

## The Effects of Lead Poison on Children

Throughout the world today one out of every six children under the age of six are suffering from health disorders due to a poisonous metal known as lead (Kiwaniis, 1996). Lead is a natural occurring bluish-grey metal found in the earth's crust. It has no taste or smell. Lead can easily be found in all parts of our environment today. Most of it comes from mining, manufacturing, and last but not least the burning of fossil fuels (Xintaras, 1993). In the United States lead poison has increased because of the lack of knowledge in our society.

(Background information on the effect's lead poison has on children)

Lead is released into the environment by industries, the burning of fossil fuels or wastes. When lead enters the environment, it starts to become a problem. After a period of about ten days, depending on the weather, it falls to the surface. Here lead builds up in the soil particles. Where it may make its way into underground water or drinking water due to the fact the grounds acidic or if it's soft enough. Either way it stays a long time on the soil or in water. Months or years down the road after the lead has built up it starts to become a problem for children that play outside of their homes (Xintaras, 1993). These lead containing soil particles get on the child's hands or clothing and end up in the child's mouth. After the build up of so much lead it leads to a problem commonly known as lead poison. Lead poisoning has been an issue since the early 1900s, when the use of lead started being banned from the manufacturing of paint in foreign countries such as Australia (Monheit, 1996). Unfortunately the United States did not start banning it until 1978, when it finally became illegal in our nation. Today 90% of the lead in the atmosphere comes from the burning of gasoline. This problem has been a large issue since the 1920s, when the EPA (Environmental Protection Agency) started making laws on the amount of lead allowed in gasoline.

There are many other ways that a child especially under the age of six can be diagnosed to lead poison besides air pollution. One of the most common ways of our past is when a child eats or chews on an object that has lead based paint chips in or on its surface. Parents can easily prevent this from happening by reading labels or buying objects which are not painted. Another way in a child can be affected is by drinking water that comes from lead pipes. Houses built prior to 1978 have been found very unsafe due to the older pipes (Verstraaten, 1997). These pipes can be easily replaced in most situations. This process may be expensive but it pays off dearly when it comes to your family, and never let your child drink from a water fountain or a water hose that you are not sure is safe (Reducing Lead Hazards When Remodeling Your Home, 1994). The build up of lead in the soils another problem. Bare soil can easily contain lead from car exhaust, paint peeling, and near by industries pollution. The easiest way to prevent this is by not letting you child play on bare soil or cover the soil before letting the child play in the area (Handout IIa: Activities to Reduce Environmental Exposure, 1997). Breathing workplace air has been a problem in past also. When parents are not aware of the near by power plants or industries, which could be letting off lead into the air. It can lead to problems. So its always best that you know the area really well that you child is playing in. Another incident that occurred here recently in North Carolina was a young child was discovered having lead poison after eating some pool-cue chalk. Researchers here found the cue chalk could actually be a source of environmental lead (Modica 1996).

There are many effects or symptom that lead poison can have on a child if diagnosed at an early age. These injuries our so severe because the body and the brain are not fully developed, which can leave children with subtle but irreversible injuries that does not appear until many years after the exposure of lead (Monheit, 1). In young children, lead retards the development of the central nervous system and brain. Lower levels of lead can reduce their IQ, reading and learning disabilities, attention deficit disorder and behavior problems. When

these are added up it causes the student to become a dropout from school and a negative contribution to our communities (Monheit, 1996).

The United States Centers for Disease Control and Prevention in Atlanta (CDC) have found that these injuries occur when blood levels rise to a mere 10 Micrograms per deciliter of whole blood. Lead poisoning is treatable in the early stages due to the great amount of investigation that the medical and environmental fields have put forth, but the damage that the lead does in a child's body is not treatable, so once the lead has been damaged, its permanent (Monheit, 1996). The CDC also asks parents to make sure that their child receives a blood-lead test at each pediatric checkup at least until the age of seven. If any of the following symptoms, are obtained by any child consult to immediate emergency care:

- sluggish behavior, apathy
- headaches
- staring periods, tremors, seizures, loss of consciousness
- abdomen cramps, loss of appetite, constipation

irritability

- hyperactive behavior

All of the following symptoms are early stages of lead poisoning and if not treated when possible the symptoms of this poisoning may lead to a child being put into a coma or even death.

(Ways that people can stay informed on lead poison)

Information on lead poison today is so easy to get access of. One of the easiest sources of information can be found on the Internet. Many people still do not yet realize how much information it releases. I found that this subject had thousands of documents over the Internet that could be easily reached by the touch of a few keys. Examples of this is: Preventing lead poisoning by the Kiwanis International, Lead Paint Poisoning of Children by the Law Offices of Herbert Monheit, and Lead by ToxFAQs. Besides the Internet they're other tools that can easily be obtained such as Ebsco Host. This is a program in which one can find information in periodicals over a computer. It saves a lot of time because one doesn't have to go to a library and look through periodicals that can take hours. Being this was my first time exploring this program I found many valuable keys of information in it such as: Preventing Childhood Poisoning, the FDA Consumer, which explains the steps that the FDA are taking in order to stay informed on lead and lead poisoning. Lead in Homes Subject to Additional Disclosure by Business Journal of Charlotte magazine. This magazine tells about the new federal regulations on lead-based paint in 1996. If one doesn't have access of either of these programs most libraries have many books and periodicals that cover this subject. Other programs that stay informed on this issue can be found governmental agencies such as the Alliance to End Childhood Lead Poisoning, located in Washington D.C.. This Alliance staff offers technical assistance and will help clubs find local contacts who can offer expert advice for local preventing program. Materials and requests are also found through the Alliance. Examples of this is: Guide to State Lead Screening Laws, Resource Guide for Financing, Lead-Based Paint Cleanup, and copies of fact-filled articles from news papers, magazines, and other organizations. Another governmental agency which seems to be on top of this subject is The Environmental Protection Agency. They make the law and requirements on lead in our environment today. The Lead Institute of San Francisco offers free pamphlet on lead poisoning and sells testing kits and books on lead poisoning. Another is the National Lead Information Center/Hotline located in Washington, D.C. has a variety of brochures and facts sheets aimed at Parents and explaining the dangers of lead poisoning, the importance of testing children, and safe home renovations (Kiwani International, 1996). In Chicago Illinois the Films Incorporated Video is a programs that obtain video tape and study guides tilted for the awareness of kids in lead hazard areas. These developed films by Consumers Reports Television and Connecticut Public Television can be purchased for a small price (Kiwani International, 1996). The broadcast media doesn't play a big role on lead poisoning unless an incident comes along which turns out to affect a large number of people or an important individual. If one needs to stay informed on this

information over a sustained period of time, I would direct them to the Internet, because its filled with so many resources and its always up dating its information on a daily bases.

(Encouraging Governmental Actions)

The government has many actions to protect human health. One of the leading agencies in this field is the Environmental Protection Agency. The EPA began in 1970 with the passage of landmark legislation. Much has been accomplished in those 27 years, but much remains to be done. Due to the learning and failure of the EPA an extensive study entitled Reinventing Environmental Regulations took place on March 16, 1995, the study makes several important points:

Americans are committed to a healthy environment.

Pollution is a sign of economic inefficiency.

Profits can be improved by preventing pollution.

Better decisions result from collaborative processes than adversarial ones.

Regulations allowing flexibility can provide greater protection at lower

cost.

(Hankinson,1996)

These regulations would probably not of taken place if it was not up to the regional administrator for Region IV of the United States, John H. Hankinson Jr. (Hankinson, 1996). Today the EPA limits the amount of lead that can be in leaded gasoline to 0.1 grams of lead per gallon of gasoline(0.1g/gal), and unleaded gasoline to 0.05g/gal. The amount lead in the air is required under 1.5 micrograms per cubic meter average over three month period, and lead in drinking water to 15 micrograms per liter (Xintaras, 1993). If help is needed the EPA works with several different agencies such as: Occupational Safety and Health Administration that can be reached by this Number (202) 219-8151, the National Conference of State Legislatures at (303) 830-2200, and the National Lead Information Center Clearinghouse at (800) 424-LEAD.

The Food & Drug Administration(FDA) is one of the oldest protection agencies in our nation today. The FDA is a public health agency, charged with protecting American consumers by enforcing the Federal Food, Drug, and Cosmetic Act and several related public health laws. Today the FDA is located in 157 cities across the country. It investigates and inspects around 95,000 FDA-regulated businesses(The Food and Drug Administration, 1995). This organization is taken steps to protect children from lead poisoning by proposing regulations that will make it harder for small children to gain access to high-potency lead products. FDA is also helping ensure that health-care providers and consumers are alerted to the dangers associated with accidental overdoses of lead-containing products (Hingley, 1996). Today the FDA is headed by the Commissioner David A. Kessler, M.D.

Government officials face many key arguments or points each day. One argument that I would encourage governmental official to look at is the amount of lead allowed in gasoline. Today the burning of leaded gasoline is the number one pollution dealing with lead. So in my opinion I would suggest that they reduce the amount of lead in gasoline so that are children and the following generations do not have to deal with this problem. Another point is what is the government and their agencies doing in order prevent this pollution from causing problems in our future.

(Supporting non-governmental Organizations)

Besides governmental organization there are organizations that work throughout different communities that try too help people that are in need. One example of this is the Program Development Department Kiwanis International. This organization has a few goals it would like their communities to know about:

1. Awareness of the risk of lead poisoning and particularly the danger in home renovations.
2. Identification of Children who are at risk of who are already poisoned.
3. Removal and reduction of the lead hazard in hones, child care centers, and schools.

They ask if there any questions about any of these goals or anything about preventing lead poison to contact them at:

Program Development Department  
Kiwanis International  
3636 Woodview Trace  
Indianapolis, IN 46268-3196  
U.S.A.

317/875-8755, ext.214  
800/549-2647 (North America Only)  
(Kiwanis International, 1996)

(Steps that I can Personally take to Make a Difference)

Besides governmental and non-governmental organizations there are steps that we can make in our communities that will help out. One step that I would personally take is by letting my friends and family know some of the facts on lead poison such as:

1. Where not to let there children play
2. Toys children should not play with
3. Items that one should not buy due to high amounts of lead

This would help them keep their homes in a condition which would be safer for there children. These steps may take a little time and money but the outcome will help ensure a cleaner environment for the next generation.

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