Niacin-Consumer

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Niacin  
Fact Sheet for Consumers  
  
This is a general overview. For more in-depth information, see our health professional fact sheet.  
  
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 6 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  
Teen boys 14 18 years 16 mg NE  
Teen 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/mineral 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 the following 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. However, 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 health care 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 and beverages naturally contain 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. This 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 and 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  
Does niacin interact with medications or other dietary supplements?  
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 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. 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 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 (for example, during specific life stages such as pregnancy). For more information about building a healthy dietary pattern, see the Dietary Guidelines for Americansexternal link disclaimer and the U.S. Department of Agriculture s (USDA s) MyPlate.external link disclaimer  
  
Where can I find out more about niacin?  
For general information on niacin  
Office of Dietary Supplements (ODS) Health Professional Fact Sheet on Niacin  
For more information on food sources of niacin  
ODS Health Professional Fact Sheet on Niacin  
USDA s FoodData Centralexternal link disclaimer  
Nutrient List for niacin (listed by foodexternal link disclaimer or by nutrient contentexternal link disclaimer), USDA  
For more advice on choosing dietary supplements  
ODS Frequently Asked Questions: Which brand(s) of dietary supplements should I purchase  
For information about building a healthy dietary pattern  
ChooseMyPlateexternal link disclaimer  
Dietary Guidelines for Americans.external link disclaimer  
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