



### **Halotherapy, a Naturopathic Breath of Fresh Air**

There is no shortage of news headlines like this one: **Canadians Have a 40% Risk of Developing Asthma before Age 40** (1). The epidemic rise in respiratory diseases is alarming. We can attribute some of these increases to pollution, which has been well established. The importance of good quality air for good respiratory health is not necessary to argue. We know this to be true just as we know that healthy food is essential for a healthy life. The problem with controlling and predicting air quality is that air is not bound by political borders. The air is full of offenders which drift with the prevailing winds. The burning of fossil fuels is a primary culprit affecting climate change and air pollution regardless of where they are burned. Volatile organic compounds [VOC] hitch rides with warm air convection currents and make it possible for pesticides applied on one of the most heavily sprayed crops, cotton, for example, and find their way northward. Three to five days after a cotton farmer in Louisiana sprays his fields, these pesticides can be detected in Canada. The proximity of Southern Ontario to the 2nd largest producer of Polycyclic Aromatic Hydrocarbons [PAH] in North America, Michigan State adds to the toxic burden of residents.(2)

Although outdoor air may seem to be the offending source for respiratory illnesses, indoor air can be 10 times more hazardous.(3) The US Environmental Protection Agency ranks the quality of indoor air as the leading factor in environmental health problems. Plastics and phthalates, a plasticizer, have permeated into our daily lives. In fact, a billion pounds annually of Phthalates enters the pollution mix. Linking asthma to phthalates, investigators found that children with asthma or allergies had significantly higher levels of phthalate in dust collected from their bedrooms than did healthy children.(4) Navigating through a safe childhood without plastics is virtually impossible.

Asthma rates have more than doubled in the past 25 years as the planet's ecosystems groan under immense toxic loads. The urgency for developing effective solutions for patients is widely understood. As a case in point, childhood asthma is the number one reason for school absenteeism. At the same time, glossy ads inform adults diagnosed with COPD that there is no cure. And, illustrating the crisis dramatically, chronic sinusitis and allergies translate for the transnational pharmaceutical industry into billions of dollars in annual sales of decongestants and anti-inflammatories.

Among numerous strategies to confront these epidemic red flags, and keeping in mind our growing understanding of the causes (pollution, genetics, unhealthy lifestyle practices), Halotherapy is an exciting, well documented option. Successfully used for many generations in Europe but virtually unknown in North America, Halotherapy has had exceptional success in confronting respiratory illnesses. I learned about Halotherapy during the International Society of Medical Hydrology Program on Balneotherapy in Szeged, Hungary in 2005. Dr Gyorgy Nagy, MD, PhD, excited delegates with her presentation on Halotherapy. The data,

illustrative material and case study resources were extremely compelling. I learned in Hungary that there has been available for a long time a remarkably effective therapy to address the respiratory crisis in which we find ourselves.

Halotherapy ["halos" in Greek means salt] is drug-free and completely natural. It occurs in a controlled air environment that simulates a natural salt cave microclimate. Halotherapy stems from the even older "Speleotherapy" ["speleo" means cave] that historically utilized actual salt mines as the venue for the therapy. Salt mines and their therapeutic properties have been noted since Hippocrates. The first doctor who attributed curative powers to the inhalation of saline dust was Polish physician F. Bochkowsky in 1843. In recent history people hid in the German Klutter salt mines during WWII bombing raids. Respiratory difficulties among those sequestered in the mines disappeared. Speleotherapy has since become a popular treatment in Europe and Russia with much research confirming its immunological benefits [Simyonka 1989, Slivko, 1980, Yefimova et al, 1990 Zadorozhnaya et al, 1986]. (5)

Salt mines in many European countries [Germany-Teufelshohle; Hungary-Topeka; Poland-Wieliczka; Austria-Solzbach-Salzeman] have been used for generations. In the 20th century, many of these salt caves have been retrofitted into hospital complexes that accommodate hundreds of patients. Salt is the curative element responsible for clinical improvements for a wide range of respiratory diseases including asthma, COPD, bronchiectasis, cystic fibrosis, bronchitis and sinusitis.

However, not everyone lives close to a Speleotherapy facility, especially if we live on the North American continent. Indeed, most of us have been largely unaware that these salt therapies exist. Not only are the clinical applications of halotherapy not part of formal naturopathic medical curriculum, but there is also little awareness of the existence or location of such facilities. As well, their adaptation for therapeutic use would be uneconomic and impractical. Where this has also been true in some European locales, Halotherapy evolved to increase the accessibility of Speleotherapy for more than a few.

Halotherapy simulates the salt cave environment in a specially designed room, the Halochamber, with salt-coated walls and floor and a state of the art air filtration system. The salt helps to maintain air humidity in the room and adds to its bactericidal properties. The air filtering system ensures air purity. A specialized nebulizer, recognized by Health Canada and CSA approved as a medical device, releases monitored, finely pulverized dry sodium chloride aerosol particles (between 1-5  $\mu\text{m}$ ) into the room that are imperceptible to the patient. Such particles can penetrate deep into the smallest airway branches. Patients sit in comfortable chairs while receiving their hour long, safe, relaxing treatment.

Unlike the nebulizer that we are familiar with that uses solutions of glutathione and other liquids which are nebulized and inhaled, HT uses dry aerosol and so the experience for the patient with a respiratory condition is much different. Instead of feeling as if he or she were drowning or suffocating on the excess fluid, the patient is completely comfortable with the humidity of the air breathed. The provocation of bronchospasm is associated with the use of aerosolized hypertonic saline solutions used with nebulizers. Dry sodium chloride aerosol [DSCA] does not induce bronchospasm and in fact alleviates bronchospasms. (6)

The literature on Speleotherapy and Halotherapy continues to grow and now includes more than 100 studies. For example, in a 10 year study, 4,000 patients were treated in a hospital complex in Tapolca, Hungary. Long duration of clinical improvements and significant recoveries from airway obstruction were observed in the overwhelming majority of patients. (7)

Central to the pathogenesis of asthma, bronchitis, COPD and bronchiectasis is impaired mucociliary clearance, which results in the accumulation of airway secretions. A Russian study of 124 patients aged 16-62 years with various chronic lung diseases [87-bronchial asthma; 26 - chronic bronchitis; 6 - bronchiectasis; 5 -cystic fibrosis] were treated in a halochamber. Each patient received daily one hour sessions across 10-20 days. All patients reported feeling subjectively better after the halotherapy treatments. No aggravations were seen from the 3rd to the 12th month. The average duration of the remission was 7.6+/- 0.9

months. Most of the patients [60%] used no further medication after their halotherapy treatments. (1)

Salt is the major curative factor in HT. Sodium chloride aerosol causes bactericidal and bacteriostatic effects on respiratory microflora and prevents the development of inflammatory processes [Simyonka, 1989, Rein & Mandell, 1973].(8) Experiments show that low doses of dry sodium chloride aerosol [DSCA] have a beneficial effect on phagocytic activity of alveolar macrophages [Konovalov et al, 1992] and therefore on bronchial clearance and the elimination of foreign agents. Conditions that have been alleviated include: chronic asthma, bronchitis, pneumonia, bronchiectasis, coughs, sinusitis, seasonal allergies, atopic dermatitis, eczema, psoriasis, etc.

Some minor side effects can be rarely experienced temporarily with HT such as itchy skin, conjunctivitis, tickling in the throat and a mild sedative effect.

Although HT is a common European therapy, in North America the only existing Halotherapy facility is located in Toronto. It has been offering its services at 1126 Finch W, Unit 14 [416] 739-7777 since 2002. Please check out their website, [www.halotherapy.com](http://www.halotherapy.com) and inquire about a free tour of halochamber.

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1 - The figures come from a study entitled "The Burden of Asthma in Ontario" and conducted by Canadian researcher, Dr. Teresa To of The Hospital for Sick Children. The study was published by the Institute for Clinical Evaluative Sciences and examined the total lifetime risk of developing asthma before the age of 40.

2 - Crinnion, Walter, Notes from Environmental Medicine Course, Southwest Naturopathic College, Tempe, Arizona, 2003.

3 - EPA website

4 - Bornehag, CG et al. 2004. The Association between Asthma and Allergic Symptoms in Children and Phthalates in House Dust: A Nested Case-Control Study, Environmental Health Perspectives, in press

5 - Chervinskaya A. et al., Halotherapy for Treatment of Respiratory Diseases. Journal of Aerosol Medicine, Volume 8, Number 3, 1995.

6 - Chervinskaya A., Respiratory Hygiene with Dry Sodium Chloride Aerosol, 14th Annual Congress of the European Respiratory Society, Glasgow, September, 2004.

7 Horvath T. Int Rehabil Med. 1986;8(2):90-2.

8 - Chervinskaya A. et al., Halotherapy for Treatment of Respiratory Diseases. Journal of Aerosol Medicine, Volume 8, Number 3, 1995.