

## Vitamin B<sub>12</sub>

### Why We Need It

Vitamin B<sub>12</sub> works with folate, another B vitamin, to make DNA, which is the body's genetic material. Vitamin B<sub>12</sub>, a water-soluble vitamin, also protects nerve cells from damage and helps keep blood levels of the amino acid homocysteine low. This may help to decrease heart disease risk in some people.

### Amounts Needed

Everyone needs vitamin B<sub>12</sub>. Older adults and strict vegetarians (vegans) should use fortified foods or supplements to ensure that they get enough.

### Recommended Daily Intakes of Vitamin B<sub>12</sub>

	Age	Vitamin B <sub>12</sub> (µg/day)
<b>Infants</b>	birth–6 months	0.4
	6 months–1 year	0.5
<b>Children</b>	1–3 years	0.9
	4–8 years	1.2
<b>Males</b>	9–13 years	1.8
	14 years and over	2.4
<b>Females</b>	9–13 years	1.8
	14 years and over	2.4
	pregnant	2.6
	breastfeeding	2.8

µg = micrograms

**Source:** adapted from the Dietary Reference Intakes series, National Academies Press. Copyright 1997, 1998, 2000, 2001, 2002, 2004, by the National Academies of Sciences.

### Sources

Vitamin B<sub>12</sub> is found naturally only in foods of animal origin like meats, fish, poultry, eggs, and dairy foods. Older people often can not absorb vitamin B<sub>12</sub> from these foods. However, fortified breads and cereals contain vitamin B<sub>12</sub> in a form that is easily absorbed.

Check the ingredient list on food labels to see if vitamin B<sub>12</sub> has been added. Here is a sample ingredient list from a fortified cereal:

INGREDIENTS: Wheat bran with other parts of wheat, sugar, raisins, whole wheat, partially hydrogenated soybean oil, corn syrup, brown sugar syrup, nonfat milk, salt, honey, vitamin C (sodium ascorbate), vitamin B<sub>2</sub> (riboflavin), vitamin B<sub>1</sub> (thiamin mononitrate), folic acid, **vitamin B<sub>12</sub>**...

### Sources of Vitamin B<sub>12</sub>

Food	Vitamin B <sub>12</sub> (µg per serving)
<b>oysters, cooked, 3 oz</b>	30
<b>beef, ground, extra lean, cooked, 3 oz</b>	1.8
<b>tuna, canned, 2 oz</b>	1.6
<b>fortified cereal, 1 serving</b>	1.5
<b>yogurt, plain, 8 oz</b>	1.3
<b>chicken, roasted, 3 oz</b>	0.3

µg = micrograms  
oz = ounces

### Ways to Retain It

Vitamin B<sub>12</sub> is not easily destroyed by cooking. This is good to know, since the main food sources of vitamin B<sub>12</sub> (e.g. meat, fish, and poultry) need to be well cooked. Other sources, like fortified cereals, may not need cooking.

### If We Don't Get Enough

Vitamin B<sub>12</sub> deficiency causes *pernicious anemia*. This affects blood and nerves. With pernicious anemia, the body can't make normal red blood cells to carry oxygen in the blood. Lack of oxygen makes people weak and tired. Nerve damage can lead to paralysis and death.

## Supplements

If you don't get enough vitamin B<sub>12</sub> from foods, you can take a multivitamin supplement. Strict vegetarians who do not eat fortified cereals or fortified soy foods need to take vitamin B<sub>12</sub> in a supplement. In addition, older adults often do not absorb vitamin B<sub>12</sub> very well. If they don't get adequate B<sub>12</sub> from fortified foods, they need a supplement, also.

## For More Information

The Family and Consumer Sciences (FCS) agent at your county Extension office may have more written information and nutrition classes for you to attend. Also, your doctor, health care provider, or a registered dietitian (RD) can provide reliable information.

Reliable nutrition information may be found on the Internet at the following sites:

<http://hgic.clemson.edu>  
<http://virtual.clemson.edu/groups/NIRC/>  
<http://www.eatright.org>  
<http://www.nutrition.gov>  
<http://www.nal.usda.gov/fnic>

### Sources:

1. Bobroff, Linda B. University of Florida Extension. *Facts About Vitamin B<sub>12</sub>*. FCS8701. April 2006.  
<http://edis.ifas.ufl.edu/publications.html>
2. National Academies of Sciences. National Academies Press. *Dietary Reference Intakes series*. 2004.

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