

Can-U-Read

Vitamins

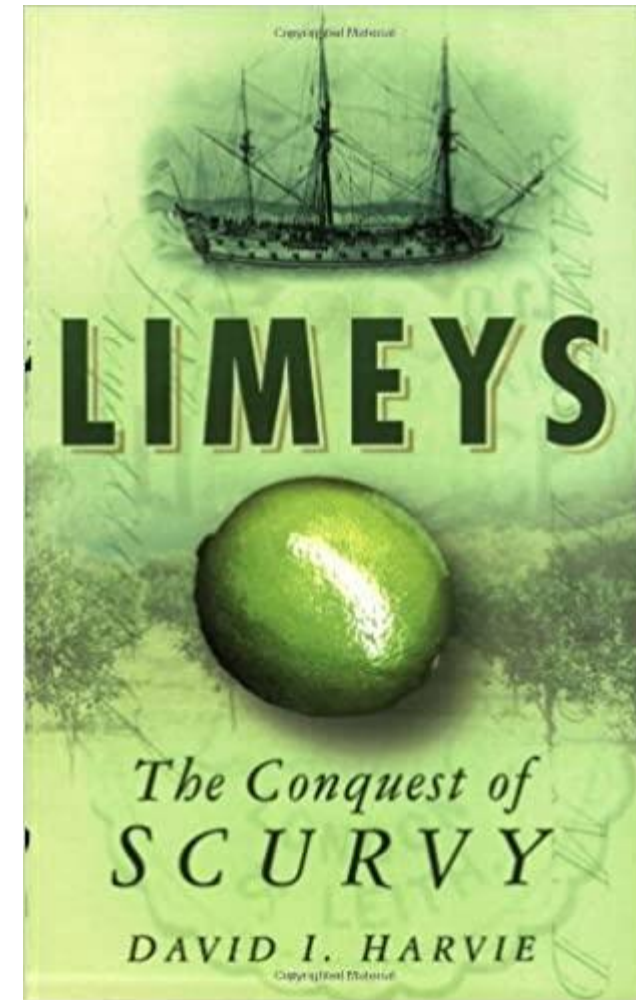
Once upon a time there was a deadly disease called scurvy. Scurvy affected sailors all the time. They would get on the boat and sail far from land. After a few weeks everyone would get the same sickness. Their gums would bleed and their teeth would fall out. Bruises would never heal.

While the sickness happened sometimes on land, it always happened on long ocean voyages. Why? What was happening on the boats? Were sailors bringing the sickness with them or getting it on the ocean.



Scurvy wasn't well understood for years, but people noticed that ships started to get sick once their supply of fresh vegetables ran out. They also found that ships that brought citrus fruits with them didn't get sick. Lemons, oranges, grapefruits, and limes could keep people from getting ill.

The doctor that figured this out got the British navy to give their men limes to take with them. They ate limes every few days and the scurvy stopped. It's not nice, but some people call British sailors "Limeys" to this day.



When the Europeans came to the Americas, they discovered the natives eating corn. Corn, or maize, was the main thing they ate. It grew so well in any hot climate that Europeans took the corn home to grow and feed their own people.

But the Europeans got sick eating corn. They called it pellagra. Any community that started to eat corn bread or tortillas would get pellagra and sometimes die. It was so bad that France banned the use of corn. What was happening? Did the corn just not like Europeans?



Just 100 years ago, poor people in the south also began to suffer from pellagra. It happened every spring and didn't stop until the weather cooled. 40% of the people who were sick died. Many went crazy. What did the poor people of the south eat? Cornbread.

This was a very strange disease and no one knew what caused it or why. Why did the weather make people sick? At the time people were just beginning to believe in germs, but this seemed to go against germ theory.



It wasn't that corn caused pellagra, it was what else people weren't getting. By getting more green veggies and milk they could cure the illness. But the poor people of the south ate the same cornmeal all the time because it was cheaper. To fix the problem, one doctor decided to use beer yeast in bread. The disease was cured.

Eventually they figured out how to add the missing chemical to corn meal. It didn't cost very much, but now everyone could have the food they needed. Such a simple fix to a terrible disease.



These sicknesses are examples of vitamin deficiency. That means that your body is not getting the chemicals it needs to keep you healthy.

So what are vitamins?

Why do we need them?

Do you get enough vitamins?

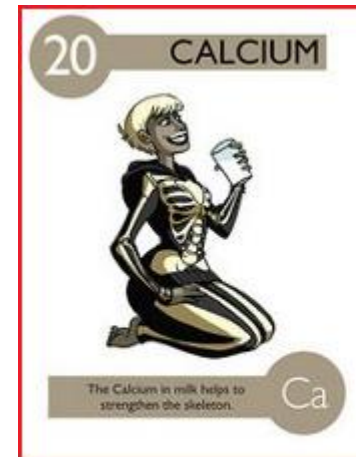
How can you make sure?



Let's look at one more disease that comes from not getting enough of the right chemicals in our body.

Your body uses calcium to make strong bones. Just eating and drinking calcium foods is not enough. Your body needs to have other chemicals to keep the calcium in your body. These fatty chemicals keep calcium around for when you need it.

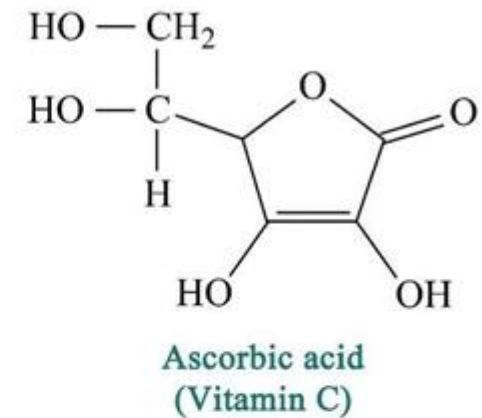
Some people don't have the right chemicals to keep the calcium. Their bones get squishy and they can't stand on their bones anymore. This is called rickets. Rickets is caused by not having the right chemicals. Rickets is caused by vitamin deficiency.



So what are the vitamins? The vitamin that stopped scurvy was ascorbic acid, or vitamin C. Limes and other citrus fruits are full of vitamin C. Your mom likes to give you vitamin C when you are getting a cold. It is good for you.

Lots of animals make their own vitamin C, but humans don't. Neither do guinea pigs. We have to get it from our food.

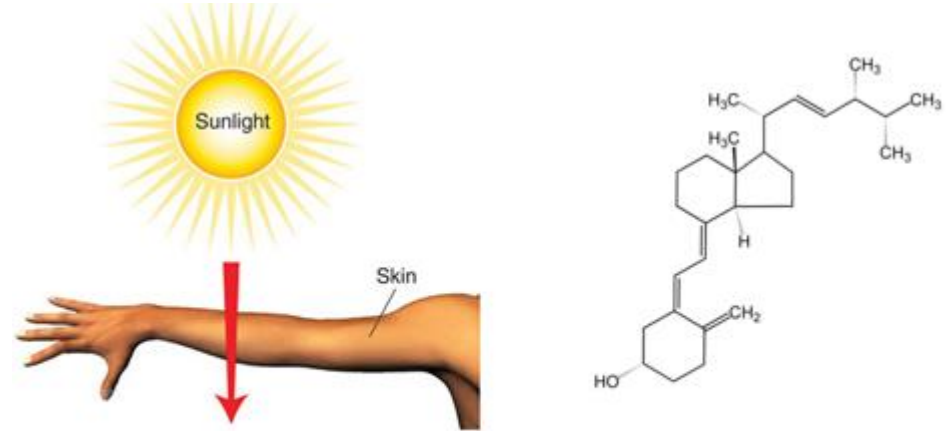
There are lots of different foods that have vitamin C, but they are all vegetables. When you eat fresh fruit and vegetables you will get all the vitamin C you want.



Most of the vitamins you need are in your food, but not all. One example is vitamin D. There are some foods that have vitamin D, but not many and not enough. But your body can make its own vitamin D with a little help.

If you get outside in the sunlight your body can make vitamin D from the food you eat. The UV light from the sun changes the fatty cholesterol in your body. The changed chemical can hold more calcium and stop rickets.

If you want to avoid rickets, you just need to get outside more! Your body will be stronger because you are in the sunlight.



Sometimes people just aren't getting the vitamins they need. They can take a supplement. A supplement is something extra that makes your food complete.

Most of the people who take supplements are old grandpas or women who are pregnant. It's hard for them to get enough of the vitamins they need, so the supplement helps them to stay healthy.

This is the worst way to get your vitamins, but it is the easiest to control.



And what about foods that don't have a label? Are they good for you? How do you know?

The best way to judge is color. Foods have different colors because they have different chemicals. If you make sure your dinner plate has lots of different colored foods it will also have different chemicals your body needs.

This is the best way to get the vitamins you need.



People are still learning how to eat in a healthy way. For a very long time all we needed to do was eat more because starvation was our biggest worry. The hard part is that our bodies still want to eat like they will be starving. They want to put on fat because later we might not have any food. That is not as big a problem today.

Today there are still some people who don't have enough to eat, but most of us have too much. Our job now is to eat better foods, the right kinds of foods, and not too much.

Here are some things you can do to stay healthy with what you eat.



When you get foods at the store, they have a list of ingredients on the side. This label tells you how much of everything is in their, especially the vitamins.

Important things like vitamin C to avoid scurvy, B to avoid pellagra, and D to avoid rickets are right on the label. This is one way to measure how good your food is for you.

What did you eat today? Were there enough vitamins in your food?

Vitamins

Nutrition Facts	
Serving size	1 potato (148g/5.2oz)
Amount per serving	
Calories	110
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 26g	9%
Dietary Fiber 2g	7%
Total Sugars 1g	
Includes 0g Added Sugars	0%
Protein 3g	
Vitamin D 0mcg	0%
Calcium 20mg	2%
Iron 1.1mg	6%
Potassium 620mg	15%
Vitamin C 27mg	30%
Vitamin B ₆ 0.2mg	10%
* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

What else is on the label?

Calories are the energy you get from your food. Adults need about 2000 calories each day. Any more than that and your body will start making fat. If you are going to be exercising a lot, you might need more.

Proteins, fats, and carbohydrates are the foods we use for energy. This kind of fat is not necessarily bad. We should have a little of each every day. Having too much of anything can make you sick. With a little of everything you will be healthier.

Calories →

Fat →

Carbs →

Protein →

Nutrition Facts	
Serving size	1 potato (148g/5.2oz)
Amount per serving	
Calories	110
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 26g	9%
Dietary Fiber 2g	7%
Total Sugars 1g	
Includes 0g Added Sugars	0%
Protein 3g	
Vitamin D 0mcg	0%
Calcium 20mg	2%
Iron 1.1mg	6%
Potassium 620mg	15%
Vitamin C 27mg	30%
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Doctors have changed their minds about this a couple of times, but this pyramid is the latest one. It says you should eat most of the things on the bottom and least of the things on the top.

Desserts – Only once in a while

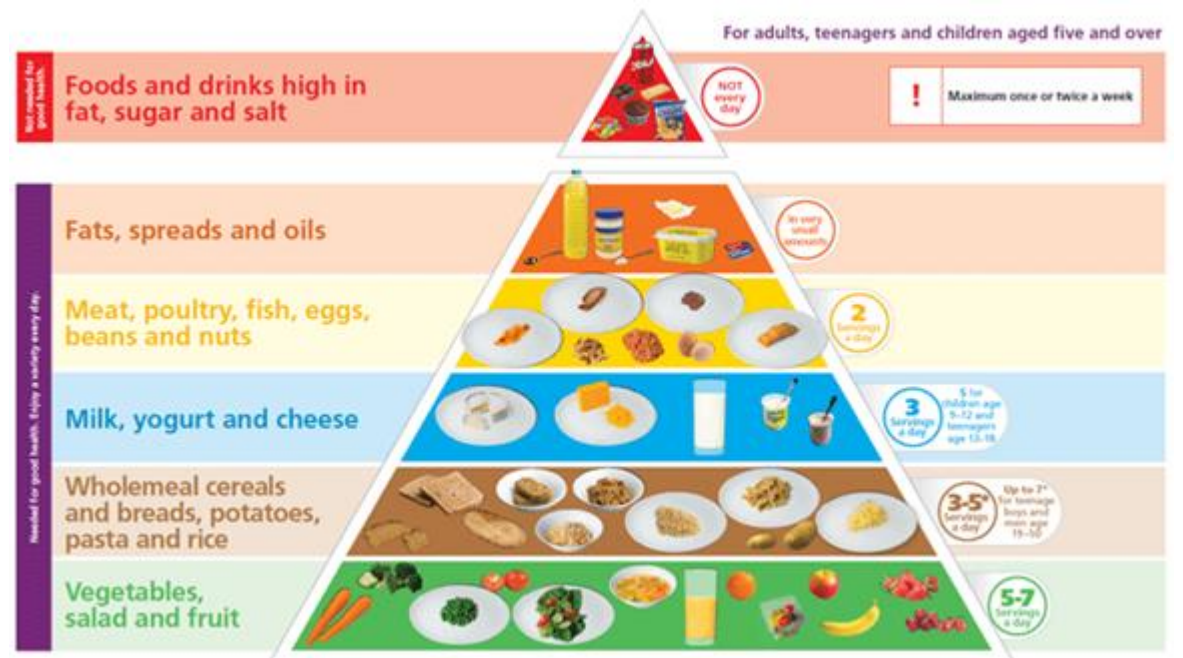
Fats – Very little

Meat and protein – 2 each day

Milk – 3 to 5 each day

Grains, breads, and carbs – 3 to 7 each day

Veggies and fruit – 5 to 7 each day



Let's try to count the food on this plate.

1 dessert (syrup)

5 proteins (bacon, ham, sausage, eggs)

4 carbs (pancakes, bread, potato)

This is a meal with lots of fats, proteins, and carbs, but no vitamins. It's also 1200 calories. If you were a lumberjack, maybe you needed that many calories, but you would still need vitamins. Eating like this every day will make you sick.



Oh, this looks much better.

1 egg

1 (potatoes)

3 (avocado, tomatoes, salad)

This meal has all kinds of colors with lots of vitamins in the plants. There are about 600 calories and none of the sweet foods. This is a meal for someone going to school and working in an office.



And don't forget your vitamins. A girl in college was eating every day, but she had some wounds that weren't healing.

Her doctor found out she wasn't eating anything green because her mommy wasn't making her. She had scurvy and that was making the wounds and keeping them from healing.

There are lots of yummy foods, but remember to eat your vegetables.



Let's try an experiment. Write down what you ate today and see how many calories it was. What kinds of vitamins did you get? How much exercise did you get?

Are you eating the right way? Might you get scurvy?

Write down two simple goals to help keep you healthy. Two are green-light goals—something to do. One is a red-light goal—something to avoid.

I will eat five vegetables every day.

I will eat two colors at every meal.

I will not eat anything until I read the label.