

Vitamin D



Happy Fall! I hope everyone is having a great school year! It's so hard to believe that the holiday season is almost here! There's been lots of talk in recent months about Vitamin D and Folate, so I thought that information on these two nutrients might be helpful for you and for your families.

What is Vitamin D?

Vitamin D is a nutrient that can be consumed in one's diet or created in one's skin when exposed to sunlight. Due to its importance and the limited number of naturally-occurring food sources of vitamin D, many foods are fortified with Vitamin D. Fortification means that Vitamin D is added to foods that aren't naturally rich in this nutrient—such as some dairy products, orange juice, and cereals.

Why is Vitamin D Important?

Vitamin D allows us to absorb calcium, enabling normal formation and maintenance of bones. Without enough Vitamin D, bones can become brittle, weak, and deformed.

- Sufficient Vitamin D helps promote strong bone growth in children, and helps to prevent osteoporosis in older adults.
- Infants who are breastfeeding get vitamin D from their mother. Mothers need to consume adequate vitamin D to help their children grow strong bones. Sometimes supplementation is needed.
- Bones support the body in all things that children do like playing sports and climbing trees!

What foods contain large amounts of vitamin D?

- Fish (swordfish, salmon, tuna, and sardines)
- Fortified orange juice
- Fortified milk and yogurt
- Egg yolk
- Fortified breakfast cereal

Be sure to understand, vitamin D is not needed in enormous quantities--too much is not a good thing. For reference, three glasses of milk per day or a small serving of fish and a glass of fortified orange juice would provide sufficient vitamin D for the day.

A diet sufficient in Vitamin D can help lower the risk of developing many adverse health conditions:

1. **Osteoporosis:** This is a disease where there is insufficient calcium to maintain the structure of bones. Calcium is leached from the bones in order to ensure proper amounts of calcium in the bloodstream, which is necessary for a healthy heart. Poor bone health leads to weakness and a high chance of bone fractures. Vitamin D is key in absorbing calcium from the diet and maintaining bone health.
2. **Rickets:** Similar to osteoporosis, deficiency in Vitamin D reduces

the amount of calcium absorbed, increasing the risk of bone deformities in young, growing children.

3. **Lengthening Life:** Older people have trouble getting enough vitamin D to maintain their bones. Their skin is less able to produce vitamin D and they might not get as much time in the sun. Getting enough vitamin D will help prevent hip fractures and other dangerous bone breaks that prevent physical activity and are difficult to recover from.

In summary, vitamin D is necessary for growth of infants and children, so they can become strong, healthy adults. Older adults need to consume more vitamin D because they cannot produce it in their skin as readily but need to maintain strong, healthy bones. The Institute of Medicine recommends a daily intake of 600 IU of vitamin D for children and adults and 800 IU of vitamin D for people over the age of 70.

Source: Vitamin D. (2016, Feb). National Institutes of Health, Office of Dietary Supplements. <https://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/#en1>

Age/RDA Chart

Age	Male	Female	Pregnancy	Lactation
0–12 months*	400 IU (10 mcg)	400 IU (10 mcg)		
1–13 years	600 IU (15 mcg)	600 IU (15 mcg)		
14–18 years	600 IU (15 mcg)	600 IU (15 mcg)	600 IU (15 mcg)	600 IU (15 mcg)
19–50 years	600 IU (15 mcg)	600 IU (15 mcg)	600 IU (15 mcg)	600 IU (15 mcg)
51–70 years	600 IU (15 mcg)	600 IU (15 mcg)		
>70 years	800 IU (20 mcg)	800 IU (20 mcg)		

Folate

What is folate?

Folate, also known as folic acid, is a B vitamin that is found naturally in many foods and is added to others. Folate is a key component in the reactions in the body that promote growth, proper development, and prevention of the buildup of homocysteine.

Why is folate important?

- Folate is necessary for the proper development of babies both before and after they are born. It prevents the malformation of the brain, skull, and spine, such as spina bifida and encephalopathy. It also allows the organs and limbs to develop properly.



- Folate in breast milk is sufficient for the normal growth and development of an infant.
- Folate prevents homocysteine (which is a toxic waste product from normal reactions in the body) from building up and causing problems, including the potential for developing cancer, hypertension, and heart disease.

What foods contain large amounts of folate?

- Dark leafy greens (especially boiled spinach and Brussels sprouts)
- Fortified breakfast cereals
- Fortified breads or pastas
- Fruits (especially oranges, papaya, grapes, bananas, and cantaloupe)
- Nuts
- Beef liver

A diet sufficient in folate can help lower the risk of developing many adverse health conditions:

- Cancer.** Multiple studies have found a correlation between sufficient folate intake and reduced occurrences of colon, lung, pancreatic, esophageal, stomach, cervical, ovarian, breast, and other cancers.
- Stroke.** Folate provides protection from stroke, by lowering the body's homocysteine levels.
- Depression.** Sufficient folate intake has not been associated with fewer occurrences of depression, but low folate intake has shown to reduce the efficacy of antidepressant medications.

To summarize, folate plays a key role in proper development and growth during the early stages of life and throughout childhood, starting at conception. The Institute of Medicine recommends an increasing amount of folate as a child grows, eventually requiring 400 micrograms of folate each day as a teenager or adult, unless pregnant or lactating.

Source: Folate. (2016, Feb). National Institutes of Health, Office of Dietary Supplements. <https://ods.od.nih.gov/factsheets/Folate-HealthProfessional/>

I hope you find this information helpful! Best wishes for a warm, happy and healthy holiday season.

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Age/RDA Chart

Table 1: Recommended Dietary Allowances (RDAs) for Folate [2]

Age	Male	Female	Pregnant	Lactating
Birth to 6 months*	65 mcg DFE*	65 mcg DFE*		
7–12 months*	80 mcg DFE*	80 mcg DFE*		
1–3 years	150 mcg DFE	150 mcg DFE		
4–8 years	200 mcg DFE	200 mcg DFE		
9–13 years	300 mcg DFE	300 mcg DFE		
14–18 years	400 mcg DFE	400 mcg DFE	600 mcg DFE	500 mcg DFE
19+ years	400 mcg DFE	400 mcg DFE	600 mcg DFE	500 mcg DFE