



Asparagus- a great source of folic acid!

PIC QUESTION OF THE WEEK: 5/18/09

Q: What are the current recommendations for folic acid supplementation during pregnancy?

A: Neural tube defects (NTDs) comprise a number of fetal abnormalities including spina bifida and anencephaly. During the first 28 days of gestation, some cells of the embryo specifically develop into a narrow tube that serves as the basis for development of the spinal cord, brain, and surrounding bone and tissue. NTDs occur as a result of the failure of the neural tube to completely and properly close. Spina bifida, the most common disabling birth defect in the United States, can be categorized into three types: *myelomeningocele* (protrusion of the spinal nerves and meninges), *meningocele* (only the meninges project through the defect), and *occulta* (minor and harmless defect in closure). In 1992, the United States Public Health Service recommended that women of childbearing age receive folic acid supplements to reduce to the risk of NTDs. Four years later, the United States Preventive Services Task Force (USPSTF) recommended that all *women planning pregnancy* take 0.4 to 0.8 mg of folic acid daily beginning one month before pregnancy and through the first trimester. The USPSTF also advised *women of childbearing age* to take 0.4 mg of folic acid daily. This group has now evaluated a large number of studies associated with the use of folic acid for reducing NTDs. The following are some of the key findings and recommendations of the USPSTF regarding the use of folic acid to prevent NTDs. Please refer to the entire review and clinical guidelines included in the references below.

- The USPSTF found convincing evidence that supplements containing 0.4 to 0.8 mg of folic acid in the periconceptional period reduce the risk for neural tube defects. Studies indicate that 50% of pregnancies in the United States are unplanned; therefore, all women who are planning or capable of pregnancy should be advised to take folic acid supplements.
- Women who have had a previous pregnancy affected by NTDs or women taking antiepileptic drugs such as valproic acid and carbamazepine may need higher doses of folic acid. Although not specified by the USPSTF, a daily dose of 4 mg of folic acid is recommended by the American College of Obstetricians and Gynecologists for women with a history of NTDs. Some authors have recommended 2.5 to 4 mg daily for women taking antiepileptic drugs.
- There is adequate evidence that folic acid supplementation at recommended doses is *not* associated with any serious adverse effects. Previous concerns included the potential masking of symptoms of vitamin B₁₂ deficiency and a possible carcinogenic effect of folic acid. The USPSTF also found no evidence that folic acid supplementation increased the rate of twinning.

References:

- U.S. Preventive Services Task Force. Folic acid for the prevention of neural tube defects: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med* 2009;150:626-31.
- Wolff T, Witkop CT, Miller T, et al. Folic acid supplementation for the prevention of neural tube defects: an update of the evidence for the U.S. Preventive Services Task Force. *Ann Intern Med* 2009;150:632-9.

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The PIC Question of the Week is a publication of the Pharmaceutical Information Center, Mylan School of Pharmacy, Duquesne University, Pittsburgh, PA 15282 (412.396.4600).