Niagara Region PUBLIC HEALTH

Physicians' Newsletter

| April 2011 | Issue 1

One World, One Health
When the canary doesn't sing – lessons from friends (or foes) of fur and feather

In the dark coal mining days of the early twentieth century, coal miners relied on canaries to tell them when the ambient air was safe; canaries being highly sensitive to minute changes in methane and carbon monoxide. A singing canary meant the air was (relatively) safe, while the absence of singing meant that it was time for humans to hightail it out of there as fast as possible. Today, there is a growing realization that we have much to learn from the patients of our veterinary colleagues, especially as we evaluate the health effects of climate and environmental change. Not all of the human/animal interchange has been beneficial, as most of our infectious diseases, such as measles, are of zoonotic origin, even if they currently only manifest human-to-human transmission.

Since 1975, 75 per cent of new emerging infectious diseases have been zoonotic in origin. Recent examples include pH1N1, SARS, West Nile, and avian influenza. The same is also true of pathogens related to food and water safety – E.coli, Cryptosporidium, Salmonella, and Listeria. The connection between human, animal, and ecosystem health has long been recognized, but the approaches have been segmented into medical, veterinary, and ecological divisions. The "one health" movement, an effort to integrate human, animal, and environmental health, is gaining momentum in Ontario, with the Ministry of Health and Long-Term Care considering Niagara as one possible pilot site within the Ministry of Environment's Climate Change Adaptation Strategy. Developments in the fields of

informatics and genomics now hold promise for improved sentinel event co-ordination in order to detect and reduce environmental health threats shared between species. Several of Niagara's veterinarians are interested in this collaboration.

Two of the foundational principles of public health are population assessment and surveillance. To date, this surveillance has almost exclusively focused on the presence of human disease and associated risk factors but, as a whole, the scientific community has not been very good at predicting disease emergence. In an effort to better look upstream for pathogens, and maybe even head them off at the pass, the U.S. Agency for International Development has created a platform to bring together myriad data sources into an easily understandable view on what is happening in wildlife-to-human infectious disease worldwide. This platform, known as HealthMap.org, automatically monitors more than 50,000 web sources every hour, from Google News to eyewitness reports, to official records from the World Health Organization. The system focuses on wildlife because an estimated 70 per cent of emerging zoonotic infections originate in wild animals.

Although the majority of emerging infectious diseases do not arise in temperate zones, climate change has heightened the need for surveillance for such diseases outside of the tropics.

On an individual level, there are both beneficial and negative effects of the human/domestic animal interaction, with the beneficial generally considered to outweigh the negative. Over 40 per cent of North Americans have a pet whom they consider to be part of their immediate family, on a par with humans. Not only is pet ownership associated with lower blood pressure and lower anxiety levels, it is also associated with increased adoption of health behaviours and therefore lower incidence of heart disease and cancer. Concern over exposing one's pet to second-hand smoke has been shown to be at least as powerful an incentive to stop smoking as concern over exposing one's children, and people with dogs are twice as likely to exercise regularly. Conversely, exposure to ferrets (influenza victims "par excellence") and birds increases the likelihood of certain types of respiratory illness.

Just as there is an argument for public health to engage with the veterinary community, perhaps there is an argument to be made for discussion of pet interactions to be part of detailed medical history-taking. One World, One Health.

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A copy of this newsletter is also available at www.niagararegion.ca/living/health_wellness/professionals/doctors.aspx

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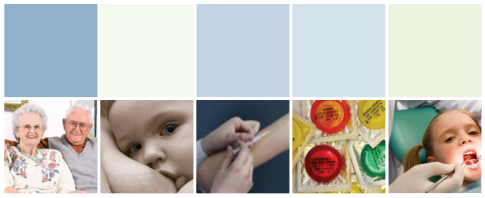

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New Canadian Physical Activity Guidelines

Over the past several decades, scientific evidence has shown that levels of physical activity and fitness of Canadians have dropped dramatically and the number of Canadians considered overweight or obese has steadily increased. Participating in regular physical activity is an effective way to prevent the development of many chronic diseases, and especially those associated with overweight and obesity.

After many years of the most rigorous process to date, the Canadian Society for Exercise Physiology (CSEP) launched new Canadian Physical Activity Guidelines for children, youth, adults, and older adults, as well as Canadian Sedentary Behaviour Guidelines for children and youth. Over a decade has passed since the first Canadian guidelines were published. These new guidelines are the result of over four years of research analysis funded by several groups including the Public Health Agency of Canada (PHAC) and Health Canada. The new physical activity guidelines and age groupings are now harmonized with the new U.S. and World Health Organization guidelines.

Summary of New Guidelines:

Age Group	Physical Activity Guideline	Activity Ideas
Children (5-11 years) and Youth (12-17 years)	At least 60 minutes of *moderate to **vigorous intensity physical activity daily. Activity should include the following: • Vigorous intensity activities at least 3 days per week • Activities that strengthen muscle and bone at least 3 days per week	**Moderate:** Bike riding, Playground activities, Rollerblading **Vigorous:** Running, Swimming, Soccer or Basketball
Adults (18-64 years)	At least 150 minutes of moderate to vigorous intensity aerobic physical activity per week in **bouts of 10 minutes or more.** • Beneficial to add muscle and bone strengthening activities using major muscle groups, at least 2 days per week	**Moderate:** Brisk walking, Tennis (doubles) **Vigorous:** Hiking uphill, Cross country skiing
Older Adults (65 years and older)	At least 150 minutes of moderate to vigorous intensity aerobic physical activity per week, in **bouts of 10 minutes or more**. • Beneficial to add muscle and bone strengthening activities using major muscle groups, at least 2 days per week • Those with poor mobility should perform physical activities to enhance balance and prevent falls	**Moderate:** Brisk walking, Water aerobics **Vigorous:** Fast dancing, Fast swimming

**Moderate-intensity activities are when you can talk, but not sing your favourite song during the activity*
***Vigorous-intensity activities are when you are not able to say more than a few words without pausing for a breath during the activity*

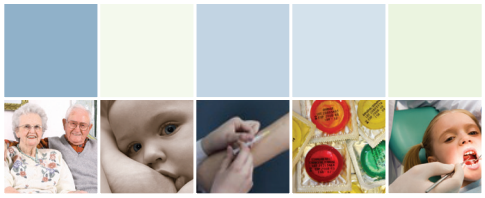
Age Group	Sedentary Behaviour Guideline
Children (5-11 years) and Youth (12-17 years)	Children and youth should minimize time spent being sedentary each day. This can be achieved by: • Limiting recreational screen time to no more than 2 hours per day; • Limiting sedentary (motorized) transport, extended sitting and time spent indoors throughout the day.

All new guidelines listed above are relevant for all apparently healthy children, youth, adults and older adults, irrespective of gender, race, ethnicity or socio-economic status. The new guidelines are consistent with the over-arching message of the previous Canadian Physical Activity Guidelines that Canadians should try to exceed the minimum activity thresholds as the greater the variety, intensity and duration of the physical activity, the greater the health benefit.

Accessing New Guidelines:

The new guidelines are available for download on the CSEP website at **www.csep.ca/guidelines**. Additional information and tools for Canadians and stakeholders are available at **www.ParticipACTION.com**. All outdated physical activity guidelines must be recycled and no longer be distributed.

Submitted by: Sarah Leyenaar, B.A. (Honours)
Health Promoter, Physical Activity Program



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Prevention of Dental Caries: Niagara Region's Fluoride Recommendations

The World Health Organization states that oral health is an integral and essential part of general health and a determinant factor for quality of life. Dental caries represent a significant health issue with 60-90 per cent of school-aged children and most adults being affected. Although largely preventable, dental caries is the most common chronic disease of children aged 6 to 19 years, and four times more common than asthma among adolescents 14 to 17 years of age. Dental caries can lead to significant medical problems including infection, abscess, tooth loss (impacting on nutrition through diet), and bacterial endocarditis. In children, dental caries can lead to difficulties sleeping, decreased school attendance, pain, discomfort, and infection. Community water fluoridation is a population-based intervention to prevent dental caries. No municipalities in the Niagara region have had fluoridated community water since 1999. The 2009 Annual Water Quality Report for the Niagara Region indicated that the natural levels of fluoride are much lower than the recommended levels to prevent cavities. Those residents on well water should have their water tested for fluoride levels, as they can vary considerably.

Niagara Region Public Health (NRPH) will follow the advice of the Canadian Dental Association (CDA), which does not recommend fluoride supplements for the majority of Canadians. However, as a health professional in Niagara, you may wish to prescribe fluoride supplements to high-risk children in non-fluoridated communities (Niagara), where individuals are not able to obtain fluoride in any other form (e.g., toothpaste) and after a complete analysis of the patient's fluoride intake. A high-risk child is defined if one or more of the following conditions exists:

1. The child lives in a non-fluoridated community. This would include all Niagara residents.
2. The child has a visible defect, notch, cavity or white chalky area on a baby tooth in the front of the mouth.
3. The child regularly consumes sugar between meals (including bottles and sippy cups).
4. The child has special health care needs that limit his or her cooperative abilities.
5. The child's teeth are brushed less often than once a day.
6. The child was born prematurely with a very low birth weight of less than 1500 grams (3 pounds).
7. The parent or caregiver has tooth decay.
8. The child has visible plaque, such as white or yellow deposits on the teeth.

Submitted by:
Tara Wincott, Health Promoter, B.A. Honours

You Can Make Tobacco Cessation Happen

The majority of people who use tobacco want to quit. You can help your patients make it happen. In less than three minutes, you can make a difference in your patients' health. There is strong evidence that health care providers can make a significant difference in helping their patients to give up using tobacco. Many effective treatments exist and tobacco use assessments and interventions can be done quickly and efficiently.

Health professionals are in a unique position to assist tobacco users. You encounter people at "teachable moments" when patients may be more inspired than usual to change unhealthy behaviours. Even a minimal contact intervention can powerfully motivate patients to make a quit attempt. Clinicians can simply follow the 5 A's: Ask, Advise, Assess, Assist, and Arrange.

Support is available to arrange follow-up for patients through the Smokers' Helpline (SHL) Quit Connection program. Smokers' Helpline Quit Connection provides a seamless integration between the cessation services of SHL and health professionals who identify and refer clients who smoke or want to remain smoke-free. The Quit Connection Program eliminates the need for clients to call SHL. Instead, a Smokers' Helpline Quit Specialist will contact the tobacco user to provide services.

For more information and Quit Connection Referral forms, please visit www.youcanmakeithappen.ca and help your patients make that important step towards better health.

Submitted by: Stephanie Hicks,
Health Promoter Chronic Disease and Injury Prevention

Guidelines - Using Fluoride Products to Prevent Tooth Decay

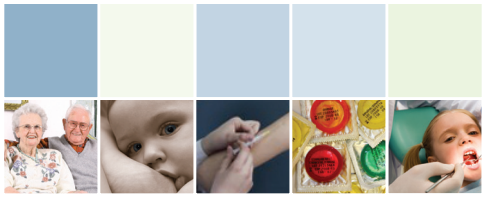
A rice grain-sized portion of toothpaste on a child's toothbrush is shown on the left. A pea-sized portion of toothpaste is shown on the right. Image and text Copyright © 2010 Canadian Dental Association

CDA recommends that an infant visit a dentist within six months of eruption of the first tooth, and no later than one year of age, in order to determine the infant's risk of caries and appropriate preventive interventions. Cleaning of the mouth with a damp cloth should begin at birth. Encourage parents to lift the infant's lip and watch for changes in colour, lines, or spots on teeth as this may signal early childhood caries (ECC).

- Children up to three years of age should have their teeth brushed by an adult, using a rice grain-sized portion of fluoridated toothpaste twice daily until they can effectively spit out.
- Children three to six years of age should be assisted with brushing their teeth, by an adult, using a pea-sized portion of fluoridated toothpaste.
- Regular flossing is the single most important thing you can do to prevent gum disease. Most children will need help flossing until they are about 8 to 10 years old.

NRPH has programs to assist children and youth in getting the dental health care they need. They may be eligible for available dental services if they meet certain eligibility requirements. For more information please call Public Health Dental Program at 905-688-8248 or 1-888-505-6074 ext. 7399.

1 Fluoride Strategy. Niagara Region Public Health, 2010. 2 Canadian Dental Association. CDA position on use of fluorides in caries prevention, April 2010. http://www.cda-adc.ca/_files/position_statements/Fluorides-Eng



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The Black-Legged Tick in Niagara Region

The black-legged tick (Ixodes scapularis) is the most common vector that transmits Lyme disease in North America. Though Lyme disease can be acquired anywhere in Ontario, there are established populations of black-legged ticks in Long Point Provincial Park, Turkey Point Provincial Park, Rondeau Provincial Park, Point Pelee National Park, Prince Edward Point, National Wildlife Area, St. Lawrence Islands National Park, and Wainfleet Bog Conservation Area.

With the recently established population found in the Wainfleet Bog Conservation Area, Niagara Public Health developed resources to inform the public about personal protective measures against ticks and Lyme Disease. These resources were distributed to public access areas, including parks, municipalities, libraries, and golf courses.

Further, proactive tick dragging of various public access areas in the region was conducted in the spring and fall of 2010 in an attempt to determine the population range of the black-legged tick in Niagara. The interest in establishing the range of black-legged ticks is well-placed. With the issue of climate change, there are predictive models that indicate that black-legged ticks will become established in almost all of Ontario's landmass by the 2020's.

Niagara Region Public Health has received 458 tick submissions ; of which 10 have been black-legged ticks. In order to enhance the surveillance of black-legged ticks medical practitioners, veterinarians, and the general public are being encouraged to submit ticks to Niagara Region Public Health. Once removed (from the host), place the tick in a screw top bottle and bring it to Public Health for identification and testing. Information on the proper method for removal of ticks can be found on the Ministry of Health and Long-Term Care website at http://www.health.gov.on.ca/en/ms/lyme/public/default. aspx . Physicians can direct the patient to bring the tick into the nearest Public Health office or submit ticks directly to the Central Public Health Lab (CPHL) for identification using the appropriate requisition, to be found at http://www.oahpp.ca/resources/requisitions.html. Please use P02 as the test code. When submitting ticks directly to CPHL, we ask that physicians forward such results to Public Health in order for us to update our tick surveillance database.

Furthering our knowledge on the distribution of ticks in Ontario will assist in determining high-risk areas, keeping the public informed, and diagnosing illness.

As always, your cooperation and support is appreciated.

Submitted by: Peter Jekel
Manager, Environmental Health

SPLISH-SPLASH! Recreational Water Illness

Submitted by: Gillian Thiessen, B.H.Sc., B.A.Sc., CPHI(C)
Environmental Health Division

Recreational water illnesses are transmitted by swallowing, inhaling, or other direct contact with contaminated water and can have many presentations. Depending on the pathogen, the eyes, ears, nose, throat, skin, lungs, and/or gastrointestinal tract may be affected. It is important to include questions about visits to recreational water facilities, as this information can guide diagnostic efforts. Diarrhea is the most common type of recreational water illness (CDC, 2010), and physicians are encouraged to consider stool cultures. Many causative agents of recreational water illnesses are reportable under the Health Protection and Promotion Act (HPPA) and therefore, laboratory test results may enable identification and control of outbreaks.

Summers in Niagara drive many to seek relief at swimming pools, wading pools, water parks, and beaches. Public swimming pool operators have a duty to keep their facilities in a safe and sanitary manner. The HPPA – Public Pools, contains the minimum standards for all public pools in Ontario. Public health inspectors conduct compliance inspections and will take enforcement action (e.g., order a pool closed) when conditions create a risk. Public Health's Environmental Division also offers an educational program to assist facility operators in understanding and complying with legislated requirements.

The complexity and expense of public swimming pool operations is compelling prospective owners to install alternative forms of aquatic entertainment (Stanley, 2010). Interactive fountains commonly referred to as splash pads and spray pads, are attractive options as their flat play surfaces or shallow water receiving basins minimize the possibility of drowning. Since these facilities are not regulated in Ontario, owners believe that splash and spray pads are easy to maintain. Unfortunately, the lack of a uniform standard can create environments that are conducive to the transmission of recreational water illnesses (Bancroft, Keifer, and Keene, 2010). Furthermore, the unhygienic behaviours of young children, such as putting their bottoms on water spray nozzles and having fecal accidents, contribute to contamination of the water and play structures (Bancroft et al, 2010; Nett et al., 2010; Stanley, 2010). Indeed, several community outbreaks attributed to interactive fountains have been documented in the literature (Minshew et al., 2000; Alden et al., 2007; Jue et al., 2009).

In 2010, Niagara Public Health conducted a preliminary study of eighteen splash pads and spray pads. Where possible, water samples were collected from the facilities' spigots, spray nozzles, and water reservoirs. Water chemistry tests, which are not presently part of routine inspections, revealed that some splash pads and spray pads had free available chlorine levels below the regulatory standard for public swimming pools (Dudek and Warkentin, 2010). Bacteriological analysis revealed that some splash pads and spray pads were positive for total coliforms and Pseudomonas aeruginosa (Dudek and Warkentin, 2010).

These results, when combined with knowledge that outbreaks of recreational water illnesses have been linked to these facilities, emphasize the need for regulation of public interactive fountains. Niagara Public Health will resume its splash pad and spray pad research this summer.

Reference list available upon request.