arm down to the side.

Biceps

Where is it? Located on the front of the upper arm, this muscle runs from the top of the shoulder to the lower arm.
What does it do? It helps flex the elbow and shoulder.



Take a Tip from the Pros: The lats are a fun muscle to train. They help create the muscular "V" in men and enhance the hourglass figure of a woman. To get the most out of them, make sure your posture is perfect when training them.

Don't allow your shoulders to creep up during exercises and keep your shoulders pulled back instead of letting them round forward! This tip will help those lats shape up in no time!



Good posture can help you look sleeker and stronger almost immediately, so sit up straight and look confident.



Key to success: Training the back muscles helps increase good posture, reducing the risk of injury and creating a strong, sexy look.

Back Training

A great-looking back is just a few exercises away! The muscles of the back are often undertrained due to poor posture. Every time you slouch in your chair or allow your shoulders to hunch forward, you weaken your back muscles and reduce your chances of developing strong, sexy back muscles. So sit up straight and let's talk about the importance of training the back. First, posture is key! Standing and sitting up tall will help you feel stronger and sleeker almost immediately. A strong back will enhance your strong, confident look and keep you from wanting to slouch in the first place. Second, a strong back can help you avoid back, shoulder, and neck pain. Third, your body needs to be balanced. As we mentioned earlier, we tend to push things more than pull them, so our chest muscles tend to get trained more than the back muscles. Keep yourself balanced for a great-looking physique!

In the following section, we have broken down back training into beginner, intermediate, and advanced levels. Please begin slowly to get the best results.

Ball Dumbbell Row (Beginner)

1. Begin with the stomach on a stability ball.
2. Keep feet hip-width apart, legs straight, toes tucked under.
3. Hold dumbbells in each hand and extend arms in front of the body.
4. Tighten abs (draw in and brace) and squeeze glutes.
5. Row the dumbbells by squeezing the shoulder blades (pinch the shoulder blades together).
6. Bend elbows and bring dumbbells toward your underarms.
7. Slowly return to starting position.





Muscles involved: ***rhomboids, posterior deltoid, trapezius, latissimus dorsi, core muscles, glutes, biceps***

Progressions





To Progress This Exercise:

1. Perform with alternating arms.
2. Perform with one arm.



Be sure to keep good posture during the back exercises; keep the chest up and shoulders back.

CAUTION

Be careful not to arch your back during the exercise.

Standing Dumbbell Cobra (Beginner)

1. Stand with both feet hip-width apart, toes pointed straight ahead.
2. Bend at the waist until chest is at a 45-degree angle to the ground. Allow your arms to extend and dangle in front of you.
3. Tighten abs (draw in and brace) and tense your glutes.
4. Keeping the arms straight, move in a circular pattern with your arms, from front to back, squeezing the shoulder blades and externally rotating the shoulders.
5. Slowly return to starting position.





Muscles involved: *rhomboids, posterior deltoid, trapezius, latissimus dorsi, core muscles, glutes*

Progressions



To Progress This Exercise:

1. Perform with alternating arms.
2. Perform with one arm.

Standing Dumbbell Row (Intermediate)

1. Stand with both feet hip-width apart, toes pointed straight ahead.
2. Bend at the waist until chest is at a 45-degree angle to the ground. Allow your arms to extend and dangle in front of you.
3. Tighten abs (draw in and brace) and tense your glutes.
4. Row the dumbbells by squeezing the shoulder blades together and slightly down. Bend your elbows, bringing the weights toward your underarms.
5. Slowly return to starting position.





Muscles involved: ***rhomboids, posterior deltoid, trapezius, latissimus dorsi, core muscles, glutes, biceps***



Progressions



To Progress This Exercise:

1. Perform with alternating arms.
2. Perform with one arm.



Be sure to keep good posture during the exercise.



Be careful not to arch your back during the exercise.

Standing Cable or Tubing Extension (Intermediate)

1. Stand with both feet hip-width apart, toes pointed straight ahead.
2. Bend at the waist until chest is at a 45-degree angle to the ground. Allow your arms to extend and dangle in front of you.
3. Tighten abs (draw in and brace) and tense your glutes.
4. Keeping the arms straight, move in a circular pattern with your arms, from front to back, squeezing the shoulder blades and externally rotating the shoulders.
5. Slowly return to starting position.





Muscles involved: *rhomboids, posterior deltoid, trapezius, latissimus dorsi, core muscles, glutes*



Progressions



To Progress This Exercise:

1. Stand on one leg to perform.

Seated Lat Pulldown (Advanced)

1. Sit at the lat pulldown machine.
2. Make the necessary adjustments so the body fits comfortably in the machine. (The knee pad should allow your ankle and knees to be bent at ninety-degree angle.)
3. Select desired weight and grab the outside of the bar with **palms** facing out.
4. Tighten abs (draw in and brace).
5. Pull bar toward body squeezing the shoulder blades down and in.
6. Slowly return to starting position.







Muscles involved: ***rhomboids, posterior deltoid, trapezius, latissimus dorsi, core muscles, glutes, biceps***

CAUTION

Be careful not to arch your back during the exercise.

Progressions





To Progress This Exercise:

1. Stand in a semi-squat position to perform the pulldown.



Be careful not to arch your back or swing your body during the exercise.

Pull-Up (Advanced)

1. Begin by grasping a pull-up bar with palms facing away from body and hands placed slightly wider than shoulder width.
2. Keep trunk straight and knees bent at ninety-degree angle.
3. Tighten abs (draw in and brace) and squeeze glutes.
4. Pull the chest up to the bar, bending elbows and squeezing shoulder blades in and down.
5. Keep the head in a neutral position (do not lift chin to reach the bar).
6. Slowly lower your body back down to starting position.





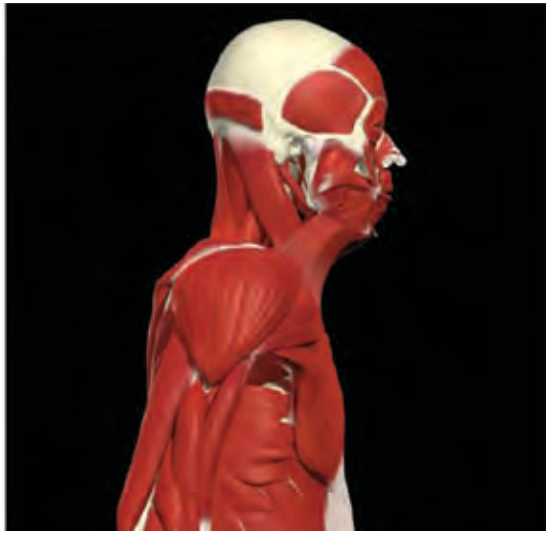


Muscles involved: *rhomboids, posterior deltoid, trapezius, latissimus dorsi, core muscles, glutes, biceps*

Shoulders



Some Muscle Knowledge



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Trapezius

Where is it? Located in the upper back and neck, this muscle runs from the spine to the top of the shoulder blades and clavicle.
What does it do? It contracts, elevates, retracts, and depresses the shoulder blades.

Deltoid

Where is it? This muscle, surrounding the shoulder, runs from the insertion of the trapezius, part of the clavicle and a portion of the scapula to the top of the upper arm (humerus).
What does it do? It helps flex and extend the shoulder, internally and externally rotate the shoulder, and bring the arms to the front and back of the body (think of performing a chest press and a row).

Supraspinatus

Where is it? Located underneath the shoulder blade, this muscle runs from the shoulder blade to the top of the upper arm (humerus).
What does it do? It helps bring the arms backwards.

Infraspinatus

Where is it? Located at the low back, this muscle runs from the low back and hips to the top of the upper arm (humerus).
What does it do? It helps externally rotate the arm, extend the shoulder, and bring the upper arm down to the side.

Teres minor

Where is it? Located on the shoulder blade, this muscle inserts into the upper arm.
What does it do? It helps externally rotate the shoulder.

Teres major

Where is it? Located on the lower portion of the shoulder blade, this muscle inserts into the front of the upper arm.
What does it do? It helps internally rotate the arm and extend the shoulder.

Subscapularis

Where is it? Located underneath the shoulder blade, this muscle runs from inside the shoulder blade to the upper arm.



Take a Tip from the Pros: There are many shoulder muscles and different ways to train them. They are an exciting area to train, and you will see results quickly! Remember that the shoulders allow the arms to move up, forward, and backward, so train them in all directions.

Changing your arm position will help emphasize different shoulder muscles; make sure you attack the shoulders from every angle!



The shoulder joint allows more range of motion than any other joint. Keep the shoulder healthy by training the shoulder stabilizers (the rotator cuff) as well as the major shoulder muscle (the deltoid).



Key to success: Training the shoulder muscles helps create sculpted, sexy shoulders that looks great in tank tops and sleeveless dresses.

Make sure to keep the shoulder healthy by training the stabilizers of the shoulder as well as the major shoulder muscles.

What does it do? It helps internally rotate the arm.

Shoulder Training

There is no denying that a pair of sculpted shoulders looks great on everyone. The definition around the shoulders helps enhance a man or female's frame and is the perfect accessory to a sleeveless shirt or dress. Shoulder training has several benefits beyond the aesthetic; it enhances posture and strengthens the muscles surrounding the shoulder joint, creating more stability and an overall sturdier body structure. The shoulder joint is one of the most delicate joints. The shoulder joint allows a greater range of movement (think about doing arm circles). When the muscles surrounding the shoulder joint are weak, this movement can become altered, creating instability and often leading to injury. Keeping the shoulders free from injury means training the rotator cuff (muscles that stabilize the shoulder) as well as the deltoid muscle (the muscle you can see that surrounds the shoulder). Just as we spoke about in the core section, the shoulder joint has several key stabilizers that act to keep the shoulder moving optimally, allowing enhanced definition around the shoulder. Training the muscles of the rotator cuff (subscapularis, supraspinatus, infraspinatus, and teres minor) will stabilize the shoulder joint, helping you avoid injuries.

In the following section, we have broken down shoulder training into beginner, intermediate, and advanced levels. Please begin slowly to get the best results.

Ball Combo # 1 (Beginner)

1. Lie with the stomach on a stability ball.
2. Keep feet, knees, and hips extended.
3. Hold a dumbbell in each hand with arms extended and placed in front of the stability ball.
4. Tighten abs (draw in and brace) and squeeze the glutes.
5. Raise both arms, with thumbs up, at a 45-degree angle in front of the body (raise only to eye level).
6. Move arms straight out to the side of the body (make a "T" with the arms).
7. Move arms back toward the hips with the thumbs pointed straight up.
8. Return arms to starting position in front of the body.





Muscles involved: *trapezius, rotator cuff, deltoid, core muscles, glutes*



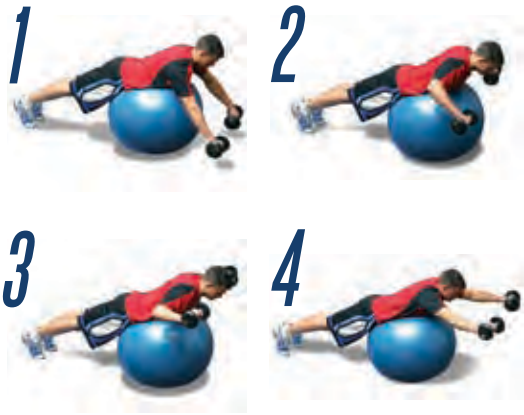
Be careful not to arch your back during the exercise.



Be careful not to arch your back during the exercise.

Ball Combo # 2 (Beginner)

1. Lie with the stomach on a stability ball.
2. Keep feet, knees, and hips extended.
3. Hold a dumbbell in each hand with arms extended and placed in front of the stability ball.
4. Tighten abs (draw in and brace) and squeeze the glutes.
5. Squeeze the shoulder blades and bend at the elbows, performing a rowing motion.
6. Externally rotate shoulders so the arms are at shoulder level (parallel to the ground).
7. Press the arms overhead.
8. Return arms to starting position by bending elbows and bringing hands back to ear level.
9. Internally rotate the shoulder (point hands down to the ground).
10. Slowly lower dumbbells to the starting position.





Muscles involved: *trapezius, rotator cuff, rear deltoid, core muscles, glutes*

Standing Scaption (Intermediate)

1. Stand with both feet hip-width apart, toes pointed straight ahead.
2. With arms extended, hold dumbbells at sides, palms facing sides of body.
3. Tighten abs (draw in and brace) and squeeze glutes.
4. Raise both arms, thumbs up at a 45-degree angle, in front of body. Raise only to eye level.
5. Slowly return arms to sides of the body.







Muscles involved: *deltoid, rotator cuff, core muscles, glutes*

Progressions



To Progress This Exercise:

1. Stand on one leg to perform.
2. Perform with alternating arms.
3. Perform with one arm.



Be careful not to arch your back during the exercise.



Be careful not to raise your arm too far back or allow your shoulders to drop forward.

Standing Diagonal Lift (Intermediate)

1. Stand with both feet hip-width apart, toes pointed straight ahead.
2. With one arm extended across your body (resting at the opposite hip), hold a dumbbell at the side, palm facing the side of body.
3. Raise arm (keep the arm straight) in a diagonal pattern across the body (as if drawing a sword from a scabbard).
4. Rotate the arm being drawn across the body so the thumb is pointing toward the ceiling.
5. Stop movement when arm and dumbbell are at eye level.
6. Slowly return arm across the body to the starting position.







Muscles involved: *deltoid, rotator cuff, core muscles, glutes*



Progressions





To Progress This Exercise:

1. Stand on one leg to perform.

Seated Shoulder Press (Advanced)

1. Sit on bench or chair with both feet hip-width apart, toes pointed straight ahead, feet flat on the floor.
2. Hold one dumbbell in each hand, elbows bent, and hands lifted to chest level.
3. Tighten abs (draw in and brace).
4. Press arms directly overhead by extending elbows.
5. Slowly return arms to the starting position.







Muscles involved: *deltoid, rotator cuff, core muscles, glutes*

Progressions





To Progress This Exercise:

1. Perform with alternating arms.
2. Perform with one arm.

CAUTION

Be careful not to arch your low back during the exercise.

CAUTION

Be careful not to arch your low back during the exercise.

Standing Shoulder Press (Advanced)

1. Stand in a staggered stance, toes pointed straight ahead, feet flat on the floor.
2. Hold one dumbbell in each hand, elbows bent, and hands lifted to chest level.
3. Tighten abs (draw in and brace).
4. Press arms directly overhead by extending elbows.
5. Slowly return arms to the starting position.





Progressions







Muscles involved: *deltoid, rotator cuff, core muscles, glutes*

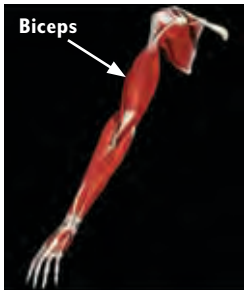
To Progress This Exercise:

1. Perform with alternating arms.
2. Perform with one arm.

Arms



Some Muscle Knowledge



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Triceps

Where is it? Located at the back of the upper arm, this muscle has three parts. Each starts at a different location on the upper arm and shoulder blade and inserts into the elbow (ulna).
What does it do? It extends the elbow and shoulder.

Biceps

Where is it? Located on the front of the upper arm, this muscle runs from the top of the shoulder to the lower arm.
What does it do? It helps flex the elbow and shoulder and rotate the lower arm.

Brachioradialis

Where is it? Located on the front of the upper arm, this muscle runs from the top of the upper arm (humerus) to the lower arm.
What does it do? It helps flex the elbow.



Take a Tip from the Pros: Since every upper body exercise uses the arms in one way or another, the arms tend to get a heavy dose of work!

You want to be careful that you don't overtrain the biceps or the triceps, so keep the exercises simple and don't overdo it! Overtraining can lead to injury. Give the arms a break once in a while.



When training the arms, utilize different hand positions to work the different heads of the muscles. This will help create better defined arms.



Key to success: Training the arm muscles with different hand positions helps enhance the look of a well-defined arm. Since both the triceps and biceps have a few different heads, altering the arm position (rotating the lower arm) helps make sure that each part of the muscle gets worked.

Arm Training

There is no denying that defined arms will catch everyone's attention. Tight and toned arms look great on men and women, and we all want them. So, what does it take to get a great pair of arms? Choosing the right exercises!

Great arms means toned and defined biceps and triceps. Both muscles work as a pair to flex and extend the elbow. The biceps flexes the elbow, while the triceps extends the elbow. These muscles should always get the same attention to keep the body balanced. In other words, don't focus only on one side of the arm; train both for optimum results.

A unique feature of both muscles is that they both have different "heads." This simply means that one muscle has more than one origin. For example, the biceps, one muscle, has two different heads or origins, and one insertion point (place where the muscle inserts into a tendon and attaches to bone). The triceps has three different heads or origins, with one insertion point as well.

Even though there is more than one origin, the muscle is still considered only one muscle. To get the best results from training the arms, simply change your hand position during a biceps or triceps exercise. Using this technique, you can emphasize one or more of the heads of the muscle, ultimately getting the most definition in each of the muscles.

In the following section, we have broken down arm training into beginner and intermediate levels. The arms are easier muscles to train and do not require very difficult exercises. Please begin slowly to get the best results.

Biceps

Single-Leg Biceps Curl (Beginner)

1. Balance on one leg with foot pointed straight ahead, floating leg beside balancing leg.
2. Extend arms at sides with a dumbbell in each hand, palms facing in front of the body.
3. Tighten abs (draw in and brace) and squeeze glutes.
4. With palms facing out, flex elbows and bring dumbbells to shoulders (keep elbows at sides).
5. Slowly lower to starting position.







Muscle involved: *biceps*



Progressions





To Progress This Exercise:

1. Perform with alternating arms.
2. Perform with one arm.



Be careful not to arch your back or allow your body to swing during the exercise.

CAUTION

Be careful not to arch your back or allow your body to swing during the exercise.

Single-Leg Barbell Curl (Beginner)

1. Balance on one leg with foot pointed straight ahead, floating leg beside balancing leg.
2. Extend arms at sides with a barbell between the hands, palms facing away from the body.
3. Tighten abs (draw in and brace) and squeeze glutes.
4. With palms facing out, flex elbows and bring barbell to shoulders (keep elbows at the sides).
5. Slowly lower to starting position.





Muscle involved: *biceps*

Progressions



Balance tools

To Progress This Exercise:

1. Place a balance tool under your feet.

Seated Biceps Curl (Intermediate)

1. Sit on a bench or chair with feet hip-width apart and pointed straight ahead.
2. Hold a dumbbell in each hand with arms extended at sides, palms facing out.
3. Tighten abs (draw in and brace).
4. Bend elbows and bring dumbbells up to shoulders (keep elbows at sides).
5. Slowly lower to starting position.







Muscle involved: *biceps*

Progressions





To Progress This Exercise:

1. Perform with alternating arms.
2. Perform with one arm.

CAUTION

Be careful not to arch your back during the exercise.

CAUTION

Be careful not to arch your back during the exercise.

Seated Biceps Hammer Curl (Intermediate)

1. Sit on a bench or chair with feet hip-width apart and pointed straight ahead.
2. Hold a dumbbell in each hand with arms extended at sides, palms facing body (thumbs facing out).
3. Tighten abs (draw in and brace).
4. Bend elbows and bring dumbbells up to shoulders (keep elbows at sides).
5. Slowly lower to starting position.





Muscles involved: *biceps, brachioradialis*

Progressions



To Progress This Exercise:

1. Perform with alternating arms.
2. Perform with one arm.

Triceps

Face-Up Ball Triceps Extension (Beginner)

1. Lie on a stability ball, with ball positioned between the shoulder blades.
2. Maintain a bridge position by squeezing the glutes and keeping the shoulders, hips, and knees in line.
3. Keep feet hip-width apart, toes pointed straight ahead, and tighten abs (draw in and brace).
4. Hold dumbbells in each hand with elbows bent (elbows pointing toward ceiling).
5. Extend arms, raising dumbbells until arms are straight.
6. Slowly lower to starting position.







Muscles involved: *triceps, core muscles, glutes*



Progressions





To Progress This Exercise:

1. Perform with alternating arms.
2. Perform with one arm.



Be careful not to arch your back during the exercise.

CAUTION

Be careful not to arch your back during the exercise.

Face-Down Ball Triceps Extension (Beginner)

1. Lie face down on a stability ball, with ball positioned under the torso.
2. Straighten the legs and squeeze the glutes, keeping the shoulders, hips, and knees in line.
3. Keep feet hip-width apart, toes pointed down and tighten abs (draw in and brace).
4. Hold dumbbells in each hand with elbows bent (elbows pointing toward ceiling).
5. Extend arms, raising dumbbells until arms are straight.
6. Slowly lower to starting position.





Muscles involved: *triceps, core muscles, glutes*

Progressions



To Progress This Exercise:

1. Perform with alternating arms.
2. Perform with one arm.

Face-Up Barbell Triceps Extension (Intermediate)

1. Lie on a flat bench with knees bent.
2. Feet should be flat on the floor, hip-width apart, pointed straight ahead.
3. Tighten abs (draw in and brace).
4. Hold barbell with elbows pointed toward ceiling.
5. Extend elbows (straighten arms) until the arms are straight up in the air.
6. Slowly lower to starting position.







Muscle involved: *triceps*

Be careful not to arch your back during the exercise and monitor how far down you bring the bar.

Standing Cable or Tubing Push-Down (Intermediate)

1. Stand with feet hip-width apart, facing resistance, feet pointed straight ahead.
2. Grasp a bar or rope with elbows bent and placed at sides.
3. Keep the chest up and the shoulders back; tighten abs (draw in and brace).
4. Extend arms (keeping elbows at your side) until arms are straight.
5. Slowly return to starting position.







Muscle involved: *triceps*



Be careful not to arch your back during the exercise and monitor how far down you bring the bar.

Take a Tip from the Pros: Leg (lower-body) training will get your heart pumping and help you burn a large amount of calories. To make the most of training your legs, work your lower body in different planes of motion. For example, if you perform lunges, change things a bit and perform side or turning lunges. This will help you use your muscles differently, increasing the calories you burn during the exercise.

Legs



Some Muscle Knowledge



Gluteus maximus
Where is it? Located behind the hips, this muscle runs from the bottom of the spine to the outside of the thigh (femur).
What does it do? It externally rotates the thigh as well as straightening (extending) the hips.

Gluteus medius
Where is it? Located on the outside of the hips, this muscle runs from the top of the pelvis to the top of the thigh (femur).
What does it do? It helps externally rotate the hips and abduct the thigh (move the thigh out to the side).

Hip flexors
Where are they? Located at the lower portion of the spine and top of the hip, these muscles insert into the upper middle portion of the thigh (femur).
What do they do? They help bend (flex) the hip and rotate the thigh externally.

Hamstrings
Where are they? These muscles run from the bottom of the hip to the top of the lower leg.
What do they do? They help straighten (extend) the hip and bend (flex) the knee.

Quadriceps
Where are they? Located at the front of the thigh, these muscles run from the hips down to the bottom of the thigh (femur) and insert into the knee cap (patella).
What do they do? They straighten (extend) the knee and help bend (flex) the hip.

Calves
Where are they? Located at the back of the lower leg, these muscles run from the bottom of the thigh and top of the shin (tibia) to the heel.
What do they do? They bend (flex) the ankle.

Adductors
Where are they? Located in the middle upper thigh, these muscles run from the bottom of the hips to the bottom of the thigh (femur).
What do they do? They adduct the thigh (move the leg inward).

Leg (Lower-Body) Training

A great pair of legs might be the best accessory you can have. Leg training can create more than sculpted and sleek legs. Proper lower body training can enhance how you move. Lower body training includes exercising the glutes, quadriceps, hamstrings, adductors, hip flexors, and calves (all the major muscles of the legs and butt). These muscles all work together to move the hips, knees, and ankles; therefore, when we train the legs, we prefer to use multi-joint exercises that incorporate all the muscles of the legs. Generally, leg training has focused on training the muscles surrounding the knee and ankle. However, the gluteals are an important part of leg training because the glutes help control the movement of the hips, knees, and ankles. When we train the legs, it is important to incorporate the glutes. This will keep the lower body moving optimally and potentially help you avoid injuries to the knees and ankles. While you can target the leg muscles individually with exercises like leg extensions and leg curls (training the front and back of the thighs), we choose to use exercises that incorporate all the muscles of the lower body. This helps keep you moving safely, balances the muscles of your lower body, and burns more calories overall. As an added bonus, working multiple leg muscles at once cuts down on training time, making the most of the time you have to exercise.

In the following section, we have broken lower-body training into beginner, intermediate, and advanced levels. Please begin slowly to get the best results.



When focusing on lower body training, use multi-joint, multi-muscle exercises to create the largest exercise impact in the shortest amount of time.



Key to success: Training the leg muscles means getting the glutes involved as well. Utilize multi-joint, multi-muscle exercises to get the most out of your exercise session.



Keep your knees and toes in line. Make sure you can see your toes during the exercise.

Ball Squat (Beginner)

1. Stand with feet hip-width apart, toes pointed forward.
2. Rest the back against a stability ball, with the ball placed against a wall.
3. Keep feet directly beneath knees.
4. Tighten abs (draw in and brace), and slowly begin to squat by bending hips (push the butt back) and knees (keep weight on the heels). Lower the body to chair height.
5. Keep the chest up and arms extended at your sides.
6. Hold the bottom position for two seconds and slowly rise to starting position by pushing through the heels and squeezing the glutes.





Muscles involved: *glutes, hip flexors, hamstrings, adductors, quadriceps, calves*



Progressions



Balance tools

To Progress This Exercise:

1. Place balance tool under your feet.

Step-Up to Balance (Beginner)

1. Stand with feet hip-width apart, toes pointed forward in front of a step or box (six to twenty-four inches high).
2. Tighten abs (draw in and brace). Keep arms extended at sides (holding dumbbells is optional).
3. Step onto box with one leg, keeping foot pointed straight ahead and knee lined up with toes.
4. Push through the heel of the foot on the step and bring opposite leg up to a bent knee and hip position (balance).
5. Hold for two seconds and slowly lower floating leg to the ground.
6. Step off box and repeat.





Muscles involved: *glutes, hip flexors, hamstrings, adductors, quadriceps, calves*



Progressions



To Progress This Exercise:

1. Perform a side lunge to balance.
2. Perform a turning lunge to balance.



Keep your knees and toes in line. Make sure they are both pointed straight ahead during the exercise.

CAUTION

Keep your feet straight with your knees in line with the second and third toes or the pointy part of your sneaker.

Keep your abs tight and shoulder blades pulled back and down, with your chin tucked in.

Lunge to Balance (Beginner)

1. Stand with feet hip-width apart and pointed straight ahead.
2. Lift chest, squeeze shoulder blades, and tighten abs (draw in and brace).
3. Lunge forward, landing the heel of the lunge foot with foot pointed straight ahead and knee in line with toes. Both knees should be bent at ninety-degree angles and back heel should be lifted.
4. Push off front foot through the heel, straightening back leg and lifting front leg up so the knee and hip are at a ninety-degree angle. Ending position should be a single-leg balance position.
5. Switch legs and repeat.





Muscles involved: *gluteus maximus, gluteus medius, adductors*

Progressions



To Progress This Exercise:

1. Perform a side lunge to balance.
2. Perform a turning lunge to balance.

Dumbbell Lunge (Intermediate)

1. Begin with feet hip-width apart and pointed straight ahead.
2. Hold a dumbbell in each hand.
3. Tighten abs (draw in and brace).
4. Lunge forward, landing on the heel of the leg in front (keep the knees and toes in line, pointed straight ahead).
5. Lower the body until the hip and knee of the front leg are at ninety-degree angles. Keep the front foot flat on the ground and lift the heel of the back foot up.
6. From this position, push off the heel of the front foot and press back into the starting position (bring the front leg back and get into standing position).





Muscles involved: ***glutes, hip flexors, hamstrings, adductors, quadriceps, calves***



Progressions





To Progress This Exercise:

1. Perform a lunge to the side.
2. Perform a turning lunge.



Keep your knees and toes in line. Make sure they are both pointed straight ahead during the exercise.



Keep your knees and toes in line. Make sure they are both pointed straight ahead during the exercise.

Barbell Russian Deadlift (Intermediate)

1. Barbell should be placed on the ground.
2. Begin with feet hip-width apart, toes pointed straight ahead, and knees in line with toes.
3. Tighten abs (draw in and brace).
4. Squat and grab barbell with both hands (grip should be slightly wider than shoulder width).
5. Push through the heels, squeeze the glutes, and lift barbell, bringing the torso into an upright position (stand up tall).
6. Return to original position and repeat.







Muscles involved: *glutes, hip flexors, hamstrings, adductors, quadriceps, calves*

Leg Press

1. Sit in machine and position back and hips so the back is flat against the seat.
2. Place feet on the vertical platform, hip-width apart, toes pointed straight ahead.
3. Tighten abs (draw in and brace).
4. Push through heels and extend legs (make sure not to lock out the knees when extending the legs).
5. Slowly lower the resistance while bending the knees (keep the knees in line with the feet; both should be pointed straight ahead).







Muscles involved: *glutes, hip flexors, hamstrings, adductors, quadriceps, calves*



Keep your knees and toes in line. Make sure they are both pointed straight ahead during the exercise.



Make sure your knees do not turn in when you land on the box. Keep those abdominals tight and squeeze the glutes.

Box Jumps (Advanced)

1. Stand with feet hip-width apart, toes pointed forward in front of a step or box (six to twenty-four inches high).
2. Lift chest, tighten abs (draw in and brace), and tense glutes.
3. Squat and, using arms, quickly jump up and land on top of the box, keeping toes pointed straight ahead and knees in line with toes.
4. Stand up tall (extend at the knees and hips) and step off the box.





Muscles involved: *glutes, hip flexors, hamstrings, adductors, quadriceps, calves*



Progressions









To Progress This Exercise:

1. Perform a side box jump-up.
2. Perform a turning box jump-up.

Squat Jumps (Advanced)

1. Stand with feet hip-width apart, toes pointed straight ahead.
2. Tighten abdominals (draw in and brace) and tense glutes.
3. Squat as if sitting in a chair and, using arms, jump up, extending arms overhead.
4. Land with feet hip-width apart and knees in line with toes (pointed straight ahead).
5. Repeat.





Muscles involved: ***glutes, hip flexors, hamstrings, adductors, quadriceps, calves***



Make sure your knees do not turn in when you land. Keep those abdominals tight and squeeze the glutes.

CAUTION

Make sure your knees do not turn in when you land. Keep those abdominals tight and squeeze the glutes.

Horizontal Jumps (Advanced)

1. Stand with feet hip-width apart and toes pointed straight ahead.
2. Lift chest and tighten abs (draw in and brace).
3. Squat as if sitting in a chair and, using arms, jump forward as far as you can control.
4. Land with feet hip-width apart, knees in line with toes (both pointed straight ahead).





Muscles involved: *glutes, hip flexors, hamstrings, adductors, quadriceps, calves*

Progressions









To Progress This Exercise:

1. Perform a side jump.
2. Perform a turning jump.

Cardio



Did you know that simply hopping onto cardio equipment and working for thirty minutes to an hour may not be as beneficial to your weight-loss program as you think? Yes, it's good to get moving and break a sweat. In fact, the American Heart Association and the leading fitness and wellness organizations agree that thirty to sixty minutes a day of moderate-intensity movement can help prevent diseases such as obesity, heart disease, and diabetes. However, if weight loss is your goal, then you need a solid cardiovascular training plan.

What Is Cardiovascular Training?

Cardio training increases the function, capacity, and health of the heart and lungs. There are basically two types of cardio training: aerobic and anaerobic. Aerobic training, which means in the presence of oxygen, is training that allows the exerciser to breathe in more oxygen, delivering more oxygen to the muscles; therefore, allowing the body to burn more fat (for fat to burn, oxygen must be present). Anaerobic training, which means without oxygen, is training that does not allow the exerciser to breathe in as much oxygen, limiting the amount of oxygen to the muscles requiring the body to gain energy from carbohydrates, a form of sugar in the body.

Why Is Cardio Training Important?

Cardio training helps control weight gain and reduce health-related illness such as heart disease and obesity. In fact, cardio training allows the body to become more efficient in utilizing fuel sources (e.g. fat and carbohydrates) and, like other exercises, challenges the heart and lungs, forcing them to adapt and become stronger and healthier. But not all cardio training is the same. While it is important to challenge your cardio system, we don't want you to waste your time and energy.



Take a Tip from the Pros: Did you know that recent research shows that people who use phone coaching after completing a weight-loss program lost an average of *twenty-two more pounds* than those who didn't receive coaching?

A dotFIT coach can help you achieve your goals! Contact us at www..dotFIT.com



Take a Tip from the Pros: Heart rate training is the most efficient and time-saving method of cardio training. In addition, proper heart rate training helps you burn a large amount of calories and tap into fat stores for fuel.

A good cardio plan will include knowing and understanding your heart rate and what training zone you should be working in to maximize your time, fuel sources, and caloric burn. Let's keep it simple: while there are as many as five heart rate training zones to work in, there are three important zones that relate to fitness. These zones can be simplified into three categories and the color coding provided will be used throughout Chapter 7:

- **Recovery (or fat-burning) zone**
- **Anaerobic threshold zone**
- **Peak zone**

What do these zones mean?

Heart Training Zones	
	Low (recovery)
	Medium (anaerobic threshold)
	High (peak)

The **recovery zone** uses a lower heart rate (about sixty percent of heart rate maximum) and is great for recovery from a hard workout or just a way to meet general fitness guidelines. This zone requires you to work aerobically (remember, you breathe in more oxygen) and utilizes a higher percentage of fat for fuel. Although this zone can be construed to be strictly for fat burning, fat loss comes from the total number of calories burned. While you use a higher percentage of fat for fuel, you burn a lower *total* number of calories. This zone is important for beginners because it allows you to create a solid aerobic base, building a good cardiovascular foundation. Although you can't stay in this zone every day and expect to lose weight, you should perform in this zone one to two times a week.

The **anaerobic threshold zone** uses a moderate to high heart rate, which helps raise your anaerobic threshold (AT), the point at which your energy sources move from utilizing a higher percentage of fat to utilizing a higher percentage of carbohydrates. This zone is important because it increases your aerobic base, making your heart more efficient and helps you burn more calories during and after exercise. This zone is what we call the window of opportunity. It is in this zone that you are able to burn a large amount of fat and calories (i.e., you are working hard, but still able to breathe in enough oxygen to keep burning fat).

The third zone is your **peak heart rate zone** and helps increase your anaerobic threshold (AT) as well as increases the caloric burn during and after exercise. Raising your AT increases your aerobic base (i.e., making your heart more efficient at higher heart rates), allowing you to work harder (i.e., burn more calories overall) and still burn a high percentage of fat as fuel. This peak heart rate should not be trained inconsistently, as sustaining a peak heart rate can lead to overtraining and adverse effects on weight loss.

How Do I Know What My Heart Rate Zones Are?

There are several methods for determining heart rate zones. We recommend the Karvonen formula, which uses your age and estimated heart rate maximum to determine an estimate of your training zones. In Chapter 4, we asked you to perform some cardiovascular assessments. For one of the assessments, we asked you to calculate your heart rate zones using the following formula:

Step 1: Determine your maximum heart rate by subtracting your age from the number 220. Example: (220 minus age).

Maximum Heart Rate:_____

Step 2: Using your heart rate maximum (gathered in Step 1), multiply that number by the following figures to determine your heart rate training zones.

Zone 1: Maximum heart rate × .65 (.60 if you are on beta blockers) =_____

Maximum heart rate × .75 (.70 if you are on beta blockers) =_____

Zone 2: Maximum heart rate × .80 = _____

Maximum heart rate × .85 = _____

Zone 3: Maximum heart rate × .86 = _____

Maximum heart rate × .90 = _____



Online Resource:
Visit www.dotFIT.com for information on our exclusive dotFIT Me nutrition and fitness program.

You can set your goals and track your results online, plus access 50,000 food items in our calorie database.

Connect the dots to your health and fitness.



Cardiovascular training uses two basic forms of energy: fat and carbohydrates.

Low-intensity training utilizes more fat for energy, and high-intensity training utilizes more carbohydrates for energy.



Online Resource: Want help ensuring that you are getting the most out of your exercise regimen? You can work out with one of our personal trainers to optimize your workout.

Visit www.dotFIT.com for details.

How Do I Perform My Cardio Training?

Cardio training usually utilizes the following guidelines:

For Cardio Training, Keep FITTE!

Frequency refers to the number of times you participate in cardiovascular training for a given timeframe (usually measured in days and weeks).

Intensity refers to the level of demand the activity places on the body. This is measured by heart rate.

Time refers to the length of time you engage in the cardio activity.

Type refers to the activity, such as running, walking, or playing tennis.

Enjoyment refers to the amount of pleasure you derive from the activity. The more enjoyment, the better!

Frequency

The frequency of your cardio exercise will depend on your goals, level of fitness, and ability to commit to your scheduled exercise sessions. We recommend doing some form of cardio activity three to five days per week for improved fitness. If you are a beginner, we recommend that you start slowly, exercising three days per week for a shorter timeframe, and gradually progress from there.

Intensity

Intensity refers to the level of demand placed on the body, which simply means how hard you train. For general health, we recommend that you maintain a moderate intensity, keeping your heart rate low or in the recovery zone for the first four weeks. This corresponds to yellow zone 1 of heart rate training and will help you build a solid cardiovascular foundation. To improve your fitness levels, the intensity recommended is slightly higher; we recommend the intermediate heart rate zone. This would mean you are working at eighty to eighty-five percent of your heart rate maximum. This corresponds to green zone 2. Intermediate-level exercisers will find this zone useful to help them challenge their cardio fitness.

To increase fitness and performance levels, red zone 3 is recommended. The peak zone corresponds to eighty-five to ninety percent of your heart rate maximum and should only be trained in for short durations of time, two to three times per week based on your fitness level. If you are a beginner, we recommend that you wait to train within the peak zone for at least four weeks. Intermediate and advanced exercisers will find this zone useful to help avoid cardio training plateaus.

Time

Time refers to how long you train. We measure this in minutes. For general health, The National Academy of Sports Medicine (NASM) recommends a total of thirty minutes per day. You can break this amount into different intervals, such as six five-minute bouts, three ten-minute bouts, or two fifteen-minute bouts (any combination that will equal thirty minutes). For improved fitness levels, we recommend that you spend twenty to sixty minutes performing your cardio training, depending on the goal and fitness level.

Type

Type refers to the activity you participate in. This can be virtually any activity, ranging from mowing the yard to hiking, biking, and even cleaning the house. For general health, we recommend participating in daily activities such as walking, cleaning the house, gardening, and dancing. For increased fitness levels, we recommend doing cardio exercise with a higher physical demand such as utilizing cardio equipment (e.g. treadmills, bikes, ellipticals), participating in aerobics classes, recreational sports, or weight training.

Enjoyment

This refers to the amount of pleasure derived from the activity. The most important aspect of your cardio training program is that it fits with your personality, interests, and likes. If you do not like to run, attempting to participate in a cardio training program that incorporates running may not be a good idea. Choose a form of cardio training that you enjoy, and chances are, you will be better able to stick with it and get more out of it!



Key to success: Cardio training enhances the function and capacity of the heart and lungs while helping the body become more efficient at burning calories and utilizing internal energy sources.

For the best results, make sure your cardio training follows the FITTE guidelines.

General Health Guidelines from NASM				
Frequency	**Intensity**	**Time**	**Type**	**Enjoyment**
5–7 days per week	Moderate (performing in Yellow Zone 1).	30 minutes per day	General activities	The higher, the better!

Improved Fitness				
Frequency	**Intensity**	**Time**	**Type**	**Enjoyment**
5–7 days per week	Training in all three heart rate zones: Yellow Zone 1, Green Zone 2, and Red Zone 3.	20–60 minutes per day	Any activity that allows you to vary your heart rate and intensity.	The higher, the better!

Interval Training

NASM utilizes an advanced form of cardio training known as interval training. Interval training is simply asking you to move into different heart rate training zones throughout your cardio session, challenging your heart and body to work harder. One of the greatest benefits of interval training is that you burn more calories overall during the session, and you help expand or enlarge your green zone (the zone where you burn a large amount of calories coming from fat and carbohydrates). The larger the green zone heart rate zone is, the more fit you can become, and the more body fat you can burn! However, interval training should not be done every day. While it does have some great benefits, you can begin to overtrain if you do not allow your body to recover from a challenging workout. Given this, we recommend that interval training should be done no more than three times per week, with at least two recovery days to allow your body to change.

In Chapter 7 we have put together comprehensive cardio training programs for beginning, intermediate, and advanced exercisers. Each program will challenge your cardio fitness and teach you how to train in all three heart rate zones for optimum results.

Exercise Frequently Asked Questions

Is it true that flyes help develop the "inner pecs?'

Unfortunately, no. In fact, there are no such thing as inner pecs. We have one pectoralis major muscle that runs from the middle of the chest to the upper arm, by the shoulder. This muscle has different muscle fibers that can be emphasized (e.g., you can emphasize the top muscle fibers by doing incline chest presses). However, when a muscle fiber is contracted, the whole fiber contracts. You can't fire half a fiber, thanks to something called the All or Nothing Principle. Therefore, we can't train the inner pecs by doing flyes. However, if you have been consistently doing bench presses or dumbbell presses and decided to change things by doing some flyes, the change may stimulate the muscle, potentially helping develop it more. It's not the exercise itself that will make the difference, it's the deviation from your normal routine.

How do I work my lower abs?

Similar to the answer we gave to the previous question, unfortunately, there are no such thing as lower abs. You have one rectus abdominus that runs from the sternum down to the groin area. It is one muscle whose fibers run vertically and, as we mentioned before, is ruled by the All or Nothing Principle. Because all the muscle fiber fires, the upper or lower half does not fire independently, which means we do not have lower abs. However, a muscle that runs lower on the pelvis is your transverse abdominus. Toning this lower abdominal area may help. The transverse abdominus runs from the center of the abdominal region and inserts into the low back area. When this muscle is contracted, it cinches in your waist like a corset. Training this muscle helps create tone in that area. Exercises in the beginning phases of core training help work this muscle. Refer to those exercises to learn what you can do to work the transverse abdominus.

I have heard that specific biceps training exercises can help me develop a "peak" in my biceps. Is that true?

If you are born with the proper genetics, then any biceps exercise will create a peak; otherwise, a peak can't be developed. You see, a peak will occur if you are born with long tendons and short muscles. If you are born with long muscles and short tendons, short of surgery, you cannot create a peak.

Will training my lats in different planes help develop a bigger lat muscle?

Yes! The lat muscle is a fan-shaped muscle that runs from the low back to the front of the arm. The way the muscle fibers are aligned allow the lat to be worked in different planes. When you can work a muscle to its full capacity, the muscle can develop optimally (e.g., making the muscle larger). While muscle hypertrophy (enlargement) takes increased volume, load, and proper nutrition, the lats are a great muscle that can get amazing development from simply changing the angle of resistance.

Will reverse flyes develop better rear deltoids?

Possibly. Reverse flyes help emphasize the rear deltoids, but if the shoulder is in a bad position due to poor posture, you may be doing more damage than good. Keep the shoulders, back, and neck in perfect alignment with the spine when performing a rear deltoid exercise, like the reverse flyes, and you could see some great development of that muscle.

If I want better triceps, should I train with different hand positions when doing a triceps exercise?

Yes. The triceps is a muscle that has three heads, meaning that there are three different origin points to the muscle. You can emphasize different heads with different hand positions. However, for optimum muscle development, maintain good posture (keep the shoulder back and chest up).

Is it true that lunges will give a better shape to my glutes?

Maybe. Again, it will depend on whether you have muscle imbalances and what exercises you have been doing previously. Remember, if your hips are tight, your glutes will not work optimally, limiting the amount of development in the glutes. Performing a different exercise may create a different stimulus to the glute muscles, forcing them to adapt and potentially developing more. For instance, if you have been doing squats, doing lunges instead may create more development in the glutes. However, if the glutes are limited by tight hip flexors, it doesn't matter what exercise you do, you may not get the results you are seeking. All in all, lunges may not develop everyone's glutes the same way. It's not the exercise itself that will create better glutes; rather, it's the stimulus of a new exercise.

I was told that I should not do squats because of my bad knees. Can I do squats or should I avoid them? What exercises should I do instead?

First, squats are not bad. You squat everyday. It is *how* you squat that makes a difference. In our experience, most people are told to avoid squats because the way they are squatting is causing them knee problems. Many clients are what we call knee squatters. Take a look at your knees as you squat. Can you see your toes? If the answer is no, then squatting may make your knees worse.

Squatting should be done so that you can see your toes (hips should move back) and knees should stay in line with your toes (both pointed straight ahead). If you are not squatting this way, then chances are you are suffering from muscle imbalances. As we discussed in Chapters 3, 4, and 5, muscle imbalances can lead to injury because the body is not moving as it was designed. Tight, short muscles and long, weak muscles can lead to faulty movement at the joints, increasing the chance of a limiting injury down the road. Before you eliminate squats from your routine, reread Chapters 4 and 5 and perform the overhead squat assessment. Then refer to the Movement Preparation Table in Chapter 5. Once you have incorporated the exercises in that table for two to three weeks, your squatting technique may improve, allowing you to keep this excellent exercise in your program.



Success Story: Client Runs Marathon at Age Fifty with an Aneurism

As her birthday approached, my personal training client communicated that one of her long time goals was to be able to run a marathon at the age of fifty. Neither of us knew what we would have to overcome for her to accomplish this feat.

At the beginning, we began elevating her ability to perform simple balance and coordination exercises. We adjusted her program every four to six weeks to allow her body to progress in strength.

My client was able to complete her goal of running a marathon at the young age of fifty. However, the story did not end there. Shortly after, she began complaining of severe migraine type headaches that were so intense they would literally drop her to her knees. Upon medical examination, it was discovered that she was currently suffering from a bleeding aneurism. She was immediately rushed to surgery where everything went extremely well. Her doctor told her she should expect a full recovery and he thanked her. When she asked why he had thanked her, he replied, "Because I've never met anyone who had what you had and lived." He went on to comment that her incredible level of fitness was a definite factor in her ability to cope with what is, for most people, a fatal condition.

– Larry Husted, NASM Master Instructor, MS, NASM CPT, CES, PES

Chapter 7: The Plan

Make It Happen

You have goals; we have a plan! Making the most of your time and abilities is an important part of putting together the right exercise program. Resistance-training programs are designed to create a change. Whether it is to tone and firm your body, gain muscle mass, increase athletic performance, or reduce body fat, the use of resistance training is important. Get ready to learn some essentials to exercise success. We want to teach you how to control your programs to make sure you avoid any exercise plateaus or pitfalls. Throughout this chapter, you are going to learn about acute variables, how and when to progress yourself, and what type of training system can create the best results for you. Keep reading, because in a few short pages, you will embark on one of three exercise plans that will change your life!

Failing to plan is planning to fail.

–Alan Lakein

How the Body Changes

The body is governed by a few principles that can make reaching your goals difficult if you don't know how to trick your body into change. Luckily, we are going to teach you how to keep your body on its toes!

The first principle to understand is the Principle of Adaptation. One of the many unique qualities of the human body is its ability to adapt. The desire to create an adaptation is what drives most people to begin exercising. This principle is why our bodies change when we begin exercising. As we adapt to increased activity, our bodies become stronger and we



A Bit of Research: Planned program variations are essential because they enable continuous adaptations to occur during a training period and help prevent injury.

Tan B., *Manipulating Resistance Training Program Variables to Optimize Strength in Men: A Review.* J Strength Cond Res 1999; 13(3):289–304

increase muscle mass, which helps us perform the activities. In addition, our metabolism increases, helping us use more energy, which in turn helps us sustain the increased activity. Adaptation promotes change.

That being said, the next principle to understand is the Principle of Specificity. The body will adapt to the stress you place on it. We've already mentioned the SAID Principle, which stands for Specific Adaptation to Imposed Demand. When it comes to weight loss, this principle can be a friend or an enemy. Your body will adapt to the demands you place on it. For example, if you want to increase your strength and modify your exercise program to achieve that goal by lifting heavy loads, then the body will respond by giving you more strength. However, when you are trying to lose weight and start exercising for that purpose, you are trying to generate a caloric deficit. However, because of the SAID Principle, after a few weeks of exercising, your body becomes more efficient at performing the program and exercises and therefore, learns to conserve energy when doing it. That is, your body learns to burn fewer calories during the workout. This can make you really frustrated! You are working hard, but you can't lose weight! Because of this principle, you need to change your program every four weeks to keep your body from adapting to the demands and helping you avoid plateaus.

Acute Variables

Repetitions are the number of times an exercise is repeated within a set. For example, one chest-press motion equals one repetition.

Sets are a complete round of repetitions. Once you have completed the recommended amount of repetitions for each exercise, you will have completed a set. For example, twelve repetitions of a chest-press motion equals one set.

Intensity is how much resistance or weight (in pounds or kilograms) you are using for an exercise. For example, when you are performing the chest press, your recommended load might be ten-pound dumbbells.

Rest is the amount of time between exercise sets. For example, after your first set of chest presses, your rest will be thirty seconds before you start the next set.

Acute Variables Chart				
Program Design Acute Variables for Common Adaptations				
Adaptation	**Repetitions**	**Sets**	**Intensity**	**Rest Period**
Endurance	12–25	2–3	50% to 70% of your one-repetition maximum	0 seconds to 1.5 minutes
Strength	1–12	3–6	70% to 100% of your one-repetition maximum (the absolute most weight you can lift one time)	45 seconds to 5 minutes
Muscle Growth (Hypertrophy)	8–12	3–6	70% to 85% of your one-repetition maximum	45 seconds to 1.5 minutes
Power	1–10	3–6	Less than 10% of body weight	3 to 5 minutes

Modify Your Program for Success

First, while there are a number of different ways to modify your program to keep your body changing, we are going to start with understanding the acute variables of exercise. You can manipulate the acute variables (i.e., sets, repetitions, intensities, or rest intervals). These are the small things that can create a big difference in your program. Your acute variables help determine the outcome of your program. They are important components that specify how each exercise is to be performed. For instance, if you want to train for endurance, perform more repetitions at lower intensities (low resistance) and allow for short rest periods. If you want to train for strength, lift heavy loads for a few repetitions and increase your rest periods. As we mentioned earlier, sometimes the smallest changes can make a difference in the entire program outcome. Above, we included a chart of some common adaptations based on manipulating the acute variables. Weight loss can utilize a combination of all the acute variables listed; however, in the program that we discuss later in this chapter, we have chosen to stay within the variables for endurance and hypertrophy. We want to help build a stable foundation, so beginning programs will use the acute variables



Take a Tip from the Pros: Losing weight under a supervised exercise program of at least two sessions per week induced greater changes in weight than attempting to "go it alone."

Weight loss attempts without professional supervision may promote short-term losses, but those who seek a professional expert may lose more weight in the long run.

Niolai SP, et al. *Supervised exercise versus non-supervised exercise for reducing weight in obese adults.* J Sports Med Phys Fitness. 2009 Mar;49(1):85-90.



Online Resources: Use dotFIT online tools to optimize your fitness regimen at www.dotFIT.com.

for increasing endurance. As you progress, you will slowly move into the acute variables to increase muscle mass. This will help you burn more calories, increase your metabolism, and change your body composition.

Progress Yourself

One thing that most fitness professionals understand better than anyone else is how and when to progress a client. We want to let you in on the secret to progressions! Progression is inevitable if you are exercising correctly. When you progress, you are changing one or more components that will increase an exercise's difficulty; increasing the intensity (or load) you are using to perform an exercise or increasing the amount of days you are performing an exercise routine. Although you may not have access to a person who can tell you when you are ready for a progression, there are a few secrets and tricks from professionals that you can use. First, it's time to progress if the exercise begins to feel easy. When you begin an exercise, it may feel hard. You'll begin to burn within the first few repetitions, and you may notice that you're shaking a little. When you are ready to enhance the exercise, you may not feel these sensations, or you may feel them only after you have completed two or more sets. If this occurs — progress yourself! Second, you can increase your intensity (load) during an exercise if, at the end of the recommended sets and repetitions, you do not feel tired. If you feel like you can pump out a few more reps, you are ready to progress the weight. Progress in increments of two-and-a-half to five pounds at a time. Third, if you gain energy and feel less tired and fatigued at the end of a week, you can add a training day. There is one caveat, however, rest for forty-eight hours between your resistance-training sessions. Also, if you add a cardio-training session, do not perform your high-level interval training sessions (listed as day 3 in the cardio programs) two days in a row. Your body needs time to repair and recover. This is when change happens, so allow your body time to rest!

Use the Right Training System for Your Goals

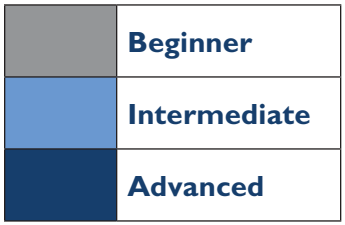
There are a few different systems of training that professionals use to gain results with clients. Some of the most popular are the super-set, split-routine, single-set, and circuit-training systems. Each system has merit; however, the resistance-training systems were created for different purposes. We tend to use a very specific system based on the most common goal sought by clients—fat loss. For this goal, we have found that circuit training is the most time-efficient and effective system. Circuit training requires you to perform one exercise right after another with minimal rest. If weight loss is your goal, then you want to burn the most calories you can while exercising. Circuit training enhances your caloric burn while also increasing your strength and stamina.

Types of Resistance-Training Systems

Type	Definition
Single-set	Performing one set of each exercise.
Split-routine	A routine that trains different body parts on separate days.
Super-set	Performing a couple of exercises in rapid succession.
Circuit-training	Performing a series of exercises, one after another, with minimal rest.

Time to Get Moving!

We can't wait to help you see results, so, here we go! The programs listed on the following pages are broken down into beginner, intermediate, and advanced exercising levels. Follow the twelve-week program for each level, because every four weeks, we change your program so that you can continue to experience amazing results. You can start at the level that best suits you.



Each level easily transitions to another level. With this system, you can expand the program from twelve weeks to nine months! You can also watch videos online to show you the proper way to perform all our recommended exercises.

The Levels

- **Beginner:** We recommend those new to exercise or those who have not exercised for a few months to start in our beginner level. In this level, the exercises will require you to choose lighter weights or resistances. Exercises in this level were chosen to help you build a strong foundation.
- **Intermediate:** For active individuals who play recreational sports or have been in the gym training for the last three to six months, we recommend the intermediate level. Within this level, exercises will allow you to choose moderate weights or resistance and require a higher level of strength and skill than in the beginner-level exercises.
- **Advanced:** For high-level recreational athletes or individuals who have been working out in the gym for more than six months, we recommend the advanced level. The advanced level exercises will allow you to utilize heavier weights or resistances and create a greater physical demand overall.

Please remember to start slowly and allow yourself time to advance in exercises. Pushing yourself too soon may lead to unwanted injuries. You will advance quickly as you move through your program, so take it easy when you start! Make the right move—and make it now.

Programming: Planning a Nine-Month Program

Months:	1	2	3	4	5	6	7	8	9						
Beginner	x	x	x												
Start Month 1 at the very beginning. Move from Beginner to Intermediate to Advanced programs.				x	x	x									
							x	x	x						
Months:				1	2	3	4	5	6	7	8	9			
Intermediate				x	x	x									
Start with the Intermediate level and move to Advanced. After Advanced, reduce intensity to the Beginner level to allow your body time to recover and avoid overtraining.							x	x	x						
										x	x	x			
Months:							1	2	3	4	5	6	7	8	9
Advanced							x	x	x						
Start with the Advanced level and move to the Beginner level. Reduce intensity to allow your body time to recover and avoid overtraining. Then move on to the Intermediate level, to help increase results. Keep moving in and out of levels to optimize your program!										x	x	x			
													x	x	x

Beginner

Weeks 1-4

Resistance Training

Use the box at right to determine how many sets and repetitions you should perform for each exercise. Perform Day 1 and Day 2 with a minimum of forty-eight hours between resistance-training sessions to give your body time to recover. Perform this two-day-per week routine for the next four weeks (Weeks 1–4).

Weeks 1–4		Two-Day Program	
Core			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
2	15	Slow	0 seconds
Balance			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
2	2	20-second hold	60 seconds
Resistance Training			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
2	15	Slow	60 seconds at end

Notes: Perform core and balance exercises in a circuit. Rest 60 seconds after balance exercise is completed. Perform the resistance-training exercises in a circuit, moving quickly from one exercise to the next with minimal rest. Rest 60 seconds at the end of the circuit.

Day 1 & Day 2

1. Core
Floor Arm/Leg Raise



2. Core
Floor Bridging



3. Balance
Single-Leg Balance



– Rest 60 seconds and repeat –

1. Chest
Push-Up



2. Back
Ball Dumbbell Row



3. Shoulders
Ball Combo #1



4. Legs
Ball Squat



– Rest 60 seconds and repeat –



Progressions

If you feel you want to add a day to your resistance training routine, you can! Simply perform the routine three days a week with forty-eight hours between the training days. Be careful not to overdo it in the beginning!

Beginner



Weeks 1-4

Cardiovascular Training

Weeks 1–4		Two-Day Program	
Zones:	Low	Medium	Peak

Your cardio-training program can be completed on the same day as your resistance-training program, or you can do them on different days. This will depend on your time availability and energy levels. Using your specific heart rate zones, you will correlate Zone 1 with the yellow boxes, Zone 2 with the green boxes, and Zone 3 with the red boxes. For the first four weeks, you will be working on building an aerobic base (building stamina) and will be training only in Zone 1. Follow the one-day program listed below, using any cardio-training equipment or method you prefer. Simply keep your individual heart rate within the recommended zones. Refer to the zone chart to determine what your heart rate zones are.

Step 1: Determine your maximum heart rate by subtracting your age from the number 220. Example: (220 minus age).

Maximum Heart Rate: _____

Step 2: Using your heart rate maximum (gathered in Step 1), multiply that number by the following figures to determine your heart rate training zones.

Zone 1: Maximum heart rate × .65 (.60 if you are on beta blockers) = _____

Maximum heart rate × .75 (.70 if you are on beta blockers) = _____

Zone 2: Maximum heart rate × .80 = _____

Maximum heart rate × .85 = _____

Zone 3: Maximum heart rate × .86 = _____

Maximum heart rate × .90 = _____

Day 1

20 minutes	
Duration:	Perform your cardio training for **20** minutes, staying within your yellow heart rate zone (Zone 1).

Day 2

30 minutes	
Duration:	Perform your cardio training for **30** minutes, staying within your yellow heart rate zone (Zone 1).



Take a Tip from the Pros: When performing your cardio training, we strongly recommend using a heart-rate monitor. This helps keep you aware of how hard you are working and is the most efficient way of doing cardiovascular exercise.



Take a Tip from the Pros: If you want to change things a bit, you can choose a different exercise for each body part. Simply follow the color-coding system and choose from the gray exercise groups (listed for beginners).

Each program has a few exercises to choose from. So go ahead, be creative.

Beginner

Weeks 5–8

Resistance Training

Use the box at right to determine how many sets and repetitions you should perform for each exercise. Perform Day 1 and Day 2 with a minimum of forty-eight hours between resistance-training sessions to give your body time to recover. Perform this two-day-per week routine for the next four weeks (Weeks 5–8).

Weeks 5–8		Two-Day Program	
Core			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	12	Slow	0 seconds
Balance			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	12	Slow	60 seconds
Resistance Training			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	12	Slow	60 seconds at end

Notes: Perform core and balance exercises in a circuit. Rest 60 seconds after balance exercise is completed. Perform the resistance-training exercises in a circuit, moving quickly from one exercise to the next with minimal rest. Rest 60 seconds at the end of the circuit.

Day 1 & Day 2

1. Core
Cobra



2. Core
Plank



3. Balance
Single-Leg Balance with Reach



– Rest 60 seconds and repeat –
Once you have completed core and balance exercises, move on to your resistance-training program, listed on the right.

1. Chest
Ball Dumbbell Chest Press



2. Back
Standing Dumbbell Cobra



3. Shoulders
Ball Combo #2



4. Biceps
Single-Leg Biceps Curls



5. Triceps
Face-Up Ball Triceps Extension



6. Legs
Step-Up to Balance



– Rest 60 seconds and repeat –

Beginner

Weeks 5–8

Weeks 5–8		Two-Day Program	
Zones:	Low	Medium	Peak

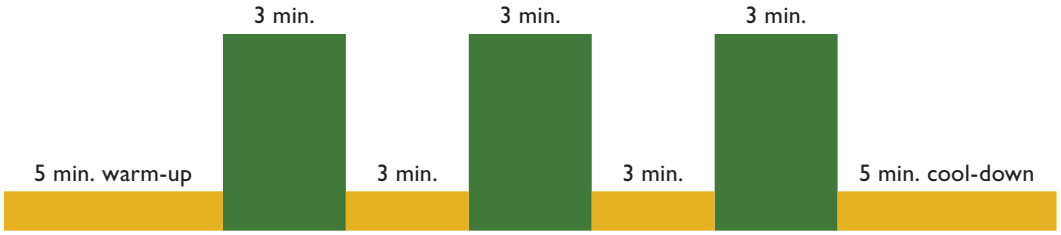
Cardiovascular Training

Your cardio-training program can be completed on the same day as your resistance-training program, or you can do your cardio and resistance training on different days. This will depend on your time availability and energy levels. Using your specific heart rate zones, you will correlate Zone 1 with the yellow boxes, Zone 2 with the green boxes, and Zone 3 with the red boxes. For the next four weeks, you will be working on building an aerobic base (building stamina) and making your heart more efficient by performing some interval training. You will be training only in Zones 1 and 2. Follow the two-day program listed below using any cardio-training equipment or method you prefer. Simply keep your individual heart rate within the recommended zones. Refer to the zone chart to determine what your heart rate zones are.

Day 1

30 minutes	
Duration:	Perform your cardio training for 30 minutes, staying within your yellow heart rate zone (Zone 1).

Day 2



Duration:	Perform your cardio training for 25 minutes, moving in and out of the zones as shown.



Take a Tip from the Pros: Interval training burns more calories and increases your aerobic base by allowing you to work harder and still burn a high amount of fat and carbohydrates for energy.

When performing your intervals, work to keep your heart within your zones by increasing the speed or resistance of the cardio machine. If you are not on a machine, some simple ways of increasing your heart rate are pumping your arms overhead or performing biceps curls. Some simple ways to decrease your heart rate are slow, deep breaths, reducing movement in your arms, or slowing yourself down.



Take a Tip from the Pros: If you want to change things a bit, you can choose a different exercise for each body part. Simply follow the color-coding system and choose from the gray exercise groups (listed for beginners).

Each exercise has a few exercises to choose from. So go ahead, be creative.

Beginner

Weeks 9–12

Resistance Training

Use the box at right to determine how many sets and repetitions you should perform for each exercise. Perform Day 1 and Day 2 with a minimum of forty-eight hours between resistance-training sessions to give your body time to recover. Perform this two-day-per week routine for the next four weeks (Weeks 9–12).

Weeks 9–12		Two-Day Program	
Core			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	12	Slow	0 seconds
Balance			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	12	Slow	60 seconds
Resistance Training			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	15	Slow	60 seconds at end

Notes: Perform core and balance exercises in a circuit. Rest 60 seconds after balance exercises are completed. Perform the resistance training exercises in a circuit, moving quickly from one exercise to the next with minimal rest. Rest 60 seconds at the end of the circuit.

Day 1 & Day 2

1. Core
Bridge (on ball)



2. Core
Plank (with leg extension)



3. Balance
Single-leg Lift and Chop



– Rest 60 seconds and repeat –
Once you have completed core and balance exercises, move on to your resistance training program, listed on the right.

1. Chest
Ball Dumbbell Chest Press (alternating arms)



2. Back
Standing Dumbbell Cobra (alternating arms)



3. Shoulders
Ball Combo #1



4. Biceps
Single-Leg Barbell Biceps Curls



5. Triceps
Face-Down Ball Triceps Extension



6. Legs
Single-Leg Romanian Deadlift



– Rest 60 seconds and repeat –

Beginner



Weeks 9–12

Weeks 9–12		Two-Day Program	
Zones:	Low	Medium	Peak

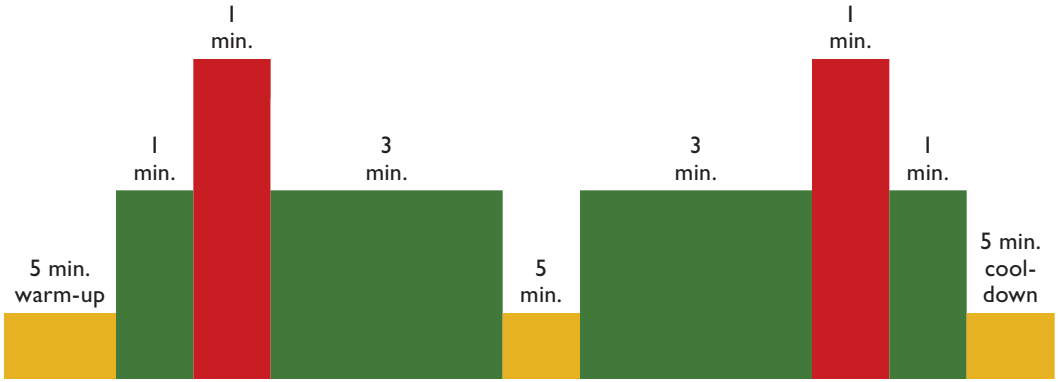
Cardiovascular Training

Your cardio-training program can be completed on the same day as your resistance-training program or you can do your cardio and resistance training on different days. This will depend on your time availability and energy levels. Using your specific heart rate zones, you will correlate Zone 1 with the yellow boxes, Zone 2 with the green boxes, and Zone 3 with the red boxes. For the next four weeks, you will be working on increasing your aerobic base and making your heart more efficient by performing some interval training. You will be training in all three zones, increasing the calories burned, and keeping your body from adapting to the exercise (this will help you avoid a plateau). Follow the two-day program listed below using any cardio-training equipment or method you prefer. Simply keep your individual heart rate within the recommended zones. Refer to the zone chart to determine what your heart rate zones are.

Day 1

30 minutes	
Duration:	Perform your cardio training for 30 minutes, staying within your yellow heart rate zone (Zone 1).

Day 2



Duration:	Perform your cardio training for 25 minutes, moving into and out of the zones shown above.



Take a Tip from the Pros: Don't worry if it takes longer than the allotted time to get into the red heart rate zone (Zone 3).

In the beginning, you may not be able to get your heart rate that high as quickly. Stick with the program and drop your heart rate back into Zone 2 after one minute. You can do this by reducing your speed, the incline, or your arm movements.

BEGINNER Twelve Week At-A-Glance Program												
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
	Sets: 2 Reps: 12	Sets: 2 Reps: 12	Sets: 2 Reps: 12	Sets: 2 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 15	Sets: 3 Reps: 15	Sets: 3 Reps: 15	Sets: 3 Reps: 15
Core	Floor Arm/ Leg Raise	Floor Arm/ Leg Raise	Floor Arm/ Leg Raise	Floor Arm/ Leg Raise	Cobra	Cobra	Cobra	Cobra	Plank (one leg off ground)	Plank (one leg off ground)	Plank (one leg off ground)	Plank (one leg off ground)
Core	Floor Bridge	Floor Bridge	Floor Bridge	Floor Bridge	Plank	Plank	Plank	Plank	Bridge on Ball	Bridge on Ball	Bridge on Ball	Bridge on Ball
	Sets: 2 Reps: 20 second hold	Sets: 2 Reps: 20 second hold	Sets: 2 Reps: 20 second hold	Sets: 2 Reps: 20 second hold	Sets: 2 Reps: 20 second hold/12 leg reaches	Sets: 2 Reps: 20 second hold/12 leg reaches	Sets: 2 Reps: 20 second hold/12 leg reaches	Sets: 2 Reps: 20 second hold/12 leg reaches	Sets: 2 Reps:12	Sets: 2 Reps:12	Sets: 2 Reps:12	Sets: 2 Reps:12
Balance	Single-Leg Balance	Single-Leg Balance	Single-Leg Balance	Single-Leg Balance	Single-Leg Balance with Reach	Single-Leg Balance with Reach	Single-Leg Balance with Reach	Single-Leg Balance with Reach	Single-Leg Lift and Chop	Single-Leg Lift and Chop	Single-Leg Lift and Chop	Single-Leg Lift and Chop
	Sets: 2 Reps: 12	Sets: 2 Reps: 12	Sets: 2 Reps: 12	Sets: 2 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 15	Sets: 3 Reps: 15	Sets: 3 Reps: 15	Sets: 3 Reps: 15
Chest	Push-Up	Push-Up	Push-Up	Push-Up	Ball Dumbbell Chest Press	Ball Dumbbell Chest Press	Ball Dumbbell Chest Press	Ball Dumbbell Chest Press	Ball Dumbbell Chest Press (alternate arms)**	Ball Dumbbell Chest Press (alternate arms)**	Ball Dumbbell Chest Press (alternate arms)**	Ball Dumbbell Chest Press (alternate arms)**
Back	Ball Dumbbell Row	Ball Dumbbell Row	Ball Dumbbell Row	Ball Dumbbell Row	Standing Dumbbell Cobra	Standing Dumbbell Cobra	Standing Dumbbell Cobra	Standing Dumbbell Cobra	Standing Dumbbell Cobra (alternate arms)**	Standing Dumbbell Cobra (alternate arms)**	Standing Dumbbell Cobra (alternate arms)**	Standing Dumbbell Cobra (alternate arms)**
Shoulders	Ball Combo #1	Ball Combo #1	Ball Combo #1	Ball Combo #1	Ball Combo #2	Ball Combo #2	Ball Combo #2	Ball Combo #2	Ball Combo #1	Ball Combo #1	Ball Combo #1	Ball Combo #1
Biceps	*Optional	*Optional	*Optional	*Optional	Single-Leg Biceps Curls	Single-Leg Biceps Curls	Single-Leg Biceps Curls	Single-Leg Biceps Curls	Single-Leg Barbell Curls	Single-Leg Barbell Curls	Single-Leg Barbell Curls	Single-Leg Barbell Curls
Triceps	*Optional	*Optional	*Optional	*Optional	Face-Up Ball Triceps Extension	Face-Up Ball Triceps Extension	Face-Up Ball Triceps Extension	Face-Up Ball Triceps Extension	Face-Down Ball Triceps Extension	Face-Down Ball Triceps Extension	Face-Down Ball Triceps Extension	Face-Down Ball Triceps Extension
Legs	Ball Squat	Ball Squat	Ball Squat	Ball Squat	Step-Up to Balance	Step-Up to Balance	Step-Up to Balance	Step-Up to Balance	Single-Leg Romanian Deadlift	Single-Leg Romanian Deadlift	Single-Leg Romanian Deadlift	Single-Leg Romanian Deadlift
Cardio	Day 1 20 min. LOW Day 2 30 minutes	Day 1 20 min. LOW Day 2 30 minutes	Day 1 20 min. LOW Day 2 30 minutes	Day 1 20 min. LOW Day 2 30 minutes	Day 1 30 min. LOW Day 2 INTERVALS 25 minutes	Day 1 30 min. LOW Day 2 INTERVALS 25 minutes	Day 1 30 min. LOW Day 2 INTERVALS 25 minutes	Day 1 30 min. LOW Day 2 INTERVALS 25 minutes	Day 1 30 min. LOW Day 2 INTERVALS 25 minutes	Day 1 30 min. LOW Day 2 INTERVALS 25 minutes	Day 1 30 min. LOW Day 2 INTERVALS 25 minutes	Day 1 30 min. LOW Day 2 INTERVALS 25 minutes
	*You can choose from any of the biceps or triceps exercises listed under Beginner.	*You can choose from any of the biceps or triceps exercises listed under Beginner.	*You can choose from any of the biceps or triceps exercises listed under Beginner.	*You can choose from any of the biceps or triceps exercises listed under Beginner.					** View Progressions for exercise listed	** View Progressions for exercise listed	** View Progressions for exercise listed	** View Progressions for exercise listed

Intermediate

Weeks 1-4

Resistance Training

Use the box at right to determine how many sets and repetitions you should perform for each exercise. Make sure you allow for a minimum of forty-eight hours between resistance-training sessions to give your body time to recover. Perform this three-day-per week routine for the first four weeks (Weeks 1–4).

Weeks 1–4		Three-Day Program	
Core			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	12	Moderate	0 seconds
Balance			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	12	Moderate	60 seconds
Resistance Training			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	12	Moderate	60 seconds at end
Notes: Perform core and balance exercises in a circuit. Rest 60 seconds after balance exercise is completed. Perform the resistance-training exercises in a circuit, moving quickly from one exercise to the next with minimal rest. Rest 60 seconds at the end of the circuit.			

Day 1 Day 2 Day 3

1. Core
Plank



2. Core
Ball Crunch



3. Balance
Single-Leg Squat



– Rest 60 seconds and repeat –
Once you have completed core and balance exercises, move on to your resistance training program, listed on the right.

1. Chest
Standing Cable Chest Press



2. Back
Standing Dumbbell Row



3. Shoulders
Standing Scaption



4. Biceps
Seated Biceps Curl



5. Triceps
Face-Up Barbell Triceps Extension



6. Legs
Dumbbell Lunge



– Rest 60 seconds and repeat –



Take a Tip from the Pros: If you want to change things a bit, you can choose a different exercise for each body part. Simply follow the color-coding system and choose from the light blue exercise groups (listed for Intermediate exercisers).

Each exercise has a few exercises to choose from. So go ahead, be creative!

Intermediate

Weeks 1-4

Weeks 1–4		Three-Day Program	
Zones:	Low	Medium	Peak

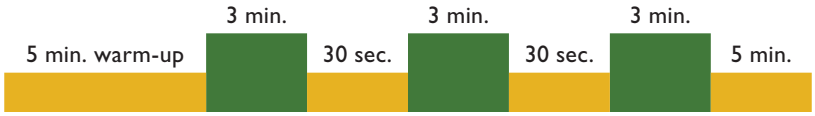
Cardiovascular Training

Your cardio-training program can be completed on the same day as your resistance-training program, or you can do your cardio and resistance training on different days. This will depend on your time availability and energy levels. Using your specific heart rate zones, you will correlate Zone 1 with the yellow boxes, Zone 2 with the green boxes, and Zone 3 with the red boxes. For the next four weeks, you will be working on increasing your aerobic base and making your heart more efficient by performing some interval training. You will be training in all three zones, increasing the calories burned, and keeping your body from adapting to the exercise (this will help you avoid a plateau). Follow the three-day program listed below using any cardio-training equipment or method you prefer. Simply keep your individual heart rate within the recommended zones. Refer to the zone chart to determine what your heart rate zones are.

Day 1

30 minutes	
Duration:	Perform your cardio training for 30 minutes, staying within your yellow heart rate zone (Zone 1).

Day 2



Duration:	Perform your cardio training for 20 minutes, moving into and out of the zones shown above.

Day 3



Duration:	Perform your cardio training for 20 minutes, moving into and out of the zones shown above.

Intermediate

Weeks 5–8

Resistance Training

Use the box at right to determine how many sets and repetitions you should perform for each exercise. Make sure you leave a minimum of forty-eight hours between resistance training sessions to give your body time to recover. Perform this three-day-per week routine for the next four weeks (Weeks 5–8).

Weeks 5–8		Three-Day Program	
Core			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	12	Moderate	0 seconds
Balance			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	12	Moderate	60 seconds
Resistance Training			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	12	Moderate	60 seconds at end

Notes: Perform core and balance exercises in a circuit. Rest 60 seconds after balance exercise is completed. Perform the resistance-training exercises in a circuit, moving quickly from one exercise to the next with minimal rest. Rest 60 seconds at the end of the circuit.



Take a Tip from the Pros: Training three days a week will increase lean muscle mass, helping turn your body into a fat-burning machine!

Day 1 Day 2 Day 3

1. Core
Ball Crunch



2. Core
Reverse Crunch



3. Balance
Step-Up to Balance



– Rest 60 seconds and repeat –
Once you have completed core and balance exercises, move on to your resistance-training program, listed on the right.

1. Chest
Flat Dumbbell Chest Press



2. Back
Standing Cable Extension



3. Shoulders
Standing Diagonal Lift



4. Biceps
Seated Biceps Hammer Curl



5. Triceps
Standing Cable Push-Downs



6. Legs
Dumbbell Lunge



– Rest 60 seconds and repeat –

Intermediate

Weeks 5–8

Weeks 5–8		Three-Day Program	
Zones:	Low	Medium	Peak

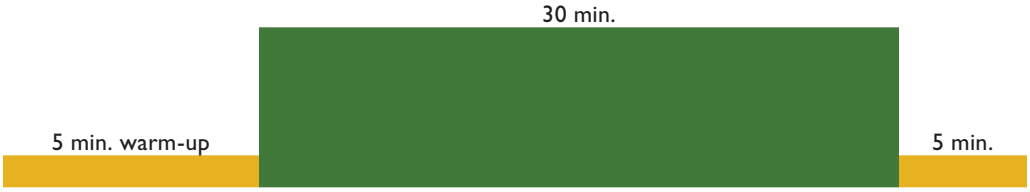
Cardiovascular Training

Your cardio-training program can be completed on the same day as your resistance-training program, or you can do your cardio and resistance training on different days. This will depend on your time availability and energy levels. For the next four weeks, you will be working on increasing your endurance and aerobic capacity, as well as making your heart more efficient by performing some interval training. You will be training in all three zones, increasing the calories burned, and keeping your body from adapting to the exercise (this will help you avoid a plateau). Follow the three-day program listed below using any cardio-training equipment or method you prefer. Simply keep your individual heart rate within the recommended zones. Refer to the zone chart to determine what your heart rate zones are.

Day 1

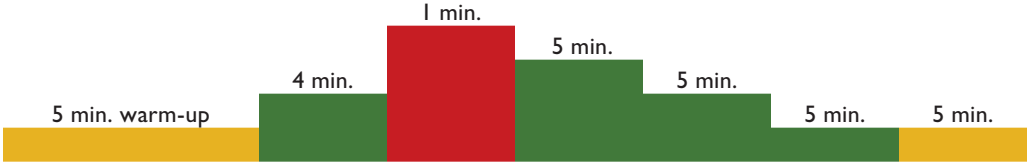
30 minutes	
Duration:	30 min.

Day 2



Duration:	Perform your cardio training for **40** minutes, moving into and out of the zones shown above.

Day 3



Duration:	Perform your cardio training for **30** minutes, moving into and out of the zones shown above. Perform the interval rotation twice from start to finish. When in the green zone, gradually lower your heart rate from the top to the bottom of the zone.

Intermediate

Weeks 9–12

Resistance Training

Use the box at right to determine how many sets and repetitions you should perform for each exercise. Increase your resistance as you see fit. Perform this three-day-per week routine for the next four weeks (Weeks 9–12).

Weeks 9–12		Three-Day Program	
Core			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	10	Moderate	0 seconds
Balance			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	10	Moderate	60 seconds
Resistance Training			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	10	Moderate	60 seconds at end
Notes: Perform core and balance exercises in a circuit. Rest 60 seconds after balance exercise is completed. Perform the resistance training exercises in a circuit, moving quickly from one exercise to the next with minimal rest. Rest 60 seconds at the end of the circuit.			

Day 1 Day 2 Day 3

1. Core
Ball Crunch with Rotation



2. Core
Reverse Crunch with Legs Extended



3. Balance
Lunge to Balance



– Rest 60 seconds and repeat –
Once you have completed core and balance exercises, move on to your resistance training program, listed on the right.

1. Chest
Alternating Arm Flat Dumbbell Press



2. Back
Alternating Arm Standing Dumbbell Row



3. Shoulders
Alternating Arm Standing Dumbbell Scaption



4. Biceps
Alternating Arm Seated Dumbbell Curl



5. Triceps
Standing Cable Push-Downs



6. Legs
Leg Press



– Rest 60 seconds and repeat –



Take a Tip from the Pros: In the last four weeks, we want to create a bit more of a challenge. Therefore, we have added a few exercise progressions into your program.

You can easily exchange exercises in your program. Simply choose exercises within your level (light blue) or add some exercise progressions in areas where you feel you need more of a challenge.

Intermediate



Weeks 9–12

Weeks 9–12		Three-Day Program	
Zones:	Low	Medium	Peak

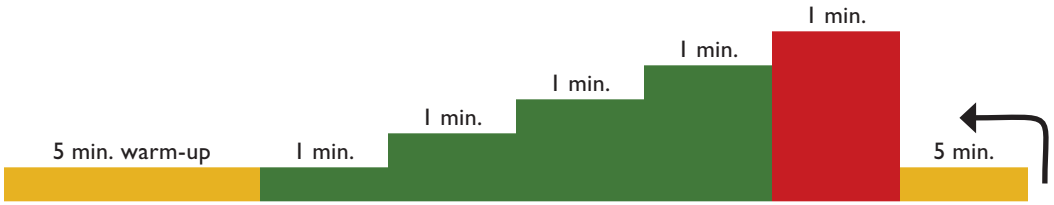
Cardiovascular Training

Your cardio-training program can be completed on the same day as your resistance-training program, or you can do your cardio and resistance training on different days. This will depend on your time availability and energy levels. For the next four weeks, you will be working on increasing your leg strength and aerobic capacity, as well as making your heart more efficient by performing some interval training. You will be training in all three zones, increasing the calories burned, and keeping your body from adapting to the exercise (this will help you avoid a plateau). Follow the three-day program listed below using any cardio-training equipment or method you prefer. Simply keep your individual heart rate within the recommended zones. Refer to the zone chart to determine what your heart rate zones are.

Day 1

30 minutes	
Duration:	Perform your cardio training for **30** minutes, staying within your yellow heart rate zone (Zone 1).

Day 2 ***Perform rotation twice***



Duration:	Perform your cardio training for **28** minutes, moving into and out of the zones shown above. Perform the interval rotation twice from start to finish. When in the green zone, gradually raise your heart rate from the bottom to the top of the zone.

Day 3 ***Perform rotation twice***



Duration:	Perform your cardio training for **30** minutes, moving into and out of the zones shown above. Perform the interval rotation twice from start to finish. When in the green zone, gradually raise your heart rate from the bottom to the top of the zone.

INTERMEDIATE Twelve Week At-A-Glance Program												
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10
Core	Plank	Plank	Plank	Plank	Ball Crunch	Ball Crunch	Ball Crunch	Ball Crunch	Ball Crunch with Rotation	Ball Crunch with Rotation	Ball Crunch with Rotation	Ball Crunch with Rotation
Core	Ball Crunch	Ball Crunch	Ball Crunch	Ball Crunch	Reverse Crunch	Reverse Crunch	Reverse Crunch	Reverse Crunch	Reverse Crunch with Legs Extended	Reverse Crunch with Legs Extended	Reverse Crunch with Legs Extended	Reverse Crunch with Legs Extended
	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10
Balance	Single-Leg Squat	Single-Leg Squat	Single-Leg Squat	Single-Leg Squat	Step-Up to Balance	Step-Up to Balance	Step-Up to Balance	Step-Up to Balance	Lunge to Balance	Lunge to Balance	Lunge to Balance	Lunge to Balance
	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 12	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10
Chest	Standing Cable Chest Press	Standing Cable Chest Press	Standing Cable Chest Press	Standing Cable Chest Press	Flat Dumbbell Chest Press	Flat Dumbbell Chest Press	Flat Dumbbell Chest Press	Flat Dumbbell Chest Press	Alternating Arm Flat Dumbbell Press**	Alternating Arm Flat Dumbbell Press**	Alternating Arm Flat Dumbbell Press**	Alternating Arm Flat Dumbbell Press**
Back	Standing Dumbbell Row	Standing Dumbbell Row	Standing Dumbbell Row	Standing Dumbbell Row	Standing Cable Extension	Standing Cable Extension	Standing Cable Extension	Standing Cable Extension	Alternating Arm Standing Dumbbell Row**	Alternating Arm Standing Dumbbell Row**	Alternating Arm Standing Dumbbell Row**	Alternating Arm Standing Dumbbell Row**
Shoulders	Standing Scaption	Standing Scaption	Standing Scaption	Standing Scaption	Standing Diagonal Lift	Standing Diagonal Lift	Standing Diagonal Lift	Standing Diagonal Lift	Alternating Arm Standing Dumbbell Scaption**	Alternating Arm Standing Dumbbell Scaption**	Alternating Arm Standing Dumbbell Scaption**	Alternating Arm Standing Dumbbell Scaption**
Biceps	Seated Biceps Curl	Seated Biceps Curl	Seated Biceps Curl	Seated Biceps Curl	Seated Biceps Hammer Curl	Seated Biceps Hammer Curl	Seated Biceps Hammer Curl	Seated Biceps Hammer Curl	Alternating Arm Seated Dumbbell Curl**	Alternating Arm Seated Dumbbell Curl**	Alternating Arm Seated Dumbbell Curl**	Alternating Arm Seated Dumbbell Curl**
Triceps	Face-Up Barbell Extension	Face-Up Barbell Extension	Face-Up Barbell Extension	Face-Up Barbell Extension	Standing Cable Push-Downs	Standing Cable Push-Downs	Standing Cable Push-Downs	Standing Cable Push-Downs	Standing Cable Push-Downs	Standing Cable Push-Downs	Standing Cable Push-Downs	Standing Cable Push-Downs
Legs	Dumbbell Lunge	Dumbbell Lunge	Dumbbell Lunge	Dumbbell Lunge	Dumbbell Lunge	Dumbbell Lunge	Dumbbell Lunge	Dumbbell Lunge	Leg Press	Leg Press	Leg Press	Leg Press
Cardio	Day 1 30 min. LOW Day 2 20 min. INTERVALS Day 3 20 min. INTERVALS	Day 1 30 min. LOW Day 2 20 min. INTERVALS Day 3 20 min. INTERVALS	Day 1 30 min. LOW Day 2 20 min. INTERVALS Day 3 20 min. INTERVALS	Day 1 30 min. LOW Day 2 20 min. INTERVALS Day 3 20 min. INTERVALS	Day 1 30 min. LOW Day 2 40 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 30 min. LOW Day 2 40 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 30 min. LOW Day 2 40 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 30 min. LOW Day 2 40 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 30 min. LOW Day 2 28 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 30 min. LOW Day 2 28 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 30 min. LOW Day 2 28 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 30 min. LOW Day 2 28 min. INTERVALS Day 3 30 min. INTERVALS
									** View Progressions for exercise listed	** View Progressions for exercise listed	** View Progressions for exercise listed	** View Progressions for exercise listed



Take a Tip from the Pros: If you want to change things a bit, you can choose a different exercise for each body part. Simply follow the color-coding system and choose from the royal blue exercise groups (listed for advanced exercisers).

Each exercise has a few exercises to choose from. So go ahead, be creative!

Advanced

Weeks 1-4

Resistance Training

Use the box at right to determine how many sets and repetitions you should perform for each exercise. Make sure you allow a minimum of forty-eight hours between resistance-training sessions to give your body time to recover. Perform this three-day-per week routine for the first four weeks (Weeks 1–4).

Weeks 1–4		Three-Day Program	
Core			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	10	Controlled	0 seconds
Balance			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	8	Controlled	60 seconds
Resistance Training			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	12	Controlled	60 seconds at end

Notes: Perform core and balance exercises in a circuit. Rest 60 seconds after balance exercise is completed. Perform the resistance-training exercises in a circuit, moving quickly from one exercise to the next with minimal rest. Rest 60 seconds at the end of the circuit.

Day 1 Day 2 Day 3

1. Core
Cable or Tubing Rotation



2. Core
Cable or Tubing Chop



3. Balance
Multi-Planar Hop to Balance



– Rest 60 seconds and repeat –
Once you have completed core and balance exercises, move on to your resistance-training program, listed on the right.

1. Chest
Incline Dumbbell Chest Press



2. Back
Seated Lat Pulldown



3. Shoulders
Seated Shoulder Press



4. Biceps
Seated Biceps Curl



5. Triceps
Standing Cable Push-Down



6. Legs
Box Jumps



– Rest 60 seconds and repeat –

Advanced

Weeks 1–4		Three-Day Program	
Zones:	Low	Medium	Peak

Weeks 1-4

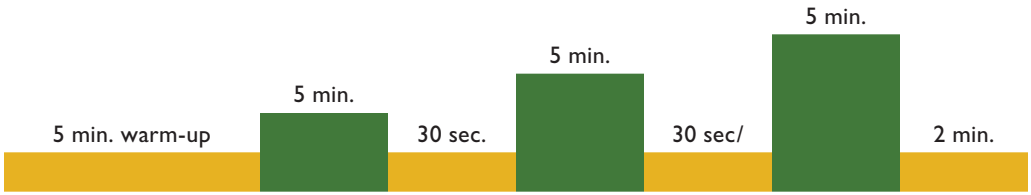
Cardiovascular Training

Your cardio-training program can be completed on the same day as your resistance-training program, or you can do your cardio and resistance training on different days. This will depend on your time availability and energy levels. For the next four weeks, you will be working on increasing your anaerobic threshold and making your heart more efficient by performing some interval training. You will be training in all three zones, increasing the calories burned, and keeping your body from adapting to the exercise (this will help you avoid a plateau). Follow the three-day program listed below using any cardio-training equipment or method you prefer. Simply keep your individual heart rate within the recommended zones. Refer to the zone chart to determine what your heart rate zones are.

Day 1

30 minutes	
Duration:	Perform your cardio training for **30** minutes, staying within your yellow heart rate zone (Zone 1).

Day 2



Duration:	Perform your cardio training for **23** minutes, moving into and out of the zones shown above. When in the green zone, gradually raise your heart rate from the bottom to the top of the zone.

Day 3

Perform rotation twice



Duration:	Perform your cardio training for **30** minutes, moving into and out of the zones shown above. Perform the interval rotation twice from start to finish.

Advanced

Weeks 5–8

Resistance Training

Use the box at right to determine how many sets and repetitions you should perform for each exercise. Make sure you leave a minimum of forty-eight hours between resistance training sessions to give your body time to recover. Perform this three-day-per week routine for the next four weeks (Weeks 5–8).

Weeks 5–8		Three-Day Program	
Core			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	10	Controlled	0 seconds
Balance			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	8	Controlled	60 seconds
Resistance Training			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	12	Controlled	60 seconds at end

Notes: Perform core and balance exercises in a circuit. Rest 60 seconds after balance exercise is completed. Perform the resistance-training exercises in a circuit, moving quickly from one exercise to the next with minimal rest. Rest 60 seconds at the end of the circuit.

Day 1 Day 2 Day 3

1. Core
Cable or Tubing Rotation



2. Core
Cable or Tubing Lift



3. Balance
Single-Leg Box Hop-Up to Balance



– Rest 60 seconds and repeat –
Once you have completed core and balance exercises, move on to your resistance training program, listed on the right.

1. Chest
Chest Press Machine



2. Back
Pull-up



3. Shoulders
Standing Shoulder Press



4. Biceps
Seated Biceps Hammer Curl



5. Triceps
Face-Up Barbell Triceps Extension



6. Legs
Squat Jumps



– Rest 60 seconds and repeat –

Advanced



Weeks 5–8

Weeks 5–8		Three-Day Program	
Zones:	Low	Medium	Peak

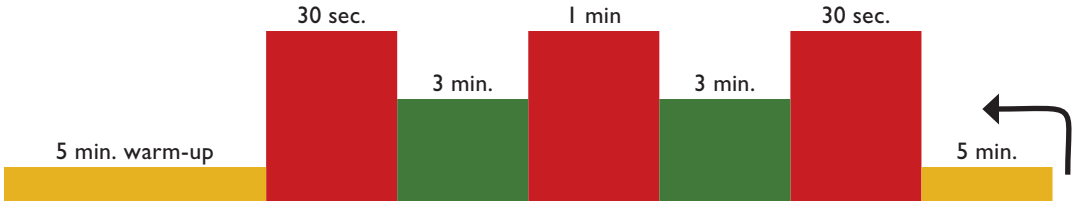
Cardiovascular Training

Your cardio-training program can be completed on the same day as your resistance-training program, or you can do your cardio and resistance training on different days. This will depend on your time availability and energy levels. For the next four weeks, you will be working on increasing your endurance and aerobic capacity, as well as making your heart more efficient by performing some interval training. You will be training in all three zones, increasing the calories burned, and keeping your body from adapting to the exercise (this will help you avoid a plateau). Follow the three-day program listed below using any cardio-training equipment or method you prefer. Simply keep your individual heart rate within the recommended zones. Refer to the zone chart to determine what your heart rate zones are.

Day 1

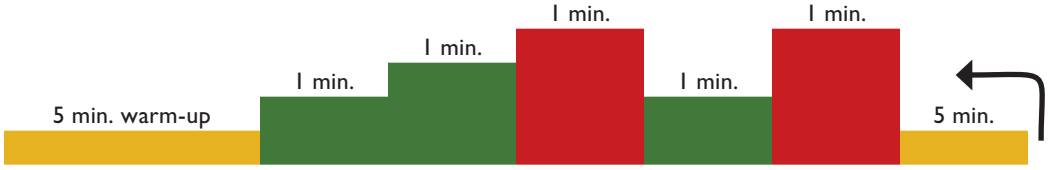
30 minutes	
Duration:	Perform your cardio training for **30** minutes, staying within your yellow heart rate zone (Zone 1).

Day 2 ***Perform rotation twice***



Duration:	Perform your cardio training for **36** minutes, moving into and out of the zones shown above. Perform the interval rotation twice from start to finish.

Day 3 ***Perform rotation twice***



Duration:	Perform your cardio training for **30** minutes, moving into and out of the zones shown above. Perform the interval rotation twice from start to finish. When in the green zone, gradually lower your heart rate from the top to the bottom of the zone.

Take a Tip from the Pros: In the last four weeks, we want to create more of a challenge. Therefore, we have added a few exercise progressions to your program.

You can easily exchange exercises in your program. Simply choose exercises within your level (royal blue) or add in some exercise progressions in areas where you feel you need more of a challenge.

Advanced

Weeks 9–12

Resistance Training

Use the box at right to determine how many sets and repetitions you should perform for each exercise. Increase your resistance as you see fit. Perform this three-day-per week routine for the next four weeks (Weeks 9–12).

Weeks 9–12		Three-Day Program	
Core			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	10	Controlled	0 seconds
Balance			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	8	Controlled	60 seconds
Resistance Training			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	10	Controlled	60 seconds at end

Notes: Perform core and balance exercises in a circuit. Rest 60 seconds after balance exercise is completed. Perform the resistance-training exercises in a circuit, moving quickly from one exercise to the next with minimal rest. Rest 60 seconds at the end of the circuit.

Day 1 Day 2 Day 3

1. Core
Cable or Tubing Chop



2. Core
Cable or Tubing Lift



3. Balance
Single-Leg Box Hop-Down to Balance



– Rest 60 seconds and repeat –
Once you have completed core and balance exercises, move on to your resistance training program, listed on the right.

1. Chest
Alternating Arm Incline Dumbbell Press



2. Back
Semi-Squat Lat Pull-Down



3. Shoulders
Alternating Arm Standing Dumbbell Shoulder Press



4. Biceps
Alternating Arm Seated Dumbbell Curl



5. Triceps
Standing Cable Push-Downs



6. Legs
Horizontal Jumps



– Rest 60 seconds and repeat –

Advanced

Weeks 9-12

Weeks 9–12		Three-Day Program	
Zones:	Low	Medium	Peak

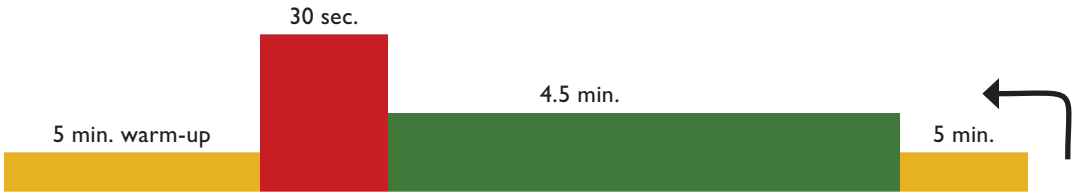
Cardiovascular Training

Your cardio-training program can be completed on the same day as your resistance-training program, or you can do your cardio and resistance training days on different days. This will depend on your time availability and energy levels. For the next four weeks, you will be working on increasing your anaerobic threshold and making your heart more efficient by performing some interval training. You will be training in all three zones, increasing the calories burned, and keeping your body from adapting to the exercise (this will help you avoid a plateau). Follow the three-day program listed below using any cardio-training equipment or method you prefer. Simply keep your individual heart rate within the recommended zones. Refer to the zone chart to determine what your heart rate zones are.

Day 1

40 minutes	
Duration:	Perform your cardio training for **30** minutes, staying within your yellow heart rate zone (Zone 1).

Day 2 ***Perform rotation twice***



Duration:	Perform your cardio training for **30** minutes, moving into and out of the zones shown above. Perform the interval rotation twice from start to finish.

Day 3 ***Perform rotation twice***



Duration:	Perform your cardio training for **30** minutes, moving into and out of the zones shown above. Perform the interval rotation twice from start to finish.

ADVANCED Twelve Week At-A-Glance Program												
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10
Core	Cable or Tubing Rotation	Cable or Tubing Rotation	Cable or Tubing Rotation	Cable or Tubing Rotation	Cable or Tubing Chop	Cable or Tubing Chop	Cable or Tubing Chop	Cable or Tubing Chop	Cable or Tubing Lift	Cable or Tubing Lift	Cable or Tubing Lift	Cable or Tubing Lift
Core	Cable or Tubing Chop	Cable or Tubing Chop	Cable or Tubing Chop	Cable or Tubing Chop	Cable or Tubing Lift	Cable or Tubing Lift	Cable or Tubing Lift	Cable or Tubing Lift	Cable or Tubing Chop	Cable or Tubing Chop	Cable or Tubing Chop	Cable or Tubing Chop
	Sets: 3 Reps: 8	Sets: 3 Reps: 8	Sets: 3 Reps: 8	Sets: 3 Reps: 8	Sets: 3 Reps: 8	Sets: 3 Reps: 8	Sets: 3 Reps: 8	Sets: 3 Reps: 8	Sets: 3 Reps: 8	Sets: 3 Reps: 8	Sets: 3 Reps: 8	Sets: 3 Reps: 8
Balance	Multi-Planar Hop to Balance	Multi-Planar Hop to Balance	Multi-Planar Hop to Balance	Multi-Planar Hop to Balance	Single-Leg Box Hop-Up to Balance	Single-Leg Box Hop-Up to Balance	Single-Leg Box Hop-Up to Balance	Single-Leg Box Hop-Up to Balance	Single-Leg Box Hop-Down to Balance	Single-Leg Box Hop-Down to Balance	Single-Leg Box Hop-Down to Balance	Single-Leg Box Hop-Down to Balance
	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10	Sets: 3 Reps: 10
Chest	Incline Dumbbell Chest Press	Incline Dumbbell Chest Press	Incline Dumbbell Chest Press	Incline Dumbbell Chest Press	Chest Press Machine	Chest Press Machine	Chest Press Machine	Chest Press Machine	Alternating Arm Incline Dumbbell Press**	Alternating Arm Incline Dumbbell Press**	Alternating Arm Incline Dumbbell Press**	Alternating Arm Incline Dumbbell Press**
Back	Seated Lat Pulldown	Seated Lat Pulldown	Seated Lat Pulldown	Seated Lat Pulldown	Pull-Up	Pull-Up	Pull-Up	Pull-Up	Semi-Squat Lat Pull-Down**	Semi-Squat Lat Pull-Down**	Semi-Squat Lat Pull-Down**	Semi-Squat Lat Pull-Down**
Shoulders	Seated Shoulder Press	Seated Shoulder Press	Seated Shoulder Press	Seated Shoulder Press	Standing Shoulder Press	Standing Shoulder Press	Standing Shoulder Press	Standing Shoulder Press	Alternating Arm Standing Dumbbell Shoulder Press**	Alternating Arm Standing Dumbbell Shoulder Press**	Alternating Arm Standing Dumbbell Shoulder Press**	Alternating Arm Standing Dumbbell Shoulder Press**
Biceps	Seated Biceps Curl	Seated Biceps Curl	Seated Biceps Curl	Seated Biceps Curl	Seated Biceps Hammer Curl	Seated Biceps Hammer Curl	Seated Biceps Hammer Curl	Seated Biceps Hammer Curl	Alternating Arm Seated Dumbbell Curl**	Alternating Arm Seated Dumbbell Curl**	Alternating Arm Seated Dumbbell Curl**	Alternating Arm Seated Dumbbell Curl**
Triceps	Standing Cable Push-Down	Standing Cable Push-Down	Standing Cable Push-Down	Standing Cable Push-Down	Face-Up Barbell Triceps Extension	Face-Up Barbell Triceps Extension	Face-Up Barbell Triceps Extension	Face-Up Barbell Triceps Extension	Standing Cable Push-Downs	Standing Cable Push-Downs	Standing Cable Push-Downs	Standing Cable Push-Downs
Legs	Box Jumps	Box Jumps	Box Jumps	Box Jumps	Squat Jumps	Squat Jumps	Squat Jumps	Squat Jumps	Horizontal Jumps	Horizontal Jumps	Horizontal Jumps	Horizontal Jumps
Cardio	Day 1 30 min. LOW Day 2 23 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 30 min. LOW Day 2 23 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 30 min. LOW Day 2 23 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 30 min. LOW Day 2 23 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 30 min. LOW Day 2 36 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 30 min. LOW Day 2 36 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 30 min. LOW Day 2 36 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 30 min. LOW Day 2 36 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 40 min. LOW Day 2 30 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 40 min. LOW Day 2 30 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 40 min. LOW Day 2 30 min. INTERVALS Day 3 30 min. INTERVALS	Day 1 40 min. LOW Day 2 30 min. INTERVALS Day 3 30 min. INTERVALS
									** View Progressions for exercise listed	** View Progressions for exercise listed	** View Progressions for exercise listed	** View Progressions for exercise listed

Specialty Training

Resistance Training

Use the box at right to determine how many sets and repetitions you should perform for each exercise. Increase your resistance as you see fit. Perform this two-day-per week routine for the next four weeks (Weeks 1–4). Rest for seventy-two hours between training days.

Back

Resistance Training			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	10	Controlled	60 seconds at end
Notes: Remember to stretch potentially tight areas, especially when working on one area of the body alone. Keep your body balanced!			

Day 1 & Day 2

1. Back **Standing Cobra**	
2. Back **Lat Pull-Down**	
3. Back **Standing Dumbbell Row**	
4. Back **Standing Cable Extension**	

– Rest 60 seconds between exercises and repeat –



Take a Tip from the Pros:
Specialty training is recommended for advanced exercisers. Specialty training allows you to focus on different regions of the body that you want to improve by increasing muscle mass, definition, or both.

Remember, you can't spot-train to lose fat in trouble spots, but you can increase the muscle tone in areas you feel you want to look better.



Take a Tip from the Pros:
Specialty training is recommended for advanced exercisers. Defined shoulders make any shirt look better! Working the shoulder optimally means keeping the shoulder joint stable and developing a great muscle you can see.

Make sure you always remember to keep the load light when performing exercises on the ball.

Specialty Training

Resistance Training

Use the box at right to determine how many sets and repetitions you should perform for each exercise. Increase your resistance as you see fit. Perform this two-day-per week routine for the next four weeks (Weeks 1–4). Rest seventy-two hours between training days. **Perform these exercises in the order listed.**

Shoulders

Resistance Training			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	10	Controlled	60 seconds at end
Notes: Remember to stretch potentially tight areas, especially when working on one area of the body alone. Keep your body balanced! **Keep the resistance (load/intensity) light when performing exercises on the ball!**			

Day 1 & Day 2

1. Shoulders
Ball Combo #1



2. Shoulders
Standing Scaption



3. Shoulders
Ball Combo #2



4. Shoulders
Shoulder Diagonal Lift



– Rest 30 seconds between exercises and repeat –

Specialty Training

Resistance Training

Use the box at right to determine how many sets and repetitions you should perform for each exercise. Increase your resistance as you see fit. Perform this two-day-per week routine for the next four weeks (Weeks 1–4). Rest seventy-two hours between training days. **Perform these exercises in the order listed.**

Arms

Resistance Training			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	10	Controlled	60 seconds at end
Notes: Remember to stretch potentially tight areas, especially when working on one area of the body alone. Keep your body balanced!			

Day 1 & Day 2

1. Biceps **Seated Biceps Hammer Curl**	
2. Biceps **Single-Leg Biceps Curl**	

3. Triceps **Standing Cable Push-Down**	
4. Triceps **Face-Down Ball Triceps Extension**	

– Rest 30 seconds after each exercise and repeat –



Take a Tip from the Pros:
Specialty training is recommended for advanced exercisers. Good-bye jiggle, hello sleeveless shirts!

Training the arms can tone up those muscles that make beautiful, shapely arms. The muscles in the arms tend to be seen the most, so get them to look great!

Remember, you can't spot-train to lose fat in trouble spots, but you can increase the muscle tone in areas you feel you want to look better.



Take a Tip from the Pros:
Specialty training is recommended for advanced exercisers. A pair of sexy legs is waiting! Make the most of your lower half by putting a little focus on all the muscles from the hips down. Using exercises that incorporate numerous leg muscles helps burn more calories during the exercise and keeps you moving optimally.

Specialty Training

Resistance Training

Use the box at right to determine how many sets and repetitions you should perform for each exercise. Increase your resistance as you see fit. Perform this two-day-per week routine for the next four weeks (Weeks 1–4). Rest seventy-two hours between training days. **Perform these exercises the order listed.**

Legs

Resistance Training			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
2	6	Controlled	60 seconds at end
Notes: Remember to stretch potentially tight areas, especially when working on one area of the body alone. Keep your body balanced!			

Day 1 & Day 2

1. Legs
Ball Squat



2. Legs
Step-Up to Balance



3. Legs
Single-Leg Squat



4. Legs
Dumbbell Lunge



– Rest 30 seconds after each exercise and repeat –

Specialty Training

Resistance Training

Use the box at right to determine how many sets and repetitions you should perform for each exercise. Increase your resistance as you see fit. Perform this two-day-per week routine for the next four weeks (Weeks 1–4). Rest seventy-two hours between training days. **Perform these exercises in the order listed.**

Abs

Resistance Training			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	10	Controlled	60 seconds at end
Notes: Remember to stretch potentially tight areas, especially when working on one area of the body alone. Keep your body balanced!			

Day 1 & Day 2

1. Core **Plank**	
2. Core **Ball Crunch**	
3. Core **Reverse Crunch**	
4. Core **Cable Rotation**	

– Rest 30 seconds between exercises and repeat –



Take a Tip from the Pros:
Specialty training is recommended for advanced exercisers. Core training (abs) can help strengthen a weak back and reduce back pain symptoms if done correctly. Get the most out of the exercises by pulling your belly button back to your spine and contracting your abs (bracing) as you would if someone were about to hit you in the stomach (i.e., suck in and tighten)!

Remember, you can't spot-train! If you want to see those abs, make sure your nutrition is on track. When you lose the fat, your abs will look amazing.



Take a Tip from the Pros:
Specialty training is recommended for advanced exercisers. As an added bonus to training your glutes, your legs get a great workout as well. Keep those knees in line with toes and focus on getting the most out of your glutes by squeezing them tightly during each exercise.

Specialty Training

Resistance Training

Use the box at right to determine how many sets and repetitions you should perform for each exercise. Increase your resistance as you see fit. Perform this two-day-per week routine for the next four weeks (Weeks 1–4). Rest 72 hours between training days. **Perform these exercises in the order listed.**

Glutes

Resistance Training			
Sets	**Repetitions**	**Tempo**	**Rest Interval**
3	10	Controlled	60 seconds at end
Notes: Remember to stretch potentially tight areas, especially when working on one area of the body alone. Keep your body balanced!			

Day 1 & Day 2

1. Core **Floor Bridges**	
2. Balance **Single-Leg Balance with Reach**	
3. Balance **Single-Leg Squat**	
4. Balance **Lunge to Balance**	

– Rest 30 seconds after each exercise and repeat –

Frequently Asked Questions

How much weight should I use in the strength exercises?

Traditionally, proper resistance has been measured by an individual's one-repetition maximum (the highest amount of weight he or she can lift one time), then taking a percentage of that number based on desired adaptation. While this method is great, it isn't practical for all individuals. We recommend that you choose a resistance amount that is heavy enough so that you can lift it no more than fifteen times if you are a beginner, or ten to twelve times if you are an intermediate to advanced exerciser.

How long should I rest between exercises?

Your rest time will be determined by your desired adaptation. Use the chart below to determine your rest periods.

Acute Variables Chart

Program Design Acute Variables for Common Adaptations

Adaptation	Repetitions	Sets	Intensity	Rest Period
Power	1–10	3–6	Less than 10% of body weight	3 to 5 minutes
Strength	1–12	3–6	70% to 100% of your one-repetition maximum (the absolute most weight you can lift one time)	45 seconds to 5 minutes
Muscle Growth (Hypertrophy)	8–12	3–6	70% to 85% of your one-repetition maximum.	45 seconds to 1.5 minutes
Endurance	12–25	2–3	50% to 70% of your one-repetition maximum	0 seconds to 1.5 minutes

How should I begin my workout program?

Always begin your training sessions with your movement preparation warm-up. This will get your muscles warm and firing optimally. In addition, the movement preparation warm-up is designed to help you avoid exercise-related injuries, so take the time to make sure the warm-up gets done!

How do I know if I am using the right intensity during the resistance-training exercises?

If you can complete the required amount of repetitions and sets without feeling fatigue in the muscles you are using, the weight is not heavy enough. You should feel tired at the end of the set, barely able to push out one more repetition.

Can I do the same program two days in a row? How long should I wait before exercising again?

No. We know you how excited you are to get moving and reach your goals. However, we want to keep you safe and healthy. Your body needs at least forty-eight hours to recover. It is during the recovery period that your body changes! Give yourself time to rest and recuperate before you perform the routine again. On the off-days, you are more than welcome to do a light activity, but again, we don't want you to overtrain. Overtraining can lead to injury and negative effects.

What if I can't fit everything in (resistance training and cardio) in one day?

Split them up! You do not have to perform your cardio and resistance training on the same day. If you are in a time crunch, split up your strength-training and cardio-training sessions. This can help ensure you are doing some form of activity every day.

How do I know if I am doing the move correctly?

Proper exercise form is extremely important when exercising. Here are some tips for making sure you are in the correct posture throughout all exercises:

- Chin tucked into your neck
- Shoulders pulled back and down
- Abdominals tight
- Knees in line with toes during every exercise (knees should not move over toes when exercising)
- Feet pointed straight ahead

Another point to understand is that when you are doing things right, you should not feel pain. This does not mean you shouldn't feel sore or have some muscle fatigue, but sharp and localized pain is not good. If you feel pain, stop the exercise. Check your posture. If you feel you are doing the move correctly, but are still having pain, seek professional advice. Ask a local fitness professional to evaluate your form or, if the pain persists, talk with your doctor. Remember to take the time to read through each exercise description carefully!



Success Story: Mother Loses Forty Pounds in 10 Weeks

Through circuit training and because of her positive attitude, Rosy, my personal training client, has lost forty pounds and more than seventeen inches in only 10 weeks. Her confidence level is up, and she has more energy at work and when playing with her children. She is on a quest to lose one-hundred-fifty pounds in one year and will be able to accomplish her goal through diet, exercise, and determination.

– Rob Lagana, NASM CPT

Appendices

The Next Steps

Congratulations! By finishing this book you have just completed a vital step on your path toward health and fitness. We hope you enjoyed the valuable information, exercises, tips and resources provided. Many additional supporting resources can be found in this section.

No doubt you realize by now that your journey has just begun. Of course, knowing something and acting upon it are two very different things. But now you have the knowledge, tools, and guidance to connect them together and continue on with confidence.

As we wrote in the introduction of this book, to get fit there are three absolutes, which are the three essentials of fitness:

- **Think better**—defining your goals, visualizing your success, summoning the willpower, making the commitment, and arming yourself with proven knowledge that works.

- **Eat better**—understanding the building blocks of nutrition while ignoring the marketing hype of the mainstream media. And setting, supporting, and tracking your goals online via the dotFIT Me program.

Your first step should never be your last. We were given two legs so we can keep moving.

–Anonymous

- **Move better**—assessing where you are today, establishing a good cardiovascular program, moving efficiently, keeping your body strong through core training, maintaining balance, and converting fat into lean muscle with proper resistance training.

You have to take all three to heart and consistently strive to achieve your goals. Yes, you may be tempted to fall back into bad habits. And yes, you may falter at times. But remember, you are in charge of your own destiny. You have the ability and the emotional strength to live a healthy and fit life. With belief in yourself and a positive attitude you can accomplish anything.

In the opening of the book we said we'd love for *dotFIT Me—Your Smart Guide to Lose Weight, Get Fit and Feel Great!* to be your ultimate resource, a lifelong companion guide that gets beat-up and dog-eared. Use it often. Of course, as we have mentioned throughout, there are thousands of additional free resources available online at www.dotfit.com. We encourage you to take full advantage of them.

As a reminder, scientific research has shown that the aid of a coach to keep you on track and support your efforts yields considerably better results than going it alone. The professional trainers at the National Academy of Sports Medicine (NASM) are nationally certified experts skilled at helping you achieve success regardless of your level of fitness. Available online or by phone you can contact our coaches through www.dotFIT.com.

Whatever your goal, you are not alone! We are here for you and want to help you in any way we can. Whether you need more instruction or information, personal help from a fitness professional, or some workout tools and gear, we have you covered!

We applaud your commitment to a healthy and fit lifestyle. And wish you much success on your journey.

Glossary

A

Abduction: A movement in the frontal plane away from the midline of the body.

Active Flexibility: The ability of agonists and synergists to move a limb through the full range of motion while their functional antagonist is being stretched.

Active Stretching: The process of using agonists and synergists to dynamically move the joint into a range of motion.

Acute Variables: Important components that specify how each exercise is to be performed.

Adaptive: Capable of changing for a specific use.

Adduction: Movement in the frontal plane back toward the midline of the body.

Aerobic: Activities requiring oxygen.

Agonist: Muscles that are the primary movers in a joint motion. Also known as prime movers.

Anaerobic: Activities that do not require oxygen.

Anaerobic Threshold: The point during high-intensity activity when the body can no longer meet its demand for oxygen and anaerobic metabolism predominates; also called lactate threshold.

Antagonist: Muscles that act in direct opposition to agonists (prime movers).

Anterior: Refers to a position on the front or toward the front of the body.

Arthrokinematics: The motions of joints in the body.

Articulation: Junctions of bones, muscles, and connective tissue where movement occurs, also known as a joint.

Assessment: A process of determining the importance, size, or value of something.

B

Balance: The ability to sustain or return the body's center of mass or line of gravity over its base of support.

Ball-and-Socket Joint: Most mobile joints that allow motion in all three planes. Examples would include the shoulder and hip.

C

Calories: The energy contained in food, measured in kilocalories, often described simply as calories. A unit of measurement of heat. The amount of heat needed to raise the temperature of water from 14.5 C to 15.5 C.

Carbohydrate: Organic compounds of carbon, hydrogen, and oxygen, which include starches, cellulose, and sugars, and are an important source of energy. All carbohydrates are eventually broken down in the body to glucose, a simple sugar.

Cardiorespiratory (CR) System: The combination of the cardiovascular and respiratory systems that provide the tissues of the kinetic chain with oxygen, nutrients, protective agents, and a means to remove waste byproducts.

Cardiorespiratory Training: Any physical activity that involves and places stress on the cardiorespiratory system.

Cardiovascular System: The system composed of the heart, blood vessels, and blood.

Cervical Spine: The area of the spine containing the seven vertebrae that compose the neck.

Chain: A system that is linked together or connected.

Circuit Training System: This consists of a series of exercises that an individual performs one after another with minimal rest.

Cocontraction: Muscles contract together in a force couple.

Collagen: A protein that is found in connective tissue that provides tensile strength. Collagen, unlike elastin, is not very elastic.

Concentric: When a muscle exerts more force than is being placed upon it, the muscle will shorten, also known as acceleration or force production.

Contralateral: Refers to a position on the opposite side of the body.

Controlled Instability: Training environment that is as unstable as can safely be controlled by an individual.

Core: The center of the body and the beginning point for movement. Refers to the lumbo-pelvic-hip complex, thoracic spine, and cervical spine.

Core Strength: The ability of the lumbo-pelvic-hip complex musculature to control an individual's constantly changing center of gravity.

Corrective Flexibility: Designed to improve muscle imbalances and altered arthrokinematics.

D

Deconditioned: Refers to a state in which a person has muscle imbalances, decreased flexibility, and/or a lack of core and joint stability.

Depression: A flattened or indented portion of bone, which could be a muscle attachment site, also known as a fossa.

Diabetes: Chronic metabolic disorder, caused by insulin deficiency, that impairs carbohydrate usage and enhances usages of fats and protein.

Dietary Supplement: A substance that completes or makes an addition to daily dietary intake.

Drawing-in Maneuver: Activation of the transverse abdominis, multifidus, pelvic floor muscles, and diaphragm to provide core stabilization.

Dynamic Functional Flexibility: Multiplanar soft tissue extensibility with optimum neuromuscular efficiency throughout the full range of motion.

Dynamic Stretching: Uses the force production of a muscle and the body's momentum to take a joint through the full available range of motion.

E

Eccentric: When the muscle is exerting less force than is being placed upon it, the muscle lengthens, also known as deceleration, or force reduction.

Endurance Strength: The ability to produce and maintain force over prolonged periods of time.

Energy: The capacity to do work.

Enjoyment: The amount of pleasure derived from performing a physical activity.

Excess Post-Exercise Oxygen Consumption (EPOC): The state where the body's metabolism is elevated following exercise.

Exercise Order: Refers to the order that the exercises are performed during a workout.

Exercise Selection: The process of choosing exercises for program design.

Exhaustion: The result of prolonged stress or stress that is intolerable to a client.

Exhaustion Stage: The third stage of the General Adaptation Syndrome (GAS) when prolonged stress or stress that is intolerable to a client will cause distress.

Expert Stage: The third stage of the dynamic pattern perspective model where–as the learner now focuses on recognizing and coordinating his or her joint motions in the most efficient manner.

Extensibility: Capability to be elongated or stretched.

Extension: A straightening movement where the relative angle between two adjacent segments increases.

F

Fan-Shaped Muscle: A muscular fiber arrangement that has muscle fibers span out from a narrow attachment at one end to a broad attachment at the other end; for example, the pectoralis major.

Fascia: The outermost layer of connective tissue that surrounds the muscle.

Fats: One of the three main classes of foods and a source of energy in the body. Fats help the body use some vitamins and keep the skin healthy. They also serve as energy stores for the body. In food, there are two types of fats: saturated and unsaturated.

Feedback: The utilization of sensory information and sensorimotor integration to aid the kinetic chain in the development of permanent neural representations of motor patterns.

Flexibility: The normal extensibility of all soft tissues that allow the full range of motion of a joint.

Flexibility Training: Physical training of the body that integrates various stretches in all three planes of motion in order to produce the maximum extensibility of tissues.

Flexion: A bending movement where the relative angle between two adjacent segments decreases.

Force Couples: The synergistic action of muscles to produce movement around a joint.

Frequency: The number of training sessions in a given time frame.

Frontal Lobe: A portion of the cerebral cortex that contains structures necessary for the planning and control of voluntary movement.

Frontal Plane: An imaginary plane that bisects the body to create front and back halves.

Fructose: Known as fruit sugar; a member of the simple sugars carbohydrate group found in fruits, honey, syrups, and certain vegetables.

Functional Flexibility: Integrated, multiplanar soft tissue extensibility with optimum neuromuscular control through the full range of motion.

Functional Strength: The ability of the neuromuscular system to perform dynamic eccentric, isometric and concentric contractions efficiently in a multiplanar environment.

G

General Adaptation Syndrome (GAS): A syndrome that shows the kinetic chain responds and adapts to imposed demands.

General Warm-Up: Consists of movements that do not necessarily have any movement specificity to the actual activity to be preformed.

Glycemic Index: A ranking of carbohydrate-containing foods, based on the food's effect on blood sugar compared with a standard reference food's effect.

Glycogen: The complex carbohydrate molecule used to store carbohydrates in the liver and muscle cells. When carbohydrate energy is needed, glycogen is converted into glucose for use by the muscle cells.

Gravity: The attraction between earth and the objects on earth.

H

Heart Rate (HR): The rate at which the heart pumps.

Hobbies: Activities that a client may participate in regularly, but may not necessarily be athletic in nature.

Human Movement Science: The study of functional anatomy, functional biomechanics, motion learning, and motor control.

Hypertension: Raised systemic arterial blood pressure, that, if sustained at a high enough level, is likely to induce cardiovascular or end-organ damage.

Hypertrophy: Enlargement of skeletal muscle fibers in response to overcoming force from high volumes of tension.

I

Insertion: The part of a muscle by which it is attached to the part to be moved; compare to origin.

Inspiratory: Inhalation.

Insulin: A protein hormone released by the pancreas that helps glucose move out of the blood and into the cells in the body, where the glucose can be used as energy and nourishment.

Integrated Cardiorespiratory Training: Training that involves and places a stress on the cardiorespiratory system.

Integrated Fitness Profile: A systematic problem-solving method that provides the fitness professional with a basis for making educated decisions about exercise and acute variable selection.

Integrated Flexibility Training: A multi-faceted approach integrating various flexibility techniques to achieve optimum soft tissue extensibility in all planes of motion.

Integrated Training: A concept that applies all forms of training, such as integrated flexibility training, integrated cardiorespiratory training, neuromuscular stabilization (balance), core stabilization, reactive neuromuscular training (power), and integrated strength training.

Intensity: The level of demand that a given activity places on the body.

Internal Rotation: Rotation of a joint toward the middle of the body.

Inter-Muscular Coordination: The ability of the neuromuscular system to allow all muscles to work together with proper activation and timing between them.

Intra-Muscular Coordination: The ability of the neuromuscular system to allow optimal levels of motor unit recruitment and synchronization within a muscle.

Inversion: A movement where the inferior calcaneus moves medially.

Ipsilateral: Refers to a position on the same side of the body.

Isometric: When a muscle is exerting force equal to the force being placed upon it, also known as dynamic stabilization.

J

Joint: Junctions of bones, muscles, and connective tissue where movement occurs, also known as an articulation.

Joint Motion: Movement in a plane occurs about an axis running perpendicular to the plane.

Joint Stiffness: Resistance to unwanted movement.

K

Kinetic: Force.

Kinetic Chain: The combination and interrelation of the nervous, muscular, and skeletal systems.

Kyphosis: Exaggerated outward curvature of the thoracic region of the spinal column resulting in a rounded upper back.

L

Lactic Acid: An acid produced by glucose-burning cells when these cells have an insufficient supply of oxygen.

Lateral: Refers to a position relatively farther away from the midline of the body or toward the outside of the body.

Lateral Flexion: The bending of the spine (cervical, thoracic, and/or lumbar) from side to side.

Law of Thermodynamics: Weight reduction can take place only when there is more energy burned than consumed.

Length-Tension Relationship: Refers to the length at which a muscle can produce the greatest force.

Ligament: Primary connective tissue that connects bone-to-bone to provide stability, aid proprioception, and guide and limit joint motion.

Lumbar Spine: The portion of the spine commonly referred to as the small of the back. The lumbar portion of the spine is located between the thorax (chest) and the pelvis.

Lumbo-Pelvic-Hip Complex: Involves the anatomical structures of the lumbar, thoracic and cervical spine, the pelvic girdle, and the hip joint.

M

Maximal Oxygen Consumption (VO2 max): The highest rate of oxygen transport and utilization achieved at maximum physical exertion.

Maximum Strength: The maximum force an individual's muscle can produce in a single voluntary effort, regardless of the rate of force production.

Medial: Refers to a position relatively closer to the midline of the body.

Metabolism: The amount of energy (calories) the body burns to maintain itself. Metabolism is the process by which nutrients are acquired, transported, used, and disposed of by the body.

Mode: Type of exercise performed.

Momentum: The product of the size of the object (mass) and its velocity (speed at which it is moving).

Monthly Plan: Generalized training plan that spans one month and shows which phases will be required each day of each week.

Multiple-Set System: The system consists of performing multiple sets of the same exercise.

Muscle Imbalance: Alteration of muscle length surrounding a joint.

Muscle Fiber Arrangement: Refers to the manner in which the fibers are situated in relation to the tendon.

Muscle Fiber Recruitment: Refers to the recruitment pattern of muscle fiber/motor units in response to creating force for a specific movement.

Muscular Endurance: The ability of the body to produce low levels of force and maintain them for extended periods of time.

Muscle Hypertrophy: Characterized by the increase in the cross sectional area of individual muscle fibers and is believed to result from an increase in the myofibril proteins.

N

Nervous System: A conglomeration of billions of cells specifically designed to provide a communication network within the human body.

O

Obesity: The condition of subcutaneous fat exceeding the amount of lean body mass.

Optimum Performance Training: A systematic, integrated, and functional training program that simultaneously improves an individual's biomotor abilities and builds high levels of functional strength, neuromuscular efficiency, and dynamic flexibility.

Optimum Strength: The ideal level of strength that an individual needs to perform functional activities.

Origin: The more fixed, central, or larger attachment of a muscle; compare to insertion.

Overtraining: Excessive frequency, volume, or intensity of training, resulting in fatigue, which is due also to a lack of proper rest and recovery.

Oxygen Uptake: The usage of oxygen by the body.

P

Pattern Overload: Repetitive physical activity that moves through the same patterns of motion, placing the same stresses on the body over a period of time.

Pivot Joint: Allows movement in predominately the transverse plane; for example, the alantoaxial joint at the base of the skull and between the radioulnar joint.

Plane of Motion: Refers to the plane (saggital, frontal, and/or transverse) in which the exercise is performed.

Plantar Flexion: Ankle motion in which the toes are pointed toward the ground.

Plyometrics: Exercise that enhances muscular power through quick, repetitive, eccentric, and concentric contraction of muscles.

Posterior: Refers to a position on the back or toward the back of the body.

Posture: Position and bearing of the body for alignment and function of the kinetic chain.

Principle of Specificity: The kinetic chain will specifically adapt to the type of demand placed upon it, also known as the SAID principle.

Processes: Projections protruding from the bone to which muscles, tendons, and ligaments can attach, also known as condyle, epicondyle, tubercle, and trochanter.

Program Design: A purposeful system or plan put together to help an individual achieve a specific goal.

Proprioceptively Enriched Environment: An environment that challenges the internal balance and stabilization mechanisms of the body.

Protein: Amino acids linked by peptide bonds, which consist of carbon, hydrogen, nitrogen, oxygen, and usually sulfur that have several essential biological compounds.

Proximal: Refers to a position nearest the center of the body or point of reference.

R

Range of Motion: Refers to the range through which the body or bodily segments move during an exercise.

Rapport: Aspect of a relationship characterized by similarity, agreement, or congruity.

Recommended Dietary Allowance (RDA): The average daily nutrient intake level that is sufficient to meet the nutrient requirement of nearly all (ninety-seven to ninety-eight percent) healthy individuals who are in a particular life stage and gender group.

Recreation: A client's physical activities outside of his or her work environment.

Relative Flexibility: When the body seeks the path of least resistance during functional movement patterns.

Relative Strength: The maximum force that an individual can generate per unit of body weight, regardless of the time of force development.

Repetition: One complete movement of a particular exercise.

Repetition Tempo: The speed at which each repetition is performed.

Respiratory System: The system of the body responsible for taking in oxygen, excreting carbon dioxide, and regulating the relative composition of the blood.

Rest Interval: The time taken to recuperate between sets and/or exercises.

S

Self-Myofascial Release: A form of flexibility that focuses on the fascial system in the body.

Sensation: The process whereby sensory information is received by the receptor and transferred to the spinal cord for either reflexive motor behavior and/or to higher cortical areas for processing.

Set: A group of consecutive repetitions.

Single-set System: The individual performs one set of each exercise, usually eight to twelve repetitions at a slow, controlled tempo.

Skeletal System: The portion of the kinetic chain that comprises the bones of the body.

Skin-fold Caliper: An instrument with two adjustable legs to measure thickness of a skin fold.

Specific Warm-Up: Consists of movements that closely mimic those of the actual activity.

Split-routine System: A system that incorporates training an individual's body parts with a high volume on separate days.

Stability: The ability of the body to maintain postural equilibrium and support joints during movement.

Stabilizer: Muscles that support or stabilize the body while the prime movers and synergists perform the movement patterns.

Stabilization Endurance: The ability of the stabilization mechanisms of the kinetic chain to sustain proper levels of stabilization to allow for prolonged neuromuscular efficiency.

Stabilization Strength: Ability of the stabilizing muscles to provide dynamic joint stabilization and postural equilibrium during functional activities.

Starting Strength: The ability to produce high levels of force at the beginning of a movement.

Static Stretching: Passively taking a muscle to the point of tension and holding the stretch for twenty seconds.

Strength: The ability of the neuromuscular system to provide internal tension and exert force against external resistance.

Strength Endurance: The ability of the body to repeatedly produce high levels of force over prolonged periods of time.

Structural Efficiency: The structural alignment of the muscular and skeletal systems that allow the body to be balanced in relation to its center of gravity.

Subjective: Information that is provided by a client.

Sucrose: Often referred to as table sugar, it is a molecule made up of glucose and fructose.

Superset System: Utilizes a couple exercises performed in rapid succession.

Supination: A triplanar motion that is associated with force production.

Supine: Lying on one's back.

Synergist: Muscles that assist prime movers during functional movement patterns.

Synergistic Dominance: When synergists take over function for a weak or inhibited prime mover.

T

Tendon: Connective tissue that attaches muscle to bone and provides an anchor for muscles to exert force.

Tendonitis: An inflammation in a tendon or the tendon covering.

Thoracic Spine: The twelve vertebrae in midtorso that are attached to the rib cage.

Time: The length of time an individual is engaged in a given activity.

Training Duration: The time frame from the start of the workout to the finish, not including the warm-up or cool-down.

Training Frequency: The number of training sessions that are conducted over a given period.

Training Intensity: An individual's level of effort compared to his or her maximum effort.

Training Plan: The specific outline, created by a health and fitness professional to meet a client's goals, that details the form of training, length of time, future changes, and specific exercises to be performed.

Training Volume: The total amount of work performed within a specified time period.

Transfer-of-Training Effect: The more similar the exercise is to the actual activity, the greater the carryover into real-life settings.

Tri-Sets System: A system very similar to supersets, the difference being three exercises back to back to back with little to no rest in between.

Type: The mode of physical activity that an individual is engaged in.

V

Veins: Vessels that transport blood back to the heart.

Vertical Loading: A circuit style of training that involves a series of exercises being performed in succession.

VO2 Max: The highest volume of oxygen a person can consume during exercise, often used as a predictor of potential in endurance sports.

W

Weekly Plan: Training plan of specific workouts that spans one week to show which exercises are required each day of the week.

Body-Composition Formulas

Table A1.1 Young Women 17–26

Abdomen

INCHES	CONSTANT A	INCHES	CONSTANT A	INCHES	CONSTANT A	INCHES	CONSTANT A
20.00	26.74	32.00	42.78	44.00	58.81	56.00	74.85
20.25	27.07	32.25	43.11	44.25	59.14	56.25	75.18
20.50	27.41	32.50	43.45	44.50	59.48	56.50	75.52
20.75	27.74	32.75	43.78	44.75	59.81	56.75	75.85
21.00	28.07	33.00	44.12	45.00	60.15	57.00	76.18
21.25	28.41	33.25	44.45	45.25	60.48	57.25	76.52
21.50	28.74	33.50	44.78	45.50	60.82	57.50	76.85
21.75	29.08	33.75	45.12	45.75	61.15	57.75	77.19
22.00	29.41	34.00	45.45	46.00	61.48	58.00	77.52
22.25	29.74	34.25	45.79	46.25	61.82	58.25	77.85
22.50	30.08	34.50	46.12	46.50	62.15	58.50	78.19
22.75	30.41	34.75	46.46	46.75	62.49	58.75	78.52
23.00	30.75	35.00	46.79	47.00	62.82	59.00	78.86
23.25	31.08	35.25	47.12	47.25	63.15	59.25	79.19
23.50	31.42	35.50	47.46	47.50	63.49	59.50	79.52
23.75	31.75	35.75	47.79	47.75	63.82	59.75	79.86
24.00	32.08	36.00	48.13	48.00	64.16	60.00	80.19
24.25	32.42	36.25	48.46	48.25	64.49		
24.50	32.75	36.50	48.80	48.50	64.82		
24.75	33.09	36.75	49.13	48.75	65.16		
25.00	33.42	37.00	49.46	49.00	65.49		
25.25	33.76	37.25	49.80	49.25	65.83		
25.50	34.09	37.50	50.13	49.50	66.16		
25.75	34.42	37.75	50.47	49.75	66.49		
26.00	34.76	38.00	50.80	50.00	66.83		
26.25	35.09	38.25	51.13	50.25	67.16		
26.50	35.43	38.50	51.47	50.50	67.50		
26.75	35.76	38.75	51.80	50.75	67.83		
27.00	36.10	39.00	52.14	51.00	68.17		
27.25	36.43	39.25	52.47	51.25	68.50		
27.50	36.76	39.50	52.81	51.50	68.83		
27.75	37.10	39.75	53.14	51.75	69.17		
28.00	37.43	40.00	53.47	52.00	69.50		
28.25	37.77	40.25	53.80	52.25	69.84		
28.50	38.10	40.50	54.13	52.50	70.17		
28.75	38.43	40.75	54.47	52.75	70.50		
29.00	38.77	41.00	54.80	53.00	70.84		
29.25	39.10	41.25	55.14	53.25	71.17		
29.50	39.44	41.50	55.47	53.50	71.51		
29.75	39.77	41.75	55.80	53.75	71.84		
30.00	40.11	42.00	56.14	54.00	72.17		
30.25	40.44	42.25	56.47	54.25	72.51		
30.50	40.77	42.50	56.81	54.50	72.84		
30.75	41.11	42.75	57.14	54.75	73.18		
31.00	41.44	43.00	57.47	55.00	73.51		
31.25	41.78	43.25	57.81	55.25	73.85		
31.50	42.11	43.50	58.14	55.50	74.18		
31.75	42.45	43.75	58.48	55.75	74.51		

Table A1.2 Young Women 17–26

Thigh

INCHES	CONSTANT B	INCHES	CONSTANT B	INCHES	CONSTANT B
14.00	29.13	24.00	49.93	34.00	70.74
14.25	29.65	24.25	50.45	34.25	71.26
14.50	30.17	24.50	50.97	34.50	71.78
14.75	30.69	24.75	51.49	34.75	72.30
15.00	31.21	25.00	52.01	35.00	72.82
15.25	31.73	25.25	52.53	35.25	73.34
15.50	32.25	25.50	53.05	35.50	73.86
15.75	32.77	25.75	53.57	35.75	74.38
16.00	33.29	26.00	54.09	36.00	74.90
16.25	33.81	26.25	54.61	36.25	75.42
16.50	34.33	26.50	55.13	36.50	75.94
16.75	34.85	26.75	55.65	36.75	76.46
17.00	35.37	27.00	56.17	37.00	76.98
17.25	35.89	27.25	56.69	37.25	77.50
17.50	36.41	27.50	57.21	37.50	78.02
17.75	36.93	27.75	57.73	37.75	78.54
18.00	37.45	28.00	58.26	38.00	79.06
18.25	37.97	28.25	58.78	38.25	79.58
18.50	38.49	28.50	59.30	38.50	80.10
18.75	39.01	28.75	59.82	38.75	80.62
19.00	39.53	29.00	60.34	39.00	81.14
19.25	40.05	29.25	60.86	39.25	81.66
19.50	40.57	29.50	61.38	39.50	82.18
19.75	41.09	29.75	61.90	39.75	82.70
20.00	41.61	30.00	62.42	40.00	83.22
20.25	42.13	30.25	62.94		
20.50	42.65	30.50	63.46		
20.75	43.17	30.75	63.98		
21.00	43.69	31.00	64.50		
21.25	44.21	31.25	65.02		
21.50	44.73	31.50	65.54		
21.75	45.25	31.75	66.06		
22.00	45.77	32.00	66.58		
22.25	46.29	32.25	67.10		
22.50	46.81	32.50	67.62		
22.75	47.33	32.75	68.14		
23.00	47.85	33.00	68.66		
23.25	48.37	33.25	69.18		
23.50	48.89	33.50	69.70		
23.75	49.41	33.75	70.22		

Table A1.3 Young Women 17–26

Forearm

INCHES	CONSTANT C	INCHES	CONSTANT C
6.00	25.86	17.00	73.28
6.25	26.94	17.25	74.36
6.50	28.02	17.50	75.43
6.75	29.10	17.75	76.51
7.00	30.17	18.00	77.59
7.25	31.25	18.25	78.67
7.50	32.33	18.50	79.74
7.75	33.41	18.75	80.82
8.00	34.48	19.00	81.90
8.25	35.56	19.25	82.98
8.50	36.64	19.50	84.05
8.75	37.72	19.75	85.13
9.00	38.79	20.00	86.21
9.25	39.87	20.25	87.29
9.50	40.95	20.50	88.37
9.75	42.03	20.75	89.45
10.00	43.10	21.00	90.53
10.25	44.18	21.25	91.61
10.50	45.26	21.50	92.69
10.75	46.34	21.75	93.77
11.00	47.41	22.00	94.85
11.25	48.49	22.25	95.93
11.50	49.57	22.50	97.01
11.75	50.65	22.75	98.09
12.00	51.73	23.00	99.17
12.25	52.80	23.25	100.25
12.50	53.88	23.50	101.33
12.75	54.96	23.75	102.41
13.00	56.04	24.00	103.49
13.25	57.11	24.25	104.57
13.50	58.19	24.50	105.65
13.75	59.27	24.75	106.73
14.00	60.35	25.00	107.81
14.25	61.42		
14.50	62.50		
14.75	63.58		
15.00	64.66		
15.25	65.73		
15.50	66.81		
15.75	67.89		
16.00	68.97		
16.25	70.04		
16.50	71.12		
16.75	72.20		

Note: Percent fat = Constant A + Constant B – Constant C – 19.6.
For athletic people, the age correction is 22.6.

Table A1.4 Older Women 27–50

Abdomen

INCHES	CONSTANT A	INCHES	CONSTANT A	INCHES	CONSTANT A
25.00	29.69	37.00	43.94	49.00	58.18
25.25	29.98	37.25	44.23	49.25	58.48
25.50	30.28	37.50	44.53	49.50	58.78
25.75	30.58	37.75	44.83	49.75	59.07
26.00	30.87	38.00	45.12	50.00	59.37
26.25	31.17	38.25	45.42	50.25	59.67
26.50	31.47	38.50	45.72	50.50	59.96
26.75	31.76	38.75	46.01	50.75	60.26
27.00	32.06	39.00	46.31	51.00	60.56
27.25	32.36	39.25	46.61	51.25	60.86
27.50	32.65	39.50	46.90	51.50	61.15
27.75	32.95	39.75	47.20	51.75	61.45
28.00	33.25	40.00	47.50	52.00	61.75
28.25	33.55	40.25	47.79	52.25	62.04
28.50	33.84	40.50	48.09	52.50	62.34
28.75	34.14	40.75	48.39	52.75	62.64
29.00	34.44	41.00	48.69	53.00	62.93
29.25	34.73	41.25	48.98	53.25	63.23
29.50	35.03	41.50	49.28	53.50	63.53
29.75	35.33	41.75	49.58	53.75	63.82
30.00	35.62	42.00	49.87	54.00	64.12
30.25	35.92	42.25	50.17	54.25	64.42
30.50	36.22	42.50	50.47	54.50	64.71
30.75	36.51	42.75	50.76	54.75	65.01
31.00	36.81	43.00	51.06	55.00	65.31
31.25	37.11	43.25	51.36	55.25	65.60
31.50	37.40	43.50	51.65	55.50	65.90
31.75	37.70	43.75	51.95	55.75	66.20
32.00	38.00	44.00	52.25	56.00	66.49
32.25	38.30	44.25	52.54	56.25	66.79
32.50	38.59	44.50	52.84	56.50	67.09
32.75	38.89	44.75	53.14	56.75	67.38
33.00	39.19	45.00	53.44	57.00	67.68
33.25	39.48	45.25	53.73	57.25	67.98
33.50	39.78	45.50	54.03	57.50	68.28
33.75	40.08	45.75	54.33	57.75	68.57
34.00	40.37	46.00	54.62	58.00	68.87
34.25	40.67	46.25	54.92	58.25	69.17
34.50	40.97	46.50	55.22	58.50	69.46
34.75	41.26	46.75	55.51	58.75	69.76
35.00	41.56	47.00	55.81	59.00	70.06
35.25	41.86	47.25	56.11	59.25	70.35
35.50	42.15	47.50	56.40	59.50	70.65
35.75	42.45	47.75	56.70	59.75	70.95
36.00	42.75	48.00	57.00	60.00	71.24
36.25	43.05	48.25	57.29		
36.50	43.34	48.50	57.59		
36.75	43.64	48.75	57.89		

Table A1.5 Older Women 27–50

Thigh

INCHES	CONSTANT B	INCHES	CONSTANT B	INCHES	CONSTANT B
14.00	17.31	26.00	32.15	38.00	46.98
14.25	17.62	26.25	32.46	38.25	47.29
14.50	17.93	26.50	32.77	38.50	47.60
14.75	18.24	26.75	33.08	38.75	47.91
15.00	18.55	27.00	33.38	39.00	48.22
15.25	18.86	27.25	33.69	39.25	48.53
15.50	19.17	27.50	34.00	39.50	48.84
15.75	19.47	27.75	34.31	39.75	49.15
16.00	19.78	28.00	34.62	40.00	49.46
16.25	20.09	28.25	34.93		
16.50	20.40	28.50	35.24		
16.75	20.71	28.75	35.55		
17.00	21.02	29.00	35.86		
17.25	21.33	29.25	36.17		
17.50	21.64	29.50	36.48		
17.75	21.95	29.75	36.79		
18.00	22.26	30.00	37.09		
18.25	22.57	30.25	37.40		
18.50	22.87	30.50	37.71		
18.75	23.18	30.75	38.02		
19.00	23.49	31.00	38.33		
19.25	23.80	31.25	38.64		
19.50	24.11	31.50	38.95		
19.75	24.42	31.75	39.26		
20.00	24.73	32.00	39.57		
20.25	25.04	32.25	39.88		
20.50	25.35	32.50	40.19		
20.75	25.66	32.75	40.49		
21.00	25.97	33.00	40.80		
21.25	26.28	33.25	41.11		
21.50	26.58	33.50	41.42		
21.75	26.89	33.75	41.73		
22.00	27.20	34.00	42.04		
22.25	27.51	34.25	42.35		
22.50	27.82	34.50	42.66		
22.75	28.13	34.75	42.97		
23.00	28.44	35.00	43.28		
23.25	28.75	35.25	43.58		
23.50	29.06	35.50	43.89		
23.75	29.37	35.75	44.20		
24.00	29.68	36.00	44.51		
24.25	29.98	36.25	44.82		
24.50	30.29	36.50	45.13		
24.75	30.60	36.75	45.44		
25.00	30.91	37.00	45.75		
25.25	31.22	37.25	46.06		
25.50	31.53	37.50	46.37		
25.75	31.84	37.75	46.68		

Table A1.6 Older Women 27–50

Calf

INCHES	CONSTANT C	INCHES	CONSTANT C
10.00	14.46	22.00	31.81
10.25	14.82	22.25	32.17
10.50	15.18	22.50	32.54
10.75	15.54	22.75	32.90
11.00	15.91	23.00	33.26
11.25	16.27	23.25	33.62
11.50	16.63	23.50	33.98
11.75	16.99	23.75	34.34
12.00	17.35	24.00	34.70
12.25	17.71	24.25	35.07
12.50	18.08	24.50	35.43
12.75	18.44	24.75	35.79
13.00	18.80	25.00	36.15
13.25	19.16	25.25	36.51
13.50	19.52	25.50	36.87
13.75	19.88	25.75	37.23
14.00	20.24	26.00	37.59
14.25	20.61	26.25	37.95
14.50	20.97	26.50	38.31
14.75	21.33	26.75	38.67
15.00	21.69	27.00	39.03
15.25	22.05	27.25	39.39
15.50	22.41	27.50	39.75
15.75	22.77	27.75	40.11
16.00	23.14	28.00	40.47
16.25	23.50	28.25	40.83
16.50	23.86	28.50	41.19
16.75	24.22	28.75	41.55
17.00	24.58	29.00	41.91
17.25	24.94	29.25	42.27
17.50	25.31	29.50	42.63
17.75	25.67	29.75	42.99
18.00	26.03	30.00	43.35
18.25	26.39		
18.50	26.75		
18.75	27.11		
19.00	27.47		
19.25	27.84		
19.50	28.20		
19.75	28.56		
20.00	28.92		
20.25	29.28		
20.50	29.64		
20.75	30.00		
21.00	30.37		
21.25	30.73		
21.50	31.09		
21.75	31.45		

Note: Percent fat = Constant A + Constant B – Constant C – 18.4
For athletic people, the age correction is 21.4.

Table A1.7 Young Men 17–26

Upper Arm

INCHES	CONSTANT A	INCHES	CONSTANT A
10.00	37.01	22.00	81.42
10.25	37.94	22.25	82.34
10.50	38.86	22.50	83.26
10.75	39.79	22.75	84.18
11.00	40.71	23.00	85.10
11.25	41.64	23.25	86.03
11.50	42.56	23.50	86.95
11.75	43.49	23.75	87.88
12.00	44.41	24.00	88.81
12.25	45.34	24.25	89.73
12.50	46.26	24.50	90.66
12.75	47.19	24.75	91.58
13.00	48.11	25.00	92.51
13.25	49.04	25.25	93.43
13.50	49.96	25.50	94.36
13.75	50.89	25.75	95.28
14.00	51.82	26.00	96.21
14.25	52.74	26.25	97.13
14.50	53.67	26.50	98.06
14.75	54.59	26.75	98.98
15.00	55.52	27.00	99.91
15.25	56.44	27.25	100.83
15.50	57.37	27.50	101.76
15.75	58.29	27.75	102.68
16.00	59.22	28.00	103.61
16.25	60.14	28.25	104.54
16.50	61.07	28.50	105.46
16.75	61.99	28.75	106.39
17.00	62.97	29.00	107.31
17.25	63.84	29.25	108.24
17.50	64.77	29.50	109.16
17.75	65.69	29.75	110.09
18.00	66.62	30.00	111.01
18.25	67.54		
18.50	68.47		
18.75	69.40		
19.00	70.32		
19.25	71.25		
19.50	72.17		
19.75	73.10		
20.00	74.02		
20.25	74.95		
20.50	75.87		
20.75	76.80		
21.00	77.72		
21.25	78.65		
21.50	79.57		
21.75	80.50		

Table A1.8 Young Men 17–26

Abdomen

INCHES	CONSTANT B	INCHES	CONSTANT B	INCHES	CONSTANT B
28.00	36.74	40.00	52.49	52.00	68.22
28.25	37.07	40.25	52.82	52.25	68.55
28.50	37.40	40.50	53.14	52.50	68.88
28.75	37.73	40.75	53.47	52.75	69.20
29.00	38.05	41.00	53.80	53.00	69.53
29.25	38.38	41.25	54.13	53.25	69.86
29.50	38.71	41.50	54.46	53.50	70.19
29.75	39.04	41.75	54.78	53.75	70.52
30.00	39.37	42.00	55.11	54.00	70.84
30.25	39.69	42.25	55.43	54.25	71.17
30.50	40.02	42.50	55.76	54.50	71.50
30.75	40.35	42.75	56.09	54.75	71.83
31.00	40.68	43.00	56.42	55.00	72.16
31.25	41.01	43.25	56.74	55.25	72.48
31.50	41.33	43.50	57.07	55.50	72.81
31.75	41.66	43.75	57.40	55.75	73.14
32.00	41.99	44.00	57.73	56.00	73.47
32.25	42.32	44.25	58.06	56.25	73.80
32.50	42.65	44.50	58.38	56.50	74.12
32.75	42.97	44.75	58.71	56.75	74.45
33.00	43.30	45.00	59.04	57.00	74.78
33.25	43.63	45.25	59.37	57.25	75.11
33.50	43.96	45.50	59.70	57.50	75.43
33.75	44.29	45.75	60.02	57.75	75.76
34.00	44.61	46.00	60.35	58.00	76.09
34.25	44.94	46.25	60.68	58.25	76.42
34.50	45.27	46.50	61.01	58.50	76.75
34.75	45.60	46.75	61.34	58.75	77.07
35.00	45.93	47.00	61.66	59.00	77.40
35.25	46.25	47.25	61.99	59.25	77.73
35.50	46.58	47.50	62.32	59.50	78.06
35.75	46.91	47.75	62.65	59.75	78.39
36.00	47.24	48.00	62.97	60.00	78.71
36.25	47.57	48.25	63.30		
36.50	47.89	48.50	63.63		
36.75	48.22	48.75	63.96		
37.00	48.55	49.00	64.29		
37.25	48.88	49.25	64.61		
37.50	49.21	49.50	64.94		
37.75	49.54	49.75	65.27		
38.00	49.86	50.00	65.60		
38.25	50.19	50.25	65.93		
38.50	50.52	50.50	66.25		
38.75	50.85	50.75	66.58		
39.00	51.18	51.00	66.91		
39.25	51.50	51.25	67.24		
39.50	51.83	51.50	67.57		
39.75	52.16	51.75	67.89		

Table A1.9 Young Men 17–26

Forearm

INCHES	CONSTANT C	INCHES	CONSTANT C
10.00	54.30	22.00	119.45
10.25	55.65	22.25	120.80
10.50	57.01	22.50	122.15
10.75	58.37	22.75	123.50
11.00	59.73	23.00	124.85
11.25	61.08	23.25	126.21
11.50	62.44	23.50	127.57
11.75	63.80	23.75	128.92
12.00	65.16	24.00	130.28
12.25	66.51	24.25	131.64
12.50	67.87	24.50	133.00
12.75	69.23	24.75	134.35
13.00	70.59	25.00	135.71
13.25	71.94		
13.50	73.30		
13.75	74.66		
14.00	76.02		
14.25	77.37		
14.50	78.73		
14.75	80.09		
15.00	81.45		
15.25	82.80		
15.50	84.16		
15.75	85.52		
16.00	86.88		
16.25	88.23		
16.50	89.59		
16.75	90.95		
17.00	92.31		
17.25	93.66		
17.50	95.02		
17.75	96.38		
18.00	97.74		
18.25	99.09		
18.50	100.45		
18.75	101.81		
19.00	103.17		
19.25	104.52		
19.50	105.88		
19.75	107.24		
20.00	108.60		
20.25	109.95		
20.50	111.31		
20.75	112.67		
21.00	114.02		
21.25	115.38		
21.50	116.74		
21.75	118.10		

Note: Percent fat = Constant A + Constant B – Constant C – 10.2.
For athletic people, the age correction is 14.2

Table A1.10 Older Men 27–50

Buttocks

INCHES	CONSTANT A	INCHES	CONSTANT A	INCHES	CONSTANT A
35.00	36.68	47.00	49.26	59.00	61.83
35.25	36.94	47.25	49.52	59.25	62.09
35.50	37.20	47.50	49.78	59.50	62.35
35.75	37.46	47.75	50.04	59.75	62.61
36.00	37.73	48.00	50.30	60.00	62.87
36.25	37.99	48.25	50.56		
36.50	38.25	48.50	50.83		
36.75	38.51	48.75	51.09		
37.00	38.78	49.00	51.35		
37.25	39.04	49.25	51.61		
37.50	39.30	49.50	51.87		
37.75	39.56	49.75	52.13		
38.00	39.82	50.00	52.39		
38.25	40.08	50.25	52.66		
38.50	40.35	50.50	52.92		
38.75	40.61	50.75	53.18		
39.00	40.87	51.00	53.44		
39.25	41.13	51.25	53.70		
39.50	41.39	51.50	53.97		
39.75	41.66	51.75	54.23		
40.00	41.92	52.00	54.49		
40.25	42.18	52.25	54.75		
40.50	42.44	52.50	55.01		
40.75	42.70	52.75	55.28		
41.00	42.97	53.00	55.54		
41.25	43.23	53.25	55.80		
41.50	43.49	53.50	56.06		
41.75	43.75	53.75	56.32		
42.00	44.02	54.00	56.59		
42.25	44.28	54.25	56.85		
42.50	44.54	54.50	57.11		
42.75	44.80	54.75	57.37		
43.00	45.06	55.00	57.63		
43.25	45.32	55.25	57.90		
43.50	45.59	55.50	58.16		
43.75	45.85	55.75	58.42		
44.00	46.12	56.00	58.68		
44.25	46.37	56.25	58.94		
44.50	46.64	56.50	59.21		
44.75	46.89	56.75	59.47		
45.00	47.16	57.00	59.73		
45.25	47.42	57.25	59.99		
45.50	47.68	57.50	60.25		
45.75	47.94	57.75	60.52		
46.00	48.21	58.00	60.78		
46.25	48.47	58.25	61.04		
46.50	48.73	58.50	61.30		
46.75	48.99	58.75	61.56		

Table A1.11 Older Men 27–50

Abdomen

INCHES	CONSTANT B	INCHES	CONSTANT B	INCHES	CONSTANT B
32.00	28.66	44.00	39.41	56.00	50.15
32.25	28.88	44.25	39.63	56.25	50.37
32.50	29.11	44.50	39.85	56.50	50.59
32.75	29.33	44.75	40.08	56.75	50.82
33.00	29.55	45.00	40.30	57.00	51.04
33.25	29.78	45.25	40.52	57.25	51.26
33.50	30.00	45.50	40.74	57.50	51.49
33.75	30.22	45.75	40.97	57.75	51.71
34.00	30.45	46.00	41.19	58.00	51.94
34.25	30.67	46.25	41.41	58.25	52.16
34.50	30.89	46.50	41.64	58.50	52.38
34.75	31.12	46.75	41.86	58.75	52.60
35.00	31.35	47.00	42.09	59.00	52.83
35.25	31.57	47.25	42.31	59.25	53.05
35.50	31.79	47.50	42.54	59.50	53.28
35.75	32.02	47.75	42.76	59.75	53.50
36.00	32.24	48.00	42.98	60.00	53.72
36.25	32.46	48.25	43.21		
36.50	32.69	48.50	43.43		
36.75	32.91	48.75	43.66		
37.00	33.14	49.00	43.88		
37.25	33.36	49.25	44.10		
37.50	33.58	49.50	44.33		
37.75	33.81	49.75	44.55		
38.00	34.03	50.00	44.77		
38.25	34.26	50.25	45.00		
38.50	34.48	50.50	45.22		
38.75	34.70	50.75	45.45		
39.00	34.93	51.00	45.67		
39.25	35.15	51.25	45.89		
39.50	35.38	51.50	46.12		
39.75	35.59	51.75	46.34		
40.00	35.82	52.00	46.56		
40.25	36.05	52.25	46.79		
40.50	36.27	52.50	47.01		
40.75	36.49	52.75	47.24		
41.00	36.72	53.00	47.46		
41.25	36.94	53.25	47.68		
41.50	37.17	53.50	47.91		
41.75	37.39	53.75	48.13		
42.00	37.62	54.00	48.35		
42.25	37.87	54.25	48.58		
42.50	38.06	54.50	48.80		
42.75	38.28	54.75	49.03		
43.00	38.51	55.00	49.25		
43.25	38.73	55.25	49.47		
43.50	38.96	55.50	49.70		
43.75	39.18	55.75	49.92		

Table A1.12 Older Men 27–50

Forearm

INCHES	CONSTANT C	INCHES	CONSTANT C
8.00	24.02	19.00	57.03
8.25	24.76	19.25	57.78
8.50	25.52	19.50	58.53
8.75	26.26	19.75	59.28
9.00	27.02	20.00	60.03
9.25	27.76	20.25	60.78
9.50	28.52	20.50	61.53
9.75	29.26	20.75	62.28
10.00	30.02	21.00	63.03
10.25	30.76	21.25	63.78
10.50	31.52	21.50	64.53
10.75	32.27	21.75	65.28
11.00	33.02	22.00	66.03
11.25	33.77	22.25	66.78
11.50	34.52	22.50	67.53
11.75	35.27	22.75	68.28
12.00	36.02	23.00	69.03
12.25	36.77	23.25	69.78
12.50	37.53	23.50	70.52
12.75	38.27	23.75	71.27
13.00	39.03	24.00	72.02
13.25	39.77	24.25	72.77
13.50	40.53	24.50	73.52
13.75	41.27	24.75	74.27
14.00	42.03	25.00	75.02
14.25	42.77		
14.50	43.53		
14.75	44.27		
15.00	45.03		
15.25	45.77		
15.50	46.53		
15.75	47.28		
16.00	48.03		
16.25	48.78		
16.50	49.53		
16.75	50.28		
17.00	51.03		
17.25	51.78		
17.50	52.54		
17.75	53.28		
18.00	54.04		
18.25	54.78		
18.50	55.53		
18.75	56.28		

Note: Percent fat = Constant A + Constant B – Constant C – 15.0.
For athletic people, the age correction is 19.0.

Energy Expenditure

Examples of Sedentary and Active Energy Expenditures

Sedentary	kcal	Active	kcal
Using remote control to change TV channel	>1	Getting up and changing channel	3
Reclining for thirty min. of phone calls	4	Standing for three ten-min. phone calls	20
Using garage door opener	>1	Raising garage door (double size)	2–3
Hiring someone to clean and iron	0	Ironing and vacuuming each for thirty min.	152
Waiting thirty min. for pizza delivery	15	Cooking for thirty min.	25
Buying presliced vegetables	0	Washing, slicing, chopping vegetables for fifteen min.	10–13
Using a leaf blower for thirty min.	100	Raking leaves for thirty min.	150
Using a lawn service	0	Gardening and mowing each for thirty minutes per week	360
Using car wash one time a month	18	Washing and waxing car one hour a month	300
Letting dog out the back door	2	Walking dog for thirty min.	125
Driving forty min., walking five min. (parking)	22	Walking fifteen min. to bus stop twice a day	60
Sending e-mail to colleague, four min.	2–3	Walking one min., talking (standing) three min.	6
Taking elevator up three flights	0.3	Walking up three flights	15
Parking close as possible, ten-second walk	0.3	Parking in first spot, walking two min. five times per week	8
Letting cashier unload shopping cart	2	Unloading full shopping cart	6
Riding escalator three times	2	Climbing one flight of stairs, three times per week in mall	15
Shopping online, one hour	30	Shopping at mall, walking one hour	145–240
Sitting in car at drive-in window, thirty min.	15	Parking and walking inside, three times per week, total of thirty min.	70
Paying at the pump	0.6	Walking into station to pay, one time per week	5
Sitting and listening to lecture, sixty min.	30	Giving lecture	70

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Estimated Calorie Expenditure Chart for one-hundred-fifty-pound person per Hour

Accordion playing	122
Assembly work, sitting	102
Bobsledding	476
Bookbinding	156
Chambermaid work	170
Cleaning rain gutters	340
Computer work	102
Digging worms	272
Firefighting	816
Jackhammering	408
Napping	61
Office work at desk	122
Shoveling coal	476
Taking a shower	136
Tap dancing	327
Washing the dog	238
Watching TV	68

About the Authors

Micheal Clark,
Chief Executive Officer, National Academy of Sports Medicine

Dr. Micheal Clark, DPT, MS, PT, CES, PES, CPT, is chief executive officer of the National Academy of Sports Medicine. An industry visionary, he is the creator of NASM's exclusive Optimum Performance Training™ (OPT) method used by thousands of health and fitness professionals worldwide.

Recognized as one of the top physical therapists in the industry, Dr. Clark has rehabilitated, reconditioned and trained hundreds of professional and amateur elite athletes. His list of athlete-clients includes a MLB Cy Young award winner, world champion figure skaters, NBA All-Stars, NBA Rookies of the Year, NBA Most Valuable Players, NFL All-Pros, The World's Strongest Man, national champions, Olympic gold medalists and hall of fame athletes.

In 2005, Men's Health magazine selected Clark as "Health and Fitness Visionary of the Year" for his role in shaping the future of the health and fitness industry. This recognition corresponds to his long term planning in spearheading NASM's continued growth for the next several years, managing partnerships for NASM products in a variety of channels from apparel to health clubs to corporations and designing the features and functionality of new products.

He is currently the team physical therapist to the NBA's Phoenix Suns and adjunct faculty for the master's of science in injury prevention and performance enhancement with the California University of Pennsylvania.

For more details on Dr. Clark or to read some of his articles and white papers please visit www.nasm.org or www.dotfit.com.

Neal Spruce,
Founder & CEO, dotFIT, LLC

Neal Spruce is chairman of the board for the prestigious National Academy of Sports Medicine (NASM) and founder of dotFIT, LLC. Neal is a fitness specialist, author, licensed teacher, researcher, bodybuilding champion, personal fitness consultant and speaker.

Prior to creating dotFIT, Mr. Spruce founded Apex Fitness, a research and development company that eventually became part of Fitness Holdings World Wide, the parent company of 24 Hour Fitness USA, Inc. While with Apex, Spruce and his team developed fitness programs used in over 1500 fitness facilities worldwide, currently serving over 500,000 new participants annually. Neal also created the revolutionary bodybugg® calorie management system, which in 2005 received the "Best of What's New in Personal Health" award from Popular Science and was featured on NBC's hit television show, The Biggest Loser.

Mr. Spruce holds a health and fitness teaching credential from the State of California. He developed the nutrition curricula for the Apex Fitness Systems and NASM personal trainer certification programs. He regularly contributes chapters to academic publications through CRC Press on advanced sports nutrition. He also co-authored the supplement

reference book, An Evaluation of Popular Fitness-Enhancing Supplements, which assesses the effectiveness and safety of various dietary supplements in today's marketplace.

A nationally recognized nutrition and fitness expert, Neal delivers more than 100 lectures annually on fitness-related topics. He has been a featured speaker on more than 300 radio and television talk shows and hosted his own television fitness show in San Francisco.

About NASM

Since 1987, the National Academy of Sports Medicine (NASM) has been a global leader in providing evidence-based personal training certification, sports performance training and advancement credentials.

As today's population continues to sit more and move less a majority of people begin to suffer from poor posture or muscular imbalances that eventually lead to pain or injury. Founded on the proven Optimum Performance Training (OPT) model, NASM's certification and training programs take a holistic approach to helping individuals of all athletic abilities and fitness goals achieve a state of optimal health. It is this understanding of the intricacies of the body's muscular and musculoskeletal systems that make its programs successful.

In addition to its evidence-based NCCA-accredited Certified Personal Trainer (CPT) certification, NASM offers a progressive career track with access to advanced specializations (Corrective Exercise Specialist and Performance Enhancement Specialist certifications), continuing education courses and accredited Bachelor Degree programs.

NASM is dedicated to helping health and fitness professionals enhance their careers while empowering their clients to live healthier lives. With a purpose of delivering evidence-

based health and fitness solutions that truly educate and motivate, everything NASM does is focused on excellence, innovation and results.

We have strategic alliances with top physicians, registered dieticians, Phoenix Labs, BodyMedia and leading universities, such as the University of North Carolina, Arizona School of Health and Sciences, Texas Women's University and the University of Hawaii, which combined with our world-class advisory board of researchers and academics result in unparalleled knowledge, products and expertise.

About dotFIT

Founded by a seasoned team of leading fitness industry visionaries, dotFIT has rapidly become the worldwide leader in personalized holistic health, nutrition and fitness solutions. Delivered to consumers directly or via fitness clubs, dotFIT provides the proven essentials needed for people to eat better, live better and feel better. Whether you're a mom looking to lose a few pounds, a busy executive trying to stay in shape, or an athlete training for your next marathon, dotFIT has the integrated solution to ensure success.

Driven by innovative **F**itness **I**ntelligence **T**echnology platform, dotFIT provides a wealth of customized online digital assets, real-time monitoring and progress capabilities, exercise and nutrition programs, nutrition products and access to coaches certified by the National Academy of Sports Medicine. No other organization brings together the expertise, knowledge, products and resources, and science to help people achieve their health and fitness goals.

How dotFIT Can Help You

dotFIT connects the dots to your health, nutrition and fitness. Our partnership with the National Academy of Sports Medicine (NASM) is central to our approach of providing best-in-class information and resources to our clients. Our offerings include...

- Nutrition—With the dotFIT Me program, you can create a personalized plan, set and track weight targets and customize menus based on the foods you like to eat.

- Supplements—For the ultimate in health, weight -loss, longevity, energy and performance, supplements deliver the nutrients to the body at the right time for optimal results, backed by rigorous scientific research, delivered right to your door.

- Exercise—Get fit fast–and stay that way for life with dotFIT's proven combination of cardiovascular and strength training. With the dotFIT Me nutrition and fitness program, you have access to an extensive library of hundreds of online videos, animations and fitness tools.

- Coaching—NASM-certified coaches and trainers are here to help you with your personal goals. Using time-tested scientific methods that work, NASM's army of personal instructors is available on line, by phone or at your door.

- Community—You're never alone in your quest for health and fitness. The dotFIT community connects you with the support system needed to stay on track, including online support, chat rooms, video feeds, product reviews and a great social networking site to interact with thousands of like-minded people.