

The Elements of Fitness

The truth about getting fit and achieving wellness

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Introduction

Getting fit and achieving wellness doesn't require rocket science. Sure, there's a large and growing body of fitness-related knowledge in the fields of exercise physiology, nutrition, psychology, and medicine, and the information coming to us from these fields produces a seemingly endless supply of new advice regarding fitness and wellness: Information that the government and the media clasp onto and barrage us with. Information that often seems to contradict earlier "science-based" recommendations. Information that, at times, makes us throw up our hands in frustration and say, "Too much! If the experts can't figure it out, how on earth can I hope to?"

The good news is that the basic building blocks of getting fit and achieving wellness are straightforward and easy to understand—and they don't change! This is a short book on purpose. It presents only the basic information you need to get fit and achieve wellness in your life.

The information compiled in the sections on physical activity and nutrition (*Action!* and *Fuel!*) are concise and science based. These are the time-tested, science-proven rules for getting it right. The section on motivation (*Fun!*) is drawn more from my personal research and experience. I hope you find it helpful.

All the information in this book is geared toward the general population. If you suffer from a particular disease state or have special medical needs or concerns, you should consult with your doctor or another certified medical or health professional before acting on any of the recommendations presented in the book. For that matter, everyone should always check with his or her physician before embarking on any new exercise and/or dietary pursuits.

It is worth noting, too, that you may want to expand your knowledge beyond the bounds of what this book presents. If you're like me—a sponge on the subject of fitness—there's an ocean of information out there waiting for you to dive into. However, you won't need any more than what's presented here to begin getting fit and achieving real wellness in your life.

Before we get started, let's define exactly what getting fit and achieving wellness means. **Simply put, it is the development of a balanced state of physical, mental, and emotional health.** It is a true lifestyle change/improvement for most of us. It is beyond weight loss, disease prevention, self-image, or even goal achievement. It is the pursuit of the you God meant you to be, the you that you ultimately will be happiest with.

I wish you happiness and much success in your fitness pursuits.

Chapter 1: Fun!

How to get and stay motivated

The truth about how to get and stay motivated

A lot of misconception exists out there over what it takes to achieve fitness and wellbeing. The truth is that there are a handful of well-worn paths that lead to real, self-sustaining fitness and wellbeing, and it's time that you know them. Why these paths seem to be such well guarded secrets, I don't know, but get ready for the truth.

The three keys to motivation

Your past holds the keys to your success for getting and staying motivated. When we were kids we engaged in fitness pursuits as often as we could and we never had to search for motivation. In fact many of us had to be scolded to quit working out and come inside for lunch or dinner. It was called play back then, and it enabled us to use our bodies in the ways our bodies were designed to be used: chasing, climbing, laughing, swimming, pursuing adventure on our own and with friends.

To find the keys to your fitness motivation, your fitness pursuits today need to be related in key ways to the types of experiences you had playing as a child. If you want to get into a fitness pursuit that you'll have to tear yourself away from, one that actually creates a sense of perpetual motivation and that connects to the deepest parts of your being and who you are, you need only look to the three key concepts that are the hallmark characteristics of most people's childhood physical activities:

- Community and Friendships
- Adventure and Pursuit
- Ease of Movement, Strength, and Grace

The need for each of the above three concepts is still embedded in most of us as adults to varying degrees. For some, the need for community and camaraderie in their fitness pursuits is paramount; for others though, adventure and pursuit are more important. For all of us, purposefully seeking fitness pursuits that in some way tap into the above three concepts (and focusing on those aspects of the fitness pursuits) will turbo-charge our ability to enjoy them. And once you're really connected with an activity, once the proverbial bug has bitten you, you'll seldom lack for motivation for your fitness pursuits. What follows is a discussion of the three key concepts that are critical to finding and cultivating your wellspring of fitness motivation.

Key #1: Community and Friendship

Some of us are loners, and some of us are social butterflies, but all of us possess a need to belong to a greater community—to be engaged with friendships. As kids, most of us didn't just play in the woods by ourselves or run through the sprinklers alone.

Whenever we could, we played with friends because humans have a universal need to be involved with each other. So, whatever your chosen fitness pursuit, find or make friends to do it with.

Here's how to make community and friendships a part of your fitness pursuits:

- Join a group by taking a yoga, spin, or aerobics class, or try out a masters swim team, or a running club—whatever—and either make some new friends or take some old ones along with you. Either way, focus on the fun you have with those friends as much as you do on the activity itself.
- Try different classes at your gym to find the instructor and classmates that you connect with most. Then get to know them and start having fun with them!
- If you exercise at home on your own, purchase a second piece of equipment (If you own a treadmill, for example, get an elliptical too.) and get your spouse or a buddy to go at it with you. This will allow you to add both a little variety and some camaraderie to your fitness pursuits. Again, the key is to focus on the relationship and the interactions with other people as much as you do the exercise.
- Try using a trainer. Many people say that, in addition to benefiting from the knowledge and instruction of a personal trainer, they are also motivated by their relationships with their trainers. It's a little like being a kid and promising to meet your buddy down the road for a game of tag—except the trainer's always it, and you usually just get chased from one machine to the next.
- Keep in mind that the people with whom we surround ourselves in our lives bend us in directions we're often not even aware of. Seeking out and surrounding yourself with other people who value their fitness and wellbeing ensures that at

least a portion of your environment is filled with people trying to bend you in the same direction you want to go.

- Finally, remember that you don't have to do everything with others. The need for community as related to fitness pursuits is, I believe, universal, but we each differ in the degree to which we need it. I still enjoy running alone some mornings and just having that time to myself, but I wouldn't trade my morning swim practices with "the guys" down at the pool for anything. I simply have too much fun with my buddies to give it up.

Key #2: Adventure and Pursuit

Adventure

Remember exploring as a kid? Most of my exploring was done outdoors: riding my bike through new neighborhoods, or traipsing through the woods with my best friends. Most of us have memories of exploring indoors, too: checking out closets and crawl spaces at friends' and relatives' houses, trying our flying leaps on new furniture, and just finding new ways to play with old stuff. What's important with your fitness pursuits is to capture some of that same spirit of adventure within.

Pursuit

Closely related to adventure is pursuit. For those who are very competitive by nature—those who like to keep score of everything—pursuit is a critical concept to work into fitness activities. For the rest of us, it is still important; it needs to exist in some way within all our fitness efforts.

Pursuit is what goals are born of. It is a striving for some specific outcome: losing 5 pounds, or 200 pounds, completing a race, winning a race, etc. It hardly matters what the pursuit is—just that it be meaningful, definable, and realistically attainable.

Here's how to make adventure and pursuit a part of your fitness pursuits:

Adventure

- Get outside and explore new places to find adventure. At almost any time, you can run, walk, bike, swim, ski, surf, etc. in new places and in new ways. Let your routine be anything but routine, and strive to seek out the new.
- Find a little adventure in the gym by trying new machines or new lifts, and by changing up the order of the exercises you perform. And try new classes once in awhile. Variety is the spice of life, and as you'll find in the next chapter, it's also one of the keys to sustaining the physical adaptations and improvements that are key to fitness.
- Some activities are inherently more adventuresome than others. Trail running, for example, is more adventuresome than treadmill running, and spin classes are

more adventuresome than the pre-programmed workouts found on the stationary bikes in most gyms. Mountain biking is usually more adventuresome than both. Seek activities that naturally register high on your adventure meter.

Pursuit

- Pursuit, at its core, is a concept born of competition. You can compete against yourself by setting and striving to accomplish goals, or you can physically compete against others in either individual or team-oriented ways. In any case being able to win once in awhile is important; it's why we like things we're good at. But it's the pursuit of the win is that's truly critical. Focus on the pursuit, not the outcome.
- Pursuit of goals is important for everyone. You don't need to necessarily write your goals down, but you do need to keep them top of mind. Goals should be specific and realistically attainable. "Fitting into your pre-baby clothes" is specific; it may or may not be realistically achievable. "Getting thinner" is realistically achievable, but it's not specific enough. You need to be able to see and specifically describe the outcome you're after. I don't just want to "fit exercise in most days." I want to "get 2 weight training sessions and 3 aerobic workouts in every week."
- Any activity that pits you in competition with another person, time, etc. will provide a sense of pursuit, too. Though most of us don't require a whole lot of competition to stoke the fires of our motivation, it can be a lot of fun to mix it up in spirited competition with someone else once in awhile.

Key #3: Ease of Movement, Strength and Grace

Remember flying around the yard, sprinting effortlessly? Or how about sliding down the hall in your socks? Or the long, gliding turns and various zigs and zags you made down the road on your bike? That fluidity and ease of movement, that sense of strength and grace is the final set of key characteristics you need to ensure are present in your fitness activities.

Here's how to ensure you experience ease of movement, strength, and grace in your fitness activities.

- Take an aerobics, yoga, or pilates class and focus on mastering the moves with grace and fluidity of movement. Find someone in the class who exhibits this and visualize yourself performing like her.
- When lifting weights, be sure to perform each lift smoothly, never jerking or throwing the weight.
- Do short sets of plyometrics, bounding drills, or pick-ups before or after walking or running. This basically involves skipping, high-stepping, bounding, or accelerating to just under sprint speed for 50 yards or less a handful of times.
- Enjoy some fast, effortless descents down a neighborhood hill on your bike, and take your time going back up. Or swim some laps, but wear fins to feel really fast.
- Rather than trying to wear yourself down during workouts, take it a bit easier and focus on performing the activity with a sense of grace and ease of movement. Revel in your body's movement and enjoy that as end in itself.

Additional Truths About Motivation

The rest of this chapter focuses on a handful of additional truths regarding motivation, but none of them will create self-sustaining motivation like the three previously discussed keys will. You may want to go back and re-read the first section of this chapter before moving on, so that you can truly focus on finding ways to

1. cultivate community and friendships in your fitness activities.
2. infuse your fitness activities with pursuit and adventure.
3. experience ease of movement, strength, and grace in your fitness activities.

The rest of this chapter may ring with truth, but the truths that follow are really ancillary to the three keys above.

Truth 1: Do it for others.

Pursuit of lifestyle change is a self-oriented action by definition, but the truth is you end up doing it as much for others as for yourself.

The misconception is that fit people are, for the most part, self-centered, vain-glorious, and egomaniacal. The truth is that truly fit people—people who've achieved a balanced state of physical, mental, and emotional wellbeing—pursue their lifestyles as much, if not more, for others as for themselves.

Here's why the first truth works:

- You want to have more to give to the people you love and care about the most. As your fitness improves, you're going to feel better about yourself, look better, have more energy, and be more enjoyable to be around.
- You want to be around longer for your loved ones and reduce the likelihood that they'll have to shoulder the burden of supporting you through chronic disease states like diabetes, heart disease, high blood pressure, or some form of cancer—each a killer disease strongly linked to low levels of fitness and/or obesity.
- You also want to be a positive role model for the people you care the most about, maybe even inspiring them to join you in pursuit of a well balanced and healthy life.

Truth 2: Do what you enjoy.

Think about the things you like to do—these are probably things you've enjoyed some measure of success with. Think about the things you detest—chances are you've had some frustrating experiences in those areas. A lot goes into determining the things we enjoy: past successes or failures, amounts of pleasure or satisfaction derived, praise from, and beliefs of, others, etc. Truly fit people enjoy the pursuits they're engaged in. They enjoy what they eat; they enjoy and look forward to their workouts; they enjoy the lifestyles they've created for themselves.

The misconception is that fit people are practiced in the art of delayed gratification and suffer greatly and regularly to accomplish their fitness. The truth is they really enjoy themselves and their fitness pursuits. You should, too.

Here's why the second truth works:

- You are many times more likely to accomplish your goals and stick with your fitness and nutritional pursuits when you are able to find some element of pleasure in them.
- The sense of self-mastery you will achieve—as your fitness improves, as you complete each workout, as you finish each satisfying, healthy meal—becomes an immediate and gratifying pleasure available to you on a regular basis.

Truth 3: Embrace some suffering...but on your terms.

For some time now, enlightened exercise physiologists and gurus have decried the "No pain, no gain!" motto. But let's not throw the baby out with the bath water. There is a price to pay for improved fitness and wellbeing, and it does require some degree of suffering—at times.

The misconception is that fit people masochistically run themselves through the pain mill on a regular basis to achieve their fitness. The truth is, truly fit people—people who've achieved a balanced state of physical, mental, and emotional wellbeing—do embrace suffering, but they do it on their own terms. They look forward to stretching and warming up easily. They purposefully do most of their aerobic exercise (at least 80% of it) at an intensity that accommodates easy conversation and promotes smiling (this typically occurs between 55%-75% of maximum heart rate). And they eat foods they enjoy when they get hungry. Truly, most of their fitness related activities are enjoyable, and there's just not a whole lot of suffering going on.

However, they do take targeted muscles to exhaustion (read "burning pain") by the end of most weightlifting sets, and they do complete one (sometimes two) relatively shorter aerobic activities most weeks at a close-to-redline effort (read "seriously out of breath"). But they do it because they want to, because they know that pushing the envelope a little at the right times promotes healthy, physical adaptation (e.g., weight loss and muscle growth). And they genuinely enjoy pushing and testing themselves once in a while. They just don't do it every day because they know that such a regimen is not healthy. Pushing yourself to extreme limits all the time doesn't promote optimal physiological adaptation, and it will likely eventually kill your motivation.

With that said, know that it is normal to experience a little dread or lack of motivation before some workouts once in a while. No one's actually motivated all the time. To deal with this in a healthy way, tell yourself to give the workout ten minutes. If after ten minutes you're still thinking of the workout in dreadful terms, stop and go home. You're either having a bad day (and may just need added rest) or you need to reassess the activity itself and how it fits in a balanced way with your other life priorities. (See Truth 5.)

Here's why the third truth works:

- Some degree of suffering is required to achieve many of the physiological adaptations you'll want (e.g., muscle gain, weight loss, major disease state prevention, etc.). Knowing when and why the suffering is required (and not required) is critical to being able to fully enjoy your fitness pursuits. See Chapters 3 for a discussion on the requirements of strength and aerobic training.
- Too much suffering actually reduces the amount of good physiological adaptations, increases the risk of injury and illness, and burns you out mentally—producing a general and persistent sense of dread in association with your fitness pursuits.
- Choosing when to push the envelope and embrace the required suffering (and choosing when not to) gives you control over the suffering, preventing the dread, and other emotionally draining feelings, from setting in.

Truth 4: Do the most important things (and the hardest things) first.

The most successful people in the world—in every field—practice this rule. This truth is exactly what you've always heard: put first things first. There needs to be a purposeful order in which you carry out each day's events. If you just let life carry you along like a rudderless ship on the tide, you'll end up stranded on someone else's beach.

You must develop a plan—a plan that allows and encourages you to do the most important things first. Hold your plan loosely because, as we all know, life happens. But do put your plan into action by identifying and doing the most important things first throughout every day.

This means looking at your life in terms of segments. Your morning can be viewed as one segment—leading to a re-examination of what time you get up and what you do with the time between your first cup of coffee and the time you head out the door for work. Your lunch hour is another segment—a segment that can, for some people, provide enough time for spiritual contemplation or meditation, a 20-minute walk, and enough leftover time to eat a lunch prepared at home the night before.

What will you do with your time? Don't necessarily try to find more time. Segment your time; then review and re-prioritize the time you have within each segment, putting the most important (and often hardest) things first.

Here's why the fourth truth works:

- You want to get a great start to each day, each workout, each meal. If it's important, you need to do it first.
- You sleep better and carry less stress with you throughout the remainder of each day when you know you're able to get the most important (and difficult) things out of the way first.
- This truth doesn't just apply to getting things done in the morning: It can mean eating the healthiest parts of your meals first. It can mean working out first thing on your way home—as opposed to after you've hit the couch and caught the news, read the mail, had a snack, etc. Think of meals and your days in terms of segmented blocks. Each block presents an opportunity

for doing the most important thing, the right thing (and sometimes the hardest thing) first.

- Looking at your days in terms of blocks of time gives you just a little bit more control over what happens—especially at the beginning—of each block. This divide and conquer strategy has been practiced by successful people throughout history. It is a powerful tool.

Truth 5: Find balance.

Fitness without balance can and will destroy your wellness. Fitness without balance is a recipe for future failure. Pursuit of fitness at the expense of family, friends, work, and other important life areas leads to an eventual breakdown in one or more of those areas, which in turn leads to increased stress. If your family life is coming apart at the seams, it won't matter how close to ideal body weight you are, how much you can bench press, or what your resting heart rate is. Stress will easily undo the health benefits of your fitness gains and cause happiness to elude you.

A large misconception is that fit people are primarily interested in and focused on their fitness at the expense of other important aspects of their lives. The truth is that truly fit people—people who've achieved a balanced state of physical, mental, and emotional well being—have their cake and eat it too. A precious few are blessed and have the time and money to completely control where all their focus is directed. Most of us, however, are constrained by work, family, and other commitments that are largely beyond our control. This leads to a need for serious soul-searching and, often, a reduction or resetting of expectations and/or goals in multiple life areas. I need to say that again because it's one of the biggest obstacles that holds people back from achieving real fitness and wellbeing: Serious and regular soul searching regarding your self-expectations is critical, and will likely lead to a reduction or resetting of expectations and/or goals in multiple life areas. This is not a bad thing.

With that said, you need to know the hard part, because setting new goals and expectations is easy. Finding peace and happiness with your new goals and expectations is usually much harder. For instance, you may find yourself wanting (even feeling like you need) to work out five days a week. But three, or two, is what you can do without relegating your family and job to lesser levels of importance by means of taking time away from them. It's pretty easy to set your target at three or even two times a week. It may be more difficult to really come to peace with that. But you must.

Truly fit people, those who achieve real health and wellbeing in all aspects of their lives, find ways (often creatively) to allocate time to all the important areas of their lives. (See Truth 4.) It can be done. But truly fit people also recognize that while fitness (and

good nutrition, too) are critical to their overall health and wellbeing, they are still just parts of a bigger, much more complex picture called life.

Here's why the fifth truth works:

- Your fitness is like the air you breath and the blood that courses through your veins—it is essential to your existence, but it is not the *reason* for your existence.
- Your goals and expectations in all important life areas (e.g., family, religion, work, fitness, nutrition, etc.) will almost certainly clash with the time available to pursue them.
- Creative solutions can solve many time conflicts, but ultimately, a resetting of expectations and goals is often required.
- It's easy to reset expectations and goals; it's often much harder to find happiness and come to peace with them. Coming to peace with what you're able to accomplish must, however, be an ever-present goal.

Truth 6: Plan to fall off the wagon.

Consistently making workouts and maintaining healthy eating habits is important, but truly fit people also know that obsessing over consistency leads to compulsiveness, and compulsiveness is the enemy of balance (see Truth 5).

The misconception is that fit people never "spit the bit", never miss workouts, never break diets, etc. The truth is that truly fit people—people who've achieved a balanced state of physical, mental, and emotional wellbeing—do miss workouts, do sometimes pig out on donuts, do step away from their fitness pursuits for periods of time because they are human and life happens. New babies come, additional responsibilities at work pile up, and certain occasions lead us to places where the donuts just call to us. (OK, I'm talking about me. Every I visit my parents, I have to drive to the Krispy Kreme down the road from their house!)

Succumbing to these roadblocks is not as bad as we make them out to be, and you shouldn't feel guilty about it. You do need to make sure, though, that the frequency with which you succumb doesn't begin to increase. Pay attention. When you see the frequency of the times you fall off the wagon increasing, view it as a sign that it's time, once again, to re-examine how you're balancing your most important life areas. It may be time to reduce or reset some of your expectations and/or goals in multiple life areas. (See Truth 5.)

Also keep in mind that variety is the spice of life, and periodically changing up the mix of your workouts and food is good for your body, as well. Your body is an amazingly adaptable organism. But to maximize the adaptations (strength gains, weight loss, etc.) you must periodically change the stresses (physical activity and eating habits) causing the adaptations; you should also periodically take time away from the stresses altogether. World class athletes know this and scientifically practice it through a process called periodization—essentially, a stress and rest management schedule that maps out appropriate rest days, weeks, and even months for the athlete.

Here's why the sixth truth works:

- Streakers, people who never miss workouts and never break diets, seem obsessive-compulsive. Maintaining consistency with your workouts and your healthy eating habits is critical to the long-term success of your fitness pursuits, but you'll enjoy those pursuits more and be more likely to find success through them if you allow yourself to fall off the wagon once in a while.
- Once you've fallen off the wagon, never try to make up for lost ground. Ease back into your routine—whether it's been a day or a year off—and start from whatever level you're left at. Workouts should always start at a significantly easier level than the workouts you were doing previously, and eating habits should be purposefully but gently re-established. Trying to make up for missed workouts and periods of poor nutrition can quickly become another obsessive compulsion—leaving you unbalanced, anxious, injury prone, and ultimately disappointed.
- It's never too late to re-start your fitness pursuits, but remember that the longer you're off the wagon, the more comfortable your less healthy habits will become.
- When the frequency of your missed workouts or less healthful eating habits increases, step back and re-examine how you're prioritizing (or not prioritizing) your life. (See Truth 5.) It's probably time to reduce or reset some important life expectations and/or goals.
- Remember, variety is the spice of life, and time away from important activities and habits can be just as important as your dedication to them.

Truth 7: Keep it simple.

Everyone already knows this truth, but for some reason, just about everyone messes it up. We live in a world of information overload. There are so many workouts, so many diets, so many seemingly conflicting news reports on health and fitness that most of us feel we're not adequately informed or knowledgeable enough to figure out on our own what we need to do. So we buy book after book, listen to expert after expert, hire personal trainers, tune in to Dr. Phil, and we still wonder what the heck we really need to do.

The truth is that the most successful diets in the long term are the ones with the fewest rules, and the most enjoyable and productive workouts are often the simplest.

The misconception is that exercise science and good nutrition are complicated fields of study that require significant and advanced amounts of knowledge to be able to apply to your own life. There is a lot of information out there and lots more being discovered almost daily by the PhD's. The science of exercise physiology, after all, is only about 30 years old. However, the basics are pretty straightforward and have remained remarkably unchanged over time. You'll be surprised at how much you already know: lots of refined sugars and many fats are bad for you; fruits are good; water is good; soft drinks are bad; stretching, walking at a good clip, and other weight bearing exercises are good. We'll go more in-depth with the basics throughout the rest of this book. For now, suffice it to say that the terms simple and science-based are not mutually exclusive.

Here's why the seventh truth works:

- The basics of sound nutrition and exercise science actually are fairly simple.
- Complicated exercise programs and diets are destined to fail for all but the most compulsive. Compulsion is the enemy of balance, and balance is essential for your overall wellbeing.
- Conversely, the simplest programs usually yield the best long-term results—probably because they're easier to keep up over time.

Chapter 2: Fuel!

The skinny on what to put in the tank

Weight loss—the skinny on skinny.

This book doesn't attempt to fully address weight loss. But if you are overweight, applying the information in this chapter will ultimately help you achieve a more ideal (and more than likely, lighter) body composition. There are a few reasons why weight loss isn't more fully addressed here. 1) There are lots of weight loss books on the stands already—so many that it often causes people to wonder which approach, which method, is best: low fat, low carb, low sugar, etc. The truth is, you'll lose weight using just about any of these approaches—at least in the short term. To maintain a healthy body over the long haul, employing the sensible guidelines found in the rest of this chapter will be helpful. 2) Another reason why weight loss isn't more fully covered here is this: Understanding the psychology behind why you eat is critical, and working with a professional may be necessary for many people to fully understand and learn to control why, what, and how much they eat. For many people, there are a lot of entangled psychological drivers behind their eating habits. Stop for a moment and think about all of the reasons you eat. You'll probably be surprised at how many of them have nothing at all to do with being truly hungry. Lots of eating is done to combat boredom, or to deal with depression, or to celebrate life events (big and small), or simply as a habit while studying, and so on. Simply knowing what, when, and how much to eat isn't enough. Eliminating those drivers, so that the primary reason for eating becomes sustenance of a healthy body, is a critical mental and emotional change of mind that must be accomplished. For some, just beginning to think about and become aware of the reasons why they eat is enough to begin to reset your eating habits. For others, seeking the services of a registered nutritional counselor or psychologist can be extremely beneficial. 3) Finally, science is just beginning to understand how body fat

regulates itself and other aspects of your physiology. Your fat cells make up an amazingly complex organ that exercises control over your appetite and many other aspects of your health. From an evolutionary point of view, humans are better designed to survive famine than our current environment of nutritional overabundance. Fat cells appear to possess multiple redundant mechanisms designed to help hoard calories, and this often frustrates even the most diligent dieters.

The bottom line is that to get excess weight off and maintain a more ideal body composition over the long haul, you need to first understand (and possibly change) what drives you to eat and then find ways to apply the basic concepts found in this and the next chapter. You must also realize, though, that you are fighting more than just your own lack of will power and nutritional knowledge. You are likely combating lifelong habits, and even evolution itself.

Here's the skinny on weight loss:

- Knowing how to eat healthfully is really pretty simple. The rest of this chapter explains how in relatively simple terms.
- You can lose weight on just about any of the popular diets.
- Keeping lost weight off, however, requires developing an understanding of why you eat what you do when you do. Only when armed with this information can you begin to make lasting changes to your ingrained eating habits and behaviors—which along with your exercise habits usually represent the most likely avenues for successful weight loss.
- For many people, changing the psychological drivers that cause them to eat unhealthfully and gain weight may require the professional services of a certified dietician or psychologist. For others, simply becoming aware of the reasons why they eat is enough to help effect lasting dietary change.
- Even the best dieters who adopt the best behavioral, dietary, and exercise changes, however, will often times not immediately reach their goals because their bodies' fat cells represent a calorie hoarding, evolutionary force of formidable strength.

Carbohydrates—Replace junk carbs with high-octane carbs.

Carbohydrates are good for you. Period. They are your body's primary fuel, and trying to exist on a carbohydrate-starved diet for any extended period of time is a recipe for disaster. Liver damage, poor mental and physical performance, chronic dehydration, muscle loss, etc. can all be the result of a diet too low in carbohydrates.

Whether you're trying to lose weight, add muscle mass, or just be healthy, a majority of what you eat should be carbohydrates. In fact, sticking to the commonly held recommendation that 45-65% of your daily food intake be carbohydrates is wise.

Mountains of science stand behind this recommendation.

Glycemic Index

The key is to recognize that some carbohydrates are better for you than others—much better it turns out. How to tell? The glycemic index is one helpful tool for identifying healthier carbs. The glycemic index ranks individual foods based on how quickly each is converted by your body into blood sugar. The scale used is 1 – 100+. Foods that convert to blood sugar quicker score closer to 100. Foods that convert more slowly rank lower. Look to fuel your body with carbohydrates that score lower, rather than higher, on the glycemic index.

Why? When fast burning (high on the glycemic index) fuel is dumped rapidly into your blood stream, it creates a blood sugar (glucose) spike. Your body releases a corresponding spike of insulin to carry the blood sugar to your cells for use as fuel. A large enough spike in blood sugar actually overloads on the system. The cells can't receive all the blood sugar, so some of it is taken to storage for fat instead, and some of it is cleared as waste. The massive insulin response needed to clear all this blood sugar also has a tendency to overcorrect the amount of sugar in your bloodstream, actually leaving your blood sugar levels too low and triggering yet another hunger response. So you crave something sweet again, and a vicious cycle is begun: blood sugar spikes, your body over-corrects with a too-large insulin response, too much blood sugar is actually cleared, you quickly crave more high-glycemic food to boost the low blood sugar level, and the cycle of over consumption continues—driven by what you perceive to be very

real hunger. Simply put, curtailing your consumption of foods with higher glycemic loads will lead to a healthier body.

Foods that convert to blood sugar and enter your blood stream more slowly (low to medium glycemic index foods) are processed much more efficiently by your body and actually leave you feeling full and content longer with a consumption of a lot fewer total calories. These types of carbohydrates are typically the more complex carbohydrates and are often bound with fiber, which simply causes your body to take longer to process the food. These are the types of foods your body is designed to best process.

But remember Truth 5 from Chapter 1: Find Balance. Don't go overboard trying to find only low to medium scoring foods on the glycemic index. Instead, use the index as a tool to help you select healthier carb sources when they exist. For example, a sweet potato is always a better choice than regular baked potato. Don't have sweet potatoes? Don't sweat it; have the baked potato and make the sweet potato choice next time it is available. Also remember that some very healthy, low calorie carbohydrates score high on the glycemic index too: watermelon, carrots, and dried dates to name a few. Eliminating these foods would be wrong because they provide so many other health benefits. The fact that they're relatively low calorie also means that you have to consume quite a lot of them in one sitting to create the unhealthy insulin over-reaction discussed above.

Glycemic Load

This brings us to another tool that may actually be more helpful for selecting healthier carbohydrates: the glycemic load.

The glycemic load of a food takes the glycemic index plus the total number of calories of a food into consideration. For example, watermelon and Coca Cola both have relatively high glycemic indexes, 72 and 67, respectively. It would appear from the glycemic index that Coca Cola is a healthier carbohydrate choice than watermelon. But Coca Cola is much more calorie-dense, resulting in a significantly greater insulin response than the watermelon, so Coca Cola receives a higher glycemic load score of 16, while watermelon receives a relatively low score of 4. You'd have to eat at least four times more watermelon to get the same insulin response as a Coca Cola. And common sense tells

you that watermelon must beat Coca Cola in terms of overall healthfulness because of other reasons, such as the presence of vitamins, fiber, and the fact that watermelons aren't produced in factories.

Here's why the skinny on carbohydrates:

- They types of carbohydrates you eat are probably as important as the amount of carbohydrates in your diet.
- Carbohydrates that enter your bloodstream quickly cause sharp swings in blood sugar levels. Those swings can cause you to feel hungry when you shouldn't, and, if left unchecked, may even lead to development of type-two diabetes.
- The glycemic index and the glycemic load are two tools that can help you select healthier carbohydrate alternatives when they exist. Use these tools to select healthier carbohydrate alternatives, but don't obsess over eating only low-scoring foods from these scales.
- Processed flours and high-fructose corn syrups are the two worst types of processed carbohydrates, and both cause foods they are made with to typically score poorly on the glycemic scales mentioned above. It is close to impossible to totally escape these two concoctions of modern nutrition, but you can try to find alternatives that list these ingredients further down on their ingredients list. (Ingredient lists on nutritional panels are always written in order of the greatest amount to the smallest amounts.)

Fats—Seek the good, moderate the bad, and avoid the ugly.

The primary truths about fat are these: 1) Fat is an essential element for a healthy diet and a healthy body. 2) Fat is the most calorie-dense energy source for your body, so it's wise to regulate its intake. 3) There are several different types of fat—one of which very healthful, one of which is deadly—and you need to know the difference.

The brilliance of fat

To the first point, fat is so important to your body that scientists now consider your fat stores to be your body's largest endocrine organ, sending out hormones and other chemical messengers to regulate appetite, insulin production, proteins that cause inflammation, and many other bodily functions. Fat cells affect your body's energy balance and even produce the hormone estrogen. The presence of too many too large fat cells (as fat cells increase in number they grow in size, as well) results in a series of chronic communication breakdowns that can lead to diseases like diabetes, heart disease, and even some cancers.

Fats from fish, however, can help prevent some disease states, fight the effects of aging on the brain, and may even reduce the risk of developing Alzheimer's disease. Fat is clearly not the enemy; instead, it's more of a misunderstood but complicated friend who, if abused, can turn on you in devastating ways.

The denseness of fat

Fat is the most calorie-dense food you can consume. In terms of calories, just a little fat equals a whole lot of carbs or protein, so it's easy to over consume fat—especially today, when so many packaged food products are loaded with hydrogenated fats. (See *Ugly Fats* below.) The average healthy man should weigh in at about 15-20% body fat; the average healthy woman should carry more, 25-30%. If you count calories, no more than about 20-35% of your daily calories should come from fats. But just as with carbohydrates, the type of fat consumed may be just as important as the amount.

Good fats

Unsaturated fats are found in olive, canola, and peanut oils. These good fats are also found in most nuts and nut butters. On nutritional panels, they're referred to as

polyunsaturated and monounsaturated fats. These fats have relatively little impact on bad cholesterol (LDL) and can actually help keep your good cholesterol (HDL) up.

Omega-3 fatty acids are a particularly beneficial subset of the polyunsaturated fats mentioned above. Omega-3 fatty acids are found in fatty fish such as salmon, and in plant oils like canola and flaxseed. Omega-3 fatty acids produce an anti-inflammatory effect on the body. This anti-inflammatory effect can help protect you from sudden heart attacks and some of the brain's aging effects, including dementia and Alzheimer's disease.

Bad fats

Saturated fats are less healthy for you. A diet high in saturated fats can lead to high blood pressure, an increase in your bad cholesterol, and increased risk of certain cancers. Saturated fats are found mostly in animal products like red meat, poultry, cheese, butter, and other dairy items. Coconut and palm kernel oils are also high in saturated fats. Unless you're on a medically prescribed diet, it's unreasonable to try and eliminate these products from your diet. Rather, look for "lean" and "low fat" versions of these products when possible.

Ugly Fats

Hydrogenated fats are mutant fats manufactured in factories—think Frankenstein here. In the manufacturing process, hydrogen is forced into natural fats under extreme heat and pressure, resulting in a new fat that is cheap, yummy, stays solid at room temperature, and significantly preserves the shelf life of the products it is used in. The problem with this fat is that a diet high in hydrogenated fats can kill you. You may have heard of trans-fats and the very real danger they pose to health—dramatic increases in bad cholesterol, blood pressure, etc. Trans-fats are a type of hydrogenated fat. You should actively work to reduce the presence of hydrogenated fats in your diet to as low a level as possible. That bears saying again: You should actively work to reduce the presence of hydrogenated fats in your diet to as low a level as possible. Hydrogenated fats are found in many brands of margarine and vegetable shortening. Hydrogenated fats are also found in most snack foods, such as cookies, crackers, doughnuts, piecrusts,

deep fried foods, and even foods with chocolate coatings. In today's society, it is very difficult to avoid products with hydrogenated fats, but you must try.

Here's the skinny on fats:

- Unsaturated fats, particularly Omega-3 fatty acids, provide a wide range of health benefits. Fatty fish, canola oil, flax seed oil, and peanut oil all contain significant amounts of unsaturated fats. Seek these fats out.
- Saturated fats are found in high concentrations in red meat, milk, cheese, butter, and coconut and palm kernel oils. These foods should be moderated, and low fat and lean versions of these products should be sought.
- Hydrogenated fats, particularly trans fats, should be eliminated from your diet as much as is possible. Hydrogenated fats are found in many brands of margarine and vegetable shortening, cookies, crackers, doughnuts, piecrusts, deep fried foods, and even foods with chocolate coatings. When purchasing items with hydrogenated fats, look at the nutrition panels and select the one with the least hydrogenated fat.

Protein—If it walked, be sure it was lean. If it swam, be sure it was fat.

Protein is found in every cell in your body and should make up 10 - 35% of your diet. Protein is found primarily in animal products, but can be found in high concentrations in specific vegetables, like beans, lentils, and tofu. The problem with proteins found in animal meats is the fat that comes along with them. Saturated fat is often a significant byproduct—especially in red meats. Remember that saturated fats in moderation are a normal part of most healthy people's diets. But that over consumption of these fats can lead to rises in bad cholesterol (LDL) and development of heart disease, so you should look for meat products that are lean.

The USDA's definition of lean is 3g or less of fat per ounce. This equates to 9g or less per serving. (A typical serving size of meat is considered to be about 3 ounces, the size of a deck of cards.) Most fish fit this definition, and some species, like salmon and tuna, carry the added benefit of containing significant amounts of beneficial Omega-3 fatty acids. The only restriction to place on fish in your diet should be with top-of-food chain species: shark, swordfish, and tuna. Eat these in moderation (not at all if pregnant), as they may contain higher levels of mercury (which can cause nerve and mental damage) and other harmful chemicals (emitted during many manufacturing processes) that work their way through the environment and into the fat stores of animals throughout the food chain. Particularly don't consume the skin of these fish, as the highest levels of mercury and other persistent contaminants are typically found there.

Many cuts of pork are lean, as is skinless white chicken.

In the red meat category only a handful of cuts typically make the cut of less than 3g of fat per ounce. Rounds, sirloins, flank steaks, tenderloins, and ground round are some of the leanest cuts. Seek these out. Eat other cuts in moderation or on special occasions. A 12 oz rib eye every night may eventually set you up for heart disease; a rib eye once in a while will simply make your taste buds dance.

Most fresh meat products in the U.S. still do not carry nutritional panels on their labels, but most grocers do usually have posters up in their meat departments that tell you

nutritional information for the various cuts. If your store doesn't, ask the department manager which cuts are leanest, and choose those most of the time.

Here's the skinny on protein:

- The primary health concern with meat is the fat that comes along with it.
- Eat fatty fish like salmon to stock up on healthy Omega-3 fatty acids, but consume larger fish (like shark and tuna) in moderation because of *potentially* higher mercury and other contaminant levels.
- Choose lean cuts of pork and skinless white chicken more often, because they are relatively low in saturated fats.
- Select red meat cuts that have less than 9 grams of total fat per serving, because red meat is typically heavy in saturated fats.

Salt—Just a pinch is all it takes.

Salt is needed for fluid regulation within your body and for a number of other critical functions. Too much salt, however, can raise your blood pressure and cause your kidneys to leach critical calcium away from your body and out through your urine.

Your body needs at least 500 mg of salt per day (just about a quarter of a teaspoon), and up to 2,400 mg a day is considered a safe amount for adults (just a little over one teaspoon). Many Americans, though, consume many times more than this recommended daily amount.

Salt is usually prevalent in processed foods because it's a cheap way to add a winning flavor profile to just about any food product, and it's an effective preservative. Salt actually overpowers the subtler flavor profiles of most foods, though, blunting your taste buds and preventing you from experiencing the full spectrum of flavors that most foods have to offer.

Our love of salt is based, possibly, on an ancient, primordial drive that arose as a result of our bodies' need for salt in a world where it was relatively scarce. Today, salt is everywhere, but the drive still directs us to salty foods, making over consumption a real threat for most of us.

The good news is that studies have shown you can successfully wean yourself from a dependence on salt by simply gradually using less and less of it. What you'll find as you reduce your consumption of salty processed foods and use less and less of it on the foods you prepare is that your taste buds will awaken and begin to recognize the vast array of subtle tastes and delicious flavorings that most foods naturally possess. You may also be able to find ways to enhance existing flavors with creative use of the variety of herbs and spices available at your local super market.

Here's the skinny on salt:

- Your body needs and naturally craves salt; however, you need very little but likely crave a lot.

- Most manufactured and prepared foods (packaged foods in grocery stores and meals at restaurants) are loaded with salt. You can easily satisfy several days' worth of your body's salt needs with one fast food meal.
- A diet heavy in salt can lead to high blood pressure and other related health problems.
- You may think that salt adds to the taste of food, but it really overwhelms (and blunts) your taste buds' ability to detect and enjoy the subtler flavor profiles that most foods naturally possess.
- Gradually wean yourself off your salt supplementations and pay attention to the subtler flavor profiles that begin to emerge. You'll lick your salt habit for good.

Fluids—Get water, get the milk out, and share an occasional toast.

Water

Your body, like the planet we live on, is comprised largely of water. Getting enough of it through your diet (staying hydrated) is critical. The good news is that most people living in developed countries today are plenty hydrated. Approximately 20% of your hydration needs are met through consumption of solid food products that contain water. The rest has to be met by what you drink. The rough rule of thumb for how much water you need is this: Divide your weight by two. That's the number of ounces of water you need each day. Another rough rule of thumb to assess if you are properly hydrated is to check the color of your urine. Clear urine is often a sign you're well hydrated (unless you're consuming diuretics—see below). Very dark or brightly colored urine can mean you are dehydrated—though some vitamins, milk, and other products will color your urine too.

Drinks with caffeine (coffee, alcohol, colas, tea, etc.) are called diuretics and have the opposite effect of hydrating you. They leach water from your body and tend to dehydrate you. Significant or prolonged states of dehydration can have devastating effects on your body—especially if experienced during exercise. Once you lose just 3% of your body weight in water, your cognitive and physical performance capacities begin to diminish. Once you lose more than 5% of your body weight in water, you risk development of heat exhaustion, especially if engaged in physical activity. Once you approach a loss of 10% of your weight through dehydration, heat stroke, coma, and death can follow in fairly short order.

As you can see, staying hydrated is critical. Your body's internal thirst mechanism works pretty well, causing most people to seek out and drink hydrating liquids in plenty of time to stave off severe hydration. The exception to this is when you are engaged in prolonged physical activity. You can lose so much water so quickly through the evaporative sweating process that by the time your internal thirst mechanism kicks in, it's too late. You're already significantly dehydrated. When working out, especially in warm or humid climates, you should be sure to sip on a water bottle before, during, and after your activity. Consuming carbohydrate drinks during prolonged bouts of physical

activity (longer than one hour) can help keep you hydrated and keep your blood sugar levels from falling too low, as well.

But don't go overboard. You can actually drink too much water. Over consumption of water, though rare, can cause a significant imbalance between salt and water levels at the cellular level. This state is called hyponatremia, and it can kill you. Athletes consuming massive amounts of water to try and stay hydrated during ultra-endurance events, and very young children in pools for extended periods of time swallowing large amounts of the water are the two groups most at risk for hyponatremia.

Milk

Milk, contrary to the American Dairy Association's near-religious teachings, may not be as critical to a healthy diet as believed. Women are most at risk of not getting enough daily calcium in their diets (1200 – 1500 mg per day is the recommended amount), so the government recommends the consumption of three 8 oz. servings per day because milk is an easy and convenient way to get calcium. Many people, however, get plenty of calcium in their diets, and if they don't, 500 to 1000 mg of calcium from chewable tablets or a multivitamin can be more than enough.

Weight bearing exercise, consumption of leafy green vegetables, and intake of vitamin D are just as important (or more) as consuming milk for the prevention of osteoporosis—a chronic weakening of the skeletal structure suffered mostly by females and aging adults.

Alcohol

Alcohol devastates the lives of countless people each year. Drinking, even in moderation, can quickly lead to alcoholism for some, and can also lead to terrible automobile (and other types) of accidents. Alcohol impairs reaction times, decision-making abilities, and is punishing to the liver. It is also important to note that even moderate alcohol consumption for women (one or two drinks a day—and no, drinks can't be saved up until the weekend and still be counted as moderate) increases the risk of breast cancer by approximately 20-25%.

It is with this in mind that you should weigh the one benefit of moderate alcohol consumption. Researchers have pointed out for decades that moderate alcohol

consumption does help ward off heart disease to a significant degree. Red wine, white wine, beer, cordials and even spirits like whiskey all seem to provide some level of protective benefit against heart disease, and one or two drinks a day is the recommended amount.

Here's the skinny on fluids:

- Even small losses of water can wreak havoc on your body and its ability to perform even the most basic tasks.
- Your internal thirst mechanism does a pretty good job of keeping you hydrated under normal circumstances, but it only signals you to drink after you've actually begun to dehydrate.
- Consume some water before, during, and after physical activity—especially in hot and humid weather.
- Divide your weight by two to find the approximate number of ounces of water you need to consume each day to ward off dehydration under normal circumstances.
- Milk may not be a critical component of an adult diet. You can get the calcium you need and ward off osteoporosis by taking a multivitamin (or chewable calcium tablets) and engaging in regular weight-bearing exercise like walking, running, and weight lifting.
- Although moderate alcohol consumption, one or two drinks a day, can help prevent heart disease, it can also produce an array of other well-known, negative side effects. Women, especially, should be aware of the increased risk of developing breast cancer if they drink.

Nutritional Supplements—There's nothing like the real thing.

Ideally, a well balanced diet should provide you with all the essential vitamins, minerals, and other nutrients you need. Science has been trying to put essential vitamins, minerals, and other nutrients into pills for decades. The supplement industry is very large, and debate about the benefit of supplements continues to this day. The truth is, the best sources for most nutrients are the most natural sources, and those can and should be found in your diet. That said, there are a handful of supplements that can't hurt to take and might just prove to be beneficial to your long-term health. Here's the skinny on a select group of supplement categories.

Multivitamins

Taking a single multivitamin once a day probably can't hurt, and it may fill in some of the nutrient gaps your diet may have. Don't count on a multivitamin to add years to your life, prevent dreaded diseases like cancer and heart disease, or make up for a regular diet of cheeseburgers, cokes, and fries. Multivitamins are called supplements for a reason. As of yet, there are no shortcuts around a sound diet and regular exercise. Add a multi-vitamin to your diet if you're not sure you're covering all the bases with your diet.

Antioxidants (Free Radical Fighters)

Free radicals are atoms within your body that were formerly harmless, but that have been recently stripped of one of their balancing electrons, turning them into destructor atoms that damage and even destroy otherwise healthy cells throughout your body. Free radicals have been identified as contributing culprits in the development of cancer, heart disease, Alzheimer's, and the aging process itself.

Free radicals are naturally produced as a result of living. At the cellular level, all aerobic activity (everything from breathing to aerobic exercise) produces free radicals. But so does smoking, exposure to excessive sunlight (UV rays), pollution, pesticides, and radiation. All of these potentially harmful entities should obviously be minimized, but regular exercise, especially aerobic exercise, actually triggers your body to produce its own free radical fighters called antioxidants.

Antioxidants neutralize free radicals by providing them with the missing electrons they crave. As mentioned, your body produces its own antioxidants in response to regular exercise.

Most fruits and vegetables are also loaded with antioxidants. Some of the more antioxidant-rich foods include the following: prunes, raisins, blueberries, strawberries, oranges, red grapes, cantaloupe, spinach, tomatoes, sweet potatoes, Brussels sprouts, broccoli, beets, red wine, green and black teas, and soy products. The antioxidant benefits of a diet that is rich in vegetable and fruit products is indisputable.

A third source of antioxidants can be found in vitamins A, C, E, all the B vitamins (see below), selenium, and Coenzyme CQ 10. All the foods listed above are superior means for delivering these antioxidants to your body, with the exception of vitamin E. Most recommendations for consumption of vitamin E are 400 individual units (IUs) for a typical adult—an amount that is difficult to achieve through diet alone. If you elect to take vitamin E, select an E vitamin with tocopherol in the name, and take 400 IUs daily.

B Complex Vitamins

B vitamins (B1, B2, B3, B5, B6, B12, and Folic Acid) are a group of vitamins that work in conjunction with one another to provide proven benefits, especially for women and the elderly. B vitamins help prevent anemia in women and help prevent heart disease in the elderly. You may have heard of folic acid. It's the man-made version of folate, a B vitamin so critical to healthy pregnancies that in the first 20-30 days of pregnancy, it prevents several types of birth defects. The U.S. Department of Health recommends all women of childbearing age take a supplement containing 400 micrograms (mcg) of folic acid. (Most multi vitamins and B vitamin complexes contain this amount, but be sure to check the nutritional panel.) A diet rich in vegetables, fruits, and whole grain products—especially darker and leafy green vegetables—will help ensure that you get enough folate. A good multivitamin will also help ensure you obtain adequate B vitamins.

Glucosamine Chondroitin

If you suffer from arthritis, participate in impact activities like running or basketball, or are just concerned about your future joint health, you may want to consider taking the

supplement Glucosamine Chondroitin. Glucosamine is thought to promote the formation and repair of cartilage. Chondroitin is believed to promote cartilage elasticity. The body of science surrounding the effectiveness of Glucosamine Chondroitin is still forming, but 1500 mg of Glucosamine and 1200mg of Chondroitin per day does appear to promote joint health.

Omega-3 Fatty Acids

Supplementing your diet with an Omega-3 fatty acid is probably a good idea. An immediate and natural source of Omega-3 fatty acids can be obtained from several servings of fatty fish each week. Salmon, tuna, mackerel, and cod are all rich in Omega-3 fatty acids. If fish isn't a mainstay on your diet, Omega-3 fatty acids can also be found in fish oil (EPA/DHA) supplements and flax seed oil supplements. Fish oil (EPA/DHA) supplements produce strong anti-inflammatory and anti-oxidant benefits. Recommended average daily doses of fish oil for adults is approximately 1000mg. Flax seed oil produces a strong antioxidant benefit, but does not provide the same anti-inflammatory benefit as fish oil. Recommended average daily doses of flax seed oil for adults is approximately 1 - 2 tablespoons. Since internal inflammation is now strongly linked to the development of heart disease, fish oil (EPA/DHA) is probably a preferable source for Omega-3 fatty acids.

Here's the skinny on nutritional supplements:

- Most of the vitamins, minerals, and other supplements that your body needs are easily obtainable through a healthy diet. Make sure your diet contains plenty of whole grains, fruits, vegetables, and lean meats (except for fish, which you want to be fatty, as they contain more of the healthy polyunsaturated fats).
- Most natural antioxidants are easily (and best) obtained through a diet rich in fruits and vegetables. Aerobic exercise also causes your body to produce its own antioxidants. Vitamins A, C, E, all the B vitamins, selenium, and Coenzyme Q10 can each provide additional sources of antioxidant protection. If you take an additional antioxidant, try an E vitamin with tocopherol in the name and take 400 to 800 IUs each day.

- Add a multi-vitamin to shore up any potential deficiencies in your diet.
- Add a glucosamine chondroitin supplement to help protect your joints.
- If fish isn't a regular inclusion in your diet, add a fish oil (EPA/DHA) supplement.

Diet drinks, fat-free snacks, and artificial sweeteners—Don't fool yourself!

Scientists now believe that diet drinks, fat-free snacks, and artificial sweeteners may throw off your body's innate ability to regulate the number of calories it needs. In other words, use of these substitutes may actually cause you to consume more calories, not fewer, over time. There are psychological and physiological reasons for this.

Mentally, you may just assume it's OK to eat more of these snacks and foods, since most of the calories have been removed, with the end result being the cultivation of eating habits that lead to the over-consumption of other more calorie-laden foods.

On a more physiological level, scientists have shown that animals tend to eat exactly the number of calories they need—not too many, not too few. When put on diets that allow animals to consume as much sweet, calorie-stripped food as they want, the animals end up gaining significant amounts of weight. The implication is that the foods without calories throw off animals' abilities to accurately regulate the appropriate number of calories in their diets. They get hungry when they shouldn't.

There is no sound science, by the way, to support the widely held misconception that artificial sweeteners promote development of cancers.

Here's the skinny on fat-free snacks and artificial sweeteners:

- Consumption of diet drinks, fat-free snacks, and foods made with artificial sweeteners may contribute to the development of over-eating habits and throw off your body's ability regulate the number of calories it needs.
- Eating lots of calorie-stripped foods may cause you to believe it's OK to eat lots of these foods, and this habit of over-consumption may find its way into how you eat other foods.
- You may fool and throw off your body's innate ability to know when and how much it needs to eat by flooding it with foods that taste like they should have calories, but that don't.

Portion control—Eat less, more often.

Think grazing, not feast and famine. Start your day off with at least a small meal, preferably high in fiber. For the previous 7-10 hours your body has been relying on energy from its back-up batteries, energy stores in your liver. By putting something to digest in your stomach, you tell your body to shift from the back-up fuel supply to its regular fuel source, blood sugar. In other words, you tell your body to start using fuel from recently ingested food. While using back-up fuel sources, your body tries to burn as little and store (as fat) as much fuel as possible. Once a regular source of fuel from food is re-established and maintained (through smaller, more frequent meals), your body starts using and stops storing more of the energy locked in the food, resulting in an increased metabolism.

To accomplish smaller more frequent feedings, think of incorporating fruit or nut-oriented snacks between your regular meals, and decrease your portion sizes at your regular meals. Most of us have gross misperceptions about what constitutes appropriate serving sizes. The mechanism in our brains that tells us when we're actually full lags behind the time we eat by about 20-30 minutes. By relying on feeling full to stop eating, we have a tendency to eat a lot more than we actually need. Couple this with restaurants historically trying to add value to their meals by increasing the amounts of food served, as well as our seemingly natural 'bigger is better' mentality, and you can see why we have a tendency to misconstrue how much food we actually need.

By making portions smaller and eating more frequently (every 3-4 hours instead of every 5,6 or more), you give your body a chance to truthfully tell you when it's actually hungry. You also keep it from believing it needs to be stingy in terms of what it wants to store as fat.

Note, however, that if you increase the number of times you eat and don't decrease the amounts you eat at your regular meals, you'll end up taking in more total calories, and this will lead to weight gain. The old saying that "calories in must equal calories out" is still true.

Here's the skinny on eating less, more often:

- Start your day off with a small meal (preferably high in fiber) to jump-start your metabolism.
- Eat a small snack of nuts or fruit between meals, causing you to eat every 3-4 hours instead of every 5 or 6.
- Decrease the amount you eat at each meal, so that the extra snacks don't add to your total daily calorie consumption.

Get started—Eating healthfully and enjoying food aren't mutually exclusive.

Aside from impacting what you look like, the way you fuel your body also makes a big difference in how you feel and how you perform (both mentally and physically).

Healthier foods not only taste great (once you reacquire your tastes for them), you feel less sluggish after eating them. Healthier foods usually result in you just plain feeling better physically because your body is processing what it was designed to process.

The information that's been presented in this chapter is fairly straightforward and simple because healthy eating really is simple and easy to do. Diets and eating programs that require regular measuring of calories, carbohydrates, fat grams, etc. are difficult to maintain because all that counting and measuring requires fastidious focus and attention to detail. Eating healthfully shouldn't require such a rigorous approach. With that in mind, realize that the truths found in this chapter need not be meticulously adhered to all the time in order for you to maintain a healthy diet. Making better choices regarding what you eat most of the time is what's important. Eating healthfully and enjoying what you eat are not mutually exclusive concepts.

Start applying the truths found in this chapter now. Go back and review the bulleted points associated with each topic. Making the changes talked about should be fairly easy to accomplish, but they need not all be made at once.

Also remember that you're attempting to change habits that have likely been hard-wired into your system over a period of years. Typically, it will take at least several weeks of focusing on any new routine before it starts to feel like a naturally occurring habit. Be diligent for a bit in your efforts at shifting from your old habits to the new habits talked about in this book. You'll be amazed at how easy and delicious your new healthier habits become.

Here's the skinny on getting started:

- Eating healthfully and enjoying what you eat need not be mutually exclusive concepts.

- Adopting even some of the ideas presented in this chapter will ultimately lead to a healthier you that feels and performs better (both mentally and physically).
- Don't sweat not adhering to all the concepts in this chapter all the time. Making healthier choices regarding what you eat *most* of the time is what's important.
- Focus diligently for at least a few weeks on each of the new behaviors and habits you are trying to develop. Replacing your old habits with new ones will likely take at least that long.

Chapter 3: Action!

Unleashing the athlete within you

Adaptation—You were designed for continuous improvement.

Your body is designed to improve, to change for the better, to adapt and refashion itself based on the environmental conditions and stresses it encounters. Start working regularly in a hot environment, for instance, and your body actually gets more efficient at heat regulation. Move to a high-altitude environment with less oxygen, and your body responds by generating extra red blood cells and developing additional capillaries to more efficiently carry the oxygen that is there to your cells. Begin regularly lifting weights and/or engaging in an aerobic exercise program, and a whole series of adaptations begin to occur, helping you to get stronger. For just about every physical stress you place on your body, it responds with a corresponding attempt at adaptation—an attempt to better itself. It's how we're made and is a large part of what our bodies are designed to do. It's pretty amazing when you think about it: We are—each of us—designed for continuous improvement.

This chapter is about managing the physical stresses, the exercises, that you place on your body, so that you can most effectively and safely adapt your way to better health and fitness.

And because continuous physiological improvement is one of the things your body is designed to do best, you should expect to enjoy the exercises you do. As your fitness improves, you will likely come to enjoy even the activities that entail a degree of suffering. In fact, if you approach your exercise sensibly, it's much more likely that you'll go too hard or too fast, too often than it is that you'll lose motivation and be left searching for the willpower to complete workouts or stick with a program.

As noted earlier in the book, the information presented here is science-based and geared toward the general population. If you suffer from a particular disease state or have special medical needs or concerns, you should consult with your doctor or another certified medical or health professional before acting on any of the recommendations presented in the book. For that matter, it is always a wise idea to consult with your physician before embarking on *any* new exercise and/or dietary pursuits.

Easy does it—Always warm up, cool down, and increase workloads gradually.

Your body is an adaptive machine that requires just a few basic ingredients to begin improving its physical capacities.

1) A physical stress that taxes or breaks down some component of your body must first be applied. For example, lifting weights fatigues muscles to the point of failure, causing microscopic tears and other breakdowns within the tissues. Aerobic running taxes the mitochondria (cellular energy centers) and capillaries buried deep within your muscles, making them work at their maximal capacities for extended periods of time.

2) A healthy diet and adequate rest must then provide the nutrients and time needed to repair damage from the exercise. When the damage is repaired, the rebuilt components of your body are built just a little bit stronger than they were before the exercise.

As long as the damage from the initial exercise is not too great, repetition of this process with increasingly greater workloads and periodic variety will yield substantial physical improvements to your body over time.

If the damage is too great, however, injury, overtraining, illness and other undesirable outcomes will likely follow. To keep the damage from being too great, several concepts need to be applied to all of your exercise activities.

No matter what type of exercise you are beginning, always begin and progress conservatively. Your body adapts in small increments, and subjecting it to stresses too great to adapt to between workouts is a recipe for injury. Increase weights, distances, times, etc. by no more than 10% a week.

Always warm up for 10-15 minutes at a very easy intensity in order to make sure all systems are primed and ready for the exercise. This entails doing or mimicking the activity you will be performing at a super-easy intensity level. Your body generally doesn't like surprises, and jumping directly into an exercise without proper warm-up is a shock that sets you up for injury and sub-par performance.

Also, always warm down for 5-10 minutes at a very easy intensity level after exercising. Warming down actually helps to begin the rebuilding process by clearing the cellular debris (chemical byproducts and damaged tissues) from the your body.

Here's how to take it easy for optimal fitness:

- Increase weights, distances, times, etc. by no more than 10% a week.
- Always warm up for 10-15 minutes before exercising.
- Always warm down for 5-10 minutes after exercising.

Strength Training—Get strong for life!

Lifting weights or engaging in some type of strength training regimen is more important than you may think. Adults begin losing approximately 10% of their natural strength every decade after about age 30. Flexibility and bone density also begin to degrade at about this time, deteriorating quicker as we age. These losses leave elderly people feeble, inflexible, and increasingly susceptible to fractures and other injuries. Quality of life is robbed, and dependence on others increases.

Yet much of this bodily deterioration need never happen. Most of us should be able to have nearly the same physical quality of life in old age as we do now. We should expect to be able to participate in many of the same activities we enjoyed as young adults. How? Engaging in 20-40 minutes of strength training just a couple of days per week can stop and even reverse the loss of strength, bone density and range of motion that plagues the typical inactive, aging body. Remember this, too: the more we age, the more important strength training becomes. For a thirty year-old, strength training need make up only 20% of her fitness activities (with aerobic-oriented workouts comprising the other 80%). But by age 60, strength training should comprise up to 50% of fitness activities.

Here's how to get and stay strong for life:

- Age related bone, muscle, and flexibility losses can be significantly slowed and even reversed with just a handful of exercises performed a couple of times a week.
- The more we age, the more important strength training becomes.
- The five primary exercises are 1) arm push, 2) arm pull, 3) leg press, 4) abdominal, and 5) back.
- The more joints you engage with each lift you perform, the more bang for your fitness buck you'll receive. For example, leg extension on a machine is a one-joint exercise. Leg press is a two-joint exercise and can be made a three-joint exercise by performing a calf extension at the midpoint of each repetition.
- For each exercise, perform 8 – 12 repetitions slowly enough and with enough weight to reach muscle failure by the last repetition.

- Rest 1 - 2 minutes after each exercise.
- Perform just one set (one group of 8-12 repetitions) for each exercise. If you truly reach muscle failure by the end of the first set, you'll achieve most of the benefits possible. Additional sets will yield diminishing returns.
- Since you get stronger by pushing muscles to failure and then allowing them enough down time to rebuild stronger, you should rest 2-4 days between workouts. Warning: reaching muscle failure is an uncomfortable experience that will require some degree of suffering. Your rest will be much deserved.
- If you want to lift daily, be sure to focus on different muscle groups each day, so that you still get 2-4 days rest before taxing that muscle group again.
- The older you are, the more rest between workouts you typically need. Some athletes lift every other day. Most people will benefit from at least two days rest between workouts. Resting longer than a week, however, will typically result in strength losses—not gains.
- Machines isolate specific muscles, can be used alone, are less likely to injure you, and are easier to maintain proper form with. Free weights train multiple muscle groups at once (because of the need to balance the weight throughout the range of motion), typically require less space, and should be used with a partner to help you perform lifts that could injure you should you lose control of the weight. Beginners should start with machines. More experienced lifters should at least periodically incorporate the use of some free weights.
- Expect to gradually increase the amount of weight you can lift or the number of repetitions you can complete over time. When you stop improving, mix up your routine, selecting a different exercise or taking time off.

Aerobic training: Go long!

Aerobic training is just as important as maintaining your strength. It builds your body's primary energy system (heart, lungs, blood vessels, capillaries, mitochondria, etc.) and creates powerful natural antioxidants as a by-product, helping to protect you from major disease states like heart disease, high blood pressure, many cancers, and, of course, obesity.

True aerobic training is enjoyable and occurs at just 60%-80% of your maximum heart rate, an exertion level that should leave you able to smile and speak complete sentences without gasping for air. Making sure you are going easy, but not too easy is the key to successful aerobic training. Going too easy (less than 60% of maximum heart rate) will not tax your aerobic energy system enough to create the desired physiological adaptations, but going too hard (greater than about 80% maximum heart rate) causes your body to start using other energy systems that also will not produce the same aerobic and antioxidant improvements.

How do you find and then manage to stay in that magical zone? Formulas can be used to estimate your maximum heart rate, but your actual maximum heart rate is best found by performing a maximum aerobic heart rate test while wearing a heart rate monitor (described below). Reliable heart rate monitors without too many bells and whistles are relatively cheap today and can be purchased at most sporting goods stores.

Note! Do not perform this strenuous test without your doctor's approval.

If you've been doing aerobic exercise for less than six weeks, use the following formula to estimate your maximum heart rate instead: $220 - \text{your age}$.

The potential flaw with formulas is that they are all based on population averages, and quite a bit of variation regarding maximum heart rate exists throughout the general population. In fact, many world-class athletes have heart rates that are up to 15 beats higher or lower than what the formulas predict. In general, your maximum heart rate has no relationship to your level of fitness, and tends to simply decline with age. (A better predictor of fitness is how quickly your heart rate recovers to pre-exertion levels after exercise).

Once your body is relatively well adapted to the aerobic activity you are participating in (you've been doing it for at least six weeks) you can definitively determine your maximum heart rate by wearing a heart rate monitor and performing the following test while doing that specific exercise. (You'll have slightly different maximum heart rates for different activities: cycling, running, swimming, etc.)

1. Be sure you are well rested and hydrated.
2. Warm up for 15 minutes.
3. Gradually pick up your pace for another 5 minutes, until you are at about an 85% exertion level.
4. Go all out (up a hill if possible) for at least one minute, and watch your heart rate monitor. The point at which it levels out is your maximum heart rate.
5. Now that you have established your maximum heart rate, multiply it by .80 and .60 to establish the upper and lower limits of your aerobic zone.

Most people push themselves either too hard or too little when performing aerobic workouts, so plan to wear a heart rate monitor to ensure your workouts stay in the aerobic zone most of the time. Over time, you'll acquire the ability to go both faster and longer in that zone.

An almost unlimited number of activities can be performed aerobically: swimming, running, walking, biking, aerobics, etc. You should plan to work out aerobically 2-7 times a week for 20-60 minutes, though sessions of many hours can be worked up to by most.

Aerobic-type exercise that places you above 80% of your maximum heart rate (many spinning classes, running intervals, high intensity aerobics, etc. tend to do this) should make up less than 20% of your aerobic training time—even if you are a competitive athlete preparing for serious competition.

One important closing point to note is that your aerobic system adapts and gets stronger much quicker than your muscular-skeletal system, so—again—remember to never increase distance, time, or intensity by more than approximately 10% per week. Doing more may lead to injury.

Here's how to go long:

- True aerobic training is enjoyable and occurs at just 60%-80% of your maximum heart rate, an exertion level that should leave you able to smile and speak complete sentences without gasping for air.
- Perform a maximum heart rate test with a heart rate monitor to definitively identify your maximum heart rate and calculate your aerobic zone. (Do not perform this stressful activity without your doctor's approval.)
- Wear a heart rate monitor to ensure you stay within your aerobic zone during most (at least 80%) of your weekly aerobic-type workouts (walking, cycling, aerobics, etc.)
- Work out aerobically 2-7 times a week for 20–60 minutes or longer, designating one day as a truly long day.

Balance and Flexibility—Be nimble.

Balance and range of motion (flexibility) also tend to progressively diminish with age. Like strength, bone density, and aerobic capacity, though, the diminishment can be reduced and even reversed with just a little bit of effort. Maintaining good balance and range of motion into your later years of life is primarily dependent upon staying active. A few minutes of daily stretching and balance activities can greatly help, too.

The most effective time to stretch is after working out, but you should try to incorporate gentle stretching prior to working out as well. The easiest and most effective way to stretch a muscle is to stretch to a point of mild muscle tension (you should never experience pain or discomfort) and hold it for 20 seconds or so.

Warming up and stretching are both important to do before and after fitness activities, but if you don't have time for all that, do at least this: warm-up before and stretch after.

Yoga, Pilates, and Tai Chi are each excellent exercises that, among other things, promote both balance and range of motion.

Contrary to popular belief, stretching actually does not prevent athletic injuries. Stretching does, though, promote a healthy range of motion that can help prevent arthritis and keep you mobile into the latest years of your life.

Here's how to get nimble:

- Formally stretch and perform balance work for a few minutes each day—preferably before and after fitness activities.
- Warming up and stretching are both important to do before and after fitness activities, but if you don't have time for all that, do at least this: warm-up before and stretch after.
- Stretch any other time the mood strikes.
- An effective means of stretching is to stretch to a point of mild muscle tension (you should never experience pain or discomfort) and hold it for 20 seconds or so.
- Yoga, Pilates, and Tai Chi are each excellent low-impact exercises that also promote balance and flexibility.

- Stretching does not prevent athletic injuries, but it can help prevent arthritis and preserve range of motion into the latest years of your life.

Variety—Keep it spicy!

Your body will typically adapt well to the same activity performed the same way with progressively increasing intensity or duration for about six weeks—then it may plateau and need additional stimulus to begin improving and adapting again. After six weeks, you should plan to change the exercises you are doing. Jog hills instead of the flats, or try swimming or cycling for a while. Use different machines in the weight room, or switch from machine to free weight exercises. Nobody likes being in a rut. Your body doesn't either, so periodically give it something new to adapt to. Just remember to take it easy when changing routines. You may have gotten into very good shape running, but you need to act as if you're starting from scratch when you shift to a different exercise. The law of exercise specificity states that little carryover benefit is shared when shifting from one exercise to another. For instance, a very fit cyclist should approach starting a running program as a complete beginner—starting slow and jogging for just a number of minutes to start with—because that's how his/her body will perceive the new activity.

You should also vary the durations and/or distances of any aerobic sessions throughout the week, making one day a significantly longer day than the others (at least 1.5 times longer than the other workouts).

From a psychological point of view, working enough daily and seasonal variety into your routines should also help keep you hungry and motivated for your fitness pursuits.

Here's how variety should factor into your workouts:

- Be sure you vary some of your workout variables every day: duration, intensity, activity, etc. Don't just do the same thing over and over; you'll bore your body and it will tune out.
- Every six weeks or so, significantly change your exercises, but start the new activities as if you were completely out of shape. (Intensities and durations of the new activities should both begin low.)

Relax—Rest must equal work.

As previously stated, rest is just as critical to the fitness equation as work.

Different people need differing amounts of rest, but we all require more as we age. You should separate intense bouts of exercise (like weight training) with 2-4 days of rest.

Less rest is typically needed between bouts of aerobic exercise.

You should also designate every 3rd or 4th week as a rest week. Cut back the number, intensity, and/or duration of all your workouts by at least a third during these rest weeks. In the same way, take up to a month completely off at some point during the year. Just remember to take it slow and easy when you do start back, again, increasing workout durations and volumes by no more than 10% a week.

Also get plenty of rest in bed. The more you exercise, the more rest you need each night. During sleep, your body releases a slew of hormones that help the physiological rebuilding processes that occur after exercise sessions. Most people need an average of eight hours a night. You may need more. Be aware that alcohol, caffeine, stress, and even your own snoring can keep you from reaching the depth of sleep needed for the physiological rebuilding processes to be effective. Working enough rest into your routines should also help keep you hungry and motivated for your fitness pursuits.

Here's how to make relax your way to optimal fitness:

- Depending on your age and how quickly you feel you recover from workout sessions, rest 2-4 days between strength training sessions. Less rest is typically needed between aerobic workouts.
- Designate every 3rd or 4th week as a rest week and cut the number, intensity, and/or durations of all your workouts by at least a third.
- At some point during the year, take up to a full month off from all exercise. Remember to start back gradually.
- Most adults need about eight hours of sleep a night. The more you work out, the more sleep you need, as important components of your body's adaptation/rebuilding processes occur only during deep sleep.

Conclusion

Fitness should be fun, and the attainment of wellbeing shouldn't be difficult to achieve. I hope that this short book—it's more a compendium of basic information, really—gives you the knowledge and the motivation to get fit and achieve wellness in a way that is motivationally self-sustaining and physically satisfying. I wish you, again, happiness and much success in your fitness pursuits.