

Vitamin B1: Why You Might Not Be Getting Nearly Enough



Vitamin B1 is one of the most crucial nutrients for good health. Unfortunately, it's also one of the most neglected ones as well.

Most of us are concerned about - or at least aware of - the dangers of calcium, iron, and vitamin D deficiencies. But vitamin B1 often gets swept under the rug.

Let's get to the bottom of this once and for all. What is Vitamin B1? Why is it so essential? Most importantly, how can you tell if you aren't getting enough... and what can you do to fix it?

Keep reading to find out!

What Is It?

Vitamin B1, also known as thiamine (or thiamin), is one of the most crucial components that make up the B vitamin complex. Of the eight different B vitamins that have been discovered, B1 was the first - and named accordingly.

Scientists initially thought that every B vitamin was the same. But further investigations revealed that there were actually eight chemically-distinct B

vitamins making up the complex. Each of these vitamins supports the others.

How does this affect you?

Vitamin B1 plays crucial roles in converting food into usable energy. It helps the body extract the energy from foods and convert the nutrients into ATP (adenosine triphosphate), a molecule which provides energy for different cellular reactions and processes (1).

But that's not the only thing. Vitamin B1 also helps maintain proper brain function by synthesizing certain nucleic and amino acids into neurotransmitters and other bioactive compounds (2). And it even helps form and maintain cellular membranes (3).

Finally, vitamin B1 helps maintain proper heart health and central nervous system function. It works in concert with other B vitamins to regulate important functions of the cardiovascular, digestive, and endocrine systems (4).

The Dangers of a Vitamin B1 Deficiency

Because vitamin B1 is available in a wide variety of foods we eat today, you might not have heard about the dangers of a deficiency. Some people regard it as a problem only afflicting poorer regions of the globe where food is scarce - and write it off accordingly (5).

But in fact, vitamin B1 deficiency is very real. A data analysis from the National Health and Nutrition Examination Survey found that at least six percent of the United States population isn't getting enough (6). That data is also a bit dated (2003-2006), as current estimates of B1 deficiency are hard to come by.

If it weren't for food manufacturers enriching and/or fortifying their products - by adding vitamins back into their foods after processing - that rate of deficiency would practically double (7)!

This probably makes you wonder: if vitamin B1 is available in a wide variety of foods, how can so many people still be deficient?

The answer, it turns out, comes down to an over reliance on processed food products instead of eating foods in more natural states. One study found that cooking white rice in water degraded thiamine content by around 50 percent and 37 percent in brown rice (8). Because the vitamin is water soluble, a lot of it ends up leaching into the water or cooking liquid.

Each step involved with processing - whether it's heating or refining or sometimes even storage - degrades the ultimate nutrient content. So if our diets consist mostly of processed foods, we're in greater danger of not getting enough. As you'll see in just a bit, other health conditions can also increase your likelihood of becoming vitamin B1 deficient.

Symptoms and Warning Signs

Now that you understand the importance of vitamin B1, you're probably wondering if you're getting enough. Let's run through some of the biggest red flags - as well as any aggravating factors that can lead to deficiencies.

According to the University of Maryland Medical Center, common symptoms of vitamin B1 deficiency include:

- Abdominal pain
- Depression
- Fatigue
- Headache
- Irritability
- Nausea (9)

Because these symptoms could be explained by various health issues, your best bet is to get a test from your doctor if you're experiencing any of them. To hone in on vitamin B1 deficiency specifically, Dr. Derrick Lonsdale recommends you ask for a transketolase test instead of a simple blood test (10).

In addition to the red flags above, there are also other factors that increase your likelihood of a deficiency. These include:

- Up to 80 percent of alcoholics experience thiamine deficiency. Alcoholics tend to eat less than healthy people, resulting in inadequate

thiamine intake. Alcohol also decreases absorption of thiamine from the gastrointestinal tract (11).

- **Deficiency in other B vitamins.** Remember how the complex of B vitamins work together as part of a unified system? This has an effect on vitamin B1 deficiencies. If you're deficient in another B vitamin, like Folic acid (vitamin B9) or vitamin B12, the body's ability to absorb vitamin B1 is compromised (12).
- Diabetes patients have an increased risk of thiamine deficiency, which in turn can lead to hyperglycemic damage (13). This becomes a vicious cycle as that damage leads to an even more severe case of diabetes.
- **Gastrointestinal diseases.** Health conditions that interfere with proper digestion, like irritable bowel disease (IBD), increase the risk of vitamin B1 deficiency. One study found that giving IBD patients thiamine supplements alleviated their fatigue symptoms within a few weeks (14).
- **Heart problems.** Researchers found that people with cardiovascular problems were predisposed to thiamine deficiency and even recommended thiamine supplements to combat the symptoms (15).
- **Old age.** Elderly people experience a decrease in their ability to absorb dietary vitamin B1, so it's extra important for them to make sure they get enough. A study published in the journal *Age and Ageing* found that up to 31 percent of elderly people living at home are deficient (16).

None of these situations mean you have a vitamin B1 deficiency for sure; treat them as caution flags to make sure you get enough. If a deficiency goes on for too long, the symptoms can become more serious. Left unchecked, vitamin B1 deficiency can lead to Beriberi disease, which can enlarge the heart and create serious neurological effects (17).



How to Get More Vitamin B1

Vitamin B1 deficiency sounds scary. But the good news is that it's within your power to boost your intake. By focusing on B1-rich foods, you'll get healthier and decrease your chances of deficiency.

Here are some of the best natural sources of vitamin B1 around:

- **Asparagus**
- **Brussels sprouts**
- **Legumes** (green peas, navy beans, black beans, pinto beans, lima beans)
- **Pork**
- **Seafood** (trout, salmon, tuna, mackerel)
- **Seeds** (sunflower, flax, sesame, chia)
- **Spinach** (18)

Notice how those foods are minimally processed? That's key because we want to avoid nutrient degradation. Even if you follow a Paleo diet and avoid legumes, there are still plenty of options to increase your vitamin B1 intake!

You can also make huge strides by switching to camel milk instead of cow milk. Camel milk is absolutely packed with vitamin B1. A single eight-ounce serving of the stuff contains 64 percent of the daily value of thiamine, compared to just three percent of the same amount of cow milk (19). It's also rich in calcium, phosphorous, potassium and other key nutrients.

If you're still worried about a deficiency, you can always pick up some supplements and add them to your diet. Sometimes vitamin B1 supplements are sold individually (either as tablets, soft gels, or even lozenges), but you'll often find them as part of a B-complex vitamin. This is a relatively inexpensive - and effective - solution.

Get the Nutrients You Need to Thrive

Vitamin B1 is one of the most important nutrients for optimal health. It's also easy to overlook as you focus on more well-known nutrients like iron and calcium and zinc. But we can't afford to ignore it any longer.

You'll go a long way by eating more foods in their natural state. Instead of opting for processed snacks and sugary treats, find ways to incorporate more high-quality produce and meat into your diet. Adding more vitamin B1-rich foods from the list above will definitely help.

Finally, consider camel milk. Not only does it have a higher vitamin B1 content than cow milk. It's also loaded with calcium, phosphorous, and plenty of other vital nutrients.