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SAMPLE PRINT
Not for Resale

NUTRIENT LIBRARY HANDOUTS:

Carbohydrates and Fiber

Protein

Fats

Vitamin A

Vitamin D

Vitamin E

Vitamin K

Folate/Folic Acid

Vitamin B12

Vitamin C

Choline

Calcium

Magnesium

Potassium

Iron





VITAMIN K

What Does Vitamin K Do?

Vitamin K helps your blood clot. Vitamin K also plays a role in bone health and the growth of cells throughout your body.

How Do You Get Vitamin K?

The healthy bacteria in your colon make a small amount of vitamin K. Most vitamin K comes from foods. Common sources include green leafy vegetables, such as spinach, broccoli, vegetable oils like soybean and canola oil, and some fruits.

TIPS FOR PEOPLE TAKING WARFARIN

Review the list of vitamin K foods in this handout. Pay special attention to the foods that are the highest in vitamin K.

Write down everything you eat for 3 or 4 days. Then compare your record to the list of vitamin K foods to see how much vitamin K you usually eat each day.

Eat about the same amount of vitamin K each day. Avoid eating a lot of vitamin K for 1 day, and then little or none the next day.

Each morning, think about the vitamin K foods you will eat that day. Then stick to the plan discussed with your health-care team.



How Much Vitamin K Do You Need?

- ▶ Healthy men need 120 micrograms (mcg) of vitamin K each day.
- ▶ Healthy women need 90 mcg each day.

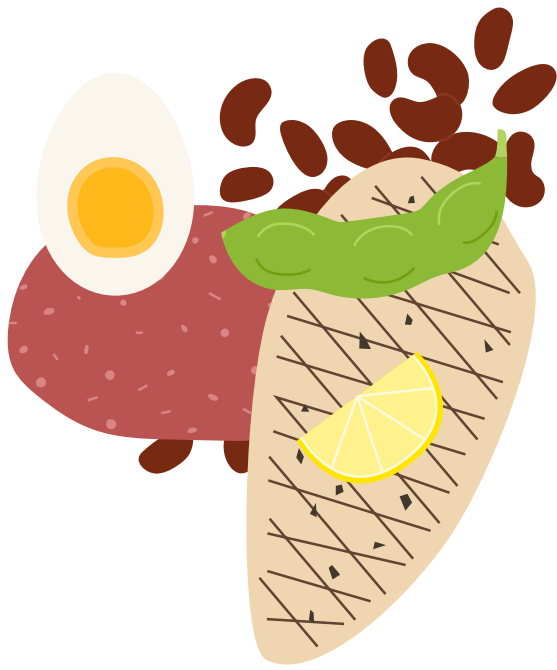
Certain medications, such as antibiotics, some cholesterol-lowering medications, and weight-loss medications, may interfere with how your body absorbs or uses vitamin K. Talk to your health-care provider to find out if this applies to you.

A Tolerable Upper Intake Level (UL) has not been set for vitamin K. This means there is no known, specific limit on the amount of vitamin K that healthy people can safely have.

If You Take Blood-Thinning Medicine

Vitamin K can affect the thinness of your blood. Therefore, if you are taking blood-thinning medicine—such as warfarin (brand name Coumadin)—you need to monitor how much vitamin K you get from food:

- ▶ Take your blood-thinning medicine exactly as directed.
- ▶ You **do not** need to stop eating all foods with vitamin K.
- ▶ You **do** need to eat about the same amount of vitamin K each day. This way your doctor can adjust your dose of warfarin to keep your blood at the right thinness.
- ▶ Check with your doctor before taking any supplements that contain vitamin K.



CHOLINE

What Does Choline Do?

Choline is a multipurpose nutrient that makes up part of the coating on cells, known as the cell membrane. It also plays a key role in:

- ▶ metabolism and energy production
- ▶ communication between different body systems, such as the muscle and nervous system
- ▶ brain development, memory, and mood

TIPS FOR GETTING MORE CHOLINE

- ▶ Make an omelet with broccoli and low-fat cheese.
- ▶ Use edamame and shiitake mushrooms in stir-fries.
- ▶ Include garbanzo beans, kidney beans, or lentils in soups and stews.
- ▶ Plan meals that include seafood (such as shrimp or salmon) 2 times per week.
- ▶ Try a side of collard greens or Swiss chard with steak or pork chops.



Who Is at Risk for Choline Deficiency?

Many Americans consume less than the recommended amount of choline. However, deficiency is rare since the body is able to produce some choline of its own.

Pregnant women are at higher risk of choline deficiency, so it is important to ask a health-care provider if a prenatal vitamin is needed and includes enough choline.

How Much Choline Do You Need?

Recommended daily amounts of choline:

Children 4- to 8-years-old:	250 milligrams (mg)
Adolescents 9- to 13-years-old:	375 mg
Males 14-years-old and older:	550 mg
Females 14- to 18-years-old:	400 mg
Females 19-years-old and older:	425 mg

For females who are pregnant or breastfeeding:

Females 14-years-old and older:	
during pregnancy:	450 mg
while breastfeeding:	550 mg

It is possible to consume too much choline. The Tolerable Upper Intake Level (UL) varies depending on age group. For adults (ages 19 and older), no more than 3,500 mg per day should be consumed.

Side effects of too much choline may include fishy body odor, nausea and vomiting, low blood pressure, and possible liver damage.

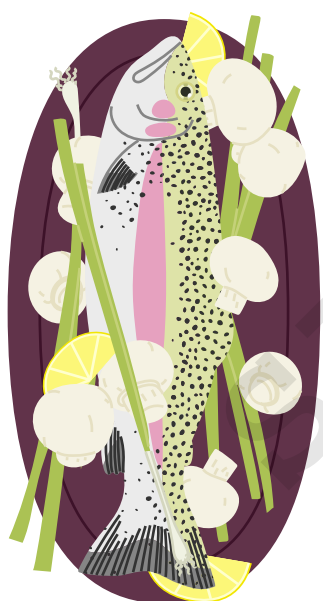


How Much Vitamin D Is Too Much?

Too much vitamin D can lead to high calcium levels in the blood. This increases the risk of kidney stones and may weaken bones and muscles.

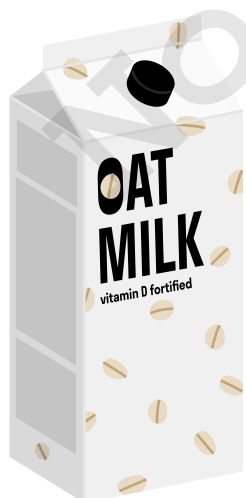
To avoid these health problems, most adults should not get more than 100 mcg (4,000 IU) of vitamin D per day from food and supplements. For children 4 to 8 years old, the daily amount of vitamin D should not exceed 75 mcg (3,000 IU), and no more than 63 mcg (2,500 IU) per day for younger children, 1 to 3 years of age.

A higher amount of vitamin D may be needed to treat a vitamin D deficiency. Be sure to follow the recommendations provided by your health-care provider.

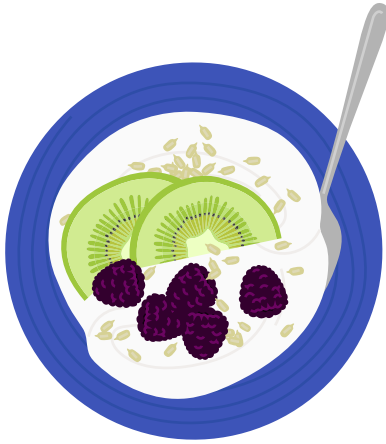


Which Foods Have Vitamin D?

Food	Micrograms (mcg) per Serving	IUs per Serving
Cod liver oil, 1 tablespoon	34.0	1,360
Trout (rainbow), farmed, cooked, 3 ounces	16.2	645
Salmon (sockeye), cooked, 3 ounces	14.2	570
Mushrooms, white, raw, exposed to UV light, ½ cup sliced	9.2	366
Milk, reduced-fat (2%), vitamin D fortified, 1 cup	2.9	120
Sardines (Atlantic), canned in oil, drained, 2 sardines	1.2	46
Soy, almond, and oat milks, vitamin D fortified, various brands, 1 cup	2.5–3.6	100–144
Ready-to-eat cereal, fortified with 10% of the Daily Value for vitamin D, 1 serving	2.0	80
Egg, 1 large, scrambled (vitamin D is in the yolk)	1.1	44
Liver, beef, braised, 3 ounces	1.0	42
Tuna fish (light), canned in water, drained, 3 ounces	1.0	40
Cheese, cheddar, 1 ounce	0.3	12
Mushrooms, portobello, raw, ½ cup diced	0.1	4
Chicken breast, roasted, 3 ounces	0.1	4



Source: US Department of Agriculture, Agricultural Research Service. FoodData Central, 2019.



Tips for Getting More Vitamin E from Foods

Some easy ways to get more vitamin E include:

- ▶ Add peanut or almond butter to toast and oatmeal.
- ▶ Sprinkle wheat germ over cereal or low-fat yogurt.
- ←▶ Include blackberries or kiwi as one of your fruit choices for the day.
- ▶ Snack on a small handful of almonds or sunflower seeds.
- ▶ Top a spinach salad with tomatoes, sliced avocado, red bell pepper, and a drizzle of sunflower or olive oil.

Which Foods Have Vitamin E?

Food	Amount per Serving (mg)
Wheat germ oil, 1 tbsp	20.3
Sunflower seeds, dry-roasted, 1 ounce	7.4
Almonds, dry-roasted, 1 ounce	6.8
Sunflower oil, 1 tbsp	5.6
Safflower oil, 1 tbsp	4.6
←▶ Hazelnuts, dry-roasted, 1 ounce	4.3
Peanut butter, 2 tbsp	2.9
Peanuts, dry-roasted, 1 ounce	2.2
Corn oil, 1 tbsp	1.9
Spinach, boiled, ½ cup	1.9
Avocado, raw, sliced, ½ cup	1.5
Broccoli, chopped, boiled, ½ cup	1.2
Kiwifruit, 1 medium	1.1
Soybean oil, 1 tbsp	1.1
←▶ Mango, sliced, ½ cup	0.7
Tomato, raw, 1 medium	0.7
Spinach, raw, 1 cup	0.6

Note: Vitamin E may also be referred to as alpha-tocopherol on some Nutrition Facts labels or ingredient lists.

Source: US Department of Agriculture, Agricultural Research Service. FoodData Central, 2019.

