The Use of Far Infrared Saunas in Detoxification

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There is a growing concern about the amount of chemicals that we are exposed to on a daily basis. Over the course of our lifetime, we are exposed to a large number of foreign chemicals, called xenobiotics, through the air we breathe, the food we eat and the water we drink. Numerous studies have shown that many chemicals end up in our bodies and accumulate over the course of our lifetime. This is very different from a sudden large dose, which is often what is used in safety studies of chemicals. Recent concerns over low levels of bisphenol A and its ability to act like a hormone in the body led to its ban in Canada and the recall of many plastic water bottles. Studies such as the Environmental Working Groups Human Toxome Project have been groundbreaking in raising awareness, to the point that the Canadian government is now conducting research into the accumulation of chemicals in its population with the Canadian Health Measures Survey and Maternal-Infant Research on Environmental Chemicals (The MIREC Study).

Our bodies have evolved complex systems of detoxification enzymes. These enzyme systems generally function to minimize the potential of damage from xenobiotics. However, a growing amount of research suggests an association between impaired detoxification and many chronic illnesses such as cancer, Parkinson’s disease, heart disease, diabetes, obesity, thyroid dysfunction, fibromyalgia, autoimmune diseases and infertility. It is becoming clear that an individual’s ability to remove toxins from their body may play a role in the development or worsening of a range of chronic conditions and diseases.

As the evidence grows pertaining to the effects these compounds have on human health, it becomes clear that getting these chemicals out of the body is an important step in maintaining health. For many individuals interested in complementary and alternative medicine, we will often consider a yearly cleanse or detox program. These programs often consist of a combination of dietary restrictions with herbal formulations to support liver, bowel and kidney function.

Sauna is a treatment that is often added to a detox program. Conventional Western medicine is quick to ridicule the concept of detoxification, however there is a valid scientific argument to be made for the use of sauna as a method of clearing chemicals from the body.

FAR INFRARED THERAPY

Unlike a conventional sauna, which heats our bodies indirectly (first through warm air currents, and then by contact of that hot air on our skin), more than 80% of the energy in a far infrared sauna goes directly to heating our bodies. This far infrared radiant energy directly penetrates the body tissues to a depth of from 0.5 to 1.5 inches.
Also unlike conventional saunas, far infrared saunas use a drier heat at lower temperatures. This increases tolerance to the sauna treatment, allowing for deeper, longer heating which promotes perspiration and provides more beneficial effects than standard sauna treatments.

By its direct heating effects on the body, far infrared sauna therapy mobilizes toxins from our fat cells where they are stored, increases circulation and aids in elimination of these toxins through perspiration. 30-50% of the population does not adequately perspire, meaning they are not effectively mobilizing and eliminating the toxins they are exposed to each day from their bodies. Far infrared sauna therapy improves functioning of the temperature regulating parts of our brains. This increases perspiration to further stimulate excretion of toxins from the body.

Sweat is 97-99% water. Far infrared sauna treatments mobilize the toxins in tissues and cells to increase circulation and promote perspiration. Sweat induced by a far infrared sauna session has a higher concentration of chemicals including solvents, toxic metals, urea, cholesterol and lactic acid. There is a significant amount of research documenting the compounds that are released in the sweat.

CHEMICAL COMPOUNDS RELEASED IN PERSPIRATION INCLUDE:

- The minerals sodium, potassium, magnesium and chloride, as well as iron and chromium.
- Sodium and chloride have the greatest losses (155 and 137 meq, respectively), while magnesium and potassium are excreted in much lower quantities (13 and 16 meq, respectively).
- Copper and zinc are released in high amounts in sweat (avg. for copper 550 μg/L for males and 1480 μg/L for females; for zinc 500/1250 for males and females, respectively).
- Nickel and lead were found in lower levels than copper and zinc.
- Manganese, cadmium, and aluminum have also been found in the sweat in much lower amounts than Cu and Zn. With protracted sweating from exercise, the levels of iron and zinc in the sweat were lower in the second hour than in the first.
- Cadmium and nickel levels in the sweat are higher than corresponding levels in the urine, making sweating a prime route of depuration for cadmium or nickel toxicity.
- Sweating has been explored as a valid method for reducing antimony levels in those with high Sb exposure.
- In persons whose blood lead averaged 8.62 μg/dL, the level in the sweat averaged 5.2 μg/L, which was about 25% that of the urine.
- Dermally absorbed lead was released in both sweat and saliva, but did not show up in the blood.
- A study on the toxicokinetics of lead states that soft tissue lead, not blood lead, is the source for lead released in sweat.

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Only 1 published study was found regarding mercury and sweat. This study did not give a measurement of mercury in the sweat, but noted that in a mercury-poisoned person the mercury blood level continued to drop during the sauna portion of the protocol (which followed chelation therapy). Sauna increased excretion with sweat fluid of lead, thiuram, captax, sulphenamide C that penetrated the body during work. Sauna was recommended as an effective procedure in conditions where chemical and physical factors are the leading professional noxae.

A patient had a chronic, debilitating multisystem disorder of 20-years duration related to a chemical sensitivity, which resulted from low-level exposure to solvents at work. The patient was able to discontinue, without ill effect, all medications previously prescribed to treat her symptoms. Heat chamber depuration (sauna) treatment brought substantial relief of symptoms and returned her to gainful employment.

A LARGE NUMBER OF MEDICATIONS HAVE BEEN DETECTED IN THE SWEAT:

- Amphetamines and its metabolites
- Methadone and its metabolites
- Anti-epileptic drugs
- Phenytoin, phenobarbital, and carbamazepine were measured after it was noted that a number of hospitalized patients had lower serum levels of phenytoin during a particularly hot summer.

Removal of such toxic loads from our systems provides us with increased and improved cellular functioning. As a result of these effects, far infrared sauna therapies are useful in many chronic disease states, focusing on the causation of the illness - the toxin load in our bodies affecting our cell and tissue functioning.

SAUNA USE IN CLEANSING PROGRAMS

Sauna has been used in detoxification programs on numerous occasions for individuals suffering adverse effects from exposure to PCB's and dioxins. L. Ron Hubbard, founder of Scientology, developed and promoted the use of the Hubbard Purification Rundown as a method of reducing environmental chemicals in an individual. The components of his 3-6 week protocol include doing all of the following daily:

- Physical exercise for 20-30 minutes
- Sauna, 140-180° F, done in 30 minute sessions for a total of 2 ½ - 5 hours daily
- Increasing doses of niacin each day and taking a multivitamin
- H2O, NaCl, K replacement
- Oil, 1-8 Tbsp
- Balanced meals and adequate sleep

This program has been used in several instances. In one case, ten electrical workers who did 3 weeks of the Hubbard protocol were studied. They experienced a 7.8% drop in adipose pesticide levels and a 4.7% drop in PCB levels. In the 3 months after treatment ended, the pesticides continued to be cleared from the workers’ bodies. At the 3-month follow-up, the mean total drop in pesticides from pre-treatment levels for the treatment group was 21.2% (2.3% for PCBs).

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This program was also used for New York firefighters who’s health deteriorated after working on the 911 World Trade Center site.

Dr. William Rea, director of the Environmental Health Center, Dallas (EHC-D), has also published data on the therapeutic use of thermal chambers. Dr. Rea’s protocol included on a daily basis:

- Chemical-free living facilities
- Use of specially constructed, less chemically polluted heat chambers; 140-160° F for 2 hours
- Exercise before the sauna
- Massage after the sauna
- Niacin—up to 3,000 mg
- Vitamins, minerals, amino acids, given orally and:
  - Vitamin C—15 g daily, with another 2-8 g orally
  - Several other vitamins and minerals
  - Glutathione

In Dr. Rea’s clinic, the results of treating 156 chemically sensitive females and 54 males were reported as follows: 86% of the participants had improved symptom pictures; 57% of those with abnormal balance and 31% of those with autonomic nervous system disorders improved.

Sixty-three percent of those undergoing the cleansing program had reductions in their serum toxin levels; of those without any noted reduction, 18% showed an increase and 19% remained the same.

Dr. Gerald Ross, who worked with Dr. Rea for many years, gave a presentation in 2003 that described sauna therapy utilized as part of a drug addiction/criminal rehabilitation program. When a 2-year follow-up was done, it was found that 23% of those who failed to complete the program had criminal records, while only 13% of those who completed the program re-offended.

Dr. Walter Crinnion, director of the Southwest College of Naturopathic Medicine’s Environmental Medicine Center of Excellence has used the following as a detoxification protocol with patients:

- Exercise 15-20 minutes
- Thermal chambers, 120-130°; three 60-minute sessions with 10-minute cool-downs in between
- H2O (bottled spring) and electrolyte replacement
- Ginger/yarrow tea
- No niacin
- Flax oil, 1/2 to 1 oz daily
- Psyllium
- Constitutional hydrotherapy (using the protocols of Harold Dick, ND, and Andre Saine, ND) with dichromatic green light
- Liver herbs, 1 capsule daily containing Chelidonium, Chionanthus, Arctium lappa, Taraxacum, Urtica dioica, Arctostaphylos uva-ursi, and Silybum marianum
- Colonic irrigations with purified H2O (triple treatment)
- Herbal, bacterial implants
- Body work, including craniosacral, visceral, trigger point, shiatsu, acupuncture and massage
- Constitutional homeopathy
- Nutritional workup
  1. Dietary avoidance of adverse food reactors
  2. Dietary avoidance of most toxic foods
  3. Dietary avoidance of sugar

After treating 112 patients in his clinic, 83% of patients reported moderate to excellent results.
SUMMARY

Each day our bodies are assaulted with a barrage of chemicals and toxins from the environment. They come from the air around us, the water we drink and bathe in, the food we eat, the soil our food is grown in, and the household products we use. Chronic disease and cancer are on the rise. These toxins, which we store in our tissues and cells, have been implicated as major contributing factors.

Heavy metals impair our immune systems and neurological functioning. Organic solvents and pesticides increase our risk of cancers. Carbon monoxide pollution is increasing with more cars and vehicles on the road, affecting our nervous system, immune system, respiratory functioning, and increasing the toxic burden on our cells.

Numerous other chemicals have been demonstrated to cause havoc on our bodies, building up in our cells and tissues, and causing organ dysfunction and damage. Treating the damage alone cannot stop the process. We need to address the cause, namely the toxic buildup in our tissues.

It is to this end that far infrared sauna therapy is effective. By its direct heating effects on the body, far infrared sauna therapy mobilizes toxins from our fat cells where they are stored, increases circulation, and thus aids in elimination of these toxins through perspiration.
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