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presents

LIVING  
CANCER  
FREE  
*Functional*  
*Tests*

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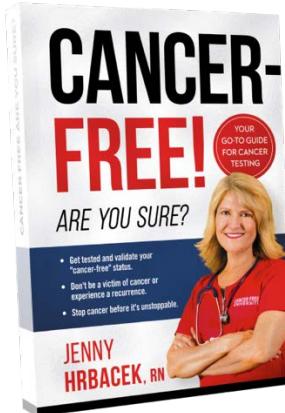
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# Functional Tests to help you LIVE Cancer FREE!



## Functional Tests

Welcome to this free download! *Functional tests* assess the impact of various factors in the body.

These factors include nutritional deficiencies, heavy metals, fungal infections, dental infections, hormone imbalances, endocrine-disrupting chemicals, emotional stress, and more. All of these can overwhelm the body and make us sick. The good news is, your body was created to heal!

You may not be familiar with all of the tests described here, and some, you will have to seek a health care provider to get. But it's worth it—addressing these issues can produce BIG benefits long-term. Be sure to check the labs websites for updates. The tests are:

- ❖ [Biological Dental Exam](#)
- ❖ [Biological Impedance Analysis](#)
- ❖ [Biological Terrain Assessment](#)
- ❖ [C-Reactive Protein \(CRP\) Test](#)
- ❖ [Dark Field Microscopy](#)
- ❖ [Electrodermal Screening](#)
- ❖ [Estrogen Profile](#)
- ❖ [Galectin-3 Test](#)
- ❖ [Hemoglobin A1c Test](#)
- ❖ [Urine Test for Hormones—DUTCH](#)
- ❖ [Immune Function](#)
- ❖ [Lymphocytic Response Assay](#)
- ❖ [Micronutrient Tests](#)
- ❖ [Mycotoxin and Fungal DNA Testing](#)
- ❖ [Parasite Urine and Stool Test](#)
- ❖ [PH Alkaline/Acid Test](#)
- ❖ [Self-Assessment of the Heart](#)
- ❖ [Spinal Alignment Analysis](#)
- ❖ [Thermography Exam](#)
- ❖ [Viral Screening](#)
- ❖ [Glyphosate Urine and Water Testing](#)
- ❖ [Direct-to-Consumer Lab and Imaging Testing](#)

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## Biological Dental Exam

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### Screening For Heavy Metals, Infection, Energy Blockages



#### Summary and Explanation

A biological dental office is a fluoride-free and mercury-safe environment. Many offer testing for the biocompatibility of dental materials to be used with each patient.

Years of traditional dental work can leave a person with a mouth full of toxic metals, unsuspected sites of infection deep in the bone, and interrupted flow of the body's natural energy pathways. The complex relationships of oral and systemic health within the whole person are inseparable.

Biological medicine considers the health of the whole body and looks for the cause of disease. Foreign objects in the mouth can cause a chronic inflammatory response. Dental issues in the mouth are often reflected elsewhere in the body and vice versa. Poor oral health can compromise and distract the immune system from looking for cancer cells.

Conventional medicine has largely ignored the relationship of the mouth to the rest of the body; however, there are three important areas to assess.

#### Heavy Metal Toxicity

Amalgam (also called mercury or silver) fillings contain about 50 percent mercury plus other toxic metals. A large filling may contain as much mercury as a thermometer. Mercury vaporizes easily at room temperature, and in this state it is odorless and tasteless. This vapor can be inhaled and easily absorbed into the bloodstream. Mercury is a powerful neurotoxin. Research demonstrates that mercury is more toxic than lead and arsenic; therefore, no amount of mercury exposure should be considered harmless.

In 2001, the U.S. National Health and Nutrition Examination Survey (NHANES III) of 31,000 adults found that the number of dental fillings correlated to the incidence of cancer, mental conditions, thyroid conditions, neurological issues (including multiple sclerosis), diseases of the respiratory system, and diseases of the eye.<sup>1</sup> A 2005 German risk assessment study of mercury from dental amalgams found it may lead to nephrotoxicity, neurobehavioral changes, autoimmunity, oxidative stress, autism, skin and mucosa alterations, Alzheimer's disease, or multiple sclerosis, and that "removal of dental amalgam leads to permanent improvement of various chronic complaints in a relevant number of patients in various trials."<sup>2</sup> Amalgam risk assessments conducted in 1995, 2010, and 2012 by Dr. G. Mark Richardson, an expert to the

<sup>1</sup> NHANES III Screening – 35,000 Americans. Raw data retrieved January 30, 2015 at: [www.flcv.com/NHanes3.html](http://www.flcv.com/NHanes3.html)

<sup>2</sup> Mutter J; Naumann J et al. Amalgam: Eine Risikobewertung unter Berücksichtigung der neuen Literatur bis 2005 [Amalgam risk assessment with coverage of references up to 2005]. *Gesundheitswesen* (Bundesverband der Ärzte des Öffentlichen Gesundheitsdienstes (Germany). 2005 Mar; 67(3):204-216. English abstract Retrieved January 30, 2015 at: [www.ncbi.nlm.nih.gov/pubmed/15789284](http://www.ncbi.nlm.nih.gov/pubmed/15789284).

European Union's Scientific Committee on Health and Environmental Risks, revealed that toxic levels of mercury were released from dental fillings.

The American Dental Association's position is that there is no scientific evidence validating the harmful health effects of amalgam fillings. The International Academy of Oral Medicine and Toxicology (IAOMT), however, has catalogued hundreds of scientific studies dating back over a century demonstrating that mercury in dental fillings is hazardous to human health.<sup>3</sup> As long as the ADA tenaciously holds to its position, it will be at odds with the growing body of science, and the desire of growing numbers of people to relegate this toxin to history. Norway, Sweden, and Denmark have banned the use of amalgam fillings for environmental and health reasons.

Amalgam fillings have an accumulative effect over time. Mercury is able to bind with cellular DNA and interfere with cellular function. Mercury is also absorbed by the roots of the teeth, as well as the surrounding bone and adjacent gum tissue. Symptoms of chronic metal intoxication include joint pain, numbness, fatigue, and headaches. Mercury has also been associated with a number of emotional and psychological problems such as memory loss, mood swings, anxiety, and depression.

Blood testing for mercury is usually non-conclusive because mercury quickly binds to tissues and organs and will no longer be circulating freely in the blood. The better method is a urine test where a physician administers a chelating agent (an agent that binds metals) followed by a urine collection for several hours. A laboratory then analyzes the sample for mercury and other heavy metal levels.

Nickel is another metal commonly used in crowns and bridges. Nickel is known to cause cancer, birth defects, and suppress the immune system. Thomas Rau, M.D., of the Paracelsus Clinic in Switzerland, conducted research on 150 women with breast cancer. He found that 147 (98 percent) of them had a root canal on a tooth related to the breast meridian. Just as energy flows through the meridians, Dr. Rau's research demonstrated that mercury also flows to organs on the related meridians. He did this by testing mercury levels in breast cancer tumor tissue and found that the tumors contained high levels of the toxin. For more information on his work, see [www.drrausway.com](http://www.drrausway.com).

### **Infection or Cavitation Assessment**

A chronic infection of a tooth may not cause readily identifiable symptoms. But both acute and chronic infections create disruptions on the entire energy meridian and can affect the related organs. Even placing a crown on a tooth can leave the tooth no way to breathe or detoxify. This can lead to chronic degeneration.

Root canals are the only situation in modern medicine where a dead body part is *left in the body*. The problem with root canals is the inability to achieve a complete, long-lasting seal

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<sup>3</sup> Press release April 2, 2013. International Academy of Oral Medicine and Toxicology Challenges ADA's Claim that Mercury Fillings Are Safe. Accessed at: [www.prnewswire.com/news-releases/international-academy-of-oral-medicine-and-toxicology-challenges-adas-claim-that-mercury-fillings-are-safe-201014311.html](http://www.prnewswire.com/news-releases/international-academy-of-oral-medicine-and-toxicology-challenges-adas-claim-that-mercury-fillings-are-safe-201014311.html)

around the dead root (periodontal ligament) left in the canal. Teeth are living organisms connected to the rest of your body with over three miles of tubules—canals in each tooth from which toxic bacteria can chronically drip, drip, drip into the body. These tubules are not fed by the blood supply, so antibiotics cannot reach them. Sealing a dead tooth creates an incubator for chronic infection to fester.

Cavitations can also be a problem. A cavitation is the empty space that remains after a tooth has been pulled. It is a hidden pocket deep in the jaw bone that harbors infection and leads to bone loss. Cavitations are not visible by X-ray until there is about 30 percent bone loss. A biological dentist can use special detection scans and X-rays to assess for cavitations, clean them out, and reseal them. Experience tells us it is particularly difficult, even for biological dentists, to successfully rid a cavitation site of infection.

Another area of infection is in the gums. This can develop into periodontal disease involving both the gums and the bone supporting the teeth. It is estimated that 50 percent of adults have some form of periodontal disease.

### **Electrical/Energy Blockages**

Our bodies have 12 meridians—energy pathways—that are a vital component of the body's electrical structure. When looking at a meridian tooth chart, you can locate the organs that correspond with each of the 32 teeth.

The body is an environment composed of both chemical and electrical fields. A compromised electrical system results in faulty communications throughout the body.

Dawn Ewing, PhD and Director of the International Academy of Biological Dentistry and Medicine, uses the example of an electrocardiograph (EKG) to explain how the body uses electricity: During the EKG procedure, sticky pads are put on the patient's, chest, arms, and legs. Electricity is introduced and an image of where the infarcted (dead) tissue is located after a heart attack is produced because electricity will not pass thru dead tissue. Oral conditions such as dead teeth, infections, and jaw bone deterioration likewise can interfere with energy flow.

In biological dentistry, the tool is a Meridian Stress Assessment (MAS), or electrodermal oral screening. It can be used to measure the body's current state of health by looking at energy flow and levels. An MSA is used to determine where, and to what degree, energy is excessive, lacking, or blocked. The test is done in a medical or dental office by a specially trained dentist or integrative physician. It uses no needles—just electrodes.

Some integrative physicians believe patients with cancer and other chronic illness will not make significant advances in their health until dental issues are resolved; they ask patients to make that a first priority. The metal toxicity and chronic infections interfere with the ability of most other healing efforts you might initiate.



### **How to Obtain the Test**

**Locate a Biological Dentist:**

- Contact the International Academy of Biological Dentistry and Medicine at [www.iabdm.org](http://www.iabdm.org) or 281-651-1745
- Contact the International Academy of Oral Medicine Toxicology at [www.iaomt.org](http://www.iaomt.org) or 407-298-2450
- Price-Pottenger Nutrition Foundation at [www.ppnf.org](http://www.ppnf.org) or 800-366-3748

**Heavy Metal Toxicity Test:**

- Find a local integrative physician or naturopath



### Interpretation

The information you receive from electrodermal screening or MSA will identify energy blockages and the areas of the body that are effected.

Digital, panoramic X-rays use approximately 80 percent less radiation than conventional films. They produce a computer generated image that provides greater contrast and enables the dentist to enlarge hard-to-see areas.

As with most test interpretation, the skill level of the interpreter is very important.

Results for the heavy metal toxicity test are given in numerical values indicating the level of toxicity.



### Cost

The new patient fee will vary; it may cost as much as \$400 for a complete first visit and assessment. The visit should include a comprehensive oral exam, digital X-rays, and materials compatibility testing. Most appointments last approximately 2 hours and include an in-depth discussion of your dental situation and care.

Heavy metal toxicity testing—sometimes an office visit is required, plus laboratory fees for the urine challenge test. Some doctors use hair analysis for toxicity testing.

An MSA is approximately \$150.

The cost of a biological dental exam may be covered on your dental insurance and the charges for heavy metal removal may be approved by your health insurance.



### Process Time

- Heavy metal toxicity testing takes several hours for urine collection, and the specimen must be sent to a lab for processing. Results are usually received in 2 weeks.
- An MSA lasts about an hour and assess burdens from root canals, crowns, fillings, and cavitations (extraction sites). It usually requires a panoramic X-ray that is less than 90 days old, with no dental work having been done in the interim. Results are immediate.



## Benefits

- This kind of dental evaluation can be an eye-opening experience because biological dentists have a much greater level of respect for the risks of common dental procedures, and they openly appreciate the relationship of oral health to the entire body.
- There can be improvement in overall health with the discovery and treatment of unrecognized dental infections originating with cavitations and root canals.
- Mercury fillings (amalgams) can be safely removed and replaced.
- Dental work can be completed with the use of biocompatibility dental materials, thus reducing the potential for negative reactions to materials used.
- Energy blockages can be identified and addressed.



## Limitations

Thorough research must be conducted by the patient to insure that the biological dentist is trained to address important issues of toxicity, safe removal of amalgams, biocompatibility of dental materials, hidden infections, and energy blockages. Not all biological dentists offer all of these services.



## Confidentiality

Tests ordered by a dentist will become part of your dental record.



## Thoughts

It is time for the medical community to better respect the connection between the mouth and the rest of the body. During your yearly physical, the doctor will listen to your lungs and heart, but very rarely does he look at your gums and teeth, or consider the impact of mercury fillings, or the occasional flare up of bleeding and sore gums. Biological dentists are trained to recognize the impact oral health has on the rest of the body and understand how it relates to your complete health picture. It's time to stop isolating body parts and look at them as components that make up who we are as a whole.

A healthy body will try to reject dead or dying teeth, and that presents a strain on the immune system. This process produces a stressed and weakened body. Addressing oral issues can be a big factor in halting the progression of disease, removing blocks to healing, and restoring health.

It is becoming an accepted suspicion that root canals and oral cavitations are associated with breast cancer. In my case, I had a root canal on the same side as where my breast cancer showed up. That tooth did not bother me. Out of fear of giving up on a natural tooth, I rejected the thought of having it removed. I just didn't want to do it. I recently stepped up to the plate, opened my mouth wide, and let a biological dentist take it out. To my surprise, he found

infection and a great deal of bone loss in the area. I have now completed the process of regrowing the bone and allowing my immune system to strengthen after having that stressor removed. I wish I had done this years ago. I love my new implant.

Remember, insurance companies are in business to make money. So don't retreat if your insurance will not pay for biological dentistry. The investment is worth it. Find a good biological dentist for you and your family. Better yet, only use a biological dentist and prevent the need for clean-up work later.

I will finish with the words of John Parks Trowbridge, M.D.:\*

The deep, dark secret in modern dentistry is that people get relief from their immediate pain but get sicker and sicker and sicker because of the toxic metals and chemicals their dentists have poured into their mouths. Dentists reassure patients that "there's nothing wrong" when, indeed, the answers are there to be found by professionals using the advanced techniques and treatments of the NEW dentistry.

Lest you misunderstand that I'm talking about discomforts and problems in your mouth, let me assure you that I'm talking from the perspective of a "wholistic" physician, taking care of the "whole patient." Ours is an era of devastating diseases that relentlessly claim the comfort and independence of their victims – diseases such as diabetes, heart disease, hardening of the arteries, liver failure, MS (multiple sclerosis), myasthenia gravis and so on. A startling number of these problems can improve dramatically – beyond a patient's fondest dreams – when enlightened medical and dental practitioners team up to remove toxic metals and chemicals, remove unsuspected sites of infection, restore nutritional balance and employ advanced techniques of "biological dentistry."

\* Taken from the forward of Dr. Dawn Ewing's book, *Let the Tooth Be Known* (2012). Ewing is a Doctor of Integrative Medicine in Spring, Texas. The book is available as a download at [www.drdawn.net](http://www.drdawn.net). Dr. Trowbridge has served as president or director of professional organizations including the American College for Advancement in Medicine, the International College of Integrative Medicine, the American Board of Clinical Metal Toxicology, the International Academy of Biological Dentistry and Medicine, and the American Preventive Medical Association, among others. His practice is in Humble, Texas.

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### **Biological Impedance Analysis**

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TEST

#### **Summary and Explanation**

Biological impedance analysis, or bio-electrical impedance analysis (BIA), is a method of assessing your body composition—the measurement of body fat in relation to lean body mass.

This test measures fat, muscle, bone, and water, and gives a more meaningful assessment than the number on your bathroom scale.

Research has shown that body composition is directly related to health. Excess fat in relation to lean body mass can greatly increase your risk for disease. A BIA allows for early detection of an improper balance in your body composition, which signals the need for intervention and prevention.

This non-invasive test involves the placement of electrodes on the right hand and right foot. A low level—unnoticeable—electrical current is sent through the body. The flow of the current is affected by the amount of water in the body. The device measures how this signal is impeded through different types of tissue. Tissues that contain large amounts of fluid and electrolytes, such as blood and lean tissue, have high conductivity. But fat and bone are low in fluids and slow the signal down. The BIA determines the resistance to flow of the current as it passes through the body. This measurement is used to provide several estimates relating to the volume of body water.

For example, one measurement is the “phase angle.” It is based on total body resistance and reactance. Lower phase angles appear to be consistent with either cell death or a breakdown of the cell membrane. Higher phase angles appear to be consistent with large quantities of intact cell membranes and body cell mass. It can indicate the course of disease.

All living substances have a phase angle. Fit adolescents may have a phase angle greater than 10. As you get older, phase angles will decrease and will be approximately four or less at the time of death.

Low phase angles are consistent with:

- Malnutrition
- Infection
- Chronic disease
- Cancer
- Sedentary lifestyle
- Chronic alcoholism
- Old age (over 75)



### How to Obtain the Test

BIA testing is offered by many nutritionally-minded natural practitioners. Check with your local medical community to find a clinic offering this test.

The procedure is quite simple. You will be asked to remove your shoes and socks so the electrodes can be put in place. Once the lead wires are hooked up to the electrodes, the test only takes a few seconds and the BIA data will be analyzed by computer software.

Prior to the test:

- All metal jewelry should be removed
- Empty your pockets and remove any heavy clothing
- Avoid exercise or other activity that would make you sweat at least 8 hours before your test
- Avoid caffeine or alcohol in large quantities 12 hours before the test
- Go to the bathroom to get rid of any waste products

NOTE: Measuring under consistent conditions (proper hydration and at the same time of day) gives the best results. The test should be done within a few minutes of lying down, as there is evidence that impedance values rise sharply after a few minutes of lying on your back.



### Interpretation

BIA measures the impedance—resistance—to an electrical signal as it travels through water that is found in muscle and fat. The more muscle a person has, the more water their body can hold. The greater the amount of water in a person's body, the easier it is for the current to pass through it. The greater the amount of body fat, the more resistance is recorded by the current.

Resistance produces inferior results. Results are gender specific.

BIA provides the following key measurements.

- Fat Free Mass %—The percentage of the body that is not fat. This represents metabolically active tissue of muscles, bones, cartilage, organs, and blood.
- Fat %—The percentage of the body weight that is fat.
- Total Body Water—The complete volume of fluids in the body.
- Intracellular Water—The amount of water volume inside the cell. Healthy cells maintain their integrity and hold their fluid inside. Low levels can indicate poor health.
- Extracellular Water—The amount of water volume outside of the cell. Higher values may be related to fluid retention, toxicity, allergies, stress, poor absorption, or insulin resistance.
- Phase angle—Energy production from working cells indicating cellular health. This level is associated with aging. Higher values indicate good health and lower values indicate acute or chronic illness.
- Basic Metabolic Rate—This number represents the number of calories burned at a normal resting state over a 24 hour period. It represents the amount of energy that your body requires to perform its most basic functions.



### Accuracy

Studies show that BIA is quite adept at providing estimated body composition measurements; however, factors such as dehydration and previous exercise must be taken into consideration.



### Cost

It averages between \$50–\$75.



### Process Time

The test takes only a few minutes. A report is generated immediately after the test.



### Benefits

- A fast, accurate, and safe way to measure six key body composition elements.
- Measures long-term changes in body composition.
- Identifies if the body is functioning properly, aging well, or has an increased risk of illness.
- Measurements can be utilized to create an effective, personalized program to improve your health status, thereby assisting you to maintaining function, productivity, immunity, physical performance, and longevity.



### Limitations

- If a person is dehydrated, the amount of fat will likely be overestimated. Hydration can be effected by the failure to drink enough water, hormonal changes, food, caffeine or alcohol consumption, strenuous exercise, stress or illness, or taking prescription drugs.
- The test does not take into account the location of body fat.
- Cannot diagnose any specific disease.
- People with pacemakers are not candidates for this test.
- BIA is not recommended for competitive athletes, body builders, pregnant or lactating women.



### Confidentiality

Results become part of your medical record.



### Thoughts

BIA can be a good tool to assess your current state of health. Deficiencies can be used as early detection heads-up and interventions can be made. Improving your BIA measurement, or maintaining a healthy BIA, can help support proper body functions and reduce your risk to illness.

Often a personalized nutrition and exercise plan is offered as a result of a weak BIA test, and I recommend it be taken very seriously and followed. Cancer patients almost always have a weak BIA.

If you get a poor or less than desirable result, implement good nutrition, consistent exercise, and IMPROVE YOUR SCORE!

## Reference

Dehghan M, Merchant AT. Is bioelectrical impedance accurate for use in large epidemiological studies? *Nutrition Journal*. 2008 July; 7:26.

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### Biological Terrain Assessment

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TEST

#### Summary and Explanation

A biological terrain assessment (BTA) analyzes small amounts of blood, urine, and saliva to provide data about the current state of the building blocks of the body. BTA was invented by Louis-Claude Vincent, professor of hydrology, and has been utilized since 1946. His method allows the practitioner to take a broad-spectrum view of the body chemistry beyond specific symptoms that a patient may have.

The BTA process itself is simple, quick, and noninvasive. Blood, saliva, and urine samples are taken, tested, and analyzed by a computer. The results show which biological systems are in good shape and which are vulnerable, weakened, or compromised. This information leads to the implementation of specific therapies to improve the terrain, and thereby support the body's innate ability to maintain health and fight disease.

The following components are included.

- Acid/Alkaline pH Challenge Test
- Adrenal Stress Urine Test
- Calcium Urine Test
- ChemStrip Urine Test
- Free Radical/Oxidata Urine Test
- Vitamin C Urine Test
- Zinc Taste Test

A skilled practitioner has the ability to pick up pre-pathological changes in the body that predispose one to infections, as well as many chronic diseases. BTA is a powerful health screening instrument that provides valuable biochemical information about cellular function and cellular metabolism in the tissues, organs, and systems of the body. This includes such data as oxygen transport, nutrient delivery, waste removal, mineral retention, cellular absorption, and multiple metabolic chemical interactions. More specifically, it measures the acid/base balance, the degree of oxidative stress, and the concentration of minerals in the body fluids.

The goal of a BTA is to gain a deeper understanding of the in-depth elements within the patient's chemistry and prescribe the exact forms of treatment to help the patients regain and maintain a healthy internal biochemical environment.

A BTA provides a wealth of information about the state of the body's cells, organs, and biochemical balance including:

- Level of acidity of the cells and fluids of the body
- Blood alkalinity as a compensation for tissue acidity
- Tendency of the blood to thicken and become sticky
- Ability of the kidneys to excrete acids and other waste products
- Ability of the cells to produce energy
- Free radical activity in the body
- Mineral deficiencies or excesses in the body
- Digestive enzyme deficiency or efficiency
- Anti-oxidant levels in the body
- Liver toxicity
- Lymphatic congestion
- Heavy metal toxicity
- Dehydration
- Immune system breakdown
- Tendency towards degenerative disease

Also, results can be compared with known norms and an estimation can be made of your biological age as opposed to your chronological age.



### How to Obtain the Test

BTA testing is offered by many allopathic and nutritionally minded practitioners. Check with your local medical community to find a center offering this test.

The procedure is quite simple; you may be asked to follow a few simple instructions prior to testing.

- 3 Days prior to testing—stop taking all alkalinizing agents.
- 2 Days prior to testing—stop taking vitamins supplements. Continue life-supporting medicines (heart, blood pressure, or diabetes medications).
- Fast for 12–14 hours. Complete your dinner prior to your test no later than 7 PM the night before. After dinner, brush your teeth. Then refrain from eating or drinking anything until after your test. Refrain from using any toothpaste, mouthwash, or mouth rinses both at bedtime and on the morning of your test. Also avoid using any lipstick or makeup around your mouth and lips. Such substances can change the chemistry of the mouth and saliva.
- On the morning of your test, obtain a sample of your first morning urine. Try to obtain a mid-stream specimen.



### Interpretation

All values are then analyzed and plotted by computer software into a report that contains graphs and charts. The data are then assessed by the practitioner and used as a teaching guide that is shared with the patient.

All three bodily fluids are analyzed. The saliva measurements reflect liver function very well, since most of the saliva is lymph, and most lymph is produced in the liver. Urine measurements reflect how well the kidneys are functioning, since the kidneys filter the blood. Whatever is in the first morning urine should represent overages in the body. The blood measurements are good indicators of cell function throughout the body.

The following are explanations of each sub-test.

- Acid/Alkaline PH Challenge Test— Acid-alkaline balance is extremely important. When pH is not in balance, enzymatic reactions slow down and oxygen delivery to the cells is impaired. Pathogens such as viruses, bacteria, and yeast can grow more readily. Also, cancer tends to prefer an acidic, oxygen-deprived environment. This test is used to monitor mineral reserves that the body uses to maintain pH. These minerals are needed by virtually every enzyme activity because each enzyme reaction requires mineral co-factors for optimum efficiency. The degree of adaptability of the body's alkaline buffer system reflects the state of mineral reserves. Results can indicate potential adrenal stress, cell rigidity, and organ problems.
- Adrenal Stress Urine Test—This test measures chloride displacement in the urine. Minerals such as sodium, potassium, and magnesium—all bound to chloride—are displaced due to high tissue and serum acidity ( $> H^+$  ions). High acidity is the result of a hyper-stimulated sympathetic system, which directly stimulates the adrenals. Results can help determine the degree of adrenal weakness, energy output, kidney dysfunction, stress levels, and probable magnesium, potassium, and calcium deficiencies.
- Calcium Urine Test—This measures calcium in the urine. Calcium is the most abundant mineral in the body. It is important because it plays a role in heart and muscle contraction, nerve impulse conduction, neurotransmitters, and their activation by enzymes, blood pressure regulation, blood clotting, hormone production, energy metabolism, saliva production, and more.
- ChemStrip Urine Test—This is a simple dip-stick urine test that screens for gross pathology in 13 categories of screening: color, transparency, odor, specific gravity, pH, leukocytes, nitrites, protein, glucose, ketones, urobilinogen, bilirubin, and blood.
- Free Radical/Oxidata Urine Test—This looks for molecules that have an uncoupled electron. Uncoupling occurs as a by-product of normal metabolic reactions and xeno-toxic reactions (foreign to the body). Free radical damage is implicated in many chronic diseases.
- Vitamin C Urine Test—This assesses how much vitamin C is in the urine. The role of vitamin C is now well established. It is involved in literally hundreds of biological processes in the body. The following is a partial list of vitamin C's most important functions.

- Essential to production of collagen and connective tissue.
  - Provides support and protection of blood vessels, bones, joints, organs and muscles, eyes, teeth, ligament, cartilage and skin.
  - Essential to antibody production.
  - Increases white blood cell activity.
  - Essential to the manufacture of neurotransmitters, particularly the conversion of tryptophan to serotonin, and of tyrosine to dopamine and adrenaline.
  - Protects against high blood pressure.
  - Appears to reduce the risk of cancer—particularly esophageal, larynx, stomach, colon, and lung.
  - High levels of vitamin C reduce the risk of cataracts and the oxidation stress of diabetes.
  - Vitamin C, when combined with bioflavonoids, reduces histamine reactions.
  - Important to the transport of iron across the cell membranes.
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- Zinc Taste Test—Zinc is essential to the production of hydrochloric acid (necessary for digestion), antibodies, white blood cells, and thymus hormonal function. It provides nutritional support for teeth, bones, nails, hair and skin, and it produces carbonic anhydrase, the primary enzyme for the conjugation of CO<sub>2</sub>. Zinc is essential to the conversion of linoleic acid (LA) to gamma linolenic acid (GLA) and is involved with metabolism of the testes, pituitary, thyroid, and adrenal glands. It is also an essential co-factor in the production of seminal fluid. Many people tested are zinc insufficient.



### Accuracy

BTA produces estimated ranges and results. Practitioners use the full body of data collected to compile a diagnostic picture. Locate a practitioner who is skilled in BTA testing and interpretation.



### Cost

Prices can vary, usually around \$150.



### Process Time

A BTA can be performed in one office visit and results are generated at the time of the test.



### Benefits

- Estimates the overall health and strength or weakness of the body.
- Where abnormalities are found the system, the test will suggest possible causes and remedial action that can be taken.

- Test data can impart objective analytical guideposts about the function of the lymphatic and liver systems, the kidneys, and the blood itself.
- Provides objective data to determine if a course of treatment is supporting or hindering progress.



### Limitations

Does not diagnose any specific illness.



### Confidentiality

Results become part of your medical record.



### Thoughts

When you know how the chemistry of your body is functioning, you can make lifestyle adjustments that support improvements in your health. Information obtained from a BTA provides valuable guidelines for the treatment of illness and the maintenance of health. Each of the tested chemical levels translates to the vitality and health to every cell, tissue, organ, and gland.

Implementing steps to improve bodily functions will make it much easier to heal from cancer or to prevent disease. In particular, the oxidation-reduction values indicate the state of oxygen in the body and we know that cancer cells are aerobic (do not use oxygen). So get proactive, increase your oxygen levels, and irritate those cancer cells!

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## C-Reactive Protein (CRP) Test

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### Inflammation Test



### Summary and Explanation

A C-reactive protein (CRP) test is a blood test that measures the amount of this particular protein in your blood. This protein is produced by the liver and measurements provide a gauge of the levels of inflammation in the body. Conditions such as cancer, arthritis, lupus, inflammatory bowel disease, or an infection can cause elevated CRP. Chronically elevated inflammation causes damage to the body. The test does not show where the inflammation is located or indicate the cause. Other tests are needed to find the cause and location of the inflammation. C-reactive protein levels are often higher in people who have recently had a heart attack.

The *Journal of Clinical Oncology* reported in 2009 the following study results:

Elevated levels of CRP in cancer-free individuals are associated with increased risk of cancer of any type, of lung cancer, and possibly of colorectal cancer. Moreover, elevated levels of baseline CRP associate with early death after a diagnosis of any cancer, particularly in patients without metastases.<sup>4</sup>

Once a high level is documented, repeated testing can be used to monitor the body's response to treatment to see if what you are doing is actually lowering CRP levels.

### Interpretation

Normal results should fall within the following range: 0–1.0 mg/dL or less than 10 mg/L, increasing slightly with age.

Normal value ranges may vary slightly among different laboratories.

### How to Obtain the Test

The CRP test is a simple blood test and it is available at most laboratories. You can eat and drink normally before the test. Tell your doctor all of the medicines you are taking because some medicines can affect the results.

For insurance reimbursement, a doctor's order is usually required. Direct-to-consumer lab testing is available at [www.requestatest.com](http://www.requestatest.com). This lab offers a CRP quantitative test. To order the test, log onto the site and create a user name and password. You will be given a secure profile in which to view your results when available.

### Sample Test Result

TEST	RESULT	FLAG	UNITS	REFERENCE INTERVAL
CRP	1.1		mg/L	0.0 – 4.9

### Cost

Medicare and insurance usually cover the test when ordered by a physician. Check with your provider.

The best direct-to-consumer price found was at [www.requestatest.com](http://www.requestatest.com) for \$59.

### Process Time

Results are usually available with 24–48 hours.

### Benefits

<sup>4</sup> Allin KH, Bojesen SE, Nordestgaard BG. Baseline C-reactive Protein Is Associated With Incident Cancer and Survival in Patients With Cancer. *J Clin Oncol*. 2009 May 1; 27(13):2217-2224

- Elevated levels may indicate the need for further testing and investigation.
- Once an elevated CRP is detected, exercise, diet, medications, and supplements may be used to decrease the level.

### Limitations

- Any condition that results in sudden or severe inflammation may increase your CRP levels.
- Do not have the test if you have just exercised, have an infection, have an intrauterine device (IUD), had a recent heart attack, or if you are pregnant. These may alter the tests accuracy. Also, positive CRP results will occur during the last half of pregnancy or with the use of birth control pills (oral contraceptives).

### Confidentiality

Tests ordered by a physician will become part of your medical record. Tests ordered from a direct-to-consumer lab will be reported to you.

### Thoughts

Given that higher CRP levels are associated with decreased cancer survival, reducing CRP levels in cancer patients is very important to improving outcomes. I had an elevated CRP level and was able to reduce it with diet, anti-inflammatory supplements, and aerobic exercise. Checking your CRP may seem like a small detail, but I encourage you to use every tool necessary to be cancer free.

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## Dark Field Microscopy

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### Live Blood Cell Analysis

### Summary and Explanation

Hippocrates believed that bodily fluids were an important factor concerning health and that disease would manifest in these fluids. History has proven him to be correct, and we know that blood plays a central role in the overall health of every person. Whole human blood consists of red blood cells, white blood cells, and platelets that float in plasma—a straw-colored liquid made up of about 90 percent water. The plasma also contains electrolytes, proteins, nutrients, hormones, and other substances.

When technicians and doctors send your blood work off to the lab, the technician will be looking at dead blood cells. Heat or chemical fixatives preserve the sample for examination. A small sample is smeared onto a slide, stained, and then observed under the light of a

microscope. Images stand out against a bright, white background. A traditional blood analysis is often looking for chemical composition and cell counts.

Dark field microscopy is the only way to observe *live* blood cells. It is often referred to as a "live blood cell analysis." A freshly-drawn, live blood sample is put on a slide and put under a dark-field microscope where it is magnified, viewed through a sideways beam of light, and projected onto a computer screen. The dark field microscope allows nearly invisible microorganisms within the blood to be "lit up" and stand out against a contrasting dark field.

A live blood analysis sees the blood in motion and is typically used to view the interaction of live blood cells with other factors such as fibrin, spirochetes, viruses, and elements of the immune system.

The examination usually includes a CD copy of the live blood visualized on the computer screen.



### How to Obtain the Test

You may find it challenging to locate doctors who use this technique. The FDA does not approve of dark field microscopic blood analysis; therefore, insurance does not cover it. Dark field microscopy is an accepted tool, but it is considered an "unestablished" laboratory test.

Some doctors offering it believe that it falls within the scope of their license to practice medicine and it should not be regulated under the 1988 Clinical Laboratory Improvement Amendments (CLIA), since the "conventional" lab group feels threatened by dark field analysis.<sup>5</sup> It would be a bit like having chiropractors or acupuncturists regulated by medical doctors who typically do not have the training or disposition to appreciate the other techniques.

Dark field microscopic blood analyses are offered by many allopathic and nutritionally minded practitioners. Check with your local medical community to find a center offering this test.

Prior to the test:

- Fast for 4 hours prior to the analysis
- Drink water during the fasting period as you need to be well hydrated for an accurate analysis
- Continue prescription medications
- Schedule your appointment for at least 3 hours after taking supplements

It is recommended that you wait one month before your appointment if you have had any of the following: ultrasound, mammogram, MRI, CAT scan, bone scan, X-ray, flu shots, vaccinations, or anesthesia.

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<sup>5</sup> Department of Health and Human Services. Office of the Inspector General. CLIA Regulation of Unestablished Laboratory Tests. July 2001. Retrieved January 9, 2015 at: <http://oig.hhs.gov/oei/reports/oei-05-00-00250.pdf>.



## Sample Test Result

The test is usually recorded on a CD.



## Interpretation

The condition, shape, behavior, vitality, and quantity of the components of the blood are analyzed.

For example: Red blood cells (RBCs) should be round and freely floating in plasma. If they are irregular, spiked, or hooked together in chains (looking like a roll of coins), they have a reduced capacity to carry oxygen and may be open to free radical damage and pathogens (causative agents of disease, such as bacterium or virus). If RBCs are clumped together, they are not able to flow through the capillaries and deliver oxygen and nutrients throughout the body.



## Accuracy

The accuracy of the interpretation relies solely on the level of competency of the examiner, so do your research and find a qualified practitioner. An increasing number of health professionals have found that the use of this technique allows for inspection of cellular dynamics, which normally escape analysis using standard non-living blood tests.



## Cost

Price estimates range from \$60—\$150 and may include a CD or photos of your analysis.

Often a follow-up analysis is recommended to assess for improvements or changes at the cellular level.



## Process Time

A typical blood analysis will last 30–40 minutes. Results are immediate.



## Benefits

The presence and causes of many health problems escape detection through conventional blood chemistry analysis alone. Live cell microscopy can show the following and more:<sup>6</sup>

- Free radical damage
- Indications of heavy metal toxicity
- Bacteria in various stages of development
- White blood cell activity

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<sup>6</sup> Denks S. Microscope Training Workshop: Live Blood and Dry Layer Perspectives.

- Red blood cell activity
- Fungi (yeast/Candida)
- Abnormalities associated with hormonal imbalances
- Folic acid and vitamin B12 deficiency
- Iron deficiency
- Uric acid crystals (possible risk for gout)
- Poor circulation and abnormal blood clotting
- Liver stress
- Bowel toxicity
- Plaque
- Essential fatty acid deficiency
- Predisposition to chronic and degenerative disease



### Limitations

- Using blood as a sole measurement of micronutrient status (fats, proteins, and carbohydrates) is not recommended.
- Nutrient quantity, shapes of cells, and cell metabolites in the blood do not always reflect their storage or biological function.
- It is possible to have normal results and still have gross deficiencies of nutrients in the cell, or have abnormal results when, in fact, the analysis is a function of misinterpretation or human error. Blood analysis has great medical diagnostic value and helps save many lives; however, it should not be used out of context or used alone to determine health status.



### Confidentiality

Results of the analysis are given directly to the patient.



### Thoughts

The movement of the live blood is quite remarkable. However, claims that blood microscopy can reveal a long list of issues and diagnose diseases like cancer are controversial.

Remember Masaru Emoto's book, *Hidden Messages in Water*, that created such a sensation? He took pictures of water crystals that actually change their structure and shape after being exposed to different words, different music, and even different thoughts. Emoto's microscope revealed, and the camera recorded, what appeared to defy science. How could a water crystal exposed to the classical music of Tchaikovsky change shape after exposure to a selection of heavy metal music? Dark field microscopy shares some of the same incredible reactions; some in the medical community reject it while others embrace it.

Dark field microscopy has a somewhat limited exposure to the medical community in North America, where patients typically are not allowed in the lab, and thus fresh blood is not available to those who work with microscopes. Dark field microscopes are not radically

different from microscopes already approved by the FDA for other diagnostic purposes. The controversy lies in the interpretation.

I feel that dark field microscopy can give skilled practitioners a way to evaluate overall terrain and monitor progress. It seems hard to understand why live blood analysis is not used more frequently. Our blood is crucial to good health and is worthy of attention and examination.

The key message here is not to rely on just one type of diagnostic test or screening procedure, but to utilize several different testing methods to gather the information necessary to objectively evaluate your existing state of health or risk of disease. The outcome of each test forms a piece of a diagnostic puzzle required to complete the whole picture. The more pieces you can gather, the better picture you will have available to make informed choices. Disease imbalances occur over time, and the idea is to modify and improve suboptimal patterns before serious trouble such as disease arises.

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## Electrodermal Screening

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### Meridian Energy Analysis



#### Summary and Explanation

Electrodermal screening is also called EAV, electroacupuncture, bioelectric functional diagnosis, and meridian energy analysis. It is energy medicine, if you prefer, applied to diagnostics. This test combines modern technology with Chinese medicine. It is a form of computerized information gathering, based on physics, not chemistry.

Throughout the long history of the healing arts, it has been understood that the body is not only made up of tissue, blood, bone, and organs, but also a vast array of tiny electrical charges produced by every cell in the body.

The Chinese eloquently laid out for us the energy pathways of the body, the twelve primary meridians that serve as electrical resistance points. Each of these points can be measured, and if an abnormal energy reading is found, it indicates inflammation or deficiency.

In 1951, Yoshio Nakatani, MD, PhD, developed a method of examining the meridian system of the body through electronic measurements. This altered the way acupuncture would be practiced throughout Japan, Europe, Australia, and North America. Dr. Reinhold Voll of Germany continued this work in the 1950s. Dr. Voll explained that the body has at least 1,000 points on the skin which follow the 12 lines of the classical Chinese meridians. He found, for example, that patients with lung cancer had abnormal readings on the acupuncture points referred to as lung points. He developed a non-invasive test he called electroacupuncture which has been since refined and is very much in use today.

During an electrodermal screening, the patient will hold a probe in one hand, while a second probe touches an acupuncture point. This completes a low-voltage electrical circuit, and a computer screen or a needle on a gauge reads out a number between 0 and 100. The input of voltage begins at the electrode in the hand and the reading is generated at the acupuncture point. The electrical discharges from these points signal the condition of the body's organs and systems. The electrical current used is too small to be felt by the patient.

The degree to which energy is excessive, lacking, or blocked can be assessed. This testing is similar to the electrical readings that are generated by an EKG that shows heart function and the electroencephalogram that shows brain activity. The recorded information is useful to physicians in evaluating conditions within the body and developing a treatment plan.

Electrodermal testing is also used to develop homoeopathic and herbal remedies. All matter, even medications and herbs, vibrate at a specific frequency. When an electrical current passes through the tested substance, it carries the vibrational signal of the medicine with it into the body. This vibrational information then reacts with vibrational patterns already existing within the body, resulting in a constructive or destructive resonance. Electrical changes can be measured instantaneously.

In a test for food allergies, for example, the patient would be asked to hold a vial of wheat, for example, and the machine would register a constructive or destructive resonance. Or the patient may be asked to hold a supplement to see how the body reacts. Different substances are tested until one is found that "balances" the energy disturbance. Electrodermal screening is used as an adjunctive diagnostic tool.

Many integrative practitioners are recognizing the importance of cellular energy and are including the area of energy medicine in their practice.



### How to Obtain the Test

Electrodermal screening is offered by many chiropractors as well as allopathic and nutritionally minded practitioners. Check with your local medical community to find a clinic offering this test.

Note: Electrodermal testing devices measure galvanic skin responses. They have not been approved by the FDA for assessment of nutritional deficiencies, food allergies, the presence of toxins, Candida, Epstein Barr virus, or the weakness of organs and glands. Use of a device for these purposes is legal but "inconsistent" with FDA approval. Electrodermal testing devices are a Class II device approved for biofeedback and lie detection.

Western medicine has not embraced electrodermal screening because it is based on new principles of quantum physics and old traditions of energy medicine, neither of which is taught in Western medical schools.



### Interpretation

The electrodermal reading is a measurement of how much energy makes it through the circuit—the lower the resistance, the higher the reading. Readings taken usually are described using two values: the initial reading (generally the highest value), and the indicator drop (ID). An initial reading of approximately 50 followed by little or no ID is considered “good.” Initial readings below 45 or above 60, and substantial IDs, are all considered negative signs.

Testing methods do vary; however, a typical examination begins with the four quadrant measurements—hand to hand, foot to foot, right hand to foot, and left hand to foot—which are measurements of whole-body energy levels. These are followed by a check of the several minor energy pathways to be used as control measurement points (CMPs). These measurements give an indication of the overall condition of every body part and function. The other points along a meridian are called branch points and are checked if the CMP reading is poor to gain more specific information.

During the testing, the body is an integral part of a closed circuit. The conductance circuit touches two areas on the body being tested. In the first point of contact, the ground electrode is held in the palm of the opposite hand to be tested. In the second point of contact, the test probe touches the specific acupuncture or conductance point on skin. After completing this closed circuit, a known amount of electric current is emitted from the instrument through the probe. The instrument then measures the conductance from baseline to peak, and return to baseline through the conductance point being tested. This represents a “dynamic conductance value.”

Inflammation of an organ may cause increased ion concentration which enhances the flow of electrons. This would cause resistance to decrease while the conductance may increase. On the other hand, a degeneration of an organ may cause a decrease in ion concentration that hinders the flow of electrons, so as the resistance increases conductance decreases.

Information obtained should be used in conjunction with other testing to develop a full clinical picture.

### Accuracy

Results can be affected by the experience, skill, and medical intuitiveness of the person performing the test. Many integrative practitioners consider this testing a valuable part of a health assessment. Conventional physicians question the approach and its accuracy.

### Cost

The cost of an electrodermal screening analysis will vary depending on the practitioner and their experience. Prices generally range from \$99–\$200.

### Process Time

The exam should take no more than an hour. Some points can take up to 60 seconds to acquire a reading.



## Benefits

Electrodermal screening has the ability to address the body holistically for a number of reasons.

- It enables the detection of disease before it becomes apparent.
- A standard examination enables the practitioner to quickly, painlessly, and safely collect information on the body's individual systems.
- The electrical signal reading is a very direct and true description of the condition of the body because it is created by the body.
- The meridian network regulates or at least participates in every type of bodily function, so naturally it is a good means by which to monitor the function of the whole body.
- By identifying energy imbalances, steps to rebalance energy for optimal functioning can be taken.
- Useful for testing medications, vitamins, herbs, metals, etc., for each individual patient, thus preventing possible side effects with no risk to the patient.



## Limitations

- Should only be used only as an adjunctive tool along with conventional diagnostic methods.  
Valuable as a subset of the entire clinical picture.
- Not available for individuals with pacemakers.



## Confidentiality

Results are given to the patient and become part of your medical record.



## Thoughts

We don't think twice about the validity of an EKG, but some people are resistant to considering the idea that other areas of the body are also affected by electrical charges. The Chinese have known of the power of the meridians for centuries. But in the United States, if we cannot see it or touch it, we seem to ignore it.

Why does simply holding a substance—in other words, putting the substance in our circuit—result in measurable electrical resistance? Because all matter vibrates at a specific and unique frequency. These vibrating, electrically charged particles emit electromagnetic waves which have their own unique electromagnetic signature. That's modern physics. Cellular biology tells us that all cells have two types of antenna-like receptors on their surface, one to detect biochemical substances such as hormones and nutrients, the second to receive electromagnetic

signals from the surrounding environment. Leading cell biology researcher Bruce Lipton, PhD, tells us cells are actually a hundred times more sensitive to electromagnetic signals than chemical signals. This is why many people are so worried about the effects of wireless technology that impacts us in ways we do not yet appreciate.

Every function in the body depends on the correct energy. Dr. Jerry Tennant of the Tennant Institute in Texas teaches doctors around the world how to incorporate into their practice a better understanding of the body's energy system. He encourages doctors to "think like an electrician, and to identify the power supply to the organ in question." He also teaches patients how to add energy, how to re-charge the 70–100 trillion cells in the body. Check out his web site at [www.tennantinstitute.com](http://www.tennantinstitute.com) and his Biomodulator that infuses the body with energy for healing.

From Dr. Tennant I learned a couple of key points.

- Every cell in the body is designed to run at -20 to -25 millivolts. To heal, we must make new cells. To make a new cell requires -50 millivolts. Chronic disease occurs when voltage drops below -20 and or you cannot achieve -50 millivolts to make new cells. Thus chronic disease is always defined by having low voltage. Low voltage also correlates with low pH (acid).
- +30 millivolts is where cancer occurs.

Energy also can be used to diagnose. Electrodermal screening is a useful adjunctive tool in the hands of a skilled practitioner. It can determine functional imbalances or disturbances in the health of any patient and often finds the cause of an illness when conventional testing methods are unable to do so.

Knowing that the chemical/surgical approach is not always successful, why not try treating with energy? It does not have the negative side effects of drugs which can essentially poison a pathway to relieve a symptom. I feel energy medicine is very worthy of consideration.

An example of how the body is intricately affected by electrical patterns was demonstrated when my husband came home from work and asked me to sit down, then lift my right leg and move it in a circular, clockwise motion. At the same time, I was to draw a number 6 in the air with my right hand. I could not do it! A few days later, I was having an electrodermal analysis done by Carla McEwan, CPT of Flexible Anatomy in McKinney, Texas. She explained it this way:

When you try to draw the number 6, you find your leg begins to take the pattern of your arm. This has to do with the way your brain codes for movement using the kinetic chains of movement and the myofascial lines. Basically, the body's electrical flow works in a crisscross or figure eight pattern. You were trying to redirect the natural flow of energy, because you could have easily drawn the number 6 if you used the opposite arm.

Carla went on to explain about the motor cortex of the brain and how it uses a "turning curve." Her continuing explanation reflected years of study and work in quantum physics and

the workings of the body. She did say that with practice, I could do it, but it's incredibly difficult. I tell this story because it is important that we understand the complexity of the body—not just the part we can see, but the unseen electrical activity.

Let me add something here because several times I say that results will likely vary upon the skill of the practitioner. Medicine is part art, part science. In Western medicine, the art often gets pushed aside, and this has not served us well. Patients are diagnosed literally by the book, prescribed by the book, dosed by the book in an attempt to reach a “science-based” understanding of things. That has upsides and downsides. A big downside is that it fosters a one-size-fit-all chemical approach to a metabolic disease like cancer. Yet we are unique beings with individual needs. The *art* of medicine is where personalization, medical intuition, innovation, and challenges to the status quo can more readily take place. The use of energy machines in medicine is very much a situation where results may vary based on the skill of the person working with you—the practitioner is not merely writing the umpteenth prescription of the month for statins because a cholesterol number fits within a certain metric.

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## Estrogen Profile

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### Estrogen Metabolite Test

Estrogen Profile

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### Summary and Explanation

Our hormones work together like a symphony—each hormone is an instrument in that symphony. What happens when a hormone becomes off-key? Just as the music would be disrupted, many functions in the body are disrupted.

Estrogen is a powerful hormone that can exhibit both protective and detrimental effects on estrogen sensitive tissues. Prolonged hormonal imbalance opens the door to disease.

The Estrogen Profile measures many estrogen metabolites through a 24-hour urine collection sample, including the ratio of 2-OH estrone and 16a-OH estrone. Considerable evidence indicates that this ratio can be used to evaluate relative risk for estrogen-sensitive diseases including breast and cervical cancers, osteoporosis, and recurrent respiratory papillomatosis.

Dr. Jonathan V. Wright, founder and medical director of Tahoma Clinic in Renton, Washington, commented:

The human papilloma virus (HPV), which causes (among other things) cervical cancer, has been proven sensitive to changes in the '2/16' ratio, growing faster when it's lower, growing more slowly when it's higher. It's higher when we eat broccoli, cauliflower, cabbage, bok choy and any of the other cruciferous vegetables. Every woman may have an interest in discovering if her own '2/16' estrogen ratio is low, especially as she can change it and lower her cancer risk herself! And just in case diet isn't sufficient, there are natural diet supplements that will do this job.

The estrogen profile also accurately measures levels of two proven anticarcinogenic metabolites, estriol and 2-methoxyestradiol. These metabolites can also be increased by diet changes, lifestyle changes, and supplements, with no drugs required.



### Interpretation

Upon completion of the test, the ordering physician will receive a complementary consultation to review the results with a Meridian Valley Lab physician. During the consult, the lab's expert physicians will assist with interpretation and recommend treatment options.



### How to Obtain the Test

The Estrogen Profile requires a physician prescription. Your physician must set up an account with Meridian Valley Lab (MVL) and order the test for you. Once ordered, you will receive very specific urine collection instructions as well as a "hormone symptoms questionnaire" and a return shipping label.



### Sample Test Result

STEROID	Amount Excreted in 24hrs			Adult Reference Range	
	CREATININE TOTAL VOLUME	0.2 gm/24hr 1500 mL	LOW	0.5-2.0 gm/24hr	
	If Creatinine Value is out of normal range, results may be affected.			Female µg/24hr	
ESTRONE	11.9	Luteal Follicular Mid-Cycle Post Menopausal	17-26 27-11 12-16	3.3 - 44.6 * 2.0 - 39 11.0 - 46 1.0 - 7.0	
ESTRADOL	5.5	Luteal Follicular Mid-Cycle Post Menopausal	17-26 27-11 12-16	1.4 - 12.2 * 1.0 - 23 4.0 - 45 0 - 4	
ESTRIOL	6.5	Luteal Follicular Mid-Cycle Post Menopausal	17-26 27-11 12-16	6.1 - 32.4 * 3.0 - 48 20 - 130 0 - 30	
<i>Total Estrogens</i>	23.9	Luteal Follicular Mid-Cycle Post Menopausal	17-26 27-11 12-16	10.8 - 89.2 * 7.0 - 110 38 - 221 0 - 41	
<i>Estrogen Quotient</i>	0.4	Estriol / (estrone + estradiol)			>1.0
2-OH ESTRONE	9.8	Luteal Post Menopausal	17-26	3.8 - 38.1 * 0.2 - 5.4 *	
16 $\alpha$ -OH ESTRONE	2.8	Luteal Post Menopausal	17-26	2.1 - 7.9 * 0.15 - 3.5 *	
<i>2 / 16<math>\alpha</math> Ratio</i>	3.5	Luteal Post Menopausal	17-26	1.8 - 5.5 * 0.6 - 5.0 *	
4-OH ESTRONE	1.8	Luteal Post Menopausal	17-26	0.8 - 5.9 0.05 - 1.1	
2-METHOXYESTRONE	7.9	Luteal Post Menopausal	17-26	2.2 - 14.4 * 0.3 - 4.1	
2-METHOXYESTRADIOL	0.9	Luteal Post Menopausal	17-26	0.1 - 2.2 * 0.03 - 0.54	

\* Reference range revised based on the reference range study in September, 2006



## Accuracy

Hormones are secreted in small “bursts” throughout the day. By collecting urine for a full 24-hour period, this test captures the hormonal peaks and valleys and provides an accurate assessment of your hormone levels. Other methods, such as serum or saliva, only capture hormone levels that are circulating in the body at the moment of collection.



## Cost

MLV offers an abundance of affordable 24-hour urine hormone profiles. The Estrogen Profile can be ordered individually or can come as part of a larger profile. Please talk with your physician to identify which profile is right for you. Your physician can obtain pricing directly from the lab. MVL does not accept insurance, however, you may check with your insurance carrier for reimbursement. MLV offers a variety of hormone panels ranging in price from approximately \$250–\$700.



## Process Time

Results will be sent to the ordering physician within 10–14 business days after receipt of the test at the lab.



## Benefits

- Noninvasive.
- Results can be used to develop interventions, allowing you to take an active role in preventing estrogen-driven cancers or their recurrence.
- 



## Limitations

MLV reports no limitations to this test.



## Confidentiality

The Estrogen Profile will become a part of your medical record with your personal physician.



## Thoughts

Breast and prostate cancers are two of the most prevalent cancers in the 21st century. Both are scientifically linked to hormones and are often fueled by estrogen; therefore, it only seems prudent to look into this issue. I encourage you to leave no stone unturned, especially if you are concerned about estrogen-related cancers. Remember, with the test results, you are given a recommended protocol you can use to improve your estrogen metabolism function.

Although the science of testing for estrogen metabolites is still in flux, my research indicates that increasing lean body mass, and increasing intake of cruciferous vegetables and fiber can help to balance estrogen.

Let us not forget that our world today is infiltrated with many chemicals that act as estrogen mimickers in the body—these include pesticides, products associated with plastics like BPA, ordinary household products like detergents, food additives like propyl gallate, phthalates in cosmetics, non-stick cookware, and triclosan in antibacterial soap. We are also affected by the wide spread use of hormones in the beef, diary, and lamb industries. This much excess estrogen in our daily world makes it hard to ignore the need for proper estrogen levels.

I like that MVL uses a 24-hour urine test because it accounts for the full day and night of hormonal secretion. This eliminates the possibility of falsely elevated or depressed levels that may be obtained when a single-point collection occurs at a peak or valley of an individual's secretory cycle. Also, not all technical methods of urine assay are equally accurate. This lab uses highly sophisticated gas chromatography in tandem with mass spectrometry which I feel is emerging as the method against which all other methods will be measured.

Because our hormones interact like a musical symphony, I want to point out another test offered by MVL that may be helpful: the 24 Hour Urinary Melatonin Testing. Melatonin is the hormone that works while we sleep to help the body clear out cancer cells, among other things. Studies show that melatonin may inhibit the growth of breast cancer cells by interacting with estrogen-signaling pathways.

NOTE: Estrogen receptor-positive breast cancer patients are treated with prescription drugs such as tamoxifen and aromatase inhibitors. They do not address any impairment in estrogen metabolism.

Because women have been told for decades that estrogen will keep them young, supplemental estrogen is given out widely, even to women with estrogen positive breast cancers. There is a growing school of thought that, in the future, this will be seen as a mistake because in our culture, most women already have too much estrogen from the environmental estrogen mimickers, and too much in our diet from the soy and flax in processed foods.

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## Galectin-3 Test

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### Inflammation Test

TEST

#### Summary and Explanation

This is a blood test that measures the amount of a specific lectin molecule called "carbohydrate-binding protein" called galactin-3.

This test has traditionally been used for the detection of heart disease, but today we are learning that high levels of galectin-3 in the body, and the inflammation it indicates, are also associated with the progression of metastatic cancer, ulcerative colitis, rheumatoid arthritis, diabetes type 2, and other debilitating diseases.

Dr. Isaac Eliaz of the Amitabha Medical Clinic and Healing Center in Santa Rosa, California has done most of the current research on galectin-3 and the use of modified citrus pectin (MCP) to

act as an antagonist to control unhealthy levels of this lectin. Because a number of published studies demonstrate that the over-expression of galectin-3 is directly involved in cancer proliferation and metastasis, it is important to reduce its harmful effects.

Cancer patients typically have high levels of both galectin-3 and inflammation. Galectin-3 is found to be over-expressed on the surface of cancer cells, acting as sticky protein on the surface of the cell, which allows the cancer cells to aggregate (tumorigenesis), then disperse throughout the circulatory system and attach elsewhere (metastasis). Dr. Eliaz uses MCP because published research demonstrates it blocks the activity of galectin-3 and inhibits its damage throughout the body.

Like the C-reactive protein test, the galectin-3 test gives a measurement of inflammation present in the body, but also can reveal the process of fibrosis (scaring and thickening of the tissues) and potential for cancer progression.



### Interpretation

- Levels above 17.8 are considered to be an extreme risk factor.
- Levels between 14.0 and 17.8 are considered to be a high risk factor.
- Levels below 14 are considered ideal for the general population.
- Levels below 12 are considered ideal for cancer and cardiac patients.
- Dr. Isaac Eliaz reports that when a level changes by 20 percent within 3 months, these changes correlate with an increase or decrease in disease progression or mortality risk.



### How to Obtain the Test

- May be ordered by a licensed clinician.
- May also be ordered without the assistance of a licensed clinician at [www.lifeextension.com](http://www.lifeextension.com). Log on and search for the “Galectin-3 test.”



### Accuracy

- Specificity: >99%.
- Sensitivity: >99%.



### Cost

- Tests ordered through a licensed clinician may be eligible for insurance coverage; check with your provider.
- Tests ordered directly through LifeExtension are around \$120. An additional discounted price is available for LifeExtension members. Upon receipt of your test results, a LifeExtension physician will review your results by telephone at no additional charge.



## Process Time

Results are available within 10–14 days.



## Benefits

- Can identify the presence of inflammation that fuels cancer cell growth.
- Can be used to identify disease progression and can play a significant role in tracking treatment success.
- A simple blood test that requires no special preparation.



## Limitations

Does not identify the presence of cancer, only the presence of inflammation that accompanies cancer and the potential for the spread of cancerous cells.



## Confidentiality

Results ordered through a licensed clinician are reported to the ordering clinician and become part your medical record. Tests ordered through LifeExtension will be reported to you directly from LifeExtension.



## Thoughts

It is critical to expose the underlying sources of fuel for cancer. Since cancer does not show up with visible symptoms until the disease is fairly well along, this test is a valuable tool in detecting the inflammation necessary for the potential presence, progression, or regression of cancer. Even better yet, if higher than normal levels are detected, modified citrus pectin (MCP) can be utilized to bring levels down. I can only recommend PectaSol-C by ecoNugenics, as this is the form used in the vast majority of the studies that confirmed the effectiveness of MCP.

## References

Gazella, K. New Twist on Health—Modified Citrus Pectin for Cancer, Heart Disease, and More. Published by CHAT, Inc., 2014.

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

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## Hemoglobin A1c Test

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Estimated Average Glucose Level

**TEST**

## Summary and Explanation

This is a blood test that checks the amount of sugar/glucose bound to the hemoglobin in red blood cells. Hemoglobin is the protein in red blood cells that carries oxygen. Sugar is sticky and a coating of sugar forms on the hemoglobin when it binds with glucose. That coat gets thicker when there is more sugar in the blood. The test measures how thick the coat has been over the past 3 months—which is how long a red blood cell lives—thus indicating the *average* blood sugar levels during this period. The relationship between sugar and its ability to fuel cancer makes this test a valuable tool in the effort to slow cancer cell growth.

A hemoglobin A1c test is routinely used to diagnose pre-diabetes or diabetes, and to monitor the long-term control of blood glucose levels. This test is not like the home blood glucose tests that measure the level of blood glucose at a given moment.

Increasingly, the studies tell us that excess insulin increases the risk and progression of certain cancers. In 2012, researchers at the University of Texas Health Science Center in San Antonio reported:

Diabetes is believed to be a contributing factor to several types of cancer, and new research in San Antonio patients reveals an association with kidney cancer. The study of data records of 473 patients who underwent surgery for renal cell carcinomas found that 25 percent had a history of diabetes. The strong message is that if you're diabetic, have your hemoglobin A1c tested every three months by a physician and keep your blood glucose level as normal as you can on a daily basis.<sup>7</sup>

A 2013 study found a high prevalence of liver cancer in type 2 diabetics. Researchers noticed that liver cancer developed in these patients within the first five years after diagnosis of type 2 diabetes, which is when insulin levels are extremely high.<sup>8</sup>

Another 2013 study showed over a 10 year period that type 2 diabetics treated with any kind of insulin-augmenting drug had up to an 80 percent increased risk of experiencing cancer, an adverse cardiac event, or death from any cause compared to patients who only received the drug metformin, which lowers insulin levels.<sup>9</sup>

The hemoglobin A1C test goes by many other names, including glycated hemoglobin, glycosylated hemoglobin, A1C and HbA1c.



## How to Obtain the Test

<sup>7</sup> The University of Texas Health Science Center at San Antonio press release January 25, 2012: One-fourth of South Texas kidney cancer patients have diabetes. <http://uthscsa.edu/hscnews/singleformat2.asp?newID=4063>

<sup>8</sup> Yang WS, Shu XO, Gao A et al. Prospective evaluation of type 2 diabetes mellitus on the risk of primary liver cancer in Chinese men and women. *Ann Oncol.* 2013 Jun; 24(6):1679-1685

<sup>9</sup> Currie CJ, Poole CD, et al. Mortality and other important diabetes-related outcomes with insulin vs other antihyperglycemic therapies in type 2 diabetes. *J Clin Endocrinol Metab.* 2013 Feb; 98(2):668-677

The hemoglobin A1c test is a simple blood test and it is available at most laboratories. The test requires no special preparation and you can eat and drink normally before the test. For insurance reimbursement, a doctor's order is usually required.

Direct-to-consumer lab testing is available at [www.requestatest.com](http://www.requestatest.com). This laboratory has locations around the country and offers a "hemoglobin A1C with eAG test." This test includes a calculation for estimated average glucose (eAG). The eAG measurement indicates your average daily blood sugar level, which is reported in the same units you would see from a glucose meter if measuring your own blood sugar as diabetics do. To order the test, log onto the site and create a user name and password. You will be given a secure profile in which to view your results.



### Sample Test Result

Test	Result	Flag	Units	Reference Interval
<b>Hgb A1c with eAG Estimation</b>				
Hemoglobin A1c	5.4	%		4.8 – 5.6
Increase risk for diabetes: 5.7 – 6.4				
Diabetes: >6.4				
Glycemic control for adults with diabetes: <7.0				
Estim. Avg Glu (eAG)	108		mg/dL	



### Interpretation

The goal is to keep the blood glucose levels near the normal range of 70–120 mg/dL before meals and under 140 mg/dL two hours after eating. Hemoglobin A1c levels are reported in percentages. A non-diabetic person will have a hemoglobin A1c between 4% and 6%.

The following is the correlation between hemoglobin A1c levels and average blood sugar levels as reported by the Mayo Clinic:<sup>10</sup>

<sup>10</sup> Mayo Clinic website. Tests and Procedures: A1C Test-results. Retrieved January 14, 2015 at: [www.mayoclinic.org/tests-procedures/a1c-test/basics/results/PRC-20012585](http://www.mayoclinic.org/tests-procedures/a1c-test/basics/results/PRC-20012585)

Hgb A1c	Average Blood Glucose Level
5 percent	97 mg/dL (5.4 mmol/L)
6 percent	126 mg/dL (7 mmol/L)
7 percent	154 mg/dL (8.5 mmol/L)
8 percent	183 mg/dL (10.2 mmol/L)
9 percent	212 mg/dL (11.8 mmol/L)
10 percent	240 mg/dL (13.3 mmol/L)
11 percent	269 mg/dL (14.9 mmol/L)
12 percent	298 mg/dL (16.5 mmol/L)
13 percent	326 mg/dL (18.1 mmol/L)
14 percent	355 mg/dL (19.7 mmol/L)

The higher your hemoglobin A1c level, the poorer your blood sugar control is. A high result may indicate a need to discuss blood glucose management with your doctor. The normal range for A1c results may vary somewhat among labs.

### Accuracy

It must be noted that the results reflect the *average* blood sugar level for the past three months. It will not match up to any one-time home glucose test result.

### Cost

Medicare and insurance usually cover the test when ordered by a physician. Check with your provider.

The best direct-to-consumer price found was at [www.requestatest.com](http://www.requestatest.com) for \$29.

### Process Time

Results are ready in approximately 24–48 hours.

### Benefits

The primary benefit of measuring hemoglobin A1c is that it gives a picture of what is happening over the course of approximately 3 months with blood sugar levels. The value does not fluctuate as much as finger-stick blood sugar measurements. The test can also help you and your doctor identify the need for steps to be taken to manage blood glucose levels to reduce the fuel source for cancer cells.



## Limitations

The effectiveness of A1C tests may be limited in certain cases.

- Heavy or chronic bleeding, or a recent transfusion, may deplete your hemoglobin stores making the test results falsely low.
- Iron-deficiency anemia may falsely increase the result.
- If you have an uncommon form of hemoglobin (known as a hemoglobin variant), your A1c test result may be falsely high or falsely low. This type of hemoglobin variant is most often found in people of African descent, and people of Mediterranean or Southeast Asian heritage.
- Chronic kidney disease, liver disease, and vitamin B12 deficiency can also affect the test.



## Confidentiality

Tests ordered by a physician will become part of your medical record. Tests ordered from a direct-to-consumer lab will be reported to you.



## Thoughts

Any attempt to prevent or treat cancer that does not include a low sugar diet is missing a vital component. Blood glucose levels must not be chronically high because cancer cells use the process of sugar fermentation for their fuel. The standard American diet is high in sugar and contributes to the prevalence of cancer and diabetes. The connection between diabetes and an increased risk of developing cancer has been well established. For cancer patients and for those at risk of developing cancer, maintaining normal blood glucose levels is critical. Many alternative and integrative physicians are paying special attention to the hemoglobin A1c levels in their patients with cancer. So eat your veggies and pass on the dessert.

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## Urine Test for Hormones—DUTCH

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Precision Analytical Inc.  
138 NE Rivergate Street, Suite #301C  
McMinnville, OR 97128  
Phone: 503-687-2050  
[info@precisionhormones.com](mailto:info@precisionhormones.com)  
[www.PrecisionHormones.com](http://www.PrecisionHormones.com)



## Summary and Explanation

The DUTCH Complete is an advanced hormone test, offering an extensive profile of sex, adrenal, and melatonin hormones, along with their metabolites. Results identify symptoms of hormonal imbalances. Samples are easily collected in the comfort of your own home, and then sent to the lab to be processed.

While the DUTCH test does not diagnose cancer, it is part of a comprehensive plan when evaluating women's hormones. Breast cancer is often blamed on estrogen gone awry; however, it is estrogen metabolism through the liver's phase 1 and phase 2 detoxification that is most important. Of course, not all breast cancers are fueled by estrogen; there are other types known as estrogen receptor negative (ER negative) breast cancers. Unfortunately, some women with healthy phase 1 and phase 2 metabolism can still develop cancer. The goal of the DUTCH test is to help minimize risk and provide important insight.

Melatonin, as tested on the DUTCH Complete, is a powerful antioxidant often used as part of an integrative oncology treatment plan. If levels are low, the risk for cancer could potentially increase. A 2009 study showed that there is an inverse relationship between urinary melatonin levels and postmenopausal breast cancer. This means as urinary melatonin went down, breast cancer risk went up.

The pattern of "free cortisol" is provided on the DUTCH Complete and is critical for understanding possible survival of both breast and prostate cancer.

In addition, DUTCH testing was specially made to be optimally effective to assist with most forms of hormone replacement therapy.



### How to Obtain the Test

Test kits can be ordered by your physician or on-line by the patient. No consultation is provided with the results; therefore, if ordered online, you must take the results to your doctor for interpretation.

Patients collect four dried urine samples over a 24-hour period. Dried specimen shipments are convenient worldwide. Dried samples are stable for several weeks. This kit includes:

- Easy directions and filter paper collection strips
- Requisition form for patient information, pertinent supplements, medications, hormone replacement and a health questionnaire
- Sealable return envelope



### Interpretation

Results are reported in easy-to-read charts and dials with reference ranges and include:

- Analysis of 35 different hormones: estrogen, progesterone, testosterone, DHEA, and cortisol along with their metabolites
- Daily free cortisol patterns to provide insight into adrenal fatigue and symptoms of chronic stress

- Graphical representation of results and embedded video tutorials to help with the hormone assessment you'll want to share with your medical provider



### Accuracy

The DUTCH dried urine samples are accurate for hormone testing—values correlate to standard blood and saliva samples used by other labs.



### Cost

The DUTCH Complete is \$399.00

- If ordered by a physician, there is potential for insurance coverage. The test is considered “out of network” and typical reimbursements are at 50–80% of cost.
- If the test is ordered on-line by the patient, there is no insurance coverage.
- No Medicare coverage.



### Process Time

5–10 business days from receipt at the lab.



### Confidentiality

Results are reported directly to the ordering physician, or to the patient if ordered on-line by the patient.



### Thoughts

With the prevalence of hormone driven cancers, it's important to have a complete assessment of your levels and pathways. And the BIG question of estrogen dominance can be answered, as well as adrenal function. It's reported that as many as 40 percent of the “old type” urine collection tests are done in error. I know people who have used this easy, new dried urine test, implemented the necessary steps to balance their levels, and are feeling better today. Plus this test will give you insight to problems with fatigue, weight gain, mood swings, depression, poor sexual function, hot flashes, and insomnia.

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## Immune Cell Function

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Immune Cell Function Test

Quest Diagnostics

[www.questdiagnostics.com](http://www.questdiagnostics.com)

**TEST**

## Summary and Explanation

Laboratory evaluation of immune cell function should be done both in times of disease and in times of health to identify an immune deficiency. If immune function is low, interventions can be started.

This is a simple blood test that measures cellular-mediated immunity. Cell-mediated immunity is expressed by T-lymphocytes (a type of immune cell). The Immune Cell Function assay measures the increase in intracellular ATP production that occurs in T-lymphocytes within 24-hours of stimulation by antigens or mitogens. Retrospective studies indicate that this ATP level correlates with T-lymphocyte activity and, consequently, cell-mediated immune function; thus, ATP measurement appears to be a useful clinical indicator of cell-mediated immune function. It is helpful in a variety of applications including transplantation, management of infectious diseases (e.g., HIV, HCV), autoimmunity, and cancer.

Alternative names for this test are Lymphocyte Stimulation, ImmuKnow®, CYLEX® ImmuKnow™.



## Interpretation

### Reference Range(s)

• ≤225 ng/mL ATP	Low Immune Cell Response
• 226-524 ng/mL ATP	Moderate Immune Cell Response
• ≥525 ng/mL ATP	Strong Immune Cell Response

Test results in children must be compared with age-matched controls. If test results do not provide age specific information, it is important to consult with a specialist who knows the age-specific reference ranges.



## How to Obtain the Test

The test must be ordered by a physician. The blood sample may be drawn at your doctor's office or any Quest Diagnostics laboratory.

An additional source for a comprehensive immune function test is Research Genetic Cancer Center's "Immune Frame". Call 214-299-9449 to find a physician who offers the test in your area.



## Cost

This test is usually covered by insurance and Medicare. The insurance CPT Code is 86352. The cash price is around \$366.66.



## Process Time

Results are usually available in 48–72 hours.

### LIMITATIONS



## Limitations

Results may be affected in patients immediately following surgery, anesthesia, blood transfusion, or immunosuppressive therapy. Results should be considered in conjunction with clinical presentation, medical history, and other clinical indicators.



## Confidentiality

Results are reported to ordering physician and become part of your medical record.



## Thoughts

It was not until years after my cancer diagnosis that a physician checked my immune cell function and discussed with me the need to do some immune stimulating therapies. Everyone seemed to focus on the tumor/cancer. I know that the chemotherapy I received was very damaging to my immune system, but it was never addressed. I want to encourage you to ask for this test, and if your results are low or even moderate, find an integrative or functional practitioner to help you build a robust strong immune system!

## References

References and information at [www.questdiagnostics.com](http://www.questdiagnostics.com)

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## Lymphocytic Response Assay

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Environmental and Food Inflammatory Testing

Lymphocyte Response Assay (LRA)

ELISA/ACT® Biotechnologies, LLC (EAB)

109 Carpenter Drive, Suite 100

Sterling, VA, 20164

800-553-5472

[www.ELISAACt.com](http://www.ELISAACt.com)

*The following information was obtained from ELISA/ACT Biotechnologies, LLC.*



## Summary and Explanation

Lymphocytes are small white blood cells that play a large role in defending the body against disease. These are your immune system's "soldiers."

A lymphocytic response analysis (LRA) is a test to identify immune responses to 491 common substances. This testing is important because if unknown reactive substances are allowed to come into contact with the body and produce chronic inflammation, the immune system will become overburdened and exhausted. This leaves the body unprotected and susceptible for diseases such as cancer. You want to know if your immune system is tied up with other distractions.

One of the recent major advancements in medicine is our expanded understanding of the immune system and its important role in general health and wellness. Medical science has come to recognize that the immune system has defense as well as repair components. If either the defense or repair function becomes overburdened, the door is open to immune dysfunction and chronic disease.

Recent studies have shown that when the defense elements (lymphocytes) are constantly mobilized to fight off foreign antigens that cause disease, the vital repair process is deferred. Think of it as a case of the repairmen sitting on the sidelines, waiting for the soldiers to finish battle. Without repairmen on the job, however, organs and tissue weaken over time, and the disease state progresses.

Digestive remnants and environmental antigens are the most common assaults to our immune system on a daily basis. When digestive remnants—food particles not completely digested—pass through the gut and enter the blood, they excite the immune system. We call them circulating immune complexes (CICs) and they are often associated with autoimmune diseases. Other digestive remnants make it to the digestive tract where they putrefy and form toxins that are absorbed into the blood. Environmental antigens are the non-pathogenic antigens; common ones are mold, animal dander and secretions, and dust mites.

By identifying these harmful antigens and eliminating exposure, the immune burden can be reduced or eliminated, allowing the defense and repair systems to return to optimal function.

Lymphocyte response assay (LRA) by ELISA/ACT® is a comprehensive and reliable test that can identify the causes of delayed allergy/hypersensitivity reactions. You might know you have an allergy to shrimp, for example, because your respiratory system reacts immediately when you eat that food. But less dramatic reactions can occur hours or weeks after exposure. You may develop achiness or joint pain long after a food or chemical exposure and not make the connection. These reactions can be instrumental in provoking chronic conditions and autoimmune dysfunction.

The effect of immune system dysfunction can be chronic inflammatory and autoimmune diseases that often defy treatment. Many affected people go from doctor to doctor trying to

find out what is wrong with them and how to fix it. Unlike treating disease symptoms, this test will identify the root cause of inflammation. The test is a valuable tool that physicians can use to examine the state of an individual's immune health by *monitoring delayed hypersensitivity responses to common substances*. A personalized treatment plan is also provided along with the test results to help with the overall program.

The LRA by ELISA/ACT methodology can evaluate all three delayed hypersensitivity pathways: reactive antibody, immune complex, and cell mediated reactions. The LRA method, which looks directly at lymphocytes, is able to screen out protective antibodies and identify only those reactive and symptom-provoking responses to items tested. Accurate testing is possible because of a specialized blood draw system that keeps the lymphocytes in the blood sample from being activated before analysis.

The following general testing categories are available:

- Foods
- Dander, hairs, and feathers
- Additives/preservatives
- Medications
- Environmental chemicals and toxic minerals
- Therapeutic herbs
- Molds
- Food colorings



### How to Obtain the Test

The LRA test is available through healthcare professionals. To locate a healthcare professional in your area who is currently utilizing the LRA by ELISA/ACT tests and treatment plans, contact client services department at 800-553-5472 or [clientservices@ELISAACT.com](mailto:clientservices@ELISAACT.com).

LRA tests are also available directly through [www.BetterLabTestsNow.com](http://www.BetterLabTestsNow.com).

Note: A 12-hour fast is required prior to the test as well as other specific and simple instructions that must be followed.



### Sample Test Result

**ELISA/ACT® LRA RESULTS**

Patient, Sample 65056

September 1, 2011

**Strong Reactions**

· Blueberry · Cotton Oil

**Avoid for at least 6 months.**

· Pepper, Black

**Cottonseed Oil**

**History/Discussion:** Cottonseed oil is extracted from the seeds of cultivated cotton. It is used in the manufacture of soaps, creams and lubricants and at times is used in food processing. Cottonseed oil is known to cause many allergic reactions, and is considered to be an inferior grade oil for human use.

**Sources of Exposure:** Cottonseed oil is found in many foods, especially salad oils, margarines, mayonnaise, and chips and other fried foods. Lesser grades of olive oil, many hard candies, chocolate candy, furniture polishes, and paint may well contain cottonseed oil. Sardines may be packed in cottonseed oil, and lard compounds and lard substitutes may contain it as well. It may also be used to polish fruit at stands. In addition, cottonseed oil is used in cosmetics, baby creams, nail polish remover and body creams.

Cottonseed flour is used for human food, notably fig newtons. It is also used in the manufacture of Xylose, a sugar substitute which may be used in gum and soft drinks.

Cotton linters are short fibers that cling to the cotton seeds after the long fibers have been removed. These linters contain fragments of cottonseeds and thus have some cottonseed oil. Linters, as well as cotton itself, is used in cotton wadding or batting found in cotton pillows, comforters and mattresses. Cottonseed linters are also used in some varnishes, artificial leather and weather proofing.

Cottonseed cake and meal are used as fertilizer. It is also used as feed for cattle, poultry, horses, swine and sheep. Barns and other places where animal feed is kept may bring exposure. Careful avoidance of all cottonseed oil containing foods and materials is important for people sensitive to cottonseed oil.

**Substitutions:** Any of the many other high quality, non-reactive oils.

**Interpretation**

Lymphocytic response is measured via an ex vivo (outside of the body) system; however, it tests lymphocytic reactions as though they are still in the bloodstream being exposed to specific foreign invaders. Reactions are reported as strong, moderate, or non-reactive.

**Accuracy**

ELISA/ACT Biotechnologies, LLC (EAB) reports 97+ percent accuracy (no more than 3 percent day-to-day variance), less than 0.1 percent false positives, and less than 1 percent false negatives.

The lab is a CLIA-accredited clinical testing laboratory.



## Cost

EAB offers several different combinations of test panels. Fees range from \$100–\$2,000 depending on the number of requested substances and the fees of the practitioner ordering the test. Some insurance companies are starting to cover this type of testing, so check with your carrier.

Test results include:

- A detailed report identifying up to 491 substances as nonreactive, moderately reactive, and/or strongly reactive
- An easy-to-use guide explaining each reactive item, along with suggestions for avoidance and substitutions
- Individualized nutritional supplement and behavioral recommendations based on the patient's health assessment questionnaire completed prior to the test
- "Alkaline Way" guide is available via download explaining the LRA by ELISA/ACT program and how to easily and effectively incorporate the program into your lifestyle
- A 30-minute consult with an EAB nutritionist is included with a test panels (valued at more than \$250).



## Process Time

Because the LRA tests require live cell, blood samples must be shipped to the lab overnight. Samples are processed the same day they arrive at the lab. A full report is delivered to the ordering practitioner within 7–10 business days.



## Benefits

- Identification of inflammatory substances.
- Provides a plan to address immune system dysfunction.



## Limitations

Additional reactive substances may be present that are not included in the test.



## Confidentiality

Results are returned to the ordering physician and become part of your medical record.



## Thoughts

The immune system is your body's "defense system." Its main responsibility is to protect your body from various foreign invaders, such as environmental toxins, chemical residues from

processed foods, viruses, germs, and cancer cells. I have often wondered why my immune system didn't attack and kill my cancer early on. Could it be that it was busy dealing with repeated doses of substances that we think are harmless, but viewed by the body as a threat? Sinus pressure, joint pain, allergies, or fatigue could be manifestations of a simmering immune system weakness.

It is much easier to strengthen your immune system before it falters and misses that first cancer cell that can grow into a life-changing problem.

Take care of your immune system and it will take care of you.

### Reference

Case studies and references are available at [www.ELISAACT.com](http://www.ELISAACT.com).

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### Micronutrient Tests

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Do your diet and supplements meet your individual nutritional needs? Perhaps you take supplemental niacin. Is your body absorbing it, or do you need a different form of it? What is your level of antioxidants?

Micronutrient tests take an inside look. There are several tests available to evaluate your nutritional status; I describe two here.

#### NutrEval®

Genova Diagnostics  
63 Zillico Street  
Asheville, North Carolina 28801  
800-522-4762  
[www.GDX.net](http://www.GDX.net)

TEST

#### Summary and Explanation

Genova Diagnostics has numerous tests including the NutrEval which specifically looks into your nutritional status.

**NutrEval** requires both a blood and urine sample. The test results give you a comprehensive summary of your levels of:

- Antioxidants
- B vitamins
- Minerals
- Essential fatty acids
- Vitamin D

- Amino acids



### How to Get the Test

The kit must be ordered by your physician. He will give you a specimen collection kit with blood and urine tubes and a test requisition form.



### Interpretation

The test results show you in easy-to-understand bar charts if your ranges are “normal,” “borderline,” or “high need.” The test not only measures your level of various key nutrients, but also extrapolates how the impact of shortages or excesses are likely impacting your body’s ability to carry out various metabolic processes. Our body has many metabolic “pathways” and different nutrients are required along the way to move on successfully to the next step.

You physician will determine whether s/he wants the amino acid assay to be done with your blood or your urine sample. Blood plasma is more of a direct measurement of which amino acids are readily available for use. Urine looks more at how the amino acids are being metabolized over time.

Testing for amino acids provides an evaluation of dietary protein adequacy and assimilation. Amino acids are the body's basic building blocks and are primarily responsible for our all-important repair and regeneration functions. When protein is digested, it is once again broken down into amino acids that are reassembled in different ways for different uses. These reconstituted proteins make up muscle, bones, skin, eyes, heart, and intestines.

Genova Diagnostics is a CLIA-accredited lab.



### Cost

The test is covered by Medicare and other forms of insurance.



### Process Time

From the time the lab receives the sample, the report will be sent to your physician in about 14 days. The lab sends two copies of the report—one for the doctor and one for the patient.



## Confidentiality

The test result will become part of your medical record.

## SpectraCell Analysis

SpectraCell Laboratories, Inc.

Micronutrient Testing

10401 Town Park Drive

Houston, Texas 77072

800-227-5227

Fax: 713-621-3234

E-mail: [spec1@spectracell.com](mailto:spec1@spectracell.com)

[www.spectracell.com](http://www.spectracell.com)

TEST

### Summary and Explanation

SpectraCell's micronutrient test (MNT) measures the function of 35 nutritional components including vitamins, antioxidants, minerals, and amino acids within white blood cells.

The test utilizes a functional intracellular analysis to identify specific micronutrient deficiencies. Unlike other methodologies, SpectraCell's MNT uses the patient's own cells (metabolically active peripheral lymphocytes) and measures cell growth (DNA synthesis) in a patented, chemically-defined culture medium to identify functional intracellular deficiencies that limit mitogenic responses or cell-mediated immune functions.

Instead of measuring how much of a vitamin or mineral is present in the blood (static), MNT measures how well a nutrient works in its natural cellular environment. Quantities of nutrients measured outside the cell, as in extracellular fluid and blood plasma, do not necessarily reflect their interactive function inside the cell. Thus it is possible to uncover deficiencies that standard serum tests may miss. If not corrected, such deficiencies could impair health by contributing to the development and/or progression of chronic disease. The technology used was developed at the University of Texas, by the Clayton Foundation for Research, as a diagnostic blood test for helping clinicians assess the intracellular function of essential micronutrients.

MNT uses the patient's own cells as a control, which is consistent with the philosophy of biochemical individuality, thus taking into consideration individual differences in absorption, nutrient transfer across cell membranes, and personal metabolic requirements. Since each person is biochemically unique, it is important to take into consideration differences in diet, lifestyle, past or present illness or injury, prescription drug usage, exercise level, genetics, age, and other factors that contribute to a person's biochemical individuality. Because the MNT uses

a person's own cells, and it is a functional test, these personal differences are fundamentally taken into account. This technique takes evaluation of vitamin status to a higher, more functional level. It is also a good way to verify how much of what you should take, and whether or not you are actually absorbing, assimilating, and metabolizing your supplements and natural health products.

SpectraCell Laboratories, established in 1993, is a CLIA-accredited clinical testing laboratory. The following items are included in the test:

- **Vitamins:** A, B1, B2, B3, B6, B12, biotin, folate, pantothenate, vitamin C, vitamin D, vitamin K
- **Minerals:** calcium, magnesium, manganese, zinc, copper
- **Amino acids:** asparagine, glutamine, serine
- **Antioxidants:** alpha lipoic acid, coenzyme Q10, cysteine, glutathione, selenium, vitamin E
- **Carbohydrate metabolism:** chromium, fructose sensitivity, glucose-insulin metabolism
- **Fatty acids:** oleic acid
- **Metabolites:** choline, inositol, carnitine
- **SPECTROX™:** antioxidant function
- **IMMUNIDEX™:** immune response score



## How to Obtain the Test

- Find a SpectraCell provider by searching their "Clinician" database at [www.spectracell.com/clinicians](http://www.spectracell.com/clinicians)
- Order directly and utilize an independent lab to facilitate the blood draw. If ordering directly, SpectraCell can recommend a clinician for report interpretation and treatment plans. It is not recommended that you interpret your own lab results. With any medical report, best clinical outcomes are achieved when results are reviewed with a professional. If you prefer to place your order over the phone, call the Client Services department at 800-227-5227.

Note: If you are ordering lab tests without going through a physician, you cannot submit the test fee to your insurance for payment or reimbursement. Specimens cannot be collected and lab results cannot be mailed to MD, MA, NJ, NY, and RI residents.



## Sample Test Result

SpectraCell Laboratories, Inc. Laboratory Test Report		Accession Number: HS5964 Thomas Doe	
Micronutrients	Patient Results (% Control)	Functional Abnormalities	Reference Range (greater than)
<b>B Complex Vitamins</b>			
Vitamin B1 (Thiamine)	100		>78%
Vitamin B2 (Riboflavin)	94		>55%
Vitamin B3 (Niacinamide)	98		>80%
Vitamin B6 (Pyridoxine)	74		>54%
Vitamin B12 (Cobalamin)	9	Deficient	>14%
Folate	47		>50%
Para-aminobenzoate	7	Deficient	>7%
Biotin	30		>94%
<b>Amino Acids</b>			
Glutamine	94		>30%
Glutamate	57		>37%
Asparagine	56		>39%
<b>Metabolites</b>			
Ornithine	22		<20%
Inositol	75		>58%
Carnitine	61		<46%
<b>Fatty Acids</b>			
Omega-3 Acid	71		>65%
<b>Other Vitamins</b>			
Vitamin D (Ergocalciferol)	90		>83%
Vitamin A (Retinol)	74		>70%
<b>Minerals</b>			
Calcium	41		>38%
Zinc	35	Deficient	>27%
Copper	57		>42%
Magnesium	43		>37%
<b>Carbohydrate Metabolism</b>			
Glucose-Insulin Interaction	49		>38%
Fraction-Sensitivity	41		>34%
Chromium	58		>40%
<b>Antioxidants</b>			
Glutathione	57		>42%
Cysteine	53		>41%
Coenzyme Q-10	95		>86%
Selenium	93		>74%
Vitamin E (Alpha-tocopherol)	91		>89%
Alpha Lipoic Acid	92		>81%
Vitamin C	77		>40%
<b>SPECTROX™</b>			
Total Antioxidant Function	65.0	Deficient	>65%

SAMPLE REPORT

## Interpretation

From the blood sample, white blood cells (lymphocytes) are extracted and then stimulated to grow. These immune cells are bathed in 35 different nutrient media, and it is the response to these media (metabolic changes) that are measured as values against reference ranges established for the general population.

For example, if lymphocyte growth in a medium lacking thiamine (vitamin B1) is less than the growth in a complete medium, then a deficient thiamine status is ascertained. Or, if B12 is removed from the medium and cell growth is not sufficient, this suggests that the lymphocyte cells being tested have a functional intracellular deficiency of B12.

Results include an overview page with all deficiencies listed, and numeric and graphic reports easily identify deficiencies and supplementation recommendations.

Results are reported as: Adequate, Borderline, or Deficient.

## Accuracy

Each nutrient is tested in triplicate to ensure accuracy.

## Cost

Micronutrient testing is \$390. Price includes the kit for comprehensive testing of 35 components, return shipping, and results with nutrient information.

## Process Time

An easy-to-read test report will be received within 3 weeks.



## Benefits

- Ability to identify and address a problem before symptoms develop.
- Results are individual and specific for the person tested.
- Repeat testing can be utilized to monitor efforts to correct deficiencies.
- It is a long term nutritional marker that assesses the previous 4–6 months nutritional status.



## Limitations

Can only identify deficiencies in the tested nutrients.



## Confidentiality

Results are reported directly to the ordering consumer or practitioner.



## Thoughts

A SpectraCell nutrient analysis can provide a personalized treatment outline. With the complexity of the human body, and the challenges of today's lifestyle, an individualized healthcare approach seems to be the best way to achieve optimal results. You can be deficient in micronutrients and not even know it. Since the technology is available, take a peek inside your cells and take steps to make sure that they are functioning optimally.

## Reference

Case studies, research data, and articles are available at [www.spectracell.com/clinicians/clinical-education-center](http://www.spectracell.com/clinicians/clinical-education-center).

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## Mycotoxin and Fungal DNA Testing

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RealTime Laboratories, Inc.

4100 Fairway Court, Suite 600

Carrollton, Texas 75010

855-692-6767

FAX: 972-243-7759

[www.realtimelab.com](http://www.realtimelab.com)



## TEST

## Summary and Explanation

Mycotoxins are well documented for their toxic effects on the human cell, causing a number of problems in normal cell function. They are also associated with a wide variety of clinical symptoms and diseases such as cancer, kidney disease, immune suppression, neurotoxicity, depression, autism, and chronic fatigue syndrome.

It's estimated there are more than 50,000 different species of mold, and about 200 of those present serious health risks to humans. These harmful species are referred to as toxic mold and are potentially hazardous because they can produce toxins known as mycotoxins and their impact can be detrimental to health. For example, aflatoxins, produced by mold found in many homes, are the most potent natural cancer-causing agent known to man.

RealTime Laboratories (RTL) specializes in the testing of clinical samples for fungal DNA and mycotoxins produced by mold. Testing for mold/mycotoxins in humans is a simple and usually it's a noninvasive procedure. RTL performs thousands of mycotoxin tests each year. RTL offers:

- *Quad Mycotoxin*—This test detects 15 different mycotoxins, including 9 macrocyclic trichothecenes (a specific form of mycotoxin). This test often can be done with a just urine sample, or via nasal wash, sputum, or tissue biopsy collected by a physician. Testing is done using competitive ELISA, a very sensitive detection method using antibodies prepared against mycotoxins. RealTime Lab has a U.S. patent for its macrocyclic trichothecene test.
- *Molecular Fungal DNA Test*—Molecular Fungal Testing uses real time Polymerase Chain Reaction (PCR) and specific, patented DNA probes to accurately and quantitatively determine the presence of a variety of pathogenic and/or toxigenic fungi. Testing can be done for aspergillus, penicillium, or stachybotrys using tissue, nasal wash, bronchoalveolar lavage, or sputum. Urine is used for the Candida Panel.
- *Environmental Test* —This test is done utilizing dust samples because mycotoxins and fungi adhere to dust. It is helpful to identify a source of contamination.



### How to Get the Test

- Clinical testing: Requires that your health care provider order the test.
- Direct Access Testing (DAT). In an effort to put more of the control of health care decisions in the hands of the consumer, 25 states and the District of Columbia now allow the patient to order their own lab tests. If you reside in one of the following states, you may purchase your RealTime Lab Mycotoxin Test online: AK, AR, AZ, DE, IN, IA, KS, LA, MN, MS, MO, MT, NE, NM, NC, ND, OH, OK, SD, UT, VT, WA, WV, WI, TX, VA, District of Columbia. Otherwise, please have your health care provider order the test. DAT tests are not covered by any insurance plan, including Medicare or Tricare.

- Environmental testing: The Environmental Inspector or the homeowner, through chain of custody documentation.

Test kits, with collection instructions, will be sent by UPS within 24 hours of receipt of payment. Depending on your location, UPS delivery can be 1–6 business days. The kit is returned to RTL in the prepaid, 2-day ground UPS shipping material that comes with the kit.



### Interpretation

All mycotoxin testing results are displayed in an easy-to-understand numeric format, showing detection levels in ppb as standardized by the FDA, WHO, CDC and Food Industry for clinical use. Results also tell if the test was positive, negative, or equivocal, along with ranges of detection for each.



### Accuracy

RTL is the only CAP (College of American Pathologists) and CLIA (Clinical Laboratory Improvement Amendments) lab in the U.S. accredited to perform mycotoxin testing on human clinical samples. Test validation reports have been published in peer reviewed journals.



### Cost (Please check their website for updates)

- *Quad Mycotoxin Test:* \$699
- Mycotoxin Test, follow-up:* \$249

(In order to qualify for the follow-up product, please enter your accession number in the space provided on your order. Accession numbers may be found on your original Mycotoxin Panel Report Form).

- *Molecular Fungal DNA Test*

Aspergillus	\$320
Penicillium Panel	\$160
Stachybotrys Panel	\$160
Candida - Specific species identification	\$320

Private insurance companies will usually reimburse patients based on what their out-of-network plan will cover after the patient has met their out-of-network deductible. Check with your provider to verify coverage. RTL's Patient Navigator can provide the CPT codes needed for insurance claims and they will bill insurance companies on your behalf. RTL takes assignment for traditional Medicare ONLY (Not Medicare Advantage Plans). A completed Medicare Advanced Beneficiary Claim form must be sent back with your laboratory specimen in order for RTL to accept and complete your lab testing and Medicare insurance processing. Please contact the Patient Navigation department at RealTime Lab for more information at 855-692-6767.

Family discounts are available and all applicable patients must live in the same residence.



#### Process Time

Test results will be sent by encrypted email to the ordering health care provider, or to you if Direct Access Testing was used, approximately 10 business days after receipt of the sample at the laboratory.



#### Confidentiality

Patients have the right to request and receive their lab reports directly from the laboratory.



#### My Thoughts

I am a big proponent of finding the root cause and identifying co-infections that are contributing to any disease. Fungi and their toxins have long been identified as a prognosticator of disease, including cancer. It is important to hit cancer from every angle, and that means identifying any existing fungi and working with a health professional to detox and balance the body. Remember, we are not sterile beings; we all have yeast and microbes, many of which are beneficial. It is a matter of balance.

Several methods of dealing with mold include far infrared saunas and glutathione, plus use of sequestering agents such as cholestyramine or charcoal, antioxidants, herbs, probiotics, and intra-nasal anti-fungal treatments.

Also, diet is important. I recommend the "*Kaufmann Phase One Diet*" by Doug Kaufmann, host of the television show "Know the Cause." The diet is available at [www.knowthecause.com](http://www.knowthecause.com). Below is a list of molds and their associated mycotoxins.

<u>Species</u>	<u>Mycotoxins</u>
Aspergillus flavus	Aflatoxin
A. ochraceus	Ochratoxin A
A. niger	OTA
Penicillium verrucosum	OTA
Stachybotrys chartarum	Macrocytic Trichothecenes
A. versicolor	Sterigmatocystin
A. fumigatus	Gliotoxin
Chaetomium globosum	Chaetoglobosin A, C
Fusarium sp.	Simple Trichothecenes

## References

<http://www.ncbi.nlm.nih.gov/books/NBK8125/>

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## Parasite Urine and Stool Test

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Dr. Raphael d'Angelo  
 Center for Holistic & Integrative Medicine  
 ParaWellness Research Program  
 18121 E. Hampden Ave - Unit C #123  
 Aurora, CO 80013  
 303-680-2288  
 Email: info@parawellnessresearch.com  
[www.parawellnessresearch.com](http://www.parawellnessresearch.com)



### The Importance of a Parasite Test

A study published in *The Lancet Oncology Journal* in June 2012 reported that approximately one in six of all cancer cases started out as preventable or treatable infections caused by bacteria, viruses, or parasites. Each year, these infections play a role in about two million cancer cases worldwide, resulting in 1.5 million deaths.<sup>11</sup>

"Infections with certain viruses, bacteria, and parasites are one of the biggest and preventable causes of cancer worldwide," said study co-authors Catherine de Martel and Martyn Plummer of the International Agency for Research on Cancer in France.

The late Dr. Hulda Clark and others put great significance on toxins such as parasites, fungus, and bacteria for the treatment of cancer. Dr. Clark was one of the early voices to say it

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<sup>11</sup> De Martel C, Ferlay J et al. Global burden of cancers attributable to infections in 2008: a review and synthetic analysis. *The Lancet Oncology*. 2012 June; 13(6):607-615

is a misconception that only people living in Africa or South America have parasites. Rather, she said, about 85 percent of the entire world's population is infected by different types of parasites and worms—it is the nature of life.

With our global economy and the importation of foods from around the world, we are not only sharing in other culture's cuisines but also their organisms. You don't have to be a world traveler to be infected with parasites. Therefore, we can no longer feel safe from third world infectious diseases.

Even though the following quote from the American Cancer Society states that they do not believe organisms such as parasitic worms are a problem in the United States, they do admit that they are a concern in the development of cancer.<sup>12</sup> The CDC reports on its website:

Parasites are also a cause of waterborne disease in the United States. Both recreational water (water used for swimming and other activities) and drinking water can become contaminated with parasites and cause illness. Recreational water illnesses (RWIs) are diseases that are spread by swallowing, breathing, or having contact with contaminated water from swimming pools, hot tubs, lakes, rivers, or the ocean.

The most commonly reported RWI is diarrhea caused by parasites, such as *Cryptosporidium* and *Giardia intestinalis*. *Giardia intestinalis* is also a common parasite found in drinking water. Both *Cryptosporidium* and *Giardia intestinalis* are found in the fecal matter of an infected person or animal. These parasites can be spread when someone swallows water that has been contaminated with fecal matter from an infected person or animal. Individuals with compromised immune systems who come into contact with these parasites can also be at greater risk for serious illness.<sup>13</sup>



### Summary and Explanation

This test requires the submission of stool and urine specimens. Meticulous processing is coupled with extensive microscopic examinations which result in a detailed test report. The types of parasites often recovered fall into various categories including roundworms, tapeworms, flukes, protozoa, and yeast. It is important that all such infestations be addressed so the body can restore and maintain good health. The presence of these microscopic organisms will compromise any immune system trying to fight off cancer.

The definition of a parasite is any organism that uses another organism for some aspect of its life cycle. Humans can become infected with parasites in various ways—the bite of certain insects, the food or liquids we consume, penetration of the skin or other body orifices such as when going barefoot or swimming, and transmission for pets and domesticated animals.

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<sup>12</sup> American Cancer Society website. Infectious Agents and Cancer. Retrieved January 5, 2015 at: [www.cancer.org/cancer/cancercauses/othercarcinogens/infectiousagents/infectiousagentsandcancer/infectious-agents-and-cancer-parasites](http://www.cancer.org/cancer/cancercauses/othercarcinogens/infectiousagents/infectiousagentsandcancer/infectious-agents-and-cancer-parasites)

<sup>13</sup> CDC website. Parasites: Water. Retrieved January 15, 2015 at: [www.cdc.gov/parasites/water.html](http://www.cdc.gov/parasites/water.html)

Parasites should be eliminated as they accumulate in and on tissues creating inflammation, toxin production, and in some cases, blockages of ducts or destruction of tissue. Parasite activity in the gut has been known to produce symptoms such as reflux, nausea, gas, bloating, cramping, loose stools, foul-smelling stools, constipation, and diarrhea. Some people harbor parasites without any symptoms.

The ParaWellness Research Program is a private membership research program run by Raphael d'Angelo, MD. For testing, you are required to sign a request to be a Research Associate. This protects your right to investigate and manage your health as you see fit. As a Research Associate, you are entitled to submit specimens for parasite analysis and to receive full disclosure of the result of this research along with recommendations to improve your health in light of the findings.

Raphael d'Angelo, MD, is a holistic medical doctor who provides consultative services in various areas of natural health. He received his medical degree from the University of Oklahoma in 1976. He has more than 45 years of experience and proficiency in medical microbiology and parasitology and has conducted research in various aspects of infectious diseases. Dr. d'Angelo is certified in family medicine, integrative holistic medicine, medical microcurrent, clinical aromatherapy, and medical technology.



## Interpretation

The comprehensive evaluation of stool and urine samples generates a report that includes the specific names and amounts of parasites found, and an explanation of what these results are really saying. Also included in your report are specific details of each parasite about how they are commonly acquired and what can be done to eliminate them. The cost of the test also includes a phone consultation with Dr. d'Angelo, so he can answer questions and provide more information about the findings and possible treatments.



## How to Obtain the Test

Order a parasite test kit online at [www.parawellnessresearch.com](http://www.parawellnessresearch.com) or call 303-680-2288. The kit will be sent to you by UPS or Priority Mail.

Fill out the requested information, collect the urine and stool samples, and return them to PWR. Once placed in the container with the preservative, specimens are stable for approximately 2 months without refrigeration, so they will be well preserved when sent by mail.

When testing is complete, the report will be sent to you by U.S. mail, and if you choose, an email report may also be sent to you.



## Accuracy

An accurate result requires many different aspects of collection and testing to come together properly and precisely. Over the years, microbiology testing has taken many turns as technology has improved. With parasite testing, microscopic diagnosis is still the gold standard.

Inexperience, inattention to detail, and insufficient time spent looking through the microscope are the usual reasons why negative test results are often reported when parasites are actually present.

ParaWellness Research gives every effort to ensure that no possible parasite is overlooked. In fact, if the testing comes out completely negative, PWR will request additional collection samples from the individual for further testing before a true negative result is reported. PWR brings more than 45 years of experience to this process.



## Sample Test Report

### Report of Parasite Testing for Patient: John Doe, December 2012

Dear John,

The analysis of your urine and stool revealed the following results:

I did not detect any parasites in the microscopic examination of urine.  
I did detect parasites in the microscopic examination of stool:

- Iodamoeba butschii cysts (protozoa) – moderate amount observed
- Ascaris lumbricoides ova (roundworm) – 2 ova (eggs) observed
- Yeast organisms (fungi) – elevated levels present

These organisms are considered pathogenic in that they can cause or contribute to tissue inflammation and destruction. It is best practice to work on eliminating them.

I have enclosed information on each of the parasites and specific remedies to address the problem.

This information is provided to you as a research associate member.  
I am often asked about the role of nutrition in the treatment or resolution of chronic health challenges.

I would invite you to the books and literature at [www.RAVEdiet.com](http://www.RAVEdiet.com).

Thank you for the opportunity to be of help. In my prayers, I have added your name that you may have full restoration of your health.

Best wishes for optimal health,

Raphael d'Angelo, MD, MT(AAB)  
ParaWellness Research Program

Memberships: American Association of Bioanalysts, American Society for Parasitology, American Society for Tropical Medicine & Hygiene, & the American Society for Microbiology.

Methodology: Gross examination, direct smear plus Wheatley's Gomori Trichrome Blue Stain, Modified Kinyoun's Acid Fast Stain, Trichrome Blue Microsporidium Stain, selective immune antigen testing.



## Cost

- \$297 for the initial comprehensive parasite testing kit with. This includes a phone consultation with Dr. d'Angelo on the findings and suggested treatment specific to the findings.

- \$200 for the repeat test kit after treatment. Although optional, it is recommended to confirm that the parasites were completely eliminated after the completion of treatment.
- Testing is not usually covered by health insurance programs. A few health savings accounts and flex spending programs have covered the testing and/or treatment. ParaWellness Research is a private health research program and open only to those who agree to be research members.



### Process Time

The turnaround time from receipt of specimens until the report is generated is approximately 10 to 14 days.



### Benefits

- Reduction of the burden on the immune system by implementing a personalized treatment plan that is recommended based on the test results.
- Resolution of symptoms associated with the parasite and/or yeast infection.
- When protozoa are eliminated, the absorption of food, nutrients, medications, and supplements is improved.
- Elimination of worms and flukes will allow for repair of damaged and inflamed tissues.



### Limitations

Antiparasitic or anti-yeast treatments can affect the results and should be stopped for seven days prior to collection of specimens.



### Confidentiality

The results of all research and testing on your specimens are provided directly to you. If you so indicate, a copy will be sent to your doctor or health practitioner.

#### A note from Dr. Raphael d'Angelo

Cancer and the Parasite Connection

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As an integrative medical doctor I want to share with you the connection between cancers and parasites. Few doctors give much attention to the possibility of parasitic infection when it comes to initiation or continuation of cancers. A partial reason for this is that doctors and patients are under a false belief that our public health and sanitation is effective enough to prevent parasite problems.

Any veterinarian will tell you that our soil and surface water are just as parasite infested as any other part of the world. Some benefit is achieved by water purification. But our food, insect and airborne exposures put us on par with our neighbors in less developed countries of the world.

In practical terms, doctors believe that most people do not really have a parasite problem. This is fostered by the large number of stool parasite tests that are reported negative by conventional labs. As a medical lab technician in my earlier years, I can tell you that the responsibility to examine specimens for parasites under the microscope is relegated to a low time and effort priority given all the other testing that labs must accomplish in the course of a day. This is really unfortunate because parasites are present in most people when the specimens are prepared properly and adequate time is spent examining multiple microscope slides thoroughly.

Diagnostic medical parasitology is the branch of medical science that examines body fluids and tissues for the presence of parasites. I have been involved in this since 1966 when I served as an Air Force microbiology technician in Viet Nam. After medical school and a residency in family medicine I continued my career as a parasitologist by setting up and running labs in practices where I worked. Now that I am partially retired, I specialize in parasite exams for people who want to know what is really happening to them.

This brings us to the connection between parasites and cancer. A true statement is that chronic inflammation is a seedbed for chronic degenerative diseases including cancers. In my work with cancer patients, I found that at a certain point in recovery the healing process will plateau and may not advance until we uncover and correct any existing parasite problems.

Parasites come in many forms. Some are actual worms such as tapeworms and roundworms. Others are flukes. Many are single celled protozoans. The fungi such as yeast and molds along with pathogenic bacteria and viruses are parasites. These organisms fulfill the criteria that part or all of their life cycle require the human host for protection, nutrition or reproduction.

Most parasites produce toxic waste. Some of them destroy our cells. Some invade our tissues. Some steal our food. Some do all of these things. As tissues become inflamed from such things happening, cancers can arise. One way to think of cancer is an attempted healing response gone awry.

Gastrointestinal symptoms commonly found with parasites are flatulence, diarrhea, abdominal bloating, abdominal cramping, constipation, malabsorption, maldigestion, bloody or odorous stool, mucus and leaky gut. Systemic symptoms can be one or more of the following: fatigue, nervous/sensory disorders, pain, skin disorders, allergies, nausea, muscle weakness/pain, immune deficiencies, headache, fever, insomnia, night sweats and weight changes.

Who needs a good parasite exam? The truthful answer is – we all do. Let's take some examples of how we can become parasitized.

The oral route is the most common route into the body. Parasites can be found in the soil that clings to our vegetables. Protozoan single cell parasites like Cryptosporidium and Giardia can be recovered in drinking water as some resist the chemical treatment and filtration processes. Tapeworms or their eggs can be present in uncooked meats and fish and adhere to our skin during preparation. The pets we love can get us infected when they lick us. Barefoot activities outside can be a source of opportunity for roundworms such as Ascaris to directly penetrate skin. Insects are known to carry a whole host of parasitic organisms. Even treatments such as taking antibiotics can promote difficulties with yeast like Candida.

In a recent month I tested 54 stool specimens. Roundworm eggs were present in 25 people; half were infested with yeast and most had one or more protozoans. What is remarkable is that all the cancer patients had parasites and of those without cancer only one was parasite free! What we think is happening is that the parasites create tissue inflammation and destruction which bogs down the immune system and provides fuel for cancer growth and invasion by yeast. The yeast feed on the dying tissue and they secrete more toxins that further destroy tissue keeping the cycle of inflammation (which promotes cancer) going. By eliminating the parasites and the yeast the immune system is freed up to do its job of attacking and resolving the cancer.

My mission continues to be raising awareness of the actual level of our parasite problem and the natural ways of parasite elimination.

Sincerely,

Dr. Raphael d'Angelo

### Thoughts

I want to tell you about this test because microbes and fungus can be a very real drain on the body and the immune system, deterring the healing process. The body must be detoxified and the immune system must be supported to fight cancer. In conducting the research for this book, I came across many studies linking parasites to cancer. Most cancer patients test positive for parasites.

We are no longer isolated from organisms and infectious diseases from other parts of the world due to the importation of foods and global travel. I encourage you to not overlook this important step in your quest for health.

Additional Source for testing that specializes in the diagnosis and management of parasites and is under the direction of Parasitologist Dr. Omar M. Amin:

Parasitology Center, Inc.  
Parasitology Center.  
11445 E. Via Linda, # 2-419  
Scottsdale, AZ 85259-2638  
Phone: 480-767-2522  
Fax: 480-767-5855  
[www.parasitetesting.com](http://www.parasitetesting.com)

- 1 De Martel C, Ferlay J, et al. Global burden of cancers attributable to infections in 2008: a review and synthetic analysis. *The Lancet Oncology*. 2012 June; 13(6):607-615.
- 2 American Cancer Society website. Infectious Agents and Cancer. Retrieved January 5, 2015 at:  
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- 3 CDC website. Parasites: Water. Retrieved January 15, 2015 at:  
[www.cdc.gov/parasites/water.html](http://www.cdc.gov/parasites/water.html).

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### PH Alkaline/Acid Test

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TEST

#### Summary and Explanation

PH testing is a simple method of measuring how acidic or alkaline your body is. The pH scale goes from 0–14. A pH less than 7 is acidic and more than 7 is alkaline. When healthy, the pH of blood, spinal fluid, saliva, and urine should be around 7.365. A pH reading indicating high acid or alkaline levels can indicate a health problem.

PH is short for potential hydrogen. Hydrogen ions create acidity. When the pH is low or acidic, there is reduced binding potential of hydrogen ions, therefore hydrogen levels remain high in the body which translates to an acidic environment. Measuring saliva or urine provides a snap shot of the body's extracellular pH.

The test is done by exposing the test strip or test paper to a few drops of saliva or urine. A color change will indicate the pH level. The pH scale is logarithmic, which means that each step is ten times more than the previous. In other words, a pH of 5 is 10 times more acid than 6, 100 times more acid than 7. In this light, you can understand how a slight change in your pH value can have a big impact on your internal environment, and, ultimately, your health.

Cancer patients commonly have an acidic pH. Once a tumor develops, it creates its own acidic environment through the process of fermenting sugar for energy, which produces lactic acid. This means that cancer is generating acidity in the body. Acidic pH measurements may indicate the presence of lactic acid production by cancer cells. Cancer patients often experience

water weight gain, edema, or swelling. This is a result of the body sending fluid to the cancerous area in an attempt to dilute the lactic acid build up. Therefore, it can be useful for a cancer patient to monitor their pH and work towards being pH neutral or slightly alkaline.

An important part of healing is the body's ability to release stored toxins from the cells. Cancer causes a significant release of acidic products in the body. The fluid around the cells begins to resemble a toxic waste site and it is an acidic area. So the body will actually hold onto some toxins as a self-protective mechanism – the body doesn't want to release even more acidic waste into already acidic soup.

It is believed that acid wastes thicken the blood, and the coagulated blood cannot carry the quantity of nutrients and oxygen the organs need to function efficiently. Also, when the body is acidic, you have a decreased ability to absorb minerals and other nutrients, decreased energy production in the cells, decreased ability to repair damaged cells, decreased ability to detoxify heavy metals, and increased ability for yeast overgrowth, especially Candida Albicans.

Many proponents of alkaline diets profess that they fight cancer. Personal experience made me see those arguments in a new light. At one point, I embarked on a program designed exclusively to make my body alkaline. And I did indeed become alkaline. That daily litmus paper was blue, meaning it measured 8–10 on the pH scale and that is about as alkaline as you can get. After 3 months, I had the RGCC lab run the test to measure my circulating tumor cells. The news was bad. Before I had started the alkalinizing protocol, my CTC count was a low 3.1 (per 7.5 ml of blood). After the 3 months of the protocol, my numbers were up to a worrisome 4.7. I say this because I want you to know that there is more to it than what we know—cancer obviously thrived as I strove to be more alkaline.

One mistaken idea is that eating alkaline foods makes your blood alkaline. It doesn't. Some metrics in the body are wide ranging, such as cholesterol levels. But blood pH is a very strict metric. The body has a built in homeostatic mechanism that works to maintain a constant pH of about 7.36 to 7.44. The body keeps the blood pH within that narrow range by withdrawing and depositing acid and alkaline minerals from the bones, soft tissue, and body fluids.

Eating “acid-forming” foods is not going to necessarily make you acid either. We think of lemons, for example, as being acidic. However, in the body, they become alkaline. People love to create lists of alkaline and acidic foods, but according to the nutrition experts of the Weston A. Price Foundation, a lot of that preaching may be just plain wrong:

After a meal rich in proteins, the blood will become more alkaline for a short period, which is in effect a balancing reaction to the secretion of large amounts of hydrochloric acid in the stomach. Following this, the blood then undergoes a short-lived increase in acidity, which is again a balancing reaction to the heavy secretion of alkaline enzyme-rich solutions from the pancreas. These reactions are completely normal and should in no way be interpreted as justification for avoiding high-protein, “acid forming” foods.

Under the vast majority of conditions, high-protein foods, such as meat and eggs do not cause the blood to be pathologically acidic. On the contrary, good quality protein is needed for the body to maintain the proper pH values of the blood and extra cellular fluids and to maintain the health and integrity of the lungs and kidneys, those organs which have the most to do with regulating the pH values of the blood.<sup>14</sup>

I feel whether the food is on a list as being alkaline or acid is not as important as the **quality** and **quantity** of that food. If you are eating the standard American diet with its heavy dose of sugars, bad fats, depleted grains, and meat from animals fed drugs and unnatural diets, you are not giving your body what it needs to detox and repair. Cancer patients need to eat a high quality, non-processed, nutrient rich, balanced diet to nourish their bodies. That is going to include abundant organic vegetables; low glycemic fruits such as green apples, berries, and cherries; small portions of clean fish, organic chicken, and grass fed meats; organic butter and cream; coconut, olive, sesame, and avocado oils; nuts; herbs and spices; sea salt with all its minerals; and ample amounts of clean water. Adding a good mineral supplement and a green vegetable product can also be helpful. And it should go without saying at this point: **Don't eat sugar!**

Cancer patients must avoid the high glycemic sugary processed foods that create stress and an increased burden for the body's built in homeostasis (balancing) mechanism.



### Interpretation

Most significant urine and saliva readings are taken first thing in the morning, upon rising, before you eat, drink, or brush your teeth. You will find that your body is more acidic during the first morning readings, because it is detoxifying and repairing during the night. Going to bed with a full stomach will add to morning acidity, so try to have dinner 3–4 hours before bedtime. Several readings can be taken throughout the day, at least two hours after eating or drinking to obtain an overall average. Instructions and indicator color changes vary by brand.



### How to Obtain the Test

Litmus paper for pH testing is available from many sources. Check your local health food store or order online.



### Accuracy

The pH testing provides an overall indication of extracellular pH. Do not use old test strips or test strips that have been stored in high temperatures as they may not produce an accurate reading. I found this out through trial and error by using older ones stored in a box in the garage and comparing them to new ones. Older ones can degrade and become inaccurate.

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<sup>14</sup> Fallon S, Enig M. *Nourishing Traditions*. New Trends Publishing, Inc. Revised second edition. 2001, pages 59-60.



## Cost

Approximately \$10–\$15 for up to 100 test strips (about 10–15 cents per test strip) or \$10–\$12 for a roll of litmus test paper. You will need about 1 ½ inches of test paper for each test.



## Process Time

It takes only a few seconds to perform the test. Please refer to your specific tests instructions.



## Benefits

- Results of pH tests are expressed as an approximate numerical value.
- Low cost.
- Easy to use.
- Easily accessible.
- May indicate a need to support the body's pH management.



## Limitations

- Does not give an exact number. Most brands indicate a specific range varying by 0.2.
- Readings fluctuate based on food and beverage intake.
- Does not diagnose disease, only the need for attention or corrective measures.



## Confidentiality

Testing can be performed in the privacy of your home, making the results confidential.



## Thoughts

The notion of being pH balanced has become quite popular and is showing up in magazines, diets, and health related books. However, underneath this trend is an important concern that lifestyle factors play a huge role in maintaining homeostasis. Most Americans are overloaded with highly processed, sugary, acid-forming foods. These foods tip the body's pH toward acidity. Our bodies have the ability to balance out a certain amount of acidity; however, the effects of standard American diet overwhelms that ability to buffer the acids in our diets—particularly when other acid-promoting factors such as stress enter the picture.

The monitoring and management of pH is useful for someone fighting cancer or trying to prevent it. If pH readings are consistently acidic, diet *must* be addressed. Tracking your urine or salivary pH on a daily basis over the course of a week or so will provide a window into what is going on in your internal environment.

When pH is off, pathogenic microorganisms thrive, enzyme efficacy decreases, and cellular oxygen is decreased. Chronic acidity, left unchecked, interrupts cellular activities and increases

overall inflammation. We also know that the overgrowth of organisms such as yeast adds to the body's acidic burden.

Detoxification is important if acids start to build up if because you are not eliminating them. One of the simplest ways to cleanse toxins from body is by drinking plenty of clean water and eating a balanced diet. The Institute of Medicine has determined that an adequate intake for men is roughly 3 liters (about 13 cups) of total beverages a day and the adequate intake for women is 2.2 liters (about 9 cups) of total beverages a day. Your body is 60–70 percent water; even cartilage and bone have water content. So make what you drink clean and full of minerals.

pH testing is simple, affordable, and can empower you to take steps with diet and lifestyle to adjust and lessen the body burden.

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## Self-Assessment of the Heart

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### Summary and Explanation

Most physicians are fearful to tread into issues of the heart and emotions. In an attempt to be politically correct, they tend to overlook the issue. It is commonly accepted that we are body, mind, and spirit. Overlooking emotional wounds can impede healing.

According to famed holistic physician Dr. C. Norman Shealy, the most prevalent ongoing emotion leading up to cancer is depression, while chronic anger is the most likely emotion to cause heart disease and high blood pressure. These findings parallel those of former Stanford University scientist Dr. Bruce Lipton, whose research shows that chronic stress is a primary cause of more than 95 percent of all types of disease conditions.<sup>15</sup> Our emotions affect our bodies. Many believe that resolving emotional conflict is the first step to healing disease. Dealing with and healing this type of stress requires a focused effort.

Hans Selye, an endocrinologist born in 1907 and known for his pioneering work, coined the term "stress." He identified the three stages of stress as the alarm stage, resistance stage, and the exhaustion stage.

During the alarm stage, the body produces at burst of adrenaline hormones. It is not the occasional short burst, but the prolonged chronic release of these hormones into the body that create destruction and take a toll on your health.

During the resistance stage, the body is under prolonged stress. The adrenal glands produce cortisol and levels remain high, often producing problems such as fatigue, insomnia, obesity, decreased insulin sensitivity, depression, and *reduced immune function*.

If the stress is not resolved, the exhaustion stage develops and the body becomes very prone to developing chronic and life endangering diseases.

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<sup>15</sup> Burton Goldberg website. The Link Between Heart Disease, Cancer and Your Emotions. Retrieved January 4, 2015 at: [www.burtongoldberg.com/page85.html](http://www.burtongoldberg.com/page85.html)

Dr. Don Colbert, a *New York Times* best-selling author, described the stress reaction this way:

God designed the hormonal emergency alarm system to save our lives. But what happens if a person activates this system too many times for too many reasons? The alarm is turned upside down into something that destroys life... The first line of defense is to come to grips with our mental and emotional habits.<sup>16</sup>

Dr. Ryke Geerd Hamer of Germany, former head internist in the oncology clinic at the University of Munich, Germany spent years studying the mind body connection to cancer and disease. He theorizes that disease is caused by a “conflict shock” like a death or loss of job and identity that catches an individual completely off guard. Every disease, he theorizes, is controlled from its own specific area in the brain and linked to a very particular, identifiable “conflict shock.”

When unresolved and chronic emotions such as anger, grief, lack of forgiveness, self-pity, and frustration are experienced, the brain sends out wrong signals to the body and cancer cells develop. Dr. Hamer studied visible concentric brain lesions seen in specific locations of the brain in cancer patients that relate to an emotional wound. He also noted image changes after the conflict was resolved.

Dr. Bernie Siegel’s 1986 best-selling book, *Love, Medicine & Miracles*, changed many people’s lives. Siegel, a surgeon, showed us that the power of healing stems from the human mind.

When we don’t deal with our emotional needs, we set ourselves up for physical illness. We are comfortable saying we’re being driven crazy, but not that we’re being driven to illness.

Depression’s effects on the immune system often appear very quickly if some remnant of a previous disease remains . . . Depression as defined by psychologists generally involves quitting or giving up. Feeling that present conditions and future possibilities are intolerable, the depressed person “goes on strike” from life, doing less and less, and losing interest in people, work, hobbies, and so on. Such depression is strongly linked with cancer.

Dr. Siegel also taught us that exceptional cancer patients make time in their lives to seek the help they need to maximize their healing choices.

Dr. Dalal Akoury of South Carolina counsels her patients that cancer is an energy disease. “Do not surround yourself with people who drain your energy,” she said. “Always forgive, make peace, be grateful, and believe in your healing. Claim your energy back.”



## How to Obtain the Test

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<sup>16</sup> Colbert D. *Stress Less: Break the Power of Worry, Fear, and Other Unhealthy Habits*. Siloam, 2008. p, 27

This test is not one found in a lab. You guessed it—it is found in your own heart.

The first step is to realize that there is an emotional connection to disease and then seek out a path to healing. This may begin by breaking the isolation and speaking honestly with someone—friend or professional.



## Sample Test Result

Ask yourself these questions.

- Are my words pleasant?
- Do I allow negative and destructive thoughts to take hold in my mind?
- Do I jump to conclusions and allow my mind to predict the worst possible outcome without all of the facts?
- Do I always expect people to treat me in a way that I approve of? This belief will lead to constant frustration and anger. Learn that not everyone has the same moral compass. You may be expecting more from someone than they have to give.
- Do I need for everyone to like me? Believe me, you can never please all of the people all of the time. This need to be universally liked creates wounds in your heart and leads to low self-esteem.
- Do I speak positive affirmations to myself? Such as:
  - I am a kind, loving, and worthy.
  - Freely I have been forgiven and freely I forgive.
  - My body has miraculous healing power within it.
- Am I angry? Anger can come from feelings that are hard to show such as fear, helplessness, panic, frustration, or anxiety. If you feel angry, don't pretend that everything is okay. Talk with your family and friends about it.
- Do I have a habit of worrying? Research has shown that 90 percent of the things that most people worry about never happen.
- Is there anyone I need to forgive? Author and Pastor Michael Barry published a book in 2010 describing his discovery that the immune system and forgiveness are very much connected. In *The Forgiveness Project: The Startling Discovery of How to Overcome Cancer, Find Health, and Achieve Peace* he tells the stories of five cancer patients whom he coached to identify and overcome barriers that were preventing their healing. A somewhat different take on the act of forgiveness is championed by [www.theforgivenessproject.com](http://www.theforgivenessproject.com).
- Am I carrying guilt?
- Do I have fear?
- Do I feel worthy and loved?
- Am I easily offended? Change your thought patterns and refuse to be offended.
- Do I look at all things through loving eyes? I especially find comforting this passage from 1 Corinthians 13:4-8:

*Love is patient, love is kind. It does not envy, it does not boast, it is not proud. It does not dishonor others, it is not self-seeking, it is not easily angered, it keeps no record of wrongs. Love does not delight in evil but rejoices with the truth. It always protects, always trusts, always hopes, always perseveres. Love never fails...*

- Do the people in my life lift me up and encourage me? Get new friends if you need to.
- Do I know my limits? Learn to say NO in a respectful way. By doing this you can protect yourself from stress. Simply say something like, “I can’t take on that responsibility right now,” or “I’m not available to do that right now.”
- Do I believe that my heart can be healed?
- Do I believe that poor health or a terminal diagnosis can be turned around?
- Do I believe that I should not die from a premature or unnatural death?
- Am I thankful?
- Do I believe that I have to take action to gain my healing? I remember being told a story about a man who was tossed into the sea after a shipwreck. He prayed to God to save him. A large, buoyant plank floated by. He continued to pray even louder, his hands reaching toward the Heavens. Another large piece of flotsam from the wreck floated by. He continued to pray, but now he was getting very tired from treading water. A life preserver floated by. Still he continued to pray, imploring God to save him. Finally, he succumbed to the tiredness and drowned. When St. Peter greeted him at the gates to Heaven, the man asked why God had allowed him to drown. St. Peter said, “We sent you help several times, even a very recognizable life preserver, but you chose not to use them.” God gives us “life preservers” in the people around us. It is our job to open our eyes and use the gifts that come our way.
- Do I have strong faith? If not strengthen it.

### Accuracy

Accuracy of emotional conflict can be demonstrated by the manifestation of healing and the restoration of personal peace.

### Cost

The monetary cost can be as little as “zero,” but the benefits of conflict resolution and healing of the heart can be priceless! Many churches and social clinics offer no- or low-cost counseling.

### Process Time

Healing can be gradual and can take some time to be completed. The key is to discover and face the issues.



## Benefits

- Increased immune function resulting in healing and proper body functioning.
- Increased overall internal peace.



## Limitations

There does not seem to be any limitations to reducing stress and healing emotional wounds of the heart. Do yourself a favor and give it a try.



## Confidentiality

Dealing with emotional issues is a very personal experience. Confide only in trusted friends and counselors. There are times when it may be necessary to resolve the issue by speaking to a person with whom a conflict or stress has originated.



## Thoughts

Americans annually consume billions of dollars of anti-depressants, tranquilizers, anxiety reducing drugs, and pain relievers. The majority of these medications are taken to deal with stress, depression, and the resulting physical pain. The problem is not just the emotional issue but more importantly, how we react to it. We must change and manage our perceptions, reactions, and create new thought habits. Perception is key and working to change your thought patterns is absolutely necessary. It is very important that we transform negative thoughts and experiences into neutral or positive feelings. We need to examine issues from a different perspective.

Know that we cannot change the past, but we can ask God to heal our heart. He can do it, but we must be an active participant. Talking with someone may be the first step to relieve the pressure you may be feeling.

I heard Lori Bakker on the Jim Bakker show say: "Do not allow your heart to be hardened, but allow people to love you. Feel that love, and then love yourself."

And in loving yourself, take steps to heal not only your body, but your mind and spirit.

*Keep your heart with all diligence, for out of it spring the issues of life.*

— Proverbs 4:23

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## Spinal Alignment Analysis

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[www.maximizedliving.com](http://www.maximizedliving.com)

*Information provided by Maximized Living and research done by the author.*

TEST

## Summary and Explanation

Cancer, and other conditions, can be defined by changes in cellular energy and energy flows through the spinal column.

When optimal organ and immune function is your goal, it is vital to work with a corrective care chiropractor who actively fosters the health and regeneration of the spine and nervous system, rather than just addressing pains and symptoms. Occasional visits to the chiropractor will not usually get the job done—it takes a steady commitment for a period of time.

A spinal analysis requires a few simple X-rays and a physical exam. Additional tests may be used to measure the electrical activity of muscles and nerves.

There are several primary areas assessed during the exam. First, is the spine straight? Curvatures to the side are called scoliosis. Next, are there subluxations (misaligned vertebra)? Subluxations put pressure on the spinal column and compress nerves. Lastly, a side view of the spine should reveal three well-placed arcs that are vital to proper immune, organ, and nerve function. A careful examination will often reveal a health issue that is impacted by a decrease in the electrical energy supplied through the nerves.



## Interpretation

X-rays document the amount of deviation from a normal spinal position.

From the front, the spine should be straight, with the head, shoulders, hips, and feet lined up. From the side, the ears should be back over the shoulders, and the shoulders should be back over the pelvis.

Deviations from normal are reported in percentages. With proper corrective therapy, most patients achieve a high percentage of correction.



## How to Obtain the Test

Log on to [www.maximizedliving.com](http://www.maximizedliving.com) and click on the “Find a Doctor” tab to find a qualified Maximized Living Health Center in your area.

Maximized Living chiropractors have clinics throughout the United States and the world. They have a program specific to cancer patients; in fact, they have produced a book entitled *Cancer Killers*.



## Accuracy

Chiropractic is a particular talent and outcomes vary with the skill of each doctor. For sustained immune response, a program of correction—not just a couple of sessions—must be initiated.



## Cost

The initial consultation, exam, X-rays, and other testing can run anywhere from \$150–\$350. Most offices accept insurance. Additionally, many corrective care offices have reduced rates available through classes offered in the community.



## Process Time

The exam and interpretation takes about 30 minutes. The active spinal correction program is usually completed in about 2–3 months. At that point, progress is re-evaluated. A maintenance program will be required.



## Benefits

Remember that cancer starts when cells can no longer hold a healthy energetic charge. The restoration of the nervous system and its pathways is a way to reduce energetic blockages. The correct operation of the nervous system is an often overlooked, but basic foundation of health.

- Increased immune function.
- Increased function with daily activities.



## Limitations

- A program of maintenance must be followed.
- 100% correction is not always possible. The goal of this work is to see improvement and keep as much energy flowing to the cells as possible.



## Confidentiality

Results are reported directly to each patient and become part of the clinics medical record.

A note from Dr. Brian Anderson, B.Sc., D.C., C.C.W.P.

Life Essentials Chiropractic, Missouri City, TX

The brain and nervous system house the very power or intelligence that animates and controls all human life and function. Remove your heart, kidneys, liver, circulatory system, immune glands or any organ from the nervous system and they're dead. It's like unplugging a lamp. They've got to stay plugged in so that the power can get to them and allow them to express life.

While the body can go days without water, weeks without food, and minutes without oxygen, it cannot live even a second without the power provided through nerve supply.

To experience maximum nerve supply to your body, you've got to look at your spine. The spine is created as a shield of bony armor to protect the nervous system. Unfortunately, in today's unnatural world there is a whole lot of physical, chemical, and emotional trauma that God did not intend for you to endure. These traumas can move the spine out of place so that rather than shielding the nervous system, the spine is actually damaging it. A spine out of its proper alignment is going to put pressure on nerve roots and disrupt life from getting to organs and tissues of the body. The end result is malfunction. When malfunctioning, rather than the cells being in a state of balance or ease, you end up in a state of dis-ease. As this continues, abnormal cell growth, symptoms, and eventually disease will result. In fact, sometimes the first symptom is the disease itself or even death, not pain.

In order to maximize nerve supply, it requires spinal correction, not just symptom management. Maximized Living doctors are trained to correct the spine to the point of its maximum function. You just don't know whether or not you are well until your spine and nervous system have been examined by a trained Corrective Care Chiropractor.

### Thoughts

We all start as embryos with a tiny spinal cord and our organs grow off of that spinal cord. Could it be that cancer patients are unknowingly walking around with impaired nerve function to the very organs that have cancer? Wouldn't it be worth checking this out? I think so.

I am confident that a spinal assessment and correction is one of the final and necessary pieces of the puzzle when working to heal from cancer or prevent it.

If this concept is new to you, you could read *The Cancer Killers*, *The Cause Is the Cure* or *Cruise Ship or Nursing Home*. Both books are loaded with patient testimonies.

### Reference

Patient testimonials are available at [www.maximizedliving.com](http://www.maximizedliving.com).

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### Thermography Exam

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### Summary and Explanation

Breast thermography is a diagnostic procedure that images the breasts to aid in the early warning of breast cancer. It was approved by the FDA in 1982 as an adjunct test for breast cancer risk assessment. This test is non-invasive, requires no compression, and uses no

radiation. Thermography has been utilized in the assessment and adjunct diagnosis of the whole body as well, helping physicians to understand vascular (circulatory) changes that are associated with many diseases including diabetes, neurological disorders, and autoimmune diseases.

The test is based on the principle that as a tumor develops, it builds a network of blood vessels. That extra activity generates heat which can be seen on a thermogram. Thermography uses ultra-sensitive infrared cameras and sophisticated computers to detect, analyze, and produce high-resolution images of these temperature and vascular structure changes. The images visually map the skin temperatures and reveal patterns consisting of different temperatures emitted from the body surface. Higher temperature readings may indicate various levels of inflammation, which can indicate cancer processes or factors that may lead to cancer.<sup>17</sup> In this way, thermography has been able to detect cancer's formation up to 10 years before a lump is big enough to be pictured on a mammogram.

Breast thermography is a useful screening and detection procedure, and when added to a woman's breast health examination, can substantially increase the ability to detect areas of concern associated with the breast. It is especially useful to younger women under 50 when denser breast tissue significantly reduces the accuracy of mammograms.<sup>18</sup>

Len Saputo, M.D., explains:

Breast thermograms have highly specific thermal patterns in each individual woman. They provide a unique "thermal signature" that remains constant over years unless there is a change in an underlying condition. Thus, over time, it is possible to differentiate between cancers and benign conditions.<sup>19</sup>



## Interpretation

The images produced reveal red-colored areas caused by heat in tissue that is most often due to increased inflammation and blood flow, often associated with cancer. Cooler areas are indicated by blue or darker colors. If images show areas of high inflammation, the area may need further evaluation by other imaging methods or blood tests.

By carefully examining changes in the temperature and blood vessels of the breasts, signs of cell growth may be detected up to 10 years earlier than they would typically be discovered through a mammogram or palpation (self-examination).

Some clinicians will also look for any connection between the teeth or jaw and the breast as breast cancer has been thought to have some coincidence to infections in the mouth (e.g., root canal failures, certain bacterial growths). If that is the case, the thermographic images above

<sup>17</sup> Lin QY, Yang HQ et al. Detecting early breast tumour by finite element thermal analysis. *J Med Eng Technol.* 2009; 33(4):274-280

<sup>18</sup> Rhodes DJ, Hruska CB et al. Dedicated dual-head gamma imaging for breast cancer screening in women with mammographically dense breasts. *Radiology.* 2011 Jan; 2011 Jan; 258(1):106-118

<sup>19</sup> Saputo L. Overview-Beyond Mammography. *Townsend Letter.* June 2004

the jaw and face can show a parallel red spot/infection in the mouth at the same time as a red spot or developing cancer in the breast(s).

Comparisons of past thermography images will be used to look for deviations and symmetry over time, which is why it is recommended that patients get a thermography exam at regular intervals. The first set of images is used as a baseline.

Note: There is an updated form of thermography called "Regulation Thermography." It originated in Europe and uses digitally-analyzed temperatures of points on the skin that are connected to the internal organs and tissues through connecting nerve networks. This method is objective in that certain patterns clinically verified in a database of 30,000 patients create a whole-body picture which most often relates directly to disease processes. Still, being an "adjunct" diagnostic method, it eliminates the interpretation by an "expert" and relies on statistically verified pattern recognition. This method has been called by radiologists (Harvard's breast imaging department) as the first step toward a non-invasive but Computer Aided Diagnostic method, falling in line with modern radiology and the future of imaging medicine. Instead of relying on an image and blood flow analysis like the older camera method, Regulation Thermography observes the behavior of temperatures before and after a cool-air exposure, analyzing the behavior of the control mechanisms of the capillary beds in the skin, often reflecting deeper organ and tissue health in a functional, dynamic way. There are currently three models of these devices, but only one has been recently cleared by the FDA (AlfaSight 9000) at this time. Never forget that it is crucial to do other tests such as MRI, ultrasound, and blood tests, etc., in order to form a clear picture leading to the correct diagnosis of breast and other cancers.



## How to Obtain the Test

Thermography exams are available in most cities. Check your local listings or refer to one of the following organizations:

- The International Academy of Clinical Thermology: [www.iact-org.org/links.html](http://www.iact-org.org/links.html).
- Breast Thermography: [www.breastthermography.com/find-a-center.htm](http://www.breastthermography.com/find-a-center.htm).
- Regulation Thermography: [www.alfa.global](http://www.alfa.global).
- The American College of Clinical Thermology.
- [www.thermologyonline.org/Breast/breast\\_thermography\\_clinics.htm](http://www.thermologyonline.org/Breast/breast_thermography_clinics.htm).

Pre-examination instructions are very specific and must be followed (i.e., no lotions, powders, or deodorant can be worn, no hot showers less than 2 hours prior to exam, no caffeine or alcohol or sunbathing 24 hours prior to exam). It's very important that you check with your testing center for additional test preparation instructions.

- Upper body clothing and jewelry must be removed and a gown is worn.
- Testing is performed after waiting in a cool room for approximately 15 minutes. This is to allow the skin surface temperatures to stabilize prior to the test.

- Images are taken, similar to the taking of a photograph, with the camera positioned several feet in front of the area being examined.
- Approximately 8 images will be taken from several different positions.

### Cost

\$150–\$250 is the average cost for the first breast thermography test. A second exam may be less and is recommended to be done 3 months after the initial exam. The two sets of images are compared for vascular and other changes.

Only a few insurance companies provide coverage for thermography. Please check with your provider.

### Accuracy

Breast thermography is very accurate, but only in the hands of a Certified Clinical Thermographer using sophisticated infrared cameras.

A 1998 study reported that thermography has an accuracy and sensitivity record in the 90% and above range.<sup>20</sup>

In 2003, the *American Journal of Radiology* reported that thermography had 99% sensitivity in identifying breast cancer with single examinations and limited views. “Thus, a negative thermogram (Th1 or Th2) in this setting is powerful evidence that cancer is not present.” The report goes further to suggest that a negative thermogram can give women greater reassurance they don’t have breast cancer.<sup>21</sup>

However, there have been cases where there was no cancer threat and the thermogram was interpreted wrongly, or there *was* a cancer and the thermogram was not suspicious. These are called “false positives” and “false negatives,” respectively. One possible explanation for this is that some cameras being used are not consistent with the standards for medical thermography cameras—they may have been originally intended for industrial use. These cameras were adopted by those who wanted to use relatively uncalibrated cameras in order to take advantage of the market. There are several cameras on the market not properly FDA cleared as well. It is crucial that the camera being used is cleared by the FDA or the health assessment body of the country where it is being used. Also, the quality analysis must be done using electronics specifically tuned to the human body. One company in Germany, Infratec, specifically tunes each microchip receptor within the camera to each other as well as the range specific to the human body. Another company, Alfa Thermodiagnostics, utilizes a sensor that has been specifically tuned to the human body.

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<sup>20</sup> Keyserlingk MD, et al. Infrared imaging of the breast: initial reappraisal using high-resolution digital technology in 100 successive cases of stage I and II breast cancer. *Breast J.* 1998 Jul; 4(4):245-251. doi: 10.1046/j.1524-4741.1998.440245.x.

<sup>21</sup> Parisky YR, Sardi A, Hamm R, et al. Efficacy of computerized infrared imaging analysis to evaluate mammographically suspicious lesions. *AJR Am J Roentgenol.* 2003 Jan; 180(1):263-269.

## A Word About Mammograms

A number of prominent studies in recent years found that mammography is an overhyped, poor screening technique for breast cancer (see the book's chapter "Statistics—Misconceptions of Reality").

This brings up the sticky issue that mammography is particularly weak when it comes to "seeing through" dense breasts. The radiologist and the woman's physician are aware when a patient has dense breasts, but the patients routinely are not told. And almost half of all women have dense breast tissue. This prompted a push for new laws in many states. But heavy resistance has come from the American College of Radiology, which defends lack of disclosure because the information may create "undue anxiety." Women's groups call the practice an egregious violation of ethical guidelines that continues because the ACR desires to maintain the status quo of mammogram screenings from which it makes money.<sup>22</sup> The FDA approved in 2012 the much better Automated Breast Ultrasound System (ABUS) for women with dense breasts, but the government kept the radiologists happy by advising doctors to use it in combination with mammography.<sup>23</sup>

Newer 3-D mammography can spot smaller tumors in dense breasts. But 3-D comes with two significant downsides:

1. It requires that the breast be compressed for about twice as long which increases the potential for spreading an existing mass. When a cancerous mass is squeezed, the membranes which contain cancerous cells can be damaged, releasing cancer cells into the body.
2. The dose of radiation can be higher than with conventional mammography. And again, radiation is carcinogenic.



## Process Time

The entire appointment should last no more than 30 minutes with the actual test taking just a few minutes.



## Benefits

- Unlike conventional mammography, thermography is completely safe for pregnant women; women with breast implants; and women with large, dense, or sensitive breasts.
- There is no compression of breast tissue.
- There is no radiation exposure. Pre-screening with thermography prevents radiation exposure caused by mammograms.

<sup>22</sup> Alternet website. A Basic Fact About Breasts that Could Save Your Life: And The Forces Trying to Keep It Under Wraps. October 20, 2013. Accessed at [www.alternet.org/personal-health/basic-fact-about-breasts-could-save-your-life-and-forces-trying-keep-it-under-wraps](http://www.alternet.org/personal-health/basic-fact-about-breasts-could-save-your-life-and-forces-trying-keep-it-under-wraps)

<sup>23</sup> FDA website. Press release September 18, 2012. FDA approves first breast ultrasound imaging system for dense breast tissue. Retrieved January 18, 2015 at: [www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm319867.htm](http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm319867.htm)

- In patients without cancer, the examination results are used to indicate the level of possible future cancer risk.
- Detects physiologic changes.
- Can be used to monitor benign breast tumors, effectiveness of cancer treatment, breast mastitis, fibrocystic breast disease breast, and for cancer risk assessment.
- Thermography is able to detect angiogenesis (a group of blood vessels formed by the tumor to access food and oxygen).
- Shown to find changes in the breast tissue up to 10 years before a cancer diagnosis.
- In Regulation Thermography, other factors in the rest of the body are taken into consideration such as inflammatory processes, conditions in the tissues that may create a vulnerability to tumors, and metabolic pre-analysis of organs such as the thyroid gland that is often involved in processes of breast cancer.



## Limitations

- Thermography does not have the ability to pinpoint the exact size and location of a tumor. It only indicates the area of concern. A mammogram is typically used then to locate the tumor more precisely.
- Requires additional adjunct testing, such as a biopsy, to officially diagnose cancer. The Videssa Breast Test, a blood test, can be used as an alternative. Learn more about this test in "*Cancer-Free! Are You SURE?*"
- Can cause concern as hot areas may indicate unhealthy tissue, inflammation, infection, stagnant lymphatic flow, cystic activity, scar tissue, an injury, or a hormonal imbalance.
- Not effective on slow-developing cancers or encapsulated tumors that produce little heat.



## Confidentiality

Results are given directly to the patient and images become part of your medical record.



## Thoughts

Since it has been determined that about 1 in 8 women will get breast cancer, and every woman is at risk, every means possible should be used to detect a tumor when there is the greatest chance for survival. Adding a thermography exam greatly increases the capacity for early detection without the risk of radiation exposure.

Breast self-exams and physician exams are important too. Typically, mammograms are not recommended for women under 40 and are not effective in detecting cancer in women with dense breast tissue. Also, the age at which women are being diagnosed is getting younger and younger. The opportunity for early diagnosis is often missed in these younger women. Thermography can fill this gap. Therefore, it is important to begin breast cancer screening long before age 40. Because thermography is safe, an initial test can be started on young women in

her early twenties. These tests provide a baseline or bench mark early on in life that can be used to identify changes sooner rather than later.

Thermography has been underutilized because of politics—the makers of mammography machines have forged relationships with radiology groups and breast cancer groups to promote mammogram screenings. For example, General Electric, one of the biggest manufacturers of mammography machines, partners with the Susan G. Komen organization that adamantly recommends mammograms. These factors have stifled consumer education and the ability to have insurance cover thermography. Insurance also generally does not cover another safer screening option, the MRI.

The cost of thermography is a small price to pay compared to the expense of a cancer diagnosis. The exam is as simple as getting your picture taken, so smile for the camera and save your breasts. If you are interested in a blood test for breast cancer, consider the “Videssa Breast Test.”

*This chapter is dedicated to two of my very special and dear friends, Janet Ely and Faye Weatherbe. Both died at a much too young age after being diagnosed with breast cancer tumors that were large enough, even though small, to be visible on a scan. This early detection test could have saved their lives.*

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## Viral Screening

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### Summary and Explanation

Viral screenings are lab tests that check for the presence of a past or current infection. Samples of blood, urine, stool, organ tissue, spinal fluid, and saliva can be used for the tests; however, blood is most commonly utilized and is the type of test that we will discuss here.

Some of the most common viruses implicated with cancer are the human papilloma virus (HPV), Epstein-Barr virus (EBV), cytomegalovirus, hepatitis B (HBV), hepatitis C (HCV), human immunodeficiency virus (HIV), human herpes virus 8 (HHV-8), and the human t-lymphotrophic virus-1 (HTLV-1).

The American Cancer Society recognizes the link between viral, bacterial, and parasitic infections. They report infections account for around 10 percent of cancers in the United States and approximately 25 percent in developing countries.

Viruses are simple organisms that consist of genetic information in the form of DNA or RNA that is wrapped in a protective protein coating. Viruses enter a living cell and takeover the cell's activities by inserting their viral DNA and RNA. The cell has now become a factory for producing more viral cells. Some viruses are able to remain dormant in the infected cells and produce no new viral particles. In some cases, this type of latency in infected cells predisposes the cells to cancer.

It is important to know that viruses associated with cancer are found in many people in the healthy population, not just in the people who develop cancer. Viral infections create long term inflammation that suppresses the immune system, and that makes it easier for cancer to grow. Infections can also cause mutations at the cellular level and produce chronic infections in certain areas of the body that can lead to cancer.

The body's immune system makes antibodies to fight a specific viral infection. These antibodies attach to an infected cell, allowing immune system cells to attack the virus. Viral testing looks for antibodies to a specific viral infection. If an antibody is found, this test can show whether a person was infected recently or in the past.

The evidence that a cancer is viral-related can be confirmed by the cancer tissue. When positive, often every cancer cell within a tumor will carry the same viral genetic information.<sup>24</sup> The viral antibody test is the most commonly utilized testing method and a test must be ordered for each specific virus. Viral antigen, culture, DNA or RNA detection tests are also available and are used less frequently.

A study by the International Agency for Research on Cancer in France reported on the global burden of cancers attributable to infections in 2008:

Of the 12.7 million new cancer cases that occurred in 2008 ... around 2 million new cancer cases were attributable to infections. This fraction was higher in less developed countries (22.9%) than in more developed countries (7.4%), and varied from 3.3% in Australia and New Zealand to 32.7% in sub-Saharan Africa. Helicobacter pylori, hepatitis B and C viruses, and human papillomaviruses were responsible for 1.9 million cases, mainly gastric, liver, and cervix uteri cancers. In women, cervix uteri cancer accounted for about half of the infection-related burden of cancer; in men, liver and gastric cancers accounted for more than 80%. Around 30% of infection-attributable cases occur in people younger than 50 years.<sup>25</sup>



### How to Obtain the Test

The viral antibody test is a simple blood test and it is available at most laboratories. The test requires no special preparation and you can eat and drink normally before the test. For insurance reimbursement, a doctor's order is usually needed.

Direct-to-consumer lab testing is available at [www.requestatest.com](http://www.requestatest.com) for the cytomegalovirus, Epstein-Barr virus, hepatitis virus, herpes virus, and human immunodeficiency virus antigens. To order the test, log onto the site and create a user name and password.

<sup>24</sup> Cancer Research UK. Infections and cancer—an overview. Updated 1/01/12. Retrieved 1/1/2012 at:

[www.cancerresearchuk.org/cancer-info/cancerstats/causes/infectiousagents/virusesandcancer/viruses-in-general](http://www.cancerresearchuk.org/cancer-info/cancerstats/causes/infectiousagents/virusesandcancer/viruses-in-general)

<sup>25</sup> de Martel C, Ferlay J, Franceschi S et al. Global burden of cancers attributable to infections in 2008: a review and synthetic analysis. *Lancet Oncol.* 2012 Jun; 13(6):607-615

Testing locations are located around the country. You will be given a secure profile in which to view your results when available.

The test for the human t-lymphotrophic virus-1 (HTLV-1), associated with human T-cell leukemia/lymphoma and tropical spastic paraparesis, is not readily available so consult your physician. The test for human papilloma virus (HPV) is often done as part of a cell swab taken during a gynecological exam.



## Interpretation

The antibody test is interpreted by looking at two different measurements.

- IgM antibodies usually develop within a couple of weeks after initial infection and are no longer detectable after several months. A positive result indicates a recent infection.
- IgG antibodies typically begin to develop several weeks or months after infection and remain present for the life of the person. After an initial infection, the virus will normally become inactive but may reactivate later in a person's life. Additional IgM antibodies are produced when a latent infection becomes active.
- Normal value ranges may vary slightly among different laboratories.



## Cost

Medicare and insurance usually cover the test when ordered by a physician. Check with your provider.

Direct-to-consumer pricing is available at [www.requestatest.com](http://www.requestatest.com) for the cytomegalovirus, Epstein-Barr virus, hepatitis virus, herpes virus, and human immunodeficiency virus antigens. Prices range usually from \$59–\$99 per test.



## Process Time

Viral antibody tests results are typically available with 24–48 hours.



## Benefits

- Individuals with a chronic viral infection are at an increased risk to develop cancer. A viral-related cancer often takes years, even decades, to develop after a person gets an infection. Early detection of a viral condition with subsequent treatment may keep you from getting a cancer diagnosis later.
- Treatment of a viral infection can free up the immune system to fight other conditions such as cancer.



## Limitations

Incubation periods, the development of an infection inside the body to the point at which the first signs of disease become apparent, may affect results and vary for each virus.



## Confidentiality

Tests ordered by a physician will become part of your medical record. Tests ordered from a direct-to-consumer lab will be reported to you.



## Thoughts

The viruses that are associated with cancer can often times be debilitating or at other times be quite insidious. By insidious, I mean that they can slowly and subtly cause harm and be destructive to your health. Often individuals are not even aware that they have an infection.

Since viral detection and treatments are available, I encourage you not to overlook this testing.

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## Glyphosate Urine and Water Testing

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Information from [www.greatplainslaboratory.com/glyphosate-test](http://www.greatplainslaboratory.com/glyphosate-test)



## Summary and Explanation

Glyphosate is the world's most widely produced herbicide and is the primary toxic chemical in Roundup™ and many other herbicides. Glyphosate was introduced in the 1970s to kill weeds by targeting the enzymes that produce the amino acids tyrosine, tryptophan, and phenylalanine. Many bacteria are also vulnerable to this chemical. Gut flora alterations have been widely reported, as well as damage to the gut lining. The usage of glyphosate has increased since the introduction of genetically modified organisms/crops that can grow well its presence. Recent studies have discovered glyphosate exposure to be a cause of many chronic health problems. It can enter the body by direct absorption through the skin in bath water, by eating foods treated with glyphosate, or by drinking contaminated water and beverages. Reports are that it's now being detected in the rain and many organic foods.



## How to Obtain the Test

Have your physician order a test kit at [www.greatplainslaboratory.com/glyphosate-test](http://www.greatplainslaboratory.com/glyphosate-test) or call 913-341-8949 for more information.

The requirements are:

- Urine: 10 mL of first morning urine before food and drink is preferred.
- Water: Fill water container supplied in Glyphosate in Water test kit 1/2 to 3/4 full.



### Interpretation

Results are reported by percentile of exposure.



### Cost

\$99. Your physician may add a test fee.



### Process Time

Results are reported in about 2 weeks.



### Confidentiality

Tests ordered by a physician will become part of your medical record.



### Thoughts

If you would like to learn more about the effects of glyphosate on the body, please listen to Dr. Zach Bush on Youtube. He has many lectures and interviews posted there. Definitely worth your time!

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## Direct-to-Consumer Lab Testing

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Costs can vary significantly on laboratory and imaging services. Many of us are not aware of this because with insurance, we don't pay the bills; we may not be aware of what the lab charged or the amount that insurance actually paid to the lab. And those prices typically vary a lot.

Insurance companies have leveraged their clout to get a better deal with labs such as LabCorp and Quest. You have seen the same concept at work when you book a hotel room. Hotels offer discounted rates if you are in their "rewards program" or if you have a membership in AAA (American Automobile Association) or some such affiliation. Insurance companies and direct-to-consumer lab testing companies don't pay "full price" either because they negotiated lower rates.

If you don't have insurance, or if you want a test your doctor has not ordered, you can use a direct-to-consumer company that makes their negotiated pricing available to you as a

consumer. You can order the test yourself, usually online, pay for it, and get the results sent to you. Also, many imaging centers are offering discounted cash pricing on MRIs, PET, and CT scans.

You may find it costs less to pay cash up front, rather than the insurance co-pay—especially if you have a large deductible and don't use it all up in a year's time. The insurance company has to assign time and people to process the claim. That costs money and that is why direct payment to the lab may be cheaper in the long run.

Today, you have options with low-cost testing. And if a problem is noted, the lab report alerts you to see a doctor. The earlier a problem is detected, the easier and more likely it is to be treatable.

We now have direct access to clinical laboratory testing across the U.S. for those important blood chemistry and wellness tests such as a complete blood count, urinalysis, liver function panel, cholesterol, allergy, C-reactive protein, hormones, HIV, and more.

Laboratory testing is available to the public at reduced pricing.

- No insurance is needed.
- Scheduling and payment are available online.
- Results are confidential.
- Many results are available in 24 hours.
- No medical exam is needed.
- No medical records required.
- No prescription is needed.
- No co-pay.
- No referral needed.

Getting standard lab tests is as easy as 1-2-3.

1. Order your tests and pay online, then print your requisition form.
2. Visit a laboratory location to have the sample collected. Be sure to bring a photo ID.
3. View your confidential results. Usually you can arrange to have the results emailed or faxed or mailed directly to you.

Tests are ordered online and pre-paid. Most of these companies accept Visa, MasterCard, American Express, Discover, and PayPal. Check their website for specials and coupons. Most labs require that you be 18-years-old to purchase their services.

Tests may not be available in Maryland, New York, New Jersey, Rhode Island, and Massachusetts because state laws inhibit third party billing.

As always, if you find a problem, seek professional advice.

**Direct-to-Consumer Laboratory Services In the United States: (partial list)**

www.LEF.org

800-208-3444

www.requestatest.com

888-732-2348

www.healthtestingcenters.com

877-511-5227

www.anylabtestnow.com

800-384-4567

www.personallabs.com

888-438-5227

www.directlabs.com

800-908-0000

www.walkinlab.com

800-539-6119

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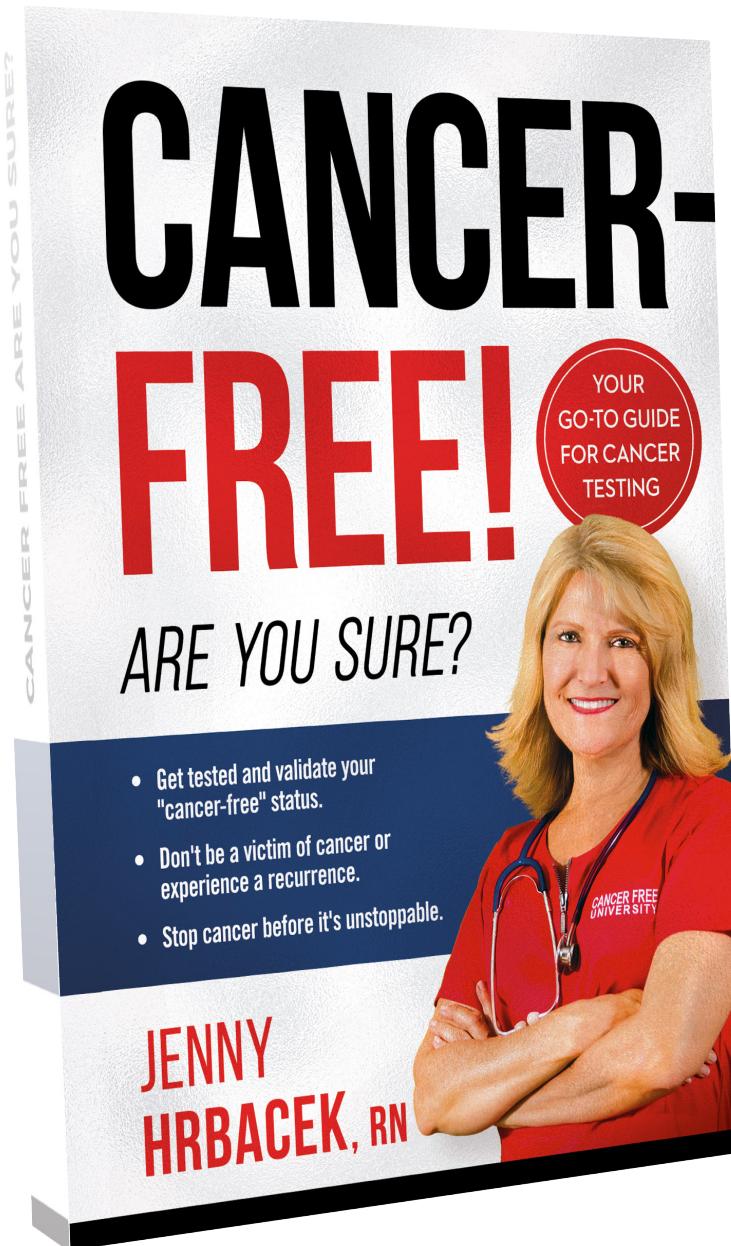
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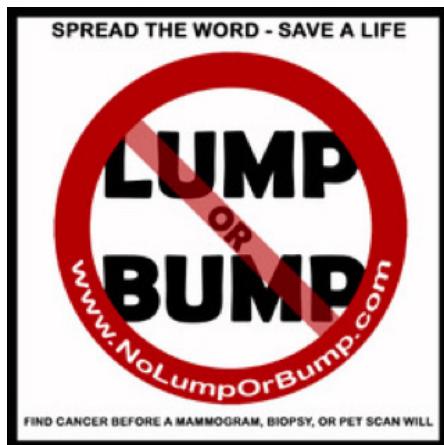
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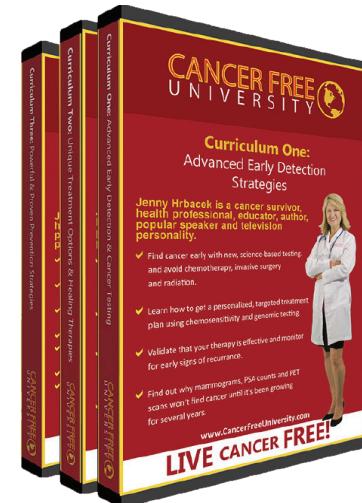
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