

## **A LONGER, HEALTHIER LIFE BY CALMING THE IMMUNE SYSTEM**

by David G. Schwartz, M.D.

Dr. Mark Liponis in his book ULTRA-LONGEVITY, ISBN-13: 978-0-316-01728-2, explains with good documentation how an over-stimulated immune system contributes to nearly all chronic diseases in Western civilization. He proceeds to set forth methods of regulating, modulating the immune system so it is not running in “overdrive.”

Our immune defenses are important to protect against infection and injury, but all too often they are activated when these threats are not present, and this causes chronic inflammation and many degenerative diseases, including arthritis, a host of autoimmune diseases, cardiovascular disease, cancer, dementia, etc.

The Immune system is activated by any one of a host of events, stressors, and behaviors, when it gets an alarm signal, which it interprets as an emergency, calling forth defense and attack modes.

Some of these are physical injuries and infections. If we prevent or reduce them, the immune system doesn't have to spend so much time in alarm mode.

Another emergency is hypoxia or threat of hypoxia (loss of oxygen). Sleep apnea, impaired lung function, and abnormal breathing patterns all activate the immune system.

Other immune activators are: sleep disturbance, sleep deprivation, especially loss of deep sleep (delta wave sleep), fear-based emotions and moods - stress, anger, despair, and depression.

The skin, digestive system and lungs operate as “border patrol.” When they are insulted, they activate the immune system. Large meals and food intolerances irritate the gut. Antibiotics upset the balance of beneficial bacterial flora. This flora helps to establish balance in the gut-associated lymphatic tissue (GALT), which helps the immune system to maintain balance. Excessive cleanliness also may inhibit the normal activities and programming of the immune system, so that it attacks things it is not supposed to, as with allergies and asthma.

Dr. Liponis describes very thoroughly the ways we can help the immune system to be balanced, mainly by calming it, reducing its over-reactivity. This paper gives an overall “birds-eye” view of the topics, and reading the whole book will give the most benefit.

Slowing the breathing to about 6 breaths per minute, practicing abdominal breathing, practicing breath awareness, sighing, singing or playing a wind instrument, and using the Resperate (a biofeedback device shown to lower blood pressure), all help to calm the immune system. Some helpful web sites are [breathing.com](http://breathing.com), and [freezeframer.com](http://freezeframer.com).

Eating only when hungry, eating small, frequent meals, eating in a pleasant environment, eating slowly, chewing well, and not introducing food to babies until after 6 months of

age, all help to reduce immune activation. Foods or supplements with omega-3 fatty acids, especially DHA, and fiber also help.

Dancing or any activity that is rhythmic like walking, running, swimming, and rowing help. Physical activity in general calms the immune system. A good goal is 10,000 steps per day measured by a pedometer.

The category of love includes appreciation, understanding, sympathy, empathy, love of nature, wonder, acceptance, self-regard, self-compassion, social connectedness, and in general, a positive attitude and appreciation of life and a sense of humor. These all have been shown to calm the immune system from over-reactivity.

The area of “soothing” the immune system includes keeping the home environment free of allergens as much as possible. (Check for water leaks, mold, dust, etc., use filters if necessary.) Test the drinking water. Use music, pleasant colors and aromas, flowers. Share massages. Turn off phones temporarily. Create a getaway space or meditation space. Take warm baths.

Enhancement of healthy immune function involves doing certain medical tests, treating chronic infections such as helicobacter pylori, Lyme, prostatitis, and sinusitis, following dietary measures, and taking supplements. He recommends checking blood pressure, waist/hip ratio, lipids, C-reactive protein, etc. In addition to Dr. Liponis’ recommendations, I would also add fasting glucose, insulin, and homocysteine.

At the end of the book are meal plans.

This book is packed with useful information and covers each topic thoroughly. It is not for speed-reading. Beyond reading this paper, reading the book brings a much better understanding about how the immune system works and its relation to most of our diseases of aging as well as many other conditions.

Another great book on this topic is The Blue Zones, by Dan Buettner, ISBN 978-1-4262-0400-5. Demographers circled small geographical areas on the map in blue ink and labeled them “blue zones” where exceptionally large numbers of people lived beyond 100years old, all verified with accurate birth records. Common lifelong lifestyle factors of the centenarians are: Having a strong life purpose for being here, a strong spiritual connection, strong connection with family and friends, daily physical work or exercise, eating the majority of calories from whole vegetables, fruit, whole grains and legumes, with occasional meat and some raw or fermented dairy products, and having some sanctuary of either time or space away from the activities of industrial civilization, either geographically isolated or taking a real Sabbath day off once a week. They tend to be very happy and have a sense of humor, and people find it delightful to be around them. Reading about the interviews with the centenarians can be truly inspiring.

## **DECREASING THE RISK OF GETTING THE FLU**

When exposed to influenza or during an epidemic, these things may help to ward it off:

Keep the immune system healthy by keeping the whole body in good health.

Get extra sleep, pay more attention to stress management, keep a positive attitude, drink plenty purified water, eat highly colored vegetables and fruit, and fermented foods such as raw sauerkraut, yoghurt, and miso strengthen the immune system. Eat raw garlic (mix with nut butter, olive oil, etc. to make it easier to eat.)

Stop all sugar (sodas, candies, desserts, honey, fruit juices), alcohol, caffeine, tobacco, and “junk food.” Sugar depresses immune defenses.

Keep relative humidity above 40% if possible. Wear extra clothes and keep room temperature down to 68 degrees. Hot dry air weakens nose for viral attack.

Wash hands frequently, avoid touching your face if possible, and avoid crowds. Wear a mask if you are in a health care facility.

Supplements to strengthen immune defenses: With all supplements, be sure of some type of standard for purity and quality such as GMP.

Multivitamins including selenium, Probiotics, Astragalus, Echinacea, Scutellaria baicalensis, Ashwaganda, Panax ginseng and other herbal adaptogens. Vitamin C 1000mg 3x/day. Raw garlic chew 3 cloves 3x/day (vapors expelled through the lungs attack viruses and also keep people at a distance). Elder extract is active against flu virus. Keep blood levels of vitamin D optimal.

If you are getting sick already with sudden onset of fever, cough, aches, chills, runny nose, go to bed immediately, don't wait a few hours. Drink hot liquids, cover up and sweat, drink enough purified water to make urine light in color, increase vitamin C to as much as tolerated without diarrhea, (may be several thousand mg/day, as tolerance goes up when illness occurs.) Eat several cloves of raw garlic/day. Other supplements: Homeopathic oscillococcinum, Andrographis, Elder, Licorice, Marshmallow root, n-acetyl cysteine 1000mg 3x/day (if coughing mucus). Seeing a health professional for a prescription of an anti-influenza drug may shorten the length of illness by 1-2 days if started within 24 hrs of beginning of symptoms.

Irrigate nose and sinuses with warm saline. Do alternate nostril breathing several times per day.

Contact your health care provider for dark or bloody mucus from cough or from sinuses, chest pain not associated with coughing, difficulty in breathing from chest, extraordinary weakness, or no improvement after 1 week. Stay in bed for several days until strong recovery. Influenza can weaken one's basic vitality or life force, and it takes time to

recover that. If full activity is resumed too soon, complications can occur like pneumonia or a worsening of flu symptoms.

Flu vaccines are readily available and are recommended by the Centers for Disease Control for everyone for whom it is not contraindicated. Protection rates have been variable.

Protection against getting other viruses such as the common cold include many of the above lifestyle measures, such as washing hands, getting sleep, reducing sugar and junk food, managing stress, etc. Vitamin C, astragalus, Echinacea, and probiotics are good supplements, and getting Vitamin D level up to par could be very important.

### **FOODS TO REDUCE RISK OF DIABETES AND PRE-DIABETES**

1. Most recommended: low starch vegetables, especially leafy ones, most above ground vegetables except sweet corn. Some root vegetables such as turnips, rutabagas, parsnips. Vegetable juices OK. Olives and avocados.
2. Smaller amounts of these root vegetables: beets, carrots, sweet potatoes. No white potatoes. No juicing of these vegetables.
3. Legumes: All sorts of dried beans and peas.
4. Concentrated protein sources: Animal sources – more important to be organic than vegetable sources and preferably pastured. Eggs, cheeses, whey protein concentrate. For the carnivorous – chicken, turkey, and red meat only if totally grass-fed, organic, and not broiled, grilled, or fried or “cured,” (bacon, lunch meats, hot dogs, etc.). Wild game and fish (non-farmed and low mercury such as wild Alaska salmon). Vegetable protein: Tofu, tempeh, and other soy products – be sure they are non-GMO, which usually means they have to be organic.
5. Nuts raw. Nut butters and nut flours: Keep refrigerated and check for rancidity. Peanuts – try to get verification for aflatoxin-free status. Usually organic gives a better chance for that. Pumpkin and sunflower seeds, raw.
6. Fruits: especially berries. Most whole fruits are good. No juices. Dried fruit can give too much sugar because larger amounts are more likely to be consumed. No tropical fruits such as bananas, pineapple, mango.
7. Oils: Flax (be sure it is kept refrigerated and no rancid or bitter taste), olive oil (see that it is extra virgin cold pressed, and should have a tangy taste, and fairly fresh, no more than 6 months old). Coconut oil. Canola oil only if cold-pressed and organic (non-GMO). Walnut oil and hemp oil, both kept refrigerated. Mayonnaise – be sure the oils are non-GMO, and preferably not soy or corn. Try to avoid soy, safflower, corn, and sunflower oils (too much omega-6). Olives.

8. Dairy products: Preferably raw, non-homogenized, and pastured. Milk, cream, kefir and yoghurt (unflavored), buttermilk, soy and almond milk (unsweetened and non-GMO).
9. Limit grains to very small amounts at a time and infrequently, less than ½ cup to a meal, because of the high starch content. Quinoa, amaranth, wild rice, buckwheat, millet, oats, brown rice. No corn products, no chips, tacos, or popcorn – too starchy and mostly GMO. Barley, rye, spelt, kamut, and einkorn wheat only if no celiac disease and not gluten-sensitive. No modern wheat or bulgur or flour, white or whole grain. All forms of modern wheat have been mutated and hybridized “to the nth degree,” with much higher gluten content than the original wheat of 1000 years ago, most of the changes done in the last 50 years. The high gluten puts a person at risk for developing celiac disease with repeated exposure. The gluten also acts as an exorphin, which binds to brain receptors like morphine and causes addiction to gluten, with intense wheat cravings and withdrawal symptoms, and is associated with difficulty in weight control. Furthermore, the starch in modern wheat is mostly amylopectin, which turns to sugar very quickly and causes spikes in blood glucose. The older wheat such as einkorn or spelt had mostly amylose, a resistant starch that gets digested much more slowly. It would be prudent to avoid modern wheat on general principles because it has been altered from its natural state in such an extreme fashion (though not the same as genetic modification). There may be also unknown substances that have been introduced by the breeding process, as often occurs when altering a plant from its more natural state. William Davis, M.D., discusses extensively the problem with modern wheat in his book, Wheat Belly. Also Dr. David Perlmutter, neurologist, has written Grain Brain, about how the starches in grains affect the brain and increase risk for Alzheimer’s disease because of the blood sugar connection. Also recently, an herbicide, glyphosate (Roundup) has been sprayed on wheat just before harvest to speed up ripening and drying time. Substituting processed starches like tapioca powder or cornstarch for wheat flour, as in many “gluten-free” food products is not an option, as they can raise blood sugar just as quickly.

Reducing grains and flours and eliminating wheat may seem daunting and requires creativity and work in forming new recipes and eating patterns. A nutritionist or dietician could be helpful in working out the details, and helpful hints are given in Dr. Davis’ book.

## **COLON CANCER SCREENING DECISIONS**

by David G. Schwartz, M.D.

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The most commonly recommended screening procedure, the “gold standard” of screening, is the colonoscopy. The whole colon or large intestine is viewed with a colonoscope, under sedation at a hospital, and most polyps that are discovered can be removed easily. Other methods of screening such as fecal occult blood testing, proctosigmoidoscopy, CT colonography, and fecal DNA testing are useful, but none are quite so likely to pick up the smallest, earliest polyp or tumor. This discussion attempts to compare colonoscopy with the other methods.

Decisions about screenings for many conditions are sometimes not based on rationality. One may decide to do a test for peace of mind or reassurance that everything is OK even though the benefit is not worth the risk, such as a routine chest X-Ray to screen for lung cancer. On the other hand, people often avoid beneficial screenings such as pap smears or rectal exams because of discomfort, inconvenience, or embarrassment. Another choice is to accept unquestioningly the standard recommendations of expert or specialty panels. Many of the expert panels’ recommendations can be misleading or wrong, since many panel members have financial ties to pharmaceutical companies or to equipment manufacturers.

To rationally consider the pro’s and con’s of colonoscopy versus other methods can be quite daunting, partly because of the difficulty in evaluating the statistics, since different methods of reporting give different percentages of different types of polyps and different perforation rates.

For the average person, the chance of picking up a polyp on a colonoscopy varies from 10% to 30%. Ninety % of the polyps detected are not the pre-cancerous type, and of the 10% that are, only 10% of that group are large enough to be significant, and it is not clear how many of them actually turn into cancer. The colonoscopy can miss approx. 24% of small adenomatous (pre-cancerous) polyps and 6% of the large ones.

The baseline risks for getting colon cancer also have to be considered. Afro-Americans have higher risk than Caucasians. People from northern climates have higher risk than those closer to the Equator. (Vitamin D effect?) People who drink alcohol and smoke have 4x the risk of non-smoking, non-drinkers. Vegetarians have lower risk than meat eaters. Family history of colon cancer also increases the risk.

The risk of perforation varies with the experience of the operator, and reports vary from 0.3 per 1000 to 7/1000; mortality from a perforation may vary according to conditions, but average may be 5% of perforations, which would give an overall death rate from screening of .015/1000 to .36/1000. The chance of finding a cancer or a dangerous polyp may be around 3/1000. The cost of colonoscopy is estimated to be \$17,000 per year of life saved.

Among the alternative screening methods, the sigmoidoscopy detects about ½ of the polyps that the colonoscopy does and carries about ½ the death rate from perforation.

The virtual colonoscopy or CT scan of the colon, compared with colonoscopy, may save 1 life from perforation for every death resulting from missing a cancer (3.78 lives saved from perforation for every 4.11 missed cancers, according to one study). It involves considerable radiation, approx. equivalent to 500 chest X-Rays.

The rectal exam and the fecal occult blood test may detect a sizable % of dangerous polyps without significant risk. Reports for sensitivity of the fecal occult blood test ranges from 11% to 92%, highly sensitive to detect already present invasive cancer, but 20-30% for advanced pre-cancerous polyps. The fecal occult blood test has been most studied of all these methods in long-term prospective trials and has been verified to be cost-effective for the general population, with a decrease in mortality from colon cancer by 34%.

The DNA stool test was originally estimated to detect adenomas at 27-82% sensitivity, and prospective trials have had variable results.

In choosing which form of screening is best, it would make sense for everyone over 50 to at least do the fecal occult blood test, due to its convenience and non-invasive, inexpensive features. In addition to that certain people would best do the colonoscopy. For a person in a northern climate, with a family history of colon cancer and who smokes, drinks alcohol, eats meat and junk food, and whose Vitamin D status has been unknown for the last several years, and is African-American, it would be advisable to do the colonoscopy or the CT colonography. For a vegetarian with no genetic or family risk for colon cancer, who has had optimal blood levels of vitamin D, and who does not smoke or drink, the risks of colonoscopy may outweigh the benefits, and that person may better do the fecal occult blood test, possibly several times per year if convenient. The more times that test is done, the higher the sensitivity. This could be combined with proctosigmoidoscopy every 3-5 years and annual rectal exam. For all other people between these 2 extreme risk profiles, there still is no certainty about which is the best choice. If the fecal DNA test becomes more sensitive and less expensive in the future, it could become the screening test of choice. For someone with a short life expectancy, any invasive screening test would not be advisable.

An article in the Journal of the American Medical Association, March 8, 2006, p. 1162, noted that according to experts' agreement, the fecal occult blood every year, the sigmoidoscopy every 5 years, and the colonoscopy every 10 years are equivalent in cost-effectiveness, and any one of the 3 is a suitable choice.

Addendum 01/27/2015. A newer fecal DNA test (Cologuard) was found by a recent study to have a sensitivity of 42% for detecting advanced pre-cancerous polyps and 13% false positives, a slightly better utility than previous DNA tests.

Update 10/10/15: Newer studies for the DNA test show sensitivity of 69% in detecting high-risk pre-cancerous polyps and 92% sensitivity for colon cancers. Medicare now pays for this expensive (around \$700) stool test, once every 3 years for screening only, not for diagnostic testing. People at high risk for developing colon cancer should go straight to colonoscopy instead of the DNA test. A positive DNA stool test would require colonoscopy follow-up to diagnose and treat polyps or tumors if confirmed to be present. It would seem that Medicare considers this test to be cost-effective because it could detect more polyps with broader use by more people due to its ease of use and non-invasiveness, and it could result in much fewer cancer deaths and less overall expense. In addition, many low risk people doing that instead of colonoscopy could result in fewer complications and lower cost because of its non-invasive nature. There may be other insurance plans that will follow Medicare's lead and cover at least some of the cost.