



ENERGIZE

a NEWSLETTER for NUTRITION EDUCATORS

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ENERGIZE YOUR LIFE!
EAT HEALTHY-BE ACTIVE

This newsletter is produced by the *Nutrition Education Network of Washington* to enhance communication and coordination among those who educate Washington families about nutrition and food. *Energize Newsletter for Nutrition Educators* shares brief information about programs and materials that support healthful and enjoyable eating.

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SUBSCRIPTION INFORMATION

Energize Newsletter for Nutrition Educators can be sent to you electronically each month. There is no charge. To subscribe or unsubscribe, contact Kathleen Manenica, WSU Puyallup, 253-445-4598, e-mail manenica@wsu.edu.

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This Month's Focus: *Minerals - A Focus on Four*

As nutrition educators, we often are so busy implementing our programs that we don't have the luxury of time to read up on certain aspects of nutritional science. In this issue of the *Energize Newsletter for Nutrition Educators*, we'll take a fresh look at four key minerals: potassium, calcium, iodine, and iron. For each one, we'll review the functions in the body, amount needed, food sources, and some of the current issues related to that mineral.

In our practical applications with our clients, we promote healthy eating patterns, and nutritious foods to include which contain these nutrients. As we step through these four minerals, it becomes clear to see the value of a varied, balanced diet.

First, the Basics. Minerals are needed in small amounts in the diet, but are crucial for healthy bodies. In a wide array of functions, they regulate complex chemical processes such as potassium's role in transmitting nerve signals, and they give the body structure, such as calcium in bones.



Source: Thinkstock

Unlike vitamins, minerals aren't affected by cooking. They are stable to acid and heat. If you've ever totally burned food on the barbeque or campfire (who hasn't?), the remaining ash is basically its mineral content.

Minerals in the diet are divided into two categories: major minerals (needed in larger amounts) and trace minerals (needed in tiny amounts). Major minerals include, calcium, magnesium, and phosphorus, as well as the electrolytes sodium, chloride, and potassium. There are many trace minerals, including chromium, copper, fluoride, iodine, iron, manganese, molybdenum, selenium, and zinc. Nutrition experts have studied arsenic, boron, nickel, silicon, and vanadium, but so far it's not confirmed that they're essential for health.

Let's turn now to our focus on four important minerals.

Potassium helps regulate the balance of fluids inside and outside of body cells. Getting enough potassium is important in blunting the effect of sodium on blood pressure. That's one reason why the 2015 Dietary Guidelines call potassium a "nutrient of public health concern," since many Americans are at risk for high blood pressure. Potassium's other roles are helping transmit

nerve signals, reducing the risk for kidney stones and bone loss, and helping muscles contract.

- ***How much is needed?*** The Adequate Intake (AI) for potassium is 4,700 milligrams (mg)/day for females and males ages 14+. Most Americans fall short of this amount.
- ***Where is it found?*** The Dietary Guidelines recommends consuming more potassium from a variety of foods, particularly fruit, vegetables, and dairy. For a list of foods rich in potassium, see <https://health.gov/dietaryguidelines/2015/guidelines/appendix-10/>.
- ***Current issues.*** Potassium is newly added to the updated Nutrition Facts Panel, and the reference amount used to calculate the Daily Value (DV) on the label has changed. The DV for potassium is now 4,700 mg, an increase from 3,500 mg in the old DV. Evidence seems to show that African-Americans particularly benefit from increasing their intakes of potassium.

Calcium builds strong bones and teeth, and also has a host of other functions, such as helping muscles including the heart contract, regulating blood pressure, nerve function, and more. Like potassium, the 2015 Dietary Guidelines single out calcium as one of four nutrients of public health concern. (The other two are fiber and vitamin D.)

- ***How much is needed?*** The RDA for calcium for males ages 19+ is 1,000 mg/day. For females, the RDA for ages 19-50 is 1,000 mg/day but for ages 51+ it's 1,200/day. The RDA for kids varies with age and sex.
- ***Where is it found?*** Calcium is found naturally in milk, yogurt, cheese and other dairy foods, as well as leafy green vegetables and grains. It's also added to many foods such as soy and almond milks, juices, and cereals. The Dietary Guidelines recommends consuming more calcium, preferably through foods. Calcium supplements may be advisable for older women and some other age-sex groups. For a list of calcium-rich foods, see <https://health.gov/dietaryguidelines/2015/guidelines/appendix-11>.
- ***Current issues.*** In the updated nutrition label, the reference amount used to calculate the DV has changed, as it has for potassium. The DV for calcium is now 1,300 mg, up from 1,000 mg in the old DV. The recommended amounts of calcium for pregnant or breastfeeding women are the same as for other women in their age group. For latte lovers, the concern about caffeine reducing absorption and increasing excretion of calcium is negligible. In a 12-ounce latte which contains about 400 mg calcium, the caffeine in a double-shot of espresso interferes with just 4 to 6 mg.



Source: NIH US. National Library of Medicine <https://medlineplus.gov/calcium.html>

Iodine is carried by blood to the thyroid gland in the neck where it becomes part of thyroid hormones, such as thyroxin. Adequate amounts are crucial during pregnancy for the healthy development of the baby's brain. www.webmd.com/baby/news/20130523/low-prenatal-iodine-may-affect-childs-brain-development.

- ***How much is needed?*** The RDA for iodine is 150 mcg (micrograms)/day for adults; 220 mcg for pregnant women and 290 mcg for breastfeeding women.
- ***Where is it found?*** Iodine occurs naturally in the ocean and in soil, particularly in land that is along the ocean. So, saltwater fish, a variety of plants, and animals that eat those plants contain iodine. Some processors of table salt voluntarily add iodine, a practice that began in the 1920s to prevent goiter, a thyroid illness. About ½ teaspoon of iodized salt provides enough iodine needed each day. Dried seaweed is also a source.
- ***Current issues.*** With the rising popularity of Kosher salt which does not contain iodine, some consumers are concerned that their families aren't getting enough of this important mineral. Not to worry. As long as they have varied diet that includes salt-water fish (such as salmon, tuna or cod), milk, a variety of plant foods, and a small amount of iodized table salt, they will meet their needs.

Iron is part of hemoglobin in red blood cells, which carries oxygen to the lungs, brain, and throughout the body. In iron deficiency anemia, that lack of oxygen can cause fatigue, shortness of breath, weakness, and other symptoms. In the body, iron and beta-carotene in plant foods interact to form vitamin A. Iron helps make proteins, is needed for brain development, and supports a healthy immune system.

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How much is needed? The RDA for iron for females ages 19-50 is 18 mg/day, and for males ages 19+ and females 51+ it's 8 mg. The RDA for kids varies on age and sex.

- Where is it found? Iron is found in animal foods as “heme iron” because it is part of that animal’s hemoglobin (blood) or myoglobin (muscles). Plants contain “non-heme” iron, and isn’t absorbed as well as heme iron. Foods containing vitamin C help release non-heme iron, such as strawberries with oatmeal or red peppers with pinto beans. Heme iron from meat, poultry, or fish also helps the absorption of non-heme iron, such as ground turkey and black beans in chili. Also, beta-carotene in orange and deep green leafy vegetables, and vitamin A in dairy foods aid in non-heme iron absorption.
- Current issues. Cast iron cookware and iron: legit or myth? Cooking foods in cast iron pots and skillets can indeed add iron to the diet. The foods pick up tiny amounts of iron from the pan, particularly those that are stirred or that contain an acid, such as tomatoes. Easy, low-cost recipes for skillet meals can be found in *Eating Well for Less*, pages 18 and 19 at <https://nutrition.wsu.edu/wp-content/uploads/sites/414/2016/05/Eating-Well-for-Less-22-146.pdf>.



Source: Wikipedia

Alphabet Soup – RDA, DRI, AI, AMDR, DV all are expressions of the amounts of nutrients we consume to keep our bodies healthy. In this newsletter, we have used the RDA for calcium, iodine, and iron, but AI for potassium. How are they different? The Recommended Daily Amount (RDA) is the average daily dietary intake level that is sufficient to meet the nutrient requirement of nearly all (97-98%) healthy individuals in a particular life stage and sex group. An Average Intake (AI) is used when an RDA can’t be determined. For a list of daily nutritional goals that include RDAs, IAs, and other measures, see the 2015 Dietary Guidelines for Americans Table A7-1, <https://health.gov/dietaryguidelines/2015/guidelines/appendix-7>. To decipher the abbreviations, look up Dietary Reference Intakes in the glossary, <https://health.gov/dietaryguidelines/2015/guidelines/appendix-6>.

(Primary sources used for mineral information above: U.S. Department of Health and Human Services and U.S. Department of Agriculture. 2015 – 2020 Dietary Guidelines for Americans. 8th Edition. December 2015; Scientific Report of the 2015 Dietary Guidelines Advisory Committee (Advisory Report); and American Dietetic Association Complete Food and Nutrition Guide, Roberta Duyff, 2012)

“Animal, Vegetable, Mineral” – If you’ve played this variation of the “20 Questions” game, you have a jump on a fun way to teach about minerals as well as other foods. In this game, one person (the answerer) thinks of an object that falls in one of those categories – animal, vegetable, or mineral – and others (the questioners) ask up to 20 questions to guess what it is. At the beginning, the answerer tells which of those three categories the unknown object belongs to. These categories come from the Linnaean taxonomy of all of nature. Who knew?! How about using calcium, potassium, or another mineral?



Source: Wikipedia

TOOLS OF THE TRADE

Holiday Turkey Safety – November and December holidays often include gatherings of friends or families around the table to share food and conversation. But hopefully they won’t share a foodborne illness. USDA’s Food Safety and Inspection Service offers a list of resources for safe preparation of turkey and other holiday foods at www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/seasonal-food-safety/seasonal-food-safety including a useful handout on preparation, as well as cooking times and temperatures, “Let’s Talk Turkey – A Consumer’s Guide to Safely Roasting a Turkey” (English and Spanish). For USDA’s Meat and Poultry Hotline, call 1-888-MPHotline (1-888-674-6854) Monday through Friday 7 am to 1 pm Pacific time, or email mpholine.fsis@usda.gov.

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WASHINGTON GROWN

Fresh This Month – As we transition from fall to winter, it's a great time to experiment with recipes using cabbage. Cabbages stores well, compared to the more short-lived lettuces and leafy greens earlier in the season. Varieties include green and red cabbage, as well as Chinese, Napa, and Savoy. Vegetables in the cabbage family are good sources of vitamin C, vitamin K, and fiber – and are naturally low in calories. Cabbage can be used in stir-fry, shredded for coleslaw, chopped and combined with apples in salad, sautéed as a side dish, pickled, or wrapped around a filling and baked. For resources about cabbage, see <https://snaped.fns.usda.gov/nutrition-through-seasons/seasonal-produce/cabbage>.



Source: Kathleen Manenica



Source: choosemyplate.gov

DID YOU KNOW?

What comes to mind when consumers think of a food high in potassium? A banana? In fact, a baked potato tops the list of foods high in potassium, with more than twice as much as a banana (941 mg compared to 422 mg). <https://health.gov/dietaryguidelines/2015/guidelines/appendix-10/>.



EAT TOGETHER EAT BETTER – Family Meals Focus

Because our readers have told us that Family Meals is a hot topic, in the May 2011 issue we began a small section on recent news relating to this topic and our long-standing signature program, Eat Together, Eat Better.

Dads' and Preschoolers' Family Meals – Most of the research about parents' roles in family meals has focused on moms, but dads took center stage in a study of 2,411 young children and their parents. About 40% of the fathers said that they had a great deal of influence on their preschool child's nutrition, and 50% reported daily involvement in preparing food for their child and helping them with eating. The researchers commented that dads are a key audience in building healthy food habits and preventing obesity among preschoolers, particularly with fast food and soda consumption. (Guerrero, AD, "Father involvement in feeding activities with their young children." *American Journal of Health Behavior*, 40(2):221-230, March 2016. www.ncbi.nlm.nih.gov/pmc/articles/PMC4878394)

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