



# Nutrition

*“The food you eat can be either the safest and most powerful form of medicine or the slowest form of poison.”*

— Ann Wigmore





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## Introduction

If you want to live a healthy life, it's important for you to understand the difference between being on a diet and developing a well balanced meal plan.

Having good nutrition isn't just a means to lose weight, it can prevent chronic diseases, improve the way you feel and it can reduce your stress. Your food choices are important and should be a priority if you want to live a long, healthy life.

Good nutrition means getting the correct nutrients from healthy foods. Not only with a good combinations of food choices but also in correct proportions.

The essential nutrients for a healthy life include carbohydrates, proteins, and healthy fats, as well as fiber, vitamins, minerals, and water— a solvent used to hydrate the blood cells. The absorption of these essential nutrients maintains the mechanics of your organs and improves the defensive mechanisms of your immune system.

Throughout this e-book, we will rely on the [Dietary Guidelines for Americans](#). These guidelines are a great resource and will show you how to meet your nutritious needs. After reading this e-book, you should have a basic understanding of nutrition and be able to develop an adequate meal plan. By changing your eating habits, you can prevent and/or reverse chronic health problems.



## What's A Balanced Diet?



A healthy eating plan should include the following foods:

- Fruits and vegetables
- Whole Grains
- Low fat milk, cheese, yogurt and other milk products
- Lean meats such chicken, fish, dry beans, eggs and nuts

On the other hand, your diet should have a low amount of unhealthy fats, salt, alcohol and added sugar. These four items can contribute to obesity, chronic diseases and hypertension.



## **Calories**

### **What are calories?**

Calories are units of energy used to measure the content of foods and beverages. In order to lose weight, you need to eat fewer calories than your body burns each day. If you eat too few of calories you can stall your metabolism. You eat too many and you can gain weight.

### **How many calories should you eat on average?**

On average a woman should eat about 2000 calories per day to maintain their weight, and 1500 calories to lose one pound of weight per week. The average man needs 2500 calories per day to maintain their weight, and 2000 to lose one pound of weight per week.

It is important to note that your calorie intake is dependent on numerous factors. These factors include age, height, current weight, activity levels, metabolic health and several other items.

### **How do I monitor my calories?**

If you eat more calories than you burn, you gain weight. If you burn more calories than you eat, you lose weight. And, if you both burn and eat the same amount of calories, your weight stays the same.

We're going to discuss how to monitor calories in a later chapter.



### **What are low calorie foods?**

Foods are considered low-calorie if they have a low amount of calories relative to their serving size. Fruits and vegetables are usually relatively low in calories. For example, 1 carrot has only 30 calories or spinach has 25 calories, one ½ of a cucumber has 20 calories, 1 medium tomato has 25 calories and an orange has 70 calories.

### **What are high calorie foods?**

Foods are considered high calorie when they have a high amount of calories relative to serving size. A majority of high caloric foods are bad for you but there are some foods that are high in calories but even higher in nutrition.

Healthy foods that are high in calories include avocados, eggs, nuts, olive oil and when in small amounts, dark chocolate.

### **What are empty calories?**

Empty calories contain few to no nutrients. Most often they come from added sugars and solid fats. Solid fats are fats that solidify at room temperature, like butter or fats found in some meats such as bacon. They can occur naturally but are often added to foods to make them taste better.

Many American foods have a lot of empty calories. Ice cream, soda, cheese, pizza and processed meats like hot dogs. If you ingest empty calories, not only will you have a high caloric meal but you'll also lose any nutrition necessary to maintain a healthy body.



## Grains

Grains are divided into two groups, whole grains and refined grains. Whole grains are better for your diet because they contain fibers. Fibers can help lower blood cholesterol and prevent diabetes and heart disease. When carbohydrates are combined with fiber, it slows the absorption of sugar and regulates insulin response. Foods enriched in grains contain a lot of nutrients. As you shop for food look for foods with the label whole grains. Examples of foods you may see are breads, cereals, pasta and crackers.

The amount of grains you need to eat depends on several factors, your age, sex, health and level of physical activity. For a 2,000-calorie diet, the USDA recommends a total of 6 ounces of grains each day. Take note that, one ounce is about a slice of bread, or 1/2 cup of rice or pasta. At least half of all the grains eaten should be whole grains. This means that you need 3 ounces or more of whole grains per day.

## Vegetables

Any vegetable or 100% vegetable juice counts as a member of the Vegetable Group. Vegetables can be raw or cooked; fresh, frozen, canned, or dried/dehydrated; and may be whole, cut-up, or mashed.

Based on their nutrient content, vegetables are organized into 5 subgroups:

- dark-green vegetables such as broccoli, collard greens and kale
- starchy vegetables



- red and orange vegetables such as carrots, sweet potatoes and pumpkin
- beans and peas such as pinto beans, kidney beans, black beans, garbanzo beans, split peas, and lentils
- other vegetables.

For a 2,000-calorie diet, the USDA recommends a total of 5 to 13 servings of vegetables each day. In general, 1 cup of raw or cooked vegetables or vegetable juice, or 2 cups of raw leafy greens can be considered as 1 cup from the Vegetable Group.

## **Fruits**

Any fruit or 100% fruit juice counts as part of the Fruit Group. Fruits may be fresh, canned, frozen, or dried, and may be whole, cut-up, or pureed.

Fresh is best but frozen foods are a close second. Have an apple, make a fruit smoothie. Try to stay away from fruit juices. Not all of them are made of pure fruit.

For a 2,000-calorie diet, the USDA recommends a total of 5 to 13 servings of fruits each day. In general, 1 cup of fruit or 100% fruit juice, or ½ cup of dried fruit can be considered as 1 cup from the Fruit Group.

## **Lean Protein**

Protein can boost metabolism and increase fat burning. Protein can also help you build muscle. You should choose low fat or lean meats. They have the most nutrition and least amount of calories. The best ways to prepare lean meats are by baking, broiling and grilling.





There are a variety of protein options to choose from. Fish, poultry, top round beef, beans and peas. The recommended amount is based on your weight. You should have 0.8 to 1 grams of protein per pound of body weight. If you are trying to lose weight, you should consume between 0.5 to 0.7 grams of protein per pound of body weight.

You should still consume protein if you're a vegetarian. There are a variety of alternative to consuming meat. Beans, nuts, peas, Quinoa or even soy and tofu.

In general, 1 ounce of meat, poultry or fish, ¼ cup cooked beans, 1 egg, 1 tablespoon of peanut butter, or ½ ounce of nuts or seeds can be considered as 1 ounce-equivalent from the Protein Foods Group.

When choosing seafood, rely on foods rich in omega-3 fatty acids, such as:

- salmon
- trout
- sardines
- herring
- Pacific oysters
- Atlantic
- Pacific mackerel.

Fish like Tilapia and cod are low in calories but their low in nutritional value.

Also take note that processed meats such as ham, sausage, and deli meats have added sodium.



## **Milk, Cheese, and Yogurt**

As you may notice, the theme of this e-book is low-fat which means that it will apply to the dairy as well. Choose low-fat cheese, low-fat milk and low-fat yogurt.

Dairy is a very necessary source of energy and contain a wide range of vitamins and minerals, including calcium, which is necessary to build and maintain healthy bones and teeth.

Lactose intolerance shouldn't deter you from giving up dairy. You can rely on soy milk or almond milk. You can take enzyme lactase pills and/ or ingest lower amounts of dairy.

You should consume about 2 to 3 servings of dairy per day. In general, 1 cup of milk, yogurt, or soymilk, 1 ½ ounces of natural cheese, or 2 ounces of processed cheese can be considered as 1 cup from the Dairy Group.

## **Fats**

Everyone needs fat in their meal plan but the amount you consume should only be .4 to .5 grams per pound of your body weight. Although fats are necessary, it is important for you to be cautious about what kind of fats you should eat. Only eat monounsaturated fats and polyunsaturated fats such as salmon, avocado and corn oil.

Your body uses dietary fat to make tissue and manufacture biochemical's, such as hormones. Fats in your diet are also sources of energy that add flavor to food. Without fat, steak and bacon wouldn't taste as good, eggs would stick to the pan, cakes wouldn't be as moist and certain foods wouldn't have texture.



Try to limit how much of the harmful fats you have. Saturated Fats, Trans fat and cholesterol in high amounts can contribute to heart disease and hypertension. If you can avoid these fats, please do so for the sake of your health.

## **Added Sugars**

Your body does need sugar but the kind of sugar your body should process is carbohydrates, which are broken down into sugar in your body. This sugar is important for your body to create energy to survive. However, added sugars are not a necessary part of your diet in order for your body to make energy.

The ideal amount of added sugar is 0 but at a maximum you should only consume 25 to 40 grams per day. By choosing packaged foods that have less or no added sugars such as plain yogurt, unsweetened applesauce, or frozen fruit with no added sugar or syrup, you can limit your sugar intake.

If you do consume cookies, cakes, pies or ice cream, do it in small portions so that it doesn't consume most of your calorie intake.

## **Salt**

Most of us get way more sodium than we actually need. Salt is delicious but in high amounts it is dangerous. Packaged and prepared foods are a common source of sodium. Sodium is added to package to enhance flavor, as a preservative, or to keep foods moist.

Limit your sodium to less than 2300 milligrams each day. Too much sodium can contribute to heart disease, reduce the size of your brain



and rid your kidneys of water that is needed to function. You don't have to exclude salt but you should limit how much you have.

## **Alcoholic Beverages**

Alcohol is a major feature of the adult diet. Unfortunately, there is no nutritional value in Alcohol. Remember when we talked about empty calories? Nothing is more empty than alcohol. With the exclusion of red wine, alcohol is high in calories and dangerous to your health.

If you choose to drink alcohol, do so only in moderation. For healthy adults, that means up to one drink a day for women of all ages and men older than age 65, and up to two drinks a day for men age 65 and younger. Examples of one drink include: one 12-ounce beer or a 5 ounce glass of wine.

## **Drink Water**

Drinking water is a very vital part of a healthy diet. Water aids every bodily function. You should drink at least six to eight 12-ounce glasses of water every day.

The more active you are the more water you'll need. If you choose not to drink water then you'll become dehydrated and can stop certain organs from functioning properly.



## Nutritional Fact Labels

By now, you have an idea about what a balanced diet looks like but you're not quite ready to make healthy meal decisions if don't know how to read a nutritional fact label.

The following label-building skills are intended to make it easier for you to use nutrition labels to make quick, informed food choices that contribute to a healthy diet.

The information for each nutritional fact label will vary with each food product but by you understanding the basics, you will gain a better understanding of what you're eating and how it is contributing to your food choices.

To the left is a nutritional fact label for peanut butter, we'll break down each section into groups and explain what each label actually means.

<b>Nutrition Facts</b>	
Serving Size 1 cookie (26g)	
Servings Per Container about 48	
<b>Amount Per Serving</b>	
<b>Calories 110</b>	<b>Calories from Fat 40</b>
<b>% Daily Value*</b>	
<b>Total Fat 4.5g</b>	<b>7%</b>
Saturated Fat 1.5g	<b>8%</b>
Trans Fat 0g	
<b>Cholesterol 10mg</b>	<b>3%</b>
<b>Sodium 115mg</b>	<b>5%</b>
<b>Total Carbohydrate 15g</b>	<b>5%</b>
Dietary Fiber 0g	<b>0%</b>
Sugars 9g	
<b>Protein 2g</b>	
Vitamin A 0%	• Vitamin C 0%
Calcium 0%	• Iron 2%
<small>*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:</small>	
	Calories: 2,000    2,500
Total Fat	Less than 65g    80g
Saturated Fat	Less than 20g    25g
Cholesterol	Less than 300mg    300 mg
Sodium	Less than 2,400mg    2,400mg
Total Carbohydrate	300g    375g
Dietary Fiber	25g    30g
Calories per gram:	
Fat 9 • Carbohydrate 4 • Protein 4	

**Label for Peanut Butter Cookies**



## The Serving Size

<b>Nutrition Facts</b>	
Serving Size 1 cookie (26g)	
Servings Per Container about 48	
<b>Amount Per Serving</b>	
<b>Calories</b> 110	<b>Calories from Fat</b> 40

Start at the serving size as you're looking at the Nutrition Fact label. Serving sizes are important to make it easier to compare similar foods to each other. They are provided in standard units, such as cups or pieces, followed by the number of grams. Pay attention to the serving size, especially how many servings there are in the food package then determine how many servings you are consuming.

As you can see there are 48 servings per container and each serving is 1 cookie which means that this package has about 48 cookies. If you consume one cookie then you'll consume 110 calories.

Earlier in the e-book we talked about calories. Remember, if you want to gain weight then you'll want to consume more calories than you burn. If you want to lose weight then you'll want to consume less calories than you burn. Lastly, if you want to maintain your weight then you'll want to consume the same amount of calories as you burn. The number of servings you consume determines the number of calories you actually eat so you will have to calculate how many calories you're consuming and how many you're burning.



Some items will be in small portions but will have a high amount of calories. Use the below guide to determine the caloric standard of a serving size.

### General Guide to Calories

- Anything less than 40 Calories is low
- Anything around 100 Calories is moderate
- Anything around 400 Calories or more is high

Once again, consuming more calories than you burn can contribute to obesity.

### Nutrients

	% Daily Value*
<b>Total Fat</b> 4.5g	<b>7%</b>
Saturated Fat 1.5g	<b>8%</b>
Trans Fat 0g	
<b>Cholesterol</b> 10mg	<b>3%</b>
<b>Sodium</b> 115mg	<b>5%</b>
<b>Total Carbohydrate</b> 15g	<b>5%</b>
Dietary Fiber 0g	<b>0%</b>
Sugars 9g	
<b>Protein</b> 2g	
Vitamin A 0%	• Vitamin C 0%
Calcium 0%	• Iron 2%

This portion shows you some of the key nutrients that can impact your health. They are divided into two main groups: The bad and the good.



	% Daily Value*
<b>Total Fat 4.5g</b>	<b>7%</b>
<b>Saturated Fat 1.5g</b>	<b>8%</b>
<b>Trans Fat 0g</b>	
<b>Cholesterol 10mg</b>	<b>3%</b>
<b>Sodium 115mg</b>	<b>5%</b>

### Bad

Interesting enough, the first list of nutrients are generally those that are eaten in high quantities. These items are important because they can contribute to chronic diseases and irreversible health problems. Eating too much fat, saturated fat, Trans fat, cholesterol, or sodium can prevent your organs from functioning.

Like stated in the previous chapter, keep your intake of saturated fat, Trans fat and cholesterol as low as possible as part of a nutritionally balanced diet.

### Good

Eating enough of these nutrients can improve your health and help reduce the risk of some diseases and conditions. For example, getting enough iron can prevent fatigue. Eating a diet high in dietary fiber promotes healthy bowel function. Additionally, a diet rich in calcium can prevent bone diseases such as osteoporosis.

<b>Total Carbohydrate 15g</b>	<b>5%</b>
<b>Dietary Fiber 0g</b>	<b>0%</b>
<b>Sugars 9g</b>	
<b>Protein 2g</b>	
<b>Vitamin A 0%</b>	• <b>Vitamin C 0%</b>
<b>Calcium 0%</b>	• <b>Iron 2%</b>





You can use the Nutrition Facts label not only to help limit those nutrients you want to cut back on but also to increase those nutrients you need to consume in greater amounts.

## Footnotes

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:			
	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Saturated Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300 mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g
Calories per gram:			
Fat 9 • Carbohydrate 4 • Protein 4			

The asterisk symbol \* used after the heading %DV on the Nutrition Facts label, refers to the Footnote in the lower part of the nutrition label, this tells you DVs are based on a 2,000 to 2,500 calorie diet.

The amount under the 2,000 and 2,500 caloric recommendation and are the Daily Values (DV) for each nutrient listed and are based on public health experts' advice. DVs are recommended levels of intakes. DVs in the footnote are based on a 2,000 or 2,500 calorie diet.

Look at the example below for another way to see how the Daily Values (DV) relate to the %DVs and dietary guidance. For each nutrient listed there is a DV, a %DV, and dietary advice or a goal. If you follow this dietary advice, you will stay within public health experts' recommended upper or lower limits for the nutrients listed, based on a 2,000 calorie daily diet.



	% Daily Value*
<b>Total Fat</b> 4.5g	<b>7%</b>
Saturated Fat 1.5g	<b>8%</b>
Trans Fat 0g	
<b>Cholesterol</b> 10mg	<b>3%</b>
<b>Sodium</b> 115mg	<b>5%</b>
<b>Total Carbohydrate</b> 15g	<b>5%</b>
Dietary Fiber 0g	<b>0%</b>
Sugars 9g	
<b>Protein</b> 2g	
Vitamin A 0%	• Vitamin C 0%
Calcium 0%	• Iron 2%

## Upper versus Lower

You may notice on the left there is the % label, Daily Values. This number is based on recommendations for key nutrients but only for a 2,000 calorie daily diet. It is not factoring in your age, weight, or diet goals. You can use the %DV as a frame of reference whether or not you consume more or less than 2,000 calories.

The %DV helps you determine if a serving of food is high or low in a nutrient. The %DV column doesn't add up to 100% because the amount is based on a different group of nutrients. Instead each nutrient is based on 100% of the daily requirements for that nutrient (for a 2,000 calorie diet). Instead, you can tell high from low and know which nutrients contribute a lot, or a little, to your daily recommended allowance.

Remember....



Look at the calories per serving. You can use the information about calories to compare foods. Check the list of ingredients. Ingredients are listed in order by weight. If you're trying to avoid foods or limit how much you eat then rely on the nutrition facts to compare ingredients.



## Creating Healthy Meal Plans

The eatwell plate is based on 5 food groups



If you're not used to eating healthy then you'll have a difficult time breaking your bad habits. You have to take this transition slowly so that you have a better chance at succeeding.

If you're going to start slow then you'll want to make small changes. Make your goals realistic. Don't just tell yourself that you want to eat more fiber, buy a box of whole grain cereal and commit to 1 cup per day.



**Write down your goals.** It is said that when you write down your goals you have a higher chance of committing to them. When your goals have become a habit commit to more challenging goals.

**Count Calories.** Look at the nutrition labels and keep track of how many you are eating throughout the day. Deduct that amount from your daily caloric goals. Your meal plans don't have to consist of unappealing food choices but they should consist of nutrients. Also there are a lot of apps such as Spark people or Lose it. Both can help you keep track of calorie intake.

**Stock up on Super foods.** Super foods are nutrient powerhouses that have large doses of antioxidants, polyphenols, vitamins, and minerals. Eating them will reduce the risk of chronic disease, and prolong life, and people who eat more of them are healthier and thinner than those who don't. If you add blueberries, tomatoes, kale, or broccoli to your diet then you'll feel better instantly.

**Stay Away from Fast Foods.** Fast food has contributed to obesity and chronic diseases. Thousands of studies have found that fast food is awful and addicting. Of all the bad things in a meal, fast food tends to have all of them. Even rewarding yourself with fast food, can reverse the hard work you've endured to build a healthy lifestyle. Avoid fast-food.

**Don't Skip meals.** Skipping meals is not helpful when you're trying to lose weight. It can slow down your metabolism and drop your blood sugar levels. If you don't eat then you will lose important nutrients. Do what you can to at least have the three important meals of the day. Breakfast, Lunch and Dinner.



**Eat at Farmers Markets.** This is not a must but it is a great way to save money if you're on a budget. Not only can you barter with the farmers but you're also supporting local entrepreneurs.

## **Now it's time!**

It may seem like it will be difficult to make wise food choices but starting off small will make all the difference in the world. Set realistic goals and keep going when you make mistakes. Ultimately, building a healthy lifestyle is about trial and error but the effort when make a huge difference between moving quickly toward a life of constant health problems and slowly but surely being able to prevent chronic health problems.

Not only will this healthy lifestyle help you but it will also set a great example for the people around you. All you have to do is get started and keep moving forward.



## FOR MORE INFORMATION

Center for Food Safety and Applied Nutrition, FDA 5100 Paint Branch Parkway College Park, MD 20740-3835 Web site: [www.cfsan.fda.gov](http://www.cfsan.fda.gov) Phone number: (888) 723-3366

U.S. Department of Health and Human Services 200 Independence Ave, SW Washington, DC 20201 Web site: [www.healthierus.gov](http://www.healthierus.gov)  
[www.smallstep.gov](http://www.smallstep.gov)  
[www.health.gov/dietaryguidelines](http://www.health.gov/dietaryguidelines)

Food and Nutrition Information Center, USDA National Agricultural Library 10301 Baltimore Ave, Room 105 Beltsville, MD 20705 Web site: <http://fnic.nal.usda.gov> Phone number: (301) 504-5414

Weight-Control Information Network, NIH 1 WIN Way Bethesda, MD 20892-3665 Web site: [www.win.niddk.nih.gov](http://www.win.niddk.nih.gov) Phone number: (877) 946-4627

U.S. Department of Agriculture 1400 Independence Ave SW Washington, DC 20250 Web site: [www.usda.gov](http://www.usda.gov)  
[www.mypyramid.gov](http://www.mypyramid.gov)  
[www.nutrition.gov](http://www.nutrition.gov)

Division of Nutrition, Physical Activity and Obesity, CDC 4770 Buford Highway NE, MS K-24 Atlanta, GA 30341-3717 Web site: [www.cdc.gov/nccdphp/dnpa](http://www.cdc.gov/nccdphp/dnpa) Phone number: (800) 232-4636, (888) 232-6348 TTY

Office of Dietary Supplements, NIH 6100 Executive Blvd, Room 3B01, MSC 7517 Bethesda, MD 20892-7517 Web site: [www.ods.od.nih.gov](http://www.ods.od.nih.gov)

American Dietetic Association 120 S Riverside Plaza, Suite 2000 Chicago, IL 60606-6995 Web site: [www.eatright.org](http://www.eatright.org) Phone number: (800) 877-1600 ext.5000

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