

AN OUNCE

A CANADA-WIDE MOVEMENT TO ELIMINATE THE PREVENTABLE CAUSES OF CANCER



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Welcome to the Fall 2008 issue of *An Ounce*. From a cancer prevention standpoint, October is a critical month:

- On October 14, will Canadians elect a federal government that is prepared to take the giant steps needed for Canada to 'go green', and dramatically reduce our carbon and toxic chemical footprint? See PCN's [website](#) in the coming days for questions for party leaders (And by all means, put these questions to your local candidates as well!).
- When countries that are party to the Rotterdam Convention meet in Rome October 27-31, will Canada finally support the listing of chrysotile asbestos, and then pass legislation in this country to ban its use and export? Asbestos [kills an estimated 100,000 people annually](#), many from cancer, and mainly workers and their immediate families. To send your 'Ban Asbestos' message to our federal leaders, [click here](#).
- Call for comments on the Government of Ontario's *White Paper* on Toxic Use Reduction — Please respond by October 11! While this may seem to be solely an Ontario matter, it's critical that all Canadian provinces get on board with laws related to toxic use reduction. Meanwhile, Ontario's bill needs to be stronger than what is in the White Paper. We encourage everyone to [comment](#) before the October 11 deadline.

ARE CELL PHONES SAFE?

Dr. Magda Havas, mhavas@trentu.ca
Environmental & Resource Studies, Trent University



Dr. Havas is Canada's top expert on the hazards of EMR — electromagnetic radiation. We appreciate her assessment of the risk of cell phones, a technology now used by well over two billion people worldwide — and a growing number of youth under age 16, the most vulnerable target market.

Cell phone safety is a controversial issue. The wireless telecommunication industry, with billions of dollars at stake, wants you to believe this technology is safe since it complies with health and safety guidelines. Health Canada is the federal agency responsible for setting guidelines for microwave radiation (which is the radiation generated by cell phones) and it continues to stand behind its guidelines, which were set years before cell phones became popular and before most of the limited research on cell phone safety was done. The media, in an attempt to produce balanced coverage, often provide opposing views in the same report giving the impression that the science is inconclusive about cell phone safety.

So what is the average person to think?

Surely industry wouldn't produce a product that was harmful to our health. Surely government wouldn't approve a product that was unsafe. Surely the media would alert us to any health concerns if they truly existed. Until that time...you're going to continue using your cell phone. Right? Right.

At first you keep it in your car in case of an emergency. Then you begin to carry it with you because you need to be reached. Then you begin to use it daily for short and increasingly longer calls. Before you know it you can't leave home without it and you make multiple calls each day. You are now totally

attached to your cell phone and some would call you a cell phone addict. At this stage, even if you were told that cell phones are unhealthy...you would probably continue using them.

So what does the science say about this radiation? Are cell phones safe?

Cell phones are not going to give you a brain tumour overnight nor are they going to adversely affect your health if you use them infrequently. Indeed they could save a life in case of an emergency. Cell phones are not bad but how you use them may be bad for you health and the health of others.



[\(continued on page 7\)](#)

THE PROBLEM WITH PLASTICS

By Linda Gasser

While many useful products are made of plastic, numerous health consequences are associated with their manufacture, use and disposal, including cancer. There are alternatives to plastic. Some researchers are developing alternative materials that don't use petrochemicals, and scientific institutes of 'green chemistry', also known as sustainable chemistry, are being set-up around the world.

Plastic is a petroleum-based mix to which chemicals are added for suppleness, inflammability and other qualities. These include flame retardants like poly-brominated diphenyl ethers (PBDEs), bisphenol A and phthalates to name a few. Plastics don't biodegrade but rather photodegrade.

One of the most troubling plastics is polyvinyl chloride (PVC). PVC is used for building materials such as vinyl siding, windows and piping, and in a range of consumer products including children's toys. Dioxins are created when PVC is produced, recycled, incinerated or when accidental landfill fires occur. Dioxins are a Class 1 carcinogen, meaning they are toxic, persistent in the environment and bioaccumulative (i.e. they build up

in the tissues of animals and humans). They enter the human body through the food chain, when we breathe and through our skin. The most important route for human exposure is through consumption of animal products such as meat, dairy, fish and eggs.

In Canada, [9-15 billion plastic bags](#) are used each year (that's 17,000 bags a minute). The plastic bag has unfortunately become an accepted part of Canada's shopping culture. Where they exist, many municipal recycling programs only collect [No. 1 and 2 plastics](#). Recycling doesn't always result in less use of virgin materials. As well, in some cases newly made plastic products are still cheaper than recycled alternatives.

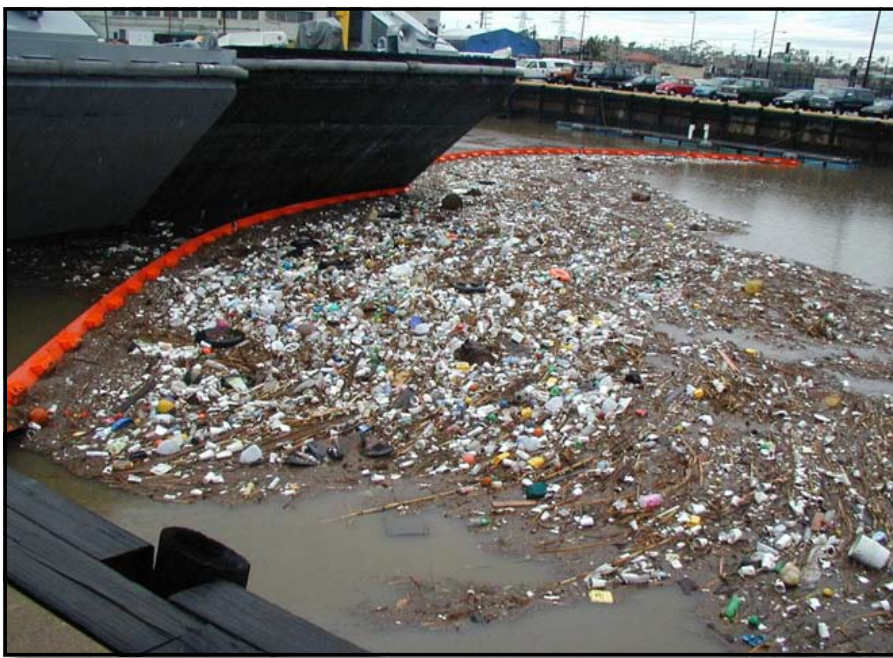
Canada produces about 2% of the world's plastic, which may not sound like a lot, but it includes an annual \$1.9 billion trade in plastic bags, \$830 million for plastic bottles and \$820 million for polystyrene foam products (such as coffee cups and take-out food containers). Styrene is listed by the [International Agency for Research on Cancer](#) as 2B, meaning it's possibly carcinogenic to humans. Annual plastic resin production in the U.S. is expected to exceed 120 billion pounds by 2010.

No Simple Disposal

As plastics proliferate and various countries run out of room for their trash, there's a concern that pressure will mount to move towards incineration. There can be in excess of 200 chemicals of potential concern in the emissions of even the most modern municipal solid waste incinerator. Besides degrading our environment and destroying our health, incinerators greatly limit accountability, as it is tough to identify problem materials in the residual ash.

Incineration also wastes valuable resources that could otherwise be recycled.

Canadian municipalities presently considering incineration include Durham Region (southern Ontario) and Metro Vancouver. The City of Ottawa, Port



National Marine Debris Monitoring Program

Plastic bags account for over 10 percent of the debris washed up on the U.S. coastline

Moody (B.C.), Port Hope (southern Ontario) and Red Deer (Alberta) are looking at plasma arc 'gasification' (so-called incineration in disguise). Some operators of [cement kilns](#) are currently considering burning post-recycling plastic residues and/or non-recyclable plastics to reduce their high fuel costs.

Plastic Bags

An easy place to start reducing our reliance on plastics would be our collective refusal to acquire any more single use plastic bags. Approximately [500 billion to one trillion](#) plastic bags are consumed each year Worldwide. The average bag is used for about 20 minutes. They litter our streets and countryside and ultimately contaminate our soil.

Plastic bags also end up in our waterways and oceans and are particularly lethal in the marine environment where they destroy marine life and enter the food chain. There is a [vast floating soup of plastic](#) in the Pacific Ocean, stretching from Hawaii to Japan, and twice the size of Alberta. This expanse of debris is the world's largest garbage dump.

Solutions

Our existing inventory of plastic bags could be reused many times before being ultimately recycled. Recycling single use plastic bags is not a sustainable or practical option. Not only are very few bags recycled, it's an expensive process. We should avoid single use and non-recyclable plastics at every opportunity and substitute with a variety of safer containers.

Several countries with outright bans on plastic bags include Bangladesh, Tanzania, Rwanda, Pakistan, South Africa, Bhutan, and most recently, [China](#). Belgium and Ireland use tax levies to discourage bag use. France is planning an outright ban by 2010. Australia banned plastic bags in supermarkets.

[Leaf Rapids](#) in Northern Manitoba became the first community in Canada to ban plastic bags. In 2005 the Leaf Rapids Chief Administrative Officer was reviewing the budget when he noticed the town was spending \$5,000 a year to clean up plastic shopping bag litter. He first advised the town council to purchase 1,000 reusable bags at a cost of \$1.00 each and donate five reusable bags to every household. An Ontario entrepreneur contacted the town and encouraged them to move to an outright ban instead of a bag levy. He offered to donate 5000 reusable bags and suggested a public relations

campaign to build community support for a total ban. With few exceptions town residents were supportive of By-Law 462 which town council passed unanimously on March 22, 2007.

A number of communities across Canada (Squamish, Pemberton) have targets to reduce plastic bag use and the Province of Ontario hopes to cut plastic bag use from the average of four bags per week per person, in half by 2012.

It's easy to stash and use reusable carryall bags, and some retailers e.g. IGA (Sobeys) even offer free replacements when their reusable bags wear out.

For more information:

- For details about 'safer' plastics, visit <http://www.preventcancer.ca/prevention.html> and scroll down to: "Plastic Containers — What to Look For".
- See [New Internationalist](#) magazine's September issue for a number of excellent articles on plastic, including [A Toxic Life](#).



CALL FOR VOLUNTEERS

Prevent Cancer Now has a number of volunteer positions available.

If you are interested in helping us out with fundraising, communications, event organizing or public relations, we want to hear from you!

Please send your name and email address to info@preventcancer.ca.

We'll be in touch!

Thanks and take care!
The PCN Team

LEADING CANCER RESEARCHERS SAY CANCER CURE MAY NEVER BE FOUND, STRESS IMPORTANCE OF FOCUSING MORE ON PREVENTION

If cancer can be beaten it is unlikely new drugs will be the champions. That's the conclusion of three new ground-breaking studies that show the disease may be too genetically complex for any magic bullet drug therapy to defeat it. The studies, lead by researchers at Baltimore's Howard Hughes Medical Institute, closely examine two of the most lethal forms of cancer: pancreatic cancer and glioblastoma multiforme brain tumours. By combing through the genomes from 24 pancreatic tumours the researchers found some 63 cancer-related mutations or genetic alterations in each sample. Among the 22-member brain cancer group, researchers found 60 genetic alterations typically hidden amid the tumour-borne DNA. The studies found a large number of genetic changes associated with each form of the disease. "The results of these analyses shows that cancer is a disease of pathways," says Dr. Kenneth Kinzler, an oncologist at Johns Hopkins University's Kimmel Cancer Centre in Baltimore. "This represents a new perspective on the genetic changes that drive tumour progression and suggest we need to rethink the optimal ways of diagnosing, categorizing and treating cancer." While the studies strongly suggest there will be no magic bullet drugs therapies for most cancers, they do offer

a silver lining: the enhanced possibility of early detection and prevention.

Related:

- Toronto Star, September 4, 2008, "[Leading cancer researchers cast doubts on the quest for drug cure](#)", By Health Reporters Joseph Hall and Megan Ogilvie

Agricultural Pesticides & Cancer Conference November 12-13 in Toronto: Be there!

On November 12-13 in Toronto the Canadian Cancer Society is sponsoring a landmark conference in Toronto about the links between agricultural pesticides and cancer. This is the first meeting of its kind in Canada, and — in our opinion — about time the debate about pesticides goes beyond their cosmetic use in cities to applications in farming, which are massive. For more details, including location and program, [click here](#).

BACK TO SCHOOL!

Adapted from "Cancer — 101 Solutions to a Preventable Epidemic" by Liz Armstrong, Guy Dauncey and Anne Wordsworth by Diana Daghofer

Going back to school can be a busy and stressful time — so we don't need any added anxiety about environmental health hazards. Here are some tips about how to make our schools healthier places.

Healthy schools

Most children spend 6-8 hours a day, every weekday, in school. Eliminating or reducing the cancer-causing agents in schools also addresses many other childhood health issues, including asthma, allergies and attention deficit disorders. As a concerned parent,

there are a number of steps you can take to help make your child's school environment as healthy as possible!

Assess the school building — indoors and out.

While authorities are quite aware of these issues, parent should check on the health of the school building. Are all cleaning products toxin-free? What about art supplies? Are pesticides used on school grounds? Radon and asbestos should be safely eliminated from all school buildings. Indoor air quality can be improved by eliminating chemical off-gassing from carpets, paints, flooring, furniture, etc. Dust is the purveyor of many toxic substances, and is becoming an increasing concern as school maintenance budgets are cut.

Make sure recess is a happy time by promoting "green" playgrounds. Ensure play equipment is not made of pressure-treated wood containing chromium copper arsenate. Plant trees to provide shade from harmful UV radiation. An organic school garden is a great way to teach children about ecology and healthy eating. Use the produce to feed children a healthy lunch (See www.edibleschoolyard.org for information and resources).

Going to school safely

School buses bring with them smelly — and toxic — diesel fumes and particulates. Reduce children's exposure to emissions by making sure bus drop-off zones are located as far as feasible from areas where children gather. Make



your school an “idle-free zone” for buses and cars.

Better yet, promote active and safe routes to school. The “walking/cycling school bus” is one such option. International Walk to School day, held every October in Canada, is a good avenue to promote healthy transportation (See <http://www.saferoutestoschool.ca/iwalk.asp> for details).

Healthy food on the run

Packing lunches is always a challenge, whether for work or school. The recent listeria scare is yet another reason to avoid luncheon meats. Most contain many chemicals and artificial ingredients. Nitrates and nitrites are common preservatives, used mainly to prevent the growth of botulism in food products. Unfortunately, they have been linked to increased risks of cancer. A [joint report](#) issued by the American Institute for Cancer Research and the World Cancer Research Fund last year reviewed over 7000 studies, and declared that there is “no safe level of consumption” of cold cuts or salted, smoked and cured meats. Lunches made with organic eggs,

hummus, cheese or vegetables are good alternatives to luncheon meats.

As for packaging, try to avoid plastic. Stainless steel (inside and out) water bottles and thermoses, and cloth lunch bags are preferable to plastics, which often made from PVC and contain

bisphenol A and other toxins. Where plastic is unavoidable, use those marked with #2 (HDPE), #4 (LDPE) or #5 (polypropylene). Believe it or not, even though health authorities are unanimous in saying no level of lead is safe for children, some lunch boxes still contain lead paint! To avoid the worst toxins, look for labels that confirm that products are lead free, vinyl-free and phthalates-free. If there are no such labels, avoid soft vinyl bags and products with anti-bacterial claims. That just means the addition of unnecessary chemicals. A good guide to lunch box safety is available at [Safe Mama](#). It’s always a good idea to wrap children’s food to avoid contact with the interior lining of the lunch bag. And remind them to wash their hands before and after lunch!

For more information:

- The [Green Guide](#) and [Nature Moms](#) provide useful information on avoiding toxins and reducing waste
- Going Green at [School](#) (Blog)



HEAD LICE — NON-TOXIC SOLUTIONS

By Savayda Jarone

Canadians are beginning to accept non-toxic gardens, yet continue to dose children's heads with pesticide concentrations far higher than those applied to lawns. Head lice are a pesty problem affecting 1000's of children any given school year. Any parent will agree that dealing with head lice is a major nuisance, but it need not be a toxic one.

Parents are generally not being informed of the harm and health risks associated with the standard chemical/pesticide based lice treatments. The most commonly used chemicals; lindane, permethrin, pyrethrum, and piperyl butoxide have scary lists of possible short and long term side effects associated with their use. They can trigger asthma and other respiratory allergic response, dizziness, seizures, and skin rashes. They are also known or suspected cancer-causing agents, are toxic to the brain and nervous system, and can disrupt our hormone and reproductive systems, and immune and respiratory systems. Lindane has been banned in many countries due to its toxicity. These chemicals are washed down the drain, polluting our soil and water, posing additional environmental hazards.

Despite their potency, these treatments are not always effective. Just as certain bacteria have become resistant to anti-biotics, lice are becoming resistant to chemical treatments. Plus, no matter what treatment option is used, thorough combing is essential, a fact endorsed by the National Pediculosis Association (www.headlice.org). This not-for-profit association has been committed to protecting children from the misuse and abuse of pesticides for the past 25 years. The lice and their nits must be removed from the hair with a proper comb made from metal, with long, finely spaced teeth. The LiceMeister is one such comb, it or comparable others can be found in most pharmacies.

In addition to the combing, there are other effective non-toxic treatments for lice. One method is to smother the live lice by applying a thick coating of olive oil mixed with essential oils to the hair. The olive oil won't kill the eggs, but when mixed with certain essential oils laboratory tests show it will destroy both eggs and live lice. The following findings are by biologist Lowana Veal:

- oregano, aniseed and cinnamon leaf essential oils kills 100% of eggs and adults; and
- tea tree oil kills 83% of eggs and 93% of adults.

Essential oils are very concentrated and can cause irritation if used directly on the skin. Diluting them in olive oil helps

prevent this. The concerns involved with using essential oils pale in comparison to the chemical alternatives, but certain essential oils must be avoided during pregnancy. An aromatherapist or herbalist would be happy to answer specific questions you may have about using essential oils.

Prevention is Key!

As with any problem, prevention is key. Give children the facts about lice and remind them not to share hats, earphones, brushes etc. Parents — be on the look-out for the "itchies" and become pro-active by checking for lice on a weekly basis. Lice cause a great deal of alarm, yet they cause more nuisance than harm. If you discover them in your home, remain calm and consider these and other non-toxic solutions. The use of cancer and other disease causing chemicals must stop, especially on vulnerable children.

Savayda Jarone is a member of the Board of Directors of Prevent Cancer Now. She has a herbal medicine clinic and dispensary in Halifax and can be reached at wildoats@ns.sympatico.ca or (902) 454-8481.

RECIPE FOR HEAD LICE

1. Simply add 15 drops of tea tree, oregano, aniseed, or cinnamon leaf essential oils to 50 ml of olive oil.
2. Mix well.
3. Apply by deeply massaging oil mixture into the scalp and hair.
4. Leave on overnight and wash and thoroughly comb out in the morning. Repeat this process a week later.
5. Continue to thoroughly comb every morning. The comb should be made from metal and have long, finely spaced teeth.

[\(continued from page 1\)](#)

When you use a cell phone you are exposing yourself and anyone near you to the radiation and that includes those who live near the antennas communicating with your cell phone. Using cell phones in enclosed spaces like cars, trains, and airplanes and using them when they are in roaming mode exposes you and others to higher levels of radiation. With the desire for uninterrupted reception, more cell phone antennas are being erected and a growing population is exposed to second-hand microwave radiation from these antennas. Indeed, in some communities it is impossible to avoid microwave exposure.

Kundi et al. (2004) and Hardell et al. (2007) reviewed the literature on the long-term health effects of cell phone use and the risk of developing both benign and malignant tumours. The studies consistently report an increased risk of tumours on the same side of the head (ipsilateral) after 10 years of moderate to heavy cell phone use. The increased risks range from 30%



to 360% and include astrocytomas ([central nervous system tumours](#)), benign tumour of the auditory nerve that can affect hearing, and tumours of the eye. A recent Israeli study (Sadetski, 2008) found a 60% increased risk of tumours of the salivary gland.

What is critical in these studies is that the tumour risk becomes statistically significant for ipsilateral (same side of head) but not for contralateral (opposite

side of head) tumours. This makes sense since microwave radiation drops off quickly with distance and exposure near the phone antenna is much higher than it is just centimeters away. This also suggests that using the phone in speaker mode, away from the head, reduces your exposure to this radiation.

Most of these studies conducted to date underestimate the risks involved.

Many of the tumours documented have a 15-plus year latency period. The fact that studies are picking up an increased risk after 10 years is both surprising and disturbing. As more users are exposed to more than 15 years of radiation, the risk is likely to increase.

Many of the studies were conducted with brain tumour survivors who could provide information about their cell phone usage. By not including those who died as a result of their tumours the science underestimates the risks involved.

And finally, these studies were conducted on adults. Children are likely to be more sensitive to this form of radiation because of their underdeveloped immune response, their rapidly growing cells, and the smaller circumference of their skulls, which would enable the radiation to penetrate more deeply. Based on this information one could hypothesize that, in the coming years, we will have an increased incidence of these and possibly other tumours, especially among younger people.

Some of the science shows no association between cell phone use and any biological response so it would seem that journalists are justified in presenting both sides of the issue. However, a closer examination of who funds the studies reveals a disturbing pattern. Dr. Henry Lai recently reviewed [studies](#) of microwave radiation looking for links between outcomes

From [CNN Health](#)

5 TIPS TO LIMIT YOUR CELL PHONE RISK

1. Use the speakerphone or hold the phone as far away from the head as possible.
2. Use a wired headset with a ferrite bead. The bead is designed to absorb the radiation so you don't. They are inexpensive and widely available.
3. Use a Bluetooth earpiece as it is at least 100 times less than the radiation you get when you hold a cell phone to your head.
4. Use a "hollow tube" earpiece. It's just like a regular wired earpiece, except the part next to your ear is a hollow tube. There's no radiation-emitting wire under the plastic.
5. Get a phone with less radiation. Phone radiation is measured in specific absorption rate, or SAR. To look up the SAR for your phone, check this list on www.cnet.com.

and sources of funding. He concluded that in 75% of the studies funded by either the telecommunication industry or the military, the conclusion was cell phones showed no harmful effects. On the other hand, Lai found 80% of the studies independently-funded showed clear effects of microwave radiation. The source of funding should not affect the outcome of a particular study, yet this clearly isn't the case. Scientific journals need to take this seriously and experienced journalists need to examine funding source and potential for bias or conflict of interest when they report on scientific research.

Clearly the credible science is showing adverse biological and health effects of microwave radiation at levels well below Health Canada's Safety Code 6. Safety Code 6 is a 6-minute thermal guideline that assumes if the radiation does not heat tissue within 6 minutes it is "safe". This guideline does not consider non-thermal biological effects that may accumulate over time with repeated or long-term exposure. The Bioinitiative Report (www.bioinitiative.org) documents hundreds of studies that show adverse effects at non-thermal exposure and the authors of this report request that governments update existing guidelines based on current scientific findings.

Health agencies around the world (including the Toronto Board of Health, Pennsylvania University Cancer Institute, health or environment departments in the UK, Germany and Sweden) are advising that people keep their cell phone calls as short as possible and that children under

the age of 16 use their phones only in emergencies. Scientists and physicians around the world are asking their governments for improved guidelines based on biological rather than thermal effects. Until guidelines are changed to reflect the science, the precautionary approach is strongly recommended both for using cell phones and for the placement of antennas.

Are cell phones safe? No, and they need to be used with caution.

For more information:

- [International Commission For Electromagnetic Safety](#)
- The [Collaborative on Health & the Environment](#) has an excellent listserv on electromagnetic radiation you can join!
- [Microwave News](#)
- [Cellphone Games](#), Letter by Melinda Wenner published in the September issue of the Walrus Magazine
- Britain's Health Protection Agency scientist [calls for caution](#) in using mobile phones and for a review of the use of Wi-Fi in schools
- Toronto Public Health warning for kids and cellphones: "[Dial back cellphone use, city officials tell parents](#)" (Toronto Star, July 12, 2008)

CELL PHONES ARE JUST THE TIP OF THE ICEBERG...

Wi-Fi, Wi-Max, wireless routers, cordless phones, smart meters, radio frequency identification tags, broadband over powerlines, and even compact fluorescent lights emit radio frequency radiation and are increasing our ambient exposure levels, Madga Havas says. "Adequate research is missing and the government needs to take responsibility and fund independent scientific studies in this area if it places any value on human and environmental health. This is likely to happen only if we value health above greed and if those in positions of power are principled and can sever the ties of their puppeteers. In the meantime, precaution needs be advocated for the use of cell phones and the siting of cell phone antennas."