

# Vital Link

## Respiratory Conditions



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# Vital Link

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The Vital Link is the professional journal of the Canadian Association of Naturopathic Doctors (CAND). It is published primarily for CAND members and features peer-to-peer research-based articles, relevant naturopathic information and news and events that affect CAND members and the naturopathic profession in Canada. The Vital Link has an outreach to other health care professions and promotes licensed naturopathic doctors to corporations, insurance companies and the Canadian government.

## Circulation

The Vital Link is published three times per year and is distributed to more than 1050 licensed Canadian NDs; over 600 students of CNME accredited naturopathic programs in Canada and the U.S., and the CAND supplier members. The Vital Link is also distributed in the CAND's media kit.

## Advertising

Professional vendors that provide NHPD-compliant products or other services to NDs are encouraged to advertise in the Vital Link. The CAND's advertising partners enjoy unequalled exposure to licensed Canadian naturopathic doctors.

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## Upcoming Themes:

Winter 2008 – Allergies

Summer 2008 – Environmental Medicine

Fall 2008 – Autoimmune Diseases

## Submissions

When writing for the Vital Link, keep in mind its broad readership and outreach to other professions. Your contribution to the Vital Link will benefit the naturopathic profession as a whole and provide you with personal professional exposure. Previously unpublished material is preferred. Please contact the editor for submission guidelines.

# CORNER

## PRESIDENT'S

*Dr. Iva Lloyd, BScH, RPP, ND, CAND Chair*

It is quite amazing to stand back and see how our profession has developed. In the early 1900s, when naturopathic medicine was first introduced to Canada, our elders had a vision and had the task of determining what was needed to develop a profession. And that's what they did. The elders dedicated their lives, financially and personally, to establishing the foundation for naturopathic medicine. They developed the principles and philosophy that are the basis of our profession today.

A number of requests that have come into the CAND lately are about explaining the naturopathic profession and how it developed. The analogy we use is that it's like building a town. For over 70 years the elders did the hard labour of breaking the ground; clearing the fields and building the roads. They were driven by a common vision, their beliefs and their personal dedication. The elders had the wisdom to recognize the importance of their foundation, they knew what they stood for and they held it strong. There were opportunities to move naturopathic medicine forward faster, but they realized that doing so would mean having to give up part of their foundation. They never took the easy path. Their focus was always on what was best for the profession in the long run. Their decisions have strengthened naturopathic medicine and have ensured the breadth of scope that we enjoy today.

Around the 1990s there was increased interest in and development of the naturopathic profession. It was recognized that there was a need to strengthen the profession's educational system and support systems. To use the analogy of a town; it was time to create more formal structures and organizations. The profession was expanding and growing up. In fact, the number of NDs doubled in less than 10 years. There were different opinions as to what this new formal structure would look like, how to accomplish it and who would do the work, but all in all everyone shared the common goal. At the same time, there was an increased desire and demand to notify others about who NDs were and what we stood for.

In the last five years our status has changed once again. We have been added to the larger map and people are aware that we exist. As a result we are getting a lot more 'visitors'. Most are excited and are attracted to us because of our uniqueness, what we stand for; some are even trying to mirror us. Others are curious and critical because we are different. This new status has encouraged us to clarify the details of the practice of naturopathic medicine and understand what really makes it unique and how it fits in or compares to other forms of medicine. For example, the CAND has been invited to speak at an International Conference in India on the Naturopathic Approach to Lifestyle Diseases. Being able to critically analyze, and have others analyze, every aspect of our profession is a sign of progress and will strengthen our profession even more as we move forward.

Our current goal as a profession is to continue to grow and expand while being true to our principles and philosophy, to learn how to interact with others, while maintaining our foundation, our uniqueness and strengthening our core. It is to remember the vision and the dedication of the elders and to make them proud as we add to the structure so that it will sustain the profession as it moves forward.

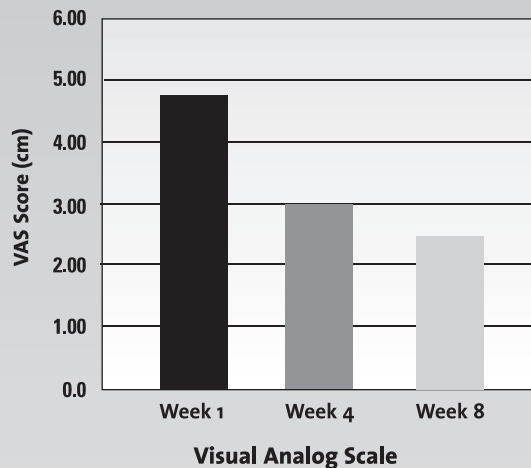
The naturopathic doctors of today have a very different job than our elders. In many ways it is an easier path and it is becoming easier. In some ways it is more difficult as there is a greater need to know how to balance growth and about the retention of the core. Our strength will continue to be there if we work together with a common focus and intention. This is a wonderful time in our profession. I encourage you to get involved.

We would appreciate hearing your ideas and comments. Please contact either myself or Shawn O'Reilly at [i.Lloyd@naturopathicfoundations.ca](mailto:i.Lloyd@naturopathicfoundations.ca) or [soreilly@cand.ca](mailto:soreilly@cand.ca)

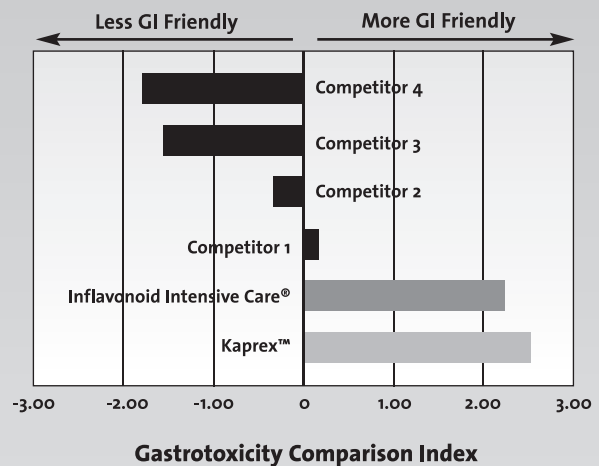
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# Government Relations Report

Shawn O'Reilly, CAND Executive Director, Director of Government Relations

The summer saw the CAND engaged in a number of diverse consultations:

- WHO draft guidelines "For the Selection of Substances for Quality Control of Herbal Medicines"
- Health Products and Food Branch (HPFB) proposed "Good Clinical Practice Annual Licenses"
- HPFB working group on "The Effective Communication of Risk Associated with Mercury in Fish"
- HPFB Project 1539, proposed changes to section 3 and Schedule A of the Food and Drugs Act

This last HPFB project has particular importance for Natural Health Products (NHPs). Section 3 relates to advertising of products that prevent, treat or cure diseases listed on Schedule A. In an about face, the HPFB withdrew project 1474, which would have exempted NHPs from the prevention, treatment and cure prohibitions under section 3, and released project 1539 which will only exempt NHPs from the prevention prohibition. This is contrary to what was announced by the HPFB at the Standing Committee Hearings on Bill C420 and as recommended by the Schedule A Working Group Majority Report issued over a year ago. Project 1539 also recommends removing 17 diseases from Schedule A but adds a further 6 thereby only reducing the original list of 40 diseases to 29. The Working Group recommended an initial substantial reduction and eventual elimination of Schedule A utilizing criteria it developed. The majority of stakeholders (including the CAND) approved the Working Group's majority report. We also supported project 1474. We expect there will be much discussion and debate on this project this fall.

In July the CAND nominated Dr. Paul Saunders PhD, ND, DHANP for the Health Products and Food Branch Expert Advisory Committee on the Vigilance of Health Products (EAC-VHP). In our opinion, Paul's experience with the transition council, the development of the NHPD, his research background and his tenure on the NHPD's Expert Advisory Committee make him a logical choice for the EAC-VHP.

We continue our involvement with the NHPD and its regulations as the NHPD further refines processes and undergoes a review of the regulations. Individual and group consultations on the review process are expected to commence late this fall or early in 2008. To date 4,000 product licenses have been issued and some 6,000 rejected. The list of those products with a license is updated regularly and can be found on the NHPD website. While they have made a significant

dent in the backlog of product applications given that there are an estimated 40,000 natural health products in the Canadian marketplace, they have a ways to go. The HPFB, which incorporates the NHPD, is once again without an Assistant Deputy Minister (ADM). An interim ADM has been appointed. Along with other stakeholders we continue to be concerned with the influence that the Therapeutic Products Directorate has with Branch decisions as they relate to NHPs. It is hoped that the new ADM will be open to discussion on this important issue once appointed.

Over the summer the CAND formed the NAPRA Sub-Committee to address concerns on the definitions used by the National Association of Pharmacy Regulatory Authorities (NAPRA) for parenteral therapy and parenteral nutrition. The definitions are unclear, which has the potential to negatively impact the ability of NDs to access injectable substances with the advent of new legislation for naturopathic medicine in several jurisdictions. The Sub-Committee is made up of representation from across the country and includes both provincial associations and regulatory boards. A good working relationship has been established with NAPRA and we will be making a submission on the expertise of NDs and the parenteral substances they use with patients at an upcoming meeting of NAPRA's National Drug Scheduling Advisory Committee (NDSAC).



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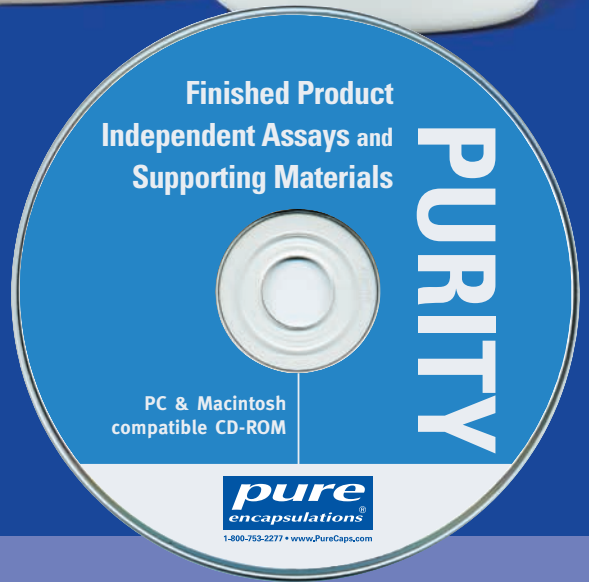
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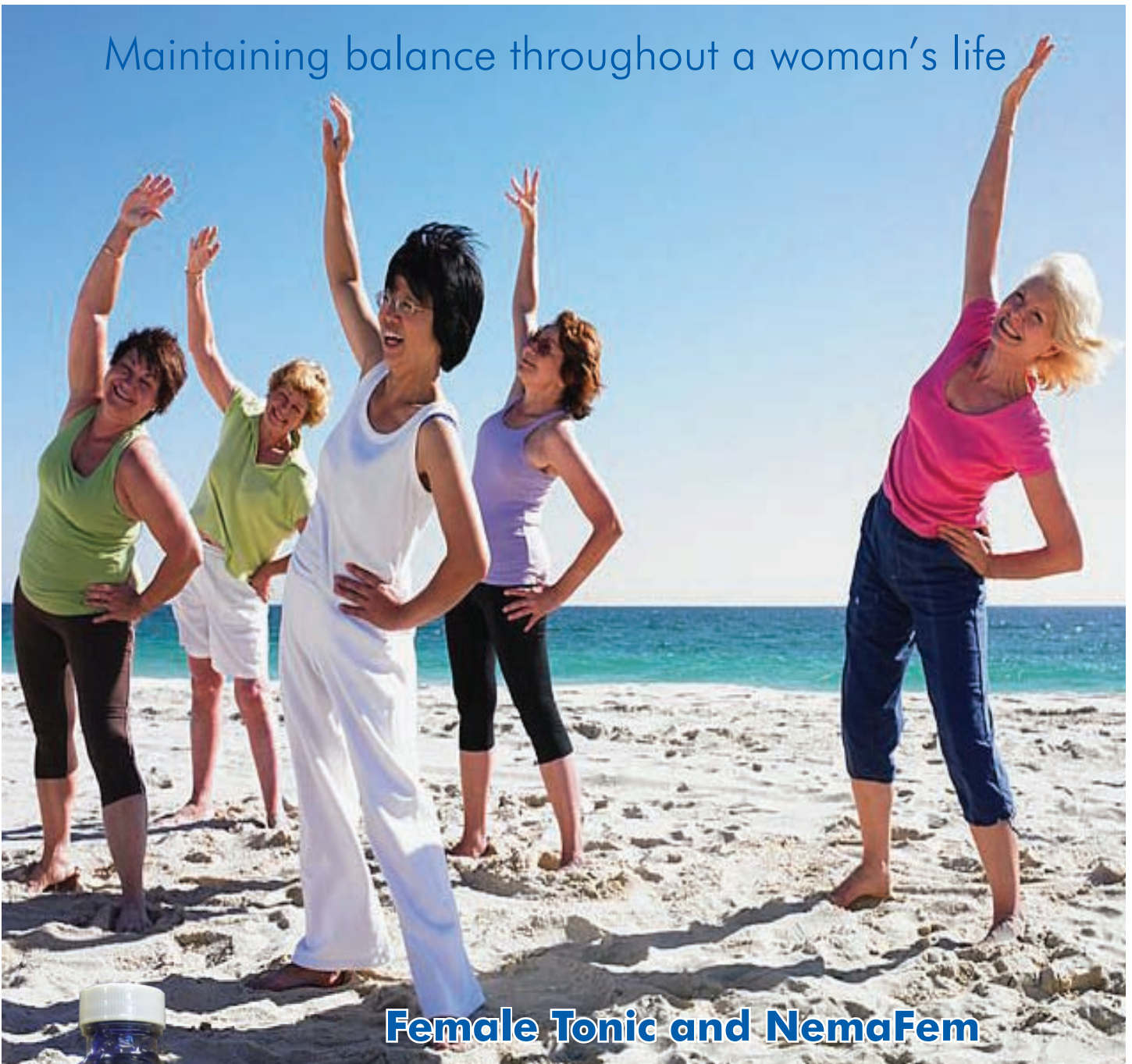


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# 2007

# HEALTH FUSION

**June 22-24, 2007, Halifax, NS**

*Dr. Ingrid Pincott ND (Campbell River, BC)*

If I were to comment that one of the best parts of the CAND conference was the food I might offend some of the presenters. However, Edward Borsuk did an outstanding job of creating the best food I have had at a conference in all of the 22 years I have been attending them! Ed worked with the Chef at the Westin Nova Scotian during the six months leading up to Health Fusion in order to provide a specialized and comprehensive menu that included ample gluten-free and dairy-free selections.

The Westin Nova Scotian is a beautiful hotel and what I noticed most during my first visit to Halifax was how friendly the locals are. The weather was typical west coast style but it seemed to quit raining just at the times that I wanted to walk the long boardwalk that started near the hotel and ended at the casino. At the navel docks near the casino I was able to witness first hand the size of an American Navy ship next to the much smaller Canadian one!

The common theme of the conference was the immune system and the importance of probiotics in the modulation of GALT and MALT. My favourite presenters were Dr. Phillipa Heritage PhD and Dr. David Lescheid PhD, ND, both of whom presented aspects of the immune system in a very easy to understand way. Dr. Heritage is a favourite professor at CCNM as was evidenced by the enthusiastic applause by CCNM students and recent grads in the audience. She spoke about mucosal immunology and the Hygiene Hypothesis. Delegates learned more on the immune system later in the weekend from Dr. Nigel Plummer PhD.

The other pearl I learned was from Dr. Quinn Rivet ND's profound knowledge of kidney disease and nephrology. The three amino acids he recommends for kidney dialysis patients are taurine, serine and tyrosine. The kidney produces 2,000mg of taurine per day and in dialysis this is all excreted.

Dr. Neil McKinney ND gave a great presentation of his clinical successes in cancer and encouraged us to visit his website [www.drneilmckinney.ca](http://www.drneilmckinney.ca) for more articles he has written. His lecture notes can be obtained from him by email. Dr. Paul Saunders PhD, ND, DHANP gave an informative presentation on drug-nutrient interactions for baby boomers.



*Dr. David Lescheid PhD, ND speaking on Pandemics, Epidemics and Naturopathic Medicine.*



*(L-R) Naturopathic Doctor Elders Christoph Kind, Angela Moore, John Cosgrove, Lois Hare, Verna Hunt, Gerry Farnsworth, Marilyn May, Paul Saunders and Ingrid Pincott at our Saturday Gala Dinner.*

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Dr. Lois Hare ND provided a simple technique for abdominal massage that she teaches all of her patients during their physical exam. She said it is the best remedy for constipation. Contact her for her handout that she provides to patients: [alders@istar.ca](mailto:alders@istar.ca).

This year's dynamic trade show saw more than 50 natural health product and service exhibitors supplying delegates from all across Canada with their cutting-edge product information and samples. Health Fusion trade shows provide professional NHP suppliers with a prime opportunity to connect with the ever-growing number of influential health care professionals from virtually every province and territory. The results: a far greater familiarity on the part of practitioners with the variety of health care tools now available to them, more effective patient care and - for suppliers - a level of exposure which is both unique and truly first-rate.

The Gala on Saturday night was great fun. The food was spectacular, the music was great fun to dance to and there were lots of photos taken of the elders including Dr. Mitra Javanmardi, Dr. Verna Hunt, Dr. Lois Hare, Dr. Marilyn May, Dr. Paul Saunders, Dr. Neil McKinney, Dr. Christoph Kind, Dr. Gerry Farnsworth and Dr. John Cosgrove. Supplier Appreciation Awards were presented to St. Francis Herb Farm and NaturPharm Inc. in grateful recognition of their decades of dedicated support of naturopathic doctors.

There was also a detailed history wall & display of the profession. Madeleine Lloyd of Naturopathic Foundations Health Clinic has done an incredible job of compiling all kinds of archival material, including official documents, photographs and newspaper clippings. Presentation of this material at Health Fusion 2007 was the first phase of the CAND's naturopathic history project, which will include a book and multimedia DVD. More news on this will follow.

However, the action of Health Fusion didn't end on the Sunday afternoon after the closing remarks and drum circle lead by Dr. Lois Hare ND. Dr. Sandra Murphy ND and her local crew had been busy planning pre- and post-conference events, which included local tours, a tall ship cruise in the Halifax Harbour, a relaxing kayak tour and even a trip to Lunenburg!

A 'job well done' to the CAND team, Health Fusion Committee and all the wonderful volunteers. Plans for Health Fusion 2009 are underway so, stay tuned for announcements coming soon.

*With files from Alex McKenna*



*Exhibitors and Delegates connect in the exhibit hall while enjoying delicious gluten- and dairy-free snacks.*



*Wrapping up after all the action, conference committee members (L-R) CCNM student and volunteer coordinator Mona Zarei; CAND admin & media assistant Stuart Watson; food planner extraordinaire Edward Borsuk; CAND executive director Shawn O'Reilly; CAND marketing director Alex McKenna and CAND finance manager Heather Fleck.*

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# Is a Business Partnership A Good Idea?

Dr. Elias Markou, BSc Hons., RHN, Dipl. Ac., ND

From a business perspective the naturopathic profession is still a very young one. As more naturopathic doctors graduate, the probability of two NDs opening up a clinic together increases. When two or more people develop a business purpose with the idea of generating profit, this is a partnership. Before a decision is made to enter into a partnership it is important that there is a clear understanding of the advantages and disadvantages of a partnership.

During the exciting early stages of planning a clinic, how to structure the business is a decision that NDs tend to spend too little time thinking about. However, it remains one of the most crucial decisions you have to make for the survival of your business.

Due to a high debt load upon graduation, partnerships are appealing to many naturopathic graduates. The idea of merging money, resources, and talents can seem like the most logical decision. A partnership arrangement can bring a mix of talent and experience that may create a successful business. However, it is important to choose your partner wisely and to ensure that you clarify, in writing, your exact arrangement before you start.

Benj Gallander, author of the *Canadian Small Business Survival Guide*, suggests forming a partnership is akin to forming a marriage. Often it is easy to find a willing partner. The difficulty is finding a suitable partner for the long-term. Gallander states if you make a mistake, it can prove extremely costly in terms of money, time and stress so, it is wise that you take time to find the right business partner.

Frances McGuckin in *Business for Beginners* looks at the statistics for partnerships and shows that few partnerships actually succeed. The major reason, she says, is incompatibility: partners are chosen for the wrong reasons. Choose carefully when it comes to a business partner and have a well-structured partnership agreement in place.

A written agreement is essential and can reduce stress should the relationship dissolve. Do not depend on provincial Partnership Acts to define a dispute, they are written in a vague way which allows for many interpretations. Work with a lawyer who specializes in partnership agreements. The more that two individuals discuss and determine how they would handle the possible scenarios that they might encounter

in business ahead of time, the fewer problems they will potentially encounter.

## Advantages Of A Partnership

**Expertise:** Different naturopathic doctors have different talents. An ideal partnership will include individuals with different skills and would ensure that all the key roles in a practice are accounted for. The partnership agreement should clarify the jobs and responsibilities of each person.

**Financial Responsibility Shared:** In most partnerships each naturopathic doctor would contribute equally to the business. With equal financial responsibility, each partner is equally motivated to ensure that the business succeeds. Lack of financial commitment often leads to discord.

## Disadvantages Of a Partnership

**Authority:** Benj Gallander says, "In partnership situations, quick business action is not always possible, and these delays in decision making can cause disagreements". Unless there is a clear outline in the partnership agreement as to how decisions will be made and who can make certain decisions, there are bound to be problems. It is unrealistic to assume that two people will agree on everything.

**Frozen Assets:** If problems do exist in the partnership, or if there is a dispute the assets, including cash, of the business can be frozen. If this happens, it may take many years before money is retrieved from the business, making the business essentially inoperative.

**Unlimited Liability:** Unlimited liability means you are responsible for the debt incurred by the other partner. This can be a major disadvantage in a partnership. Creditors can attempt to claim your personal assets like your house, your car and other assets for debt accumulated and owed by the partnership.

If you are considering a partnership it is important to remember the following:

1. Do not to make a long-term business decision based on a short-term obstacle;
2. Spend as much time and consideration choosing a business partner as you would choosing a spouse and
3. Always work with a lawyer to ensure that you have a sound detailed Partnership Agreement before you start.

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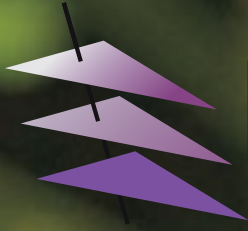
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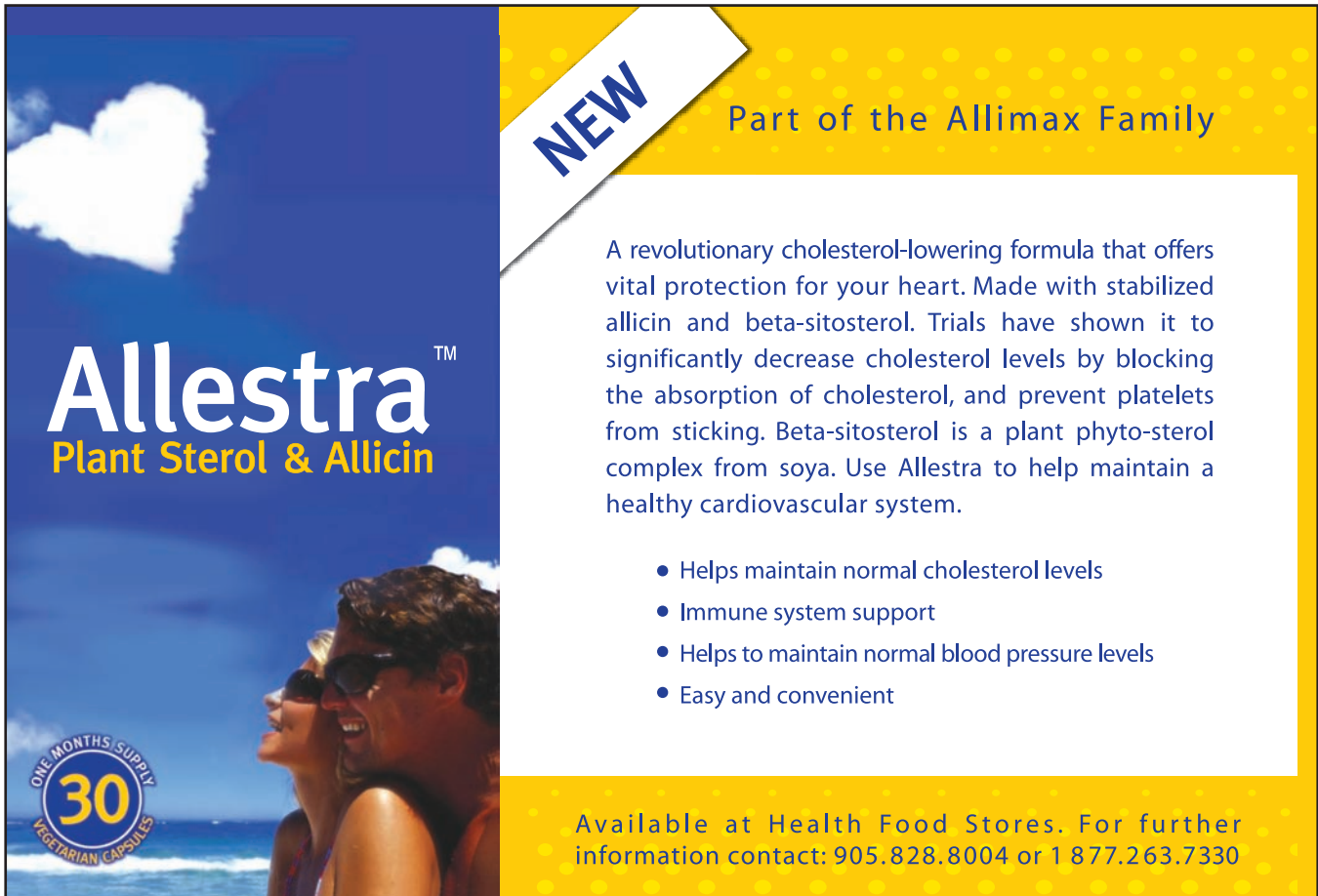
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# Dramatic Increase in the Number and Cost of Malpractice Claims against NDs

Hal Huff Sr., Managing Partner, Partners Indemnity Insurance Brokers Ltd.

On reviewing recent professional liability (malpractice) claims against NDs, a pattern appears to be developing.

Last year eight claims or alleged claims were reported compared to the three to four reported annually in past years. This steady increase in claims is a concern, but what concerns us even more is the dramatic four-fold rise in the average cost of claims.

Claims have risen to the extent that it was necessary to make a small upward premium adjustment in your most recent professional liability renewal. We certainly wish to avoid this in the future if at all possible.

Why are claims increasing? We see two possible reasons; first, the increased number of NDs practicing in Canada and second, the adverse influence of our deteriorating health care system which has resulted in more patients seeing NDs, thereby increasing the potential for claims. However, this steady growth in claims is out populating the growth of participants in the CAND program. More specifically we are seeing a rise in the number of injection therapy type claims.

*A common thread in patient complaints is the statement that communication or miscommunication was a root cause.*

The financial consequences resulting from such claims give us particular concern. Expenses and settlements can be high particularly with long term or permanent injury claims. More importantly we wish to do whatever necessary to protect the reputation of NDs' medical practices as legislative changes proceed over the coming months and years.

To help hold the line against further increases we need to become more diligent about avoiding such claims in our daily practice. Not only does this involve the ND but also the employees working alongside the ND.

To give everyone a heads up some of the common reasons for claims include: unwanted injection, muscle damage, organ damage, wrong injection and improper injection. A common thread in the complaints is the statement that communication or miscommunication was a root cause.

How can you avoid this? Written consent by the patient must always be obtained prior to treatment.

Not only does this protect you against miscommunication it is required under your licensing within regulated provinces. Following the treatment plan and SOAP (Subjective, Objective, Assessment, Plan) record keeping, which includes charting both the patient's and your own comments, is vital.

We have found in some cases that a complete history either was not taken or was alleged not to be taken resulting in an allergic reaction or over medicating. Again note keeping becomes critical. If the patient has seen another ND or has been subject to treatment by another medical professional the patient's complete records should be obtained by you. The patient completes a "Release of Records" form, which authorizes the previous health care provider(s) to release a copy of the records for your files. Otherwise, it comes down to your word against theirs in a claim against you. Unfortunately in today's litigious society the law tends to fall on the side of the patient in these cases. Patient consent to treatment and meticulous record keeping will help ensure a positive outcome should a claim be brought.



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Come and see me November 15 at the Toronto Airport Hilton, from 3 to 10 pm.

Warmest regards, Ivo Bianchi, MD

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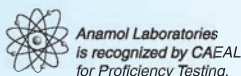
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# Naturopathic Association and Academic Updates

## **The Canadian Naturopathic Foundation: “Naturopathy – Lighting the Path to Health”**

Using those words as a guide, Dr. Robert Fleming ND and his wife Ann Fleming created the Canadian Naturopathic Education and Research Society (CNERS) in 1987. The name was later changed to the Canadian Naturopathic Foundation (CNF). The torch image, designed by Dr. Joseph Boucher ND, reflects the work of this charitable foundation in supporting the naturopathic profession through scholarships, public awareness and research.

To assist the CNF, the CAND and the CNF have entered into an agreement whereby the administration will be handled through the CAND office in Toronto. The official announcement and signing of the agreement took place in June at Health Fusion 2007.

Enclosed in this issue of the Vital Link, you will find two brochures with further information on the CNF and donation forms. Your donation or bequest is a wonderful gift to ensure the CNF continues its promotion of naturopathic medicine. Additional copies of these brochures for your office are available from the CAND office. A charitable tax receipt will be issued for all donations.

To learn more about the CNF and how you can make a donation please contact Heather Fleck at the CAND office: hfleck@cand.ca, 416.496.8633, or toll free 1.800.551.4381.

## **Manitoba Naturopathic Association (MNA)**

[www.mbnd.ca](http://www.mbnd.ca)

MNA's work regarding upcoming legislative changes continues and so far the efforts of our committee members have been well received. We would like to thank all of you in the greater naturopathic community for responding with your feedback and support when we have called upon you. Our fundraising committee is also hard at work on a number of new initiatives, including an IMAX fundraiser in October. We are also anticipating some upgrades to our website, thanks to the dedication and hard work of one of our members. The MNA AGM will be held in early November and we look forward to welcoming new members to our Association.

## **Ontario Association of Naturopathic Doctors (OAND)**

[www.oand.org](http://www.oand.org)

### **Government Affairs**

The new Naturopathy Act received final approval in June and will be fully implemented by 2009. This legislation moves the NDs into the same regulatory framework as all other health professions, and also awards NDs the key controlled acts and use of the Dr. title. A Transition Council will be appointed early next year to review the standards for the profession and to establish the College of Naturopaths of Ontario. The OAND will be actively involved in representing the profession throughout the transition process.

The OAND was actively involved in the October 2007 provincial election, securing commitments from all three major parties to move forward with the transition process.

### **Business Symposium**

The 2007 Business Symposium, part of the OAND Business Excellence Initiative and a free event for new practitioners who are OAND members, will be held on November 22 and 23 in Toronto. Registration details are on the OAND website at [www.oand.org](http://www.oand.org).

### **OAND Conference**

Cardiology is the theme for the 2008 OAND Conference, April 19 and 20 at Ryerson University in Toronto. Featured speakers include Aggie Casey on Mind-Body Medicine and Mary Wu on TCM Approaches in Cardiology.

### **Membership Advantage Program**

The OAND welcomes three new members to our Member Advantage Program, Defibtech ([www.defibtech.com](http://www.defibtech.com)), Bradley Roulston Financial ([www.roulstonfinancial.com](http://www.roulstonfinancial.com)) and Competitive Edge Information Systems Inc. ([www.competitive-edge.on.ca](http://www.competitive-edge.on.ca)). Now with over 10 MAP partners, our members receive significant savings on the services and products they use every day.

### **Quebec Association of Naturopathic Medicine (QANM)**

www.qanm.org

Over the last few years, the QANM has met with government officials and the *Office des Professions du Québec*. We continue to work towards our vision of naturopathic medicine being regulated by the government and a French CNME accredited curriculum being available in Quebec. There are currently 15 practicing NDs in Quebec (vs. 6 in 2001). As the public becomes better educated about the profession there is an increasing demand for qualified NDs here. If you are starting a practice please contact our Association and we will be happy to talk to you about naturopathic medicine in the province of Quebec. The QANM needs more practicing NDs in Quebec if it is to be the 6th province to regulate the practice of naturopathic medicine!

### **Newfoundland and Labrador Association of Naturopathic Medicine (NLAN)**

Kathleen Mercer BSc, ND is currently the only naturopathic doctor in Newfoundland and Labrador. She is the contact for the Association. She will be meeting with the Provincial Minister of Health in January 2008. She is busy with her practice and with outreach programs to try to increase the awareness of naturopathic medicine in the Province. New naturopathic doctors welcome!

### **Council on Naturopathic Medical Education (CNME)**

www.cnme.org

The CNME Board of Directors held its annual meeting in Palm Springs, California, on August 19-21. In addition to regular business, the Board focused on two important goals: Continuing a comprehensive review of its accreditation standards, and conducting a training session for evaluators (evaluators are naturopathic physicians, educators and others who make up the teams that visit ND programs to assess compliance with CNME accreditation standards and to recommend measures to improve the quality of education). The CNME anticipates completing the standards review process and circulating the new draft standards for public comment in 2008. Additionally, the Committee on Postdoctoral Medical Education met to review the requirements for CNME-approved residencies and to refine the reporting and approval process.

### **Naturopathic Students' Association (NSA-CCNM)**

www.nsa-ccnm.com

The class of 2011 has entered the halls of CCNM. Our September intake was smaller than in past years with roughly 85 students. By contrast our January intake will be the largest that CCNM has ever had with roughly 65 students. New students received their first taste of CCNM with an amazing experience at Unity Summit where they bonded through games and were welcomed to the naturopathic profession by wonderful speakers, including CAND Chair Dr. Iva Lloyd ND.

Patient numbers at the Robert Schad Naturopathic Clinic have been on the rise over the last few years and this summer was no exception. Interns kept busy with many new patients and the number of patients expected to visit the clinic over the fall/winter is expected to grow as well. CCNM currently runs many specialty shifts for interns, such as Sports Medicine, Cancer, Paediatrics and Homeopathy. There is discussion of adding more specialty shifts next year.

CCNM student attendance at CAND Health Fusion hit an all time high: 43 students made the trip to from Toronto to Halifax. The general consensus of our student delegates was very positive and that Health Fusion 2007 was a valuable learning experience. Most students who were in attendance confirmed plans for attending Health Fusion 2009.

#### **CCNM Students complete Vietnam Externship**

In August 2007 a team of 6 fourth year CCNM students supervised by Dr. Arvin Jenab ND participated in a month-long externship at the National Hospital of Traditional Medicine in Hanoi, Vietnam.

On behalf of the team, we would like to thank the following groups for supporting our fundraising efforts at the CAND Health Fusion Conference in Halifax, NS, June 22-24, 2007:

#### *Canadian Association of Naturopathic Doctors (CAND)*

- For allowing us the opportunity to promote our international initiative
- For giving us space at CAND Health Fusion for our silent auction
- For supporting our campaign for international externships

*continued on next page*

Canadian College of Naturopathic Medicine (CCNM)

- For assisting us in the creative brainstorming of fundraising ideas
- For supporting our initiative to extern at the National Hospital of Traditional Medicine, Vietnam

Thank you to all those who participated in the silent auction and the 50/50 raffle. The lucky raffle winner was CCNM's own Academic Dean, Jonathan Wilde, who generously donated his half of the winnings back to the group. Thank you all very much!

It is with much appreciation that we thank the CAND, CCNM and all our supporters for helping us to further international externships for CCNM interns.

Our fundraising campaign continues including an upcoming seminar presented by Dr. Arvin Jenab: Dance of the Spirit, November 3-4, 2007 at CCNM, Toronto. Visit [www.ccnm.edu](http://www.ccnm.edu) under *continuing education* for more details.

The following associations did not submit an update: BCNA, CNPBC, AANP, SANP, BDDT-N, NBAND, NSAND, PEIAND, CCNM, BINM, BNSA.



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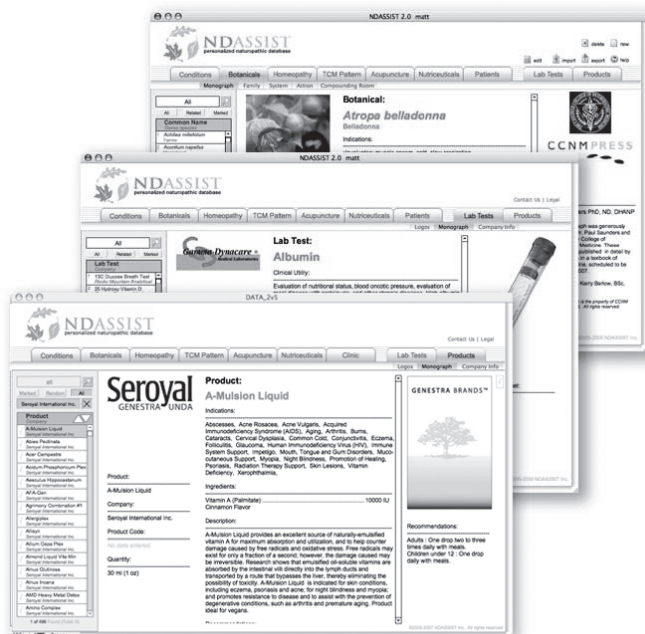
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# Halotherapy: A Naturopathic Breath of Fresh Air

*Dr. Sussanna Czeranko ND*

There is no shortage of news headlines like this one: Canadians Have a 40% Risk of Developing Asthma before Age 40.<sup>1</sup> The epidemic rise in respiratory diseases is alarming. Some of these cases have been established to be due to an increase in pollution. It is unnecessary to argue the importance of quality air for good respiratory health, 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 toxic materials 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 (VOCs) hitch rides with warm air convection currents and make it possible for pesticides applied on one of the most heavily sprayed crops, cotton, to find its way northward.<sup>2</sup> Three to five days after a cotton farmer in Louisiana sprays his fields, these pesticides are detected in Canada.<sup>2</sup> The proximity of Southern Ontario to Michigan State, which is the 2nd largest producer of Polycyclic Aromatic Hydrocarbons (PAHs) in North America, adds to the toxic burden on residents.<sup>3</sup>

Although outdoor air may seem to be the offending source for respiratory illnesses, indoor air can be 10 times more hazardous.<sup>4</sup> 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 our daily lives. In fact, a billion pounds annually of phthalates enters into the pollution mix. Investigators found that children with asthma or allergies had significantly higher levels of phthalate in dust collected from their bedrooms than did healthy children.<sup>5</sup> However, navigating a childhood safely 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. Childhood asthma is the number one reason for school absenteeism.<sup>6</sup> At the same time, glossy ads inform adults diagnosed with COPD that there is no cure. Global pharmaceutical sales almost doubled between 1998 and 2005, reaching over \$600 billion.<sup>7</sup>

Keeping in mind our growing understanding of the causes of asthma, such as pollution, genetics, and unhealthy lifestyle practices, Halotherapy is an exciting, well-documented option among the numer-

ous strategies to confront this epidemic red flag. 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, gave an exciting presentation on Halotherapy. The data, illustrative material and case study resources were extremely compelling.

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 numerous research confirming its immunological benefits.<sup>8</sup>

For generations, people have used salt mines in many European countries (Germany-Teufelshohle; Hungary-Topeka; Poland-Wieliczka; Austria-Solzbad-Salzeman). Salt is considered the curative element responsible for clinical improvements for a wide range of respiratory diseases including asthma, COPD, bronchiectasis, cystic fibrosis, and bronchitis.<sup>9, 10, 11, 12</sup>

However, not everyone lives close to a Speleotherapy facility, especially in North America. Indeed, most of us have been largely unaware that these salt therapies exist. The clinical applications of halotherapy are not part of formal naturopathic medical curriculum, and there is also little awareness of the existence or location of such facilities. As well, adaptation for therapeutic use would be uneconomical and impractical. This has also been true in some European locales, Halotherapy evolved to increase the accessibility of Speleotherapy for more people. Halotherapy simulates the salt cave environment in a specially designed room, the Halochamber, with salt-coated walls and floors. The chamber also has a state of the art air filtration system. The salt works by helping maintain air humidity in the room and

adding to its bactericidal properties. A specialized nebulizer, approved by the Canadian Standards Association (CSA) as a medical device, releases monitored, finely pulverized dry sodium chloride aerosol particles (between 1-5 um) into the room that are unnoticeable 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 uses solutions of glutathione and other liquids for inhalation, Halotherapy uses the dry aerosol method of delivery, thereby providing a very different experience for the patient with a respiratory condition. Instead of feeling as if he or she was drowning or suffocating on excess fluid, the patient is completely comfortable with the humidity of the air breathed. Moreover, bronchospasms are associated with the use of aerosolized hypertonic saline solutions in nebulizers.<sup>13,14</sup> Dry sodium chloride aerosol (DSCA) does not induce bronchospasm, but in fact, reduces bronchospasm.<sup>15</sup>

The literature on Speleotherapy and Halotherapy continues to grow and now includes more than 100 studies. In one 10-year study, 4,000 patients were treated in a hospital complex in Tapolca, Hungary. An overwhelming majority of patients experienced long durations of clinical improvements and significant recoveries from airway obstruction.<sup>16</sup>

Impaired mucociliary clearance, which results in the accumulation of airway secretions, is central to the pathogenesis of asthma, bronchitis, COPD and bronchiectasis. 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 for 10 to 20 days. All patients reported feeling subjectively better after the halotherapy treatments. No aggravations were seen from the 3rd to the 12th month post-treatment. The average duration of the remission was 8 months. In the end, 60% of the patients no longer used medication after their halotherapy treatments.<sup>17</sup>

Salt is the major curative factor in Halotherapy. Aerosol sodium chloride has bactericidal and bacteriostatic effects on respiratory microflora and prevents the development of inflammatory processes.<sup>18</sup> Experiments show that low doses of DSCA have a beneficial effect on phagocytic activity of alveolar macrophages and, therefore, on bronchial clearance and the elimination of foreign agents.<sup>19</sup> Conditions that are alleviated by the treatment include chronic asthma, bronchitis, pneumonia, bronchiectasis,

coughs, sinusitis, seasonal allergies, atopic dermatitis, eczema and psoriasis.

Some rare or minor temporary side effects experienced with Halotherapy include itchy skin, conjunctivitis, tickling in the throat and a mild sedative effect.

Although Halotherapy is a common European therapy, the only existing Halotherapy facility in North America is located in Toronto. It has been offering its services at 1126 Finch W, Unit 14 since 2002. Visit [www.halotherapy.com](http://www.halotherapy.com) or call 416.739.7777 and inquire about a free tour of the halochamber.

### **About the Author**

Dr. Sussanna Czeranko ND, an Ontario registrant since 1994 and recently relocated to Portland, Oregon, is a CCNM graduate. Sussanna incorporates her strong interests in Balneotherapy, Breathing therapy and Halotherapy into her naturopathic practice. A current project is a curriculum and training program for professional health care practitioners in Halotherapy to be available in 2008 followed by a forthcoming book on Naturopathic Breathing.

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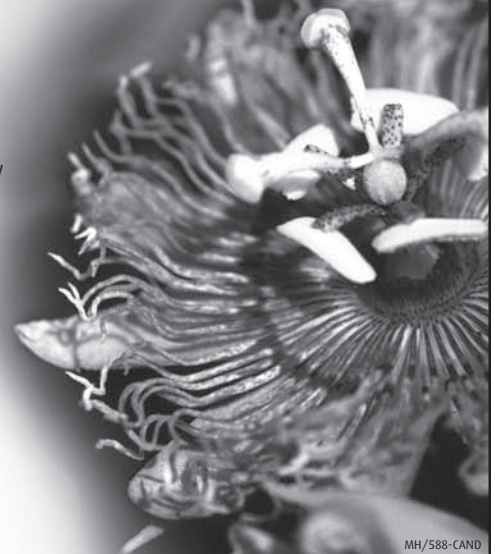
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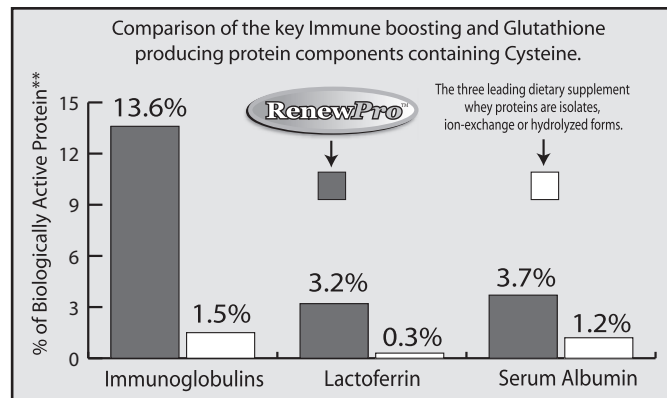
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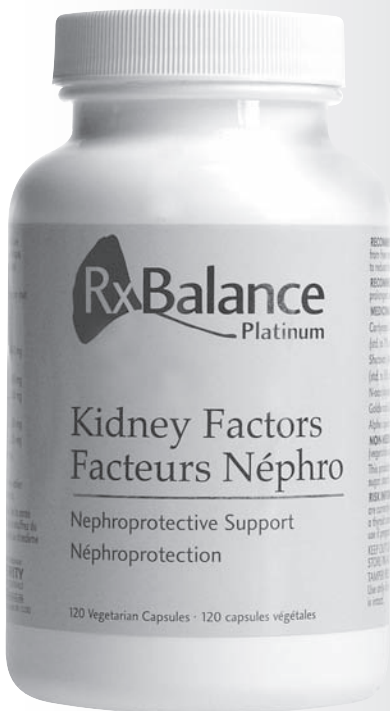
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# Nebulised Glutathione for the Management of Pulmonary Conditions: Truth or Myth?

*Dr. Michael Rahman, BSc, ND*

It is well accepted that Glutathione ( $\gamma$ -glutamylcysteinylglycine; GSH) supplementation offers benefit in many conditions. Oral supplementation with glutathione is complicated as digestive enzymes break it into its component amino acids: cysteine, glutamate and glycine, so the issue remains controversial. Cysteine is poorly absorbed so it is often given orally as N-acetyl-cysteine or cysteine rich modified whey proteins. Some researchers suggest that GSH must only be given intravenous. One study which argues against oral administration gave subjects a single large 3 gram dose of glutathione and saw no increase in plasma levels.<sup>1</sup>

One method of administration involves inhalation of aerosolized GSH via the respiratory tract; this will be the focus of the remainder of the article.

Riboflavin, niacinamide, selenium, and glutathione reductase are all essential for generating reduced glutathione.

Glutathione is found in the cytosol of almost all cells. The liver, spleen, pancreas, and lens and cornea of the eye have the highest concentrations. Although known to aid detoxification in the liver, GSH in the epithelial lining fluid (ELF) of the lower respiratory tract is also a first line of defence against oxidative stress.

Not only is GSH a potent antioxidant in the lungs, it improves oxygenation and host defences. GSH is intricately linked to several important regulatory components of the immune system, such as the antiprotease system, the lung surfactant system, the neutrophil/leukocyte system, and the nitrous oxide (NO) system. Thiol compounds (i.e., compounds containing an -SH group) like glutathione have a history of use as mucolytics as well.<sup>2</sup>

Direct inhalation of reduced glutathione allows for GSH deficiency in the ELF of the lung to be brought up to more normal levels. By participation in the body's glutathione redox cycle, ELF GSH levels may be maintained for 3-4 hours, with the duration of elevation dependent on dosage of GSH administered.<sup>3</sup>

Common indications include pre- and post-exercise, multiple chemical sensitivity disorder and oxida-

tive prevention from cigarette smoking<sup>2</sup>. Other uses include emphysema, cystic fibrosis, and asthma. GSH inhalation should not be used as sole treatment for primary lung cancer. Furthermore, some studies have demonstrated circumvention of cytotoxic effects on the cancerous cells during chemotherapy.<sup>4</sup>

Minor side effects such as transient coughing and an unpleasant odour are commonly reported with this treatment. Major side effects such as bronchoconstriction have only occurred among asthma patients presumed to be sulfite-sensitive (which can be tested with specialized urine test strips).<sup>2</sup>

One clinical trial of nebulised reduced glutathione has demonstrated the bioavailability and safety of up to 600 mg twice daily.<sup>5, 6</sup>

The action of inhaled GSH is believed to be primarily confined to the respiratory tract – this is where the myth may stem from. Although rich in vascularisation, this method of administration is not the best suited for influencing the entire system with glutathione. However, it is my own belief that homeopathic remedies can influence the system using this delivery system. Although some may try to argue this point it is my clinical opinion that IV usage may be better suited for systemic augmentation of GSH levels. More studies here are needed.

My own clinical experience with GSH inhalation has been positive. Generally, I prescribe 400 mg BID for ease of use. That is usually 2ml of compounded GSH (200 mg/ml). I have never had patients report major side effects. My best results have been in mild to moderate asthma cases, COPD - emphysema and chronic bronchitis, and effectively as a mucolytic in bronchiectasis and cystic fibrosis. I have also used the strategy to aid in resolving effusion in non-small cell lung cancer – after chemotherapeutic intervention had ceased.

Given the emerging research and clinical efficacy of the strategy it is my view that there is more truth than myth surrounding inhaled glutathione and that it should be considered a mainstay in the naturopathic repertoire of interventions. Inhaled GSH is especially useful considering pulmonary diseases and respira-

tory-related conditions are affected by deficient anti-oxidant status or an over production of oxidants, poor oxygenation and/or impaired host defences.

### About the Author

Michael Rahman ND completed his Bachelor of Science with an emphasis on biology at McMaster University in 1993. He furthered his studies at the Canadian College of Naturopathic Medicine and completed a four-year doctorate program in Toronto. He is licensed to practice in both Ontario and British Columbia. He has lectured at the Canadian College of Naturopathic Medicine. He has also spoken at health care professional conferences throughout Canada and the United States on a variety of topics. Dr. Rahman has been in private practice for over 10 years with emphasis on chronic care including pain management, fibromyalgia and cancer care. Current practice interests include anti-aging medicine and cosmetic care.

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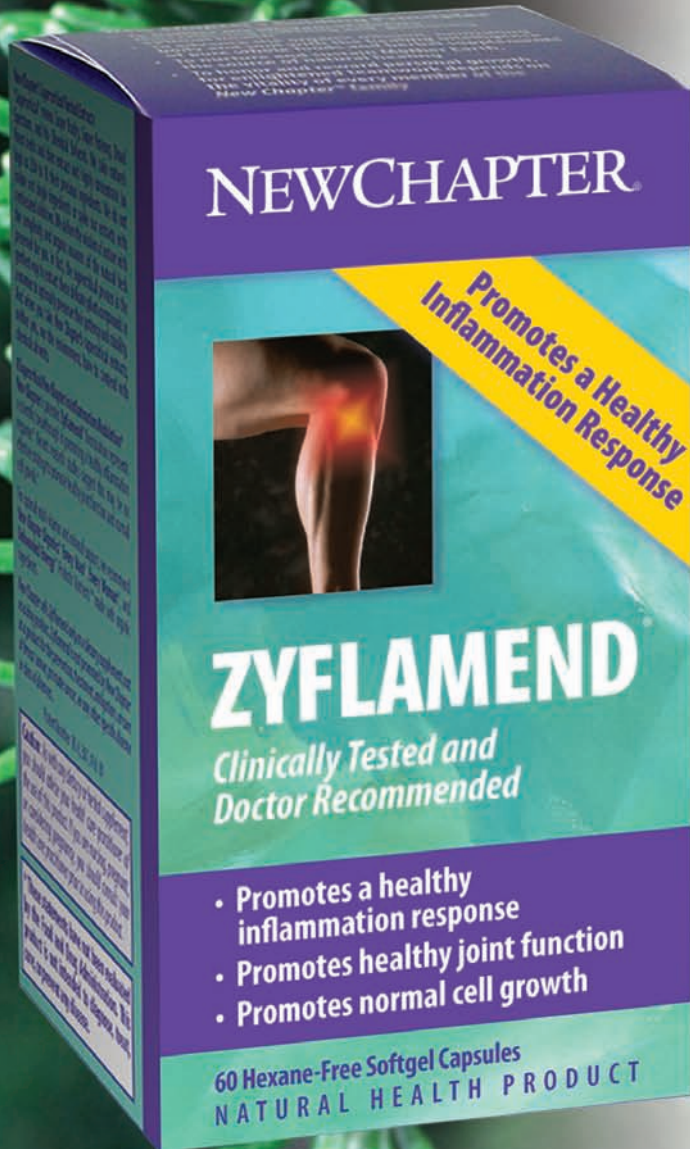
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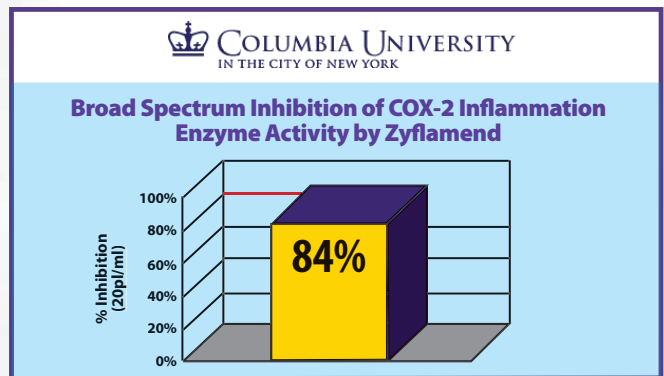
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# The Effect of Inhalant Allergies and Chemical Sensitivities on Asthma

*Dr. Tawnya Ward BSc, ND*

Allergies and chemical sensitivities can alter the function of every cell of the body. This article will focus on the effect of allergies and chemical sensitivities on the respiratory tract, with special emphasis on asthma. Asthma affects about three million Canadians, 60% of whom do not have adequate control of their disease.<sup>1</sup> In my experience, most cases of immune-mediated disease, including allergic asthma, can be brought under control with aggressive naturopathic treatment and environmental controls. Some patients may still need their conventional emergency medication such as albuterol and diphenhydramine, although the frequency of usage usually declines significantly.

Bronchial asthma is characterized by the triad of airway hyper-responsiveness, reversible airflow limitation, and chronic submucosal airway inflammation. Acute exacerbations lead to widespread narrowing of the airways, resulting in dyspnea, coughing and wheezing.<sup>2</sup> Asthma can be classified as allergic asthma and idiosyncratic asthma. Allergic asthma is characterized by a history of allergic diseases (e.g. rhinitis, urticaria, and eczema), elevated IgE titers, and wheal and flare reactions to intradermal injections of inhalant allergens. Idiosyncratic asthma occurs in the absence of family history of allergy, negative skin tests and in the context of normal IgE antibody titers. Both allergic and idiosyncratic asthma have underlying hyper-reactivity of the tracheobronchial tree. Viral infections can further increase airway reactivity.<sup>3</sup> Allergic asthma will be focused on for the remainder of this article.

Mast cells, neutrophils, eosinophils, and lymphocytes are locally increased in asthmatic patient's airways. Activation of these cells and the release of potent inflammatory mediators results in mucus secretion obstructing the airways. Mediators involved include histamine, bradykinin, leukotrienes C, D and E, platelet activating factor, and prostaglandins E<sub>2</sub>, F<sub>2</sub>alpha and D<sub>2</sub>, producing an intense, immediate inflammatory reaction of bronchoconstriction, vascular congestion and edema.<sup>3</sup>

## **Allergies, Sensitivities, Intolerances and Toxicities**

There is a great deal of confusion in the medical community in reference to the difference between allergies, hypersensitivities, intolerances and toxicities. An allergy is an adverse reaction involving an IgE mediated antibody immune mechanism (Gel-Coombs Types I, II and III). A hypersensitivity is an adverse reaction involving a Gell-Coombs Type IV, non-IgE-mediated reaction, and all other immune system mediated reactions. Intolerances involve an adverse reaction occurring in individuals susceptible to dysfunctioning of specific non-immune, metabolic mechanisms (e.g. overstressed enzyme systems, nutritional deficiencies). Toxicities involve adverse reactions mediated by poisoning of any biological mechanism in otherwise normal individuals.<sup>4</sup>

Allergic asthma is often triggered by mast cells activated by highly specific IgE-mediated allergic responses. Activation results in the release of chemical mediators such as prostaglandin D<sub>2</sub> triggering airway hyperreactivity.<sup>5</sup> Common allergenic triggers are tobacco smoke<sup>6</sup>, cat saliva<sup>6</sup>, dust mites<sup>7</sup>, pollens and molds<sup>8</sup>. Potential exacerbating factors include an imbalanced gastrointestinal flora<sup>9,10</sup>, increased body burden of mercury polarizing the immune response toward polyclonal B cell activation, high IgE, and autoimmune tendencies,<sup>11</sup> mold exposure<sup>12</sup> and an increasing toxic load of chemicals.

## **Chemical Sensitivities**

An increased allergy response is a common symptom of patients with chemical sensitivity. This can result in exacerbation of respiratory tract immune mediated disorders such as asthma. Additionally, chemical sensitivities can alter the neurological innervation of the pulmonary and cardiovascular system, aggravating respiratory diseases.<sup>13</sup> Chemical and inhalant exposures can sensitize the airways and lead to bronchoconstriction and increased asthmatic tendencies.<sup>14</sup> Exacerbating inhalants include, metal salts (platinum, chrome and nickel), wood and vegetable dusts, pharmaceuticals, chemicals and plastics, bio-

logic enzymes (e.g. laundry detergents) and animal and insect dusts, serums and secretions.<sup>14</sup> Reduction of occupational exposure such as wearing a properly fitting mask designed for the offending inhalant can help prevent respiratory sensitization.

Chemical sensitivity can result from the accumulation of chemicals, heavy metals and toxins, in conjunction with nutritional and enzymatic deficiencies. This accumulation is termed the total body load. Dr William Rea's (MD) texts entitled 'Chemical Sensitivity' Volumes 1 through 4<sup>13, 15, 16</sup> are highly recommended for anyone interested in the field of Environmental Medicine. Although some of the terminology may vary from the naturopathic vernacular, the general principles are remarkably similar. For example, the ground regulating system is synonymous with the more common naturopathic terms of the terrain or milieu. Altering the ground regulating system through detoxification and desensitization can reduce the occurrence of allergic reactions and chemical sensitivities.<sup>17</sup> Chemical sensitivities, when not properly addressed, have the potential to result in the spreading phenomenon, accelerating the disease process to the point where it is irreversible.<sup>17</sup>

### **Patient History**

A good patient history can help to differentiate aggravating allergens. Pollen allergies are worse outside, in the summer and on dry windy days (better after rain).<sup>18</sup> Mold allergies are worse in warm humid weather, on hot windy days, after rain and freshly cut grass and in the evening.<sup>18</sup> Dust mite allergies are worse indoors, 30 minutes after going to bed and on waking, and in the winter.<sup>18</sup> Food allergies often develop after meals, in the middle of the afternoon (~4:30 PM) or early in the morning (3:30-4 AM awaking patient).<sup>18</sup> Alcohol can increase food allergen absorption, making the patient react more strongly to a reactive food consumed in conjunction with alcohol.

### **Cross Reactive Inhalant and Food Allergens**

A number of foods can cross react with inhalant allergens. Cedar pollen can cross react with cherries, bell pepper, apple and tomato.<sup>19</sup> Birch pollen can cross react with apples,<sup>20</sup> stone fruits,<sup>20</sup> celery,<sup>20</sup> carrot,<sup>20</sup> nuts,<sup>20</sup> soybeans,<sup>20</sup> peach,<sup>20</sup> orange,<sup>20</sup> lycee fruit,<sup>20</sup> strawberry,<sup>20</sup> persimmon,<sup>20</sup> zucchini<sup>20</sup> and kiwi.<sup>21</sup> Latex and banana can cross react.<sup>22</sup> Most foods that cross react with pollen allergens lose their allergenicity when cooked. It should be noted that both cooked celery and hazelnuts still pose a high allergenic risk for sensitized individuals.<sup>20</sup> Corn sen-

sitive patients may react to beef, chicken and turkey raised on corn based feed. In these cases, bison and fowl raised on non-corn feed may be preferable.

### **Fungal Hypersensitivity Reactions**

Fungal organisms, especially those to which the patient is continuously exposed, can result in hypersensitivity reactions. *Aspergillus*<sup>23</sup> and *Candida*<sup>24</sup> infections have the potential to cause such reactions. IgE antibody titers or skin testing can assess the degree of allergy. Sinus and chest x-rays and a sputum sample can assess for aspergillosis in patients with highly positive IgE titers or highly positive aspergillus skin test results. Antifungal medication and supplements should be given to reduce or eliminate colonization, preventing further allergy exacerbation. Ozone can be injected near the sinus cavities (through gums superior to upper teeth) to help clear fungal sinusitis. Fungal infections with hypersensitivity reactions left untreated can result in the spreading phenomenon, multiple chemical sensitivity and in irreversible end organ involvement.<sup>17</sup>

### **Lab Testing**

Lab tests appropriate for allergic patients in addition to a routine CBC and chemistry include ESR, hs-CRP, stool microbiology and sensitivity, chelation challenge (assess for heavy metal body burden) and allergy testing (serum IgE, IgG4 or total IgG and/or serial dilution end-point titration for inhalant allergies and/or provocation neutralization for food allergies). It should be noted that provocation neutralization food allergy testing is contraindicated in patients with any history of asthma. Training courses in provocation neutralization food allergy testing and serial dilution end point titration are available through the American Academy of Environmental Medicine. If warranted, a blood mercury (for acute exposure), ANA, AM cortisol, DHEA-S and environmental air testing (mold plates, pollen counts) should be done.

As naturopathic doctors, many of us test serum total IgG or IgG4 levels to various potential food allergens. It should be noted that although IgG/IgG4 can cause delayed type sensitivities to foods, IgG antibodies can block the action of IgE.<sup>25</sup> IgG blocking antibodies can potentially reduce the intensity of fast developing and more dangerous IgE mediated allergic reactions. These IgE reactions are characterized by erythema, swelling, heat and pain. The development of IgG4 blocking antibodies through IL-10 stimulation is one of the proposed mechanisms of action for subcutaneous immunotherapy ("allergy shots").<sup>25, 26</sup>

## Treatment

Treatments for asthma and other allergic conditions can include an individualized combination of major<sup>27</sup> and minor autohemotherapy (blood ozone treatments), chelation therapy, desensitization of inhalant allergies<sup>28</sup>, far-infrared sauna treatments to reduce total body toxin load<sup>29</sup>, intravenous (IV) magnesium to promote airway relaxation, Myer's injections to support the adrenals and IV vitamin C (15+ grams) treatments to help clear chemicals liberated by sauna treatments. Higher doses of IV vitamin C are used if infection is suspected (25 to 75 grams). Major (intravenous access; ozone not injected intravenously) and minor (intramuscular) autohemotherapy give outstanding results in asthmatic and allergic patients (ultraviolet blood irradiation is better for acute infection).

Oral supplementation for asthmatic patients can include fish oil (1500-3000 mg EPA qd), probiotics and magnesium. Since a lower tissue pH renders the ground regulating system more liable to environmentally triggered reactions, trisalts powder (calcium carbonate, sodium bicarbonate and potassium bicarbonate) can be used during acute exacerbations to help alkalize the tissues, reversing allergy and chemical sensitivity symptoms.<sup>30</sup> Patients with chemical sensitivities should receive far infra-red sauna treatments, IV vitamin C, oral minerals, fish oils or organic extra virgin olive oil, hydrotherapy, massage/physical therapy to improve lymphatic drainage, and oxygen supplementation (3-6 L/minute, 2 hours per day, 15-30 days or for acute exacerbations).<sup>31</sup> However, the sauna should be constructed from hypoallergenic wood such as hemlock, using no toxic glues and no plywood inserts. Cedar can off-gas terpenes, to which patients can become sensitive.<sup>32</sup> Cedar also contains plicatic acid, which can damage alveolar epithelial cells.<sup>33</sup>

## Environmental Controls

Environmental controls can decrease the level of asthma reactivity to inhalant allergens and decrease the sensitization process. For reduction of pollen allergies, it is best to cover up outside (hat, glasses, mask, long sleeves) and remove outdoor clothing and shower on returning indoors.<sup>34</sup> Patients allergic to pollen should keep windows closed and have a HEPA filter on high at all times.<sup>34</sup> Dust mite allergic patients should keep their bedroom cool, well ventilated and the humidity below 50%.<sup>35</sup> Mattress and pillow covers should be implemented and washed weekly (in hot water and dried with high heat).<sup>34</sup> A damp cloth can be used to dust and clean ceiling fans. Dust mite

sensitive patients should not have stuffed animals or upholstered furniture in the bedroom.<sup>34</sup> They should try to avoid carpeting throughout their home, especially in their bedroom. Mold allergic patients should have a dehumidifier always running and hard floors in their basement and other damp areas.<sup>34</sup> They should clean mold from bathroom tiles and shower curtains, as well as having good ventilation in their bathrooms and kitchen.<sup>34</sup> All patients, especially those with mold sensitivities, should repair leaks quickly, remove any wet carpets and clean away any visible signs of mold.<sup>34</sup> A mask should be worn while cleaning basement and attic.<sup>34</sup> For cat, dog or bird allergies it is best to remove the pet, or if the patient then suggests removing the Naturopath, consider no pets in the bed, or better yet no pets in the bedroom.<sup>34</sup> Regular washing of the cat can reduce allergen exposure although this should not be the only measure.<sup>34</sup> It should be noted that cat allergen can be found in houses without cats, and may be higher in some classrooms than in some homes with a cat.<sup>36</sup> The clothing of cat owners can spread cat allergen to cat-free environments.<sup>37</sup> Cat allergen is sticky and can persist for months after cat removal.

## Summary

The implementation of proper environmental controls and aggressive naturopathic treatments can, in most cases, reduce the symptoms of asthma and most other allergic diseases. Balancing underlying immune dysregulation (gastrointestinal imbalances, fungal infections, mercury, etc.) and correcting nutrient and enzymatic deficiencies are important to ensure favourable and long lasting results.

## About the Author

Tawnya Ward received her ND from the Canadian College of Naturopathic Medicine and a BSc in biology from Dalhousie University. She has been trained by the American College for Advancement in Medicine (ACAM/ISCT) for chelation therapy and by International Oxidative Medicine Association for ozone, ultraviolet and peroxide therapies. She has been trained in bio-identical hormones and anti-aging by the International Hormone Society. She has been trained by the American Academy of Environmental Medicine, a specialist organization for allergy, detoxification, and environmental sensitivity. She is licensed through CNPBC in chelation therapy, oxidative medicine and acupuncture. She is Chief Inspector for the Inquiry Committee with CNPBC. Dr. Ward runs her practice at the Pangaea Clinic of Naturopathic Medicine in Richmond, BC.

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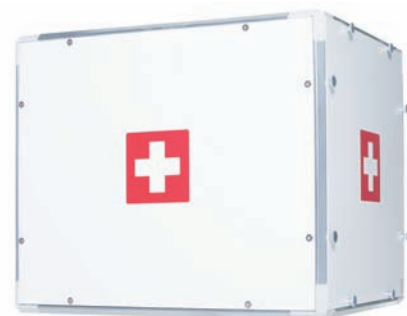
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# The Influence of Air Pollution on the Respiratory System

Dr. Kate Reid HBSc, MA, ND

Our planet is facing an escalating crisis of pollutants in the environment. Polluting, or “the act of destroying the purity or sanctity of”,<sup>1</sup> has contributed to significant changes in climate and has impacted plants, animals and humans alike. Air pollution, defined as “contamination of the air by noxious gases and minute particles of solid and liquid matter (particulates) in concentrations that endanger health”,<sup>2</sup> figures prominently in the spectrum of toxicants affecting our global ecosystem and the health of the flora and fauna within that system. Factors contributing to the critical mass of airborne pollutants include rapid industrialization, deforestation, widespread use of combustion and other chemicals and increasing urbanization as burgeoning populations have crowded into larger and larger cities in the latter part of the 20th century.

## Air Pollution

### Types of Airborne Pollutants

Airborne pollutants are conventionally defined as “substances not naturally found in the air or at greater concentrations or in different locations from usual”<sup>3</sup> whereas toxicants, by definition, cause injury or illness to living organisms. Airborne pollutants can be broadly categorized according to source (anthropogenic or man-made, natural), location (indoor, outdoor), origins/influence (primary, secondary) and type (gaseous, particulate).

**Indoor pollutants**, mainly from poorly vented biomass combustion (or the burning of wood, dung and crop waste) contributes significantly to the mortality of individuals relying on this method to meet their basic energy needs.<sup>4</sup> **Outdoor pollutants** can be classified as primary or secondary. **Primary pollutants** are typically emissions and originate directly from a process (whether man-made or natural). **Secondary pollutants** arise from the interactions of primary pollutants (eg. smog constituents such as ozone). Gases and particulates may be natural, anthropogenic, primary or secondary.

**Particulate matter** (PM) is sub classified according to physical properties, chemical composition and size. Size has been identified as a critical determinant of health impact as it is the rate-limiting factor in governing the transport and removal processes from the air and those inherently active in the

respiratory system. For example, smaller particulates are suspended in the air longer, travel farther and are inhaled deeper into the lungs causing more serious damage compared with larger particulates. Particulate size is described as PM<sub>n</sub> where n = maximum size of particle in microns. PM<sub>10</sub> is used to describe suspended particles that are a maximum of 10 microns in diameter. PM<sub>10</sub> particles still reach the upper airways and lungs, therefore, are typically the cut off point for the study of the health effects of particulates.<sup>5</sup>

### Major Airborne Pollutants

#### *Examples of natural pollutants (gases and particulates):*

- Common allergens (dust, dust mites, dander, fomites, pollen etc.)
- Microorganisms (bacteria, viruses)
- Mold, mycotoxins
- Radon and volcanic eruptions

#### *Examples of primary anthropogenic gases:*

- Oxides of carbon, nitrogen, sulphur and metals
- VOCs (volatile organic compounds) (fuel vapors e.g. diesel, biomass etc. and solvents e.g. polycyclic aromatic hydrocarbons such as benzopyrene)
- CFCs (chlorofluorocarbons)
- Ammonia and hydrogen sulphide

#### *Examples of primary anthropogenic particulates:*

- Metals (lead, cadmium, copper, iron)
- Asbestos
- Dust
- Ash/soot
- Smoke (there are over 200 toxicants in biomass fuel smoke including oxygenated/chlorinated organics and particulates)<sup>6</sup>

#### *Examples of secondary pollutants:*

- Compounds of PM (particulate matter) + gases
- Compounds of PM + POPs (persistent organic pollutants e.g. DDT, PCB, PCDT etc.)
- Nitrogen oxides + hydrocarbons → ozone, PAN (peroxyacetyl nitrate)

### Global Impact on Health

The health influences of airborne pollutants have been widely investigated. However, multiple challenges exist in establishing impact and causal link.

For example, the myriad interactions occurring among airborne pollutants is extensive and challenging to investigate. Assessing the effects of interactions involving synergistic, concomitant or sequential exposures becomes an arduous task for researchers. Additionally, individual variables such as age, occupation, overall health status, nature of existing illness and genetic susceptibility inevitably impact adaptation at both individual and population levels. As a result the impact of air pollution on global health has likely been significantly underestimated, according to the World Health Organization (WHO). In spite of this, WHO estimates that there are at least 4.6 million annual deaths directly linked to air pollution. Globally, there are more annual air pollution related deaths than those related to motor vehicle accidents (about 5% of the global burden of disease).<sup>7</sup>

Indoor air pollution has been estimated to be “the most lethal killer after malnutrition, unsafe sex and lack of safe water and sanitation” and rated by WHO as the eighth most important risk factor in disease burden. In 2000, WHO estimated that over 1.6 million annual deaths (globally) were due to pneumonia, chronic respiratory disease and lung cancer and were attributable to the effects of indoor air pollution. This amounts to one death every twenty seconds. Furthermore indoor air pollution exceeds the DALY (disability adjusted life years = years of life due to disability and death) burden of outdoor air pollution by a factor of five (about 3.7% of the overall disease burden in developing countries). Outdoor air pollution has been associated with lower mortality compared with indoor air pollution, primarily because concentrations of pollutants are diluted in open-air environments.<sup>8</sup>

## **Influences on Health and the Respiratory System**

### **Determinants of Health Effects**

Factors affecting individual responses to airborne toxicants include variables around the exposure – type, duration, intensity, promoters in the environment, synergistic reactions etc. – as well as those pertaining to the individual – age, lifestyle habits, genetics, overall health status etc. According to the pyramid of health effects,<sup>9</sup> the majority of those affected by pollutants will primarily exhibit subtle sub clinical effects with perhaps more insidious effects only after years of chronic exposures. A decreasing population of individuals develop symptoms increasingly characteristic of respiratory pathology, ranging from impaired pulmonary function to morbid illness.

## **Susceptible Populations**

Children, elderly, immunosuppressed and those with existing respiratory dysfunction or pathology are most susceptible to the influence of airborne pollutants. Children are frequently a focal point in studies assessing impact of air pollutants on health<sup>10,11</sup> and are particularly susceptible due to the effects of toxicants on an immature, rapidly developing immune and respiratory system, smaller respiratory structures, the larger volumes of (total) air respired due to increased respiratory rate, higher prevalence of asthma and respiratory infections and durations of time spent in high risk environments.<sup>5, 12</sup>

## **The Respiratory System**

As the major interface between the air and the internal environment of the body, the respiratory system is particularly susceptible to the local and systemic influences of airborne toxicants and irritants. Inhaling and exhaling about 10 million breaths per year, the lungs are significant portals for any toxicants in the air.

The impact of airborne pollutants on the respiratory system ranges from established causal links to respiratory pathology such as asthma, bronchitis, alveolitis, fibrosis, emphysema, pneumonia and cancer to exacerbations of existing conditions. Prolonged exposures to airborne toxicants cause structural damage to the lungs resulting in chronic respiratory illness<sup>13</sup> and individuals with established respiratory disorders might exhibit an amplified reaction to irritants and toxicants due to the underlying pathology. For example, those with COPD tend to demonstrate increased particle deposition and retention in their airways.<sup>5</sup>

Mechanisms whereby airborne pollutants can impair respiratory function include smooth muscle spasm in bronchi and bronchioles, irritation of respiratory mucous membranes, pulmonary hemorrhage, chronic cellular changes leading to atypia and fibrosis, and oxidative damage to mitochondria.<sup>14-16</sup> Features common to most respiratory pathologies include inflammation, obstructed or restricted airflow, congestion and mucous production.<sup>17</sup>

## **Predisposing Factors to Toxicant-induced Respiratory Injury and Illness**

- The respiratory mucosa are exposed and sensitive, thereby susceptible to irritation and damage from noxious substances. Type I alveolar epithelia (about 95% of alveolar surface) are most vulnerable to toxic injury.

- The lungs are designed to inhale large quantities of air – over 400 million liters in an average lifespan.
- The lungs are the main organs for air exchange and, therefore, are well perfused with blood, thereby facilitating access of toxins and metabolites into the bloodstream.
- Bioactivation enzymes are concentrated in airway tissues, thus creating potential for biological transformation of toxins into reactive metabolites.
- Potentially damaging inflammatory mediators are released in lung tissue in response to toxic insults.<sup>18,19</sup>

### **Naturopathic Management of Pollution-associated Respiratory Illness**

Conventional treatments for respiratory conditions, whether precipitated or exacerbated by air pollution centre on pharmaceutical management. Naturopathic therapies extend beyond management with the potential to address a wider scope of determinants influencing the individual's susceptibility and progression.

Many, if not all, of the naturopathic modalities are relevant for the amelioration and/or management of pollution-associated respiratory conditions. The current article will highlight some of the more commonly used strategies including diet and lifestyle interventions, breathing techniques and treatments used in nutritional and botanical medicine.

#### **Diet and Lifestyle**

Since most pollutants challenge the liver's detoxification system as well as most other elimination systems in the body, especially the kidney, it becomes paramount for the treating physician to encourage optimal function in these physiological systems and processes.

Reducing overall body burden minimizes the risk of cumulative effects of pollutants that eventually compromise function in susceptible body systems. Body burden can be effectively prevented and/or reduced with dietary restrictions minimizing additives, preservatives, pesticides, allergens etc. and using targeted therapies such as infrared sauna and/or chelating agents. Dietary strategies directed toward minimizing the influence of inflammatory prostaglandins, such as decreased animal based proteins, increased fruits and vegetables rich in antioxidants and flavonoids, increased  $\omega$ -3 EFAs, may also prove useful in reducing airway-specific inflammatory responses to pollutants.

For those individuals in urban environments, minimizing exposures by managing their indoor envi-

ronment becomes critical, as exposures to airborne toxicants in the urban air are inevitable and usually significant. Air filtration systems such as electronic air cleaners can create the healthiest possible environment in indoor settings, where urban culture spends most of their time. Additionally, indoor sources of air pollution such as chemicals (eg. cleaning agents, pesticides), dander, dust/dust mites, fireplace smoke, air fresheners, candles, incense, off-gassing from synthetic materials, carpets etc. are easily eradicated once patients are educated as to their potential health impact. Along these lines, choice of location to exercise becomes significant, as pollutants will be respired at an accelerated rate under these circumstances.

#### **Breathing Techniques**

Proper breathing techniques such as diaphragmatic breathing are generally quite beneficial for the respiratory system and overall health. For example, properly regulated breathing can increase tissue oxygenation, increase venous return to the heart, improve lymphatic flow and stabilize the autonomic nervous system. Voluntary aspects of breathing can be used to promote adaptive responses to respiratory irritants and mitigate the severity of responses to air pollution. Although somewhat controversial, specialized techniques such as the Buteyko method or other Eucapnic techniques, which attempt to normalize dysfunctional breathing patterns, have been demonstrated to be clinically useful for a wide variety of respiratory conditions including asthma and chronic bronchitis.<sup>20</sup> The beneficial aspects of teaching patients to adopt techniques such as deep (diaphragmatic breathing) underscores the importance of the quality of their ambient air i.e., the deleterious effects of the deep inspiration of ultra-fine particulates may very well supersede the health benefits of this type of breathing.

#### **Antioxidant Nutrients**

N-acetyl cysteine (NAC), itself an antioxidant and mucolytic, also acts as a cysteine donor to regenerate the potent intracellular antioxidant glutathione.<sup>20</sup> Its actions are particularly relevant to quench the free radical stress created by airborne pollutants as well the body's inflammatory response to them. Although a recent animal study suggested an association of vascular injury and development of pulmonary hypertension with NAC administration, so caution is warranted until mechanisms can be better elaborated in humans.<sup>21</sup> Increasing dietary antioxidants such as ACEs (vitamin A, C, E and selenium) may also be beneficial in quenching reactive oxygen species and benefiting lung function.<sup>22</sup>

## Botanical Medicine

Botanicals can be applied with great specificity for certain symptoms associated with airborne toxicants. Botanicals specific to the respiratory system commonly have expectorant and anti-spasmodic or anti-inflammatory actions that stabilize the airways and assist the body in clearing excess mucous produced in response to airborne irritants.

- Glycyrrhiza glabra (licorice root) – expectorant, anti-inflammatory via phospholipase A2 inhibition
- Lobelia inflata (Indian tobacco) – expectorant, anti-asthmatic via nicotinic agonism
- Sambucus nigra (elder) – expectorant, anti-inflammatory, anti-catarrhal
- Grindelia camporum (gumweed) – expectorant, anti-spasmodic, bradycardic
- Inula helenium (elecampane) – expectorant, anti-spasmodic, anti-catarrhal, anti-infective, diaphoretic
- Allium family (garlic, onions) – expectorant, antispasmodic, anti-infective
- Verbascum thapsus (mullein) – demulcent, anti-tussive, anti-spasmodic
- Althea officinalis (marshmallow) – demulcent, anti-tussive
- Brassica alba, nigra (mustard) – prepared as plaster and applied externally over chest – increases local perfusion thus facilitating immune activity in affected area<sup>23,24</sup>

## Summary

“Unlimited and free access to clean air of acceptable quality is a fundamental human necessity and right”.<sup>11</sup> The green movement is gaining support in its quest to minimize man’s environmental footprint and research continues to corroborate the harmful influence of air pollution on health particularly that of the respiratory system, its main portal into the human body. Although measures are being undertaken to monitor and control anthropogenic air pollutants, many people die and or face serious health issues as a result of these pollutants each year. In order to truly impact the quality of life for our planet and its inhabitants, more aggressive steps need to be taken towards the implementation of active and meaningful measures that would eradicate air pollution.

By observing the naturopathic oath, naturopathic doctors empower patients by educating them to protect themselves and the planet from harmful substances. Through its emphasis on prevention and individualized treatment, naturopathic medicine can play a significant role in mitigating the impact of air pollutants.

## About the Author

Dr. Kate Reid has devoted her educational training and career objectives to the medical profession, specializing in the field of naturopathic medicine. Her extensive, science-based training began at Laurentian University where she earned an Honours Bachelor of Science Degree. Following that, she successfully completed a Masters of Arts Degree in Clinical Psychology at Lakehead University. In May of 2001, she received a diploma of naturopathic medicine from The Canadian College of Naturopathic Medicine (CCNM).

Kate co-wrote two publications in 1991 both of which stemmed from her thesis research. One was featured in the International Journal of Biometerology and the other in Immunology Letters, concerning the humoral responses in albino rats. In November 1990, she worked as a Psychometrist at St. Joseph’s Hospital, and transferred to Sudbury General Hospital in July 1991 where she continued her work as a psychometrist and psychotherapist until 1997. She volunteered at the Parkdale Community Health Clinic in 2000 and the Homeopathic Specialty Clinic in 2001. After graduation from CCNM in 2001, she returned to the medical school as a clinic supervisor for fourth year interns in 2002, then served for one three year term on the Board of Governors at the Canadian College of Naturopathic Medicine from 2003-2006.

Dr. Reid has also pursued certificates in Parenteral Therapy, First Aid/CPR, IV Chelation and Ascorbates, Intravenous Emergency Procedures, Individualized Medicine, Qigong, and Craniosacral Therapy. She was also the recipient of the “Estate of Joyce VanderBurgh Bursary,” and the “Dr. Earl Farnsworth Award” in 2001 at the CCNM and recently the “Business and Professional Women’s Entrepreneur (Business Leadership) Award 2007.”

Kate presently practices as a Naturopathic Doctor at her clinic, Natural Health Solutions Naturopathic Medical Clinic in Sudbury, where she offers a wide variety of leading edge diagnostic and therapeutic services to her patients. Her practice integrates psychotherapy with naturopathic medicine, placing clinical focus on women’s health and pediatrics, detoxification and mind-body medicine. She is invested in empowering her patients to take responsibility for their health and educating colleagues and the community in areas pertaining to personal health as well as the advancement of health care systems in Canada.

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# IV Treatments for Lung Cancer

*Dr. Stephen Jones ND*

Naturopathic medicine is exciting to those of us who practice it due not only to the opportunities it avails us to impact upon people's lives, but due also to the academic stimulation that is derived from the vast array of treatment modalities at our disposal. The expanding use of intravenous (IV) therapies by NDs across Canada is, perhaps, one of the better illustrations of our diverse scope of practice, as the substances injected are drawn from the nutraceutical, botanical, homeopathic and clinical nutrition modality realms. Indeed, rather than viewing IV therapies as the domain of "green allopaths", a review of IV treatment options may allow some more traditional NDs to see the inherently 'naturopathic' nature of these therapeutic options.

With this in mind, the following article will attempt to provide a  *cursory*  overview of IV therapeutic options available to the clinician in the treatment of lung cancer. Specific histological forms of the disease will not be explored, as the orientation of these IV treatments is not specific to particular histological forms of lung cancer, but rather malignancies in general. The goal of this overview is to encourage all NDs to become better familiarized with IV therapeutic options for either use in their own clinic, or to enable more appropriate referrals to colleagues using these IV treatments. All attempts will be made to provide reference materials for NDs to increase their understanding of IV therapies in naturopathic practice.

Before examining specific IV options, however, the obvious question(s) as to why a clinician would use an IV must be addressed. After all, the inevitable challenge made against IV therapies within the naturopathic profession is that IV therapies represent an 'invasive' procedure. Some clinicians have presumed or suggested this to mean that the therapies are "less naturopathic".

Well, the obvious answer as to why a clinician may wish to use an IV therapy is that IV administration of substances allows the clinician to bypass impaired gastrointestinal absorption of nutrients and to more efficiently stimulate the various biochemical processes inherent to immune response and healing. Moreover, IV administration of a substance allows for a greater ability on the part of the clinician to individualize and control dosages, not to mention the ability to offer larger dosages of a desired substance as compared to oral administration.

The lung cancer patient, as with all cancer patients (or for that matter, many CFS, FM, autoimmune etc.), has a tremendous drain placed upon their nutrient 'reserve' as a result of the cancer itself. Accordingly, the quick, safe and effective administration of nutrients is of significant clinical benefit to both the patient and the care giver. With such in mind, IV therapies should be seen to hold a valuable role in the overall scope of practice of NDs across our nation.

## **IV Nutrient Therapies**

Now, the basic premises of improved absorption discussed above is critical if one reflects upon the manner in which NDs approach the treatment of cancer. I would submit that all NDs, regardless of their therapeutic orientation, realize that we must look at clinical nutrition if we are to allow the immune system to enact a prolonged, sustained response to the cancer. In lung cancers, many of which may have been induced through cigarette smoking, impaired Phase Two liver conjugation pathways will inevitably exist through prolonged benzene, toluene (etc.) exposure. The clinician can stimulate these detoxification pathways to help reduce systemic toxicity. While this can certainly be attained via elimination diets, infra-red saunas, oral nutraceuticals (and more), these approaches will be less able to obtain the blood levels of such agents as N-acetyl-cysteine or L-Glycine (key Phase Two conjugates as compared to IV administration).

So, if one accepts that IV therapies avail the ND the ability to quickly, safely and effectively administer substances to a patient without being subjected to impaired intestinal absorption, the question then becomes 'what can the clinician administer'? The subject should start with the very clinical nutrition considerations already being explored. Dr. Abraham Hoffer MD's orthomolecular protocols recognized the need to administer core nutrients in the treatment of cancer. Inclusive of these are beta carotene, vitamin B complex, vitamin E, vitamin C, selenium and zinc.<sup>1</sup> While Dr. Hoffer did provide these nutrients as part of a daily oral regime, these very same nutrients can also be administered via IV to quickly restore serum and tissue levels of the nutrients. In doing such, oral supplementation can then be used to 'maintain' rather than 'restore' the core immune nutrient co-factors.



An IV protocol known as the 'cancer cachexia' treatment seeks to offer this very option to the clinician. As the lung cancer patient is under severe nutrient distress, the 'cancer cachexia' bag (meaning an IV dripped in from a bag containing the nutrients) provides core nutrients along with amino acids to help 'spare' the catabolism or wasting of the patient's own tissue proteins. In doing such, the patient's immune system is under less duress and is provided the core elements it needs for biochemical functioning. In the lung cancer patient (often utilizing opiates and corticosteroids) oral administration of the same nutrients as in the IV 'cancer cachexia' treatment would be limited by the anorexia, constipation and potential intestinal dysbiosis induced by the pharmaceutical regime. IV administration simply 'bypasses' this roadblock.

### **IV Ascorbate Therapy**

In reviewing orthomolecular IV options to treat the lung cancer patient, the discussion must inevitably turn to the use of IV ascorbate therapies. Since the Canadian Medical Associate Journal reported upon the U.S. National Institutes of Health's study on IV vitamin C back on March 28, 2006, the public has had a surge in interest in this inherently 'naturopathic' treatment. As such, all NDs should be articulate upon the subject to be able to both answer patient inquiries and offer appropriate referral.

In 1969, the National Cancer Institute demonstrated that vitamin C was cytotoxic to malignant cells. Since then, the primary leaders in this research have been maligned and ridiculed, but have never the less provided some noteworthy data to counter their detractors. As illustration, Dr. Ewan Cameron MD of Scotland co-authored with Dr. Linus Pauling PhD *Cancer and Vitamin C* (1993) whereby he presents data on over 500 terminal cancer patients diagnosed as being 'untreatable'. The data revealed that those treated with the vitamin C lived four times longer than the control patients who did not use the vitamin. His protocol (defined in *Cancer and Vitamin C*) included an initial ten day IV administration of vitamin C, followed by an oral program.

Likewise, Dr. Abraham Hoffer MD has treated more than 30 types of cancer with IV and oral vitamin C.<sup>2-4</sup> The lung cancer patients receiving this therapy had a median survival rate of 17 months versus 2 months for those lung cancer patients who did not receive the vitamin C therapy.

The interesting part of vitamin C treatment for cancer is that it illustrates the limitations of oral adminis-

tration and the unique benefit that IV administration provides. The famed Mayo Clinic in the U.S. published two studies in rebuttal of the use of vitamin C in treating cancer, claiming vitamin C provided no benefit in the treatment of cancers.<sup>5,6</sup> The Mayo Clinic, however, provided the ascorbate only via oral administration. The research generated by the likes of Hoffer, Cameron and Pauling used (at least initially) IV administration of the ascorbate with oral administration only as a supporting mechanism. In quoting the Chief of Molecular and Clinical Nutrition at the U.S. National Institutes of Health, Dr. Mark Levine, (Canwest News Service, Sharon Kirkey, March 28, 2006) the Mayo Clinic's use of oral vs. IV vitamin C was "a medical student, pharmacology 101 kind of error". He stated that oral vs. IV is "a huge difference". This "huge difference" may be a point of academic interest all NDs reflect upon.

The vitamin C therapy 'works' by allowing the ascorbate form of vitamin C to react with free radicals to form dehydroascorbic acid (DHA). In turn, the DHA enters cancer cells where it is converted to ascorbate and hydrogen peroxide. Cancer cells are often deficient in catalase, the enzyme required to neutralize the hydrogen peroxide. Due to this deficiency, the hydrogen peroxide is able to damage and kill the cancerous cell via a free-radical, oxidation process.<sup>7-9</sup> Healthy cells, on the other hand, enjoy adequate catalase supplies and have not been shown to suffer any harm from large dosages of IV vitamin C.

Clinicians, however, must first run serum assays for glucose-6-phosphate-dehydrogenase (G-6-P-D). A rare deficiency of this enzyme exists in the sub populations of Mediterraneans, Southeast Asians and Indians. The G-6-P-D is required to protect red cells from oxidative damage and, as such, a deficiency would allow for a haemolytic event.

### **IV Ozone and Hydrogen Peroxide**

In detailing the mechanism of action of IV vitamin C (ie. the formation of hydrogen peroxide), the therapeutic options for treating lung cancer must be stated to include IV ozone and hydrogen peroxide therapies. NDs in those jurisdictions with effective regulation that has identified the safe use of these therapies can use both IV ozone and/or hydrogen peroxide. While the discussion above outlined the oxidative manner in which hydrogen peroxide has been shown to kill cancer cells, it must be stated that I am not aware of a trial that has demonstrated an efficacy specifically for lung cancers.

This being said, IV ozone and hydrogen peroxide have a substantive role to play in treating lung cancers from a non-specific immune perspective. That is to say that the administration of either ozone or hydrogen peroxide has been shown to stimulate 'general' immune response via increasing monocytes,<sup>10</sup> t-helper cells<sup>11</sup> and gamma interferon.<sup>12</sup> As our job as NDs is to assist the body's innate immunity to heal the body (both specific and non-specific), stimulating these immune cells serves a viable and valuable role in the treatment of lung cancers.

#### **IV Homeopathics and Botanical Medicines**

In reviewing the IV options for the treatment of lung cancer thus far, the underlying message may be that the naturopathic profession can draw upon its remarkably diverse scope of practice to individualize a therapy for a patient. This principle is not lost with IV therapies. Rather one may argue that it might be heightened, as IV therapies inherently allow for individualization of established protocols. They also allow for the administration of a vast array of substances for a variety of modalities.

While non-parenteral NDs may come to appreciate the role of IVs, as discussed thus far, I trust many would not consider IV as a route of administration for homeopathics and/or botanical medicines. As they say, 'think again'. Much in the way that those using 'biopuncture' will inject a homeopathic, IV is a route of administration to allow for a quick, systemic circulation of a desired treatment. Courses by Pascoe and Heel have specific protocols for IV homeopathics and some plants (botanicals) are available for IV injection. Once again, impaired intestinal absorption (in the case of the botanicals) is no longer a limiting factor. Iscador, while administered sub-cutaneously (ie. not IV), is an illustration of a parenteral means of providing a botanical extract with greater efficiency. Another illustration would be 'Careseng SG' ®, a ginsenoside extract with promise to be able to inhibit the angiogenesis of cancer cells. While Careseng can be administered orally, IV options once again allow for quick, systemic penetration. The researchers behind Careseng have data on a non-small cell lung cancer patient which are intriguing and can be sourced at [www.pegasuspharm.com](http://www.pegasuspharm.com).

In summarizing the role of IV therapies in the care of a lung cancer patient, the message is that IV therapies offer a diverse range of benefits unequalled

by other modalities in their own right. Replacement of core nutrients, rapid elevation in serum concentrations of anti-neoplastic nutrients/ botanicals / homeopathics (etc.), direct stimulation of systemic immunity and evidenced-based cytotoxic capabilities published in the leading medical journals. As a profession we must continue to strive for and utilize our fullest scope of practice. IV therapies play an ever increasing role in both treating the lung cancer patient and in developing our profession.

Those interested in exploring IV therapies in naturopathic practice would be encouraged to pick up *Parenteral Micronutrient Therapy* (2004) by Dr. Virginia Osborne RN, ND.

#### **About the Author**

Dr. Jones is founder and medical director of the Millennium Health Centre in Cornwall, Ontario, established in 2001. His practice focuses upon intravenous therapies, with a special focus upon cancer and cardiology. Dr. Jones has been featured on several media outlets, inclusive of CTV television, with attention paid to IV cancer therapies. He has been privileged to recently work with Dr. John Hoffer and continues to strive to promote the expanded use of IV therapies in naturopathic practice.

Dr. Jones is a Board of Directors member of the Ontario Association of Naturopathic Doctors and can be reached via email at [dr.jones@millenniumhealthcentre.com](mailto:dr.jones@millenniumhealthcentre.com)

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