

Rachel's Environment & Health News

#104 - The Children Of Love Canal

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Love Canal, in Niagara County, New York, is the place where the modern toxics movement began. In 1896, William Love dug a canal nearly two miles long, hoping to connect the upper and lower Niagara River. The canal was abandoned before it ever carried traffic. In 1942, a chemical company began using the abandoned canal as a dump, burying 19,000 cubic yards of toxics in the long trench. Some time after 1953, ownership of the land was transferred to the Niagara Falls Board of Education, which built a school on top of the dump. In 1977, tests revealed toxic chemicals seeping into the basements of homes near the canal. At first it was mysterious and frightening; as it became better understood it became even more frightening. Two hundred and forty eight different chemicals were identified, 30 of them embryotoxins or fetotoxins, and 18 suspected teratogens. At least 34 of them cause cancer. FOR 100 OF THE 248 CHEMICALS, NO TOXICOLOGICAL DATA WHATEVER COULD BE FOUND. In 1978 the state of New York found a high rate of miscarriages among families in the first tier of homes fronting on the canal; authorities declared a health emergency, closed the school on top of the dump, and evacuated 235 families. The following year New York state authorities evacuated families with pregnant women, or with children under 2 years of age, from the southern half of the Love Canal neighborhood, which was considered most heavily contaminated. In May, 1980 the federal government offered evacuation to everyone in Love Canal.

(We state these facts as if they had a life of their own, as if governments did these things spontaneously, without urging from anyone. Nothing could be further from the truth. The story of Love Canal is one of massive citizen struggle, and of victory against tremendous odds. But that is a story for another time.)

Later in 1980, health researchers began formal studies of the children living within a few hundred yards of Love Canal. They also studied the outcomes of pregnancies. Their results, published in 1985, show the dangers of doing health studies in what had become a political war zone, but they also show the dangers of exposing children to even low levels of modern chemicals.

The levels of a few chemicals were measured in homes; the levels were 1% or less of the allowable occupational standards. Of course occupational standards are not set to protect the general public; they are set to protect young, healthy males in the prime of life. The general public contains large numbers of people who do not fit the profile of employed males: many old people, many children, many people with chronic illnesses, with allergies, with poor diets, and so forth. This is why, for the general public, occupational standards are entirely inappropriate as a measure of acceptable exposure.

In any case, despite living in Love Canal, the population under study was not exposed to huge levels of exotic chemicals; however they WERE exposed to more than the average, and they suffered the consequences.

Two different studies of the children of Love Canal reveal ill effects among those who lived near the Canal vs. those who lived further away. The authors point out correctly that the disease patterns they observe do not prove that Love Canal caused the harm. However, reading these studies will definitely convince you that, if you can, you'd be better off avoiding contact with a wide range of organic solvents and chlorinated hydrocarbons.

Two groups of people were studied: 239 children born to mothers exposed to Love Canal chemicals while pregnant, and 707 controls (children from the same city whose families were similar to the Love Canal families in every respect except where they lived). The two groups were specifically matched for socioeconomic status, smoking, alcohol consumption, and medication taken during pregnancy.

Unfortunately, the study was begun too late to include the 235 families who were the first to be evacuated from Love Canal. Those

families COULD have been studied if New York State or the federal government had been willing to spend the money to find the families and interview them, but the resources were not available. In addition, children who had died were excluded from the study. For these reasons, it is very likely that the study underestimates the true effect of living near Love Canal. Nevertheless, the study shows that low birth weight babies were 2.3 times as likely to occur among homeowners living near Love Canal, compared to the control group (11.1% vs. 4.8%). Serious birth defects were twice as likely to occur among those living near the Canal (12.1% vs. 6.2%).

The study of children's health involved 523 Love Canal children and 440 control children from the same city matched in every respect except where they lived.

The study found seizures 2.5 times as prevalent among Love Canal kids as among controls; learning disabilities were 1.5 times as prevalent; hyperactivity was almost 3 times as prevalent; eye irritation was twice as prevalent; skin rashes occurred twice as often; abdominal pain was twice as prevalent; incontinence occurred three times as often. Thus by seven health measures, living near Love Canal is associated with ill health among children.

Behind these studies lies a political drama of Kafkaesque dimensions. Health researchers at Love Canal who disagreed with the New York State Health Department were demoted, transferred, or harassed. The Health Department undertook studies which are still today totally secret; what they studied, and how, has never been revealed. One tantalizing piece of information appeared in SCIENCE magazine (Vol. 212 [1981], pgs. 1404-1407) showing that lung cancer among Love Canal men was up 70% compared to the average of New York State (excluding NY City), and among Love Canal women it's up 100%. Yet the state still today refuses to publish its data. The message is crystal clear: chemical exposures of the general public by American industry give rise to sick children, but also to state suppression of scientific data, and to loss of rights by those who ask too many questions.

Bev Paigen, the chief health researcher at Love Canal, will tell you one of the most important lessons is this: citizens need their own access to resources and expertise. With control over their own experts, citizens have a chance of learning what's happening and what they must do; without it, citizens can be duped by the state. Hats off to Bev Paigen, a gentle warrior for children and for the truth.

For further information, see: Lynn R. Goldman and others, "Low Birth Weight, Prematurity and Birth Defects in Children Living Near the Hazardous Waste Site, Love Canal," HAZARDOUS WASTE AND HAZARDOUS MATERIALS, Vol. 2 (1985), pgs. 209-223; see also Beverly Paigen and others, "Prevalence of Health Problems in Children Living Near Love Canal," HAZARDOUS WASTE AND HAZARDOUS MATERIALS, Vol. 2 (1985), pgs. 23-43. An even-handed discussion of the political attacks on the health researchers by New York state authorities appears in Beverly Paigen's "Controversy at Love Canal," originally published in THE HASTINGS CENTER REPORT (June, 1982), from the Institute of Society, Ethics, and the Life Sciences in Hastings-on-Hudson, NY; we have been unable to locate the Institute, but reprints are still available from Dr. Paigen who is a research biologist with the Bruce Lyon Laboratory, Children's Hospital Medical Center, 7474 East 52nd St., Oakland, CA 94609; phone (415) 428-3524.

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