

References Cited

- ¹ Moore KL, Persaud TVN. (1973) *The Developing Human: Clinically Oriented Embryology*. Philadelphia:W.B. Saunders, p. 98. (As cited in Selevan SG, et al (2000) Identifying critical windows of exposure for children's health. *Environ Health Perspect* 108(Suppl 3):451-55).
- ² Bearer CF (1995) How are children different from adults? *Environ Health Perspect*. 103 (Suppl 6):7-12.
- ³ Rodier PM (1995) Developing brain as a target of toxicity. *Environ Health Perspect*. 103 (Suppl 6):73-6.
- ⁴ Bell JG, et al (1989) Higher retention of manganese in suckling than in adult rats is not due to maturational differences in manganese uptake by rat small intestine. *J. Toxicol Environ Health* 26: 387-398.
- ⁵ Cooper, K (2004) *Toxic Substances – Focus on Children - Developing a Canadian List of Substances of Concern to Children's Health* May, 2004. Prepared for the Canadian Environmental Law Association and Pollution Probe
- ⁶ CICH - Canadian Institute of Child Health (1997) Environmental Hazards: Protecting Children. www.cich.ca/PDFFiles/EnvFactSheetsENG.pdf
- ⁷ Friedrich MJ. (2000) Poor children subject to "Environmental Injustice". *JAMA* 283: 3057-8.
- ⁸ TSDSSC - Toronto Social Development Strategy Steering Committee (2001) *A Social Development Strategy for the City of Toronto, 2001*. December, 2001. www.toronto.ca/sds/reports.htm
- ⁹ UWGT and CCSD - United Way of Greater Toronto and the Canadian Council on Social Development (2004) *Poverty by Postal Code – The Geography of Neighbourhood Poverty, 1981 – 2001*. A report prepared jointly by the United Way of Greater Toronto and the Canadian Council on Social Development.
- ¹⁰ Kimbrough RD (1991) Toxicological implication of human milk residues as indicated by toxicological and epidemiological studies. Chapter 10. In: Jensen AA, Slorach SA (Eds.) *Chemical Contaminants in Human Milk*. CRC Press: Boca Raton.
- ¹¹ Craan A, Haines D (1998) Twenty-five years of surveillance for contaminants in human breastmilk. *Arch Environ Contam Toxicol* 35: 702-10.
- ¹² Hooper K, She J (2003) Lessons from the polybrominated diphenyl ethers (PDBEs): Precautionary principle, primary prevention, and the value of community-based body-burden monitoring using breast milk. *Environ Health Perspect* 111(1): 109-114.
- ¹³ Ayotte P, et al. (2003) Inuit Cohort Study. Assessment of pre- and postnatal exposure to polychlorinated biphenyls: lessons from the Inuit Cohort Study. *Environ Health Perspect*. 111(9):1253-8

- ¹⁴ Landrigan PJ, et al (2002) Chemical contaminants in breast milk and their impacts on children's health: an overview. *Environ Health Perspect.* 110(6):A313-5.
- ¹⁵ Jacobson JL, Jacobson SW (2001) Postnatal exposure to PCBs and childhood development. *Lancet.* 358(9293):1568-9.
- ¹⁶ Weisglas-Kuperus, et al. (2000) Immunologic effects of background exposure to polychlorinated biphenyls and dioxins in Dutch preschool children. *Environ Health Perspect.* 108:1203-7.
- ¹⁷ Jacobson JL, Jacobson SW (2002) Breast-feeding and gender as moderators of teratogenic effects on cognitive development. *Neurotoxicol Teratol.* 24(3):349-58.
- ¹⁸ AAP - American Academy of Pediatrics (2005) Policy Statement: Breastfeeding and the Use of Human Milk. *Pediatrics* 115(2): 496-506.
- ¹⁹ Cumming RG, Klineberg JR (1993) Breastfeeding and other reproductive factors and the risk of hip fractures in elderly women. *Int J of Epidem.* 22: 684-91
- ²⁰ Newcomb PA, et al (1994) Lactation and a reduced risk of premenopausal breast cancer. *New Engl J Med.* 330: 81-87.
- ²¹ Chen A, Rogan WJ. (2004) Breastfeeding and the risk of postneonatal death in the United States. *Pediatrics.* 113(5):e435-9
- ²² Frank JW, Newman J (1993) Breast-feeding in a polluted world: uncertain risks, clear benefits. *Can Med Assoc J.* 149(1):33.
- ²³ Schreiber J (2001) Parents worried about breast milk contamination: What is best for baby? *Pediatrics Clinics of North America* 48(5):1113-1127.
- ²⁴ TPH – Toronto Public Health. (2004) Divisional Policy and Procedure Manual. Breastfeeding/Infant Feeding Sub-program Committee. Exclusive Breastfeeding Duration and TPH – Toronto Public Health (2001) Breastfeeding promotion. Report to the Toronto Board of Health, September 3, 2001.
- ²⁵ OPHA - Ontario Public Health Association (2004) Balancing and Communicating Issues Related to Environmental Contaminants in Breastmilk. Position paper and resolution adopted by the Ontario Public Health Association (OPHA)
- ²⁶ Health Canada (2004) *Exclusive Breastfeeding Duration.* www.hc-sc.gc.ca/fn-an/alt_formats/hpfb-dgpsa/pdf/nutrition/excl_bf_dur-dur_am_excl_e.pdf
- ²⁷ CPS - Canadian Paediatric Society (2005) Exclusive breastfeeding should continue to six months. M Boland, Nutrition Committee *Paediatrics & Child Health* 10(3):148 www.cps.ca/english/statements/N/BreastfeedingMar05.htm
- ²⁸ WHO – World Health Organization (2003) *Global Strategy for Infant and Young Child Feeding.* WHO, Geneva. www.who.int/nut/documents/gs_infant_feeding_text_eng.pdf
- ²⁹ Landrigan PJ, et al (1998) Children's health and the environment: A new agenda for prevention research. *Environ Health Perspect.* 106(Suppl. 3): 787-794.

- ³⁰ Health Canada (1999) *Measuring Up: A Health Surveillance Update on Canadian Children and Youth*. Rusen ID, McCourt C. (Eds.) www.hc-sc.gc.ca/pphb-dgspsp/publicat/meas-haut/mu_r_e.html
- ³¹ Toronto (2000) *Toronto Report Card on Children*. Toronto Children and Youth Action Committee. Vol 2 Update.2000. www.toronto.ca/children/report/repcard4/repcard4.htm
- ³² O'Neill MS, et al. (2003) Health, wealth, and air pollution: advancing theory and methods. *Environ Health Perspect*. 111(16): 1861-70.
- ³³ Finkelstein MM, et al (2003) Relation between income, air pollution and mortality: a cohort study. *CMAJ* 2003; 169(5):397-402.
- ³⁴ Schettler T, et al (2000) *In Harm's Way: Toxic Threats to Child Development*. A report by Greater Boston Physicians for Social Responsibility. 140 pp. www.igc.org/psr
- ³⁵ Statistics Canada (1997) Initial Results from the School Component, NLSCY 1997. *Education Quarterly Review*. 4 (2). Catalogue no. 81-003-XPB.
- ³⁶ Landy S, Tam KK (1998) Understanding the contribution of multiple risk factors on child development at various ages. National Longitudinal Study in Children and Youth. Workshop paper given at "Investing in Children. A National Research Conference." 1998
- ³⁷ B. Ellerker, Toronto District School Board. Personal communication, March 2002.
- ³⁸ Ministry of Education, Ontario, On-line information about Special Education at: www.edu.gov.on.ca/eng/general/elemsec/speced/speced.html
- ³⁹ Wigle D (2003) *Child Health and the Environment*. Oxford University Press.
- ⁴⁰ USEPA - US Environmental Protection Agency (1996) *Guidelines for Reproductive Toxicity Risk Assessment*. U.S. EPA, Risk Assessment Forum, Washington D.C.
- ⁴¹ Sharpe RM, Irvine DS. (2004). How strong is the evidence of a link between environmental chemicals and adverse effects on human reproductive health? *Br Med J* 328: 447-451.
- ⁴² Schettler T, et al. (1999) *Generations at Risk: Reproductive Health and the Environment*. The MIT Press. Cambridge.
- ⁴³ TPH, HI&P - Toronto Public Health, Health Information & Planning. (2005) Chartbook pages: Infant Mortality Rate, Toronto 1989-2000. January 2005.
- ⁴⁴ TPH, HI&P - Toronto Public Health, Health Information & Planning. (2005) Chartbook pages: Low Birth Weight Rate, Toronto, 1997-2002. January 2005.
- ⁴⁵ Zahm SH, Devesa SS. (1995) Childhood cancer: Overview of incidence trends and environmental carcinogens. *Environ Health Perspect*. 103(Suppl 3):177-84.
- ⁴⁶ Marrett LD, et al (2002) Cancer incidence in young adults in Canada: Preliminary results of a cancer surveillance project. *Chronic Diseases in Canada* 23(2): 58-64
- ⁴⁷ Ontario Cancer Registry (2002). OCRIS Cancer Incidence File, February 2002, Extracted by Toronto Public Health, Health Information, May 2003.

- ⁴⁸ Landrigan PJ, et al (2002) Environmental pollutants and disease in American children: Estimates of morbidity, mortality, and costs for lead poisoning, asthma, cancer and developmental disabilities. *Environ Health Perspect.* 110 (7): 721-728.
- ⁴⁹ Schwartz J (1994) Societal benefits of reducing lead exposure. *Environ Research* 66: 105-124.
- ⁵⁰ Salkever DS (1995) Updated estimates of earnings benefits from reduced exposure of children to environmental lead. *Environ Research.* 70: 1-6.
- ⁵¹ Trasande L, et al (2005) Public health and economic consequences of methylmercury toxicity to the developing brain. *Environ Health Perspect.* 113:590-596.
- ⁵² Muir T, Zegarac M (2001) Societal costs of exposure to toxic substances: Economic and health costs of four case studies that are candidates for environmental causation . *Environ Health Perspect.* 199 (Suppl. 6):885-903
- ⁵³ OMA - Ontario Medical Association (2005) The Illness Costs of Air Pollution – 2005-2026 Health and Economic Damage Estimates, June 2005. www.oma.org/health
- ⁵⁴ To T, et al (2004) *Burden of childhood asthma.* Institute for Clinical Evaluative Sciences (ICES), Toronto, Ontario. www.ices.on.ca/file/ACF77.pdf
- ⁵⁵ Check E. (2004) Huge study of children aims to get the dirt on development. *Nature* 432: 425.
- ⁵⁶ Branum AM, et al. (Members of the National Children's Study Interagency Coordinating Committee) (2003) The National Children's Study of environmental effects on child health and development. *Environ Health Perspect.* 111:642-6.
- ⁵⁷ CDC - Centers for Disease Control and Prevention (2001) *National Report on Human Exposure to Environmental Chemicals* March, 2001.
- ⁵⁸ CDC - Centers for Disease Control and Prevention (2003) *Second National Report on Human Exposure to Environmental Chemicals* January, 2003.
- ⁵⁹ CDC - Centers for Disease Control and Prevention (2005) *Third National Report on Human Exposure to Environmental Chemicals*, July, 2005. www.cdc.gov/exposurereport/
- ⁶⁰ Jones RL, et al (2004) Blood mercury levels in young children and childbearing-aged women – United States, 1999-2002. *Morbidity and Mortality Weekly Report*, USDHSS and DCD&P, 53(43):1018-1020.
- ⁶¹ ATSDR - Agency for Toxic Substances and Disease Registry (1988) *The Nature and Extent of Lead Poisoning in Children in the United States: A Report to Congress.*
- ⁶² Haines D (Ed.) (1998) *Persistent Environmental Contaminants and the Great Lakes Basin Population: An Exposure Assessment.* Health Canada. Minister of Public Works and Government Services Canada. Catalogue No. H46-2/98-218E.
- ⁶³ INAC - Indian and Northern Affairs Canada (2003) *Human Health – Canadian Arctic Contaminants Assessment Report II. Northern Contaminants Program.* (Van Oostdam J, et al Authors & Editors. Health Canada, Safe Environments Program Management of Toxic Substances Division.) www.ainc-inac.gc.ca/ncp/pub/helttoc_e.html

- ⁶⁴ Statistics Canada, on-line. Canadian Health Measures Survey. www.statcan.ca/english/survey/household/measures/measures.htm
- ⁶⁵ M. Tremblay, Statistics Canada. Pers. comm. July 4th, 2005
- ⁶⁶ MOE - Ontario Ministry of Environment. 2004. *Air Quality in Ontario 2003 Report. Appendix*. Queen's Printer for Ontario
- ⁶⁷ EHHi - Environment & Human Health Inc. (2002) *Children's Exposure to Diesel Exhaust on School Buses*. (John Wargo Author). www.ehhi.org/reports/diesel/
- ⁶⁸ Sabin LD, et al. (2004) Characterizing the range of children's air pollutant exposure during school bus commutes. *J Expo Anal Environ Epidemiol*. Advance online publication 08 December 2004; doi: 10.1038/sj.jea.7500414.
- ⁶⁹ Perera FP, et al (2003) Effects of transplacental exposure to environmental pollutants on birth outcomes in a multiethnic population *Environ Health Perspect* 111(2): 201-205.
- ⁷⁰ Whyatt RM, et al (2004) Prenatal insecticide exposures and birth weight and length among an urban minority cohort *Environ Health Perspect* 112(10): 1125-1132
- ⁷¹ IOM - Institute of Medicine (2000) *Clearing the Air: Asthma and Indoor Air Exposures*. Committee on the Assessment of Asthma and Indoor Air, Division of Health Promotion and Disease Prevention, Institute of Medicine, National Academy Press.
- ⁷² CFIA - Canadian Food Inspection Agency (2002) Fact Sheet: *Food Safety Facts on Mercury and Fish Consumption* P0083E-02, May 2002. www.inspection.gc.ca/english/corpaffr/foodfacts/mercury_e.shtml
- ⁷³ Health Canada (2002) *Advisory. Information on Mercury Levels in Fish*. www.hc-sc.gc.ca/english/protection/warnings/2002/2002_41e.htm
- ⁷⁴ Burger J, Gochfeld M (2004). Mercury in canned tuna: white versus light and temporal variation. *Environ Research*. 96: 239-249.
- ⁷⁵ US DHHS & USEPA - U.S. Department of Health & Human Services and U.S. Environmental Protection Agency (2004). *What You Need to Know About Mercury in Fish & Shellfish*. www.cfsan.fda.gov/~dms/admehg3.html
- ⁷⁶ Copes R, et al (2004) Mercury exposure in British Columbia: Do we have a problem? *BC Med J*. 46: 390.
- ⁷⁷ Cole DC, et al (2004). Blood mercury levels among Ontario anglers and sport-fish eaters. *Environ Res*. 95(3):305-14.
- ⁷⁸ TPH – Toronto Public Health (2001) *Chemicals in Drinking Water*. March 2001. www.city.toronto.on.ca/health/hphe/pdf/chemicals_in_drinking_water_technical.pdf
- ⁷⁹ MTTHU and SRCHC - Metropolitan Toronto Teaching Health Unit & South Riverdale Community Health Centre. (1995) *Why Barns are Red*. Health Risks from Lead and Their Prevention. www.toronto.ca/health/pubs_index.htm#13
- ⁸⁰ Sharp R, Lunder S (2004) *In the Dust: High Levels of Toxic Fire Retardants Contaminate American Homes*. Environmental Working Group, Washington. www.ewg.org/reports/inthedust/

- ⁸¹ Santillo D, et al (2003) *Consuming Chemicals – Hazardous Chemicals in HouseDdust as an Indicator of Chemical Exposure in the Home*. Greenpeace UK, May, 2003. www.greenpeace.org.uk/MultimediaFiles/Live/FullReport/5679.pdf
- ⁸² Stapleton HM, et al. (2004) Polybrominated diphenyl ether measurements in household dust In: Alae M, et al (Eds) *Proceedings of the Third International Workshop on Brominated Flame Retardants - BFR 2004*. University of Toronto, Toronto, Ontario, Canada
- ⁸³ Hooper K, et al. (2004) Deca-BDe: Old myths, new realities. In: Alae M, et al (Eds) *Proceedings of the Third International Workshop on Brominated Flame Retardants - BFR 2004*. University of Toronto, Toronto, Ontario, Canada
- ⁸⁴ Butt CM, et al (2004) Spatial distribution of polybrominated diphenyl ethers in southern Ontario as measured in indoor and outdoor window organic films. *Environ Sci Technol*. 38(3):724-31
- ⁸⁵ Jones-Otazo HA, et al.(2005) Is house dust the missing exposure pathway for PBDEs? An analysis of the urban fate and human exposure to PBDEs. *Environ Sci Technol*. 39(14):5121-30
- ⁸⁶ Hoover S (1999) Exposure to persistent organochlorines in Canadian breast milk: A probabilistic risk assessment. *Risk Anal*. 19: 527-45.
- ⁸⁷ Ryan JJ, et al (2002) Polybrominated flame retardants: Recent trends in levels of brominated diphenyl ethers (BDEs) in human milks from Canada. *Organohalogen Compounds*. 58:173-176.
- ⁸⁸ Schecter A, et al (2003) Polybrominated diphenyl ethers (PDBEs) in mothers' milk. *Environ Health Perspect*. 111(14):1723-1729
- ⁸⁹ NEW – Northwest Environment Watch (2004) *Flame Retardants in the Bodies of Pacific Northwest Residents – A Study on Toxic Body Burdens*. September 29, 2004. www.northwestwatch.org
- ⁹⁰ NRC - National Research Council (1993) *Pesticides in the Diets of Infants and Children*. Washington: National Academy Press
- ⁹¹ Neidert E, Havelock G (1998) Canadian Food Inspection Agency Report on Levels and Incidences of Pesticide Residues in Selected Agricultural Food Commodities Available in Canada During 1994-1998. November 6, 1998
- ⁹² Rasmussen PE, et al. (2001) A multi-element profile of housedust in relation to exterior dust and soils in the city of Ottawa, Canada. *Sci Tot Env*. 267: 125-140.
- ⁹³ Environics International Ltd (1999) Global Public Opinion on the Environment. 1999 International Report. *The Environmental Monitor*. November 1999.
- ⁹⁴ Globescan (2003) People are increasingly pessimistic about the impact that environmental problems will have on the health of future generations. *E-Flash Report* December 12, 2003. www.globescan.com/news_archives/iem03_eFlash.html

- ⁹⁵ Ekos poll, September 2000, cited in, NRTEE National Round Table on the Environment and the Economy, Review, Spring 2001. www.nrtee-trnee.ca/eng/newsletter/Spring2001E/Spring2001E.htm
- ⁹⁶ TPH - Toronto Public Health (2002) *Child Health and Environment Needs Assessment Survey, Final Report*. Prepared by Smaller World Communications. April, 2002.
- ⁹⁷ TPH - Toronto Public Health (2002). *A Survey of Toronto Residents' Awareness, Uses and Attitudes Towards Lawn Pesticides*, April 2002.
- ⁹⁸ PECRC - Persistent Environmental Contaminants Review Committee (2005) Provisional Agenda, First Meeting. Geneva Nov 7-11, 2005. Stockholm Convention on Persistent Organic Pollutants. UNEP. www.pops.int/documents/meetings/poprc/POPRC1_1-en.pdf.
- ⁹⁹ CELA – Canadian Environmental Law Association (2002). Brief to the Senate Committee on Social Affairs, Science and Technology reviewing Bill C-8, *Pest Control Products Act*. Prepared by McClenaghan T, Cooper K, November 2, 2002. Publication # 432. ISBN # 1-894158-71-1. www.cela.ca
- ¹⁰⁰ Cooper K, et al (2000). *Environmental Standard-Setting and Children's Health*. Joint Project of the Canadian Environmental Law Association and the Ontario College of Family Physicians Environmental Health Committee. www.cela.ca
- ¹⁰¹ Makris S, et al (1998) *A Retrospective Analysis of Twelve Developmental Neurotoxicity Studies*. Submitted to the US EPA Office of Prevention, Pesticides and Toxic Substances (OPPTS), draft, 11/12/98. www.epa.gov/scipoly/sap/1998/december/neuro.pdf
- ¹⁰² Lanphear BP, et al (2005) Protecting children from environmental toxins. *PLoS Med* 2(3): e61
- ¹⁰³ Rice DC, et al. (1996) Lessons for neurotoxicology from selected model compounds: SGOMSEC joint report. *Environ Health Perspect*. 104(Suppl 2):205-15.
- ¹⁰⁴ Health Canada, online www.hc-sc.gc.ca/hecs-sesc/oceh/
- ¹⁰⁵ Maxwell J. Chair of Children's Task Group. Letter dated March 2005.
- ¹⁰⁶ MOE – Ontario Ministry of the Environment. New Release. Government Takes Action to Protect Health of Ontarians. August 29, 2005. www.ene.gov.on.ca/envision/news/2005/082901.pdf
- ¹⁰⁷ TPH – Toronto Public Health (2005). Update on Ontario's Plan to Revise Air Quality Emission Standards. Report to Toronto Board of Health, June 27, 2005. www.toronto.ca/legdocs/2005/agendas/committees/hl/hl050711/it004.pdf
- ¹⁰⁸ OPHA - Ontario Public Health Association (2004) Building Environmental Health Capacity Within Public Health. Letter to Dr. Sheela Basrur, Chief Medical Officer of Health & Assistant Deputy Minister, from Dr. Pieter Wiebe, Executive Director, OPHA dated June 24, 2004. www.opha.on.ca/advocacy/letters/ehcapacity-june04.html
- ¹⁰⁹ See Ontario Prevention Clearinghouse. Best Start: Ontario's Maternal Newborn and Early Child Development Resource Centre. www.healthbeforepregnancy.ca/

¹¹⁰ Best Start (2005) *Health Before Pregnancy Environmental Checklist*.
www.healthbeforepregnancy.ca/pdf/hbp_envir_chklist_june05.pdf

¹¹¹ See: OHSC - Ontario Healthy Schools Coalition (On-line)
www.opha.on.ca/ohsc/index.html

¹¹² Ontario Ministry of Education (2004) *Good Places to Learn: Renewing Ontario's Schools*. www.edu.gov.on.ca/eng/document/reports/learn/goodplaces.pdf

¹¹³ See www.healthyenvironmentforkids.ca

Appendix One – Addressing Environmental Health Issues in Schools

Children spend their time in many different settings, at home, in early learning and child care facilities, outdoors in their communities and in the school environment. The table below focuses on one setting - the school environment - as an example of health risks and possible remedies. It summarizes a range of potential exposures and related action steps that can be taken in the school environment. It has been prepared as a template for application to other settings.

Note that specific actions noted in column three may be governed by specific provincial or federal law, regulations or guidelines, or industry codes of practice. There may be specific requirements noted in regulatory, policy or guidance documents for dealing with potentially hazardous circumstances (such as mould abatement or during renovations) or for dealing with hazardous materials/substances (such as lead, asbestos, pesticides, etc).

Potential Environmental Threats in Schools: Concerns and Actions for Prevention

Indoor Exposures		
Potential Concern	Why it is a Concern?	Action to reduce the concern.
Mould	Mould growth is related to moisture problems (e.g. high humidity, water damage). Mould growth in portables has been a particular problem in the past. Health effects include allergic reactions and respiratory symptoms.	<input checked="" type="checkbox"/> Proactively address moisture problems (e.g. flooding, leaks) ensuring no area remains damp for more than 24 hours. <input checked="" type="checkbox"/> Prevent mould by keeping ventilation systems dry and clean <input checked="" type="checkbox"/> Remove identified mould growth promptly
Indoor pesticide use	Pesticides, in particular the organophosphate insecticides, have been associated with a wide range of health effects including some cancers and possible impacts on developing brain and nervous system. Indoor pesticides are particularly of concern because they can	<input checked="" type="checkbox"/> Adopt an Integrated Pest Management (IPM) approach focusing on prevention (e.g. caulking cracks, eliminating pest habitats and food sources) <input checked="" type="checkbox"/> If pesticide use becomes necessary for health or safety reasons, choose non-toxic or least toxic products. If non-