Choline-Consumer

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Choline  
Fact Sheet for Consumers  
  
This is a general overview. For more in-depth information, see our health professional fact sheet.  
  
What is choline and what does it do?  
Choline is a nutrient that is found in many foods. Your brain and nervous system need it to regulate memory, mood, muscle control, and other functions. You also need choline to form the membranes that surround your body s cells. You can make a small amount of choline in your liver, but most of the choline in your body comes from the food you eat.  
  
How much choline do I need?  
The amount of choline you need each day depends on your age and sex. Average daily recommended amounts are listed below in milligrams (mg).  
  
Life Stage Recommended Amount  
Birth to 6 months 125 mg  
Infants 7 12 months 150 mg  
Children 1 3 years 200 mg  
Children 4 8 years 250 mg  
Children 9 13 years 375 mg  
Teen boys 14 18 years 550 mg  
Teen girls 14 18 years 400 mg  
Men 19+ years 550 mg  
Women 19+ years 425 mg  
Pregnant teens and women 450 mg  
Breastfeeding teens and women 550 mg  
What foods provide choline?  
Many foods contain choline. You can get recommended amounts of choline by eating a variety of foods, including the following:  
  
Meat, eggs, poultry, fish, and dairy products  
Potatoes and cruciferous vegetables such as brussels sprouts, broccoli, and cauliflower  
Some types of beans, nuts, seeds, and whole grains  
What kinds of choline dietary supplements are available?  
Some multivitamin/mineral supplements contain choline, often in the form of choline bitartrate, phosphatidylcholine, or lecithin. Dietary supplements that contain only choline are also available.  
  
Am I getting enough choline?  
The diets of most people in the United States provide less than the recommended amounts of choline. Even when choline intakes from both food and dietary supplements are combined, total choline intakes for most people are below recommended amounts.  
  
Certain groups of people are more likely than others to have trouble getting enough choline:  
  
Pregnant women  
People with certain genetic conditions  
People who are being fed intravenously  
What happens if I don t get enough choline?  
Although most people in the United States don t get recommended amounts of choline, few people have symptoms of choline deficiency. One reason might be that our bodies can make some choline. However, if a person s choline levels drop too low, he or she can experience muscle and liver damage as well as deposits of fat in the liver (a condition called nonalcoholic fatty liver disease [NAFLD] that can damage the liver).  
  
What are some effects of choline on health?  
Scientists are studying choline to better understand how it affects health. Here are some examples of what this research has shown.  
  
Cardiovascular disease  
Some research shows that getting enough choline might help keep the heart and blood vessels healthy, partly by reducing blood pressure. Other research suggests that higher amounts of choline might increase cardiovascular disease risk. More research is needed to understand whether getting more choline from the diet and supplements might raise or lower the risk of cardiovascular disease.  
  
Neurological disorders  
Some studies have found a link between higher intakes of choline (and higher blood levels of choline) and better cognitive function (such as verbal and visual memory). However, other studies have shown that choline supplements do not improve cognition in healthy adults or in patients with Alzheimer s disease, Parkinson s disease dementia, or other memory problems. More research is needed to understand the relationship between choline intakes and cognitive function as well as to find out whether choline supplements offer any benefit to patients with dementia.  
  
Nonalcoholic fatty liver disease  
There may be a link between low intakes of choline and the risk of developing NAFLD. NAFLD is a condition in which fat builds up in the liver of people who do not drink excessive amounts of alcohol. It is a common liver disorder, especially in people who are overweight or have obesity. Getting enough choline is necessary for proper liver function and to prevent NAFLD. However, more research is needed to better understand how choline might help prevent or treat NAFLD.  
  
Can choline be harmful?  
Getting too much choline can cause a fishy body odor, vomiting, heavy sweating and salivation, low blood pressure, and liver damage. Some research also suggests that high amounts of choline may increase the risk of heart disease.  
  
The daily upper limits for choline include intakes from all sources food, beverages, and supplements and are listed below.  
  
Life Stage Upper Limit  
Birth to 12 months Not established  
Children 1 3 years 1,000 mg  
Children 4 8 years 1,000 mg  
Children 9 13 years 2,000 mg  
Teens 14 18 years 3,000 mg  
Adults 3,500 mg  
Does choline interact with medications or other dietary supplements?  
Choline is not known to interact with any medications.  
  
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 choline.  
  
Choline 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 choline?  
For general information about choline  
Office of Dietary Supplements (ODS) Health Professional Fact Sheet on Choline  
For more information on food sources of choline  
USDA s FoodData Centralexternal link disclaimer  
Nutrient List for choline (listed by choline 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  
MyPlateexternal link disclaimer  
Dietary Guidelines for Americansexternal link disclaimer  
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