

Putting Prevention into Practice

An Evidence-Based Approach

Folic Acid for the Prevention of Neural Tube Defects

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► See related U.S. Preventive Services Task Force Recommendation Statement on page 1526.



This clinical content conforms to AAFP criteria for evidence-based continuing medical education (EB CME). See CME Quiz on page 1461.

The case study and answers to the following questions on folic acid for the prevention of neural tube defects are based on the recommendations of the U.S. Preventive Services Task Force (USPSTF), an independent panel of experts in primary care and prevention that systematically reviews the evidence of effectiveness and develops recommendations for clinical preventive services. More detailed information on this subject is available in the USPSTF Recommendation Statement and the evidence synthesis on the USPSTF Web site (<http://www.uspreventiveservicestaskforce.org/>). The practice recommendations in this activity are available at <http://www.uspreventiveservicestaskforce.org/uspstf/uspstfnrfof.htm>.

Case Study

A 36-year-old recently married woman comes to your office for a routine gynecologic examination. She tells you that she has been in generally good health since her last visit. She has no noteworthy past medical problems, has never been pregnant, and is currently not taking any medications. She takes a calcium tablet daily, and she asks you whether there are any other vitamin or mineral supplements she should be taking.

Case Study Questions

1. According to the U.S. Preventive Services Task Force (USPSTF), which one of the following recommendations is most appropriate for this patient?

- ☐ A. She should start taking a daily supplement containing 0.4 to 0.8 mg (400 to 800 mcg) of folic acid.
- ☐ B. She should start taking a daily folic acid supplement if she becomes pregnant.
- ☐ C. She should not take any additional vitamin supplements.
- ☐ D. She should start taking a daily folic acid supplement until she becomes pregnant, and then stop.
- ☐ E. She should be screened for folic acid deficiency, and the amount of supplementation should be determined by the results.

2. Which of the following patients is/are at increased risk of having a pregnancy affected by a neural tube defect?

- ☐ A. Any woman older than 35 years.
- ☐ B. A 24-year-old woman with epilepsy who is taking an antiseizure medication.
- ☐ C. A 30-year-old woman with a three-year-old child with spina bifida.
- ☐ D. A 36-year-old woman with hypothyroidism.

Answers appear on the following page.

Answers

1. The correct answer is A. Approximately one in every 1,000 pregnancies is affected by a neural tube defect. The USPSTF recommends that all women planning or capable of pregnancy take a daily supplement containing 0.4 to 0.8 mg (400 to 800 mcg) of folic acid. Convincing evidence shows that taking supplements at these dosages in the periconceptual period reduces the risk of neural tube defects and is not associated with serious harms. Most studies indicate the need to start daily folic acid supplementation at least one month before conception and to continue through the first two to three months of pregnancy. However, because studies indicate that 50 percent of pregnancies in the United States are unplanned, clinicians should advise all women capable of pregnancy to take folic acid supplements, rather than trying to time supplementation around conception.

2. The correct answers are B and C. The use of certain antiseizure medications and a personal or family history of neural tube defects are well-established risk factors. The USPSTF recommendation does not apply to women who have had a previous pregnancy affected by a neural tube defect or women taking certain antiseizure medications. Most organizations recommend that these women take higher doses of folic acid.

SOURCES

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(9):626-631.

Wolff T, Witkop CT, Miller T, Syed SB. 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(9):632-639. ■

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