

# **THE DIRTY FACTS ON INDOOR AIR QUALITY Version Five**

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## ***INDOOR AIR AND HOW IT AFFECTS OUR DAILY LIVES***



- 9 out of 10 breaths we draw are likely drawn indoors: at school, the workplace, restaurants, movie theaters and home.
- The average person breathes in 50,000 pollution particles a day, and takes 20,000 breaths a day.
- Poor indoor air quality can cause or contribute to the development of chronic respiratory diseases such as asthma and hypersensitivity pneumonitis. It can also cause headaches, dry eyes, nasal congestion, nausea and fatigue.
- In today's world, we inhale toxins on a regular basis and it's almost impossible to eliminate. What you inhale has an immediate and profound effect on such things as appetite, digestion, moods, depression, anxiety, irritability and sleep. Reducing the toxins that you breathe can have a very profound and dramatic impact on your health.
- According to the State of Massachusetts Study, 1989, "50% of all illness is due to poor indoor air quality."

## Children – Who Are We Hurting The Most?



- Children spend more than 90% of their time indoors, in the home (especially with the lure of personal computers and video games), school, hockey arenas and shopping malls. Research has shown that concentrations of pollutants can be up to 100 times higher indoors than outdoors.
- Children are most susceptible to indoor air pollution as their small bodies and undeveloped immune systems are less able to effectively cope. Also children's lungs are still developing and they have a higher metabolic rate, which means they require more oxygen. They breathe 3 times faster than do adults and so they tend to absorb 3 times more pollutants and toxic vapors than adults, according to the US National Center for Health Statistics.

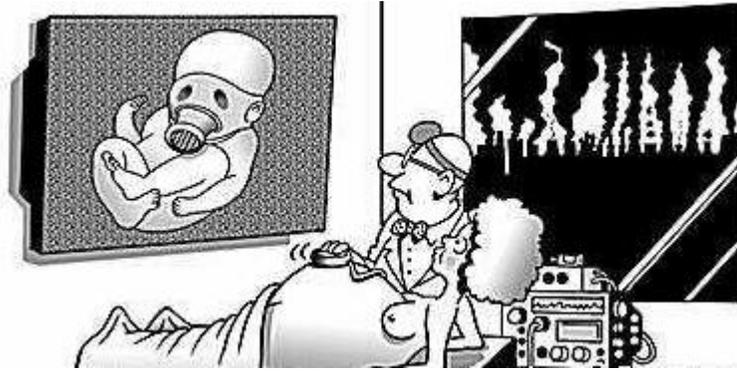
For children and adults, this all translates to immune deficiency, lowered IQ rates, headaches, depression, anxiety, inability to concentrate, attention deficit hyperactivity, shortness of breath, joint pain, sexual problems, memory loss and cancer.

- According to the Environmental Contamination and Toxicology Institute, until a child is approximately 13 months old, they have virtually no ability to fight the biological and neurological effects of toxic chemicals. A child's immune system is not fully developed until they are approximately 12 years old.
- According to the Canadian Institute of Child Health (published *The Health of Canada's Children 2000*), Canadian children are exposed daily to a toxic soup of chemicals in their water, air and food, and that exposure may explain the dramatic rise in childhood cancers, asthma, sudden infant death syndrome and behavioral problems.

The chronic, low-level exposure to pesticides, smog, food additives and other chemicals could also create a host of public-health problems for coming generations, including limiting the ability of prospective parents to conceive.

The report states there has been a 25% increase rate of childhood cancers in the past 25 years, all believed to be influenced by exposure to environmental contaminants. Asthma is now the leading cause of hospital admissions in Canada, and the most frequent trigger for an attack is air pollution.

- The US National Cancer Institute states that “Child brain and nervous system cancers have increased 26% overall – in children under 5 years old, brain cancer rose 53% and leukemia is up 18%.”
- Pollutants including lead, mercury, pesticides, PCBs and dioxins can reduce intelligence and slow central nervous system development in fetuses.
- A Canadian study conducted on hyperactivity disorder, among 20,000 children nationwide, found 11% of children have been diagnosed with the disorder, compared with less than 3%, 20 years ago. Some research has pegged the level among US children at 17%.
- According to The Learning Disabilities Association of America, 12 million children under the age of 18 suffer from learning disabilities and behavior disorders such as hyperactivity and attention deficit disorder.
- ADD/ADHD is epidemic in schools today. Behavioral problems have long been linked to exposure to toxic chemicals and mold. Use of Ritalin has skyrocketed since 1990.
- Bristol University’s Children of the 90’s Project, conducted a study on 7000 pregnant mothers and followed their children to the age of 8. The team concluded that “children whose mothers made frequent use of chemical-based domestic products during pregnancy were more likely to wheeze persistently throughout early childhood, independent of many other factors.” Domestic chemicals included: disinfectant, bleach, aerosols, air fresheners, carpet cleaner, paint or varnish, white spirit, pesticide and paint stripper. The Bristol team suggested that the chemical formaldehyde could be the common factor.
- Three separate studies connect exposure to pesticides during pregnancy to lower IQ scores in kids. Researchers were especially concerned with a farming region in California, where kids and their moms were probably exposed to pesticides used on local crops.
- The studies concern organophosphates, which disrupt the brains and nervous systems of insects. Thing is, they do the same thing to humans -- after all, they were developed as nerve poison during WWII.
- Two of the studies took place in New York and the third was in the region of California I already mentioned. In all of the studies, there was a link between pesticide exposure and lower IQ scores by age 7. In the farming region of California, every 10-fold increase in organophosphates detected in the urine of the mothers when they were pregnant was linked to a 5.5-point IQ drop by age 7.



## A Spotless Home May Be MORE Dangerous



- Parents who keep a spotless home may be triggering an asthma attack. According to Australian researchers, who conducted a smaller sample study than Bristol, toddlers exposed to fumes from solvents and cleaning products at home are most at risk. Polishes, room fresheners and new carpets were some of the triggers. Children exposed to the highest levels of volatile organic compounds were 4 times more likely to have asthma. Benzene which is used to make rubbers, dyes and detergents, and is also a component of gasoline, has been linked to cancers.
- Researchers from Brock University in St. Catharines, Ontario, tracked dozens of southern Ontario school kids aged 10 and 11, and found that athletic kids who get outside and engage in rigorous physical activity are generally healthier and get sick less often. Youngsters who don't get outside much have higher incidences of upper respiratory tract infections.
- The growth of synthetic chemicals after the 1950's has been phenomenal. US production alone increases tenfold in each decade. By the 1980's, 4 million new chemicals had been recorded, of which 60,000 were in common use, with around 1000 being added to this every year. Today there are about 72,000 synthetic chemicals being produced.
- An average home now probably stores more chemicals than a chemistry lab at the turn of the century, about 62,000 chemicals - most of them in the kitchen and bathroom.
- Less than 2% of synthetic chemicals have been tested for toxicity, mutagenic, carcinogenic or birth defects. The majority of chemicals have never been tested for long term effects.
- The Center of Bio Environmental Research found that "of the 70,000 chemical compounds, only 25% have been tested – and they were tested individually, not in combination with other chemicals." They also stated that "chemicals do not occur individually in our body, they occur in combinations." "Tiny amounts of only 2 toxic chemicals at the same time are 1000 times more dangerous than 1 of them alone."

- The Hazardous Products Act requires that manufacturers list only certain volatile organic compounds in their products.
- Labeling laws protect Big Business. They do not protect the consumer.
- The New York Poison Control Centre reported that 85% of product warning labels were inadequate or incorrect for identifying a poison and for first aid instructions.
- Pesticides only have to include active ingredients on the labels, even though the inert (inactive) ingredients may account for 99%, many of which are toxic and poisonous.
- Material Safety Data Sheets (MSDS) must be available for any chemical product used in the workplace (in Canada). The air within a home is not considered a legal environment, whereas the air in the workplace and outdoors is.
- Chemicals can evaporate right through a container that isn't properly sealed.
- Chemicals get into our body through inhalation, ingestion and absorption. According to the American Lung Association, we breathe in the vapors, airborne volatile organic compounds or VOC's. Some products release contaminants into the air right away; others do so gradually over a long period of time. Some stay in the air up to a year.
- Damage to organs caused by environmental chemicals frequently cannot be repaired or corrected once the injury has occurred. Prevention is therefore essential – *Herbert L. Needleman, M.D. and Philip J. Landrigan, M.D., "Raising Children Toxic Free"*.
- Chemicals are attracted and stored in fatty tissues. The brain is a prime target for destruction due to its high fat content and very rich blood supply.
- Chemicals become more active from higher temperatures. The ideal temperature within the home should be between 68° and 72°.
- The Canada Mortgage & Housing Corp (CMHC) reports that houses are sealed so tight for energy efficiency that they cannot offgass chemicals. The chemicals have no where to go, so they build up within the home.
- An Environmental Protection Agency EPA study stated that the toxic chemicals in household cleaners are 3 times more likely to cause cancer than outdoor air. The EPA also conducted a 15 year study that showed American homes have chemical levels 70 times higher than outside. The number of chemicals used inside the home has more than doubled since 1950.
- Since 1960, cancer rates have almost doubled. Cancer is the #1 cause of death for children. Since 1982, there has been a 26% increase in breast cancer. Breast cancer is the #1 cause of death for women between the ages of 35 and 54 years. Laundry detergents, household cleaners and pesticides are the primary suspects.

- There has been a call from the US/Canadian Commission to ban bleach in North America. Bleach is being linked to the rising rates of breast cancer in women, reproductive problems in men, and learning and behavioral problems in children.
- Research has found that women who work in the home are at a 54% higher risk of developing cancer than women who work outside the home.
- In children, the risk of leukemia and brain tumours increases dramatically in households using home and garden pesticides, herbicides and insecticides.
- Indoor air of an average Canadian home on a cleaning day can be hundreds, even thousands of times more contaminated than the outdoor air in the most polluted of cities.
- Steam from dryer vents is considered extremely toxic, because of the chemicals from dryer sheets and residue from laundry soap and bleach.
- Chemicals used to dry clean clothing are very dangerous and can cause cancer. Dry cleaned clothes should be hung outside for at least 3 days. Dry-cleaning chemicals are the same cancer causing chemicals that are found in mothballs.
- Volatile Organic Compounds are off-gassed from new furniture, often lacquered with formaldehyde, particleboard paneling or shelving, stuffed furniture (often coated with a stain treatment) and even carpeting.
- Volatile Organic Compounds are emitted from air fresheners, bleach products, household cleaning products, deodorizers, dishwashing detergents, disinfectants, dry cleaned clothing, fabric softeners, laundry detergents, furniture polishes, metal polishes, oven cleaners, glues, paints, solvents, mineral deposit removers, pesticides, garden chemicals, personal care products and more.
- There are approximately 9000 Volatile Organic Compounds found in recently sprayed perfume - similar to numbers found in butane. Toluene, a chemical in almost all fragrances, is believed to trigger asthma attacks and other side effects.
- Formaldehyde, phenol, benzene, toluene, xylene are found in common household cleaners, cosmetics, beverages, fabrics and cigarette smoke. These chemicals are cancer causing and toxic to the immune system.
- Products containing formaldehyde can cause allergies, asthma, cancer and immune deficiency diseases.
- Products containing phenols such as mouthwash, acne medications, wallpaper, baking powder, sugar substitutes, computers and television sets, are absorbed by the lungs and skin. They are known to cause caustic burns, kidney and liver damage, as well as hyperactivity.

- Disinfectant aerosol sprays contain phenols and dioxin (Agent Orange), which are dangerous chemicals. Some commercials in the past have shown a mother spraying the baby's diaper pail right in the infant's bedroom. *What a way to start life!*
- In 1970, NTA's were banned from use in products. However, in 1980, consumer goods manufacturers lobbied to bring back the use of NTAs. NTAs cause the sudsing action. More suds mean less clean and more toxic danger. Studies conducted on toothpaste showed that the suds were the same suds found in laundry soap. *This part really doesn't apply to indoor air quality, but I thought you might want to read it.*
- The National Institute of Occupational Safety and Health has found more than 2500 chemicals in cosmetics that are toxic, cause tumors, reproductive complications, biological mutations and skin and eye irritations.
- Fibromyalgia, chronic fatigue syndrome, arthritis, lupus, multiple sclerosis, circulatory disorders, Alzheimer's, Parkinson's disease, irritable bowel syndrome, depression and hormonal problems are diseases commonly related to chemical exposure.
- Aerosols and air fresheners contain dozens of volatile organic compounds such as xylene, ketones and aldehydes. The University of Bristol found that pregnant women who used aerosols and air fresheners most days, suffered 25% more headaches than those who used them less than once a week. The frequent users also experienced a 19% increase in postnatal depression.
- A study in Edinburgh found that babies under 6 months old who were exposed to air fresheners on most days, had 30% more ear infections than those exposed once a week, plus they had a 22% increase with diarrhea.
- Use of aerosols can cause dizziness.
- The use of aerosol cleaning products at least once a week can lead to asthma symptoms in adults. In an international study of 3500 men and women aged 20 to 44, the more often a person used the aerosol product, the more often they experienced breathing difficulties.
- According to the American Lung Association, carpets emit volatile organic compounds, as do products that accompany carpet installation such as adhesives and padding. Symptoms include eye, nose and throat irritation, headaches, skin irritations, shortness of breath or cough, and fatigue. On the other hand, carpet can act as a sink for chemical and biological pollutants including pesticides, dust mites, and fungi. Carpets, drapes, bedding and stuffed animals are all dust magnets. A 6 year old pillow can get 1/10 of its weight from mites and mite droppings.
- Air fresheners contain deadly, poisonous chemicals. Would you consider opening the can and drinking the air freshener? You wouldn't, so why would you want to breathe it? Read the label, they even tell you how poisonous the ingredients are. The poison that you spray in the air kills all of the receptors in the nose so that you cannot smell

the offending odor anymore. *So therefore, air fresheners don't eliminate odors, they desensitize the nerves in your nose, so you cannot smell!*

- Air fresheners almost never “freshen” the air. They just mask odors, either with synthetic fragrance or by interfering with your ability to smell by coating your nasal passages with an oil film or releasing a nerve-deadening agent.
- Known toxic chemicals that can be found in air fresheners include camphor, phenol, ethanol, formaldehyde, and artificial fragrances (which contain their own mix of toxic chemicals). These chemicals can cause symptoms like headaches, rashes, dizziness, migraines, asthma attacks, mental confusion, coughing and more. Some of the substances in air fresheners are linked to cancer or hormone disruption.
- A study published on July 10, 2010 in Environmental Health found that women who used more household cleaning products, including air fresheners and mold removers, had a 2x higher risk of breast cancer. Many aerosol air fresheners contain toxic phthalates, which have been linked to birth defects and reproductive harm. A Natural Resources Defense Council (NRDC) study found the hormone-disrupting compounds in 12 out of 14 common air fresheners and none of these products listed phthalates on their labels.



## Flame Retardants In Your Household Dust and Food Supply Chain

- Flame retardants have saved lives and property. However, flame retardant chemicals are quickly contaminating our bodies as they have made their way into our food supply, breast milk and are found throughout our homes in the form of dust.
- Flame retardants are called PBDEs or polybrominated diphenyl ethers, a class of about 25 industrial chemicals that are sprayed on commercial goods to prevent or slow the rate at which they will ignite. There's no escaping them. They're in our sofas, beds, carpets, curtains, televisions, computers, cell phones and our household dust.
- According to Barbara Thorpe of the Clean Production Action, consumers are unknowingly bathed in brominated flame retardants in their homes and outside. As these chemicals degrade, they leach out of the products they are sprayed on and turn into dust that sticks to surfaces. That dust is inhaled and accumulates in our bodies.
- The US based National Institute of Standards and Technology (NIST) conducted a study of household grit, fluff and grime. They found that dust bunnies or rec-room tumbleweeds have high concentrations of the carcinogenic compound, PBDE's. The researchers analyzed floor dust and dryer lint in 17 US homes and found PBDE's in every sample. These researchers suggest that we may be inhaling trace amounts through loose household particles.
- Professor Miriam Diamond, an environmental scientist at the University of Toronto, found that indoor air contains 10 to 20 times the levels of PBDEs compared to outdoor air. She found that 2/3's of adults' body burden appears to be coming from dust. As for toddlers, who are low to the ground and in closer contact with the carpets/sofas and ground dust, 90% of their body levels are coming from house dust. *Did anyone consider our pets – dogs/cats? They're ingesting/inhaling it too!*
- Scientists are concerned because animal studies show that these chemicals build up in our bodies and affect brain development, behavior and reproductive hormones.
- Studies have shown that flame retardants are chemically similar to cancer causing PCB's, which were banned in the 1970's.
- Industry representatives/manufacturers say that the results of the animal studies don't apply to humans. According to Peter O'Toole of the Bromine Science and Environmental Forum, a group that represents these manufacturers of flame retardants, "None of these flame retardants has ever shown a tangible effect to human health or the environment."
- According to Dr. Linda Bernbaum of the U.S. Environmental Protection Agency, about 5% of humans tested are showing levels scientists are considering worrisome.
- An investigation conducted by the Canadian Television Network (CTV) and The Globe & Mail Newspaper, tested 12 common foods and found all to contain flame retardants – cheese, butter, eggs, milk, chocolate ice cream, pork chops, medium

and extra lean ground beef, ground turkey, Ocean Pacific Salmon. The highest levels were in farmed Atlantic Salmon and farmed Rainbow Trout.

- Scientists think flame retardants are ending up in our food through industrial sewage that becomes fertilizer for crops and animal feed.
- Dr. Arnold Schecter, a University of Texas Health Science Center environmental sciences professor, conducted a study on the problem, and published it in the *Environmental Health Perspectives*. “When we tested blood from over 30 years ago, we could find no PBDEs. Blood collected now has some of the highest levels ever found. Schecter tested breast milk samples from 47 Dallas and Austin women, and he found an alarmingly high amount of the chemical. “What it means for the health of nursing children and their mothers is unknown....It is certainly undesirable to have these toxic chemicals in our food supply.”
- Environmentalists disagree. According to consumer advocate Beverly Thorpe of Clean Production Action, “Compared to Europe our levels are 10 to 100 times higher and they are doubling every two to five years. So we are facing a chemical crisis.”
- Europe has taken steps to ban these most dangerous chemicals, yet similar action is not happening in Canada. European scientists rang the alarm on polybrominated diphenyl ethers a decade ago. Scientists in Sweden were the first to discover that flame retardants were unexpectedly migrating from products into the environment and into human breast milk. Two of the most toxic kinds of chemicals were phased out, first in Sweden, then in the rest of Europe.
- European scientists have found a third formulation which degrades into the two forms that have already been banned. This flame retardant is called Deca-BDE, which is still widely used in products sold in North America.
- It turns out that since PBDEs removal from the market in 2004 (because of their tendency to accumulate in animal tissue) a crop of new flame retardants has *already* popped up in their place.
- According to researcher Steve Hinnefeld of Indiana University, these new versions...including hexabromocyclododecane, decabromodiphenylethane, and Dechlorane Plus...are frighteningly similar to existing organic pollutants that have been tied to negative environmental and health effects in humans.
- Researchers at Indiana University found PBDE levels in dogs that are five to 10 times higher than those that have been found in humans. (An earlier study had found levels 20 to 100 times higher in cats than in humans.)
- While it seems to be getting little attention...is *clearly* one of the more important findings of this study. While the concentrations of these **new** chemicals were, of course, much lower than those of the PBDE levels (less time exposed means lower levels) it is only a matter of time before we see them increase.

### **Asbestos – Another Fire Retardant**

- Asbestos is a mineral fiber that has been used in building materials for insulation and as a fire retardant. It is most commonly found in older homes, in pipe and furnace insulation materials, asbestos shingles, millboard, textured paints and other coating materials, and floor tiles.
- Asbestos can become airborne when disturbed by cutting, sanding or other remodeling activities. Improper attempts to remove these materials can release asbestos fibers into the air in homes.
- The most dangerous asbestos fibers are too small to be visible. After they are inhaled, they can remain and accumulate in the lungs. Asbestos is known to cause lung cancer, mesothelioma and asbestosis. Symptoms of these diseases do not show up until many years after initial exposure.

### **Radon – Any Home Can Have It, Whether New, Old, Well-sealed or Drafty**

- The most common source of indoor radon is uranium in the soil or rock on which a home is built. As uranium naturally breaks down, it releases radon gas which is colorless, odorless and radioactive. Radon gas enters homes through dirt floors, cracks in concrete walls and floors, floor drains, and sumps. Radon can also be found in building materials.
- Many major health organizations like the Centers for Disease Control and Prevention, the American Lung Association, and the American Medical Association agree that radon causes thousands of preventable lung cancer deaths each year.
- The EPA estimates that radon causes about 14,000 deaths per year in the US, however, the number could range from 7,000 to 30,000 deaths per year.
- Smokers are at higher risk of developing radon-induced lung cancer.
- Radon decay products, also called radon daughters or progeny, can be breathed into the lungs where they continue to release radiation as they further decay.
- In 1991, a national US radon survey concluded that the average indoor radon level in a home is 1.2 picocuries per liter (pCi/L) while the average outdoor level is 0.4 pCi/L.

## Mold – Very Few Homes Live Without It



- The ideal rate of humidity in the home is between 35% and 45%. Anything higher causes mold.
- Mold growth is encouraged in the standing water of humidifiers or dehumidifiers, water damaged materials or wet surfaces. Contaminated central air handling systems can also become breeding grounds for mold, mildew, and other sources of biological contaminants, and can then distribute these contaminants throughout the home.
- Damp, moldy homes are becoming more of a problem, according to the Canada Mortgage & Housing Corp. Tighter homes make our indoor environments more prone to contamination by molds, spores, fungus, and mildew. Tighter homes can keep moisture trapped. Use of more outside air for ventilation can also make a building mold-prone, if that outside air is moisture-laden. Sinks, toilets, tubs, soap dishes and floors are prime targets for mold. While some molds are benign, others are toxic. Mold can suppress the immune system. One can become immediately sensitized and develop allergies upon contact with large areas of mold growth.
- Different species of mold have different potential health effects. Pathogenic molds are those that can cause disease in humans. Toxicogenic molds are those that contain potent poisons (mycotoxins), usually on the surface of the spores. The spores of the pathogenic and toxicogenic molds can be harmful even after the mold colony has stopped growing.
- When spores are airborne or the fungal mass is disturbed, an occupant with pre-existing allergies to molds will react with running nose, eye and throat irritation, cough, etc. Prolonged exposure to mold in buildings may result in development of allergies in individuals who did not have allergies to mold before. Asthmatics are at risk of reacting to indoor mold with more frequent and severe attacks.

- Symptoms associated with toxigenic molds include headache, sore throat, cough, skin rash, flu-like symptoms, nosebleeds, fatigue, fever, etc.
- High exposures to *stachybotrys chartarum* have been implicated in several cases of infant deaths in homes.
- Bird and bat droppings are often infected with pathogenic molds and are a special concern in renovation and demolition of older buildings.
- Moldy materials remain allergenic, infectious, or toxic even after the surfaces have dried and further growth has stopped.

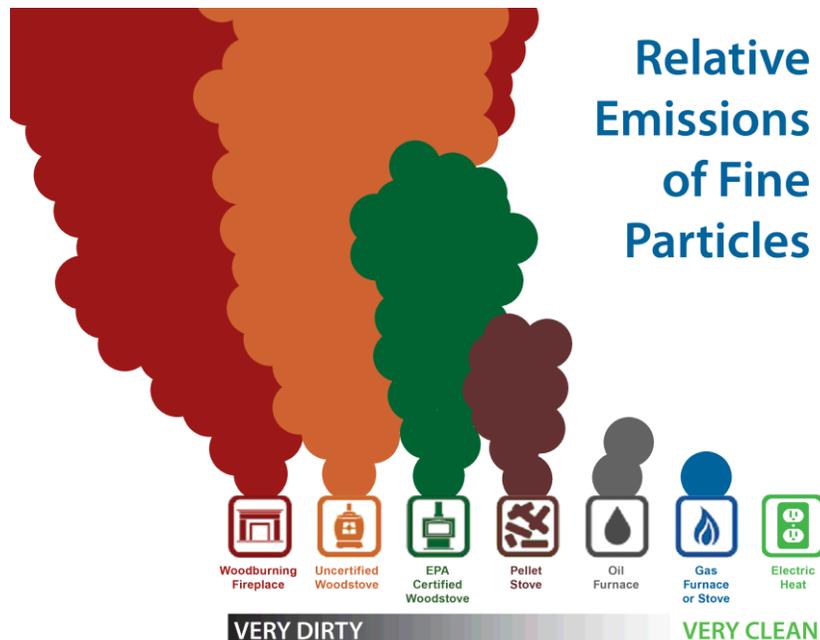
### Tobacco Smoke



- Environmental Tobacco Smoke (ETS) or “second-hand smoke” is the mixture of smoke that comes from the burning end of a cigarette, pipe or cigar and the smoke exhaled by the smoker. It contains more than 4700 chemicals including cyanides and carbon monoxide. More than 40 of these chemical compounds are known to cause cancer in humans or animals and many are strong eye, nose and throat irritants.
- The chemicals linger past the burn, absorbed into drapes, linens, furniture and clothes.
- According to a study conducted by the EPA in 1992, second-hand smoke is responsible for 3000 lung cancer deaths each year in non-smoking adults (in US).
- Infants and young children who are exposed to tobacco smoke in the home have a higher risk of having lower respiratory tract infections (pneumonia and bronchitis) and are more likely to have symptoms of respiratory irritation like cough, excess phlegm, and wheeze. The EPA estimates that second hand smoke causes 150,000 to 300,000 lower respiratory tract infections in infants and children under 18 months of age, resulting in 7500-15,000 hospitalizations/year in the US. These children may also have a build-up of fluid in the middle ear, which leads to ear infections. Older children may have slightly reduced lung function. It can also cause non-asthmatic children to develop asthma.

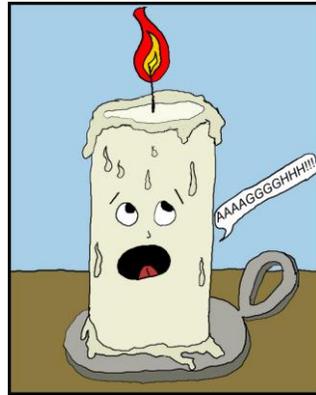
- The EPA estimates that between 200,000 and 1,000,000 asthmatic children have their condition made worse by exposure to second hand smoke each year.
- According to Dr. Kenneth Chapman, director of the Asthma Centre of the Toronto Hospital, new smoking trends are fueling the rise in asthma. Although many people have kicked the habit in recent decades, we have actually been losing the war against smoking in young women of child-bearing age. Studies suggest that children and fetuses exposed to cigarette smoke are more likely to develop asthma.

### Combustion By-products From Stoves, Heaters, Fireplaces And Chimneys



- Unvented kerosene and gas space heaters, woodstoves, fireplaces and gas stoves can emit carbon monoxide, nitrogen dioxide and particles. Unvented kerosene heaters may also generate acid aerosols. Combustion gases and particles also come from chimneys and flues that are improperly installed or maintained and cracked furnace heat exchangers. Pollutants from fireplaces and woodstoves with no dedicated outdoor air supply can be “back-drafted” from the chimney into the living space, mostly in weatherized homes.
- Babies who live in wood burning homes tend to have more respiratory illness.
- Particles from incompletely burned fuels, can lodge in the lungs and irritate or damage lung tissue. Many pollutants such as radon and benzoapyrene, which are cancer causing, attach to small particles that are inhaled and then carried deep into the lungs.

## Candles – And You Thought There Was A Problem With Your HVAC System



- Both scientific and anecdotal evidence is mounting that the flames of candles, whether aromatic or unscented, release black soot into interior environments. They also can load the air with deep respirable particles that some compare to the particulate hazards of second-hand tobacco smoke.
- Candle burning and smokeless oil lamps often leave a trail of ghost images and mysterious soot tracks on carpets, walls, ceilings and furniture.
- Candles can vary in their soot generation, as some can produce 100 times more soot than other varieties. A candle placed in an air draft can increase its soot production by a factor of 50.
- Soot production from certain candles can be significant and may cause indoor levels of airborne soot to exceed concentrations allowed in outside air by the Environmental Protection Agency.
- Many candles and scented products also contain chemicals that companies aren't required to disclose on the label, and some labels simply list "fragrance" as an ingredient without giving any specifics. There can be hundreds of chemicals that go into scented candles that consumers don't know about. Some contain chemicals called "phthalates", which help smells linger. The Environmental Protection Agency reported there is evidence that phthalates cause birth defects and reproductive problems.
- Candle sales in the US have increased 400% in the past seven years, to approximately \$2 billion. A significant portion of the growth is in the aromatic candle market, which now amounts to an estimated \$750 million annually.

## Lead – Think Before Renovating an Older Home

- The thrust for lead abatement in the US was primarily due to health concerns. It was recognized decades ago as a serious problem that affects children. (Research and documentation could fill a small library). In 1991, the Secretary of the Department of Health and Human Services called lead the “number one environmental threat to the health of children in the United States.”
- Lead becomes airborne and enters the body when lead-based paint is removed by dry scraping, sanding or open flame burning. Airborne lead dust can also enter the home from outdoor sources including contaminated soil tracked inside, and use of lead in certain indoor activities like soldering and stained-glass making.
- At low levels, lead can affect the brain, central nervous system, blood cells and kidneys. At high levels, it can cause convulsions, coma and even death.
- The effects of lead exposure on fetuses and young children includes delays in physical and mental development, lower IQ levels, shortened attention spans, and increased behavioral problems. Fetuses, infants and children are more vulnerable to lead exposure than adults since lead is more easily absorbed into growing bodies and their tissues are more sensitive to lead’s damaging effects. Children also tend to get lead dust on their hands and put their fingers in their mouths.
- The young and the poor are more likely to get lead poisoning, as they have the least amount of protection. The older buildings that contain lead paint are usually inhabited by lower income families. Child occupants (especially those under the age of ten) are at the greatest risk, and are the most adversely affected by lead poisoning. In many municipalities, the demolition of buildings is allowed with no site assessment for hazardous materials.
- A US federal regulation requires real estate agents and owners of dwellings built before 1978, to disclose the property’s lead history and the health hazards related to lead.
- A rough gauge of how low a priority lead is in Canada, is reflected in the fact that Deleading magazine, the official publication of the US National Lead Abatement Council, is circulated to 8000+ readers per month in the United States, but less than twelve issues are sent to Canada.

## Household Pets – Man’s Best Friends



- A study conducted in East & West Germany, by Dr. Erika von Mutius of the University Children’s Hospital in Munich, found that childhood asthma rates were very few for children living in a heavily polluted city of the former Communist block, than in a relatively cleaner city of the West.
- House pets, especially cats are major culprits to initiate asthma and allergy attacks. Cats have grown in popularity among urban dwellers, displacing the dog as man’s (or woman’s) best friend. There are now 66 million cats in US households, compared with 53 million dogs. The market for pet care is a \$34 billion industry in the US.
- In Canada, the pet population is dominated by dogs and cats whose number reached over 10 million in 2004. Large dogs account for 2.3 million of the pet population. Research shows that 28.5% of households own at least one dog and 37.5% own a cat. A significant number owns both. According to Euromonitor International, pet food and pet care products will reach \$2.2 billion by 2009 in Canada.
- Dr. Meyer Balter, director of the asthma education clinic at Mount Sinai Hospital in Toronto, has stated that an amazing amount of his patients sleep with a pet sitting on their face.
- Asthmatics don’t even need to live with a cat to suffer its ill effects, notes Dr. Malcolm Sears, a professor of medicine at McMaster University in Hamilton, Ontario. Cat dander easily clings to the clothing of cat owners, who can then spread it to other homes as well as offices and classrooms.

## OUTDOOR AIR



- 5900 Canadians die annually from air pollution - the brownish or yellowish haze most evident on warm sunny days - according to a new study from Health Canada. Damaging fine particles of smog can be inhaled deeply into the lungs. The most vulnerable are kids, because their lungs are still developing and they breathe in more air than adults; the elderly because of the compromised immune systems; asthmatics and others with lung disease; and anyone with heart problems.
- According to the Ontario Medical Association's report, "The Illness Costs of Air Pollution In Ontario" (2000), smog causes 1920 deaths per year, 9800 hospital admissions, 13,000 emergency room visits, 47 million lost work days. Approximate conservative cost estimate to the Ontario economy is \$1 billion.
- As many as 5 million tons of latex particles wear off tires in the United States each year. The Denver Allergy Institute discovered that tiny black particles flake off from tires and are thrown into the air by motorists. The latex particles have been increasingly associated with many medical conditions such as asthma, skin rashes, etc. The heightened irritation might explain why asthma has become increasingly prevalent and severe since the use of radial tires, which flake off in smaller, more readily inhaled particles than previous tires.

## ALLERGIES, ASTHMA & RESPIRATORY ILLNESS



- Poor air worsens conditions for those with allergies, asthma, lung disease and chronic infections. Studies have shown that pollution doesn't actually cause asthma. It just makes a bad situation worse. People exposed to a lot of outdoor air pollution are more likely to suffer from other lung ailments, such as chronic bronchitis. True asthma initiators, which provoke an inflammatory condition in the lungs, tend to be some of same things that trigger allergies. And these allergens can be found indoors -- at home and work.
- Lung disease claims close to 335,000 lives in America every year and is the third leading cause of death in the United States.
- Six million Canadians – one in 5 - has some form of respiratory illness.
- According to Asthma Society of Canada .....Asthma kills 500 Canadians every year.
- As many as 1 in 5 children have been diagnosed with asthma.
- According to Statistics Canada, National Population Health Survey 1998-1999, 12% of children and 8% of adults have asthma, which is approximately 2.5 million Canadians.
- More women than men have asthma - 8.5% of Canadian women, compared to 7.2% men. Women's symptoms develop later in life.
- Almost twice as many women as men die from asthma, according to Statistics Canada.
- Asthma can start at any age. Boys usually start wheezing on the playground, while girls are more likely to come down with their first symptoms in their teens or early 20's.
- According to a Canadian study published in the journal Chest in June 2007, giving antibiotics to infants is associated with the development of childhood asthma. Anita Kozyrskyj, lead author and associate professor at the University of Manitoba's faculties of medicine and pharmacy, drew the link between antibiotic use in the first year of life and asthma by age 7. Her team found that a child's chances of getting

asthma increased depending on the amount and type of antibiotics a child was given. The risk of asthma at age 7 was increased 1 ½ times in children who had received more than four rounds of antibiotics.

- Nurses are twice as likely as the general population to develop occupational asthma, according to researchers in Spain. Nurses are exposed to sensitizing substances, respiratory allergens, and irritants including sterilizers and disinfectants.
- Other at-risk occupations for developing asthma include printing, woodworking, agriculture/forestry, and cleaning. Also, if a specific incident in an individual's life has exposed them to asthma-causing irritants, such as a fire or chemical spill, that person will be three times more likely to develop asthma.
- Only 25-40% of asthmatics ever get diagnosed.
- Up to 70% of asthmatics also suffer from allergies, which can play a role in bringing on their symptoms.
- Since 1980, asthma has increased by 600%. The Canadian Lung Association has identified common household cleaners and cosmetics as triggers.

## PRESCRIPTION & NON-PRESCRIPTION DRUGS



"I don't know what this medication does...  
but the commercials for it are really cool!"

- According to Fortune Magazine, we are losing the war on cancer. The percentage of Americans dying of cancer today is the same as it was in 1970 and even 1950. Over \$200 billion has been spent since 1971 trying to prevent and cure cancer. Yet today there is a higher chance of getting cancer than ever before in history, and you have the same chance of dying as you did in 1950.
- Americans spend over \$2 trillion a year on healthcare, yet infant mortality is higher than 20 other developed countries. People in 30 other countries live longer than Americans, but Americans consume over half of all the drugs manufactured in the world.
- There are over 200,000 non-prescription drugs on the market and over 30,000 prescription medications. Doctors write over 3 billion prescriptions per year.
- The average American has over 30 different prescription and non-prescription drugs stored in their medicine cabinet.
- GlaxoSmithKline is the world's largest producer of steroid puffers.
- Consumer choice for the asthma and allergy patient is basically steroids and more steroids, from mint flavored syrups, to antibiotics, shots, creams and puffers.
- Pfizer is the world's largest pharmaceutical corporation, and also the world's second largest corporation.
- According to J. Robinson, Prescription Games: Money, Ego and Power Inside the Global Pharmaceutical Industry: A CEO of a pharmaceutical giant observed in a shareholder's meeting that "profits can only be harvested from chronic disease."
- The respect that society has to drugs is so high that we write them with capital letters. We are forced into vaccinating our children although the generally accepted "hygiene" theory by S. Romagnani recognizes that the increased exposure to vaccinations is among the factors contributing to the spread of allergies and asthma.

- According to Ashley Simmons Hotz, “Poison For Profit – What A Business Plan!: The huge transnational companies that produce toxic chemicals found in pesticides, herbicides and industrial and household products profit not only from the sale of these products, but also from the symptoms and chronic illnesses that they can trigger.

The vast majority of chemicals found in pesticides and other products undergo little or no testing for chronic, low level exposures and for chronic health effects.

The same chemical companies that produce toxic chemicals also produce prescription drugs, veterinary medicines, a wide array of medical products and imaging technologies, hold cancer treatment and medical device patents, and produce a staggering assortment of over the counter palliatives. *Check this out for yourself – a must read: [www.mercola.com/2002/may/29/poison\\_profit.htm](http://www.mercola.com/2002/may/29/poison_profit.htm).*

- An international team of medical ethicists for the international effort called the Medical Professionalism Project states “We share the view that medicine’s commitment to the patient is being challenged by external forces of change” which “tempt physicians to forsake their traditional commitment to the primacy of patients’ interests.”
- The drug and healthcare industry is the most profitable in the world. As long as people are sick, billions and billions of dollars in profit are to be made every year. One of the major reasons why there is so much sickness and disease is because we are poisoning our bodies, and the number one poison consists of prescription and nonprescription drugs. Basically, the prescription and nonprescription drugs you take to eliminate your symptoms are one of the major reasons causing the sickness. *So if you need a good stock market tip, invest in pharmaceuticals – profits are at an all time high!*



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We Share*

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