

Recognizing The Evidence

Frequently, chemical injury (also called chemical sensitivity) is viewed as a mysterious health condition. Some believe that the cause has yet to be discovered and the symptoms are a baffling puzzle and not explainable. Also there is often the perception that the health professionals can't provide treatment for those affected, because so little is known about it.

However, this is actually not the case if you consider the evidence. The existing toxicological information regarding laboratory test animals is very revealing.

The simple fact is that the laboratory test animal has become poisoned by exposure to a toxic chemical, which has resulted in chemical injury to the tissues and organs of the animal's body. This results in the test animal becoming a "chemically injured animal".

Then if those test animals that have already become "chemically injured" are further exposed to a second toxic chemical, their toxic reaction will often be more severe than expected and will frequently include neurological symptoms. These neurological symptoms do not necessarily reflect the inherent characteristics of the second toxic chemical.

An explanation for these neurological symptoms, that do not necessarily reflect the inherent characteristics of the second toxic chemical, can be found in a toxicological report on the pesticide Aminopyralid. The report is called: Aminopyralid: Human Health and Ecological Risk Assessment – FINAL REPORT and it was prepared for: USDA/Forest Service and National Park Service. Here is its link: https://www.fs.fed.us/foresthealth/pesticide/pdfs/062807_Aminopyralid.pdf

On page 29 of this document, under the heading 3.1.6. Effects on Nervous System, the first paragraph states:

As discussed in Durkin and Diamond (2002), a neurotoxicant is a chemical that disrupts the function of nerves, either by interacting with nerves directly or by interacting with supporting cells in the nervous system. This definition of neurotoxicant distinguishes agents that act directly on the nervous system (direct neurotoxicants) from those agents that might produce neurological effects that are secondary to other forms of toxicity (indirect neurotoxicants). **Virtually any chemical will cause signs of neurotoxicity in severely poisoned animals and can be classified as an indirect neurotoxicant.** For aminopyralid, there is ample indication of indirect effects that might be associated with neurotoxicity but no indication of specific neurotoxicity.

(bold and underline is mine)

Using the definition above, virtually any toxic chemical can be an indirect neurotoxicant to the chemically injured animals, who have been severely poisoned, and will give them neurological reactions.

Now we need to take the toxicological information that we know regarding the laboratory “chemically injured” test animals and apply that knowledge to understand the “chemically injured” person.

People who are “chemically injured” are the human equivalent of “chemically injured” test animals; and “severely chemically injured people” are the human equivalent of “severely poisoned animals” or “severely chemically injured animals”.

If the manufacturer of the product, that made the person ill, discloses the toxic chemical ingredients and its inherent toxic characteristics, then frequently the chemically injured person’s symptoms will be the same as what was experienced by the test animals in the laboratory.

The symptoms experienced by chemically injured humans are the same symptoms experienced by the chemically injured test animals in the laboratory, which reflect the inherent characteristics of the chemicals that did the injuring.

Also, the chemically injured person, who becomes further exposed to toxic chemicals, will often have more severe toxic reactions, which will often include neurological symptoms. These neurological symptoms might not necessarily reflect the inherent characteristics of the chemicals to which the person was further exposed.

By taking the existing toxicological information regarding laboratory “chemically injured” test animals and applying it to understand the “chemically injured” person, this “mysterious health condition” is no longer mysterious. It is much better understood, and the symptoms are no longer a baffling puzzle.

The key difference between the laboratory test animals and humans is the fact that the test animals are highly monitored regarding: 1) their toxic chemical exposures, 2) the dosage the animals receive, and 3) the corresponding symptoms they experience.

In stark contrast, in the real world and in real life, humans are exposed to a wide range of toxic chemicals – a poison mixture – every day of their lives from the day they are born till the day that they die. The complete spectrum of the poison mixture is impossible to identify, and it is different for each person. There is no monitoring regarding: 1) humans’ toxic chemical exposures, 2) the dosage that humans receive, and 3) the corresponding symptoms they experience.

Many chemically injured individuals don't even know how their bodies became so poisoned. That information is not always available nor is it easy to discover. After all, who knows or records all the toxic chemicals to which one is exposed through out the course of one day, one week, one month or one year.

Frequently, the chemically injured individuals don’t even know precisely what chemicals did the injuring. There are a few reasons for this:

- Sometimes governments only release pollution data many years after the event occurred. For example, it was only in 2011 that the Ontario government released the information that Agent

Orange had been applied on the country roadsides, and along rail lines and power lines in the 1950s, '60s and '70s.

- Rarely does one learn about pesticide applications being done locally, especially by farmers or forest companies.
- Many pesticide products, as they break down, will continue to vapourize into the air for many months after they have been applied. Then the wind will carry that vapour great distances, in some cases 20 to 30 km or more.
- Scented products don't list their toxic chemical ingredients; don't have Material Safety Data Sheets that explain the toxicological characteristics of the product; and don't carry any warning labels.
- New products often have a "new smell" which is usually a mixture of toxic chemicals. They don't list their ingredients; and they don't have Material Safety Data Sheets that carry potential toxicological warnings. Examples are: vehicles, clothing, furniture, carpets, houses, and so on.

This toxicological evidence demonstrates that exposures to toxic chemicals result in chemical injury for both animals and humans. It also reveals that further exposures to toxic chemicals result in increased chemical injury for both animals and humans.

Additionally, we learn that being able to identify the toxic chemicals that did the injuring and knowing the inherent toxicological characteristics of those chemicals, will help explain and understand the symptoms experienced by the exposure.

The true mystery that needs to be solved is uncovering which toxic chemicals in which products have produced the toxic reaction in the chemically injured person.

Where Does The Evidence Lead?

The evidence is pointing to the simple fact that the chemically injured animal and the chemically injured person need protection from further toxic chemical exposure.

In the real world and in real life, animals, birds and reptiles are exposed to a wide range of toxic chemicals – a poison mixture – similar to what humans are exposed. People are very aware of the decline in the population of various species of animals, birds and reptiles, as well as fish and insects.

Some species are endangered and some have gone extinct. Before the species became endangered or went extinct, its population declined as the death rate became greater than the birth rate.

In a great many cases, the endangered species are being monitored closely and action is often taken to prevent an endangered species from going extinct. Protection laws are frequently established. This often includes land being set aside to protect the habitat of a specific species – the habitat that their very survival depends upon. Within these protected zones, pesticide usage and pollution-generating industries are often banned.

Although humans are far from becoming an endangered species, there are more and more people becoming chemically injured due to a wide range of toxic chemicals – a poison mixture – in their living environment. These individuals are progressively going from being ill, to being very ill, to being disabled to dying.

This is happening without receiving very much medical help, and in some places, no medical help. Governments are aware of this happening, yet are doing almost nothing to prevent it or to help those whose health is negatively affected.

For example, the number of people in Ontario, who have been diagnosed with chemical injury (chemical sensitivity) by a medical doctor, is growing at an astonishing rate. The Canadian Community Health Survey - done by the Ontario Ministry of Health together with Statistics Canada – is partially monitoring it. Their 2014 statistics stated that there were 250,500 people in Ontario diagnosed with Chemical Sensitivity. Their 2016 statistics stated that there were 404,207 people in Ontario diagnosed with Chemical Sensitivity. That is an increase of 61.3% in just two years!

Then the Canadian Community Health Survey states:

The questions used to measure the number of Ontarians with fibromyalgia, chronic fatigue syndrome, and multiple chemical sensitivities were not included on the 2017 and 2018 surveys. Fibromyalgia and chronic fatigue syndrome will be on the 2019 and 2020 surveys, but multiple chemical sensitivities will not appear until the 2021 survey.

So a health condition that advanced by 61.3% in just two years, won't be monitored for another five years! This is both irresponsible and cruel. At the current time, in Ontario and in Canada, very little is being done to help alleviate human suffering. Is there any other health condition in which governments are so wilfully negligent and callous toward human suffering?

The key help that chemically injured individuals need is identical to that which governments provide for the animals, birds and reptiles. The chemically injured humans need protection laws to be established and enforced. They need lands being set aside to protect the habitat that human survival depends upon – pure air, pure water and pure food. They need protected habitat zones where all pesticide usage and pollution-generating industries are banned.

Protected habitat is granted to animals, to birds and to reptiles. Why is it denied to humans?

Going Where The Evidence Leads For The Chemically Injured

Safe, low-toxicity housing is the number one greatest need for the chemically injured. It is also a crucial medical need. Low-toxicity houses are homes in which the indoor air toxins are almost non-existent, in a locality in which the outdoor air toxins are reduced to very low levels.

In a nutshell, low-toxicity housing is as crucial to a chemically injured individual, as insulin is to a severe diabetic or heart surgery is to a heart patient. Having a safe place to call home is needed for the

recovery of everyone who is chemically injured and is absolutely crucial for the survival of the severely chemically injured. Also, being able to live in safe, low-toxicity housing will frequently prevent the chemically injured from needing to be hospitalized.

To accomplish this, governments need to establish and enforce protection laws that set aside protected lands for the chemically injured humans. These protected habitat zones must be places where all pesticide usage and pollution-generating industries are banned.

An effective Diagnostic Protocol for the chemically injured has been developed by Dr. Gunnar Heuser, who is a neurotoxicologist and an immunotoxicologist. His article is called: *Defining Chemical Injury – A Diagnostic Protocol and Profile of Chemically Injured Civilians, Industrial Workers and Gulf War Veterans*. Here is a link to it: http://www.lindane.org/new/2005/chemical_injury.htm

In Dr. Gunnar Heuser's Diagnostic Protocol, under the heading "Toxicological Considerations", he states:

Most pure toxicologists stress the dose while we, as clinicians, stress the response part of the dose-response curve. Regulatory agencies (e.g. OSHA) suggest certain limits of exposure. These limits apply to healthy adult males who work an average eight-hour day for five days a week. They do not apply to females, children, the elderly, and any already impaired individuals. Nor do they apply to individuals who spend most of their days and all night at home where they might be exposed.

(bold and underline is mine)

Every one is different, and everyone's exposure history is different. Therefore it is crucial that the health professionals focus on the person's response, much more than on the dose.

After diagnosis, comes effective treatments. Frequently, all of the solutions that are discussed to accommodate the chemically injured individual in the health system and in society, amount to trying to force a square peg into a round hole and vice versa. These solutions try to make a compromise with other interests. However, the low-toxicity health requirements for the chemically injured are often incompatible with other interests and with society's values.

Avoidance of exposure to toxic chemicals is a necessary part of everyone's treatment. This is a basic need for all chemically injured individuals - to be located in a safe, non-toxic environment. The precise treatment that a chemically injured person receives will depend on that person's chemical injury – which tissues and organ systems were injured. The treatments will need to be individualized according to each person's chemical injury.

Since the chemically injured experience toxic reactions upon exposure to toxic chemicals, the medical specialty most trained and equipped to help them is clinical toxicology. However, clinical toxicology is an underdeveloped medical field, which urgently needs to be expanded to meet the challenges of the chemically injured. Instead of being only in poison control centres with a focus only on single incidence acute poisonings, the clinical toxicologist needs to be more available and needs to be trained

to recognize, diagnose and treat those who have been poisoned gradually by a wide variety of poison mixtures.

Then, additionally, there needs to be the development of various specialties within the clinical toxicology medical field, such as: neurotoxicology, immunotoxicology, hepatotoxicology, pediatric toxicology and so on. This would be best accomplished in a Clinical Toxicology Hospital and Research Centre, which draws together the expertise from the leading medical researchers in this field.

In conclusion, the evidence leads to the need for protective action for the chemically injured individuals. The chemically injured deserve the same degree of protection that is given to the animals, birds and reptiles. They deserve a safe habitat free from exposure to toxic chemicals, including, but not limited to scented products, pesticides and pollution-generating industry.

The chemically injured deserve to have their legitimate health requirements met. They deserve the opportunity to receive medical care in a toxin-free environment. They deserve the opportunity to rebuild their health and to have a safe, low-toxicity place to live, to work and to socialize.

The chemically injured deserve compassion and protection.