As a result of working extensively with dozens of patients who had repeated exposure to toxins and solvents throughout their lifetimes, I wrote the article “Acquired Cumulative Neurotoxic Encephalopathy: Look toward the Future” which was published in the Academy of Medical Psychology Newsletter in March of 2015. Since then, I have reviewed hundreds of studies, and worked with additional patients, who have the onset of systemic disorders such as autoimmune disorders, multiple chemical sensitivity, allergic reactions, histamine intolerance, leaky gut, metabolic syndrome, and various myalgia conditions. Many of them can trace the onset of symptoms back to one point where they had, after repeated exposure to solvents or toxins, gone from relatively normal function to significant dysfunction. The premise of Acquired Cumulative Neurotoxic Encephalopathy and Acquired Cumulative Systemic Neurotoxic Effect is that there is a threshold at which the body cannot tolerate additional exposure to toxins without a significant reaction. This may be related to genetic sensitivities, failure of the body to eliminate toxins from the body, and/or cumulative damage to the physiological/biochemical systems of the body. One of the first commonly known cases is those who played the crystal armonica, a leaded-crystal musical instrument, where the musician would build up lead in their system over time to the point of risks lead poisoning.

The term “LD50” is one that is well known to all chemists, pharmacologists, prescribers, and medical practitioners. In short, it is the amount of a substance that would have to be ingested to result in 50% of the subjects dying. The key is identifying the threshold (or level) at which a substance is toxic. These are basic medical concepts, but generally, the accumulation of toxins over time, which are not expelled from the body is less understood and attended to since it is assumed that the body will detox the substances consumed. If the body can not eliminate the toxins effectively, a build up of the toxins can occur resulting in toxicity. For individuals with impaired hepatic (liver) function, this is the cause of complications, and potentially death.

What about the repeated assaults on the body by one or more toxins? What is the cumulated effect? To complicate this question, what if the toxin, and other consumed substances, have a synergistic effect which impacts health? Research has shown that the combination of glyphosate with aluminium and fluoride increases the risk of Alzheimer’s disease [1]. Exposure to these chemicals could easily be invisible. For example, if you were to use aluminium cups for drinking fluoride supplemented water and smoke cigarettes (which contain significant levels of glyphosate), you have combined exposure. If you have problems eliminating these from your system, tiny levels of exposure can accumulate over time until dysfunction occurs. Synergistic methods have been used in the past as a form of poisoning targeted populations.

I grew up in the 1950s and 1960s in Oregon. My family loved camping, so we would go to the various camping grounds on the Oregon coast, in the mountains, and various lakes. I developed two health problems: allergies impacting my breathing, and chronic lymphocytic thyroiditis (Hashimoto’s Thyroiditis). Approximately 14 million people in the United States are affected by Hashimoto’s Thyroiditis. During those years, the pesticides that were used included DDT.

In the 1980s, the woman who is now my wife was living in Southeast Portland, Oregon. She had her window open in her bedroom the night that area was, without warning, sprayed with pesticides. After that, she began to experience problems with B12 deficiency, low potassium, chronic pain problems, significant chemical sensitivities, and other physical problems which have continued to worsen over the past 30 years. Her husband at that time developed skin problems, chronic bronchitis, and later severe asthma.

We have all heard of individuals developing different conditions following an insect bite or exposure to some concentration of chemicals. Unfortunately, research is completed in small, time-consuming ways. For sufficient research to accumulate, it takes
decades. The development of DDT earned Paul Hermann Müller, its discoverer, a Nobel Prize in 1948. DDT and organ chlorine pesticides were extensively used between the 1940s to 1960s. In 1962, Rachel Carson’s book “Silent Spring” brought the dangers to the public eye. Yet it was not until 1972 that DDT was finally banned.

One patient that I had seen and evaluated, had worked on a mink farm as a child being exposed to significant levels of DDT. There is a threshold of exposure that exists. As is seen in chronic chemical use, there is a point of accumulation where repeated insults to the body and neural tissues, will result in acquired cumulative neurotoxicity, the point that neural function is significantly impaired. It is very likely that without this pre-existing poisoning, the patient would not have suffered significant neurocognitive dysfunction after standard anaesthesia for a surgery later in his life.

Organophosphate pesticides act on the acetyl cholinesterase. This same mechanism is used in nerve gas and bio weapon neurotoxins. The harm to children has been well documented; as a contributing cause of impaired attention span, and frontal lobe dysfunction. Despite this, it continues to make up much of our current pesticides [2].

The potential harm has not been limited to chemicals. We also live in an electromagnetic soup of WIFI, cellular phone signals, microwaves, and radio waves. It is likely that we will need to include these factors in the years to come. The documentation of the potential harm of these, especially G5, has been significant. When you add electro magnetics into the list of Acquired Cumulative Systemic Neurotoxic Effect, the level of knowledge needed to address these issues is significant. The level of complications that this introduces to healthcare is enormous and our current preparation of our healthcare professionals to meet these challenges is totally inadequate. This must change.

References
2. Reinaldo T Delfino, Tatiana S Ribeiro, José D Figuera Villar (2009) Organophosphorus compounds as chemical warfare agents: a review Journal of the Brazilian Chemical Society 20(3).