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Environmental Hazards and Their Impact on Your Family

Every day our children are exposed to environmental pollutants in the foods they eat, beverages they drink, and the areas in which they play. Unfortunately, it can be difficult for concerned parents to find information about environmental hazards and their impact on children.

The purpose of this website is to provide links to that information. This site is intended to be objective, presenting many different views. Our goal is to provide enough information for parents to make their own informed judgments about how to promote the health and safety of their children.

Hormones in Our Food

Hormones are naturally occuring chemicals found all animals. They control important body functions, such as growth and reproduction. In the meat industry, six synthetic hormones are currently approved by the US Food and Drug Administration (FDA) for use in US livestock to speed lean muscle growth. Three of the approved additives are synthetic versions of naturally-occurring hormones in humans and animals: estrogen, testosterone, and progesterone and the others are synthetic variations that mimic these. These artificial hormones, which are injected into 90% of US livestock, increase the production of beef and veal by up to 15% by making young animals gain wait faster. In the dairy industry, the genetically-engineered additive recumbent bovine growth hormone (rbGH) is approved by the FDA. It is injected into one-third of all US cows and increases milk production by 10%.

Although hormones are essential for development of healthy tissues, synthetic steroid hormones used in pharmaceutical drugs have been found to increase cancer risk, raising a question of safety of these additives being injected into our food. On the one hand, the FDA has repeatedly

declared that there is no difference between cows treated with hormones and those that are not. They claim that the additives are negligible in comparison to levels that occur naturally in both cows and humans. Dairy cows injected with rbGH have a higher concentration of this hormone in their milk, but sources report that it is not recognized as a hormone in the human body and so health risks are unlikely.

However, there is another body of scientific research that argues that consuming meat and dairy injected with artificial hormones imposes human health risks. In 2002, the European Union concluded, for the third time, that using hormones as growth promoters for cattle poses potential health risks for consumers based on a review of 17 studies along with recent scientific evidence. Europe and Canada both ban the use of artificial growth hormones. In addition, cows receiving rbGH have increased levels of insulin-like growth factor-1 (IGF-1) in their milk, and higher levels of this protein hormone is associated with breast, colon, and prostate cancers. However, no research has been conducted to date to show that drinking milk with elevated levels of IGF-1 results in higher blood levels of the hormone in humans. In conclusion, there is currently not enough scientific information to completely support or refute the purported heath risks from consuming meat or dairy from hormonally treated cows.

For more information:

European Union, 2002: http://europa.eu.int/comm/food/fs/sc/scv/outcome_en.html

USDA/Food Safety and Inspection Service: http://www.fsis.usda.gov"

Antibiotics in Poultry and Eggs

The United States began giving antibiotics to poultry in 1946 in order for American farmers to build muscle in their livestock. Researchers discovered that adding small amounts of the antibiotic chlortetracycline to chicken feed could achieve that objective. Over the next decade, researchers experimented and developed a drug mix to optimize animal growth in the shortest time frame possible. This experimentation gave rise to animal factories also known as confined animal feeding operations (CAFOs). These operations are the standard of conventional farming today. Penicillin and tetracycline, two crucial human antibiotics, are common ingredients used in U.S. commercial feeds. Today's mix of antibiotics make chickens grow so large, so fast, that they often become crippled under their own weight. Additionally, hens are given antibiotics to manipulate egg production. Approximately 13.5 million pounds of antibiotics are used in U.S. animal feed each year.

"More meat for the money" or "more bulk for the buck" is not the only incentive to use antibiotics in American farming. Poultry also receives antibiotics to compensate for crowded, stressful and unsanitary living conditions. Though the antibiotics help protect the poultry, the routine, non-therapeutic use of antibiotics promotes the development of "super bugs", antibiotic-resistant bacteria. The bacteria can infect humans as well as animals. Antibiotic resistance is an urgent public health problem that costs the U.S. economy billions of dollars each year. The World Health Organization has said it was conceivable that avian influenza could turn into a

human epidemic, just as an animal disease is believed to be the possible origin of the deadly Severe Acute Respiratory Syndrome (SARS).

Additionally, arsenic in chicken flesh has been linked to cancer, dementia, neurological problems, and other ailments in humans. Men's Health magazine ranked supermarket chicken number one in their list of the "10 Dirtiest Foods" due to the high rate of bacterial contamination.

The US Food and Drug Administration, however, justifies antibiotic use in order to protect the nation's food supply from dangerous food contamination. Dangerous bacteria include: salmonella, campylobacter, E.coli, T. gondii, and C. parvum. Safety concerns associated with food borne infections gravitate to the most vulnerable population groups: persons with lowered immunity, the elderly, young children, pregnant women, homeless persons, migrant farm works and others of low socioeconomic status.

For more information:
They Eat What - http://www.ucsusa.org/food_and_environment/sustainable_food/they-eat-what.html (Union of Concerned Scientists)

GoVeg.com - http://www.goveg.com/f-top10chickens.asp" (Vegetarian website)

Associated Risks of Living near Power Lines

Electric power transmission is one process in the transmitting of electricity to consumers. The term refers to the bulk transfer of electrical power from place to place. Typically, power transmission is between the power plant and a substation near a populated area. Due to the large amount of power involved, transmission normally takes place at high voltage (110 kilovolts or above). Electricity is usually transmitted over long distance through overhead power transmission lines.

It is argued by some that living near high voltage power lines presents a danger to animals and humans. Some have claimed that electromagnetic fields from power lines elevate the risk of certain types of cancer. Some studies support this theory, and others do not. Most studies of large populations fail to show a clear correlation between cancer and the proximity of power lines. However, a study done by Oxford University in 2005 demonstrated a statistical association between childhood leukemia and being born near high-voltage power lines. It is not known whether the link is causal or not - the relation may be due to chance or to other factors associated with the presence of power lines. The current mainstream scientific view is that power lines are unlikely to pose an increased risk of cancer or other somatic diseases.

For more information:

Power Lines and Cancer Frequently Asked Questions (FAQ) discussion at http://www.mcw.edu/gcrc/cop/powerlines-cancer-FAQ/toc.html.

The issue is also discussed at some length in the background paper on "Power Line Fields and Public Health" which can be found at http://www.calpoly.edu/~dhafemei/ba

The Use of Pesticides on Food and Its Impact on Consumer Health

Pesticides have long been used to control damage to food crops and enhance production. While America's food supply is perfectly safe according to the USDA, many consumers are concerned that the chemicals that are used to kill pests could linger on food, and that they and their families could be ingesting them.

Some studies indicate that the chemical "body burden," as it is medically known, is particularly problematic for children, whose developing bodies and brains can be particularly vulnerable. A 2005 study published in the American Journal of American Medical Association reported that the incidence of illness linked to pesticide use is on the rise. Other studies have linked organophosphates, the most common class of pesticides, to developmental delays, behavioral disorders, and motor dysfunction. Additionally, these chemicals tend to be retained by the body, and they can continue to build up from decade to decade.

Studies have demonstrated that pesticides do seep into the fruits and vegetables we eat. A study conducted by the U.S. Department of Agriculture in 1996 found pesticides in more than 70 percent of the samples it analyzed. While some foods, such as onions, bananas, and asparagus are less susceptible to pesticide retention, others like peaches, apples, and peppers can contain high levels of the chemicals and should be thoroughly washed before they are consumed. Concerned parents can substitute less contaminated, yet equally nutritious foods in place of those that are more likely to contain pesticides. Additionally, many parents have turned to organic foods, which are grown without pesticides or genetic modifications.

Further complicating the effort of parents to assure the safety of their children's menus is the fact that much of the food we consume is imported from outside the United States. Most foreign countries do not have as stringent regulations overseeing the use of pesticides, and imported food may be more likely to contain high levels of pesticides when they reach the table.

More information about pesticides and food safety can be found at the following websites:

- World Health Organization: http://www.who.int/mediacentre/factsheets/fs237
- US Food & Drug Administration: http://www.cfsan.fda.gov/~dms/pes03rep.html
- Environmental Working Group: http://www.foodnews.org
- Mayo Clinic: http://www.mayoclinic.com/print/organic-food/NU00255
- Moms On The Move: http://www.momsonthemove.com

Industrial Waste

Chemical industrial waste is considered to be hazardous by the United States Environmental Protection Agency (EPA) if it has any of the properties of being corrosive, reactive, toxic or ignitable. These wastes often are by-products of manufacturing or industry processes, and can be in any form. It is likely that hazardous waste not only harms the environment, but may be dangerous to human health as well.

Since 1980, the Superfund Program, as part of the United States EPA, has monitored the release of hazardous industrial waste into the environment and provided for clean up. Companies are mandated to report the release of hazardous substances over a certain quantity. The EPA then assesses the risks from the hazardous waste to environment and to human health. The site will be added to register called the National Priority List, which is continually updated, and actions to clear the site begin.

Since its inception, the Superfund program has reported success in protecting 49 million people from health hazards relative to industrial waste. It has also reported that 288 million gallons of polluted water have been processed and purified for drinking. However, illegal dumping of industrial waste and pollution by companies took place for a long time before clean up efforts and regulation began. Long-term effects from earlier pollution still may not be known. While there is still a long way to go in managing the repercussions of our actions on the environment, the Superfund is a step in the right direction.

The EPA acknowledges that exposure to wastes from industry and manufacturing, such as arsenic, cadmium, lead, mercury; chromium and PCB's in the environment, can have negative effects on human health. Exposure to these agents could potentially result in deficits such as birth defects, liver toxicity, cancer, kidney disease, lung disease, decreased mental ability and nervous system disorders. Despite these known risks and better management of waste processes, concerns remain that some companies continue to deny responsibility for dumping hazardous industrial waste or that the waste they produce could cause illness and disability. Other concerns include that US Government does not have enough strenuous regulations in place to effectively clean up the environment.

For more information:

http://www.epa.gov/superfund (The Environmental Protection Agency's website on the clean-up of land fills and environmental waste, with links to information about hazardous materials and their effects)

http://www.cdc.gov/nceh/ehhe (The Center for Disease Control's website on the interaction of health and environmental factors, organized by health topic and initiatives being conducted by the Center)

Household Cleaning Products

Household cleaning products are used every day in homes, schools, office buildings, and the like, around the world. Many people use store bought cleaning products. They feel that these products adequately kill harmful germs, therefore preventing illness. However, there are also a growing number of people switching to naturally derived cleaners that are non-toxic and safe for the environment. Those choosing the natural cleaners feel there are significant health risks associated with exposure to toxic chemicals, as well as negative effects of toxic chemicals on the environment. The Environmental Protection Agency (EPA) released a report in September of 1996, regarding consumers of household cleaning products and product labels. Regardless of which products consumers were interested in, many respondents reported they believed that some agency of the government was responsible for screening/approving cleaning products before they can be sold, however, according to the National Research Council, no toxic information is available for more than 80% of the chemicals in everyday-use products.

The EPA report from 1996 states consumers perceive little to no threat from household cleaning products, believing that injuries are related to the misuse of products. There are statements that today's cleaning products not only make life a lot easier; they make it a lot healthier too, as medical experts agree that cleanliness practices (such as regular hand washing and surface cleaning) are key in reducing the spread of infectious diseases. Some people say that most household cleaning products are not dangerous and, in fact, many do not require any hazard or precautionary statements. The information they provide is that no major harm would be done by being exposed to or by swallowing small amounts of the product. They put many window cleaners, fabric softeners and some hand dishwashing detergents into this category. Supporters of store bought products do caution the importance of understanding the proper use of products, while always using them with safety in mind. It is also said that, when disposed of properly, these products pose no threat to the environment as treatment plants prevent contamination.

For more information:

http://www.epa.gov/oppt/labeling/tools/phase1/cliphase1_rpt.pdf

http://www.pueblo.gsa.gov/cic_text/housing/cleansafe/cleansafe.htm

http://www.cleaningpro.com/toxic.cfm

Autism and Mercury

The number of children diagnosed with autism has raised dramatically in recent years, from 1 in 10,000 American children in the 1970s to 1 in 150 today (according to the Center for Disease Control). The reason for this increase is unclear. A widespread theory is that the rise in incidence is due to a combination of improved diagnostic methods in conjunction with environmental factors.

One of the most commonly suspected environmental factors is mercury. The metal is a major ingredient in thimerosol, which is a preservative used to increase the shelf life of vaccinations. According to the Journal of Toxicology (Volume 22, Number 4, July-August 2003), "rates of autism have increased sharply in the US. One possible factor underlying these increases is the increased exposure to mercury through thimerosol-containing vaccines."

Some scientific data indicates that those children who are affected by the mercury in vaccines may have a genetic predisposition that does not allow the child to detoxify themselves of any heavy metals that enter their bodies. In fact, mercury poisoning shares many symptoms with autism, including loss of speech, self stimulatory behavior, lack of coordination, mood swings, mental disturbances, social withdrawal, and anxiety, to name a few.

There is not, however, universal agreement on the issue. The Centers for Disease Control and the Federal Drug Administration have stated that there is no link between mercury and autism. And while a number of private organizations and government agencies have called into question the research of the CDC and FDA, it is clear that more must be done to study this issue.

While there is little agreement on the many issues surrounding autism, one thing is certain: there is an abundance of information available on the Internet and in scientific and medical writings for parents who are concerned about the issue. Ultimately, it is the responsibility of parents to decide, in conjunction with their pediatricians, whether their children may be at risk, and if so, how to protect them.

For more information:

http://www.autism.com/ari
http://www.generationrescue.org
http://www.alternativementalhealth.com/articles/walsh.htm
http://www.nationalautism.org
http://vaccine.chop.edu
http://autismwebsite.com

Books to Read:

Children with Starving Brains by Dr. Jaquelyn McCandless

Evidence of Harm by David Kirby

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