

RACING WEIGHT



2nd Edition

HOW TO

GET LEAN

FOR PEAK

PERFORMANCE

6-STEP PLAN FOR ENDURANCE ATHLETES

MATT FITZGERALD

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INTRODUCTION

How would your performance change if you were at your optimal body weight? Imagine what it would feel like to set out on a run weighing 10 pounds less than you do right now. How much would it affect your efficiency, your endurance, or, more simply, your self-image? When was the last time you saw a marked improvement in your fitness? Do a few extra pounds stand between you and a faster race? Chances are that it was your quest for optimal body weight that led you to pick up *Racing Weight*.

You are not alone in this quest. Several years ago I assisted exercise scientists from Montana State University in conducting a survey of endurance athletes concerning their attitudes about their body weight and their weight-management practices. More than three thousand cyclists, runners, triathletes, and other endurance athletes responded. Most were serious competitive athletes who trained at least one hour a day, five days a week. The results of the survey, which were presented at a meeting of the Society for Behavioral Medicine in Montreal, Canada and published in the *Annals of Behavioral Medicine* (Ciccolo et al. 2009), were quite interesting.

Seventy-four percent of respondents labeled themselves as “concerned” or “very concerned” about their body weight. Fifty-four percent said that they were dissatisfied with their body weight. These figures are almost identical to those that come from surveys of the general population, despite the fact that the general population is quite a bit heavier than most of the people who took the Montana State survey.

While striking on one level, these findings did not surprise me. That’s because, as a sports nutritionist and endurance sports expert, I am accustomed to communicating with and helping endurance athletes who are concerned about and dissatisfied with their body weight. As a runner and triathlete myself, I share their concern and, at times, their dissatisfaction.

The nature of the endurance athlete’s concern and dissatisfaction is somewhat different from the nonathlete’s, however. The nonathlete is typically motivated to shed excess body fat by a desire to look better and, perhaps also, by a desire to improve his or her health. Endurance athletes care about looking good and being healthy too, but they are equally concerned about their sports performance, and they know that excess body fat is the enemy of performance in every endurance sport. For example, a runner weighing 160 pounds has to muster about 6.5 percent more energy to run the same pace as a runner weighing 150 pounds.

Whereas two-thirds of American adults in the general population are overweight, most of the athletes who took the Montana State survey had body-mass indices that fell within the healthy range. Yet more than half of these endurance athletes reported being heavier than the weight they consider optimal for peak performance in their sport—hence their dissatisfaction. Do these men and women suffer from a distorted body image? By and large, no. They simply have different standards for their bodies, and they struggle to attain them just as nonathletes struggle to meet their own, more relaxed standards. You probably know exactly what I’m talking about.

As much as most athletes appreciate the importance of a lean body composition to endurance performance, I believe that many athletes nevertheless underestimate its impact. They generally assume that while excess body fat may be the greatest performance limiter for athletes who are truly overweight, athletes who are already lean are more likely to be held back by fitness factors such as aerobic capacity. In fact, leanness is as important to performance as any fitness factor at every

level of endurance sports, right up to the very top. This was shown in a study involving two dozen elite male and female distance runners from Ethiopia (Beis et al. 2011). All of these runners had very low body fat levels and very fast race times, but the leanest ones had the fastest times. Even though the differences in body fat were small, these differences predicted the variation in their race times as well as differences in aerobic capacity (VO₂max).

My own appreciation for the importance of body weight to running performance in particular was heightened by an experience I had in 2008. Darwin Fogt, a Los Angeles-based physical therapist, had invited me to stop by his facility to try out his Alter-G antigravity treadmill. I had been dying to step onto one of these machines since I first heard about them a couple of years earlier, so I readily accepted his offer.

The Alter-G allows the user to walk or run at the equivalent of as little as 20 percent of his or her body weight by increasing the air pressure within an airtight tent that seals around the user's waist and thereby lifts the runner. Many elite runners, including three-time Olympian Dathan Ritzenhein, use it to train through injuries that prevent them from running on their full body weight. Others, such as Ritzenhein's Nike teammate Galen Rupp, use it to increase their running volume without increasing their risk of injury.

My epiphany came when Fogt zipped me into his Alter-G, increased the belt speed to my normal jogging pace, and then reduced my effective body weight to 90 percent. Instantly I felt as if I had become 10 percent fitter. Scooting along at a 7:00/mile pace was utterly effortless. It was not a feeling of gross artificial assistance, like running on the moon. Rather, it felt like normal running, only so much better.

I was so impressed by the experience that I later used an Alter-G as a tool for helping other athletes to better appreciate the impact of body weight changes on performance capacity. Many of these athletes were shocked by how heavy they felt at their full body weight after experiencing 90 or 80 percent of it. What had felt normal minutes earlier now felt like trying to run while wearing a stuffed backpack. It was a very effective teaching tool that probably motivated more than a few athletes to step up their efforts to get leaner.

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Unfortunately, endurance athletes seldom choose the best methods to pursue their optimal racing weight. Despite their awareness of the body weight–performance connection, their hard training, and their efforts to eat carefully, a majority of the athletes in the survey I described said they were currently above their optimal racing weight.

Why do so many endurance athletes struggle to reach and maintain their racing weight? For largely the same reasons that nonathletes struggle to avoid becoming overweight. Our modern lifestyle is different from that of our early ancestors in two important ways that promote excessive weight gain: We have easy access to cheap, high-calorie foods, and we are much less active.



ENDURANCE ATHLETES SELDOM CHOOSE THE BEST METHODS TO PURSUE THEIR OPTIMAL RACING WEIGHT.

Our early ancestors lived on wild plants, nuts, seeds, and the occasional piece of fish or meat—mostly low-calorie foods and usually just enough of them to supply the energy required to get more food. Today we still have the option to eat like hunter-gatherers, and some nutrition authorities urge people to do so, but it’s not a realistic solution for most of us. We have come to prefer the taste of high-calorie foods such as cheeseburgers (which did not exist until a little more than a century ago) to low-calorie foods such as vegetables, and we feel compelled to eat what’s put in front of us even though the portions have never been larger and the promotion of food has never been so ubiquitous.

What’s more, early humans had to work much harder and burn a lot of calories for every meal, foraging through woods and fields or stalking game for hours, whereas today we just sidle up to a fast-food drive-thru window or press “Start” on the microwave oven. But endurance athletes do have one major advantage over the greater population—we are hardly sedentary. But even most endurance athletes spend more time sitting around than our hunter-gatherer ancestors did, and we are no less plagued by the overabundance of cheap, high-calorie processed foods than our sedentary counterparts.

So if the weight concerns of endurance athletes and nonathletes share a common cause, is their solution also the same? The answer to this question is “yes and no.” Certainly, a balanced, natural diet is the

most effective means to manage weight for endurance athletes and non-athletes alike. However, the weight management goals of endurance athletes are somewhat different from those of nonathletes, and some of the challenges that endurance athletes face on the path toward an optimal performance weight (rather than toward the basic “healthy body weight” that most nonathletes pursue) are also different. For example, low-carbohydrate diets are an effective weight-loss strategy for nonathletes, but for endurance athletes they are a recipe for disaster because they starve the muscles of the primary fuel they need for endurance performance. Endurance athletes generally require their own special approach to weight management.

Following weight-loss diets that are intended for nonathletes is but one of many mistakes that endurance athletes make in pursuing their optimal racing weight. Relying on supplements, which are marginally helpful at best and dangerous at worst, is another. In 2008, for example, world champion cyclist Marta Bastianelli of Italy was banned from competition after one of her blood samples tested positive for an illegal diet drug. Bastianelli admitted that she had taken the drug after receiving pressure to lose weight from her coaches. More dangerous still is the mistake of disordered eating (usually chronic moderate undereating), which is especially common among collegiate female runners. In a 2007 study nearly one in five female cross-country runners reported past eating disorders and nearly one in four showed evidence of continued inadequate nutrient intake (Thompson 2007). Forcing yourself to go hungry as a means to attain optimal racing weight always backfires in the long run because it deprives your body of the energy needed to absorb hard training.

Not every endurance athlete goes about weight management the wrong way. By definition, the weight-management practices of the highest-performing athletes are the right way to pursue optimal racing weight. This is an important point. The purpose of weight management for the endurance athlete is better performance. The bathroom scale alone cannot determine whether a particular dietary habit or training pattern is effective. The stopwatch is the final arbiter. One of the great things about the competitive nature of endurance sports is that it proves what works and what doesn't. If you want to know the most effective way to train for endurance performance, you can do no better than to study the general training patterns that are shared by the best athletes.

Similarly, if you want to know the right way to manage your weight as an endurance athlete, your best bet is to study the common dietary and weight-management practices of the highest performers.

This isn't a diet book. I wrote this book because I saw a need for a focused, comprehensive, and reliable guide to weight management for endurance sports. It is my belief that such a resource can be truly reliable only if its guidelines are based on the weight-management practices of the best athletes. The Racing Weight system is not some theory of performance weight management that I created by applying creativity to scientific evidence. In this book I've simply presented a description of what works best for endurance athletes in the real world. Furthermore, *Racing Weight* is not dietary shtick that I developed for the sake of having a distinctive brand. My contribution is limited to formalizing this description to some degree by developing tools such as the Diet Quality Score (DQS), which you will learn about in Chapter 4. My work puts me in the happy position of observing what the most successful athletes do, and my service is to pass along what I learn.

There are six specific practices that have stood out to me as the keys to the weight-management success of top athletes and that I believe every other athlete should emulate. Four of them are dietary, one is behavioral, and the last is training related. All six are habits that I have observed over and over again among the most successful athletes in my eighteen years as an endurance sports journalist, coach, and nutritionist. Together these six practices comprise the six steps of the Racing Weight system. Here's a quick synopsis of the plan:

STEP 1 **IMPROVE YOUR DIET QUALITY.** Step 1 in my Racing Weight plan is improving your diet quality, or the amount of nutrition you get from each calorie in your diet. Increasing the nutrition-per-calorie ratio of your diet will enable you to get all the nutrients you need for maximum performance from fewer total calories, thus enabling you to become leaner. An effective way to improve your diet quality is to grade or score the quality of your current diet and continue to score your diet quality as you make efforts to improve it. Nutrition scientists have come up with various ways of measuring diet quality. Most of these approaches are a bit too complex to be useful to the average endurance athlete, so I created a simplified

diet-quality scoring system that you will find very easy to work with and that will help you nourish your body for health and endurance performance. In Chapter 4, I will give you all of the information you need to track and improve your DQS.

STEP 2 **MANAGE YOUR APPETITE.** It goes without saying that in order to attain and maintain their optimal racing weight, athletes must control the amount of food they eat. But athletes must not go about controlling their food intake by eating less than is required to satisfy their hunger. Not only is this psychologically untenable, but it is also certain to wreak havoc on training performance because physical hunger is closely tied to an athlete's real energy needs. Most athletes, however, eat more than is required to meet their needs and satisfy their hunger. Our modern "food environment" is set up to all but ensure that we overeat without even realizing it.

Fortunately, there are various proven tricks and techniques that you can use to regain control of your appetite and your personal food environment so that you neither overeat nor go hungry. I will share these guidelines with you in Chapter 5.

STEP 3 **BALANCE YOUR ENERGY SOURCES.** There are three main sources of energy for the human body: carbohydrate, fat, and protein. Many weight-loss diets have been based on the idea that to lose weight, a dieter has to maintain the perfect balance of these three "macronutrients" in daily eating. That none of these diets can agree on the magical macronutrient ratio is not the only evidence that it does not exist.

The best evidence suggests that individuals can balance their energy sources in a variety of different ways with equal success. But for endurance athletes, doing so is a little different because macronutrient balance also has a major impact on training performance and many athletes do not consume enough carbohydrate in particular to maximize that performance. Any measure that boosts your training performance will also tend to make you leaner. In Chapter 6 I will show you how to ensure that you get the right amount of carbohydrate to maximize your training performance and get leaner.

STEP 4 MONITOR YOURSELF. The most common weight-management practices shared by dieters who have lost large amounts of weight and kept the weight off are not dietary patterns such as low fat intake but self-monitoring practices such as weighing and food journaling. Such practices help dieters maintain a high level of awareness of their weight status and a strong commitment to their weight-management goals. Endurance athletes can benefit equally from self-monitoring but need to practice it somewhat differently, monitoring performance as well as diet, weight, and body composition. In Chapter 7 I will present a set of self-monitoring tools designed specifically to help endurance athletes achieve their weight-management goals.

STEP 5 TIME YOUR NUTRITION. When you eat affects your body as much as what you eat. The timing of your food intake has a big impact on what's known as energy partitioning, or what becomes of the calories you consume. There are three main destinations of food calories in your body: muscle, fat cells, and energy. If you want to become leaner, you need to shift the balance of energy partitioning so that more calories are incorporated into your muscles, fewer calories are stored in your fat tissues, and more calories are used to supply your body's immediate and short-term energy needs. This shift will lead to more metabolism-boosting lean tissue and less health-jeopardizing fat tissue.

Interestingly, you can often achieve this objective with little or no reduction in the total number of calories that enter your body. We're really talking about redirecting calories once they've entered your body, not about decreasing the number of calories that enter your body in the first place. The practice of nutrient timing, or consuming the right nutrients at the right times throughout the day, will enable you to partition your energy more effectively and achieve your racing weight. In Chapter 8 I will show you how to practice nutrient timing the way many top endurance athletes do.

STEP 6 TRAIN RIGHT. Despite an increasingly popular belief to the contrary, exercise is the most powerful factor in successful weight management. More than 90

percent of people who succeed in losing large amounts of weight and keeping the weight off exercise regularly. One of the reasons so many people are overweight is that most of them do not exercise regularly.

Endurance athletes by definition have ticked the exercise box of the weight-management checklist. But that doesn't mean that every endurance athlete trains optimally for weight management, and in fact most do not. To begin with, weight management should not be the primary objective of an endurance athlete's training. Performance enhancement should be the primary goal. But these two objectives go hand in hand. If you train optimally to improve your performance, you will also get the best possible weight-management results.

THE MOST COMMON TRAINING MISTAKE ENDURANCE ATHLETES MAKE IS INSUFFICIENT INTENSITY VARIATION.

By far the most common training mistake in all endurance sports is insufficient intensity variation—specifically a tendency to do almost all training at moderate intensity. However, the best results come from a program in which roughly 80 percent of training is easy, 10 percent is moderate, and 10 percent is hard. In Chapter 9 I will show you how to avoid the most common training mistake as well as other training mistakes, such as insufficient strength training, that limit improvement in performance and body composition.

Part I presents important material that will prepare you to get the most out of the program. In Chapter 1 (“Get Leaner, Go Faster”) I will define optimal racing weight in endurance sports generally and in the individual endurance disciplines. In Chapter 2 (“How Much Should You Weigh?”) I will help you set a personal racing weight goal. Chapter 3 (“Dieting vs. Performance Weight Management”) explains the important differences between the nonathlete's goal of losing weight to look better and be healthier and your goal of attaining your optimal racing weight.

Chapter 4 (“Improving Your Diet Quality”), Chapter 5 (“Managing Your Appetite”), Chapter 6 (“Balancing Your Energy Sources”), Chapter 7 (“Monitoring Yourself”), Chapter 8 (“Nutrient Timing”), and Chapter 9 (“Training for Racing Weight”) present the six steps of the Racing Weight system and make up Part II of the book.

Part III provides resources that will help you put the Racing Weight plan into practice. Chapter 10 (“The Racing Weight Journey”) ties together the six steps of the Racing Weight program and provides concrete guidelines for implementing the system in the short term and over the long haul. The next chapter, 11 (“Racing Weight Foods”), presents 26 foods that make ideal dietary staples on the Racing Weight plan. Chapter 12 (“What the Pros Eat”) presents sample food journals from elite athletes in several different endurance sports. These examples are not to be copied exactly, as there are important differences between the caloric needs of world-class endurance athletes and those of most amateurs, but they do provide some practical ideas and inspiration. In Chapter 13 (“Racing Weight and You”) I offer guidelines for special populations such as younger and older endurance athletes.

It takes a certain amount of trust to alter your diet and other lifestyle habits according to another person’s advice. My hope is that you find in these pages plenty of reason to put your trust in my program. I am confident that you will, because all of the methods I prescribe are practiced widely by the most successful endurance athletes and are supported by solid scientific evidence. There are also thousands of athletes like you who have already applied the complete Racing Weight system with great results. I know that your trust and commitment will be similarly rewarded. So let’s get started!

GET LEANER, GO FASTER

Each sport favors a particular body type. The principle of “form follows function” determines the particular physique that tends to perform best in a given sport or in a given position or role within a sport. Certain anthropometric characteristics are advantages in relation to a sport’s specific demands; other characteristics are liabilities. The most successful basketball players are tall because the 10-foot-high basket favors height. The most successful football linebackers are massive because their job is either to be immovable (offensive linemen) or to move the immovable (defensive linemen). Tennis players typically have average builds because their sport requires a combination of qualities—quickness, power, leverage, balance, and stamina—that favors no extremes of size or shape.

Endurance sports, of course, tend to favor two related characteristics: low body weight and lean body composition (or a low body-fat level). This is the case because endurance racing demands the ability to move economically so that a high work rate (or speed) can be sustained for a long time and a low body weight and lean body composition contribute to movement efficiency.

The advantages of being light and lean for endurance performance are so obvious that they hardly needed to be scientifically proven, but

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