

Physicians' Newsletter



Leeds, Grenville & Lanark District

HEALTH UNIT

From the
Medical Officer
of Health

July-October 2003

Public Funding for Two New Vaccines

Submitted by Dr. Charles Gardner, Medical Officer of Health

On April 28, 2003, the Ministry of Health and Long-Term Care announced public funding for Adacel™ (tetanus, diphtheria and acellular pertussis, Tdap) for the 14 to 16 year booster, and for conjugate pneumococcal vaccine (Prennar™) for children less than 2 years of age with high risk medical conditions. These new vaccines are expected to be available in September 2003.

Because Adacel™ does not contain polio, adolescents who have never had an oral polio vaccine (OPV) will also require a separate injection of IPV using a different needle, syringe and site. Adolescents who have had OPV at any time in the past do not require an IPV with their adolescent booster. OPV was last used in Ontario between 1990 and 1993 due to production problems with IPV at that time.

Although the public funding for Adacel™ and some Prennar™ is a step in the right direction, it is still significantly less than what we hoped would be funded. We continue to advocate for public funding for the following:

- Conjugate pneumococcal vaccine for ALL children less than 2 years of age, and conjugate pneumococcal vaccine for children with high risk medical conditions less than 5 years of age or ALL children less than 5 years of age;
- Conjugate meningococcal C for everyone 24 years of age or less;
- Varicella vaccine for anyone who is non-immune and 1 year of age or over;
- Hepatitis A vaccine for men who have sex with men and injection drug users.

It should be noted that the provision of these vaccines to patients as described in the list above is not legally required of medical practitioners by the Ministry of Health and Long-Term Care. Such practice is, however, in keeping with the recommendations of the National Advisory Committee on Immunization. Please direct any questions or comments that you may have on these issues to Dr. Charles Gardner, Medical Officer of Health, or to Jane Fletcher, Director of Clinical Services at 345-5685 or 1-800-660-5853.

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Board of Health Endorses a Larviciding Program for West Nile Virus

The following was modified from a Health Unit media release dated June 22.

Submitted by Dr. Charles Gardner, Medical Officer of Health, Kim McCann, Public Health Inspector and West Nile Virus Coordinator, and by Henry Garcia, Direct of Health Protection

The Board of Health for the Leeds, Grenville and Lanark District Health Unit has recently endorsed a larviciding program within the geographic region of Leeds Grenville and Lanark. Beginning in July, the Leeds, Grenville and Lanark District Health Unit will take the first steps to control mosquitoes that can carry West Nile Virus (WNV) using larvicides.

This is in part in response to Ontario Regulation 199/03 under the Health Protection and Promotion Act entitled *Control of West Nile Virus*. This regulation indicates that the medical officer of health may give notice to municipalities of actions required to decrease the risk of West Nile virus. The regulation indicates “larvicide where indicated” within health units that have had the virus detected in the district in the previous year and not yet detected in the present year. The province has not provided a clear definition of the phrase “where indicated”, leaving this decision to local medical officers of health. Although we have yet to have confirmed instances of locally acquired transmission of West Nile virus, the virus was found in the crow population of our district last year. To date this year positive crows have been found in the Ottawa area, which is significantly earlier than last year. Given this and the number of human cases that did occur in the province last year (307 confirmed cases, and 83 probable cases, with 17 deaths), it would appear that the risk of locally occurring cases of West Nile virus encephalitis this year is significant.

The Health Unit, in co-operation with the selected urban centers of Brockville, Gananoque, Prescott, Smiths Falls, County of Lanark specifically Carleton Place, Almonte, Perth, and the United Counties of Leeds and Grenville (Kemptville) will begin applying larvicides in approximately 8,000 catch basins (street side storm drains) and in municipal ditches (containing standing water) in the above selected urban areas. Catch basins and municipal ditches are an important breeding site for the *Culex* species of mosquito that transmits WNV. These species of mosquitoes are more commonly found in urban environments.

Larviciding involves the use of pesticide products (larvicides) to control mosquito larvae. The larvicides that will be used are methoprene and Bti.

Methoprene will be applied to street-side catch basins in the form of pellets. Methoprene pellets will be placed in the

standing water at the bottom of the catch basins, out of reach of children, pets, and the public. Methoprene interferes with the development of mosquito larvae into adult mosquitoes. It is highly effective in very small quantities and has low impact on the environment. Bti, a biological pesticide, will be applied to ditches as needed.

Research has shown that these approaches to mosquito control pose minimal risk to the environment or to human health. Surveillance for the presence of West Nile virus in birds, and monitoring for mosquito-breeding sites will continue to be done throughout Leeds, Grenville and Lanark, in order to allow for protective actions to be taken where needed and appropriate.

It is intended that the larvicide applications will begin in July and will be repeated in August. To conform to provincial regulations, the Leeds Grenville and Lanark District Health Unit will be informing residents in advance about the timing and location of larvicide applications through a notice in local newspapers and other media outlets. In addition, signs notifying the public about larvicide applications will be posted at some mosquito breeding sites where larvicide may be used, such as roadside ditches. More information on larviciding will be posted on the WNV Web site at www.healthunit.org and available through the Health Unit once the larviciding program begins.

Larger artificial bodies of water, such as storm water ponds, are usually not significant mosquito breeding sites. These and other areas will be monitored for larvae and may be treated with larvicides, if necessary.

Larviciding is just one strategy for controlling the mosquito population. It is important for residents to reduce the risk of WNV by minimizing mosquito breeding areas around their homes and by protecting themselves against mosquito bites.

Mosquitoes breed quickly in standing water, which lasts longer than a week. Discarded tires left outdoors, clogged eaves troughs; empty containers and other collections of standing water provide ideal homes for mosquitoes. To reduce the number of mosquitoes on your property, discard containers that can collect water and ensure that other items drain well.

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People should also protect themselves against mosquito bites by wearing light-coloured, long-sleeved clothing, including long pants and socks. They should avoid being outdoors at dusk and dawn when mosquitoes are most active. If they are outside they should use an insect repellent containing no more than 30 per cent DEET. Children should use an insect repellent containing no more than 10 per cent DEET.

For more information about WNV, larviciding, tips on personal protection and reduction of mosquito breeding areas visit our Web site at www.healthunit.org, or call our Health Unit at 613-345-5685.

A Prescription for Activity

Submitted by Danielle Shewfelt, Public Health Nurse & Jennifer Stach, Student Practicum Placement

Researchers identify physical activity as an important part of staying healthy, and recommend a minimum of one hour of moderate intensity physical activity per day. There is an increasing number of people who are obese now exceeding one billion people world wide (WHO). The technical report “Diet, Nutrition, and the Prevention of Chronic Disease” outlines trends in health and is finding that chronic disease is becoming an epidemic in developed and developing countries. This disturbing trend can be linked to dietary and lifestyle changes.

Current changes in diet and lifestyle are due to industrialization, urbanization, economic development, and market globalization. WHO and FAO aim to develop recommendations to implement more effective and sustainable policies and strategies to deal with the increase in public health challenges related to diet and health. Chronic Diseases are expected to increase to 57 percent by 2020. Most, if not all of these diseases are preventable.

Nutrients and physical activity influence gene expression and may define future susceptibility. Major biological and behavioural risk factors emerge and act in early life, continuing to have a negative impact throughout the life course. Globally, risk factor trends are rising especially for obesity and physical inactivity. It has been shown that a combination of physical activity, food variety, and a satisfying level of social interaction, are the most likely lifestyle profiles to optimize health as reflected in increased longevity and healthy ageing. As well, regular physical activity is protective against unhealthy weight gain. Sedentary lifestyles, particularly sedentary occupations, and inactive recreation such as watching television, promote weight gain. Therefore, it is ongoing physical activity itself rather than a past history of physical activity that is protective against unhealthy weight gain. Body weight and physical inactivity together are estimated to account for approximately one-fifth to one-third of several of the most common cancers. Specific examples would be cancer of the breast (postmenopausal), endometrium, colon, kidney and adenocarcinoma. (WHO – World Health Organization, FAO – Food and Agriculture Organization of the United Nations)

We appreciate the important role family practitioners play in influencing the lifestyle choices of their clients. Physician’s can assist by asking their clients routine questions about levels of physical activity encouraging moderate to vigorous levels of intensity.

One way to determine the level of intensity is by a simple “talk test” (see graph below).

I can sing and talk!	Light intensity
I can talk!	Moderate intensity
I can't carry on a conversation!	Vigorous– very vigorous intensity

Another way to measure intensity is by the client’s heart rate.

Moderate intensity is aimed at a 65 -74 percent of the maximum heart rate.

Vigorous intensity is between 75-90 percent of the maximum heart rate.

These are based on the formula: $220 - \text{age} \times \text{the \% representing the desired intensity}$.

We hope that by working together with family practitioners we can assist our community to become more active, healthy and happy.

Comments on Infant Formulas Supplemented with DHA and ARA

Submitted by Lois Dewey, Public Health Nurse and Dianne Oickle, Public Health Nutritionist

There have been two formulas released, so far, who have added the fatty acids DHA and ARA to their mix. Made by Mead Johnson, they are called Enfamil A+ (in Canada) and Enfamil Lipil (in the U.S.). These companies are making claims that these formulas are 'clinically proven to result in higher early mental development scores' because they have the nutrients DHA and ARA, also found in breast milk, 'at levels recommended by the World Health Organization.' Other claims include that the product is similar to breast milk and can 'boost your baby's brainpower', 'improve your baby's vision', and 'provides complete and balanced nutrition for your baby.'

What are DHA and ARA?

DHA and ARA are two of the long chain fatty acids naturally present in breast milk. Part of their function is to promote brain growth and development and good eyesight in infants during pregnancy and infancy.

So, what about these new formulas?

Although these formulas claim to have proven benefits for the brain development of infants, there are a number of things to consider regarding the use of these formulas.

In Canada, health claims for infant foods are not permitted.

The claim of these formulas is that the levels of DHA and ARA added to the infant formulas are consistent with WHO recommendations for the addition of these fatty acids. Although we have had a good look, we cannot find where the World Health Organization has made a recommendation on adding DHA and ARA to infant formulas.

Health Canada is of the opinion that the sources identified for DHA and ARA (DHASCO® and ARASCO®) are acceptable for infant formulas. No level of addition of DHASCO® and ARASCO® in formulas is specified. Health Canada states, 'Appropriate levels of addition will be established based on information provided by infant formula manufacturers in premarket notifications for products containing these oils.'

NABA (National Alliance for Breastfeeding Advocacy in the US; similar to INFACT in Canada) continuously receives reports of diarrhea, diaper rash and other side effects from these formulas. NABA has received many, many reports of explosive diarrhea in babies fed LIPIL, a formula sold in the

U.S. with these FA's added. It is not known if babies lose fat, fat-soluble vitamins or any other nutrients through the stool when they consume this formula. Little is known about this formula.

The DHA is extracted from fermented micro algae and the ARA is extracted from soil fungus. These sources are new to the human food chain. Fungal food sources have the potential of acting as opportunistic pathogens in immunocompromised individuals. An extensive review of this topic was published in the JOURNAL of Nutrition, NOVEMBER 1998 Supplement VOL. 128, Number 11S. It concluded that there was not enough evidence to support the addition of these fatty acids to formula.

The fatty acid formulas are more expensive. Enfamil A+ sells locally for \$3.42 to \$3.56 per 100 grams, whereas other formulas sell for anywhere from \$1.55 to \$2.70 per 100 grams. In other words, Enfamil A+ is anywhere from 1.3 to 2.2 times as expensive as other formulas.

INFACT Canada, in their Fall 2002 issue, reports that Martek Biosciences, who hold the patent on "Arachidonic acid and methods for the production and use thereof", has been recommended as a strong stock investment. "Infant formula is currently a commodity market, with all products being almost identical and marketers competing intensely to differentiate their product. ***Even if Formulaid (the name of the DHA/ARA fatty acid combination) has no benefit, we think it would be widely incorporated into formulas as a marketing tool and to allow companies to promote their formula as closest to human milk.***"

For more information go to:

<http://www.cfsan.fda.gov/~rdb/opa-041.html>

Health Canada's web site go to:

www.hc-sc.gc.ca/food-aliment/mh-dm/ofb-bba/nfi-ani/e_dhasco.html

<http://www.kellymom.com/nutrition/DHA-formula-comments.html>

If you have any questions about these new formulas, contact either
Lois Dewey, PHN, IBCLC or
Dianne Oickle, MSc, RD at 345-5685,
or 1-800-660-5853.

Preconception Health and Folic Acid¹

Summary of Preconception Health: Folic Acid for the Primary Prevention of Neural Tube Defects" by Health Canada 2002

Prepared by The Folic Acid Alliance of Ontario²
Adapted by Julie Lenk, Public Health Dietitian

What are neural tube defects (NTDs)?

NTDs, such as spina bifida and anencephaly, are congenital anomalies that place the families of infants with these conditions under a considerable burden of care and carry significant monetary costs for society. The national birth prevalence has been decreasing: from 11.6 per 10,000 total births (live and stillbirths) in 1989 to 7.5 per 10,000 in 1997 (260 births per year). Most NTDs are multifactorial in origin: a combined effect of genetic and environmental factors, resulting in the improper development and closure of the neural tube during the third and fourth weeks of pregnancy. Ninety to ninety-five percent of NTDs occur in families where there is no family history of NTDs³. During periods of drought, famine and war the rate of NTDs strikingly increases, and during periods of prosperity it declines.

Can neural tube defects be prevented?

There is clear evidence that periconceptional use of supplements containing folic acid substantially reduces the risk of occurrence and recurrence of this condition, and possibly of other congenital anomalies. Studies have shown that at least half the number of cases of NTDs can be prevented if women consume sufficient amounts of folic acid before conception and during early pregnancy. Although the specific effect of folic acid on the developing fetus is not clear, we do know that this micronutrient is necessary for the synthesis of nucleic acids and amino acids, and for cell division.

What advice should be given to women about folic acid?

It is recommended that daily folic acid supplementation be started at least 2 to 3 months before conception and continued throughout the first trimester of pregnancy. Since many pregnancies are unplanned, women who *could* become pregnant should also take this daily supplement. The supplements are recommended in addition to eating foods high in folate and foods fortified with folic acid, as per Canada's Food Guide to Healthy Eating. The following points need to be considered when recommending a supplement:

- Choose a multivitamin-multimineral supplement that contains 0.4 mg folic acid in a daily dose.
- The use of products labelled "For therapeutic use only" is unnecessary.
- Avoid supplements that contain herbs and other "non medicinal ingredients".
- Try to select a product containing vitamin A as beta-carotene rather than retinol (high doses of retinol have been found to cause several types of birth defects).
- Women should not take more than one daily dose, as indicated on the product label.
- Folate-rich foods include: asparagus, broccoli, brussels sprouts, spinach, romaine lettuce, orange juice, beans, lentils, peas, peanut butter, corn, avocado.
- Folic Acid fortified foods include: white flour, enriched pasta and cornmeal, breakfast cereals, fruit-flavoured drinks, plant beverages such as soy-milk, pre-cooked rice.

Research conducted in Nova Scotia found that since the fortification of grain products with folic acid in 1998, the incidence of open NTDs was reduced by more than 50%⁴.

Does this advice apply to all women?

Women in high-risk groups may need to take a higher amount of folic acid. Those with close relatives who have an NTD are at greater risk, as are women with a previous child with this condition (3% to 5% risk for another affected pregnancy). Other risk factors are poorly controlled maternal diabetes mellitus, maternal epilepsy, and obesity.

Research has shown that among women with a previous NTD-affected pregnancy, 4.0 mg per day of folic acid (only available at this amount through prescription) taken in the periconceptional period reduces the risk of recurrence by 72%. For women with diabetes mellitus, the benefits of higher doses of folic acid (i.e. > 0.4 mg) are unknown; optimal glycemic control is recommended. There is evidence that

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women with epilepsy may benefit from a dose of 4.0 mg folic acid daily in the periconceptional period, and if they are taking carbamazepine or valproic acid as anticonvulsant medication (both considered to be related to a higher risk of NTDs).

These drugs might be replaced with others.

Although low maternal vitamin B12 status is a risk factor for NTDs, this cannot be remedied with folic acid.

How safe is folic acid?

There are few safety concerns, however, folic acid may adversely affect untreated vitamin B12 deficiency. For this reason, physicians need to be on the alert for undiagnosed B12 deficiency arising from particular diets, pernicious anemia, celiac sprue and inflammatory bowel disorder. All women

given high doses of folic acid (i.e. > 1.0 mg daily) need to be evaluated for possible vitamin B12 deficiency.

(Endnotes)

¹ Folic Acid It's never Too Early. Folic Acid Awareness Community Action Guide 2002. Folic Acid Alliance of Ontario.

²Members of the Folic Alliance of Ontario include: The Easter Seal Society of Ontario; The Fetal Centre at The Hospital for Sick Children; The Spina Bifida and Hydrocephalus Association of Ontario; Best Start- Ontario's Maternal, Newborn and Early Child Development Resource Centre; The Ontario Society of Nutrition Professionals in Public Health.

³Nutrition for a Healthy Pregnancy: National Guidelines for the Childbearing Years. Health Canada. 1999

⁴Persad VL, Van den Hof MC, Dube JM, Zimmer P. Incidence of open neural tube defects in Nova Scotia after folic acid fortification. *CMAJ* 2002;167(3):241-5.

NOTICE

The IRIS Program (Immunization Record Information System) of the Leeds, Grenville and Lanark District Health Unit is the computer program for recording/ updating student's immunization records.

The IRIS program contains the immunization records of the students **currently** registered in the schools in Leeds, Grenville and Lanark beginning with birth dates of 1980.

Students born before 1980 are not on the computer program.

The student's immunization records are updated **only** when we receive the information from the parent or physician. Parents should be reminded to call the Health Unit each time an immunization is given so that the IRIS program can be up-dated.

The Health Unit does not maintain or up-date records once the student has completed their high school education.