

Your Health

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Nutrition & Wellness: An Evolutionary Gift Lack of Nutrients in Food Affects Up to 65% of the Population

Diet and health are more connected than most people imagine.

We often hear about specific diseases, such as heart disease or diabetes, and a link between food intake and the perils of getting ill. But what about the bigger picture?

In a fascinating research study in the American Journal of Clinical Nutrition, eight researchers examined the overall Western diet in relation to disease and morbidity. Their research shows that it's not so much specific foods in our modern diet that cause disease but the diet overall.

They show that during the Neolithic and Industrial periods there were seven fundamental shifts in the characteristics of our diet. These shifts fit under the headings of: glycemic load, fatty acid composition, macronutrient composition, micronutrient density, acid-base balance, sodium-potassium ratio and fiber content. They postulate that these radical changes are *wholly or partially related to all chronic illnesses and health problems* in the western world.

Their research shows, for example, that before the development of agriculture and animal husbandry, dietary choices would have been limited to minimally processed, wild plant and animal foods. Over time, agriculture and food processing (and

later food preservation) have led to the introduction of new staple foods. These new staples are now the predominant foods in our general diet. (A list of foods unavailable to preagricultural humans can be found on page three.)

The changes in diet can be summarized into seven categories. First, a huge increase in milk consumption (after weaning) which marks humans as the only species which farms and consumes another animals' milk.

Second, an increase in cereal consumption. Although the use of cereal grains dates to about 40,000 years ago, when stone mortar bowls first appear in the archaeological record, it's worth noting that nearly 85% of the cereals consumed today are from highly processed refined grains bearing no relation to the cereals consumed prior to the Industrial Revolution.

A single example highlights how nutrient content has changed with consumption patterns. Before the Industrial Revolution, with the advent of mechanized roller mills, the nutritional content of flour included the whole cereal grain including the germ, bran and endosperm. The widespread consumption of highly refined grain flours is a development of less than 200 years.

Third, the consumption of refined sugars, due largely to food processing capability, has risen sharply over the last 200 years. In England, in 1815, the average person's annual sugar consumption was 6.8 kg; by 1970 it was 54.5 kg. In the US it has risen even more over the last 30 years from 55.5 kg per capita to nearly 70 kg. That's 70 kg of sugar per person annually!

Fourth, refined vegetable oil consumption has risen, most dramatically over the 20th century (a striking 130% increase in salad and cooking oils, 136% increase in shortening and 410% increase in margarine consumption in the US between 1909 and 1999). While oil extraction is an ancient art, the use of new purification procedures and

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NUTRITION

An Apple A Day Goes a Long Way



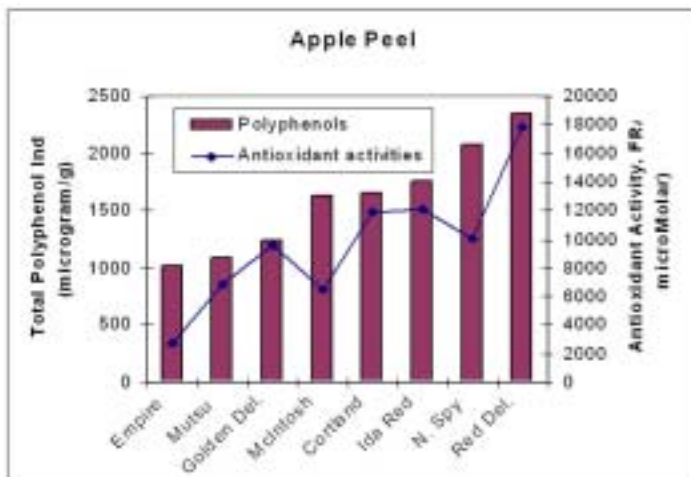
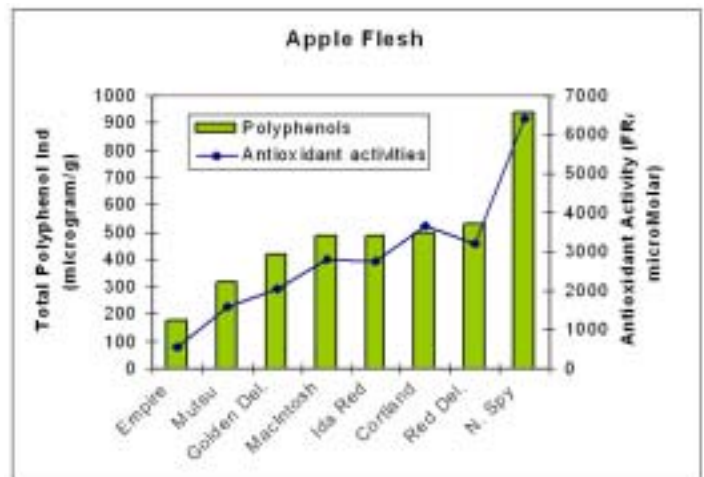
Phytonutrients, Fiber, Flavonoids and Antioxidants: Apples truly are a miracle fruit.

Newly published research in the Journal of Agriculture and Food Chemistry shows that apples are among the richest foods to contain antioxidants. Antioxidants are substances found in foods that protect against cell damage, which has been linked to many chronic and degenerative diseases such as Alzheimer's, Parkinson's, cancer and heart disease, as well as accelerating the aging process. In the largest, most comprehensive analysis of foods to date, researchers at the USDA Arkansas Children's Nutrition Center measured the antioxidant capacity of more than 100 foods, including fruits, vegetables, nuts, dried fruits, spices and cereals.

These findings further validate the results from a study published earlier this year, which suggest it is the high antioxidant levels of apple juice that helps counteract oxidative damage contributing to age-related brain disorders such as Alzheimer's disease, and may help to maintain brain performance. Previous research has shown that apples are a rich source of antioxidants; Cornell University researchers reported in the journal Nature in 2000 that one apple packs more cancer-fighting antioxidant capability than a 1,500-milligram dose of vitamin C.

A recent research review published in the journal Mutation Research suggests that eating more phytonutrient and fiber rich fruits and vegetables such as apples may drastically lower the risk of developing cancer of the digestive tract, including the pharynx, esophagus, stomach, colon and rectum. Apples are a rich source of fiber—one medium apple contains 5 grams of fiber or 20% of the recommended fiber intake per day. In addition, apples and apple products are one of the leading sources of phytonutrients among all plant foods.

Research conducted in 2000 at the University of Hawaii linked a type of flavonoid called quercetin that is found in apples with a reduced risk of lung cancer. This study validated similar findings from 1997 when Finnish researchers reported that flavonoids and apples were associated with a reduced risk of all cancers and lung cancer, based on their 25+ year-long epidemiological study.



Top: Northern Spy; left Red Delicious; bottom Cortland. Graphs from Agriculture and Agri-Food Canada. Sources: J of Agric & Food Chem June 2004, vol. 52, issue 12; pp. 4026-4037; J of Nutrit, Hlth & Aging, March 2004; vol. 8, 92-97; Nature, 2000, 405: 903-904; Mutation Research, 2004; vol. 551, issues 1-2, pp. 9-28; J of the Ntl Cancer Inst, 2000, 92: 154-160; Am J of Epidmlgy, 1997, 146: 223-230.



Western Diet, from cover page

manufacturing techniques, such as hydrogenation, developed in 1897, have led to a huge consumption of trans fatty acids. Trans fats are rarely, if ever, found in conventional foodstuffs.

Fifth, the use of and consumption of salt has also risen dramatically. About 75% of the daily intake of salt in western populations is derived from salt added to processed foods by manufacturers; about 15% from cooking and table use; the remaining 10% occurs naturally in basic foodstuffs. In other words, 90% of the salt in our diets comes from salt added to our food, not naturally occurring in our food.

Other examples provided in the study include fatty domestic meats and alcohol.

The researchers outline how each of these shifts in food consumption patterns has had a negative impact on human health. The disease statistics they cite are shocking.

In the US, diseases related to diet are the most serious threat to public health. 65% of US adults (over 20 years) are overweight or obese. The estimated number of deaths ascribable to obesity in the US is nearly 300,000 each year. More than 64 million Americans have one or more types of cardiovascular disease (CVD). In addition, CVD represents nearly 40% of all US deaths annually. Fifty million Americans are hypertensive, another 11 million have type 2 diabetes, another 37 million adults have high-risk high-cholesterol concentrations. Osteoporosis and osteopenia are rife amongst women aged 50 or older. Cancer is the second leading cause of death in the US with an estimated one-third of all cancer deaths arising due to nutritional factors, including obesity.

Using historical analysis, comparative nutritional data and food nutrient composition, the article makes a compelling argument for a shift away from processed, preserved, manufactured and preserved foods which, unfortunately, are readily available and on offer virtually everywhere.

The authors summarize their work with the following comment: "Diet-related chronic diseases represent the single largest cause of morbidity and mortality. These diseases are epidemic in contemporary Westernized populations and typically afflict 50-65% of the adult population, yet they are rare or nonexistent in hunter-gatherers and other less Westernized people. Although both scientists and lay people alike may frequently identify a single dietary element as the cause of chronic disease (e.g., saturated fat causes heart disease and salt causes high blood pressure), evidence gleaned over the past three decades now indicates that virtually all so-called diseases of civilization have multifactorial dietary elements that underlie their etiology, along with other environmental agents and genetic susceptibility."

Source: "Origins and Evolution of the Western Diet: Health Implications for the 21st Century" in *The American Journal of Clinical Nutrition*, Feb 2005.

Food/food types found in Western diets generally unavailable to preagricultural humans

Food/Food Group	Value as a % of energy in the US diet
Dairy products:	
Whole milk	1.6
Low fat milk	2.1
Cheese	3.2
Butter	1.1
Other	2.6
Total:	10.6
Cereal grains	
Whole grains	3.5
Refined grains	20.4
Total:	23.9
Refined sugars	
Sucrose	8.0
High-fructose corn syrup	7.8
Glucose	2.6
Syrups	0.1
Other	0.1
Total	18.6
Refined vegetable oils	
Salad, cooking oils	8.8
Shortening	6.6
Margarine	2.2
Total	17.6
Alcohol	1.4
<i>Total energy</i>	<i>72.1</i>
Added salt, as sodium chloride	9.6

Reporter Embraces Surgery Alternative

"Young lady, would you like a cookie?" asks Phil, the baker, as he waltzes up the grocery aisle with a tray of goodies.

The cookie was good. Being called "young lady" was much, much better. Especially considering it happened only one minute after my two-hour facial rejuvenation session at the clinic next door.

Phil's flattery was almost as reassuring as acupuncturist and naturopathic doctor Ina Wong's assessment that some of my "furrows" were too shallow to hold the needles in place on my face.

Some people need 80 acupuncture needles for their rejuvenation. I needed only 56, so there.

Acupuncture facial rejuvenation is the latest trend in the bottomless pit of possibilities that yawns below the fountain of youth. For those who prefer a natural approach, it's an alternative to Botox, surgery and chemical resurfacing. And its power is rooted in traditional Chinese medicine's holistic approach.

"While I have patients who call it the acupuncture facelift, it actually is treating the whole body and the whole person — it's not just that wrinkle," stresses Wong, an ND who practices in Victoria's western communities.

Piqued by her patients' interest, Wong has already taken two seminars with international facial rejuvenation expert Virginia Doran.

Doran's website, the Ultimate Facial Rejuvenation Program, makes far-reaching claims that the treatments can erase "as many as five to 15 years from the face, with results apparent after just a few treatments.

The results should hold for two to five years, if boosted by monthly or seasonal touch-ups," she says.

In Wong's pain-management work, patients frequently ask her to "work on this little wrinkle" at the same time.

"To see the full effect, it has to be more of a specific facial rejuvenation than doing other acupuncture at that time," she says. But sometimes she combines the two.

The insertions of dozens of needles into the face is meant to increase collagen production and improve muscle tone.

Usually, Wong puts six needles in each foot or ankle to ground the energy flow. There are other points on the hands and wrists she uses, and quite a line-up on the neck. Then she gets down to serious business.

"Basically, we pull the skin backwards and put a needle at the top of the head to hold things there," she continues. It sounds worse than it is. I found it doesn't hurt at all.



Modified from an article by Katherine Dedyne on the CANWEST news service, which appeared in the Vancouver Province, Times Colonist, and other publications, earlier this year.

Acupuncture involves the insertion of fine metal needles through the skin at specific points on or near the surface of the body. The practice of acupuncture is based on traditional Chinese medicine theories and serves to normalize physiological function, treat certain diseases and dysfunctions of the body, prevent or modify the perception of pain and promote health and well-being.

The principles of traditional Chinese medicine outline how there are more than 2,000 acupuncture points on the human body which are connected by energy pathways, called meridians. These meridians conduct energy, or 'Qi', throughout the body. Acupuncture is believed to balance the flow of Qi, thus helping the body to achieve and maintain health.

According to the National Centre for Complementary and Alternative Medicine, there are three mechanisms to explain the effect of acupuncture:

Conduction of electromagnetic signals which speed up the release of endorphins and promote activation of the immune system; launching of opioid systems in the brain; and changes in brain chemistry through release of neurotransmitters and neurohormones.

In BC, licensed naturopathic doctors may be certified to perform acupuncture if they have completed a rigorous accreditation program. To find an ND in your area providing acupuncture, link to our doctor search engine at www.bcna.ca or call the office toll-free at 1 800 277 1128.

Last decade the BCNA developed a Workplace Wellness program, with the intention of providing an easy to use template in corporate work environments for improved employee health. The key facets of the plan included a focus on disease prevention, improving nutritional choices for employees, and emphasizing the importance of regular physical exercise. Unfortunately, the corporations we approached, while agreeing with the principles of the plan, felt that it would have little impact on their bottom line.

In the US, however, health and wellness programs implemented over the last ten years have provided amazing benefits—both to the individuals enrolled and the shareholders.

University of Michigan health researchers note that health and wellness programs pay a dividend of about three (US) dollars for every dollar invested. At Pitney Bowes, for example, which has had an employee wellness program since 1991, they save over one million dollars annually on asthma and diabetes costs alone. The voluntary program includes health clinics, promoting exercise, offering healthy food at a lower cost than unhealthy food in staff canteens and prevention based disease-management programs. Employees enrolled in the program have health costs at least ten percent lower than non-enrolled individuals.

While it's true that health and wellness programs don't pay off immediately, the Pitney Bowes example shows they can be an overwhelming success. They require employee participation as well as an employer who can see the long-term benefits and encourages participation. American Cast Iron Pipe Foundry (ACIPCO) was named by Fortune magazine as one of the best companies to work for in the US, *nine years running*. One of the major reasons is its wellness program which includes on-site medical staff, a full service gym, and adjunct services such as physiotherapy, nutritional counselling, and staff bonuses for individuals who set personal goals and, e.g., lose weight or quit smoking or lower their high blood pressure. At ACIPCO, a diabetic covered by the company health plan will cost the employer nearly fifteen thousand dollars in medical care annually. However, the same individual who can lose weight and keep his blood sugar low, will cost around \$1500 annually. ACIPCO spends about \$600,000 annually on its wellness program—but it saves about \$1.2 million.

There are other cost benefits too, such as employee morale, overall employee satisfaction in the workplace and higher productivity, which are harder to apply a dollar figure to.

Source: USA Today, August 1, 2005

The US Agricultural Research Service, acting on studies showing that moderately high doses of selenium positively impact cardiovascular health, immune function, and reproductive health, is conducting research to ascertain whether long-term use has a more or less significant health impact.

Scientists have long been aware of selenium's role in growth and reproduction in animals. Previous research on animals has also indicated that the mineral keeps the thyroid active and functioning properly, and it is a powerful antioxidant.

Good sources of the mineral include seafood and meats and grains from regions with selenium-rich soils. Select dairy products and vegetables can also be excellent sources of the mineral.

Researchers have noted that while selenium is already being tested by medical professionals to fight AIDS, the exact interaction between selenium and the immune system in healthy people, such as those in the new study, is not known. In the first phase of the study, it was found that selenium increased the antibody response to vaccinations and improved the growth of lymphocytes, a type of white blood cell.

Source: Yahoo



Loblaws/President's Choice funded an Ipsos-Reid survey showing that 87 per cent of Canadians "are trying to make healthier eating choices but still want to do better." It also found that 78 per cent would prefer to make "lifestyle changes" instead of following a quick-fix diet.

The Globe and Mail, January 27, 2005



Can food alone meet all our nutritional needs? CAM pioneer Dr. Abram Hoffer says no: "You might have a general, average population, perhaps 50% or 60% of the population, that would require a certain range of nutrients, and we have people with special needs, the elderly, women who are pregnant, women who are nursing, people who are sick, and children. We have a large part of our population, which I think runs around 50%, who have special needs, and even with the best possible diet they cannot meet these needs."

Abram Hoffer, MD, PhD

Growing up in Northern Germany "country style," I quickly developed a love of Mother Nature, especially for flowers, vegetables and herbs. My family used an almost unlimited amount of herbs in our daily diet, as well as for healing illnesses. One of our favourites was the "stinking rose," garlic, which we considered a wonder plant.

The value of herbs to our lives and to our health cannot be overstated. Since our ancestors first walked the earth, herbs have formed the basis of medicine chests, cosmetic bowls, culinary spice jars, perfume vials and dye pots. They have a remarkable history of healing the human body and maintaining good health when properly used. Most herbs in their natural state are safe, and do not leave a residue in the body that could produce side effects. Drugs on the other hand may be extracted from plants, but when the plants are not used in their natural state it can result in side effects. Drugs tend to treat or mask a symptom or condition, while the use of herbals emphasizes that one could avoid getting sick in the first place because they help to balance and support the body.

The compounds in herbs work synergistically in the body to promote healing. All plants have therapeutic properties as they contain a variety of biologically active substances. Plants undergo photosynthesis, transforming carbon dioxide into energy rich substances. The resulting carbon chains are further transformed into a variety of compounds such as lipids, alkaloids, essential oils and tannins. Through other biochemical processes, minerals and nitrates are absorbed by the roots and transformed into vitamins, trace minerals and antibiotics.

Herbs can affect biological systems in our bodies such as our organs and even cells. Ultimately these high levels of biologically active substances can produce pharmacological and therapeutic effects. The nutritional value of herbs is very high and organically grown herbs offer maximum benefits.

Herbs are extensively used in cosmetics, herbal creams, lotions, shampoos, soaps, toothpastes, oils, tinctures and cooking. The multitude of uses for herbs as foods, medicines and in products only emphasizes how vital plants are to our health and well being.

Unfortunately, as the pharmaceutical industry developed the ability to synthesize medicine from inert substances such as petroleum and minerals, and they developed sophisticated marketing strategies, the therapeutic use of natural herbs diminished.

Recently however, there has been a resurgence of interest in herbs. As people begin to lose faith in drugs and antibiotics they are rediscovering that herbs are an effective and comparatively inexpensive form of health care. Herbal medicine represents a particular approach to healing which differs from allopathic medicine. Rather than relieving a single symptom with a single active ingredient, herbs offer a holistic approach by striving to heal the entire system and treating the cause. Medicine can only be truly holistic if it acknowledges the social and cultural context in which the illness occurred.

The renewed interest in holistic herbal medicine, as well as a great number of other alternative therapies, has encouraged changes within the existing government medical system. Given the financial crisis of the government system, it is incumbent upon us all to seek out and utilize appropriate health alternatives. It appears that these opportunities will continue to increase in the coming years.

I leave you with this quote from The Pocket Herbal Reference Guide, "The art of pharmacy turned to the production of drugs which could bring the quickest relief of symptoms, ignoring the reason that the symptoms appeared. As we look back, perhaps it is time to reconsider that path. The use of these substances has spawned a myriad of unexpected problems, such as suppression of the very signals that our bodies produce to alert us to a need for a change. Pain itself is a call to action – a call to remedy and imbalance in our lifestyle. The proficient use of herbal therapy is directly connected to our ability to sense that first signal and to adjust our lifestyles accordingly. It is when these signals are continually ignored that disease has a chance to seat itself more deeply within our bodies. The appropriate use of herbs is only one of many healthy alternatives to our present medical system."

This article by Klaus Ferlow, president and co-owner of Ferlow Botanicals in Vancouver.

Jane came into the office complaining of fatigue and headaches. She was 40 years old, had returned from a two week holiday in Cuba one month before and had not felt right ever since. She had also experienced the odd hot flash but her periods were still regular. This is a very common scenario for this age group. Peri-menopause includes the 10 year period before the period actually stops and during this time, aside from the declining function of the ovary, women may also experience a decline in other organs such as the thyroid, the liver and the adrenal glands. In this article I want to talk about the thyroid. This small organ located in the middle of the neck consists of two lobes topped by the parathyroid glands.

The thyroid is the master engine of the body. It regulates the metabolic rate of all the other organs. If the thyroid is functioning normally the body "revs" between 97.8-98.6 degrees. At a lower temperature it means the body is revving at a slower rate and therefore not generating optimal heat nor function. Sometimes people notice that their hands and feet are always cold or they might be generally more cold blooded than others they know. Other people don't notice the temperature difference until they take their temperatures. I have people check their temperatures first thing in the morning before they move in bed with a digital thermometer one minute under the arm. If the average of seven morning temperatures is below 97.6 I consider the under-functioning thyroid (hypothyroid) as a possible cause.

Jane's temperature was 96.3! She was surprised that even when she was having a hot flash the temperature did not come up much. I also conduct patient evaluations using standard medical blood tests, in this case TSH and T4. The TSH is the thyroid stimulating hormone secreted by the pituitary and T4 is one of the thyroid hormones made by the thyroid itself. The optimal value of the TSH is around 2 and the T4 is around 17-20. MD's have a different range than this, so many of my patients have been told their thyroid is normal, even when I disagree. Sometimes the blood work is within this normal range but the temperature is very low and the individual has other common symptoms of hypothyroidism such as

fatigue, dry skin, hoarse voice, slow mental functions, constipation, elevated cholesterol and frequent infections. The physical exam and the organ testing machine that I use also give me clues that point to hypothyroidism.

Jane's TSH was 4.5 and her T4 was 12. When the TSH is too high along with a low T4 this points to hypothyroidism. It turns out her sister also had a problem with her thyroid and was on medication for it. I recommended that Jane take a naturopathic thyroid remedy that jump starts the organ, for three months and then retest her TSH. I also recommended that she exercise more regularly. Exercise raises the body's core temperature and assists the thyroid to do its job better. I had checked Jane's ferritin for iron deficiency which was normal at 70. I also checked out her liver enzymes to make sure she hadn't contracted hepatitis while she was away. They were all within the low range of 18-20 which I like to see. I also recommended that she follow our two week detoxification program to clear out her intestines, liver and kidney.

Every month Jane took her temperature during her period and over the following three months the temperatures came up, although slowly. Her energy returned to normal and she felt warmer. After three months the TSH and T4 reverted to normal and by supporting her liver and adrenal glands we were able to discontinue the thyroid treatment. Kelp and selenium are simple nutrients that support the thyroid. As Jane goes through peri-menopause she will no doubt go through more ups and downs; however, by supporting her whole being, she is much better able to cope with the change in her body.

This article by BCNA member Dr. Ingrid Pincott.

Dr. Pincott practices in Campbell River on Vancouver Island. For more information or to research her additional articles on health issues link to www.drpincoff.com or call her clinic toll-free 800 898 6699.

Boosting the Sunshine Vitamin



For many years the public has been warned to limit exposure to the sun as much as possible. Central to this warning was a concern about the prevalence of skin cancer in our population. While this is certainly a valid concern, recent research suggests that we need to reconsider how we think about our exposure to the sun. Much of this research is focused on the "Sunshine Vitamin", or vitamin D, which is an essential factor in many physiological functions within the body. Unfortunately what this information suggests is that vitamin D deficiency is very common and as a culture we have contributed to this deficiency by wearing sunscreen and avoiding sun exposure.

Vitamin D is obtained primarily through our skin's exposure to sunshine. When ultraviolet (type B) light from the sun hits our skin, our skin synthesizes vitamin D. Knowing this, it should come as no surprise that those most deficient in vitamin D live in regions like ours that don't get much sun outside of summer.

It is now known that vitamin D deficiency plays a vital role in the manifestation of many conditions, including depression and seasonal affective disorder, bone disease, cancer, heart disease, chronic fatigue syndrome and autoimmune diseases. Interestingly, many studies are now correlating vitamin D deficiency due to decreased sun exposure with the increased prevalence of these diseases in our society. It is very possible that we are creating more problems than we are solving by avoiding the sun!

Research indicates we need to re-evaluate what the optimal dosages for vitamin D should be. The most current information indicates that people might need up to 10 times the current recommended daily allowance (RDA) to meet physiologic requirements and promote optimal health. However, vitamin D can also be toxic in dosages that are too high. Therefore it is recommended that one's vitamin D levels be tested before any supplementation is begun. This will allow the proper dosing and safety needed for each individual's needs. The lab test that gives the most accurate assessment is called 25 Hydroxy-Vitamin D, available from many naturopathic physicians.

Experts suggest that moderate daily exposure to the sun is the ideal. Some studies are actually showing that if you have moderate exposure to the sun, but you don't allow yourself to burn, your risk for skin cancer can actually decrease. However caution must be taken. What is considered "moderate" exposure will vary greatly from individual to individual. Most importantly you should never allow yourself to get sunburned and should implement sun exposure gradually.

Signs of deficiency can be very subtle when it comes to the "sunshine vitamin," so if you are experiencing any of the conditions listed above, it may be prudent to talk to an informed doctor to assess your vitamin D status.

This article by Dr. Jason Hughes. Dr. Hughes practices in Vancouver's Yaletown neighbourhood. For more information link to www.sageclinic.com or call 604 697 0397.

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PHYSICIAN REFERRALS * NATUROPATHIC MEDICAL INFORMATION * STUDENT INFORMATION

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Your Health is provided free to BCNA members.

The BCNA offers patients, across the province, referrals to licenced naturopathic doctors (NDs) in their area, as well as student information to persons interested in the profession. It is the BCNA's purpose

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to advance the scientific, educational and professional aspects of naturopathic medicine.

The public is welcome and encouraged to join the BCNA. An annual membership fee of \$25 assists the BCNA in its efforts to increase government recognition and heighten the profession's profile. Membership entitles you to a one-year subscription to Your Health and other news and information bulletins.

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