

Niacin Fact Sheet for Consumers



Turkey is rich in niacin, which is important for the development and function of cells in your body.

What is niacin and what does it do?

Niacin (also called vitamin B3) helps turn the food you eat into the energy you need. Niacin is important for the development and function of the cells in your body.

How much niacin do I need?

The amount of niacin you need depends on your age and sex. Average daily recommended amounts are listed below in milligrams (mg) of niacin equivalents (NE) (except for infants in their first 6 months).

The mg NE measure is used because your body can also make niacin from tryptophan, an amino acid in proteins. For example, when you eat turkey, which is high in tryptophan, some of this amino acid is converted to niacin in your liver. Using mg NE accounts for both the niacin you consume and the niacin your body makes from tryptophan. Infants in their first six months do not make much niacin from tryptophan.

Life Stage	Recommended Amount
Birth to 6 months	2 mg
Infants 7–12 months	4 mg NE
Children 1–3 years	6 mg NE
Children 4–8 years	8 mg NE
Children 9–13 years	12 mg NE
Teens boys 14–18 years	16 mg NE
Teens girls 14–18 years	14 mg NE
Adult men 19+ years	16 mg NE
Adult women 19+ years	14 mg NE
Pregnant teens and women	18 mg NE
Breastfeeding teens and women	17 mg NE

What foods provide niacin?

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

- Animal foods, such as poultry, beef, pork, and fish
- Some types of nuts, legumes, and grains
- Enriched and fortified foods, such as many breads and cereals

What kinds of niacin dietary supplements are available?

Niacin is found in multivitamin/multimineral supplements. It is also available in B-complex dietary supplements and supplements containing only niacin. The two

main forms of niacin in dietary supplements are nicotinic acid and nicotinamide.

Niacin (in the form of nicotinic acid) is also available as a prescription medicine used to treat high blood cholesterol levels.

Am I getting enough niacin?

Most people in the United States get enough niacin from the foods they eat. Niacin deficiency is very rare in the United States. However, some people are more likely than others to have trouble getting enough niacin:

- Undernourished people with AIDS, alcohol use disorder, anorexia, inflammatory bowel disease, or liver cirrhosis
- People whose diet has too little iron, riboflavin, or vitamin B6; these nutrients are needed to convert tryptophan to niacin
- People with Hartnup disease, a rare genetic disorder
- People with carcinoid syndrome, a condition in which slow-growing tumors develop in the gastrointestinal tract

What happens if I don't get enough niacin?

You can develop niacin deficiency if you don't get enough niacin or tryptophan from the foods you eat. Severe niacin deficiency leads to a disease called pellagra. Pellagra, which is uncommon in developed countries, can have these effects:

- Rough skin that turns red or brown in the sun
- A bright red tongue
- Vomiting, constipation, or diarrhea
- Depression
- Headaches
- Extreme tiredness
- Aggressive, paranoid, or suicidal behavior
- Hallucinations, apathy, loss of memory

In its final stages, pellagra leads to loss of appetite followed by death.

What are some effects of niacin on health?

Scientists are studying niacin to better understand how it affects health. Here is an example of what this research has shown.

Cardiovascular disease

Scientists have studied the use of large doses of niacin in the form of nicotinic acid to help reduce the risk of heart attack and stroke in people with atherosclerosis. They found that prescription-strength nicotinic acid (more than 100 times the

recommended dietary allowance) can lower blood levels of LDL (bad) cholesterol, raise levels of HDL (good) cholesterol, and lower levels of triglycerides. But these favorable effects on blood lipids (fats) don't affect the risk of having a cardiovascular event, such as heart attack, sudden cardiac death, or stroke. In addition, experts do not recommend high doses of nicotinic acid for people taking a statin medication.

Your healthcare provider should approve and supervise any use of very high doses of nicotinic acid (in the thousands of milligrams) to treat atherosclerosis.

Can niacin be harmful?

The niacin that food naturally contains is safe. However, dietary supplements with 30 mg or more of nicotinic acid can make the skin on your face, arms, and chest turn red and burn, tingle, and itch. These symptoms can also lead to headaches, rashes, and dizziness.

If you take nicotinic acid as a medication in doses of 1,000 or more mg/day, it can cause more severe side effects. These include:

- Low blood pressure (which can increase the risk of falls)
- Extreme tiredness
- High blood sugar levels
- Nausea, heartburn, and abdominal pain
- Blurred or impaired vision and fluid buildup in the eyes

Long-term treatment, especially with extended-release forms of nicotinic acid, can cause liver problems, including hepatitis and liver failure.

Niacin in the form of nicotinamide has fewer side effects than nicotinic acid. However, at high doses of 500 mg/day or more, nicotinamide can cause diarrhea, easy bruising, and can increase bleeding from wounds. Even higher doses of 3,000 mg/day or more can cause nausea, vomiting, and liver damage.

The daily upper limits for niacin from dietary supplements are listed below.

Ages	Upper Limit
Birth to 12 months	Not established
Children 1–3 years	10 mg
Children 4–8 years	15 mg
Children 9–13 years	20 mg
Teens 14–18 years	30 mg
Adults 19+ years	35 mg

Are there any interactions with niacin that I should know about?

Niacin dietary supplements can interact or interfere with certain medicines that you take, and some medicines can lower niacin levels in your body. Here are some examples:

- Tuberculosis drugs (such as isoniazid and pyrazinamide) interfere with the body's ability to convert tryptophan to niacin. This interference can lower niacin levels in your body.
- High doses of nicotinic acid (1,500 mg/day or more) can raise blood sugar levels and interfere with the effectiveness of diabetes medications. These doses can even raise blood sugar levels in people who don't have diabetes.

Tell your doctor, pharmacist, and other healthcare 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. They can also tell you if the medicines might interfere with how your body absorbs, uses, or breaks down niacin and other nutrients.

Niacin 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 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 Niacin?

For general information on Niacin:

- Office of Dietary Supplements Health Professional Fact Sheet on Niacin

For more information on food sources of Niacin:

- Office of Dietary Supplements Health Professional Fact Sheet on Niacin
- U.S. Department of Agriculture's (USDA) National Nutrient Database
- Nutrient List for niacin (listed by food or by nutrient 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:

- ChooseMyPlate
- *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.



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