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).

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

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
benfotamine (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.

Does thiamin interact with medications or
other dietary supplements?
Yes. Some medicines can lower thiamin levels in the body.
Here are a couple examples:
• Furosemide (Lasix®), which is used to treat high blood
  pressure and swelling caused by excess fluid in the body
• Fluorouracil (5-fluorouracil and Adrucil®), 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 and
beverages, according to the federal government’s Dietary
Guidelines for Americans. Foods contain vitamins, minerals,
dietary fiber, and other components that benefit health. In
some cases, fortified foods and dietary supplements are useful
when it is not possible to meet needs for one or more nutrients
(e.g., during specific life stages such as pregnancy). For more
information about building a healthy dietary pattern, see 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) FoodData Central
• Nutrient List for thiamin (listed by food name or by nutrient content), USDA

For more advice on choosing dietary supplements:
• Office of Dietary Supplements Frequently Asked Questions: Which brand(s) of dietary supplements should I purchase?

For information about building a healthy dietary pattern:
• MyPlate
• Dietary Guidelines for Americans

Disclaimer
This fact sheet by the Office of Dietary Supplements (ODS) 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 product or service, or recommendation from an organization or professional society, does not represent an endorsement by ODS of that product, service, or expert advice.