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## D-Sufficiency: Your Best D-FENCE Against Seasonal Colds and Flu

Fall has arrived and with the change in season comes the returning threat of "seasonal" illnesses like colds and flu. Have you ever wondered why there is such a thing as "seasonal" illness? Why would viruses and bacteria only come around during the fall and winter months? They don't - this is a MYTH!

The truth is that we are exposed to viruses and bacteria every day of our lives; the thing determining who gets sick and who stays well is NOT the presence of the viruses or bacteria - it is the state of our IMMUNE FUNCTION. In other words it is not the seed it is the soil. This has been shown to be true many times, perhaps one of the best known studies was by Cohen et al. in 1991 where they exposed ALL subjects to the cold virus but only those who were "stressed" developed a cold! (Cohen, S. et al. Psychological stress and susceptibility to the common cold. N. Engl. J Med 1991 Aug 29; 325 (9); 606-612).

The state, or fitness, of our immune system is influenced by two main variables. The first is the amount of stressors in our lives; and thus the amount of neurobiochemical down-regulation of our immune system via our sympathetic nervous system and stress hormones - i.e. cortisol and catecholamines (adrenaline).

Increased stressors in our lives causes a genetic down regulation of our immune system and also drives a switch away from Th1 (cellular) immunity toward Th2 (humoral) immunity. Th2 immune dominance is associated with more allergies and atopic disorders such as eczema and asthma. (Elenkov et al. The Sympathetic Nerve - An Integrative Interface between Two Supersystems: The Brain and the Immune System Vol. 52, Issue 4, 595-638, December 2000).

Clearly the amount of stress in our lives is NOT SEASONAL, this is why many people still get colds and flu in the summer months. So why do MORE people get colds and flu in the fall and winter months? What is a seasonal variable that can explain a significant change in our immune function? Vitamin D! (Aloia JF, Li-Ng M. Re: epidemic influenza and vitamin D. Epidemiol Infect. 2007 Oct;135(7):1095-6; author reply 1097-8.)

Humans require sunlight exposure to produce Vitamin D and during the fall and winter months we simply reduce the amount of sun exposure and thus reduce the amount of Vitamin D. Why is this important? Because a sufficient level of Vitamin D is ESSENTIAL to maintain immune function! This is the second variable that influences the state, or fitness, of our immune system - being sufficient in the raw materials our immune system requires to function properly.

Vitamin D is required to turn on or activate the innate immune system; it up-regulates the genetic expression of effectors that are used to attack viruses, bacteria and other antigens or invaders. In addition to the vital role that Vitamin D plays in immune function it is also essential for the control of insulin sensitivity, blood pressure, inflammation, and blood coagulation and this is why Vitamin D deficiency is a significant causal factor in cancer,

heart disease, multiple sclerosis, autism, asthma, and diabetes. (Garland CF, Garland FC. Do sunlight and vitamin D reduce the likelihood of colon cancer? *IntJ Epidemiol.* 1980 Sep;9(3):227-31.; Cantorna MT. Vitamin D and its role in immunology: multiple sclerosis, and inflammatory bowel disease. *ProgBiophysMol Biol.* 2006 Sep;92(1):60-4.; Wang TJ, et al. Vitamin D deficiency and risk of cardiovascular disease. *Circulation.* 2008 Jan 29;117(4):503-11.)

So, during the fall and winter months (and the rest of the year when we are inside or covered with clothing or sunscreen outside) we simply do not get enough sun exposure to produce enough Vitamin D. This vitamin D deficiency leads to reduced immune function and thus makes us more susceptible to colds and flus. REMEMBER, most industrialized humans do not get enough sun exposure even in the summer months. This has led to a pandemic of Vitamin D deficiency and increases in cancer, heart disease, autoimmune disorders and recurrent colds and flus.

So what should we do? What is the best solution? How do we best ensure we and our loved ones are sufficient in Vitamin D? It's EASY. Supplement with Innate Choice Natural A&D Sufficiency™ Cod Liver Oil and/or Innate Choice D-Sufficiency™ Drops!

What else can we do? Well, the two variables that influence immune function are stress levels and whether or not we are sufficient in Vitamin D and other essential nutrients!

Here are some simple steps to keep you healthier not just during the winter but all year, and all life, long.

1. Eat fresh fruits and vegetables to ensure sufficient levels of micronutrients.
2. Avoid refined sugar. Your immune cells require Vitamin C to work properly. Glucose (sugar) and Vitamin C are almost identical; in fact most animals can produce their own Vitamin C from glucose (this is why tigers don't get scurvy!). However, human animals cannot - we need to consume Vitamin C. The problem is that we have no genetic defence against consuming too much sugar. Because glucose and Vitamin C are so similar, glucose can attach to the Vitamin C receptors on the immune cells and block Vitamin C. This causes a deficiency in Vitamin C for the immune cells and they do not work properly. This is why sugar decreases your immune function. The solution is NOT to consume large amounts of synthetic Vitamin C supplements - the solution is to consume LESS refined sugar (glucose).
3. Supplement with Innate Choice Natural A&D Sufficiency™ Cod Liver Oil and/or Innate Choice D-Sufficiency™ Drops to ensure you have sufficient levels of Vitamin D.
4. Exercise regularly. Research clearly shows that exercise increases your immune function.
5. Reduce your emotional stress - learn a relaxation technique like meditation or mind quieting.
6. Reduce your physical stress. Research shows that physical stressors like poor posture and vertebral subluxation complex also increase stress hormones which can down regulate immune function. Research also shows that getting chiropractic adjustments can lower stress hormone levels and increase immune function! GET ADJUSTED!