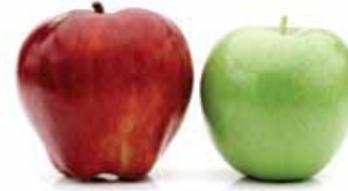


Eat well. Live well.

A HEALTHY WAY OF LIFE NUTRITION MANUAL



LIFETIME[®]
FITNESS



Dear Reader,

Thank you for taking the time to learn more about nutrition, supplementation and its impact on your lifestyle. It would be nearly impossible to answer every question in such a short manual—our intent is to get you started in the right direction. We encourage you to learn more through the many resources available to you as a Life Time Fitness member. You’ll notice a few books referenced in this manual. If you’re looking for additional reading outside of what we offer at Life Time, I encourage you to look into them.

myLT.com is a rich source of nutrition, metabolism and supplementation information that also features discussion forums so you can connect and engage with other members. One area that may be of particular interest is our online Weight Loss Center. We also have an incredible group of fitness and nutrition professionals in our clubs. If you haven’t stopped by to talk with one of them yet, don’t miss the opportunity.

Finally, you’re more than welcome to contact me directly with questions. I’m happy to answer them myself or connect you with the best person to meet your needs. The journey toward a more healthy way of life is a very personal one, but it doesn’t have to be taken alone. Our members and team members are here to share the journey with you. The first step is yours to take. We can walk the next ones with you.

In health,
Tom Nikkola, CSCS, CISSN
Nutrition Program Manager
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Prologue

GETTING STARTED

This manual is intended as a guide for lifelong change, not a quick fix. Most people will find it easiest to look at each chapter as a challenge for the week. You may decide to read and begin applying each chapter on Saturdays, giving you the weekend to do grocery shopping and make preparations for the upcoming week. If you're a Type A personality, you may decide to read through the entire manual and attempt to accomplish everything at once. A word of caution: Your enthusiasm in the first couple of weeks may help you get started, but once the enthusiasm wears off it may be difficult to continue if you haven't made the changes a habit. By focusing on one change at a time, you're more likely to make it a permanent part of your lifestyle.

We hope your habits will change, but more importantly, we hope your perspective on nutrition will change. When your perspective changes, it will be difficult to see your old way of eating as healthy or acceptable. The path to a healthy way of life is quite simple: Eat the right foods. Use high-quality supplements. Exercise appropriately. Manage stress. Get enough sleep. It's not overly complicated, but our lives often get in the way. Changing your lifestyle may not be an easy process, but, through this manual, we'll keep it simple and focus on one habit at a time.



SIMPLE, BUT NOT EASY

Go to the mall, airport, or another crowded area, and you'll get a good picture of the condition of the average American. We are a nation of excess in many ways, and body weight is one of the most obvious. Based on recent trends, it's expected that by 2018 almost 45 percent of our population will be considered obese.¹ That's 103 million people! How can a nation with some of the best healthcare professionals in the world be heading toward such a future? Is it possible that the approach to weight management that has been so popular for the past half-century is counter-productive? Are there lifestyle factors beyond what we eat and how little we move that contribute to weight gain? And what about the foods we do eat?

Look through most of the popular fitness magazines, Web sites and other weight loss programs. What is the most common recommendation for weight loss? Eat less. Move more. Simple. Most doctors make that recommendation on a daily basis. Is it really that easy? If so, what about those who say they do eat less and exercise more but don't lose weight? Are they lying? What about those who can't stick to the low-fat diet they were told was the answer to all their ailments? Is it just that they don't have enough willpower? It would be much easier if it really was just a matter of willpower. It would be easier if eating a certain number of calories for each person was all that was needed to manage weight. For the lucky, that is all that's needed. For others,

there is more to weight management than just calories in, calories out. The *types* of foods we eat can be as important, if not more important, than the calories they contain. Other factors in our lifestyles can also play important roles in our ability to manage weight.

Low-fat diets started becoming popular as early as the 1920s when people began paying attention to the calories they were eating. Since fat has nine calories per gram, and carbohydrates and protein each have four calories per gram, reducing fat was seen as the answer to reducing calories. While it's true that fat has more calories by weight than carbohydrates or protein, we rarely eat a meal based on its weight, so cutting fat calories has not been shown to help decrease overall calories.

Speculation grew about fat's effect on heart health in the 1950s. Although there was little to no scientific proof supporting low-fat diets, by the 1980s low-fat dieting was touted as the healthiest way to eat. Food companies began modifying processed foods to meet the popularity of the low-fat philosophy.² (Berge, 2008)

The first official government dietary recommendations were published in 1977 in a document called Dietary Goals for the United States.³ The document emphasized the need to increase carbohydrate consumption and decrease fat intake.



Is it possible that the approach to weight management that has been so popular for the past half-century is counter-productive?

There were other recommendations such as decreasing sugar and salt, but the recommendation to increase carbohydrate consumption and decrease fat would prove to be the major message that the media and food industry would popularize.

As you step back and consider the foods we perceive as healthy today, you have to wonder how we've survived for hundreds of thousands of years on foods deemed unhealthy. Did people even hundreds of years ago eat only the white meat of the chicken? Did they choose the leanest parts of red meat and discard the rest? If they had milk, did they pasteurize, homogenize and skim it? Did they limit the amount of nuts and seeds they ate to avoid consuming too much

fat? It's odd to think that highly processed, low-fat cookies would somehow be considered a health food and naturally raised beef would be a food associated with heart disease.

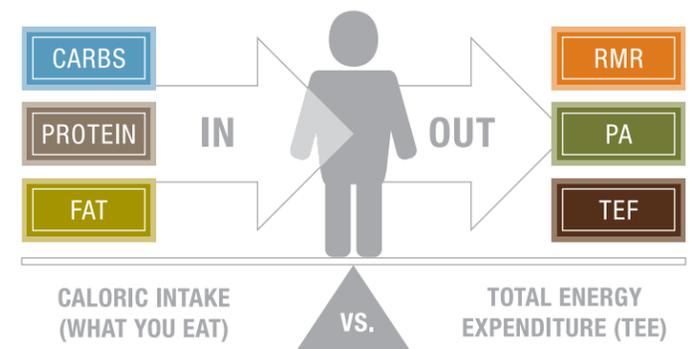
The next time you walk through your favorite supermarket, look at how many foods are available today that would not have been just 100 years ago. You'll quickly see that we've dramatically changed the source of nutrients we put in our body every day. Those changes have led to more than an excess of calories. The foods we eat—and the way they are processed—can change the way our hormones function, which affects our cravings, sleep patterns, ability to handle stress and more.

The types of foods we eat can be as important, if not more important, than the calories they contain.



Though weight management is much more than “calories in, calories out,” knowing how many calories you consume and how many calories you burn during the day is a good first step. A close estimate of how many calories you burn is measured through a resting metabolic rate assessment, called CaloriePoint at Life Time. The results can be eye opening. Some people have found they’re meeting their daily calorie allotment by the time lunch is over! Even though resting metabolic rate is a dynamic number, seeing the actual number on a given day can be a powerful experience to help you start changing your habits. Using this information and tracking the calories you eat in an online journal can help you get on the right path. Depending on the amount someone has to lose, they may be able to follow a given calorie level for weeks or months with continued progress. At some point, results begin to plateau as the resting metabolic rate changes. The decrease in resting metabolic rate can be in part due to a loss in lean body mass through dieting, but is also a result of adaptations that take place to adjust to lower calorie levels. Long-term dieting can have long-term effects on the body’s metabolism, which can explain why people who have dieted for a long period of time find it difficult to increase their daily calories without experiencing weight gain.⁴

Another point to consider around “calories in, calories out” is that a calorie is not a calorie. Although uneaten foods have various levels of calories in them, the calorie amounts that actually become available to the body for energy vary based on the type of nutrient—carbohydrate, fat or protein.



The Thermic Effect of Food (TEF) is the percentage of a food’s calories consumed in the process of digestion. Our bodies burn a certain amount of calories just breaking down our foods and rearranging them in a way we can use for growth, repair and energy. The TEF for protein is 20 to 35 percent, meaning that up to 35 percent of the calorie value of protein will be burned just to digest that protein. Compare that with the TEF of carbohydrate at 5 to 15 percent and fat being the same or less than carbohydrate. Increasing the amount of protein in the diet, while keeping the total calorie value the same, means fewer calories will be available for energy or weight gain. That’s part of the reason why diets higher in protein are more effective for weight management.⁵

The “calories in, calories out” approach can be a good starting point. However, if body weight does not change as expected, especially when adhering to the appropriate calorie level, there’s more to look at than calorie counting alone.

Section Summary

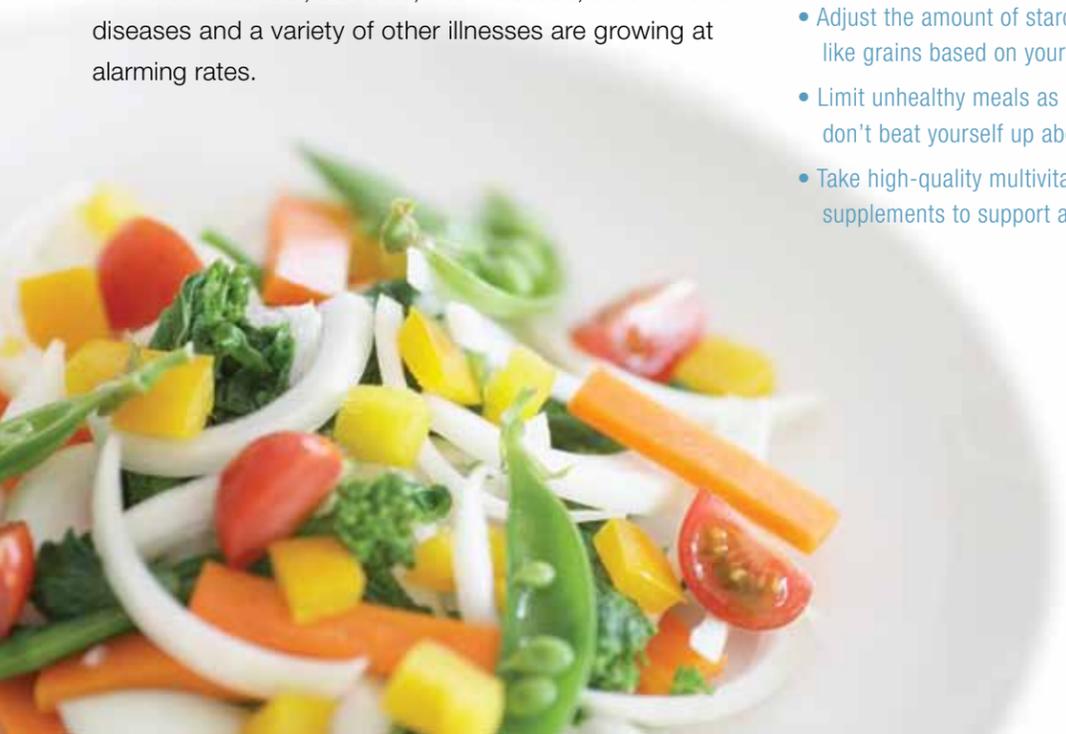
- Weight gain can be caused by eating too many calories or not moving enough
- Other factors play a role in weight gain
- The first step in optimizing health, fitness and weight management should be optimizing your nutrition program
- The way you eat today is the result of a series of lifelong choices and habits. To undo those habits requires a step-by-step approach, attempting to change one habit at a time.

BUILDING A BETTER NUTRITION PLAN

Over the past 10,000 years, changes in agriculture have progressively made us more dependent on high-carbohydrate foods such as oats, grains, potatoes and the processed foods they're converted into. For much of that time we were very active, but in recent years our activity levels have decreased to a point where we have a hard time burning off those carbohydrates. In the past 60 years, the carbohydrates we eat have become so heavily processed that our foods look nothing like the plants they came from. These highly processed foods lack the nutrients that help us feel satisfied, so we crave more and more of them. When you combine our high-carbohydrate, highly processed diets with our sedentary lifestyles, the results are more than weight gain. The rates of cancer, diabetes, heart disease, autoimmune diseases and a variety of other illnesses are growing at alarming rates.

The good news is that we can dramatically change our health, energy levels and physical conditioning. This manual will help guide you to a way of eating that is sustainable for the rest of your life. No more diets. No more short-term answers to take the weight off. A Healthy Way of Life nutrition plan is based on real food, high-quality nutritional supplements and gaining a new perspective on the foods you eat every day. Here are some highlights:

- Eat plenty of non-starchy vegetables throughout the day, and one or two servings of fruit.
- Eat organic, naturally raised/grown protein or use a protein supplement with each meal.
- Add nuts, seeds and healthy oils for flavor, healthy fat and energy.
- Adjust the amount of starchy vegetables and other carbohydrates like grains based on your activity level.
- Limit unhealthy meals as much as possible. If you do have one, don't beat yourself up about it—just do better next time.
- Take high-quality multivitamins and fish oil, as well as additional supplements to support any missing links in your metabolism.



In the past 60 years, the carbohydrates we eat have become so heavily processed that our foods look nothing like the plants they came from.

The Healthy Way of Life Nutrition Plan

Vegetables will make up a significant part of the foods you eat. Don't worry, though. You don't have to eat plain raw broccoli and carrots all day. When you look at the variety of vegetables available, you'll realize you actually have access to a tremendous number of different flavors. Because you won't be eating large amounts of processed foods, you'll also have more freedom to use healthy fats to season your vegetables.

High-quality protein is important to help control hunger and maintain blood glucose levels. Nuts, seeds and healthy oils will become a regular part of your diet and provide a variety of health benefits. Starchy carbohydrates, grains and other carbohydrate sources can be part of the plan if you're active enough, and as long as you're aware of the types of grains you're eating. Finally, you can still eat foods that are not part of the plan on occasion—that is, if you still want to.

At the end of this section, you'll find a diagram of an ideal Healthy Way of Life nutrition plan. Following it can help you maintain a healthy weight, increase your energy and feel great every day. Use it as a guide. Some days you'll eat more healthy foods, and some days you may come up short. Just like saving and investing money, the results come from long-term commitment and the right choices over weeks, months and years.

Once you've established a good foundation for your nutrition

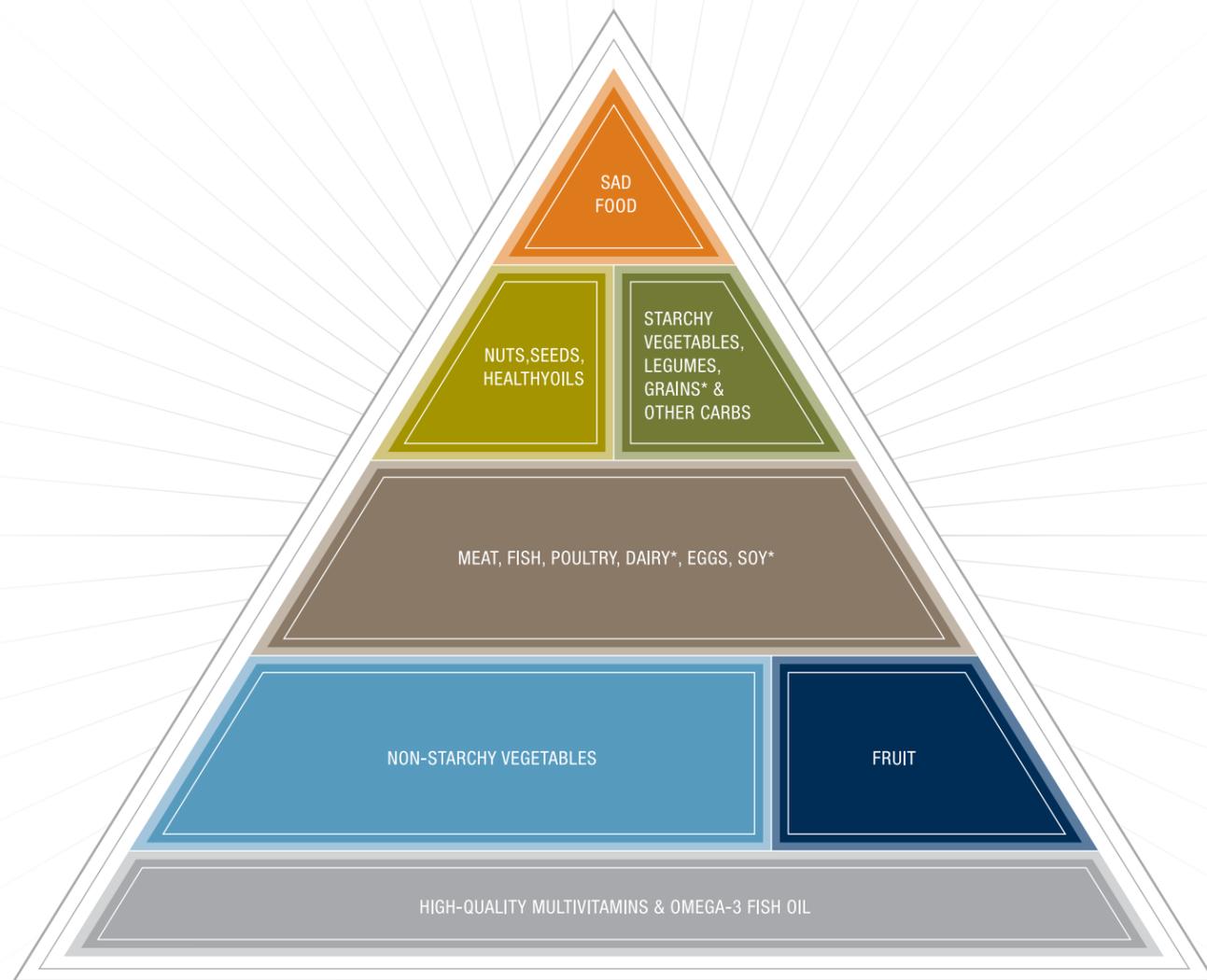
plan, you'll be challenged to stick with it for 30 days. The 30-day challenge is a great way to practice all the new information you've learned. To help you stick with it, you'll be able to connect with other people taking the challenge through myLT.com. Chances are if you can stick with it for 30 days, you won't want to go back to the old way of eating again.

Of course, the end of the 30-day challenge isn't the end of establishing a lifestyle supported by optimal nutrition. In fact, the better you begin feeling and the more control you gain over the food choices you make, the more you may want to learn.

Your Starting Point

If you're like many people, you can't wait to feel more energy, fit into smaller pants, wake up eager for a new day and make healthy food choices every day. But before you start making changes, take a close look at where you are today. Photos are a great way to do this. By recording your starting point through photos, you'll be able to look back and see the progress you've made. Just like an athletic event, the excitement and personal growth of a life-changing endeavor don't always come from crossing the finish line, but from the process it took to get you there.

A Healthy Way of Life nutrition plan is based on real food, high-quality nutritional supplements and gaining a new perspective on the foods you eat every day.



** These foods contain potential allergens which may lead to challenges with weight loss*



There are two types of photos you'll want to take. First, get some good pictures of your kitchen— inside your refrigerator, cupboards and pantry—before making any changes. This will give you a good idea of the foods you ate when you began your journey. They will likely be a stark contrast to the look of your refrigerator and cupboards in the future. You may even look at them a year from now and have a good laugh. The other set of photos you'll want in the future are of what you look like now. It may seem a bit awkward at first, but once you've transformed your body, you'll be glad you have the pictures to look back on.

Your other action item is to keep a journal of what you eat for one week. Don't think of this as your last week of freedom and go overboard. Eat the same way you have been, and simply write it down. Don't worry about calories, protein, carbohydrates or fat right now. Just record EVERYTHING—all of the foods, snacks and drinks you have—including the

handful of candy that's easy to overlook. You'll find a journal page at the end of this manual. Make copies and use it. This will be another great learning experience, and one more thing to look back on several months down the road.

Finally, take your time. You may be tempted to skip these steps and just get started. Please resist the temptation. Taking these photos and tracking your foods now will prove to be an invaluable experience in the future, especially during times when your motivation starts to wane. We want you to succeed, so take this journey one step at a time. The journey of a thousand miles starts with a single step, so let's get started.

Section Summary

- You are not going on a diet. Diets are short-term. What you will learn are habits to change the way you eat for the rest of your life
- Taking time now to establish where you're starting from will help you stay motivated in the future. This week:
 - Take photos of the inside of your refrigerator, cupboards and pantry, before you change the way you shop for groceries
 - Take photos of yourself so you can look back in the future
 - Record what you're eating and how you feel this week, before you begin making changes. This will also be useful to look back on in the future



3

VEGETABLES AND FRUIT: GOOD NUTRITION FROM THE GROUND UP

One of the most significant ways to improve nutrition and decrease calories in your meals is to include more non-starchy vegetables and a small amount of fruit. Vegetables and fruit provide the body with essential vitamins, minerals, fiber and phytonutrients.

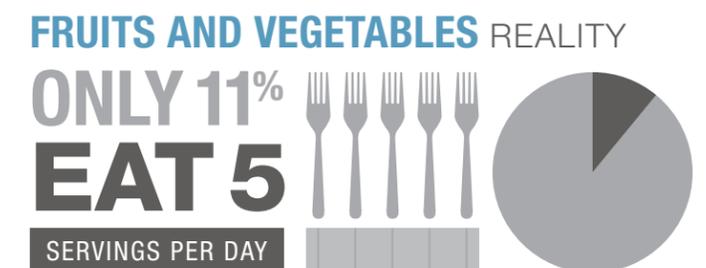
Vegetables are generally classified as non-starchy or starchy. Since the average person already consumes a significant amount of carbohydrates every day, attention should be placed on non-starchy vegetables, rather than starchy vegetables such as corn and potatoes. You'll find a recommended shopping list of non-starchy vegetables and fruit at the end of this section.

Unfortunately, the average American falls far short of the ideal levels of vegetable and fruit intake. In the past, the recommendation was to eat nine to 11 servings of vegetables a day. An extremely small percentage of the population achieves this, so the recommendation has slowly decreased to today's "five a day." And we still fall far short! A recent

study in the United Kingdom, where dietary habits closely resemble those in America, showed that only 11 percent of the population achieves the "five a day" recommendation which means the "nine to 11 a day" recommendation likely goes unmet by almost the entire population.⁶

Rather than accepting that we can't meet the new minimum, let's shoot for the optimum. After all, do you want to settle for average health or achieve vibrant health? To keep dietary changes less complicated, it's easier to focus on increasing non-starchy vegetable intake along with a small amount of fruit, while leaving the rest of the diet the same. You'll likely find you have less room for the extra carbohydrate foods you used to eat as you begin eating more vegetables. Eventually, vegetables and fruit will begin displacing other high-carbohydrate foods in your diet. So focus on adding more non-starchy vegetables to your diet rather than removing other foods at this point.

One of the most significant ways to improve nutrition and decrease calories in your meals is to include more non-starchy vegetables and a small amount of fruit.





Shopping Guide: Best Non-Starchy Vegetables and Fruit

	Red	Orange / Yellow	Green	Blue / Purple	White
NON-STARCHY VEGETABLES 7-9 SERVINGS PER DAY 	Beets	Butternut Squash	Artichokes	Eggplant	Cauliflower
	Red Cabbage	Carrots	Asparagus		Garlic
	Red peppers*	Yellow peppers	Avocados		Ginger
	Radishes	Persimmons	Green beans		Jicama
	Tomatoes	Pumpkin	Broccoli		Leeks
		Rutabagas	Brussels Sprouts		Mushrooms
		Yellow summer/winter squash	Green cabbage		Onions
		Winter Squash	Celery*		Parsnips
		Yellow Peppers*	Chives		Turnips
		Yellow Tomatoes	Collard*		
		Cucumbers			
		Endive			
		Kale*			
		Lettuce*			
		Green onions			
		Peas			
		Green peppers*			
		Spinach*			
		Swiss chard			
		Zucchini			

A Rainbow of Colors and Nutrients

Vegetables and fruit come in a variety of colors. Each color group is loaded with essential vitamins and minerals and often contains additional phytonutrients that provide additional health benefits.

Red Group

Produce in the red group contains phytonutrients called lycopene and anthocyanins. Lycopene intake has been associated with decreased risks of cancer, especially prostate cancer. Anthocyanins are powerful antioxidants associated with heart health.

Orange/Yellow Group

The orange/yellow group contains carotenoids and beta-cryptothanxin. High amounts of carotenoids in the diet may help reduce the risk of cancer and heart disease, and improve immune function.

Green Group

Green vegetables and fruit contain leutein, which may reduce the risk of macular degeneration and cataracts. They also contain folate, which helps reduce the risk of birth defects.

Blue/Purple Group

This group contains anthocyanins, powerful antioxidants similar to the red group.

White Group

The white group contains anthoxanthins, which may reduce cholesterol levels and blood pressure, and reduce the risk of stomach cancer and heart disease.⁷

Fiber is another important benefit of vegetable and fruit consumption. Fiber helps add bulk to the diet, slow the digestion of food, reduce hunger, and is important in removing toxins from the body. The table on the next page provides a guide to help you in shopping for vegetables and fruit.

	Red	Orange / Yellow	Green	Blue / Purple	White
FRUIT 1-2 SERVINGS PER DAY 	Red Apples*	Yellow apples*	Green apples*	Blackberries	Bananas
	Cherries*	Apricots	Green grapes*	Blueberries*	
	Cranberries	Cantaloupe	Honeydew melon	Figs	
	Pink Grapefruit	Grapefruit	Kiwi	Juneberries	
	Red Grapes*	Lemons	Limes	Plums	
	Pomegranates	Mangoes		Prunes	
	Raspberries	Nectarines*		Purple Grapes*	
	Rhubarb	Oranges		Raisins	
	Strawberries*	Papayas			
	Watermelon	Peaches*			
	Pears				
	Pineapple				
	Tangerines				
	Yellow watermelon				

*These foods should always be purchased as organic, as they have been found to contain the highest amounts of pesticides and herbicides

Fiber helps add bulk to the diet, slow the digestion of food, reduce hunger, and is important in removing toxins from the body.



As you can see, the daily recommendation for fruit intake is much less than that of vegetables. Fruit tends to be much higher in sugar, and though it has vitamins, minerals and fiber, it should not be consumed in higher levels than vegetables.⁸ When you do eat fruits, berries are ideal. In fact, a recent study from Finland showed that daily consumption of a variety of berries significantly reduced the markers of metabolic syndrome.⁹ If your goal is weight loss, try to consume two servings of fruit or less per day. If they don't fill you up, you can eat extra non-starchy vegetables.

Organic or Non-Organic?

"Is organic necessary?" is a popular question when it comes to vegetables and fruit. The most important thing is to just start eating more vegetables and fruit, organic or not. Once vegetable and fruit consumption becomes part of your regular diet, there are certainly benefits to buying organically grown produce. Pesticides and herbicides may cause many health problems that we are not yet aware of today. By choosing organic, you are avoiding these toxins in your diet. The Environmental Working Group named 12 vegetables and fruits that were highest in pesticides and should be purchased as organically grown whenever possible. They are named the "Dirty Dozen":¹⁰

The Dirty Dozen

Apples	Bell peppers	Celery
Cherries	Kale	Grapes (imported from Chile)
Nectarines	Peaches	Potatoes
Raspberries	Spinach	Strawberries

Are 9 to 11 Servings Enough?

By consuming 9 to 11 servings of vegetables and fruit every day, you'll be taking in a healthier level of vitamins and minerals. However, the likelihood of achieving optimal levels through food alone is very low.

First, our soils have nowhere near the nutrients they once did. Commercial farming and fertilizers have dramatically changed the nutrients in our soils. In fact, mineral content of U.S. soils has been reduced by 85 percent over the past 100 years.¹¹ As far back as 1936, the Senate was aware of the issue.

The alarming fact is that foods—fruits, vegetables and grains—now being raised on millions of acres of land that no longer contains enough of certain needed nutrients, are starving us—no matter how much we eat of them.

—U.S. Senate Document 264, 1936

Second, exercise increases the body's nutrient needs. But people rarely increase their vitamin and mineral intake when they increase the amount and intensity of exercise. The results can be decreased recovery abilities, decreased performance and/or suppressed immune function. Another result of inadequate amounts of vitamins and minerals is continued and unexplained cravings. Your body will tell you to keep eating in hopes that its nutrient needs will be met.¹² High-quality multivitamins can help avoid issues resulting from long-term nutrient deficiencies.¹³ Therefore, incorporating high-quality multivitamins and optimal levels of vegetables and fruit should be the foundation of any solid nutrition plan.

Section Summary

- Strive for nine to 11 servings of fruit and vegetables
- Eat two to three times as many servings of vegetables as fruit
- If your goal is weight loss, start with two or less servings of fruit per day
- Shop for organic produce whenever possible, especially when buying the "Dirty Dozen"
- Even when you're consuming plenty of produce, use a high-quality multivitamin to build a solid nutrition foundation

Life Time Fitness Performance Multivitamins are best-in-class multivitamins. An optimal formula at a reasonable cost, the unique AM/PM formulation, along with Omega-3 Fish Oil should help build the foundation of any solid nutrition program. Our products are formulated by one of the most reputable supplement manufacturers in the United States, Douglas Labs. We consistently tweak our formula as new research suggests. The AM formulation is high in vitamins which support energy during the day, and the PM formulation is high in minerals that support rest and recovery. We've also added additional herbs that support men's/women's health. Our most recent change to the formulation was to increase the vitamin D to 1000 IU based on all of the recent research supporting higher vitamin D intake.

Members receive a 10 percent discount when they shop with a trainer in our cafe or in our online store.



PROTEIN: MANAGING HUNGER, BLOOD SUGAR AND MUSCLE MASS

Research on protein in recent years has shown what many people in the fitness industry have believed for a long time: Higher protein intake helps support lean bodies. From the standpoint of physical conditioning, protein helps improve satiety, increases overall calories burned during the day and supports the maintenance of lean body mass. It has also been shown to help support recovery from exercise and improve bone density. Many studies have shown a significant difference in weight loss success when consuming a higher amount of protein during a calorie-restricted diet. In fact, as caloric intake decreases, the requirement for protein increases.^{14,15}



Improved Satiety

The most likely reason higher protein intake enhances weight loss is through improved satiety. Protein takes longer to digest than carbohydrates or fat. By ensuring each meal contains a reasonable serving of protein, hunger may take longer to return. It may be that increased protein leads people to eat fewer overall calories because they are more satisfied from their meals. In addition, protein tends to reduce the glycemic effect of carbohydrates. That means if blood sugar levels rise at a slower rate, they will also fall at a slower rate, which can lengthen the time before hunger returns. It may also reduce cravings for more carbohydrates.

Increased Thermic Effect of Food

Another possible way protein can aid in weight management is by increasing the total number of calories the body burns each day.¹⁶ The digestion of protein requires more work from the body than the digestion of carbohydrates or fat. The thermic effect of food refers to the calories the body



By ensuring each meal contains a reasonable serving of protein, hunger may take longer to return.

must burn to digest the food we eat. Protein digestion can cause the body to burn three to four times as many calories during digestion as carbohydrates or fat, calories being equal. One study showed a higher protein diet can result in an extra 90 or more calories burned each day. Burning an extra 90 calories a day may not seem significant compared to an average 2,000-calorie diet, but every extra calorie helps in the goal of decreased body fat levels. Theoretically, burning an extra 90 calories a day could be a nine-pound difference in body fat over the course of a year. Of course, that assumes all other variables in weight management remain the same, which is rarely the case.

Maintenance of Lean Body Mass

The third way protein may enhance body composition is through the maintenance of lean body mass.¹⁷ As people lose weight, they often lose lean body mass (muscle and bone). It's not possible to prevent all losses of lean body mass for those who have high amounts of weight to lose, but additional protein intake can help individuals maintain optimal levels of lean body mass. Those who focus on calories alone, and neglect sufficient protein intake, can find themselves at a lower body weight, but with higher body fat percentages. In the end, when people are looking to "tone-up" or "get more defined," it's critical to eat enough protein.

Animal proteins such as beef, eggs, poultry, fish and dairy products provide all of the necessary amino acids, the building blocks of protein for our bodies.

Protein Sources and Amounts

Current RDA guidelines recommend consuming 0.8 g/kg of protein a day, but research has shown higher levels can be beneficial. Also, unless there's an existing condition, there appears to be no risk on renal health with increased protein intake as is often proposed.¹⁴

Animal proteins such as beef, eggs, poultry, fish and dairy products provide all of the necessary amino acids, the building blocks of protein for our bodies. For millions of years, these were the main sources of protein in human diets. Today the animal protein found in the average American's diet is much different than it once was. Many animal protein sources are processed into "foods" that make the meat hard to recognize. For those who do choose to eat real meat, chicken and fish from the store, most of these foods do not provide close to the quality nutrients they once did. Most beef, poultry and fish found in grocery stores is raised on foods that are completely foreign to those animals. The result is meat with a much-altered nutrient profile compared to when those animals were fed their traditional diet. Commercial meats often contain antibiotics and hormones as well.

A recent meta-analysis of current research showed that red meat intake was not associated with any increased risk of coronary heart disease or diabetes. Processed meat consumption, though, was associated with a 42 percent increased risk of CHD and a 19 percent increased risk of diabetes.^[CITATION] Like many other processed foods, processed meat consumption may lead to long-term health problems. Use unprocessed meats as often as possible.

To get the most from animal-based proteins, look for grass-fed beef, pasture-raised poultry and pork, and wild-caught fish. When these protein sources are raised on diets they are meant to eat, the fat content is often less, and the fat that is found in the meat is often healthier, containing more omega-3 fatty acids and less saturated fat.^{18,19} The animals are also raised without the use of antibiotics or hormones.

Vegetable-based protein sources can be used on occasion. However, the quality of the protein in plant-based protein sources is not as complete as in animal-based protein sources.²⁰ Protein needs can be met through vegetable sources, but they often include a lot of extra carbohydrates. Chickpea or yellow-pea protein, rice protein and occasional use of soy protein are acceptable sources.

According to the International Society of Sports Nutrition, for active individuals and athletes, daily protein intakes of 1.4–2.0 g/kg of body weight have been shown to be safe and effective for stimulating protein synthesis and bone growth.¹⁵ For overweight individuals, these protein amounts may be excessive. Someone who weighs 250 pounds but has an ideal body weight of 150 pounds may be better off basing their daily protein intake on ideal body weight rather than current body weight. The challenge, then, if the goal is to increase the proportion of the diet that comes from protein, is to create an efficient way to take in additional high-quality protein without relying solely on meat or dairy. This is where protein powders and meal replacement shakes can be beneficial.

Proteins (eat protein with each meal)

Protein Source	Description
Beef	Grass-fed only: 90% lean ground beef, filet mignon, round steak, sirloin steak, nitrate-free hot dogs and lunch meats
Chicken	Organic, free-range chicken: white or dark meat with skin removed, chicken sausage
Turkey	Organic, free-range chicken: white or dark meat with skin removed, turkey bacon
Pork	Organic, pasture-raised loins, steaks, nitrate-free sausages
Fish	Wild Alaskan salmon, tilapia, cod, halibut, orange roughy, scallops, white fish, shrimp, tuna, lobster
Other Meats	Bison, ostrich, elk, venison
Cheese*	Organic, from grass-fed cows
Milk*	Organic, from grass-fed cows
Yogurt*	Organic, from grass-fed cows, Greek-style yogurt
Whey Protein Powder	If you have issues with dairy, choose whey isolate, if not, isolate and concentrate can be used
Dairy Alternatives	Goat milk, cheese, yogurt
Eggs	From organic, free-range chickens
Chickpea / Yellow Pea Protein Powder	Vegetarian, non-allergenic complete protein powder
Soy*	Miso, tempeh are preferred, limit use of soy milk and soy protein
Rice Protein	Vegetarian, non-allergenic complete protein powder

*Allergens are fairly common in these foods.

Protein Powders and Meal Replacements

There are a variety of protein powders and meal replacements to choose from, including egg, whey, casein, soy, yellow pea and rice. Choosing one that's right for you is a matter of individual preference. The only requirements are that it:

- Tastes good, so you'll use it on a regular basis
- Provides a complete amino acid profile
- Doesn't cause an allergic reaction





If you're looking for a high-quality, great tasting way to increase your protein intake, check out the Life Time Fitness Whey Isolate and FastFuel Complete powders. Whey Isolate works great when you want to mix it in a blender with fruit or add it to another food like oatmeal. FastFuel Complete can be simply mixed with water or added to other shake ingredients.

Members receive a 10 percent discount when they shop with a trainer in our cafe or in our online store.



Whey protein is the most popular of the protein powders. From the standpoint of health, whey protein has been shown to help support the immune system and provide the building blocks for a powerful antioxidant, glutathione. Glutathione is a major antioxidant used by the body to help remove carcinogens and free radicals. It is not absorbed well by the body and must be created from other amino acids. Whey protein provides a high level of the amino acids needed for glutathione production. Other immune system-related benefits are likely to emerge with additional research, as whey contains beta-lacto globulin, alpha-lactalbumin, and immunoglobulin, which help fight disease.

According to a 2004 study by the University of Minnesota, there is some evidence to suggest whey protein may help reduce blood pressure as well. A 2002 study of stress-vulnerable subjects showed that whey protein improved cognitive performance from its effect on brain tryptophan and serotonin levels.²¹ In our high-stress lifestyles, this could be another promising reason to use whey protein on a regular basis. Whey is also digested and absorbed well, so it's a perfect pre-workout or post-workout protein source. You can find whey protein on its own or as part of a meal replacement powder containing other fats, carbohydrates and additional health promoting or performance enhancing ingredients.

Section Summary

- Be sure to include protein with each of your meals
- Be cautious of protein sources that are common allergens such as dairy and soy
- If possible, purchase only grass-fed beef, pasture raised-poultry, eggs and pork, and wild-caught fish
- To avoid boredom from consuming too much animal-based protein or trying to eat too many whole food meals every day, use a protein shake or meal replacement once or twice a day

5

NUTS, SEEDS AND OILS: ADDING FLAVOR AND HEALTHY FATS



There is much misunderstanding and confusion when it comes to nuts, seeds and oils, so this section is dedicated to providing you with the latest data related to these foods. Even though saturated fat has never been shown to negatively impact health or cause heart disease, people are conditioned to see fat as a dietary evil.²² Unfortunately, those who steer clear of dietary fat may be missing out on many important nutrients. Fat is important for normal cell functioning and nervous system function. It supports satiety, is necessary for normal hormone production and is a great long-lasting source of energy. Healthy sources of dietary fat include nuts, seeds and oils, as well as the naturally occurring fats in meats and vegetables. Even organic butter can have its place in a healthy diet.

The FDA allows the following health claim to accompany the packaging of most nuts:

Scientific evidence suggests but does not prove that eating 1½ ounces per day of most nuts, such as almonds, as part of a diet low in saturated fat and cholesterol may reduce the risk of heart disease.

The second part of this health claim assumes that saturated fat and cholesterol cause heart disease, which is not the case according to the most recent research. Nonetheless, the fact that the FDA has approved the claim that nuts can positively affect heart disease risk is a powerful statement.

Before we review the many benefits of healthy nuts, seeds and oils, let's clear up some common misperceptions. First, they are only healthy in their natural state. Chocolate covered nuts, oils mixed with sugar, or seeds mixed with granola are not healthy options. Second, nuts and seeds are not an ideal source of protein. While they do provide some protein, it's not the same quality as the protein derived from animal sources. Someone striving for 20 to 30 grams of protein a day would have to eat three to five servings of nuts to meet that quota, which would be a significant excess of calories due the fat content of nuts. So think of nuts and seeds as healthy fats, which have the added benefit of a little extra protein.

Healthy sources of dietary fat include nuts, seeds and oils, as well as the naturally occurring fats in meats and vegetables.

Nuts and Seeds

Three major epidemiological studies (Nurses' Health Study, Iowa Women's Health Study and Adventist Study) show that consumption of nuts several times a week results in a 30 to 50 percent lower risk in heart attacks or heart disease.²³ Dr. Jonny Bowden, author of *The 150 Healthiest Foods on Earth*, explains in his book that one of the reasons nuts may provide such a significant health benefit is their arginine content. Arginine is an amino acid that has been shown to provide protection of the arterial walls, reducing the likelihood of atherosclerosis. As a side note, arginine was shown in a recent study to increase anaerobic threshold in elderly cyclists, providing additional evidence of cardiovascular benefits of nutrients found in nuts.²⁴

Nuts and seeds provide a variety of healthy fats. Most is monounsaturated fat, some is polyunsaturated, and some is saturated. They also contain fiber, and some are high in omega-3. The following is a brief summary of some common nuts and seeds, as described in *The 150 Healthiest Foods on Earth*.



Almonds: Almost 70 percent of the fat in almonds is monounsaturated fat, which is thought to be the key to health in the Mediterranean diet. Another benefit of almonds is that they contain only six grams of carbohydrates, half of which come from fiber.

Brazil Nuts: Brazil nuts are an excellent source of selenium, which helps combat the effects of heavy metals. It is also important in the formation of thyroid hormone.

Cashews: A little lower in calories (by weight) than other nuts, cashews provide magnesium, calcium, phosphorus, potassium, copper and selenium.

Hazelnuts: Hazelnuts contain beta-sitosterol, which has been shown to help lower cholesterol and reduce symptoms of benign prostatic hyperplasia.

Macadamia Nuts: Calcium, phosphorus and magnesium can be found in these nuts, along with beta-sitosterol.

Peanuts: Actually a legume, not a nut, peanuts are high in antioxidants. Purchase only organic peanut butter.

Pecans: Besides their monounsaturated fat content, pecans contain potassium, vitamin E, phytosterols and beta-sitosterol.

Pistachios: Many studies have been done on nut consumption in general, but two have been done specifically on pistachios. One showed that when pistachios were



used in place of other fat sources, they improved lipid profiles and decreased the risk of coronary heart disease. The other showed that pistachio consumption decreased oxidative stress and improved total cholesterol and HDL cholesterol.

Pumpkin Seeds: Pumpkin seeds are also high in beta-sitosterol and therefore have benefits for prostate health as well as the ability to lower cholesterol levels.

Sesame Seeds: The lignans of sesame seeds enhance vitamin E absorption, improve lipid profiles and support healthy blood pressure levels. Animal studies have shown that sesame seeds have the potential to increase fat utilization.

Sunflower Seeds: Sunflower seeds have been shown to provide antioxidant and anticarcinogenic benefits. They also provide more protein and fiber than most nuts.

Walnuts: Walnuts contain more omega-3 than any other nut, and although it's not the same as the DHA and EPA that come from fish oil, it's still seen as a very healthy nut.

A word of caution: When something is healthy, we tend to think we can eat as much as we want. That's not the case with nuts and seeds, where total calorie consumption can quickly get out of hand. According to research discussed in the bestselling book on longevity, *The Blue Zones*, most of the health benefits of nut and seed consumption seem to be from 1 to 1½ ounces per day.²⁵ If you're not in the habit of eating nuts and seeds on a daily basis, weigh an ounce so you know what the right amount looks like. Also, if you're already consuming too many calories and want to lose weight, you may need to remove something from your daily diet in order to add nuts or seeds to it.



Nuts, Seeds and Oils (Pay attention to serving size!)

Nuts and Seeds

Almonds	Brazil Nuts	Cashews
Hazelnuts	Macadamia Nuts	Peanuts
Pecans	Pistachios	Pumpkin Seeds
Sesame Seeds	Sunflower Seeds	Walnuts

Fats and Oils to Use

Almond Oil	Butter (or Ghee)	Coconut Oil
Extra Virgin Olive Oil	Flax Seed Oil	Hemp Seed Oil
Macadamia Nut Oil	Red Palm Oil	Sesame Oil

Fats and Oils to Avoid

Canola Oil	Hydrogenated Oil	Margarine
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Oils and Fats

Oils have the potential to help or harm our health. Over the past 50 years, there has been much confusion about what is considered healthy when it comes to oils and other fats. No doubt many processed foods are loaded with unnecessary and often unhealthy fats and oils. Those fats, coupled with excess processed carbohydrates, can lead to significant cardiovascular problems. There's a big difference between the fat found in processed foods and the fats we're talking about here. Entire books have been written on the health benefits of many natural fats and the health problems we face when we consume the wrong types of fats or fats used in improper ways. For the sake of simplicity, we'll just cover some highlights about oils and other fats here.

Omega-3 Essential Fatty Acids

Omega-3 fatty acids have consistently made news headlines over the past several years. An online survey completed by Equation Research showed that only 26 percent of Americans

said they take fish oil supplements, even though 63 percent of the respondents said they felt their diet did not have enough omega-3 fatty acids.²⁶ Although the effects of omega-3 supplementation are not always immediate, they are quite significant. The following is a very short list of some of the health benefits associated with fish oil in research studies.^{27,28,29,30,31,32,33}

- Reduced psychological distress
- Improved brain development
- Reduced symptoms of depression
- Enhanced eye health
- Reduced body weight
- Increased skin health
- Diabetes support
- Reduced inflammation
- Possible reduction of infant allergies (if used during pregnancy)
- Possible reduction in chest pain (acute coronary syndrome)
- Reduced age-related sight loss

Many products are currently being touted as "high in omega-3." Before reaching for these products, be sure

you're looking for the right type of omega-3. Plant sources of omega-3 are usually high in an omega-3 fatty acid called alpha-linolenic acid (ALA). Some animals are good at converting ALA to two additional omega-3 fatty acids, docosahexanoic acid (DHA) and eicosapentaenoic acid (EPA), which provide many of the benefits omega-3 fats are known for. Unfortunately, humans are not very good at converting ALA to DHA and EPA, so our best source of omega-3 is fish oil. Flax and other plant-based sources of ALA have additional health benefits beyond omega-3 so don't eliminate them from your diet. Marine algae are the best plant-based source of omega-3 for vegetarians. Just understand that it's not as good as fish oil for meeting your omega-3 needs.

The source of the fish oil supplement is also important. The best fish oils come from small fish such as anchovies, mackerel and sardines in the deep, pure, cold waters of the North and South Atlantic Oceans and Pacific Ocean. Sourcing fish from these oceans ensures the oil is higher in quality than when it comes from a fish farm.

Wild Alaskan salmon is one of the best food sources of EPA and DHA. Always take note of the type of salmon when

shopping or dining out. There's a big difference between Wild Alaskan salmon, which eat their natural ocean diet, and farmed salmon, which are fed grain as part of their diet. Changing the salmon's diet significantly changes the quality of fat in the salmon.

Even if you ate salmon every day, it would be difficult to get enough EPA and DHA in your diet, so try to get your omega-3 needs met with both food and supplementation. Of course, eating fish every day may come with the risk of increased mercury intake, so it isn't likely people would do that anyway. Conservative recommendations for daily DHA and EPA intake range from one to four grams. A typical salmon steak provides about one gram of EPA and DHA. Omega-3 soft gels vary in their DHA and EPA content. Higher quality products like the Life Time Omega-3 Fish Oil have 500 to 600 mg of EPA and DHA per soft gel. At 600 grams of total EPA and DHA per soft gel, a dosage of two to four soft gels a day is recommended, but some people have found additional benefits with more. Consult with a knowledgeable health or fitness professional for personalized guidance.



If you're looking for a high-quality, lab-tested and safe source of fish oil, check out Life Time Fitness Omega-3 Fish Oil, sourced from anchovies, sardines and mackerel in the deep waters of the North and South Atlantic and Pacific Oceans. Each softgel provides 600 mg of EPA and DHA and is guaranteed to be free of mercury.

Members receive a 10 percent discount when they shop with a trainer in our cafe or in our online store.



Cooking with Oils and Fats

Cooking with oils and fats may be the most confusing topic of discussion in nutrition. We've been told for years to limit fat intake. We stopped eating butter and replaced it with margarine. Then we found out margarine was bad for us and found other substitutes. We were told to avoid animal fats, but some of the longest living individuals in *The Blue Zones* say they cook with these fats.²⁵ To cut through the confusion, let's touch on the healthiest fats to consume, how they should be used and which ones to avoid.

When cooking with oils and fats, especially at high heat, saturated fats are generally a better choice. Lipid expert Mary Enig recommends using one of the following fats for high-heat cooking: butter, tallow, suet, lard, poultry fat, coconut oil, palm oil or palm kernel oil.³⁴ Unsaturated fats are less stable and more prone to becoming trans-fats at high heat. Trans-fats are strongly associated with lipid disruption and may lead to increased cancer risk. Most media coverage has focused on trans-fats intentionally used in processed foods. However, using healthy oil under high temperatures can turn it into an unhealthy trans-fat as well. Keep this in mind with the popular cooking sprays as well. If you like spraying your pan before cooking, purchase coconut oil non-stick spray instead of olive oil.

And remember, a small amount goes a long way. Just because a particular oil or fat may be considered healthier doesn't mean you can use as much as you want.

Seasoning with Oils and Fats

The fat sources above are typically solid at room temperature, so they would not work well as a salad dressing or seasoning. The best oils for seasoning include extra virgin olive oil, expeller-expressed sesame and peanut oils and flax oil.³⁴ Again, it's important not to expose these oils to high heat. It's also best to keep these oils cool and away from light. Heat, light and air can cause oxidation to these otherwise healthy oils. When you shop for salad dressings, be sure to check labels as many products contain oils you may not want to use. Or consider making your own dressing with a small amount of a healthy oil and vinegar.

The following is a list of healthy oils and how you can use them:

Some of the best oils for seasoning include extra virgin olive oil, expeller-pressed sesame and peanut oils and flax oil.

Almond Oil: High in monounsaturated fats. Use in dressings and for cooking at low temperatures, or add to foods after they're cooked to enhance the flavor. Purchase only cold-pressed almond oil.

Butter (or Ghee): Great for cooking at higher temperatures. Shop for organic butter from grass-fed cows, which will be free of pesticides, hormones and antibiotics and will have more conjugated linoleic acid (CLA).

Coconut Oil: Also good for high-temperature cooking. Coconut is anti-microbial and high in medium-chain triglycerides, which may help elevate metabolism.

Extra Virgin Olive Oil: Heart-healthy oil rich in monounsaturated fat. Use for seasoning and salad dressing, but not for cooking. Purchase only "first cold-pressed" extra virgin olive oil.

Flax Seed Oil: Nutty-flavored oil for use in salad dressings and protein shakes. Not for use in cooking. Though high in omega-3 fatty acids, the omega-3 is alpha-linolenic acid (ALA), which should not be confused with the major benefits derived from fish oil's DHA and EPA.

Macadamia Nut Oil: Even higher in monounsaturated fats than olive oil. Can be used for sautéing, as it handles higher temperatures than extra virgin olive oil.

Other oils, such as red palm oil, sesame oil, walnut oil and grapeseed oil can be used as part of a healthy diet as well. Now that you have a short list of oils that you should use, let's take a look at the ones to avoid.

It would be difficult to find someone who isn't reasonably aware of the dangers of trans-fats. Trans-fats became popular around the same time that saturated fats were deemed unhealthy. On a label, you can pick out the trans-fats as any ingredient listed as "partially hydrogenated" or "hydrogenated."

Beyond trans-fats, are there any other unhealthy fats? Yes, and the list may surprise you. Heavily processed oils such as soy, corn, safflower, cottonseed and canola oils are not a natural part of our diet. These vegetable oils go through extensive processing at high temperatures, as well as "caustic refining, bleaching and degumming." Canola oil, which has been touted as healthy because of its omega-3 content, ends up with a large amount of its oils becoming hydrogenated by the time it is done with its processing. In fact, the University of Gainesville found that commercial canola oil had more trans-fats than margarine.²³ It's a running theme in this manual, but if you steer clear of processed foods, oils included, you'll derive much greater health benefits.

Section Summary

- Add a serving of nuts or seeds to your day. Vary the type and beware of what a serving actually is.
- Make fish oil supplementation a daily habit, but be sure you're using a quality product.
- If you're cooking with oil, use organic, natural fats such as butter, ghee, coconut oil or animal fat.
- Check labels for the types of oils you use, especially in salad dressings.
- Don't be afraid of using a moderate amount of fat in your diet.

STARCHY GRAINS, VEGETABLES AND OTHER CARBOHYDRATES

This is the food group that generates the most debate in nutrition today. Common misconceptions, the food industry's influence and an American affinity for highly processed foods make determining carbohydrate intake the most challenging part of creating an optimal nutrition plan. Many of the misconceptions about carbohydrate intake contain bits of truth that tend to get exaggerated. You can find more interesting facts and information on carbohydrate intake at myLT.com. For the purpose of this manual, we'll touch on a few of the most important things to consider.

It's very important to understand the effect of excess carbohydrates on your body. We've been led to believe that starchy carbohydrates should be the predominant source of fuel. In reality, most of us are not active enough to justify a high-carbohydrate diet. Whereas an athlete training for two or three hours a day, five or six days a week may require a diet consisting of 55 to 60 percent carbohydrates to improve recovery and ensure optimal performance,¹³ those of us who cannot commit to that kind of activity or don't have the physique of an athlete can be setting ourselves up for failure with such a carbohydrate-heavy nutrition plan.

Pay attention to those around you and what their diets look like. Do they snack on breads, cakes and cookies? Do they eat sandwiches made with half a loaf of bread or a tortilla the size of a serving plate? Do you?



*Eating excess carbohydrates
can keep your body from burning fat.*



Carbohydrates and Insulin

The next time you reach for a high-carbohydrate, low-fat, low-protein snack, remember this: Carbohydrates increase blood sugar. A rise in blood sugar raises insulin. Insulin shuts down your ability to burn fat. Therefore, eating excess carbohydrates can keep your body from burning fat.

The repetitive ingestion of excess carbohydrates puts a constant stress on the body and the hormones that help regulate blood sugar levels. The effect is a blood-sugar rollercoaster. As blood sugar levels rise, insulin rises, which makes blood sugar levels fall. When blood sugar levels fall, cravings for carbohydrates increase. By giving in to those cravings and snacking on carbohydrates, the cycle begins again.

Often the cycle starts with breakfast, where a bowl of cereal and orange juice provide plenty of refined carbohydrates to start the blood sugar rollercoaster (even if the box says "contains whole grains"). That's likely one of the reasons higher-protein breakfasts have been shown to help support weight loss and reduce the number of calories eaten later in the day. Replacing all those carbohydrates at breakfast with more protein and healthy fat helps maintain blood sugar levels during the day, which helps control cravings for those unnecessary high-carbohydrate snacks.

Carbohydrates for Active Lifestyles

You've probably been told that you must have plenty of carbohydrates for exercise and activity. Unless you're training for more than an hour, or you're a high-performing athlete with an athletic body fat percentage, that likely isn't true. For most of us, about an hour per day is all we're able to devote to exercise and moderate-intensity activity. The rest of the day may be spent behind a desk or keeping an eye on the children. Our level of activity is nowhere near what it was 100 years ago, or what it is in many non-industrialized nations.

The more advanced countries become, the less active their people tend to be. The United States is a perfect example. We are a nation where people fight for the front-door parking spot at their fitness center! That isn't the case in less industrialized nations. In his book, *The Blue Zones*, Dan Buettner reviews many nations where people don't have access to the healthcare we have in the United States yet live unusually long lives. A common theme among the cultures in Buettner's book is that they are very active. The book contains countless examples of people in their 80s, 90s and even 100s still walking, weight training, chopping wood and gardening.

It's critical to take in sufficient amounts of protein and healthy fat, and then meet the rest of your energy needs with carbohydrates, not the other way around.



As Americans, we're rarely at risk of burning the available carbohydrate, or glucose, stores in our bodies. And if we're not burning them, we don't need to eat more of them. As long as we're not eating too many carbohydrates, our bodies should burn mostly fat during our sedentary day. If the average person burns 2000 calories in a day, and 30 percent of those calories come from glucose (carbohydrates), that means they'd burn 600 calories from glucose. To replace all of that glucose through diet, it would only take about 150 grams of carbohydrates. That's far less than the 300 grams typically recommended.

Carbohydrate intake should be based on an individual's daily activity level, whereas fat and protein intake can be pretty standard based on an individual's body weight or lean body mass. As activity level increases, carbohydrate intake should increase. However, beginning an exercise program shouldn't be justification for overeating carbohydrates. It takes just one muffin, a couple pieces of bread or a bowl of pasta to make up the 400 calories you burn during an hour of activity.

Going for Grains and Avoiding Gluten

Gluten has become a pretty mainstream nutrition term. Many people understand it is a health concern, but they don't know how or why. With as much as one-third of the population sensitive to gluten, it's worth understanding more.³⁵ The more startling statistic is that 99 percent of those who have issues with gluten are not aware of it.³⁶ With our dependence on whole grains as the base of the recommended food pyramid, it's easy to overlook the significance of gluten. Could it be that the foundation of the Standard American Diet could actually be hurting us?

Gluten and Chronic Disease

Many chronic diseases seem to be related to gluten sensitivities. *The New England Journal of Medicine* listed 55 health issues related to gluten.³⁷ According to

Dr. Mark Hyman, these include "osteoporosis, irritable bowel disease, inflammatory bowel disease, anemia, cancer, fatigue, canker sores, rheumatoid arthritis, lupus, multiple sclerosis, and almost all other autoimmune diseases." He also points out that the occurrence of full-blown gluten allergy, or celiac disease, has increased 400 percent in the past 50 years.³⁵

Many people live with irritations caused by issues with gluten. Unfortunately, medications prescribed to alleviate the symptoms associated with gluten intolerance do not address or relieve the underlying cause. Usually the best solution is simply eliminating gluten from your diet.

Gluten and Weight Loss

Inflammation is a common concern among people today. Even mild allergic reactions to foods like gluten can cause chronic low-grade inflammation. Studies show that inflammation can result in a reduced ability to use insulin and handle carbohydrates, which is called insulin resistance.³⁸ Is eating a whole-wheat English muffin each morning worth the possibility of causing your body to take steps toward insulin resistance?

As consumers become more aware of the issues surrounding gluten consumption, food companies will look for alternatives to make the same high-carbohydrate foods in a "gluten-free" form. Eliminating gluten can be helpful, but eating high-carbohydrate, gluten-free foods is likely to have similar effects on weight gain as the gluten-filled options. It may be better to go back to the way we originally ate before all the gluten-filled options were available. A diet filled with vegetables, fruit, meat, seeds, nuts, and some other carbohydrates (depending on activity level) is a better way to eat for those with and without gluten issues.



Starchy Vegetables and Other Carbohydrates (eat based on activity level)

Gluten-Free

Basmati Rice	Beans	Bran	Black Beans
Brown Rice	Buckwheat	Chickpeas	Coconut Flower
Corn	Corn Tortillas	Fava Beans	Flax Seed
Garbanzo Beans	Gluten-Free Bread	Lentils	Millet
Oats (gluten-free)	Pinto Beans	Popcorn	Quinoa
Red Potatoes	Sweet Potatoes	Tapioca	White Potatoes
Wild Rice			

Gluten-Containing

Barley	Bulgur	Couscous	Oatmeal
Spelt	Rye	Wheat	Whole Wheat Bread
Whole-Grain Cereals			

Other Carbohydrate Sources to Avoid

Agave Nectar	Brown Rice Syrup	Fructose	High-Fructose Corn Syrup
Honey (unless it's raw)	Sugar		

Determining Gluten Sensitivities

There are a few ways to test for gluten sensitivities. They include a blood test, skin-prick test, food challenge testing and an elimination diet.³⁹ The easiest thing to do may be an elimination diet. Eliminate all gluten-containing foods for two to four weeks and then reintroduce them. Some common gluten-containing grains include barley, bran, bulgur, cereals (some), couscous, flour, food starch, gluten peptides, grits, oats, rye, spelt and wheat.⁴⁰ During the elimination phase, you may feel better. Or may feel the same, but notice a difference once you reintroduce gluten to your diet. You may also find that the elimination of many of the carbohydrate-containing foods during this time leads to other positive changes such as weight loss, increased energy, decreased blood pressure and/or improved blood lipid profiles.⁴¹

What Kind and How Much?

Most people can meet their daily carbohydrate requirements with fruit, vegetables and a small amount of non-gluten starchy carbohydrates shown in the table below. It's critical to take in sufficient amounts of protein and healthy fat, and then meet the rest of your energy needs with carbohydrates, not the other way around. By following a few simple guidelines, you may be able to easily manage your carbohydrate intake:

- Don't overestimate how much you need to eat after your workout. A smoothie, sandwich and a bag of chips will probably exceed the calories you can burn in a given one-hour workout. Instead of a smoothie, have a protein shake. Or eat the sandwich, drink water and skip the chips.
- When you look at your plate, look at the carbohydrates as a side, not as the main course. Load your plate with vegetables, add some protein and then add a little bit of starch if you need it.
- Get rid of the gluten. When *The New England Journal of Medicine* lists 55 diseases with associations with gluten that should be a red flag that it may not be appropriate as a regular part of the diet.
- Determine your goals before deciding what to eat before and after your workout. If the purpose of your workout is to improve body composition or your metabolic risk profile, carbohydrates probably shouldn't be a focus. If your goal is strictly performance, you may find some benefit to increased carbohydrate intake, although research results have been mixed on this, and it should only be considered for workouts exceeding 45 to 60 minutes.¹³

Sugar, refined flour, and other carbohydrates are a significant part of the Standard American Diet. Though they taste good, are inexpensive, and may even (temporarily) help us feel better when we're under stress, consuming excessive amounts can be a problem. Be sure you're consuming enough vegetables, fruit, protein, nuts and seeds. Then add starchy carbohydrates if you need them.



Section Summary

- Eat just enough carbohydrates to fuel activity
- Be aware of how common gluten sensitivities is and how many health problems are related to gluten consumption
- Try eliminating gluten for 30 days and see how you feel
- For those who find they are sensitive to gluten, don't automatically replace gluten-containing foods with gluten-free foods. You may not need the carbohydrates anyway

A S.A.D. STORY:

THE STANDARD AMERICAN DIET

The Standard American Diet is just as its name implies—the way most Americans eat. It often includes heavily processed foods, is high in refined carbohydrates and added fats, low in vegetables and fruits, and most meats are processed in one way or another. With hectic schedules and little patience for food preparation, our diets have become far from what we're genetically designed to eat. The following story is a good example. Maybe you see the following characters in someone you know—maybe in yourself.

A Typical Day of S.A.D. Eating

Johnny Hustle wakes up at 6:30 a.m. and has to leave for work by 7:15 so he won't be late. He hit the snooze button four times again this morning because he stayed up too late watching TV. After a quick shower, breakfast has to be fast. He's focused on eating healthier, so he reaches for the Grape Nuts instead of the Waffle Krisp cereal. He pours about half a cup of cereal in his bowl with half a cup of milk. He also pours himself about 12 ounces of orange juice. He figures it's a healthy breakfast. It totals about 452 calories—not too bad. The interesting part is where those calories come from. That small breakfast contains 102 grams of carbohydrates, 47 of which come from sugar. It contains only 11 grams of protein and 1 gram of fat.

A couple hours after breakfast, Johnny is *starving*. His blood sugar has likely crashed and he's desperately looking for something to give him an energy boost and satisfy his cravings. He remembers he has some 100-calorie snack packs in his desk drawer, thinking that will be perfect with

the large nonfat vanilla latté he picked up at the coffee shop on his way to work. This 274-calorie snack contains 53 grams of carbohydrates, 39 grams of sugar, 13 grams of protein and 3 grams of fat.

For lunch, Johnny mostly sticks with sandwiches, which seem pretty healthy to him. On this particular day he's going for a 12-inch turkey sandwich and a bag of baked chips. He's been cutting back on soda so he chooses to drink water instead. The totals for this meal are 690 calories, 120 grams of carbohydrate, 14 grams of sugar, 38 grams of protein and 8.5 grams of fat.

After three low-fat, high-carbohydrate meals in a row, Johnny's blood sugar crashes in the middle of the afternoon. There's nothing around to eat, so he has a few cups of coffee to get through the afternoon. He drinks them black to avoid the extra calories.

When he leaves the office, Johnny can't wait to eat. He calls his wife on the way home and talks her into going out

*With hectic schedules and little patience
for food preparation, our diets have become far
from what we're genetically designed to eat.*



Breakfast

Grape Nuts with ½ cup skim milk, glass of orange juice
452 calories, 102 grams carbohydrate, 47 grams sugar,
11 grams protein, 1 gram fat

Snack

Vanilla non-fat latte & 100 calorie snack pack
274 calories, 53 grams carbohydrate, 39 grams sugar,
13 grams protein, 3 grams fat

Lunch

12" turkey breast sandwich & baked chips
690 calories, 120 grams carbohydrate, 14 grams sugar,
38 grams protein, 8.5 grams fat

Dinner

Fiesta Lime Chicken
1108 calories, 91 grams carbohydrate, 3 grams sugar,
58 grams protein, 58 grams fat

for dinner. They go to their local neighborhood restaurant where Johnny orders the Fiesta Lime Chicken, which sounds healthy enough. If he had asked for the nutrition information, he would have seen that it has 1108 calories, 58 grams of fat, 91 grams of carbohydrates, 3 grams of sugar and 58 grams of protein. It was about the same as the Oriental Chicken Salad his wife ate, which had 1240 total calories.

In total, Johnny ate 2524 calories, 366 grams of carbohydrates (103 of which came from sugar), 120 grams of protein and 71 grams of fat. Little does he know that the sluggish way he feels, his high levels of triglycerides, marginally high levels of fasting glucose and insulin, and the love handles that hang over his pants are in large part from eating just like this. If you were to look at his vitamin and mineral levels, you'd find he's deficient due to the lack of vegetables and fruit and the high carbohydrate levels in his diet, as well as the fact that he doesn't take a high-quality multivitamin. His fluctuating insulin levels are a big part of his erratic energy levels and also contribute to the fat he can't seem to lose around his midsection.

Does Johnny's diet sound familiar? Or is it a perfect description of how you used to eat? However you relate to the story, hopefully you see it's not the answer to a healthy way of life. Now let's take a look at what is.

A Typical Day of Healthy Way of Life Eating

Let's take a walk through what your day could be like when you make healthy eating a way of life. You wake up 15 minutes early, which is fine because you've been getting between seven and eight hours of sleep every night. You make coffee, which is more convenient and less expensive than stopping at the coffee shop—saving you about \$3 and avoiding the temptation of those high-sugar coffee drinks. You crack a few eggs, pull out your chopped bell peppers and tomatoes, shave off a little goat cheese and scramble it all in a heated pan with a dab of coconut oil (you could have sautéed the vegetables first, but decided not to). A few minutes later, you toss it on a plate, grab a cup of coffee and sit down to breakfast. After you're done eating, you quickly take your multivitamins, fish oil and other supplements with a glass of water and finish getting ready to leave.

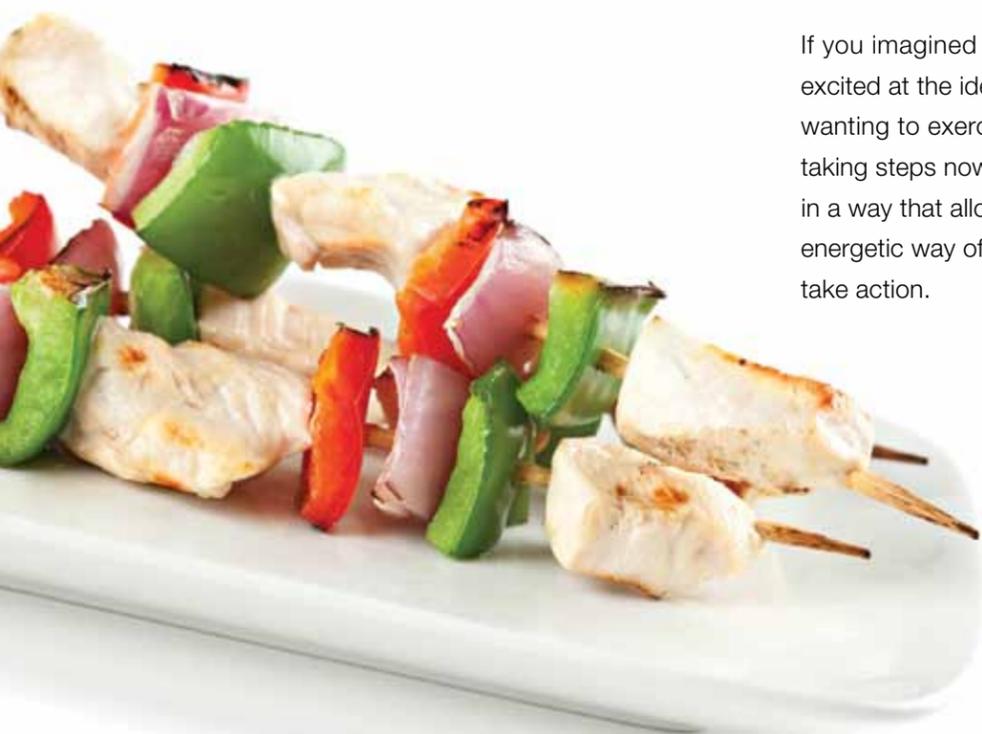
The morning flies by and you find yourself getting hungry mid-morning, so you take a handful of walnuts out of your cooler. That's plenty to hold you over until lunchtime. You packed your lunch the day before: a grilled chicken breast, chopped and thrown over a large salad. All you have to do

is pull out your vinegar and oil dressing, drizzle it over your salad and mix it up. It's a pretty filling meal, but you decide to have a small apple, too.

Mid-afternoon, while everyone is getting sleepy and becoming less productive, you're as focused as ever. You prepare a quick meal replacement shake, grabbing your shaker cup filled with one serving of meal replacement from your cooler, adding water and mixing it up. This provides you with high-quality protein to keep your hunger at bay and helps power the workout you're planning to do after work. It also gives you a moderate amount of carbohydrates—not enough to cause drowsiness, but enough to help keep your blood sugar levels steady—as well as some healthy fats and other nutrients.

You're feeling good, so instead of rushing home to eat, you stop by Life Time to get in a workout. When you get home, you're more energized than usual and take some time to prepare a good dinner. Tonight, it's kabobs on the grill and a glass of red wine. Dessert is a cup of berries. You're satisfied for the rest of the night and make it a point to get to bed in time to get eight hours of sleep.

If you imagined yourself in the second story, did you get excited at the idea of eating well, having more energy and wanting to exercise after work? If you got inspired, start taking steps now to get off the S.A.D. diet and start eating in a way that allows you to have a longer, healthier, more energetic way of life. You have the tools, now you have to take action.



What About Junk Food?

At this point you're probably wondering, "Is this the end of pizza, cake, cookies and other junk food?" Eliminating all processed foods, sweets and other unnecessary foods for the rest of your life would be a noble goal, but for most people it just isn't realistic. There will always be holidays, get-togethers, date nights and times when you get sidetracked from your healthy eating habits. Don't worry about it. You're not on a diet, so you can't "fall off the wagon."

Think of it this way: You probably eat about four meals a day. That's 28 meals per week. If a couple of those meals fall outside your ideal list of choices each week, it's not a

huge deal in the greater scheme of things. Plus if you've been following the healthy way of life nutrition plan up to this point, you should be noticing you don't really crave junk any more.

A healthy diet is much like investing. The more often you can deposit money and avoid withdrawals, the faster you'll build a healthy savings. The more often you eat what you should and avoid what you shouldn't, the faster you'll attain optimal health.

Section Summary

- Each time you eat you make a decision on how you will look, feel and function.
- The average person is in the condition he or she is in, in a large part, based on the foods they choose to eat throughout the day
- You have the ability to choose wisely every time you eat and in a short period of time, change the way you feel each day



THE 30-DAY HEALTHY WAY OF LIFE NUTRITION CHALLENGE

You now have the tools and knowledge to follow a much better nutrition plan. If you've been adopting one habit or concept each week, you're now about six weeks in. The next four weeks, or 30 days, are your chance to really speed up the result you get from your improved nutrition and feel better than ever. Other than quitting smoking, there's probably nothing better you could do for long-term health and longevity than improving what you eat every day.

Your challenge for the next 30 days is to stick to this way of eating. That doesn't mean you get to go back to your old ways on day 31. This is about you committing to a small period of time—short enough that you can see the end, yet long enough that you will feel different, look different and be different. You've probably already lost some weight. You may feel better than you have in a long time. The next 30 days are about putting it all together. That doesn't mean for 30 days you can't touch S.A.D. foods. But the more you can avoid them, the more successful you're going to be.

Support and Accountability

The good news is that you don't have to do it alone. Connect with others doing the 30-day challenge by going to [myLT.com > Weight Loss > Discussions > 30-Day Challenge](#). Share your story. Read the stories of others. Find inspiration. Ask for advice. If you're looking for more than online support,

consider joining E.A.T., a weekly support group at your local Life Time Fitness center designed to help provide the guidance you need to stay on track. If you like the idea of a group and want support for both nutrition *and* exercise, consider one of our T.E.A.M. programs.

Friends and family members can also provide support, but be careful. Sometimes people who don't have similar goals and interests aren't the most motivating influence. That's why joining a weight-loss community like myLT.com and/or a local weight-loss group like E.A.T. or T.E.A.M. may be the best way to get the support and accountability you need.

Be Prepared

As the saying goes, failing to plan is planning to fail. Over the next 30 days, you'll be faced with what to eat three to six times a day. The more often you make the right decisions, the better you'll feel, the more energy you'll have and the faster you'll see improvements in your body and your performance. The following is a list to help you be prepared and make the best choices every day.

1. Pick one day each week to do your shopping and make your meals. If you live by your calendar, put it in your calendar. Ideally, eat before you go shopping. Excessive hunger can lead to bad decisions at the store.

You'll find it doesn't take as long as you thought to prepare two to four days of food in advance. Your meals can be as simple as baking several chicken breasts and having one with salsa and avocado one day and another chopped up over salad with oil and vinegar dressing the next day.

2. Make weekday meals easy to prepare. If you go overboard trying to make something different every day, you'll quickly get frustrated. Eat the same lunch for a few days so you don't have to think about it, and then switch it up when you run out. You may also find it easier to pack leftovers from dinner for your lunch the next day. Here are some delicious, healthy combinations to get you started:

- Grilled or baked chicken breast topped with salsa and avocado
- Grilled or baked chicken over lettuce and drizzled with vinegar and oil dressing
- Reheated serving of egg bake made with whole pastured eggs, goat cheese and vegetables
- Grilled or baked turkey breast and a Caesar salad
- Grilled, sliced round steak over salad with salsa and avocado

3. When dining out, don't be afraid to ask for a meal prepared the way you want it. If all of the protein options come with a sauce over them, ask to have it left off. Or request your burger with a salad instead of a high-carbohydrate,

processed bun. A simple salad with oil and vinegar dressing should be available at just about any restaurant.

4. Stay hydrated. Dehydration can lead to unnecessary feelings of hunger, so keep a reusable water bottle by your side and have a sip whenever you need to. This doesn't mean you have to lug around a huge, one-gallon bottle—you probably won't need that much anyway.

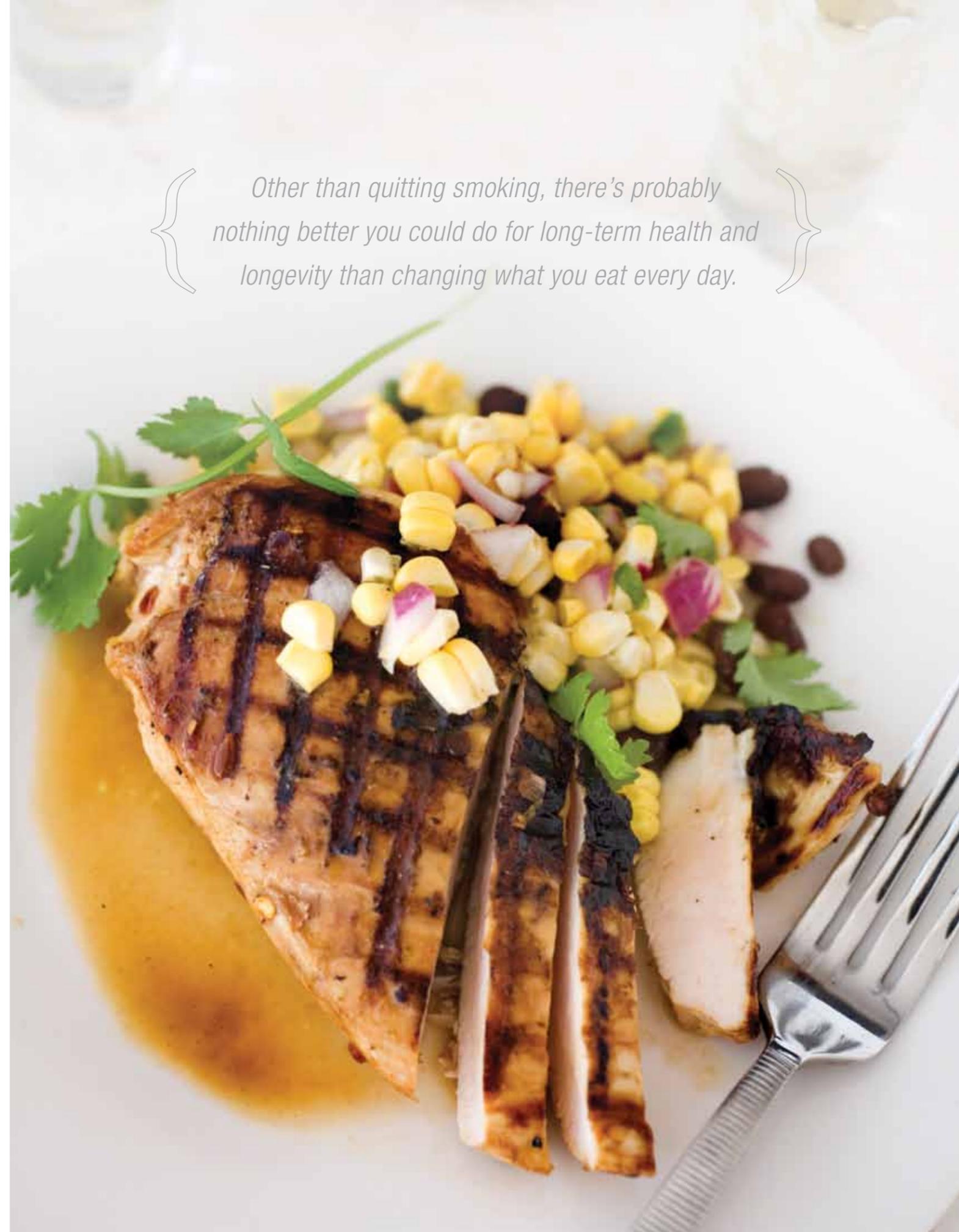
5. When cravings strike, go for a walk. If you're at home relaxing and start craving junk food, go for a walk. Even 15 minutes of brisk walking may help you overcome the cravings. After doing something healthy like taking a walk, you may decide that junk food isn't even worth it.

6. If you're hungry, eat. There's a difference between hunger and cravings. If you're really hungry, don't worry if your last meal was an hour ago or four hours ago. Have a protein shake. Eat half an apple with some almonds and a few slices of organic cheese. Have two squares of dark chocolate (at least 70 percent dark, ideally 85 percent). When your diet consists of quality protein, vegetables, fruit and healthy fats, you're a lot less likely to overeat compared to when your diet is loaded with high-carbohydrate, low-fat, low-protein snacks.

Section Summary

- 30 days – Take what you've learned and apply it every day
- Go to myLT.com and share your experience! Hear from other people who've taken on the 30-day challenge. ([link to myLT discussion forum for 30-day challenge](#))

Other than quitting smoking, there's probably nothing better you could do for long-term health and longevity than changing what you eat every day.





MODERATION :

KEY TO SUCCESS OR SABOTAGE?

Before we talk about moderation, let's address why some foods are so addictive in the first place. As discussed earlier, the foods we eat today don't resemble the foods we ate 100 years ago. Science and psychology have been used to make many of today's foods appear healthier than they are, with marketing that subconsciously calls your name and ingredients that keep you from feeling full until you've eaten in excess. The combination of salt, fat and sugar found in processed foods trigger your brain to crave them, much the same way one becomes addicted to drugs or alcohol. So when people say they can't stop eating something, it may be true that they *really can't stop eating*.

David Kessler's fascinating book, *The End of Overeating*, provides an interesting look behind the curtain of food design. When you understand the incredible amount of thought and research that goes into creating your favorite flavor of potato chip, cookie or snack food, or meal at your favorite restaurant, you begin to see how futile the idea of eating these foods in moderation may be.

It's rare to have strong cravings for whole foods such as plain vegetables, fruit, meats or dairy products. To make you crave foods, it takes added salt, fat, sugar, more fat and more sugar. These foods are designed to go down easy, with just a few chews, so it feels like you haven't eaten as much. John Haywood, a restaurant concept designer, is

quoted in Kessler's book as saying that "processing creates a sort of 'adult baby food.'" The ingredients are designed to provide pleasure and make you want to come back for more. It would be very difficult to eat 4,000 calories of lean meat, vegetables and fruit. However, it's easy to consume that many calories without realizing it when the food is processed for you.

Problems with Moderation

Having a small amount of an addictive food causes something called priming, much like the response when an alcoholic has just one taste of alcohol. The mechanisms in the brain are not totally understood, but it's clear that for some people a small amount of some foods can create a strong drive to eat more. Addiction to foods such as chips, crackers, sweets and coffee drinks has a lot to do with how they make you feel. And the more you rely on certain foods to create those feelings, the stronger the addiction becomes.⁴² As Kessler explains:

When we're hungry, almost any food can have a priming effect—in fact, that's one of the risks of dieting. But in the absence of hunger, only highly palatable foods are likely to spark further eating. "Having a little bit makes you want more. And then you have it, and it makes you want still more," observed (Harriet) de Wit.



The combination of salt, fat and sugar found in processed foods trigger your brain to crave them, much the same way one becomes addicted to drugs or alcohol.

How to Gain Control

Eating small frequent meals helps you control hunger and avoid overeating. The key to these small frequent meals is avoiding the high-carbohydrate foods that are so effectively marketed for snacking. Granola bars, 100-calorie snack packs, pudding snacks and other foods you see advertised on television do little to control hunger and often result in overeating. If you're going to eat every few hours, it's important to eat plenty of protein, healthy fats and include fruit and vegetables whenever possible.

Eating frequently can help avoid excess hunger, but what about those foods that seem to call our name day after day? Kessler offers these four steps to reverse the habits of overeating:

- 1. Be aware.** Simply understanding that there are foods that have some control over you is an important first step.
- 2. Engage in competing behaviors.** The next step is avoiding situations that tempt you to eat those foods. It may mean driving a different route to avoid a certain restaurant,

not eating on a full stomach, or grocery shopping with a friend or family member who will hold you accountable. It may also be necessary to stop buying processed foods for other family members. If they're not good for you, they're not good for them either.

- 3. Formulate thoughts that compete with, and serve to quiet, the old ones.** Accept that you may not be able to have "just one bite." Understand that you won't reach your fitness goals and that you may increase your health risks by eating those foods.

- 4. Find support.** Seek out other people with similar goals and challenges. Programs like T.E.A.M. Weight Loss and E.A.T. at your local Life Time Fitness center are great resources. You'll have much better success controlling cravings and managing your weight with people who are going through the same thing. And beware of friends or family members who don't care about what they eat or the shape they're in. They can quickly cause you to sabotage your plan.

Section Summary

- "Moderation," when it comes to processed foods is more complicated than it sounds.
- If there are foods you have a hard time staying away from, give in occasionally to eating small amounts until your diet is under control
- Try to take action over the foods that seem to have some control over you by following the four ideas described in this section
- Be more aware of the foods you eat
- Engage in competing behavior
- Formulate thoughts that compete with and serve to quiet the old ones
- Find support from those facing the same situation

BEYOND FOOD AND SUPPLEMENTS

For most people, simply eating real food and using the right basic supplements is enough to spark change. Some people, however, face a greater challenge. A life of substandard nutrition and/or other environmental and lifestyle factors can cause many disruptions to metabolic function. In these cases, it may be necessary to look beyond food alone.

The image on the right shows many of the areas that can become obstacles to weight management and peak energy levels. These issues can come from chronic stress, environmental toxins, nutrient-poor diets and a variety of other issues. The most common hormone related to stress is



cortisol. If cortisol levels are high because of lifestyle stresses, a high-intensity exercise program can wreak havoc on the individual. Adding a high-carbohydrate diet can make things worse. On the flip side, the right kind of exercise routine, and an appropriate nutrition and supplement plan can actually help reduce stress levels and may help improve sleep. The following are brief descriptions of how other factors may affect weight management. For more complete details on each of these factors, as well as steps you can take to work through them, be sure to check out the Weight Loss Center on MyLT.com

Nutrient Deficiency

Calorie-dense, nutrient-poor foods make up a huge portion of the American food supply, which not only robs the people who eat them of important vitamins and minerals, it can lead to excess weight gain. Several nutrients are critical for the biochemical processes that help control hunger, fight insulin resistance, direct weight-control hormones and turn calories to energy—or fat. Every vitamin and mineral, from A to zinc, plays a part in weight gain and loss.

Inflammation

Acute inflammation is an important part of maintaining health. However, chronic inflammation can lead to many health issues. Chronic inflammation may stem from stress,



The right kind of exercise routine, and an appropriate nutrition and supplement plan can actually help reduce stress levels and may help improve sleep.

food, allergies, injuries and illnesses. Inflammation is likely a major cause of health problems including heart disease. Fortunately, it can be easily measured through blood testing, and can be influenced by diet, exercise, supplementation and stress management.

Digestion

Digestion has become more of a focused area of research. A healthy digestive tract does more than simply break down foods. When your digestive tract is working correctly, enzymes are released to better break down foods and absorb vitamins and minerals. The digestive tract also provides a major line of defense against disease as it can keep bad bacteria from entering the blood stream. When the digestive tract is irritated through the wrong types of foods, excessive sugars or other reasons, it can affect the body's nutrient status and immune functioning. It can also impact the ability to manage weight.

Detoxification

Environmental toxins may play more of a role in our obesity epidemic than people have ever realized. The government has begun investigating environmental pollutants and their effect on our health. These toxins may disrupt our hormones and block the absorption of important nutrients. Exposure to heavy metals, PCBs and other pollutants should be

minimized, although it is difficult to completely avoid them.⁴³ Understanding where you come in contact with these pollutants is important so you can make informed decisions.

Hormonal Balance

Testosterone, estrogen, progesterone, estradiol, thyroid and others all play important roles in our ability to achieve optimal health and maintain weight. If an individual's hormone levels are out of balance, there are some diet and exercise changes that can be made to influence hormone levels. However, it is recommended that an experienced medical doctor be consulted to ensure everything that can be done is done. Hormonal balance can easily be measured through a blood test. Often women are more likely to seek support for hormonal balance, but men should not dismiss it. In fact, a recent study showed that as many as 25 percent of men over 30 have low levels of testosterone.⁴⁴ Because hormone levels play such an important role in maintaining health, it's recommended to have your levels checked on an annual basis.

Stress and Sleep

Stress comes in many forms: job stress, family stress, financial stress, physical stress, injuries, sickness and more. Although stress has been part of life from the beginning of time, we've changed the amount and type of stress we



face each day. Some people never find a reprieve from the stresses they face each day. The level of stress can impact the ability to sleep. Lack of sleep can increase levels of stress, and the cycle continues. Stress also impacts the foods choices we make. Understanding where stress is coming from and then dealing with it in a constructive manner is critical to health and weight management.

If you have been struggling with managing weight and feel like you're doing everything right, one of these metabolic issues may be an issue for you. You can learn more about them at the Weight Loss Center on MyLT.com. You'll learn about additional dietary changes you may want to make, lab work you could register for, and other dietary supplements that may benefit you.

Section Summary

- Eating well, using high-quality core supplements and exercising appropriately are important first steps in managing weight
- Weight management and metabolism is affected by more than simply the number of calories we burn and eat
- Ensuring you have the best opportunity at optimal health, weight and fitness requires controlling the other factors that impact metabolism, including:
 - Nutrient deficiency
 - Inflammation
 - Digestion
 - Detoxification
 - Hormonal balance
 - Stress and sleep

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