



Initiative on Children's Environmental Health

[of the Collaborative on Health and the Environment](#)



Biweekly Bulletin April 20, 2011

This bulletin lists upcoming events plus recent announcements, news and journal articles, calls for proposals and other items related to children's environmental health. They are archived and searchable on our website:

http://www.healthandenvironment.org/working_groups/childrens_health/bulletins.

in ICEH Highlights

Practice Prevention Column Updates

Recent updates to CHE's Practice Prevention columns will bring new information to parents, caregivers, advocates and others concerned about children's health. New and updated columns and Spanish translations continue to be added to the [ICEH website](#).

Announcements

A daily news feed with articles and announcements is available on CHE's website:

<http://www.healthandenvironment.org/news/announce>.

[EPA Launches Faith-based and Neighborhood Partnerships Initiative.](#)

Strong relationships with faith and neighborhood organizations will help promote environmental stewardship that will lead to cleaner communities, encourage healthier families and build a stronger America.

[EPA solicits public comment on permit to reduce stormwater discharges from construction sites.](#)

The U.S. Environmental Protection Agency (EPA) is releasing for public comment a draft permit that will help improve our nation's waterways by regulating the discharge of stormwater from construction sites.

[EPA announces actions on two chemicals to reduce harm to people.](#)

The U.S. Environmental Protection Agency (EPA) has released action plans to address the potential health risks of methylene diphenyl diisocyanate (MDI), toluene diisocyanate (TDI), and related compounds.

[Food Day, October 24, 2011.](#)

Many of the most prominent voices for change in the food movement and a growing number of health, hunger, and sustainable agriculture groups have announced plans for Food Day -- a nationwide campaign to change the way Americans eat and think about food.

[Screen-Free Week, April 18-24.](#)

Since 1996, tens of thousands of parents, teachers, healthcare professionals, scout leaders and clergy have helped millions of children turn off screens and turn on life by organizing local Screen-Free Weeks (formerly TV-Turnoff).

[EPA New England Healthy Communities Grants.](#)

The Healthy Communities Grant Program is EPA New England's main competitive grant program to work directly with communities to reduce environmental risks, protect and

improve human health and improve the quality of life. The program is currently accepting initial proposals for projects that will benefit one or more of the New England states.

[Job opening: Oakland, California.](#)

Worksafe, a California-based organization dedicated to eliminating workplace hazards, has an opening for an occupational health and safety advocate to assist with Worksafe's policy and advocacy work on occupational health and toxics chemical policy, including media and communications activities.

Upcoming Events

Online Calendar. These and more upcoming events, including requests for proposals and abstracts, are listed in a searchable calendar:

<http://www.healthandenvironment.org/cgi-bin/searchevents.cgi>

1) NYU Forum on Theatre for Public Health

Thursday through Saturday, April 21 - 23, 2011
New York, New York

Sponsor: Steinhardt School of Culture, Education, & Human Development, New York University

The goal of this forum is to facilitate a dialogue on the intersections between drama and public health education. The forum will also investigate the perceived boundaries and barriers for artists and educators when delving into health education, as well as those for health professionals when utilizing drama in their work. By public health, we refer to the interdisciplinary field which focuses on protecting, promoting, and improving health and well-being of populations, especially vulnerable ones. The social justice foundation of public health leads the field to consider social, economic, political, and medical care conditions when addressing health issues.

Price: \$20 - \$100; see the website for details

[Visit the website](#)

Contact: Dr. Nancy Smithner, theatreforpublichealth@gmail.com

2) EH@Home Workshop

Select one of these four workshops:

10:30 a.m. - 2:30 p.m. on Wednesday April 27, 2011

Corvallis, Oregon, at LaSells Stewart Center, Oregon State University, 875 SW 26th Street, Construction and Engineering Hall

10:30 a.m. - 2:30 p.m. on Monday May 9, 2011

Portland, Oregon, at Portland State Office Building, 800 NE Oregon St. Room 1 E

10:30 a.m. - 2:30 p.m. on Thursday May 19, 2011

Medford, Oregon, at Medford Library, Adams Room, 205 South Central Avenue

10:00 a.m. - 2:00 p.m. on Friday June 17, 2011

Bend, Oregon, at Deschutes County Health Services, 2577 NE Courtney Drive

Sponsor: Oregon State University Environmental Health Sciences Center

EH@Home is a professional development workshop from the Oregon State University Environmental Health Sciences Center. EH@Home will focus on common environmental health concerns found in residential settings. Anyone who works in the residential setting or communicates with the public, older adults, families or parents is welcome to attend. OSU Faculty will present the latest research findings on key environmental health issues. Workshop participants will be able to recognize common problems, identify risk reduction

strategies, and know when to use specialists for further assistance. Lunch will be provided along with a certificate of attendance.

Price: unknown; preregistration is required

[Visit the website](#)

Contact: Naomi Hirsch, 541-737-8105 or naomi.hirsch@oregonstate.edu

3) 2011 Northeast Water Science Forum

Wednesday through Friday, April 27 - 29, 2011

Portland, Maine

at the Holiday Inn by the Bay

Sponsor: New England Interstate Water Pollution Control Commission

NEIWPC is currently organizing a conference with a theme of "Science to Inform Pharmaceutical and Personal Care Product Management" to provide a forum for sharing the latest in high-quality, timely, and relevant scientific information and research on pharmaceuticals and personal care products (PPCP) in the water environment in order to help Northeast states make informed decisions regarding their policy and management. The Northeast states have identified contaminants of emerging concern, specifically PPCPs, as a cross-programmatic research priority touching on issues of occurrence, fate, human and ecological health effects, and wastewater and drinking water treatment. PPCPs comprise a vast group of compounds manufactured in large quantities that are frequently used by humans (and domesticated animals) worldwide. The 2011 Northeast Water Science Forum looks to advance the interpretation and application of the science into policy and regulations, risk assessments, green chemistry movements, as well as identifying future research needs.

Price: see the [Registration page](#)

[Visit the website](#)

Contact: Jaclyn Harrison, 978-349-2507 or jharrison@neiwpc.org

4) Introduction to Managing Environmental Data with Microsoft Access 2007

Tuesday and Wednesday, May 3 - 4, 2011

8:30 a.m. - 5:00 p.m.

Bellevue, Washington

at the Bellevue Hilton

Sponsor: EOS Alliance

Participants will gain basic to intermediate skills in using Microsoft Access 2007 to build relational databases for managing and mining their environmental data. This comprehensive class uses extensive hands-on exercises for in-depth use of tables, queries, forms, reports, and macro objects in Access 2007. These Access database subjects use real-world environmental examples with actual field data. No experience with MS Access 2007 is required; however, basic understanding of Microsoft Office software and basic computer skills are required. Continuing Education Units are available.

Price: \$545 or \$445 for employees of Native American tribes, nonprofits, and government agencies; students; and NAEP members

[Visit the website](#)

5) 8th Annual Nutrition & Health Conference

Monday through Wednesday, May 9 - 11, 2011

San Francisco, California

at the Hyatt Regency San Francisco in Embarcadero Center

Sponsor: Sponsored for CME by the University of Arizona College of Medicine at the Arizona Health Sciences Center. Presented by the Arizona Center for Integrative

Medicine.

The conference goal is to provide health practitioners with an understanding of the central role of nutrition in health and healing, to provide a scientific basis for the integration of nutrition and medicine in order to practice preventive and therapeutic nutritional medicine. The conference provides an overview and practical summary of the latest information on nutrition and health presented by leaders in scientific research, clinicians skilled in nutritional medicine, experts on food and agricultural policy, and innovative chefs.

Price: see the [Registration page](#)
[Visit the website](#)

Contact: see the [Contact Us page](#)

6) Who's in Charge of Environmental Health at Schools?

Tuesday May 10, 2011

2:00 p.m. Eastern / 11:00 a.m. Pacific time

Sponsor: American Association on Intellectual and Developmental Disabilities
Environmental Health Initiative

Jerome A. Paulson, MD, FAAP, associate professor of Pediatrics and Public Health at George Washington University, will discuss environmental health in schools. Children spend many hours each week in and around school buildings. Their short- and long-term health outcomes and ability to learn are affected by numerous environmental factors related to the school buildings, the school grounds, the school transportation system, and the use of various products and materials in and around the school. Many school buildings are old, and they—and even newer buildings—can contain multiple environmental health hazards. While some districts self-report they have environmental health policies in place, no independent verification of these policies or their quality exists. Teachers and other adult staff are afforded some protections from hazards by Occupational Safety and Health Administration (OSHA) regulations, employment contracts or occupational health services. But children who are more vulnerable to hazards than adults are not provided these protections. Major environmental problems include indoor air quality, lighting, pests and pesticides, heavy metals and chemical management issues, renovation of occupied buildings, noise, and cleaning processes and products. No federal or state agency is charged with ensuring children's health and safety in and around school buildings. No systematic means exists for collecting data about exposures which occur in the school setting. Dr. Paulson will offer recommendations for dealing with data collection, federal actions, state and local actions, and for building the capacity of the Environmental Protection Agency and the CDC-funded Pediatric Environmental Health Specialty Units (PEHSU) in responding to and evaluating risks to children's environmental health in schools.

Price: free
[Visit the website](#)

7) The Second Coming of the Sanitarians

Thursday May 12, 2011

12:30 - 1:20 p.m.

Seattle, Washington

at the University of Washington, HSB T-435

Sponsor: University of Washington Department of Environmental and Occupational Health Sciences

The speaker will be Bruce Lanphear, MD, MPH, professor of Children's Environmental Health at Simon Fraser University.

Price: free

[Visit the website](#)

8) International Conference on Environmental Pollution and Public Health

Friday through Sunday, May 13 - 15, 2011

Wuhan, China

Sponsor: IEEE Engineering in Medicine and Biology Society, USA; Wuhan University, China; Overseas Chinese Scholar Environment Protection Association (OCSEPA); and Fuzhou University, China

The conference will present state-of-the-art research papers in a number of areas of interest within the broad categories of water quality and public health, air pollution and public health, and other related issues.

Price: unknown

[Visit the website](#)

Contact: the secretary of EPPH2011, +86-13264702230 or epph@icbbe.org

News and Journal Articles

[Brain-wide chemical changes linked to childhood lead exposure.](#)

Monday, April 18, 2011

Exposure to moderate levels of lead during childhood can permanently change important brain chemical levels later in life, suggests results from a large brain imaging study. The adults who had higher average blood lead levels as children also had lower levels of several key chemicals that are produced in different brain regions. Environmental Health News.

[See other articles about lead: [Despite federal regulation, renovators not always trained to deal with lead-based paint](#); [Little League baseball uniform belts tainted with lead](#); [Lead dangers to North Nashville children targeted](#); [Missouri House votes to relax lead paint regulations](#) and [Duluth tackles lead danger in aging rental properties](#)]

[Foam alone: Do furniture flame retardants save enough lives to justify their environmental damage?](#)

Monday, April 18, 2011

An obscure California law effectively sets flammability standards for foam in the nation's furniture, but proposed new legislation claims flame retardants don't prevent fires and could have negative health impacts. Scientific American.

[Chemicals were injected into wells, report says.](#)

Sunday, April 17, 2011

Oil and gas companies injected while fracking hundreds of millions of gallons of hazardous or carcinogenic chemicals into wells in more than 13 states from 2005 to 2009, according to an investigation by Congressional Democrats. New York Times.

[See related articles: [Fracking shale for natural gas promises landowners great wealth, worries for the environment](#); [Radioactive frack waste dumping prohibited](#); [UK shale gas boom 'may be dirtier than coal'](#); [Increase in fracking raises concerns](#) and [Chesapeake, others reveal more chemicals in process](#)]

[2 million stillbirths a year reported worldwide.](#)

Sunday, April 17, 2011

More than 2 million babies are stillborn every year worldwide and about half could be saved if their mothers had better medical care, a new study finds. While the vast majority of stillbirths happen in the developing world, the rates in many developed countries have not dropped to the degree expected, as rising obesity levels among pregnant women increase the risk. Associated Press.

[See another article about birth outcomes: [Individual exposures to drinking water trihalomethanes, low birth weight and small for gestational age risk: a prospective Kaunas cohort study](#) and an article about obesity: [Mother's diet during pregnancy alters baby's DNA](#)]

Better risk assessments through molecular biology.

Saturday, April 16, 2011

Risk assessment is a process of evaluating information to determine how likely you think some event is; in the case of the EPA, the likelihood of public health or environmental damage. Molecular biology offers a cheaper, faster way to generate the data needed to produce these assessments. Science News.

Vietnam War legacy continues to poison humans, livestock.

Saturday, April 16, 2011

The first international study of dioxin contamination, conducted late last year, has confirmed "elevated levels" of the toxin in fish and other animals at the Bien Hoa Airbase, and has called for an immediate halt to their consumption. Thanhnien News, Vietnam.

[See other articles about contaminated sites: [EPA: PCBs keep flowing, pose risk](#); [N.J. company pleads guilty to dumping 16 million lbs. of waste](#); [Pollution row hits mining firm supplying Olympic medals](#); [Lawmakers blast Navy over Lejeune water contamination](#); [Much waste remains beneath Pittston](#); ['Foul Chitti Bein behind cancer surge in Doaba'](#) and [Removing PCBs from schools now complicated by asbestos, says Ed Dept](#)]

Following cancer prevention guidelines lowers risk of death from cancer, heart disease, all causes.

Friday, April 15, 2011

A study of more than 100,000 men and women over 14 years finds nonsmokers who followed recommendations for cancer prevention had a lower risk of death from cancer, cardiovascular disease, and all-causes. ScienceDaily.

Earliest intervention.

Friday, April 15, 2011

Young Maryland families are opening up their lives to Hopkins researchers seeking to determine how a combination of genetic and environmental factors might contribute to autism, even before birth. Baltimore Sun, Maryland.

[See other articles about autism: [Autism now: Robert MacNeil shares grandson Nick's story](#) and [Work of UC Davis autism researchers to be featured on PBS series](#)]

Mercury exposure -- even at low levels -- linked to eczema.

Thursday, April 14, 2011

Mercury exposure -- possibly through eating seafood -- is linked to a greater risk of contracting atopic dermatitis, a common skin disease known more commonly as eczema, report Korean researchers in the journal Environmental Research.

[See another article about mercury: [Evaluation of the impact of genetic polymorphisms in glutathione-related genes on the association between methylmercury or n-3 polyunsaturated long chain fatty acids and risk of myocardial infarction: a case-control study](#)]

EPA wears many hats in sprawling environmental justice initiative.

Thursday, April 14, 2011

Lisa Garcia has no illusions: In a recent interview, the U.S. EPA associate assistant administrator compared her vision of nationwide environmental equity to achieving world peace. Greenwire.

[See other articles about environmental justice: [Environmental justice initiative offers 'opportunity,' not a burden](#), [DOJ tells wary industry](#); [Chemical reform urgent for people of color and low income communities](#) and [Migrant workers' health suffers due to housing, labour: Study](#)]

Prenatal exposure to certain pollutants linked to behavioral problems in young children.

Wednesday, April 13, 2011

Mothers' exposure during pregnancy to pollutants created by the incomplete combustion of fossil fuels and other organic material may lead to behavioral problems in their

children, according to a new study. ScienceDaily.

[See another article about exposures to common toxicants: [Household pollution can be hazardous to family's health](#)]

Federal agency warns of unsafe chemical levels with Brazilian Blowout hair treatment.

Wednesday, April 13, 2011

Federal safety regulators say a popular hair smoothing treatment called Brazilian Blowout can release unsafe levels of the chemical formaldehyde, posing a risk to hair salon workers and their customers. Associated Press.

[See another article about formaldehyde: [EPA formaldehyde findings called into question by independent review](#)]

Chronic illnesses lead to a childhood of limitations.

Wednesday, April 13, 2011

The rate of chronic disease in kids Cipriano's age has doubled in the past two decades: 26% of children now suffer from a long-term health problem, says a 2010 study of more than 5,000 children ages 2 to 8 in the Journal of the American Medical Association. USA Today.

Study finds public relatively unconcerned about nanotechnology risks.

Wednesday, April 13, 2011

A new study finds that the general public thinks getting a suntan poses a greater public health risk than nanotechnology or other nanoparticle applications. dBusinessNews

[See a related article: [Silica and titanium dioxide nanoparticles cause pregnancy complications in mice](#)]

Nitrogen footprint warning from European agency.

Monday, April 11, 2011

A new study says nitrogen pollution costs every person in Europe £650 a year in damage to water, climate, health and wildlife. Press Association.

[See other articles about climate change: [Black carbon: the dark horse of climate change drivers](#) and [EPA publishes national U.S. greenhouse gas inventory](#)]

Goldman Environmental Prize goes to Texas man who took on refineries over pollution.

Monday, April 11, 2011

They call Port Arthur gasoline alley, cancer alley, and the armpit of Texas. For most of his life, Hilton Kelley has called it home. Kelley's decade-long fight to lower the city's air pollution earned him this year's Goldman Environmental Prize for the North America category. Washington Post.

Girls hit puberty earlier than ever, and doctors aren't sure why.

Monday, April 11, 2011

Girls are maturing faster than ever and, for reasons doctors don't completely understand, hitting puberty younger than any generation in history. Most agree that several forces are at work, from obesity to hormone-like environmental chemicals. USA Today.

[See a related article: [Chemicals may be bad for boys' development](#)]

Better a sprint than a marathon: brief intense exercise better than endurance training for preventing cardiovascular disease.

Sunday, April 10, 2011

New research published April 5 in the American Journal of Human Biology reveals that high intensity exercise is more beneficial than traditional endurance training. ScienceDaily.

[See other articles about exercise and health: [Finding puts new emphasis on the benefits of jogging](#) and [Those community-based exercise programs may not actually work](#)]

Arsenic and toxic metals found in baby foods.

Sunday, April 10, 2011

Baby foods used to wean infants off milk have been found to contain "alarming" levels of toxic contaminants including arsenic, lead and cadmium. London Daily Telegraph, United Kingdom.

[See other articles about food and health: [A gray area over food dyes](#); [Common dietary fat and intestinal microbes linked to heart disease](#); [Food fight: the case for genetically modified food](#); [Fishy fat from soy is headed for U.S. dinner tables](#); [Aloe vera extract gave rats tumours](#); [Is sugar toxic?](#); [Food safety, trade at center of fight over imports of Asian catfish](#); [Maryland eases rockfish consumption guidelines](#); [The mighty blueberry](#); [Almost half of meat in stores may have drug-resistant bacteria](#); [The memory of alcohol](#); [On Southland piers, warning that more fish species are tainted](#); [Bisphenol A: How to reduce BPA exposure from food](#); [Vegetarians may be at lower risk of heart disease, diabetes and stroke](#); [Vitamin D may help reduce heart risk in African-Americans](#); [Who can guarantee China's pork is safe?](#) and [Japan bans planting rice in radioactive soil](#)]

[Study shows Europe's alcohol-linked cancer burden.](#)

Saturday, April 09, 2011

Almost 10 percent of all cancers in men and 3.0 percent in women in western Europe are caused by people drinking too much alcohol, scientists said on Friday. Reuters.

[See other articles about cancer: [Explosion of deadliest skin cancer: two new cases a week among young Scots](#); [Under-18s will be banned from sunbeds to cut soaring skin cancer toll](#); [LOE retrospective: Cancer Alley](#); [Soy foods OK after breast cancer: study](#); [Mesothelioma incidence found to be higher in industrialized countries](#); [Governor signs precedent-setting healthcare worker safety laws](#); [Toxic mystery unfolds in Newport Beach](#); [Cancer society 'disappointed' with Quebec asbestos expansion](#); [Breast cancer & pesticides in 1991](#) and ['No evidence' for folate-colorectal cancer risk](#); [American Cancer Society](#)]

[Rodent of the Week: A message from mice to teens about binge drinking.](#)

Friday, April 08, 2011

Drinking at a young age is simply bad for the brain, according to a growing number of studies. The latest study looks at the relationship between alcohol and the brain in mice. And the results are not pretty. Los Angeles Times.

[Freeway air pollution linked to brain damage in mice.](#)

Friday, April 08, 2011

Exposure to pollution particles roughly one-thousandth the width of a human hair has been linked to brain damage in mice, including signs associated with memory loss and Alzheimer's disease, according to a USC study in the journal Environmental Health Perspectives. Los Angeles Times, California.

[See other articles about air quality: [Risk assessment of diesel exhaust and lung cancer: combining human and animal studies after adjustment for biases in epidemiological studies](#); [Ontario Lung Association warns rates of COPD, asthma expected to rise](#); [Switch to cleaner fuel key for better urban human, environmental health](#); [Urban air pollution and emergency room admissions for respiratory symptoms: a case-crossover study in Palermo, Italy](#); [Opponents battle biomass plan in Jasper](#); [Polluted air leads to disease by promoting widespread inflammation](#); [EPA proposes stronger air toxic emissions standards for polyvinyl chloride production facilities](#) and [500 attend biomass event](#)]

[Environmental Health Trust launches global campaign for safer cell phones in a dozen nations.](#)

Friday, April 08, 2011

The campaign's goal is to promote the public right to know about ways to reduce cell phone radiation, providing open-source resources that educate and motivate health professionals, teachers, parents and students about simple and safer ways to use cell phones. San Francisco Chronicle.

[See related articles: [Do cellphones cause brain cancer?](#) and [Chinese put cancer of the parotid gland on center stage](#)]

[Ozone depletion over Arctic at record level-UN.](#)

Thursday, April 07, 2011

The ozone layer over the Arctic is thinner than it has ever been because of harmful chemicals and a cold winter, according to UN world weather experts. London Daily Telegraph, United Kingdom.

[WHO calls for action on superbugs.](#)

Thursday, April 07, 2011

Health experts renewed their warnings Thursday that a new form of superbug that gives bacteria the power to resist virtually all known antibiotics is spreading quickly, posing a global health threat. Wall Street Journal.

[Secondhand smoke isn't just bad for kids' bodies, it's bad for their brains.](#)

Thursday, April 07, 2011

Children and teens exposed to secondhand smoke are more likely to develop symptoms for a variety of mental health problems, including major depressive disorder, ADHD and others, according to a study published in Tuesday. Los Angeles Times, California.

[See other articles about tobacco use: [Researchers fret over popularity of hookah smoking](#); [Australian anti-smoking laws to be 'toughest in world'](#); [Blowing smoke from 'divine cigarettes'](#) and [Smoking ban failing in taxis](#)]

[Europe's growing noise headache.](#)

Thursday, April 07, 2011

A World Health Organisation public health report has found that 1.6 million years of healthy living is lost each year because of noise pollution. London Guardian, United Kingdom.

[Parkinson's-like symptoms found in welders: study.](#)

Thursday, April 07, 2011

Workers exposed to welding fumes may be at risk for developing Parkinson's disease-like symptoms, a new study suggests. Postmedia News.

[Oil spills may leave more emotional than physical scars, study finds.](#)

Thursday, April 07, 2011

Doctors have found that adverse health effects from oil and chemical exposure are less likely than behavioral and mental health issues to pose significant long-term risks for most gulf residents following last year's BP spill. New York Times.

[See a related article: [A year after the Gulf spill, cleanup workers are suffering](#)]

[Groups say asthma cases will rise if EPA rules blocked.](#)

Thursday, April 07, 2011

A study released Wednesday says asthma cases nationwide will accelerate along with health-care costs if Congress blocks the U.S. Environmental Protection Agency from implementing new air-pollution rules. Pittsburgh Post-Gazette, Pennsylvania.

[See other articles about EPA functioning: [Senate rejects bills to limit E.P.A.'s emissions programs](#) and [House votes to kill EPA climate regulations](#) and another article about asthma: [Why are asthma rates soaring?](#)]

[Atrazine associated with risk of small babies, human study shows.](#)

Thursday, April 07, 2011

Researchers in France report that babies born to women who had measurable levels of atrazine and its metabolites in their urine during pregnancy were lighter, shorter and had smaller heads than babies born to women who were not exposed. Environmental Health News.

[See other articles about pesticides: [Cancer cause or crop aid? Herbicide \[glyphosate\] faces big test](#); [Methyl iodide permit approved and then revoked](#) and [Prostate cancer and ambient pesticide exposure in agriculturally intensive areas in California](#)]

[Fukushima health risks scrutinized.](#)

Thursday, April 07, 2011

Even as the damaged reactors at the Fukushima Daiichi nuclear power station continue to leak radiation, researchers have begun laying the groundwork for studies that will

look for any long-term effects on public health. Nature.

[See related articles: [US radiation study sparks debate](#); [Nuclear power evokes nightmares, but coal poses greater risks to your health: study](#); [Radioactive leaks increasing at U.S. nuclear plants](#); [Hiroshima and Nagasaki cast long shadows over radiation science](#) and [Trauma and controversy: Chernobyl's health legacy](#)]

[Phthalates, BPA linked to atypical childhood social behaviors.](#)

Thursday, April 07, 2011

The social behavior -- including difficult interpersonal and social awareness skills -- reported by the moms are similar to those associated with attention deficit hyperactivity disorder (ADHD) and autism. Environmental Health News.

[See related articles: [House votes overwhelmingly to ban BPA from child products](#); [BPA ban gets unanimous Senate approval](#); [Beyond BPA: could 'BPA-free' products be just as unsafe?](#) and [Substitutes for bisphenol A could be more harmful](#)]

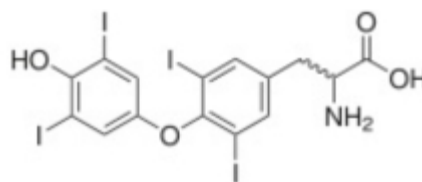
Lessons Learned

Iodine Is Essential, But I-131 is a Hazard to the Thyroid by Steven G. Gilbert, PhD, DABT

Iodine is a biologically essential trace element with the symbol I and atomic number 53. Bernard Courtois (February 12, 1777 - September 27, 1838), a French chemist born in Dijon, France, discovered iodine in 1811. Interestingly, he also isolated morphine, the first known alkaloid.

Iodine is a constituent of the thyroid hormones thyroxine (T4) and triiodothyronine (T3), produced by the thyroid gland and responsible for regulation of metabolism. T4 and T3 contain four and three atoms of iodine per molecule, respectively. The thyroid gland actively absorbs iodide from the blood to make and release these hormones. Thyroid hormones are phylogenetically very old molecules that are synthesized by most multicellular organisms.

An excessive production of thyroid hormones increases basal metabolic rate, while the deficiency of thyroid hormones reduces basal metabolic rate. An iodine deficiency can occur, resulting in hypothyroidism, a leading cause of preventable mental retardation that occurs primarily when babies or small children lack dietary iodine. Thyroid hormone is critical to normal development of the baby's brain and nervous system, and checks during pregnancy are increasingly common. The daily Dietary Reference Intake recommended by the United States Institute of Medicine is between 110 and 130 µg for infants up to 12 months and 150 µg for adults. To ensure adequate iodine intake, iodine is added to salt, particularly in developed countries.



thyroxine (T4) - I = iodine

Radioactive iodine-131 is a major product of uranium fission and is entirely a human-created hazard. I-131 is a beta emitter with a half life of 8 days, which is fortunately relatively short. As a nuclear fission product, I-131 was a significant contributor to the health effects from open-air atomic bomb testing in the 1950s and from the Chernobyl disaster, as well as a factor in the current



Fukushima nuclear reactors

Japanese nuclear crisis. As a beta emitter, iodine-131 causes mutation and death in cells which it penetrates and adjacent cells up to several millimeters away. These

damaged cells can be killed or mutate, which may result in cancer. The thyroid gland readily accumulates iodine to produce T4 and T3, thus making it particularly vulnerable. Exposure to I-131, particularly for children, can result in thyroid cancer. Iodine pills are commonly prescribed for those near a nuclear disaster to reduce the thyroid's uptake of I-131 and thus reduce the incidence of thyroid cancer. Paradoxically, radioactive iodine is also medically prescribed to kill thyroid cells following cancer treatment.

Uncontrolled nuclear reactions that result in the release of I-131 are hazardous to humans and wildlife. I-131 is yet another example of why children are more vulnerable to hazardous exposures than adults. We have a profound ethical responsibility to ensure our children reach and maintain their full potential in an environment free of nuclear and chemical hazards.

Iodine at Toxipedia - <http://toxipedia.org/x/OO8>

Bernard Courtois at Toxipedia - <http://toxipedia.org/x/RO8>

WANMEC - WA Nuclear Museum & Education Center - www.wanmec.org

Particles on the Wall - www.particlesonthewall.org

Looking back to go forward

Lessons Learned is a bulletin feature focusing on an historical event that provides an important lesson for ensuring a more sustainable and healthy environment. Please feel free to send suggestions to [Steve Gilbert](mailto:Steve.Gilbert@iceh.org).

Past Lessons Learned: <http://toxipedia.org/x/O6Jb>

The Collaborative on Health and the Environment offers this information as a service but does not endorse any of the events, articles or announcements.

Companion bulletins are available for different audiences:

- For those interested in environmental health as it relates to learning and developmental disabilities: <http://www.iceh.org/LDDIbulletins.html>
- For those interested in environmental health in Washington State and the Pacific Northwest: <http://washington.chenw.org/bulletins.html>

While there is overlap with this bulletin, there are some events and announcements unique to those bulletins.

If you would like to join the Collaborative on Health and the Environment (CHE) and the ICEH Working Group, please complete the application on the CHE website: <http://www.healthandenvironment.org/application> Joining CHE means receiving up to four email messages a month from the CHE National listserv. CHE costs nothing to join and the benefit is shared information and opportunities for further engagement, if you choose. Be sure to mark that you want to join the Initiative on Children's Environmental Health Working Group at the bottom of the application.

Nancy Hepp

Collaborative on Health and the Environment

[Join Our Mailing List!](#)