

# Thiamin Fact Sheet for Consumers



Thiamin (also called vitamin B1) is found in whole grains, meat, and fish.

## What is thiamin and what does it do?

Thiamin (also called vitamin B1) helps turn the food you eat into the energy you need. Thiamin is important for the growth, development, and function of the cells in your body.

## How much thiamin do I need?

The amount of thiamin you need depends on your age and sex. Average daily recommended amounts are listed below in milligrams (mg).

Life Stage	Recommended Amount
Birth to 6 months	0.2 mg
Infants 7–12 months	0.3 mg
Children 1–3 years	0.5 mg
Children 4–8 years	0.6 mg
Children 9–13 years	0.9 mg
Teen boys 14–18 years	1.2 mg
Teen girls 14–18 years	1.0 mg
Men	1.2 mg
Women	1.1 mg
Pregnant teens and women	1.4 mg
Breastfeeding teens and women	1.4 mg

## What foods provide thiamin?

Thiamin is found naturally in many foods and is added to some fortified foods. You can get recommended amounts of thiamin by eating a variety of foods, including the following:

- Whole grains and fortified bread, cereal, pasta, and rice
- Meat (especially pork) and fish
- Legumes (such as black beans and soybeans), seeds, and nuts

## What kinds of thiamin dietary supplements are available?

Thiamin is found in multivitamin/multimineral supplements, in B-complex dietary supplements, and in supplements containing only thiamin. Common forms of thiamin in dietary supplements are thiamin mononitrate and thiamin hydrochloride. Some supplements use a synthetic form of thiamin called benfotiamine.

## Am I getting enough thiamin?

Most people in the United States get enough thiamin from the foods they eat. Thiamin deficiency is rare in this country. However, certain groups of people are more likely than others to have trouble getting enough thiamin:

- People with alcohol dependence
- Older individuals
- People with HIV/AIDS
- People with diabetes
- People who have had bariatric surgery

Talk with your health care provider(s) about thiamin and other dietary supplements to help you determine which, if any, might be valuable for you.

## What happens if I don't get enough thiamin?

You can develop thiamin deficiency if you don't get enough thiamin in the foods you eat or if your body eliminates too much or absorbs too little thiamin.

Thiamin deficiency can cause loss of weight and appetite, confusion, memory loss, muscle weakness, and heart problems. Severe thiamin deficiency leads to a disease called beriberi with the added symptoms of tingling and numbness in the feet and hands, loss of muscle, and poor reflexes. Beriberi is not common in the United States and other developed countries.

A more common example of thiamin deficiency in the United States is Wernicke-Korsakoff syndrome, which mostly affects people with alcoholism. It causes tingling and numbness in the hands and feet, severe memory loss, disorientation, and confusion.

## What are some effects of thiamin on health?

Scientists are studying thiamin to better understand how it affects health. Here are some examples of what this research has shown.

### Diabetes

People with diabetes often have low levels of thiamin in their blood. Scientists are studying whether thiamin supplements can improve blood sugar levels and glucose tolerance in people with type 2 diabetes. They are also studying whether benfotiamine (a synthetic form of thiamin) supplements can help with nerve damage caused by diabetes.

### Heart failure

Many people with heart failure have low levels of thiamin. Scientists are studying whether thiamin supplements might help people with heart failure.

### Alzheimer's disease

Scientists are studying the possibility that thiamin deficiency could affect the dementia of Alzheimer's disease. Whether thiamin supplements may help mental function in people with Alzheimer's disease needs further study.

## Can thiamin be harmful?

Thiamin has not been shown to cause any harm.

## Are there any interactions with riboflavin that I should know about?

Yes. Some medicines can lower thiamin levels in the body.

Here are a couple examples:

- Furosemide (Lasix<sup>®</sup>), which is used to treat high blood pressure and swelling caused by excess fluid in the body
- Fluorouracil (5-fluorouracil and Adrucil<sup>®</sup>), which is used in chemotherapy treatments for some types of cancer

Tell your doctor, pharmacist, and other health care providers about any dietary supplements and prescription or over-the-counter medicines you take. They can tell you if the dietary supplements might interact with your medicines or if the medicines might interfere with how your body absorbs, uses, or breaks down nutrients such as thiamin.

## Thiamin and healthful eating

People should get most of their nutrients from food, advises the federal government's *Dietary Guidelines for Americans*. Foods contain vitamins, minerals, dietary fiber and other substances that benefit health. In some cases, fortified foods and dietary supplements may provide nutrients that otherwise may be consumed in less-than-recommended amounts. For more information about building a healthy diet, refer to the *Dietary Guidelines for Americans* and the U.S. Department of Agriculture's MyPlate.

## Where can I find out more about thiamin?

### For general information on thiamin:

- Office of Dietary Supplements Health Professional Fact Sheet on Thiamin
- Thiamin, MedlinePlus®

### For more information on food sources of thiamin:

- Office of Dietary Supplements Health Professional Fact Sheet on Thiamin
- U.S. Department of Agriculture's (USDA) National Nutrient Database
- Nutrient List for thiamin (listed by food name or by thiamin content), USDA

### For more advice on buying dietary supplements:

- Office of Dietary Supplements Frequently Asked Questions: Which brand(s) of dietary supplements should I purchase?

### For information about building a healthy diet:

- MyPlate
- *Dietary Guidelines for Americans*

## Disclaimer

This fact sheet by the Office of Dietary Supplements provides information that should not take the place of medical advice. We encourage you to talk to your healthcare providers (doctor, registered dietitian, pharmacist, etc.) about your interest in, questions about, or use of dietary supplements and what may be best for your overall health. Any mention in this publication of a specific brand name is not an endorsement of the product.



For more information on this and other supplements, please visit our Web site at: <http://ods.od.nih.gov> or e-mail us at: [ods@nih.gov](mailto:ods@nih.gov)

Updated: February 17, 2016