

December 12, 2007

## BACKGROUND: Guidelines Set New Standard for Folic Acid Supplementation for Women of Childbearing Age

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The Society of Obstetricians and Gynaecologists of Canada (SOGC) and the Motherisk Program based at The Hospital for Sick Children jointly released updated clinical guidelines in December, 2007, based on new research about the benefits of folic acid supplementation for women planning to have children. The guidelines were published in The Journal of Obstetrics and Gynaecology Canada (JOGC) which is Canada's peer-reviewed journal of obstetrics, gynaecology, and women's health.

The guidelines highlight more current research and clinical trials that further demonstrate the positive, preventative benefit of increasing the level of folic acid intake, along with a multivitamin, at least **three months** prior to conception. This research concludes that an increase in folic acid supplementation can dramatically reduce birth defects such as neural tube defects (e.g. spina bifida), and possibly other birth abnormalities such as congenital heart disease, urinary tract problems, oral facial clefts, limb defects, and some pediatric cancers.

Folic acid helps produce and maintain new cells, and is important during the early embryonic and fetal periods when rapid cell division and growth are occurring. The authors of the guideline estimate that the incidence of some birth defects could be cut in half if women of childbearing age consumed an adequate amount of folic acid, either by eating sufficient quantities of food fortified with folic acid or by taking vitamin supplements.

It is estimated that at least 5% of babies are born with some serious congenital abnormality, while another 2% to 3% have defects that can be recognized prenatally (e.g. by non-invasive screening test, through invasive diagnostic testing, or at birth) and 2% will have developmental or functional anomalies recognized during the first year of life. Due to prenatal screening and awareness programming about folic acid supplementation, the birth prevalence of neural tube defects has declined in Canada from a rate of ten per 10,000 live births in 1991 to 5.8 per 10,000 total births (live births and stillbirths) in 1999. The multidisciplinary panel that authored the guidelines suggests that adherence to new standards of folic acid supplementation could accelerate these improving rates dramatically.

### **Specifically, the clinical guidelines recommend that:**

- Women with no personal health risks, planned pregnancy, and good compliance

- require a good diet of folate-rich foods and daily supplementation with a multivitamin with folic acid (0.4–1.0 mg) for at least two to three months before conception and throughout pregnancy and the postpartum period (4–6 weeks and as long as breastfeeding continues).
- Women with compromised health or particular health conditions such as insulin dependent diabetes, obesity, or those with a previous child in the family with a neural tube defect require increased dietary intake of folate-rich foods and daily supplementation, with multivitamins with **5 mg** folic acid, beginning at least three months before conception and continuing until 10 to 12 weeks post conception. From 12 weeks post-conception and continuing throughout pregnancy and for four to six weeks after the baby is born (or as long as breastfeeding continues), supplementation should consist of a multivitamin with folic acid (**0.4–1.0 mg**).
  - Extra efforts need to be made to counsel more vulnerable women (e.g. those with a variable diet, no consistent birth control, and possible substance use) about the prevention of birth defects and health problems via folic acid and multivitamin supplementation. It is recommended that they also receive a higher dose of folic acid (**5 mg**) with multivitamin.
  - All women who plan to have children are advised to start their folic acid supplementation as early as three months before they conceive.
  - Women taking a multivitamin containing folic acid should *not* take more than *one daily dose* of vitamin supplement, as indicated on the product label.
  - The federal government should consider increasing the fortification of flour with folic acid to 300 mg/100 g from the current level of 140 mg/100 g and additional fortification with multivitamins. Since 1998, there has been mandatory folic acid fortification of white flour, enriched pasta, and cornmeal in Canada.
  - Women of childbearing age are advised to maintain a healthy diet, as recommended in *Eating Well With Canada's Food Guide (Health Canada)*, in addition to folic acid and multi-vitamin supplementation. Foods containing excellent to good sources of folic acid are fortified grains, spinach, lentils, chick peas, asparagus, broccoli, peas, Brussels sprouts, corn, and oranges. (NB: Despite this dietary advice, it is unlikely that diet alone can provide the levels recommended for those planning to have children.)
  - Health professionals such as physicians, gynaecologists, obstetricians, midwives and public health officials should increase their efforts to make women aware of the new facts about folic acid supplementation during the normal course of their interaction with women seeking health services such as a PAP test, an annual exam or the renewal of birth control prescriptions.

### **About the SOGC**

*The Society of Obstetricians and Gynaecologists of Canada (SOGC) is one of Canada's oldest national specialty organizations. Established in 1944, the Society's mission is to promote excellence in the practice of obstetrics and gynaecology and to advance the health of women through leadership, advocacy, collaboration, outreach and education. The SOGC represents obstetricians/gynaecologists, family physicians, nurses, midwives and allied health professionals working in the field of sexual reproductive health. For more information, visit [www.sogc.org](http://www.sogc.org).*

### **About Motherisk**

The Motherisk Program at The Hospital for Sick Children is a clinical, research and teaching program dedicated to antenatal drug, chemical, and disease risk counselling. It is affiliated with the University of Toronto. Created in 1985, Motherisk provides evidence-based information and guidance about the safety or risk to the developing fetus or infant,

of maternal exposure to drugs, chemicals, diseases, radiation and environmental agents.  
For more information, visit [www.motherisk.org](http://www.motherisk.org).