

Teratology Society Consensus Statement on Use of Folic Acid to Reduce the Risk of Birth Defects

Neural tube defects are common and severe birth defects that include the fatal condition anencephaly and the disabling condition spina bifida. Recent randomized controlled studies, (Crandall et al., '95; Czeizel and Dudas, '92; MRC Vitamin Study Research Group, '91) have shown that women who consume folic acid-containing supplements, while eating their usual diets, have 50–75% fewer infants with neural tube defects. Neural tube defects develop within the first month after conception. Maternal use of folic acid after this point in pregnancy cannot influence the development of spina bifida. Because many pregnancies are unplanned and pregnancy is often not diagnosed until after the time that neural tube defects have developed in a fetus, the diets of all women who are capable of having children should be enriched in folic acid.

No adverse effect has been reported with taking supplemental folic acid during pregnancy. It has been suggested that folic acid fortification of staple foods may delay the diagnosis of pernicious anemia in older individuals, but we believe that this theoretical risk is clearly outweighed by the demonstrable benefit of fortification.

The mechanism by which folic acid acts to reduce the risk of birth defects is unknown. Research designed to understand this mechanism and whether other meta-

bolically related chemicals are as effective as folic acid offers the hope of preventing more birth defects.

The Teratology Society, therefore, recommends that 1) women in the childbearing age group take a daily vitamin supplement containing 0.4 mg of folic acid; 2) fortification of enriched cereal grain products be carried out to a level that will provide 0.4 mg of folic acid each day to at least 95% of women in the reproductive age group; and 3) research designed to understand the mechanism by which folic acid or metabolically related chemicals reduce the risk of birth defects be strongly encouraged.

LITERATURE CITED

- Crandall, B.F., V.L. Corson, J.D. Goldberg, G. Knight, and I.S. Salafsky (1995) Folic acid and pregnancy. *Am. J. Med. Genet.*, 55:134–135.
- Czeizel, A.E., and I. Dudas (1992) Prevention of the first occurrence of neural tube defects by periconceptional vitamin supplementation. *N. Engl. J. Med.*, 327:1832–1835.
- MRC Vitamin Study Research Group (1991) Prevention of neural tube defects: Results of the MRC Vitamin Study. *Lancet*, 338:132–137.

This consensus statement was written for the Teratology Society Public Affairs Committee by Dr. Lewis Holmes, Dr. John Harris, Dr. Godfrey P. Oakley, Jr., and Dr. J.M. Friedman. The statement has been approved by the full Public Affairs Committee and by the Council of the Teratology Society.