Selenium-Consumer

url: https://ods.od.nih.gov/factsheets/Selenium-Consumer/  
  
  
Selenium  
Fact Sheet for Consumers  
  
This is a general overview. For more in-depth information, see our health professional fact sheet.  
  
What is selenium and what does it do?  
Selenium is a nutrient that the body needs to stay healthy. Selenium is important for reproduction, thyroid gland function, DNA production, and protecting the body from damage caused by free radicals and from infection.  
  
How much selenium do I need?  
The amount of selenium that you need each day depends on your age. Average daily recommended amounts are listed below in micrograms (mcg).  
  
Life Stage Recommended Amount  
Birth to 6 months 15 mcg  
Infants 7 12 months 20 mcg  
Children 1 3 years 20 mcg  
Children 4 8 years 30 mcg  
Children 9 13 years 40 mcg  
Teens 14 18 years 55 mcg  
Adults 19 50 years 55 mcg  
Adults 51 70 years 55 mcg  
Adults 71 years and older 55 mcg  
Pregnant teens and women 60 mcg  
Breastfeeding teens and women 70 mcg  
What foods provide selenium?  
Selenium is found naturally in many foods. The amount of selenium in plant foods depends on the amount of selenium in the soil where they were grown. The amount of selenium in animal products depends on the selenium content of the foods that the animals ate. You can get recommended amounts of selenium by eating a variety of foods, including the following:  
  
Seafood  
Meat, poultry, eggs, and dairy products  
Breads, cereals, and other grain products  
What kinds of selenium dietary supplements are available?  
Selenium is available in many multivitamin/mineral supplements and other dietary supplements. It can be present in several different forms, including selenomethionine and sodium selenate.  
  
Am I getting enough selenium?  
Most Americans get enough selenium from their diet because they eat food grown or raised in many different areas, including areas with soil that is rich in selenium.  
  
Certain groups of people are more likely than others to have trouble getting enough selenium:  
  
People undergoing kidney dialysis  
People living with HIV  
People who eat only local foods grown in soils that are low in selenium  
What happens if I don t get enough selenium?  
Selenium deficiency is very rare in the United States and Canada. Selenium deficiency can cause Keshan disease (a type of heart disease) and male infertility. It might also cause Kashin-Beck disease, a type of arthritis that produces pain, swelling, and loss of motion in your joints.  
  
What are some effects of selenium on health?  
Scientists are studying selenium to understand how it affects health. Here are some examples of what this research has shown.  
  
Cancer  
Studies suggest that people who consume lower amounts of selenium could have an increased risk of developing cancers of the colon and rectum, prostate, lung, bladder, skin, esophagus, and stomach. However, whether selenium supplements reduce cancer risk is not clear. More research is needed to understand the effects of selenium from food and dietary supplements on cancer risk.  
  
Cardiovascular disease  
Scientists are studying whether selenium helps reduce the risk of cardiovascular disease. Some studies show that people with lower blood levels of selenium have a higher risk of heart disease, but other studies do not. More studies are needed to better understand how selenium in food and dietary supplements affects heart health.  
  
Cognitive decline  
Blood selenium levels decrease as people age, and scientists are studying whether low selenium levels contribute to a decline in brain function in older adults. Some studies suggest that people with lower blood selenium levels are more likely to have poorer mental function, but a study of older adults in the United States found no link between selenium levels and memory. More research is needed to find out whether selenium dietary supplements might help reduce the risk of or treat cognitive decline in older adults.  
  
Thyroid disease  
The thyroid gland has high amounts of selenium that play an important role in thyroid function. Studies suggest that people especially women who have low blood levels of selenium (and iodine) might develop problems with their thyroid. However, whether selenium dietary supplements can help treat or reduce the risk of thyroid disease is not clear. More research is needed to understand the effects of selenium on thyroid disease.  
  
Can selenium be harmful?  
Yes, if you get too much. Brazil nuts, for example, contain very high amounts of selenium (68 91 mcg per nut) and can cause you to go over the upper limit if you eat too many. Getting too much selenium over time can cause the following:  
  
Garlic breathNauseaDiarrheaSkin rashesIrritabilityMetallic taste in the mouthBrittle hair or nailsLoss of hair or nailsDiscolored teethNervous system problems  
Extremely high intakes of selenium can cause severe problems, including difficulty breathing, tremors, kidney failure, heart attacks, and heart failure.  
  
The daily upper limits for selenium include intakes from all sources food, beverages, and supplements and are listed below.  
  
Ages Upper Limit  
Birth to 6 months 45 mcg  
Infants 7 12 months 60 mcg  
Children 1 3 years 90 mcg  
Children 4 8 years 150 mcg  
Children 9 13 years 280 mcg  
Teens 14 18 years 400 mcg  
Adults 400 mcg  
Does selenium interact with medications or other dietary supplements?  
Yes, some of the medications you take may interact with selenium. For example, cisplatin, a chemotherapy drug used to treat cancer, can lower selenium levels, but the effect this has on the body is not clear.  
  
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.  
  
Selenium 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 selenium?  
For general information on selenium  
Office of Dietary Supplements (ODS) Health Professional Fact Sheet on Selenium  
Selenium in Dietexternal link disclaimer, MedlinePlus  
For more information on food sources of selenium  
USDA s FoodData Centralexternal link disclaimer  
Nutrient List for selenium (listed by food or by selenium content), 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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