

Appendix B, Prevention of Neural Tube Defects

All individuals of childbearing age:

Numerous published studies indicate that the incidence of neural tube defects is reduced in individuals taking 0.4 mg of folic acid per day. The federal government's Centers for Disease Control (CDC) and other organizations have, therefore, recommended that all individuals capable of becoming pregnant consume 0.4 mg of folic acid each day, either through diet or vitamin supplementation. A diet rich in folic acid includes leafy green vegetables, citrus fruits and juices, beans, and fortified bread. Since it may be difficult to eat enough of these foods to supply 0.4 mg of folic acid, one recommendation is that all individuals of childbearing age take a multiple vitamin with 0.4 mg (400 micrograms) of folic acid every day while fertile. Individuals should not wait until pregnancy has been diagnosed to begin taking folic acid, since the neural tube develops in the fetus during the first five weeks after conception.

Individuals who have had a previous pregnancy in which a structural anomaly such as spina bifida, anencephaly or encephalocele was diagnosed:

The CDC has recommended that these individuals be counseled about the increased risk in future pregnancies and informed that folic acid supplementation substantially reduces the risk for neural tube defects in subsequent pregnancies. Without folate supplementation, there is an approximate risk of 3% for a recurrence. The CDC recommends consuming 400 mcg of folic acid each day, even if the individual is not planning to become pregnant.

Unless contraindicated, these individuals should be advised to increase the dose to 4.0 mg per day of folic acid beginning at least 4 weeks before conception and continuing through the first 3 months of pregnancy.

The 4.0 mg daily dose should be taken only under a physician's supervision. This folic acid dose should be obtained from pills containing only folic acid. Multivitamin preparations containing folic acid should not be used to obtain the 4.0 mg dose because this would cause a harmful overdose of vitamins A and D. Clinicians should be aware that high doses of folic acid (over 1 mg) could complicate the diagnosis of B₁₂ deficiency. The high doses of folic acid may prevent the anemia resulting from the B₁₂ deficiency, but the associated neurological damage could continue.