

Women, Think Folic Acid

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I have heard that folic acid is especially important for women of childbearing age. What exactly does it do and do I still need it if I do not plan to have any more children?

Folate is one of the B vitamins. The synthetic form of this vitamin is folic acid. Folate helps make DNA and amino acids. DNA is the genetic material found in all cells of the body. Amino acids are the building blocks of proteins. Folate is especially important for women who can become pregnant because it dramatically reduces the risk of neural tube defects, one of the most serious and preventable forms of birth defects. The neural tube, which includes the brain, spinal cord, and surrounding bone, is one of the very first parts of the baby's body to form, developing within the first month of pregnancy. Failure of the neural tube to develop properly results in defects of the spinal cord, brain, or both. The most common neural tube defects are spina bifida and anencephaly.

Spina bifida results from improper development of the lower portion of the neural tube, or spine, and is marked by protrusion of a portion of the spinal cord components outside of the body. Complications resulting from spina bifida include varying degrees of disability, including lower extremity paralysis, learning disabilities, variable loss of bowel or bladder control, and hydrocephalus. Eighty to 90 percent of infants born with spina bifida survive and, along with their families, must learn to manage the complications associated with this condition.

Anencephaly results from improper development of the upper portion of the neural tube, or brain. It is a fatal condition characterized by severe malformation of the brain and may be accompanied by facial abnormalities and absence of the skull. Many anencephaly-affected pregnancies result in miscarriage and infants born with this condition die soon after birth.

Based on research studies, intake of adequate amounts of folic acid is associated with a reduced risk for neural tube defects. However, to gain the positive effects of folic acid supplementation, folic acid must be used at least one month *before* conception through the first trimester of pregnancy. Since the neural tube develops during the first few weeks of pregnancy, usually before a woman realizes that she is pregnant, studies indicate that folic acid must be taken *before* a woman conceives.

Unfortunately, taking folic acid following development of the neural tube will not reverse abnormalities that already may have occurred. Over 50 percent of pregnancies in the United States are unplanned or mistimed (a pregnancy that is planned, but occurs before or after a woman thinks she actually will become pregnant). As such, it is essential that *all* women of childbearing age who are capable of becoming pregnant take a supplement containing 400 micrograms of folic acid *every day*, in addition to eating a healthy diet, to reduce the risk of neural tube defects. Folic acid intake will not eliminate all cases of neural tube defects, since genetic factors account for some cases. However, it is estimated that folic acid may reduce the incidence of neural tube defects by 50 to 70 percent, a substantial benefit.

Everyone needs folate, regardless of age. Eating high folate foods may reduce your chances of developing anemia, heart disease, stroke, and cancer. Foods rich in folate include green leafy vegetables, such as spinach, collards, and kale, orange juice, beans and lentils (legumes), and peanuts. Grain foods also are fortified with folic acid. Interestingly, the body absorbs folic acid (the synthetic form of folate) more readily than it does food folate, but they perform the same function in the body. Consuming food folate offers the additional benefits provided by beta-carotene, vitamin C, fiber, and phytochemicals commonly found in folate-dense foods. When cooking foods that contain folate, use as little water as you can. Avoid overcooking; steaming or cooking in a microwave works well for most foods.

So, whether you are planning to have children or your family is complete, you *and* your family members, from young children to senior adults, need folate/folic acid every day as part of a balanced, healthy diet to promote sound growth and development and possibly reduce chronic disease and birth defect risk.

Sources: *Facts About Folate*, L. Bobroff, University of Florida, IFAS. *Folic Acid Every Day – Reducing Neural Tube Defect Risk with Folic Acid*, C. Robles, L Bailey, G.P.A. Kauwell, L. Bobroff, G. Rampersaud, University of Florida/IFAS.