NEW-LIFESTYLES STEPS TO A HEALTHIER YOU[SM]

CARBOHYDRATE FACTS

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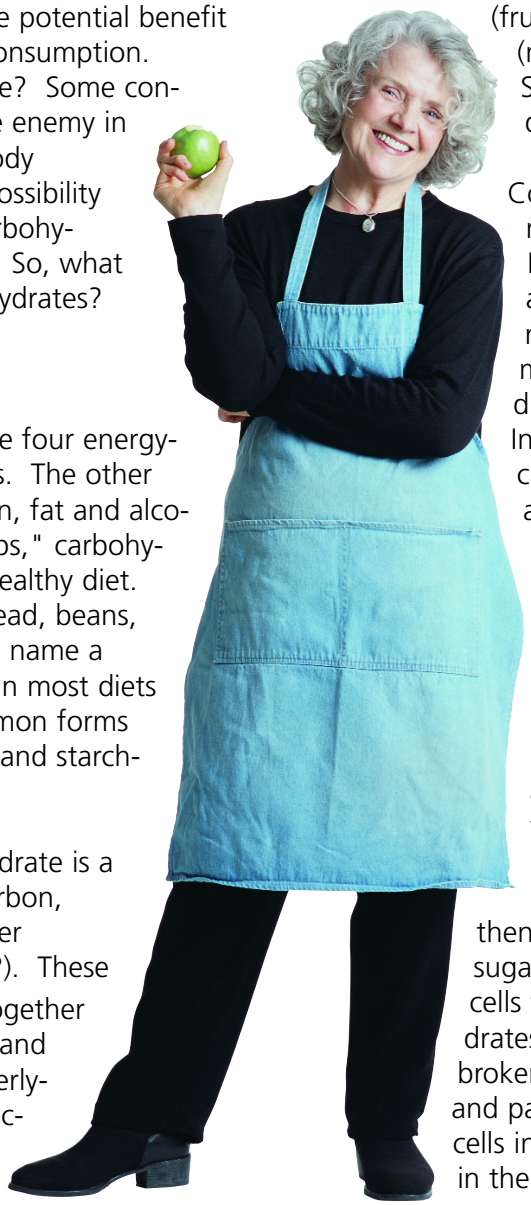
With the recent popularity of low-carbohydrate diets like Atkins and South Beach, carbohydrates are in the media spotlight. Current debates ensue as everyone from diet-enthusiasts to health professionals weighs in as to the potential benefit or harm of carbohydrate consumption. Carbohydrates: friend or foe? Some consider carbohydrates to be the enemy in an effort to lose unwanted body weight. Others consider the possibility of a life without (or limiting) carbohydrates to be flat-out impossible. So, what are the facts surrounding carbohydrates?

What are carbohydrates?

Carbohydrates represent one of the four energy-containing food nutrient categories. The other three nutrient categories are protein, fat and alcohol. Frequently referred to as "carbs," carbohydrates are an important part of a healthy diet. Found in a variety of foods-rice, bread, beans, potatoes, corn, apples and milk (to name a few), carbohydrates are abundant in most diets around the world. The most common forms of carbohydrate are sugars, fibers and starches.

In its most basic form, a carbohydrate is a molecule of sugar containing carbon, hydrogen and oxygen (remember $C_6H_{12}O_6$ from chemistry class?). These simple sugar molecules join together to form complex chains and become the underlying chemical structure of starches and fibers.



What is the difference between simple and complex carbohydrates?

Carbohydrates used to be thought of as fitting into one of two groups: simple carbohydrates or complex carbohydrates. The first group, simple carbohydrates, is comprised of single molecule sugars such as fructose (fruit sugar), sucrose (table sugar), lactose (milk sugar) and dextrose (corn sugar). Simple carbohydrates are almost immediately converted to blood sugar.

Complex carbohydrates are three or more sugar molecules linked together. Foods high in complex carbohydrates are typically lower in cholesterol, saturated fat and calories. They also offer more fiber, vitamins and minerals to the diet, promoting many health benefits. In the past, it was suggested that simple carbohydrates were bad (to be avoided) and complex carbohydrates were good (to be encouraged). The new system of evaluating and categorizing carbohydrates is considerably more complicated.

Carbohydrates are fuel for the body, giving it the energy to be physically active and to allow the body organs to function correctly. The digestive system breaks down carbohydrates into their simple sugar components and then, with the help of insulin, sends this sugar through the bloodstream into the cells to be used as energy. All carbohydrates are processed by the digestive system, broken down into single sugar molecules and passed through the bloodstream into the cells in the same way. The main exception is in the case of fiber.

Fiber slows down the process considerably. Because fiber cannot be broken down into sugar, it passes through the

body undigested. Contrary to how it sounds, this is actually a good thing. Foods that rapidly change to sugar cause a spike in blood sugar. Fiber is one component of food that helps to moderate the change-to-sugar process, slowing it down to allow for a gentle rise in blood sugar levels.

What is the Glycemic Index?

The glycemic index is a new system of evaluating carbohydrates which measures how quickly and to what extent blood sugar rises after eating a food containing carbohydrate. This measure is important because a diet comprised of mainly high glycemic index foods has been associated with an increased risk of diabetes and coronary heart disease.

Generally, one of the main factors to determine if a food registers as high on the glycemic index is how processed its carbohydrates are. For example, a slice of highly processed white bread turns into sugar almost immediately, classifying it as a high glycemic index food. Whole grain wheat bread, on the other hand, contains a considerable amount of fiber, slowing down its conversion to sugar and giving it a low glycemic index. Thus, fiber plays an important role in determining a food's placement in the glycemic index.

Along with fiber content, some other factors that influence glycemic index include: fat and acid content (the higher the fat or acid content, the slower the food is converted to sugar), type of starch (the atomic configuration of the starch in potatoes is converted to sugar faster than other starches), ripeness (ripe fruits and vegetables have more sugar than unripe ones) and physical form (the more processed grain is, the higher its glycemic index).

What are some examples of high glycemic index foods?

White rice, spaghetti, watermelon, white bread, baked Russet potatoes, French fries, sugar-sweetened soda and candy bars are all examples of high glycemic index foods.

What are some examples of low glycemic index foods?

All-bran cereal, apples, asparagus, broccoli, low-fat yogurt, tomato soup, sweet potato, pearled barley, pinto beans, peanuts, peaches and oranges are low glycemic index foods.

What is the Glycemic Load?

What the glycemic index does not take into account is the amount of carbohydrate in the food. So, researchers developed a measure called glycemic load which classifies food according to its carbohydrate content as well as its impact on blood sugar. The glycemic load of food is calculated by multiplying its glycemic index by the amount of carbohydrate it contains.

The classic example of a food with a high glycemic index and a low glycemic load is watermelon. Consisting mostly of water, watermelon may be sweet, but it contains only a small amount of carbohydrate per slice. Both the glycemic index and glycemic load systems of classifying carbohydrates can be counterintuitive and complicated. The underlying message is to try and replace highly refined, processed white flours and starches with whole-grain, high fiber foods.

What is the current recommendation?

Because no one knows the long-term effects of eating a "low-carbohydrate" or "no-carbohydrate" diet, the current recommendation is a conservative one. As is true with many food choices in our diet, balance and moderation are important. Paying attention to the portion size we eat and choosing complex carbohydrates over simple carbohydrates is key. Consistently proving to be healthy choices, fruits, vegetables and whole grain carbohydrates provide many beneficial vitamins, minerals and phytochemicals (protective, disease-preventing compounds).

The popularity of whole grains has exploded in recent months as whole grain options become available in almost every grocery store and restaurant. As with any food fad, caution should be exercised when purchasing food items advertised as "whole-grain" to make sure they are the real deal and not just another marketing ploy on the part of food companies. How to spot whole grain products? Read food labels carefully and look for items which list whole-grain ingredients first like whole oats or whole wheat. Products that list "wheat flour" as a main ingredient may not have the same whole-grain health benefits because the "wheat flour" could be highly processed, refined cake flour disguised to sound healthy. When in doubt, look for 100 percent whole-grain products that are high in dietary fiber.

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PROTEIN FACTS

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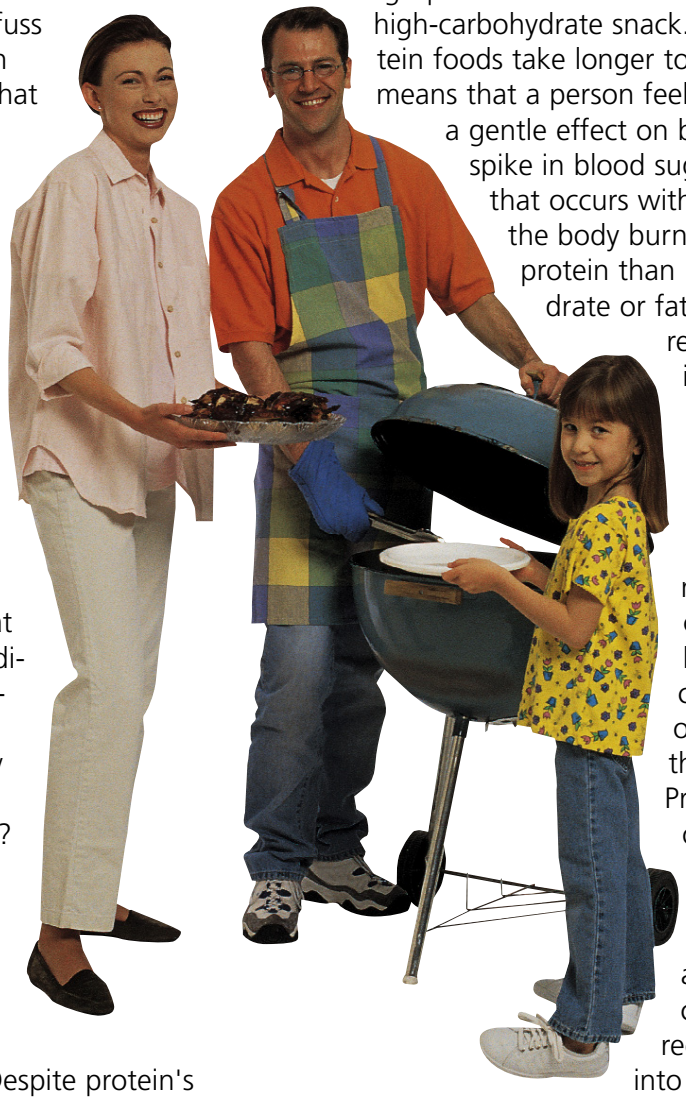
Many of today's popular diets for weight loss focus on lean sources of protein over carbohydrate consumption. Is it just a fad that one of the food nutrient groups, in this case-protein, has gained positive publicity over the others? To find out what all of the fuss is about, we need to learn more about protein and what it does for our bodies.



There's more to protein than just peanut butter. Many of the foods we eat contain protein. The best places in which to find protein are in fish, poultry, beef, dairy products, eggs, nuts and beans.

We often overhear people ordering a side of bacon or an egg with their stack of pancakes as they mutter to themselves that they "need some protein" in addition to carbohydrate meal choices. Why is protein now getting special attention? Do we know something more about protein now than we did in years past?

Protein's recent attention is most likely triggered by the surge in popularity of high-protein diets as a prescription for weight loss. Despite protein's place in the nutrition spotlight, in reviewing past research and literature, health experts realize that little is actually known about protein and its effect on health, as compared to the other nutrients: carbohydrates, fat and alcohol.

Have we merely been conditioned by clever marketing to think of protein in a positive way?

Protein actually does have lasting power - meaning that a high-protein snack will satisfy appetites longer than a high-carbohydrate snack. This is because high-protein foods take longer to digest. Slower digestion means that a person feels full longer. Protein also has a gentle effect on blood sugar, instead of the spike in blood sugar (and subsequent crash) that occurs with some carbohydrates. Lastly, the body burns more calories digesting protein than it does digesting carbohydrate or fat. However, it is important to remember that excess protein is stored by the body as fat.

What is protein?

Protein is one of the four energy-containing food nutrients (the other three are carbohydrate, fat and alcohol). It is essential that we consume protein daily in order to build and maintain the tissues in our body. Protein makes up our muscles, organs, blood and even our immune system. Using the protein in the foods we eat, our body breaks this protein apart into its most basic form called amino acids and then reconfigures these amino acids into different strands, creating specialized protein molecules to accomplish specific jobs in the body. Each has a unique function whether it is to allow us to run or to make the hemoglobin in our red blood cells that carries oxygen to every part of our body.

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What are amino acids?

Proteins are often described as long necklaces strung with different kinds of beads. Each individual bead represents a tiny amino acid molecule. The body, through the process of digestion, breaks down protein into these basic amino acid molecules. There are two types of amino acids, essential and nonessential. Linked together in different combinations, amino acids have the ability to form thousands of different proteins. Twenty-two of these amino acid combinations are necessary to maintain our muscles, bones, blood, tissue and organs and to provide a base for hormones and antibodies--in essence they keep us alive and healthy.

Our body naturally makes 13 of the 22 amino acids. These are known as the nonessential amino acids. The other 9 amino acids come from the protein-rich foods we eat. These nine amino acids are referred to as essential amino acids because, as the name suggests, it is essential that we get them from our diet every day.

What is the difference between complete proteins, incomplete proteins and complementary proteins?

Complete proteins come from animal sources and contain all of the nine essential amino acids. Milk, eggs, fish, poultry, soybeans and meat are examples of complete proteins.

Incomplete proteins come from plant sources. Protein in vegetables, nuts, grains and beans is considered incomplete because it is missing at least one of the 9 essential amino acids. By eating a variety of foods that contain both types of protein, we can easily meet our body's protein needs.

Eating certain incomplete protein foods in combination can give us all of the 9 essential amino acids, these are called complementary proteins. This is how vegetarians can fulfill the body's protein requirement. Some good examples typical to our diet include macaroni and cheese, pizza (bread and cheese), red beans and rice and a peanut butter sandwich. Complementary proteins don't even have to be eaten in the same meal. As long as they are consumed within the same 24-hour period, the body will take the essential amino acids it needs from each meal.

What is the current recommendation for protein in our diet?

It is generally recommended that kids need to eat about 0.5 grams of protein for every pound they weigh (or a gram of protein for every 2 pounds of body weight). For example, if a child weighs 70 pounds, they should consume 35 grams of protein each day. Adults need to consume 60 grams of protein per day. By eating a well-balanced diet, Americans don't have any trouble getting their recommended daily amount of protein.

Are we, as Americans, protein deficient?

Actually, unlike many around the world, Americans consume plenty of protein. In many undeveloped countries, people don't get enough protein and develop a condition called kwashiorkor. Kwashiorkor is a protein malnutrition that can cause loss of muscle mass, impair growth, weaken the immune system and, in some cases, cause death.

Is there such a thing as getting too much protein?

Yes, consuming too much protein can strip the body of much-needed calcium. The acids the body needs in order to digest protein are neutralized by calcium. So, the more protein we consume, the more calcium we need to balance out the resulting acid. This process can take a lot of calcium which gets taken away from bone and, as a result, can negatively effect bone strength. This is one of the reasons why some medical professionals caution against high-protein/low-carbohydrate diets, as studies have not yet revealed the potential long-term consequences of such diets.

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FAT & OIL FACTS

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Most of us know what fat is--it's that component in food that we should always avoid, right? Most of us assume that fat is only good for causing weight gain and clogging the arteries of our heart, causing cardiovascular disease and a host of other problems. Well, as we'll find out from the facts, fat is also something our bodies need to stay healthy.

What is fat?

Fat is a naturally occurring nutrient found in foods like butter, oils, meats like beef and pork, dairy products like milk and cheese and nuts. Fruits and vegetables, on the other hand, are foods that have nearly no fat content.

What is the role of fat in our diet?

Believe it or not, fat is actually an important part of a healthy diet. It has its own role to play in providing a source of energy for our bodies and in keeping us healthy. In young children, fat is especially essential to the proper development of the brain and nervous system. That's why health professionals instruct parents to serve young children whole milk, which has more fat, during their first two years of life. Parents transition their children to low-fat or non-fat milk when they are older, past their early development period.

In both adults and children, fats help to absorb, transport and store vitamins known as fat-soluble vitamins. It is important to note, however, that only a minimal amount of fat is necessary for this process. Fats also help to store energy in the body for later use, are responsible for insulating nervous system tissue and are the building blocks of hormones.

Fats also aid in cooking by helping to conduct heat through food. In breads, cookies and other bakery goods, fat is what makes these foods tender and gives them a pleasant consistency. Fats and oils generally enhance the flavor of food. The bottom line--fat is just plain hard to refuse because it can taste so good.

So, fat may or may not be the enemy. Health and nutrition professionals would say that some fats are better choices than others. Made up of tiny units called fatty acids, each type of fat or oil is a mixture of different fatty acids. These varied fatty acid configurations account for the differences in types of fat-saturated, unsaturated, trans fat and so on. A diet with fat sources coming mainly from nuts, lean meats and heart-healthy oils is on the right track. Here's how to choose the right kind of fat and stay within healthy limits of the daily fat recommendations.

What is saturated fat?

Saturated fats are found in animal products such as meat and poultry, butter, cheese and milk (the exception is skim or non-fat milk) and in tropical oils such as palm, palm kernel and coconut oils. Tropical oils are typically found in store-bought baked goods and other commercially-made products. At room temperature, saturated fats are usually solid in form. Health professionals warn against consuming too much saturated fat because it can raise blood cholesterol, thus increasing the risk of cardiovascular (heart) disease.

What is unsaturated fat?

As the name suggests, unsaturated fat is the polar opposite of saturated fat. Unsaturated fat can actually improve blood cholesterol by increasing good HDL cholesterol levels and decreasing bad LDL cholesterol levels, and it may be good overall for the heart. Found in plant foods (like seeds and nuts) and fish, the best sources of unsaturated fats are olive, peanut and canola oils, salmon and tuna.

Unsaturated fats can be further divided into two main categories-monounsaturated fats and polyunsaturated fats. **Monounsaturated** fats are liquid at room temperature and are thus found in vegetable oils, like olive, peanut and canola oils. **Polyunsaturated** fats are liquid or soft at room temperature and are found both in vegetable oils, like safflower, sunflower, corn, canola, soybean and flaxseed oils, and in seafood. Obtained through the foods we eat, the fatty acids which compose polyunsaturated fats (linoleic and alpha-linolenic acid) are called essential fatty acids because they are necessary for making hormones and helping to form the structure of our cells.

What is trans fat?

Found in store-bought, packaged foods, fried foods, snack foods and in sticks of margarine, trans fats are often listed on nutrition labels as the ingredients "hydrogenated or partially hydrogenated oil or vegetable shortening."

Although some trans fatty acids (or trans fats) occur naturally in some foods, they are mostly created by processing vegetable oils from their liquid form into solids like margarine or vegetable shortening. Hidden in many different types of food, trans fats are just recently popping up on food labels-making their presence known to the general public. Like saturated fats, eating too much trans fat can raise bad LDL cholesterol, lower good HDL cholesterol and increase the risk of heart disease. Since the Institute of Medicine published a report on trans fats finding them to be detrimental to heart health, the Food and Drug Administration (FDA) is requiring that by January 1, 2006, food companies must list trans fats on nutrition fact labels. Some food products are ahead of the curve and are already labeling their packages with trans fat information or as "trans fat-free."

What is dietary cholesterol?

Dietary cholesterol (or cholesterol found in the animal products we consume in our diet) is different from the blood cholesterol that occurs naturally in our body. If our levels of blood cholesterol are too high, dietary cholesterol and other fats can build up in the arteries of our heart and blood vessels, sticking to the artery walls and causing blockage and life-threatening heart conditions. For this reason, it is important for people to keep the amount of dietary cholesterol they consume to a minimum.

What is olestra?

Approved for use in certain snack foods by the FDA in 1996, olestra is a fat with a unique chemical composition. Proctor & Gamble developed olestra because, unlike traditional fats, it adds no fat or calories to food. While this sounds like a foolproof idea, olestra is not without complications, as it may cause abdominal cramping and digestive issues, and it generally impedes the body's absorption of some fat-soluble vitamins and nutrients. For this reason, the FDA is requiring products using olestra to be properly labeled and to also have added as ingredients vitamins A, D, E, and K.

How much fat should we consume daily?

According to nutrition experts, adults and children over the age of 2 should get less than 30% of their daily calories from fat. At least ten percent of calories need to come from fat in order to get the fat soluble vitamins - A, D, E, and K and the essential fatty acids we need to stay healthy.

It is important to remember that fat contains more than twice the number of calories (nine calories per gram) than the other food nutrients-carbohydrates and protein, each of which has 4 calories per gram. So, when we consume more fat in our diet, we are automatically consuming more overall calories too. This is probably why people fear fat the most due to its greater influence on weight gain.

The basic recommendation is to try to limit saturated fats in your diet, eliminate trans fats and replace them with unsaturated fats like olive and canola oils.

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WATER FACTS

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Most of us have heard, at one time or another, the general recommendation to drink about 8 to 12 glasses of water each day for good health. Whether we learned it from a health-conscious parent or read it in a high school health textbook, most of us have safely tucked away this information into our brain for future recall. While we recognize that it is important to drink water, we may have forgotten the reasons why it is both beneficial and necessary.

1. How much water should you drink every day?

Our bodies, on average, are made up of about 60% water. Every system in the human body depends on water to function properly. Because our bodies lose water everyday — mostly through sweating and urination, we need to replenish the water our body needs in order to prevent dehydration.

As a general rule, you need 8 to 12 cups of fluid a day to stay well hydrated. Some will come from the foods that you eat such as fruits and vegetables, but at least 8 cups of water will ensure adequate fluid intake.

You may need to drink more than 8 cups of water a day if you exercise or engage in activity that makes you perspire, if it is a hot summer day, if you live at a higher altitude, if you are pregnant or breast-feeding or if you are suffering from illness that causes fever, diarrhea or vomiting.

Keep in mind that caffeinated beverages and alcohol have dehydrating effects which require you to drink more water to stay hydrated.

2. Why is it so important to stay hydrated?

Without enough fluid to carry on normal body functions, the body quickly becomes dehydrated. While dehydration usually poses a serious health risk only for the very young and the very old, even mild dehydration can cause fatigue, lightheadedness, dry mouth and headaches.

Drink water and other fluids daily to combat dehydration. If you feel thirsty, you are dehydrated — don't wait until you are thirsty to drink water.

TOAST YOUR HEALTHY, ACTIVE LIFESTYLE WITH A GLASS OF WATER!

It has been said that staying well hydrated can improve the appearance of your skin and can help to reduce inflammation in the body. Water is also a natural appetite suppressant helping us to feel full and aiding in the management of a healthy weight.

3. Can I drink too much water?

Though uncommon among healthy adults, it is possible to drink too much water. If you drink too much water, you can potentially overwhelm your kidneys which can lead to hyponatremia, a condition in which the excess water in your system can alter the normal amount of sodium in your blood.

Distance athletes running marathons or participating in triathlons often consume sports drinks containing sodium along with their water to prevent this potential condition.

4. Is bottled water better for you than tap water?

Researchers in the area of environmental engineering science say that bottled water has no health benefit over tap water. Just as safe to drink as bottled water, tap water is strictly regulated by the U.S. Environmental Protection Agency (EPA) and meets high standards the government has put in place to protect our health. Such standards include minimum allowable levels of pathogens — inorganic and organic compounds that may be harmful to human health.

Bottled water also meets similar standards established by the Food and Drug Administration (FDA). Bottled water has either been purified or distilled. Purified water is not necessarily more pure than tap water; in fact, it could simply be treated tap water that has been bottled.

However, bottled waters usually do not have the taste of chlorine which is used to disinfect tap water. If you do not like the taste of tap water, consider buying a filter like those made by Brita® which reduce the amount of chlorine, copper and lead in the water.

5. How can I easily tell if I am hydrated?

You are well hydrated if you are not thirsty and if you are producing a normal amount of urine that is colorless or slightly yellow in color.

Those who drink water regularly will agree — water is the most refreshing beverage either on a hot summer day when you are outside or on a cold winter day when you are inside and feel dry from the lack of humidity and use of furnaces and fireplaces to warm your home. It is essential for good health, and it costs close to nothing. To this, let's raise a glass of water and drink up! Cheers!

Tips to get your 8 to 12 glasses a day

- Drink 1-2 glasses of water when you get up in the morning to jump-start your day.
- Drink hot water with lemon instead of coffee.
- Keep a bottle of water with you at all times.
- Keep an extra bottle of water in the car.
- Drink a glass of water with every meal and with snacks.
- Keep a pitcher of cold water in your refrigerator at all times.
- Add lemon or lime slices to jazz it up!
- Dilute your fruit juice with 1/2 water.
- Each time you start to reach for a snack, drink a glass of water before giving into your craving.

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CALCIUM FACTS

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When it comes to important minerals the human body can't be without, calcium is at the top of the list. The most abundant mineral in the human body, calcium supports the structure of our bones and teeth.

1. What is osteoporosis?

Osteoporosis is a disease in which bones become fragile and more likely to break. If not prevented or if left untreated, osteoporosis can progress painlessly until a bone breaks. Fractures occur typically in the hip, spine and wrist.

2. What is the link between calcium and osteoporosis?

Calcium is the key to preventing debilitating osteoporosis. A serious health problem for more than 10 million Americans, 80% of whom are women, osteoporosis is a disorder characterized by porous, fragile bones.

Each year in the U.S., osteoporosis causes 1.5 million hip, wrist, pelvis, rib, vertebrae and other bone fractures. Another 34 million Americans have osteopenia, or low bone mass, which precedes osteoporosis.

Women are at highest risk because their skeletons are smaller to start with and because of the accelerated bone loss that accompanies menopause.

3. What can I do to lower my risk of osteoporosis?

We can reduce the risk of osteoporosis and osteopenia later in life by striving to optimize peak bone mass during our teenage years and in early adulthood. We can boost our bone mass by making sure we are getting enough calcium and vitamin D in our diet and by participating in weight-bearing exercise. Weight-bearing means that your muscles and bones are working against gravity. Running, walking, dancing, tennis, hiking, basketball and weight training are only a few examples of how you can take an active role in increasing your bone mass!

Strengthen your bones and empower your life with calcium!

4. Why is vitamin D always mentioned along with calcium supplements?

Vitamin D helps improve calcium absorption. Your body can obtain vitamin D from food, and it can also make vitamin D when your skin is exposed to sunlight.

5. How much calcium do I need each day?

It is generally recommended that adults have 800 mg/day or three servings of high calcium foods, children and teens ages 9-18 have 1300 mg/day or four servings of high calcium foods and children ages 4-8 have 800 mg/day or three servings of high calcium foods.

6. Can dairy products help me to lose weight?

You may have heard the American Dietetic Association and National Dairy Council's recent TV ads encouraging everyone to try "milking your diet." This means drinking 24 ounces of milk every 24 hours to use the benefits of calcium as added support for healthy effective weight loss.

While the true weight-loss benefits are still being debated, emerging research suggests that calcium found in dairy products like milk and yogurt may help to regulate body fat.

By drinking a glass of low-fat or fat-free milk with each meal, you are not only giving your body the calcium it needs for healthy bones and teeth, but you are also promoting the loss of body fat while maintaining muscle. It's a win-win situation!

Strategies for extra calcium

- Grab a shake or yogurt smoothie.
- Drink skim milk with at least two of your meals.
- Add cheese and/or broccoli to pasta, potatoes and salads.
- Add a few tablespoons of powdered milk, low-fat or fat-free milk to pancakes, potatoes and pudding.
- Use milk to make hot cocoa, hot cereal and soup.

7. Do I need to increase my intake of calcium while I'm pregnant?

Current calcium recommendations for non-pregnant women are also sufficient for pregnant women because intestinal calcium absorption increases during pregnancy. For this reason, the calcium recommendations established for pregnant women are not different than the recommendations for women who are not pregnant. The recommendation for adults is 800 mg/day or three servings of high calcium foods.

Although dairy products are the main source of calcium in the U.S. diet, you can also find calcium in Chinese cabbage, kale, almonds and broccoli and in several calcium-fortified food products, including fruit juices, fruit drinks, tofu, breads and cereals.