

## LUNDIN CHIROPRACTIC

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### NUTRITION EVALUATION: 06/28/2010

#### PATIENT INFORMATION

Patient #:  
Ann Onymous  
1234 Healthy Way  
Somewhere OH 12345  
(555) 555-5555  
Sex: F  
Age: 44  
Blood Type: A+

#### DATA USED FOR ANALYSIS

PSS	01/29/2010
Stool	01/29/2010
Urinalysis	01/29/2010
Vitals	01/29/2010
Blood	07/26/2007
Hair	12/13/2007
Medication	01/29/2010

#### VITALS

Height: 5'6"  
Weight: 145  
Blood Pressure: 139 / 95  
O2 Level: 83%  
Heart Rate: 98

#### PRIMARY SYMPTOMS

1. Hypercholesterolemia (High Cholesterol)
2. High blood pressure
3. Tachycardia (High Heart Rate)
4. Diabetes Mellitus

#### PRESENTING SYMPTOMS

Allergic Rhinitis (Sinusitis) • Anxiety/Stress • Arthritic/Rheumatic Disorder • Constipation • Depression • Diabetes Mellitus • Edema • Excessive Thirst • Fibromyalgia • GERD • Hypercholesterolemia (High Cholesterol) • Indigestion • Irritable Bowel Syndrome • Poor Concentration/Memory • Tachycardia (High Heart Rate) • Ulcerative Colitis • Energy level is worse than it was 5 years ago • Fingernails are soft • Fingernails are splitting • Has tattoos • Pale fingernail beds • Sensitive to chemicals, paint, exhaust fumes, cologne • Difficulty concentrating • Under considerable emotional stress • Cold feet • Cold hands • Heart skips beats • Heart palpitations • High blood pressure • Spells of rapid heart rate • Frequently feels cold • Gets lightheaded when standing quickly • Painful feet • 3 or less bowel movements per week • Abdominal gas • Belching and burping after eating • Indigestion in 2 hours or more after meals • Tends to constipation • Drinks alcohol • Drinks caffeinated pop/soda • Drinks diet pop/soda • Drinks 1 or more pop/sodas per day • Frequent use of Artificial Sweeteners • Amalgam dental fillings • Bitter taste in the mouth in the morning • Frequent fever blisters • Frequent sore throats • Glands often swell • Tongue has grooves or fissures • Tongue is coated • Frequent headaches • Frequently feels faint • Frequent colds • Frequent sinus infections • Post nasal drip • Bruises easily • Problems with Eczema • Urinates more than 2 times per night • Frequent bladder infections • Frequent urination • Troubled by urgent urination • Abnormal cycle >29 days and/or <26 days • Breast Fibroids • Excessive menstrual flow • Menstrual cramps • Retains fluid during periods

### Patient Comments

Patient states that over the last 5 years she has seen over 10 doctors and specialists and she is still getting worse. She states that this is very frustrating and depressing. She is having problems doing basic living and household duties and that this is affecting her family and she is no longer able to work full time. She notices her balance isn't as good as it used to be; she is bumping and tripping more. Her mother has Alzheimer's disease and she is very concerned about her loss of memory and concentration. 027

### Provider Comments/Findings

Patient tends to loose concentration and I had to repeat questions several times. Her skin is pale and pasty and she has dark circles around the eyes. Her eyes are blood shot and she looks tired. She does have some difficulty standing on one leg and walking on her toes and heels. She has a general disheveled appearance.

## PRIMARY FINDINGS SUGGESTIVE OF

- Possible cardio effect
- Inflammation of Liver
- Possible infection and/or inflammation
- Very Low Hair Chromium
- High Hair Cadmium
- High Hair Mercury
- Diabetes
- Anemia
- Noted Blood Values
- High Hair Arsenic
- High Hair Lead
- Noted Hair Values

The purpose for this nutrition and lifestyle program is to create an optimum environment in which your body can heal and repair itself. This is achieved by eliminating foods and toxins, which adversely affect the body, and by providing nutrients that the body may be lacking.

## MEDICATIONS

- Diflucan - 6 months - 2 years.
- Lipitor - Less than 6 months.
- Prilosec - More than 2 years.
- Zetia - More than 2 years.
- Glucophage - 6 months - 2 years.
- Naproxen Oral - 6 months - 2 years.
- Tylenol for pain/arthritis - Occasional.

## SIDE EFFECTS OF MEDICATIONS

- **Fluconazole Oral** is used to treat fungal and yeast infections.  
Otherwise Known As: Diflucan.  
Side Effects: Nausea; vomiting; diarrhea; stomach pain; headache; dizziness; and hair loss.  
Nutrients Depleted: unknown at this time.
- **Metformin HCL** is indicated as an adjunct to diet to lower blood glucose.  
Otherwise Known As: Glucophage.  
Side Effects: diarrhea; nausea; vomiting; abdominal bloating; flatulence; anorexia; unpleasant or metallic taste; rash/dermatitis; & subnormal serum vitamin B 12 levels.  
Nutrients Depleted: Folic Acid, Vitamin B12, Coenzyme Q10.
- **Lipitor** is used to treat cholesterol problems.  
Otherwise Known As: not applicable.  
Side Effects: liver dysfunction; adrenal failure; diffused muscle pain; muscle tenderness; weakness; malaise, fever; myopathy; muscle disease; edema; digestive problems; gastritis; colitis; vomiting; ulcers; bleeding gums; bleeding ulcers; hepatitis, pancreatitis; gall bladder disease; asthma; decreased libido; leg cramps; bursitis; itching; alopecia; dry skin; acne; cystitis; hematuria; kidney stone; breast tenderness; various hemorrhage; loss of taste; palpitations; migraines; arrhythmia; and gout.  
Nutrients Depleted: Co-Enzyme Q-10
- **Naproxen Oral** is used to relieve pain and inflammation associated with various conditions.

Otherwise Known As: Anaprox & Naprosyn.

Side Effects: constipation; heartburn; abdominal pain; nausea; dyspepsia; diarrhea; stomatitis; headache; dizziness; drowsiness; lightheadedness; vertigo; skin eruptions; ecchymoses; sweating; purpura; tinnitus; hearing disturbances; visual disturbances; edema; dyspnea; palpitations; thirst; abnormal function liver tests; colitis; gastrointestinal bleeding and/or perforation; hematemesis; jaundice; pancreatitis; melena; vomiting; glomerular nephritis, hematuria; hyperkalemia; interstitial nephritis; nephrotic syndrome; renal disease; renal failure; renal papillary necrosis; agranulocytosis; eosinophilia; granulocytopenia; leukopenia; thrombocytopenia; depression; dream abnormalities; inability to concentrate; insomnia; malaise; myalgia; muscle weakness; alopecia; photosensitive dermatitis; urticaria; skin rashes; hearing impairment; congestive heart failure; eosinophilic pneumonitis; anaphylactoid reactions; angioneurotic edema; menstrual disorders; chills and fever; aplastic anemia; hemolytic anemia; aseptic meningitis; cognitive dysfunction; epidermal necrolysis; erythema multiforme; Steven-Johnson syndrome; nonpeptic gastrointestinal ulceration; ulcerative stomatitis; vasculitis; hyperglycemia; hypoglycemia.

Nutrients Depleted: Folic Acid.

- **Prilosec** is used to treat acid related stomach and throat problems.

Otherwise Known As: not applicable.

Side effects include: gastric tumors; cancer; and impairment of fertility; headache; diarrhea; abdominal pain; nausea; dizziness; vomiting; rash; constipation; cough; fever; pain; fatigue; malaise; chest pain; tachycardia; bradycardia; palpitation; high blood pressure; edema; elevated liver enzymes (SGOT and SGPT); hepatitis; pancreatitis; anorexia, dry mouth; hypoglycemia; weight gain; muscle cramps; muscle and joint pain; muscle weakness; depression; hallucinations; confusion; insomnia; nervousness; tremors; apathy; anxiety; vertigo; skin inflammation; toxic epidermal necrolysis; alopecia; tinnitus; gynecomastia; and various anemia's.

Nutrients Depleted: Vitamin B12, Folic Acid, Vitamin D, Calcium, Iron and Zinc.

- **Acetaminophen** is indicated for use in treating minor aches and pains.

Otherwise Known As: Tylenol for pain/arthritis & Panadol.

Side Effects: hepatitis; hives; decreased blood platelets; decreased white blood cells; discolored spots and small elevations of the skin.

Nutrients Depleted: Glutathione

- **Ezetimibe** is used to help lower cholesterol.

Otherwise Known As: Zetia.

Side Effects: acute infection of the nose; throat or sinus; gall stones; chest pains; joint pain; muscle pain; back pain; low energy; cough; diarrhea; stomach cramps; muscle disease; hepatitis; inflammation of the gall bladder; acute inflammation of the pancreas; Erythema Multiforme; hives; rash; abnormal liver function tests; depression; decreased blood platelets; dizziness; nausea; numbness; & tingling sensations.

Nutrients Depleted: unknown at this time.

## INTERPRETING ALL TEST RESULTS

Your test results are color coded for ease of analysis:

Yellow = values are outside the healthy range but still within the clinical range

Red = values are outside the clinical range

Blue = values extremely higher or lower than the clinical range limits.

### INTERPRETING BLOOD LAB RESULTS

On the blood test results page found later in the report, you'll notice two columns on the right side of the page labeled "Healthy Range" and Clinical Range". The clinical range is used by the medical community. Any values outside this range are indicative of a disease process. The Healthy Range is more narrow than the Clinical Range. Test values outside of the Health Range indicate results which are not as good as they should be. The tighter guidelines of the Healthy Range allow us to see signs of any developing diseases/conditions.

### INTERPRETING HAIR LAB RESULTS

The hair analysis screening is looking for essential, nonessential and potentially toxic elements. These elements are irreversibly incorporated into growing hair. The amount of each element found in the hair is proportional to levels in other body tissues. This makes the hair analysis a suitable indirect screening for physiological excess, deficiency or maldistribution of elements in the body. All screening tests have limitations which must be taken into consideration. Scalp hair is vulnerable to external contamination by water, hair treatments and other products. The data provided by a hair analysis should be considered in conjunction with symptoms, diet analysis, occupation and lifestyle, water

source, physical examination and the results of other laboratory tests. However, accepting these limitations, hair analysis can provide useful insights into the toxic load and biochemical condition of the body.

For each elevated toxic element in the hair, the most common sources of exposure are listed in the report. Due to pollution, our industrial culture and other environmental factors, it is impossible to completely eliminate your exposure to some toxic elements. However by knowing the sources of toxins elevated in your body, you can work to reduce your exposure, thus lessening the total toxic burden on your body.

## DIAGNOSTIC FINDINGS

### CORONARY RISK ASSESSMENT

■ Total Cholesterol:	188	■ HDL Cholesterol:	63
■ LDL Cholesterol:	87	■ VLDL Cholesterol:	16

**Coronary Risk Assessment: 2.98 Probably Protected**

The coronary risk is determined by taking the total cholesterol and dividing it by the HDL. To reduce your risk of cardiovascular problems a value below 4 is recommended. The Total Cholesterol is determined by adding the HDL, LDL, and VLDL together. Recent studies have shown a correlation between a high HDL and longevity. Think of HDL as the Healthy cholesterol and generally the higher the better. LDL is the bad cholesterol, as it tends to plug the arteries. The VLDL is the Very worst cholesterol and is more like sludge. Lower is better for the LDL and VLDL in determining coronary risk and overall health.

### POSSIBLE CARDIO EFFECT

The Creatine Kinase (CK) is a little high and the C-Reactive Protein (CRP) is high. This mildly elevated CK is commonly associated with breakdown of muscle, either cardiac or skeletal. This could be the result of strenuous exercise in which case the nutrient recommendation can be reduced. It could also be a sign of a more serious condition developing. The C-reactive Protein is high, which indicates nonspecific tissue injury and inflammation. It doesn't tell where, just that there is a problem and this value is good to monitor response to treatment. NOTE: Recent studies have shown that the CRP is one of the best markers for predicting the chances of a heart attack or stroke. A CRP close to zero is desired.

**This finding is supported by:**

High Blood Creatine Kinase • High Blood SGPT (ALT) • High Blood CRP C-Reactive Protein • Low Blood Hematocrit

**This finding is associated with:**

Medications Taken - Lipitor • Prilosec • Naproxen Oral • Zetia • Tylenol for pain/arthritis

**Nutrients Recommended:**

Inflavonoid (Turmeric)

### DIABETES

The Glucose is normal and the Hemoglobin A1-C is a little high. Don't be misled by the normal glucose. This is an early warning of the possibility of diabetes. No specific nutrients are needed at this time.

**This finding is supported by:**

High Blood LDL Cholesterol • High Blood SGPT (ALT) • Low Blood Serum Iron • High Blood Total Cholesterol • Low Hair Chromium

**This finding is associated with:**

Presenting symptoms - Edema  
Medications Taken - Naproxen Oral

### INFLAMMATION OF LIVER

The SGPT is a little high. This is mild inflammation of the liver. This can be due to many things. Most common are biliary congestion (think gall bladder and digestion), drugs and medications.

**This finding is supported by:**

High Blood Globulin • High Blood ESR-Erythrocyte Sed Rate, Westergren

**This finding is associated with:**

Medications Taken - Lipitor • Prilosec • Naproxen Oral

**Nutrients Recommended:**

Vitamin C

**ANEMIA**

The Serum Iron, Hemoglobin and Hematocrit are a little low. The Ferritin is also a little low and indicates low iron reserves. The Serum Iron indicates available iron for the body to produce Red Blood Cells. The mildly low Hemoglobin and Hematocrit indicate the ability to transport oxygen and other nutrients which will be reduced. This will affect the immune system and the ability to heal and repair. This could be the result of blood loss. A stool and urinalysis is advised if not already tested. The ability to concentrate will probably be affected. This level of anemia will affect the cardiovascular system and contribute or cause heart attacks according to recent research.

**This finding is supported by:**

High Blood Hemoglobin A1C • High Blood ESR-Erythrocyte Sed Rate, Westergren • High Hair Aluminum • High Hair Arsenic • High Hair Cadmium • High Hair Lead

**This finding is associated with:**

Presenting symptoms - Fibromyalgia • Poor Concentration/Memory • Tachycardia (High Heart Rate) • Ulcerative Colitis • Energy level is worse than it was 5 years ago • Pale fingernail beds • Cold hands • Cold feet • Spells of rapid heart rate • Bruises easily • Gets lightheaded when standing quickly • Excessive menstrual flow • Difficulty concentrating

Medications Taken - Prilosec • Naproxen Oral • Zetia • Tylenol for pain/arthritis

**Nutrients Recommended:**

Iron Peptonate (Ferrotate) • Sublingual B12FA • Vital Trace Minerals

**POSSIBLE INFECTION AND/OR INFLAMMATION**

The Erythrocyte Sed Rate (ESR) is a little high and the C-Reactive Protein (CRP) is high, which indicates nonspecific tissue injury and inflammation. It doesn't tell where, just that there is a problem and these values are good to monitor response to treatment.

NOTE: Recent studies have shown that the CRP is one of the best markers for predicting the chances of a having heart attack or stroke. A CRP close to zero is desired.

**This finding is supported by:**

High Blood Globulin • High Blood Creatine Kinase • Low Blood Serum Iron • High Blood CRP C-Reactive Protein

**This finding is associated with:**

Presenting symptoms - Allergic Rhinitis (Sinusitis) • Arthritic/Rheumatic Disorder • Indigestion • Ulcerative Colitis • Abdominal gas • Problems with Eczema • Frequent bladder infections • GERD • Irritable Bowel Syndrome • Edema

Medications Taken - Lipitor • Prilosec • Naproxen Oral • Tylenol for pain/arthritis

**Nutrients Recommended:**

Inflavonoid (Turmeric) • Vitamin C • Vitamin E Natural Complex-400

**NOTED BLOOD VALUES**

The Cholesterol and the LDL are a little high. This is not critical but it could be better. Excess weight, poor diet, caffeine intake and lack of exercise all contribute to this condition.

The MCHC is a little high. MCHC is the concentration of hemoglobin in the average red cell. The body is producing new red blood cells and at this level and by itself, is not that significant.

The Globulin is a little high. This could be an early sign of serious condition or one developing.

The T4 is a little high and the T3 and T7 are optimal. The thyroid function is sufficient at this time.

Note: If thyroid medication is being used due to thyroid cancer, Grave's disease or similar thyroid pathology that has resulted in elimination of all natural thyroid tissue then no supplementation of vitamins, iodine or glandulars is recommended.

The Triglyceride/HDL Cholesterol Ratio is optimal. Recent studies have shown that the ratio of triglycerides to HDL was the strongest predictor of a heart attack. High triglycerides with low HDL levels increase levels of clotting factors in the bloodstream, which is unhealthy in protecting against heart disease. In adults, the triglyceride/HDL ratio should be below 2.

The Glomerular Filtration Rate Estimated (eGFR) is optimal. The eGFR is a calculated estimate of the actual glomerular filtration rate and is based on your serum Creatinine concentration. The calculation uses formulas that may also include your age, gender, height, and weight. In some formulas, race may also be used in the calculation. The kidneys filter blood and help control blood pressure. They remove waste and water and produce urine. eGFR is one of the best tests to indicate how healthy your kidneys are. It is important to know your eGFR because one may not be able to feel kidney damage.

Over 59-preferred

35 to 58-early kidney damage

16 to 34-moderate kidney damage

1 to 15 severe kidney damage

\* Please note that if your test result is less than 15, dialysis or transplant may be needed soon.

**Nutrients Recommended:**

Opti-EPA 500

## VERY LOW HAIR CHROMIUM

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The Hair Chromium is very low. Chromium is very important in carbohydrate and glucose metabolism and in the mechanism of insulin action. Basically, this mineral is very important for hypoglycemics and diabetics. Depletion can result in reduced metabolism of amino acids, glucose and lipid metabolism. It is also associated with protein malnutrition, elevated cholesterol levels, atherosclerosis and corneal damage.

**Nutrients Recommended:**

Vital Trace Minerals

## HIGH HAIR ARSENIC

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The Arsenic level is high. Chronic arsenic exposure is known to cause: Bone marrow depression; Leukopenia; Normochromic anemia; Exfoliation and pigmentation of skin; Neurological symptoms; Polyneuritis; Altered hematopoiesis; Liver degeneration; Kidney degeneration; Skin cancer; Cancers of the respiratory tract, agitation, learning impairment, and confusion. Delayed toxicity symptoms include abdominal pain, nausea, vomiting, hematuria, and jaundice. Ingestion of relatively large amounts of soluble arsenic compounds, especially on an empty stomach, affect the myocardium, causing death within a few hours. Ingesting smaller amounts of arsenic can cause epigastric pain, vomiting and diarrhea, followed by inflammation of the conjunctiva and respiratory mucous membranes, epistaxis, transient jaundice, cardiomyopathy, erythematous or visceral rashes, and sweating. Other symptoms: malaise; muscle weakness; eczema; dermatitis; increased salivation; strong "garlic breath", alopecia totalis, vomiting, diarrhea and skin cancer. Hematological, renal, or pancreatic dysfunction may be observed. Symptoms of neuropathy are experienced typically appear as with tingling and paresthesia in the extremities. Proteinuria and methemoglobinemia are frequently observed, causing renal failure and death.

Arsenic can be absorbed by the human body through the respiratory and gastrointestinal tracts and through the skin.

Arsenic is found in **tobacco smoke** and is a suspected causative factor in lung cancer. **Metal smelting and the production of glass, ceramics, insecticides, fungicides and herbicides** mobilize environmental arsenic.

**Drinking water may also be a source of arsenic, and the use of arsenic-containing paints** is a known source of arsenic poisoning. Elevated hair levels are seen long before acute clinical signs of arsenic toxicity are obvious.

Therapeutic consideration for Chronic overexposure: Antioxidant therapy, especially ascorbic acid or calcium ascorbate, vitamin E (all tocopherols), increased intake of sulfur-containing amino acids, vitamin B6. Note: Arsenic suppresses iodine and selenium.

Research: The relationship between cognitive functions and hair mineral concentrations of lead, arsenic, cadmium, and aluminum was examined for a random selection of 69 children. The data obtained showed a significant correlation between reading and writing skill and elevated arsenic levels, as well as interaction between arsenic and lead. Children with reduced visual-motor skills, had clearly elevated aluminum and lead levels.

**Nutrients Recommended:**

Calcium MCHC • Chlorella Clean • Powdered Vitamin C with Ribose • Stress B Plus • Vitamin E Natural Complex-400

## HIGH HAIR CADMIUM

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### HIGH CADMIUM

The Cadmium is high. Cadmium (Cd) is a toxic, heavy metal with no positive metabolic function in the body. It is relatively rare but it is more toxic than lead. Hair cadmium levels provide an excellent indication of body burden. Moderately high cadmium levels are consistent with hypertension, while very severe cadmium toxicity can cause hypotension.

Cadmium affects the kidneys, lungs, testes, arterial walls, and bones. It interferes with many enzymatic systems, leads to anemia, proteinuria and glucosurea and depletes glutathione, calcium, phosphorus and zinc. Cadmium

absorption is reduced by zinc, calcium and selenium. Alkaline Phosphatase is commonly elevated with Cadmium toxicity. One of the things that you should do to help your overall long-term health is to reduce your cadmium intake. The most common sources of cadmium are: refined foods (white flour, white sugar, etc.), acid drinks left in galvanized pails or ice trays, superphosphate fertilizers, gluten flour, some cola drinks, tap water, atmospheric pollution in the burning of coal and petroleum products, seafood, plastic water pipes, margarine, canned fruits and beverages, sugar and molasses, alcoholic drinks, cigarette smoke, zinc smelters, cadmium plating used in soft drink dispensing machines. Cadmium toxicity is common among welders and construction workers (cement dust). Contamination may come from perms, dyes, bleach and some hair sprays, and can cause false highs for Cadmium. Symptoms of Contamination: hypertension; fatigue; muscle and joint pain/osteomalacia; anemia; lumbar pain; learning disabilities, dyslexia, delinquency, schizophrenia, high anxiety, atherosclerosis; kidney damage with associated urinary loss of essential minerals, amino acids and protein.

**Nutrients Recommended:**

Calcium MCHC • Chlorella Clean

## HIGH HAIR LEAD

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The Lead value is high in the hair.

The Center for Disease Control (CDC) reports the following symptoms as those frequently seen in exposed children: Abdominal pain, colics, severe and repeated vomiting; Irritability; Hyperactivity; Anorexia; Loss of appetite; Ataxia; Mental disturbances. Advanced stage: Mental retardation; Learning disability; Speech disturbances; Stupor or fatigue; Intermittent fever; Dehydration; Constipation, Diarrhea, Nausea; Altered sleep; Epileptic seizures; Headaches; Poor memory; Inability to concentrate; ADD/ADHD; Aberrant behavior; Decreased coordination; Irritability; Pain in abdomen, bones and muscles; Gout; Anemia.

Physiologically, the renal, nervous, reproductive, endocrine, immune, and hemopoietic systems are affected.

Sub-toxic oral exposure to lead and cadmium increases the susceptibility to bacterial and viral infections.

Other symptoms associated with the early stages of lead intoxication are:

Headaches; Vertigo; Tremor; Joint pain; Neuritis; General mental symptoms, psychoneuroses

Symptoms of acute intoxication include: Colic; Loss of muscle strength; Muscle tenderness; Paresthesia; Signs of neuropathy. Lead is known to damage the kidney, the liver, and the reproductive system, as well as to interfere with bone marrow function, basic cellular processes and brain functions. It is known to be responsible for convulsions, abdominal pain, paralysis, temporary blindness, extreme pallor, loss of weight and appetite, constipation and numerous other problems.

Lead causes nerve and mental problems, especially affecting learning ability in children. It was reported that the IQs of middle-class children dropped five to seven points after lead exposure, and Moon, et. al., demonstrated that lead levels also related to decreased visual and motor performance.

Therapeutic considerations: Mild lead exposure can be treated successfully with oral chelating agents, targeted mineral therapy and dietary measures. The following should be considered: Lead displaced calcium. In the case of calcium deficiency, lead is more readily deposited in tissues. Increases in phosphorus intake, vitamin C, vitamin B-complex, pectin, Vitamin E, Vitamins A and C, and Chromium can avoid cellular damage and reduce lead levels; Inadequate vitamin D intake facilitates the absorption of lead.

**COMMON SOURCES OF LEAD:**

**lead based paints; older homes; crystal; ceramics; canned food; food crops; water contamination.**

**Nutrients Recommended:**

Calcium MCHC • Chlorella Clean • Powdered Vitamin C with Ribose • Stress B Plus • Vital Trace Minerals

## HIGH HAIR MERCURY

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Mercury (Hg) is a toxic element for humans and animals. Hair mercury level is an accurate indicator of mercury body burden. A considerable variance in the sensitivity of different individuals to mercury has been observed, with some exhibiting symptoms at 3 to 5 ppm. Even very low levels of mercury have been found to suppress biological selenium activity. After dental amalgams are used, elevated hair mercury may be observed for six months to over a year. Hair mercury has been found to correlate with acute myocardial infarction where on average a 1 ppm mercury was found to correlate with a 9 percent increase in acute myocardial infarction risk.

Mercury displaces Selenium (which is a major anti-oxidant), zinc (protein, DNA and energy metabolism) and copper. Supplementation of magnesium, zinc, calcium, selenium, and manganese has been shown to be beneficial in relieving mercury loads.

Symptoms of acute contamination: Metallic taste, thirst, discoloration and edema of oral mucosa, burning mouth pain, salivation, abdominal pain, vomiting, bloody diarrhea, severe gastroenteritis, colitis, nephrosis, anuria, uremia, shock.

Symptoms of chronic contamination: gingivitis, weakness, ataxia, intention tremors, Chronic fatigue (caused by inhibition of thyroid conversion of T4 to T3); depression; poor memory and cognitive function; learning disabilities; behavioral disorders; emotional instability; speech impairment, irritability; peripheral numbness, tingling or neuropathy; sleep disturbance; decreased senses of touch, hearing or vision; hypersensitivity and allergies; persistent infections

including chronic yeast overgrowth; compromised immune function; cardiovascular disease. It disrupts intracellular transport in neurons and can decrease the production of neurotransmitters. Eventually this can lead to autoimmune diseases such as SLE (systemic lupus erythematosus), myelinopathies such as MS and myasthenia gravis, rheumatoid arthritis, MCS (multiple chemical sensitivity), and chronic candidiasis. An inverse relationship has been observed between hair mercury levels and intelligence scores in elementary school children.

**Other sources of mercury are: large fish, pesticide residues, mercurial fungicides on seed grains, dental fillings, coal burning, calomel (mercurous chloride), interior paints, pharmaceuticals, the manufacture of paper, pulp and plastic products, and water.**

**Nutrients Recommended:**

Chlorella Clean • Powdered Vitamin C with Ribose • Vital Trace Minerals

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## NOTED HAIR VALUES

### HIGH SELENIUM

The Selenium in the Hair is high. This is most often from external exposure, such as to dandruff shampoos. Toxicity can cause interference in the metabolism of sulfur-bearing amino acids, structural changes and red pigmentation of the hair and nails, garlic breath, metallic taste in the mouth, discoloration of teeth and skin, and gastroenteritis. High hair selenium is an accurate indicator of high serum levels.

### HIGH BARIUM

Barium compounds are found in soaps, ceramics, paper, glass, plastics, textiles, dyes, feul additives, rubber, paint and pesticides. Barium toxicity can cause vomiting, diarrhea, abdominal pain, muscular and myocardial stimulation, tingling in the extremities, and loss of tendon reflexes.

### HIGH GERMANIUM

The Germanium levels in the hair are high. This does not necessarily correlate with high levels of serum germanium.

### HIGH ALUMINUM

The Aluminum value is a little high. Any Aluminum is too much. Aluminum toxicity is associated with Alzheimer's and Parkinson's disease, behavioral/learning disorders such as ADD, ADHD and autism. High levels of aluminum have been found in the hair of delinquent, psychotic, and prepsychotic boys, and in juvenile offenders. Aluminum has neurotoxic effects at high levels, but low levels of accumulation may not elicit immediate symptoms. Early symptoms of Aluminum burden may include fatigue, headache, and other symptoms. Aluminum is a heavy metal that displaces your other good minerals, such as magnesium, calcium, zinc and phosphorus. One of the things that you should do to help your overall long-term health is to reduce your aluminum intake. The most common sources of aluminum to avoid are: antiperspirants, aluminum cookware, antacids, some baking sodas, baking powder, some breath mints, pickles, some skin lotion, some cosmetics, aluminum foil, canned goods, emulsifiers in some processed cheese, table salt - anti-caking compound, bleaching agent used in white flour, buffered aspirin, some toothpaste, dental amalgams, cigarette filters, and drinking water (tap water). Do not eat or drink anything that comes in a can. Read your labels before you purchase. Aluminum has also been found in a granola bar.

Aluminum rods are commonly used in hot water tanks in area of acidic water. These rods will dissolve neutralizing the water, thus protecting the hot water tank. A rod of magnesium is an option for the same purpose.

Note: Fluoride and Fluoridation increases the absorption of Aluminum.

Chlorella and Magnesium with Malic Acid have been reported to be quite effective in lowering Aluminum.

### LOW SULFUR

The Sulfur levels in the hair are a little low. The mineral sulfur is needed for the manufacture of many proteins, including those forming hair, muscles, and skin. Sulfur contributes to fat digestion and absorption, because it is needed to make bile acids. Sulfur is also a constituent of bones, teeth, and collagen (the protein in connective tissue). As a component of insulin, sulfur is needed to regulate blood sugar. Most dietary sulfur is consumed as part of certain amino acids in protein-rich foods. Meat and poultry, organ meats, fish, eggs, beans, and dairy products are all good sources of sulfur-containing amino acids. Sulfur also occurs in garlic and onions.

**Nutrients Recommended:**

Calcium MCHC • Chlorella Clean • MagMalic • Multiple • Vital Trace Minerals

To help get these heavy metals out of your system, which is very important, Chlorella is recommended. Magnesium and selenium, are both very important in getting these toxic metals through the kidneys. Chlorella and cilantro have the unique ability to actually get these heavy metals out of brain, liver, heart, and lung tissue. Adding fresh cilantro to the diet is also recommended. Cilantro is an herb that can be found in most supermarkets. Chop it up and add it to salads, sauces, etc. Since we are constantly being exposed to heavy metals in our society, it is recommend that even after you are feeling better that you continue with the Chlorella.



## LIFESTYLE / DIETARY RECOMMENDATIONS

### DIET FOCUS

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Food can be broken down into basically two categories:

1. Energy (calories from fat, carbohydrates and protein)
2. Nourishment (the nutrient density of the food; vitamin and mineral content).

When planning your meals, use this thought process:

1. Get at least 2 vegetables and 1 fruit with each meal.
2. Proteins: 25-35% of the meal needs to be of a protein source.
  - Focus on good quality protein and not the processed protein bars, drinks, and powders.
  - Most desirable proteins: meats (like chicken, fish, turkey and even red meat), eggs, beans, seeds, nuts, sprouts, quinoa, nut butters (ie. peanut butter, cashew butter, almond butter).
  - Eliminate these least desirable proteins: processed soy, processed dairy, pork, processed luncheon meats (those that contain "nitrates" or "nitrites").
  - Search Google "USDA SR 21" for a downloadable database to look up nutritional content of foods.
3. Carbohydrates: 40-60% of your meal needs to be carbohydrate.
  - Most desirable carbohydrates sources: whole grain breads, pastas (including egg noodles), and rice, whole vegetables, whole fruit.
  - Eliminate these least desirable carbohydrates: white sugar, white flour, fruit juice, high fructose corn syrup, chips, French fries, pop
4. Fats: Your meal should contain anywhere from 15-25% fat.
  - Most desirable fat sources: nuts (cashews, almonds, pecans, walnuts, Brazil nuts (raw and unsalted are preferred), seeds (sunflower seeds, pumpkin seeds), avocados, coconut oil, fish, nut butters (peanut butter, almond butter, etc)
  - Desirable Cooking Oils: Grape Seed Oil, Olive Oil, Coconut Oil, Palm Oil
  - Eliminated these least desirable fat sources: anything with trans-fat (AKA: hydrogenated fat), interesterified fat or Olestra. Bacon, sausage, etc.
  - Strictly avoid hydrogenated/trans-fats: About 80% of trans fats in your diet come from processed foods, fast food, primarily snack foods and desserts.
5. Special instructions may be given based upon certain metabolic conditions such as cancer, diabetes, kidney disorders etc.

### IDENTIFYING LOW NUTRIENT DENSE FOODS

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Below is a list of foods and items that will help you identify low nutrient dense foods and cooking/storage processes that lower the nutrient density in foods. These are strongly recommended you avoid. READ YOUR INGREDIENT LABELS!! Later in your report, you will find exchanges for these items and helpful hints for implementing these lifestyle habits.

1. Artificial Sweeteners: "aspartame", "saccharin", "sucralose", "acesulfame potassium", "sorbitol", "maltitol", etc.
2. Flavor Enhancers and Preservatives: "MSG", "monosodium glutamate", "nitrate" or "nitrite" ingredients found in many dressings, sauces, Chinese foods, processed meats, pork products, bologna, some wieners, and many luncheon meat. HVP (hydrolyzed vegetable protein) and processed soy proteins can contain up to 40% MSG.
3. Artificial colors and dyes: look for terms such as "FD&C", "lake", "red", "yellow", etc. Read your supplement labels carefully.
4. Canned Foods and Drinks: choose fresh or frozen varieties. Limit canned food consumption to canned beans and

tuna. Foods stored in glass are acceptable.

5. Microwave Cooking and Deep Frying lower the nutrient density more so than stove top cooking.

6. Artificial Fats: "hydrogenated" [a.k.a. "trans fat"] and "interesterified" fats are found in margarine, many pre-packaged foods, supplements, and dressings; avoid "Olestra" containing products.

7. Refined Carbohydrates: processed foods such as white sugar, white flour, corn syrup, "enriched" foods, etc.

8. Commercial Meats: Try to get the cleanest, freshest meat you can find. Look for meat that is labeled with terms such as "No Hormones", "No Antibiotics", "Free Range", "Organic", etc.

9. Shellfish and Bottom-feeders: crab, shrimp, lobster, oyster, catfish, etc.

10. Dairy Products: cottage cheese, yogurt, cheese, sour cream, etc. (anything with cow's milk). This does not include eggs.

11. Coffee (regular & chemically decaffeinated), Liquor (distilled), All sodas, Tea (black decaf & black regular). Organic herbal teas are acceptable.

12. Soy Products: isolated soy protein, texturized vegetable protein, soy supplements, soy protein powder, soy protein bars, tofu, etc. Limited fermented soy products (tempeh and miso) and whole soy beans are acceptable. Don't make soy your main protein source, limit to 3-4 servings per week.

13. Chlorine and Fluoride Sources: tap water, heavy chlorine exposure in swimming pools, fluoride toothpaste, fluoride supplements, fluoride mouthwash, etc.

## DIABETIC RECOMMENDATIONS

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1. Avoid all fruit juices.
2. Eat only one fruit and at least four fresh vegetables per day.
3. Eat a snack every hour and a half to two hours.
  - Eat by the clock. This is going to help take stress off your liver and maintain your glucose at a good level so it doesn't fluctuate so much.
  - The snack should be 4 to 5 bites of a complex carbohydrate, protein or foods that have healthy fats in them such as: sunflower seeds, pumpkin seeds, nuts, carrots with hummus or a few bites of chicken would be fine to eat.
4. Do this for at least the next two months or until your re-evaluation.

## AEROBIC EXERCISE

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Examples of aerobic exercise are jogging, cycling, elliptical trainer, fast-paced walking, etc. It is recommended that you build up to at least 40 minutes a day. If at first you do not have the energy to exercise this much, it is recommended that you start slowly by exercising 10 minutes two or three times a day until you can gradually build up to 40 minutes a day.

## STRENGTH TRAINING

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If you are not currently on a weight training program, a muscle building exercise (i.e. step exercise) 10 minutes a day is encouraged. If at first you do not have the energy or physical ability to perform this exercise, it is recommended that you start slowly by setting a goal to do this exercise 2 minutes two or three times a day until you can gradually build up to 10 minutes a day.

## WATER CONSUMPTION

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Drink 1 quart of clean, filtered water per 50lbs of body weight per day. Do not go over 3 quarts regardless of your weight. More water might be necessary depending on exercise, environment and perspiration. We recommend using a multiple filtration system for your drinking and cooking water. There are several types of these, which include reverse osmosis. Distilled water is not recommended. Since distilled water has little or no mineral content, it acts like a vacuum that can actually leach minerals from your system.

A word of caution - **anytime you make drastic changes in diet, vitamin intake, or exercise, realize that you may feel somewhat worse before you feel better.** It doesn't happen often, but as your body detoxifies, you may feel worse if it occurs too fast. If you do feel worse, don't panic, it will pass in probably 2-3 days. If this problem does occur, take half of what is recommended for three days and slowly over two weeks progress to taking the complete program.

Everything that has been recommended is very important and many of these things work together. In order to get the most effective results, it is important that you follow the program exactly as outlined. Following the diet may not be easy, but if you do, you will get the best outcome. Likewise, if you don't take the vitamins, or only take part of them, you may not see the expected results. Many people with some very serious problems have been helped using this

program. The purpose of this analysis is to benefit you. This is for your well being, so please do the program as recommended so that you will achieve the best results.

Attached is a list of vitamins that have been carefully selected for your specific problems. These vitamins are recommended because they are of the highest quality. Occasionally, you will hear rumors regarding vitamin toxicity. Rest assured that these issues have been researched and the risk of significant side effects is extremely low. Historical data and experience have shown these vitamins, along with the dietary changes, to be the best in helping you achieve the necessary improvements needed on your test results. If for some reason you need to return the supplements, please contact our front desk for our returns policy.

Please keep this report for future reference and bring it with you to your next evaluation.

We will be happy to provide you with an extra copy or fax/send your report to any other doctors at your request for \$20.00 per copy or fax.

If we can be of any further assistance to you or your family please do not hesitate to ask.

Yours in Health,

James W. Lundin, D.C.,RN, BSN

Legend: ■ Warning ■ High Risk ■ Critical ★ Optimal 😊 Improvement 😞 Worse ∅ No Improvement

Test Description	Current Rating 07/26/2007		Prior 05/15/2007	Delta	Healthy	Clinical	Units
Glucose	84.00	★	178.00	😊	80.00 - 95.00	65.00 - 99.00	mg/dL
Hemoglobin A1C (Gly-Hgh)	5.60	high	8.70	😊	5.00 - 5.50	4.80 - 5.90	%
Uric Acid	5.30	★	5.60		4.10 - 6.00	2.40 - 8.20	mg/dL
BUN (Blood Urea Nitrogen)	17.00	★	20.00	😊	13.00 - 18.00	5.00 - 26.00	mg/dL
Creatinine	0.79	★	1.00	😊	0.70 - 0.87	0.57 - 1.00	mg/dL
GFR EST (Glomerular Filtration Rate)	66.00	★	70.00		59.00 - 127.00	45.00 - 128.00	/min/1.73r
BUN / Creatinine Ratio	18.48	★	21.00	😊	13.00 - 20.00	8.00 - 27.00	ratio
Sodium	141.00	★	139.00	😊	139.00 - 143.00	135.00 - 145.00	meq/dL
Potassium	4.11	★	4.10		3.80 - 4.50	3.50 - 5.20	meq/dL
Chloride	103.00	★	104.00		102.00 - 106.00	97.00 - 108.00	meq/dL
Magnesium	2.30	★	2.20	😊	2.21 - 2.51	1.60 - 2.60	mg/dL
Calcium	9.73	★	9.30	😊	9.60 - 10.00	8.70 - 10.20	mg/dL
Phosphorus	3.70	★	3.90		3.40 - 4.00	2.50 - 4.50	mg/dL
Calcium/Albumin Ratio	2.31	★	2.33		2.10 - 2.50	2.03 - 2.71	ratio
Total Protein	7.40	★	5.95	😊	7.11 - 7.61	6.00 - 8.50	gm/dL
Albumin	4.20	★	3.00	😊	4.10 - 4.50	3.60 - 4.80	gm/dL
Globulin	3.53	high	2.95	😞	2.81 - 3.51	1.50 - 4.50	gm/dL
A/G Ratio	1.23	★	1.22	😊	1.22 - 1.60	1.10 - 2.50	ratio
Total Bilirubin	0.44	★	0.52		0.30 - 0.90	0.00 - 1.20	mg/dL
Alk. Phosphatase 25-530	77.00	★	67.00		40.00 - 120.00	25.00 - 150.00	IU/L
Creatine Kinase	134.00	high	150.00	😊	64.00 - 133.00	24.00 - 173.00	u/l
LDH	135.00	★	224.00	😊	120.00 - 160.00	100.00 - 250.00	mu/mL
SGOT (AST)	21.00	★	22.00		15.00 - 26.00	6.00 - 40.00	mu/mL
SGPT (ALT)	26.00	high	59.00	😊	15.00 - 26.00	6.00 - 40.00	mu/mL
GGT	29.00	★	66.00	😊	22.00 - 39.00	6.00 - 65.00	mu/mL
Serum Iron	79.00	low	31.00	😊	85.00 - 120.00	40.00 - 155.00	mcg/dL
Ferritin	20.00	low	2.00	😊	30.00 - 115.00	13.00 - 150.00	NG/ML
Total Cholesterol	188.00	high	227.00	😊	140.00 - 170.00	100.00 - 199.00	mg/dL
Triglyceride	84.00	★	85.00		80.00 - 115.00	10.00 - 149.00	mg/dL
HDL Cholesterol	63.00	★	43.00		39.00 - 120.00	36.00 - 140.00	mg/dL
VLDL Cholesterol	16.00	★	17.00		5.00 - 20.00	4.00 - 40.00	mg/dL
LDL Cholesterol	87.00	high	111.00	😊	50.00 - 75.00	6.00 - 99.00	mg/dL
Total Cholesterol / HDL Ratio	3.00	★	5.20	😊	0.00 - 4.00	0.00 - 5.00	ratio
Triglyceride/HDL Ratio	1.30	★	1.90		0.00 - 2.00	0.00 - 4.00	ratio
TSH	2.25	★	2.30		1.00 - 2.50	0.35 - 5.50	mIU/l
T4 Thyroxine	9.10	high	9.80	😊	7.10 - 9.00	4.50 - 12.00	mcg/dL
T3 Uptake	31.00	★	29.00		29.00 - 35.00	24.00 - 39.00	%
T7 Free Thyroxine Index (FTI)	2.70	★	2.80		2.61 - 3.60	1.20 - 4.90	
CRP C-Reactive Protein	6.70	High	13.00	😊	0.00 - 1.50	0.00 - 4.90	mg/L
White Blood Count	7.10	★	3.80	😊	5.00 - 8.00	4.00 - 10.50	k/cumm
Red Blood Count	4.90	★	3.80	😊	4.50 - 5.50	4.10 - 5.60	m/cumm
Hemoglobin	12.50	low	10.20	😊	13.30 - 15.20	11.50 - 17.00	gm/dL
Hematocrit	38.70	low	32.40	😊	39.50 - 47.00	34.00 - 50.00	%
MCV	91.00	★	89.00		85.00 - 97.00	80.00 - 98.00	cu.m
MCH	30.20	★	30.90		28.10 - 32.00	27.00 - 34.00	pg
MCHC	34.50	high	37.00	😊	33.00 - 34.00	32.00 - 36.00	%
Platelets	205.00	★	170.00	😊	175.00 - 250.00	140.00 - 415.00	k/cumm
Polys/Neutrophils (SEGS-PMNS)	60.00	★	68.00	😊	55.00 - 65.00	40.00 - 74.00	%
Lymphocytes	32.00	★	23.00	😊	25.00 - 40.00	14.00 - 46.00	%
Monocytes	6.20	★	6.00		5.00 - 7.00	4.00 - 13.00	%
Eosinophils	3.50	★	3.62		0.00 - 4.10	0.00 - 7.00	%
Basophils	0.09	★	1.00		0.00 - 2.00	0.00 - 3.00	%
ESR-Erythrocyte Sed Rate, Westergren	11.00	high	38.00	😊	0.00 - 6.00	0.00 - 20.00	mm/HR

Legend: ■ Warning ■ High Risk ■ Critical

	Prior Results					
	07/19/2006	01/05/2006	09/17/2005	03/22/2005	11/18/2004	05/12/2004
Glucose	93.00	99.00	95.00	96.00	99.00	109.00
Hemoglobin A1C (Gly-Hgh)	5.30	6.00	4.00		5.60	5.80
Uric Acid			4.00		5.50	5.60
BUN (Blood Urea Nitrogen)			21.00		20.00	20.00
Creatinine			1.20		1.00	1.00
GFR EST (Glomerular Filtration Rate)						
BUN / Creatinine Ratio					20.00	20.00
Sodium			138.00		139.00	135.00
Potassium			3.60		4.00	4.30
Chloride			101.00		103.00	101.00
Magnesium			2.40		2.20	2.20
Calcium			9.50		9.30	9.40
Phosphorus			3.80		3.80	3.90
Calcium/Albumin Ratio					2.20	2.33
Total Protein			7.80		7.80	7.00
Albumin			4.30		4.10	4.10
Globulin			3.50		3.70	3.80
A/G Ratio					1.10	1.50
Total Bilirubin					0.50	0.50
Alk. Phosphatase 25-530			90.00	200.00	68.00	88.00
Creatine Kinase			125.00			300.00
LDH				44.00	135.00	99.00
SGOT (AST)		35.00	50.00	70.00	40.00	16.00
SGPT (ALT)		45.00		70.00	55.00	50.00
GGT		62.00	55.00	200.00	70.00	120.00
Serum Iron			80.00		110.00	80.00
Ferritin			10.00		4.00	8.00
Total Cholesterol			200.00		215.00	200.00
Triglyceride			150.00		82.00	200.00
HDL Cholesterol			50.00		45.00	50.00
VLDL Cholesterol			10.00		30.00	10.00
LDL Cholesterol			140.00		140.00	140.00
Total Cholesterol / HDL Ratio			4.00		5.00	4.00
Triglyceride/HDL Ratio						
TSH						
T4 Thyroxine		9.40			8.00	
T3 Uptake		32.00			31.00	
T7 Free Thyroxine Index (FTI)		2.90			2.40	
CRP C-Reactive Protein		19.00	10.00		22.00	5.00
White Blood Count	7.60	7.70	11.00		7.40	8.00
Red Blood Count	3.96	3.55	2.20		2.90	5.00
Hemoglobin	9.20	8.60	9.50		14.00	14.00
Hematocrit	38.70	35.00	31.00		44.00	40.00
MCV	90.00	89.00	90.00		89.00	98.00
MCH	30.60	31.00	31.00		30.00	33.00
MCHC	35.00	34.00	35.00		34.00	36.00
Platelets	255.00	274.00	280.00		268.00	460.00
Polys/Neutrophils (SEGS-PMNS)	55.00	52.00			55.00	54.00
Lymphocytes	29.00	24.00			54.00	47.00
Monocytes	6.50	6.20			6.00	4.00
Eosinophils	4.33	4.23			4.00	0.00
Basophils	1.00	1.00			1.00	0.00
ESR-Erythrocyte Sed Rate, Westergren		31.00	20.00		33.00	22.00

Legend:   Warning   High Risk   Critical ★ Optimal 😊 Improvement ⊖ Worse ∅ No Improvement

Test Description	Current Rating 12/13/2007		Prior 06/01/2007	Delta	Healthy		Clinical		Units
<b>Toxic Elements</b>									
Aluminum	3.80	high	5.00	😊	0-	2.20	2.21-	7.00	ug/g
Antimony	0.02	★	0.05		0-	0.06	0.07-	0.12	ug/g
Arsenic	0.06	High	0.13	😊	0-	0.03	0.04-	0.06	ug/g
Barium	2.00	high	2.12	😊	0-	1.00	1.01-	2.00	ug/g
Beryllium	0.00	★	0.00		0-	0.01	0.02-	0.02	ug/g
Bismuth	0.10	★	0.10		0-	1.00	1.01-	2.00	ug/g
Cadmium	0.08	High	0.10	😊	0-	0.03	0.04-	0.05	ug/g
Lead	2.71	High	5.00	😊	0-	0.40	0.41-	0.60	ug/g
Mercury	2.33	High	4.00	😊	0-	0.50	0.51-	0.80	ug/g
Platinum	0.00	★	0.00		0-	0.00	0.01-	0.00	ug/g
Thallium	0.00	★	0.00		0-	0.00	0.01-	0.00	ug/g
Thorium	0.00	★	0.00		0-	0.00	0.01-	0.00	ug/g
Uranium	0.01	★	0.01		0-	0.03	0.04-	0.06	ug/g
Nickel	0.21	★	0.30	😊	0-	0.25	0.26-	0.30	ug/g
Silver	0.09	★	0.14	😊	0-	0.10	0.11-	0.15	ug/g
Tin	0.22	★	0.25		0-	0.29	0.30-	0.30	ug/g
Titanium	0.30	★	0.60	😊	0-	0.40	0.41-	0.70	ug/g
Total Toxic Representation	2.00	★	3.00	😊	0-	2.00	2.01-	3.00	
<b>Essential Elements</b>									
Calcium	1000.00	high	2,701.00	😊	663.00-	753.00	300.00-	1200.00	ug/g
Magnesium	98.00	high	290.00	😊	53.00-	62.00	35.00-	140.00	ug/g
Sodium	60.00	low	65.00	⊖	72.00-	126.00	18.00-	180.00	ug/g
Potassium	17.00	low	19.00	⊖	30.00-	53.00	8.00-	75.00	ug/g
Copper	19.00	★	26.00		18.00-	29.00	11.00-	37.00	ug/g
Zinc	142.00	low	163.00	⊖	150.00-	170.00	140.00-	220.00	ug/g
Manganese	0.50	high	0.20	⊖	0.28-	0.40	0.08-	0.60	ug/g
Chromium	0.28	Very Low	0.16	😊	0.48-	0.57	0.40-	0.65	ug/g
Vanadium	0.04	★	0.06	😊	0.04-	0.05	0.02-	0.06	ug/g
Molybdenum	0.04	★	0.03	😊	0.03-	0.04	0.02-	0.05	ug/g
Boron	1.40	★	1.40		0.65-	2.50	0.40-	3.00	ug/g
Iodine	0.45	low	0.25	😊	0.76-	1.30	0.25-	1.80	ug/g
Lithium	0.01	★	0.00	😊	0.01-	0.02	0.01-	0.02	ug/g
Phosphorus	189.00	★	173.00	😊	173.00-	197.00	150.00-	220.00	ug/g
Selenium	1.20	High	0.98	⊖	0.62-	1.03	0.55-	1.10	ug/g
Strontium	2.50	★	2.30		2.00-	2.90	0.50-	7.60	ug/g
Sulfur	45252.00	low	44,879.00	😊	46000.00-	48000.00	44000.00-	50000.00	ug/g
Cobalt	0.02	★	0.01	😊	0.02-	0.03	0.00-	0.04	ug/g
Iron	7.80	low	7.80	∅	9.00-	13.00	7.00-	16.00	ug/g
Germanium	0.05	High	0.05	∅	0.03-	0.04	0.03-	0.04	ug/g
Rubidium	0.03	★	0.01	😊	0.02-	0.03	0.01-	0.10	ug/g
Zirconium	0.11	★	0.10		0.07-	0.25	0.02-	0.42	ug/g

## VITAMIN AND SUPPLEMENT RECOMMENDATIONS

PATIENT Ann Onymous

SEX: F AGE: 44 WEIGHT: 145

<b><u>Supplement</u></b>	<b><u>Number Per Day</u></b>
Calcium MCHC	3
Chlorella Clean	4
Inflavonoid (Turmeric)	2
Iron Peptonate (Ferrotate)	1
MagMalic	2
Multiple	2
Opti-EPA 500	1
Powdered Vitamin C with Ribose	2
Stress B Plus	1
Sublingual B12FA	3
Vital Trace Minerals	2
Vitamin E Natural Complex-400	1