

SCIENCE BASED NUTRITION

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NUTRITION EVALUATION: 04/09/2019

PATIENT INFORMATION

Ann Onymous
1234 Anywhere St.
Anywhere OH 45425
(555) 555-5555
Sex: F
Birth Date: 10/01/1966
Age: 52
Blood Type: A+

DATA USED FOR ANALYSIS

PSS	02/20/2019
Vitals	02/20/2019
Medication	02/20/2019
Blood	02/20/2019
Hair	02/20/2019

VITALS

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

PRIMARY SYMPTOMS

1. Hypercholesterolemia (High Cholesterol) E78.0
2. Tendency of High Blood Pressure
3. Tachycardia (High Heart Rate) R00.0
4. Diabetes Mellitus E11.9

PRESENTING SYMPTOMS

Allergic Rhinitis from food J30.5 • Anxiety Disorder F41.9 • Arthritic Disorder M12.9 • Constipation K59.00 • Depression F32.9 • Diabetes Mellitus E11.9 • Edema R60.9 • Fibromyalgia M79.7 • GERD K21.9 • Headaches R51 • Hypercholesterolemia (High Cholesterol) E78.0 • Indigestion K30 • Poor Concentration/Memory F07.8 • Rheumatoid Arthritis M06.9 • Sinusitis J01.90 • Tachycardia (High Heart Rate) R00.0 • Energy level is worse than it was 5 years ago • Fingernails are soft • Fingernails are splitting • Has tattoos • Sensitive to chemicals, paint, exhaust fumes, cologne • Difficulty concentrating • Cold feet • Cold hands • Heart skips beats • Heart palpitations • Spells of rapid heart rate • Tendency of High Blood Pressure • Excessive thirst • 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 • Irritable Bowel • Tends to constipation • Drinks alcohol • Drinks caffeinated pop/soda • Drinks Decaffeinate 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 • 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.

Provider Comments/Findings

Patient tends to lose 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

- Diabetes
- Vitamin D Deficiency
- Thyroid Considerations
- Possible Lactate Dehydrogenase Deficiency
- Very Low Hair Chromium
- Noted Hair Values
- Gastro/Intestinal dysfunction
- Inflammation of Liver
- Anemia and Possible Hemochromatosis
- Noted Blood Values
- High Hair Cadmium

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

- Acetaminophen - Occasional.
- Glucophage - 6 months - 2 years.
- Naproxen Oral - 6 months - 2 years.
- Zetia - More than 2 years.
- Diflucan - 6 months - 2 years.
- Lipitor - Less than 6 months.
- Prilosec - More than 2 years.

SIDE EFFECTS OF MEDICATIONS

- **Acetaminophen** (Otherwise known as Tylenol) is indicated for use in treating minor aches and pains for pain/arthritis & Panadol.
Side Effects: hepatitis; hives; decreased blood platelets; decreased white blood cells; discolored spots and small elevations of the skin.
Possible Nutrients Depleted: Glutathione.
- **Fluconazole Oral** (Otherwise Known As: Diflucan) is used to treat fungal and yeast infections.
Side Effects: nausea; vomiting; diarrhea; stomach pain; headache; dizziness; and hair loss.
Possible Nutrients Depleted: Magnesium and Potassium.
- **Glucophage** (Otherwise known as Metformin) is indicated as an adjunct to diet to lower blood glucose.
Side Effects: diarrhea; nausea; vomiting; abdominal bloating; flatulence; anorexia; unpleasant or metallic taste; rash/dermatitis; & subnormal serum vitamin B 12 levels.
Possible Nutrients Depleted: Coenzyme Q10, Magnesium, Folic Acid, Vitamin B12 and B1.
- **Lipitor (also known as Atorvastatin)** is used to treat cholesterol problems.
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.
Possible Nutrients Depleted: Vitamin A, Vitamin D, Vitamin E, Vitamin K, Vitamin B12, Calcium, Folic Acid, Iron, Magnesium, Potassium, and CoQ10.
- **Naproxen Oral** (Otherwise known as Anaprox & Naprosyn) is used to relieve pain and inflammation associated with various conditions.
Side Effects: constipation; heartburn; abdominal pain; nausea; dyspepsia; diarrhea; stomatitis; headache; dizziness; drowsiness; lightheadedness; vertigo; skin eruptions; ecchymosis; 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; anaphylactic reactions; angioneurotic edema; menstrual disorders; chills and fever; aplastic anemia; hemolytic anemia; aseptic meningitis; cognitive dysfunction; epidermal necrolysis; erythema multiforme; Steven-Johnson syndrome; non-peptic gastrointestinal ulceration; ulcerative stomatitis; vasculitis; hyperglycemia; hypoglycemia.
Possible Nutrients Depleted: Folic Acid, Iron.
- **Prilosec** (Otherwise known as Omeprazole) is used to treat acid related stomach and throat problems.
Side Effects: 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.

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

- **Ezetimibe** (Otherwise known as Zetia) is used to help lower cholesterol.

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 multiform; hives; rash; abnormal liver function tests; depression; decreased blood platelets; dizziness; nausea; numbness; & tingling sensations.

Possible Nutrients Depleted: Vitamin A, Vitamin D, Vitamin E, Vitamin B12, Calcium, Folic Acid, Iron, Magnesium, Potassium, and CoQ10.

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 healthy range indicate results which are not as good as they should be. The tighter guidelines of the healthy range allows 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: 18

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.

DIABETES

The Glucose is normal and the Hemoglobin A1-C is high. Don't be misled by the glucose. This is diabetes. At this time, with the recommended vitamins and the Category 2 Diabetic Diet (found later in this report), the need for medication may be avoided. But closely following the program is vital. Significant change can occur within days.

NOTE to those currently on diabetic medication:

This reading could also be due to medication. A Category 2 diabetic diet is recommended. Test your glucose regularly, record it and report it to the doctor. It is possible and probable that as the body gets healthier, the dosage of medication will need to be reduced. Be sure and get retested. Significant change can occur within days.

This finding is supported by:

High Blood LDL Cholesterol • Low Blood Chloride • High Blood Magnesium • Low Blood Phosphorus • Low Blood Total Protein • High Blood SGPT (ALT) • High Blood GGT (r-GTP) • High Blood Ferritin • High Blood Total Cholesterol • Low Hair Chromium

This finding is associated with:

Presenting symptoms - Edema R60.9
Medications Taken - Naproxen Oral

Nutrients Recommended:

Glucoset

GASTRO/INTESTINAL DYSFUNCTION

The Chloride is low and the Calcium, Globulin, Total Protein, and Albumin are a little low. This is most likely due to poor digestion and/or low protein/high carbohydrate diet and seen in edema, malnutrition and malabsorption. Chloride, an electrolyte, is necessary for proper metabolism and digestion, especially the digestion of protein. A low Chloride is often due to loss of fluids from vomiting, diarrhea, sweating or high fevers but also drugs such as bicarbonates, corticosteroids, diuretics and laxatives can cause a loss of Chloride. Various vague symptoms of malaise or just not feeling well might occur. Chloride is regulated by the kidneys and helps control the acid and base balance in the body. Avoiding caffeine and alcohol is advised, stay well hydrated and digestive enzymes containing Chloride might be of benefit.

Many drugs or medications can cause or contribute toward any of these findings. Globulin, a type of protein, is important for a strong immune system and to fight disease. Albumin, another type of protein, helps with the transport of nutrients and is important for healing and repair. One out of every four bites of food you eat (25%) should be of a protein source, preferably more plant based protein such as seeds, nuts, beans and sprouts. Eggs and even some fish, chicken, turkey and possibly small amounts of red meat may be beneficial.

This finding is supported by:

Low Blood Albumin • High Blood SGOT (AST)

This finding is associated with:

Presenting symptoms - Abdominal gas • Belching and burping after eating • 3 or less bowel movements per week

Medications Taken - Lipitor • Prilosec • Naproxen Oral • Zetia • Diflucan • Glucophage

Nutrients Recommended:

Bio-Dophilus • SBN Betaine Plus • SBN Calcium MCHC 250mg

VITAMIN D DEFICIENCY

The Vitamin D 25 Hydroxy blood test is a little low. Levels less than 32 ng/mL have been shown to significantly reduce intestinal calcium absorption, reduced bone density, reduced immune system, increased insulin resistance and risk of many types of cancer. This is the best way to determine true Vitamin D status. Minimal levels should be at least 50 ng/mL. Increase sun exposure and/or take Vitamin D.

This finding is associated with:

Presenting symptoms - Depression F32.9 • Fibromyalgia M79.7 • Frequent fever blisters • Frequent sore throats • Frequent colds • Diabetes Mellitus E11.9 • Abnormal cycle >29 days and/or <26 days • Rheumatoid Arthritis M06.9 • Breast Fibroids

Nutrients Recommended:

Vitamin D 5000IU

INFLAMMATION OF LIVER

The SGOT and GGT are a little high and the SGPT is high. The liver is a little hypermetabolic or a little inflamed. Many drugs or alcohol can cause or contribute to this.

This finding is supported by:

Low Blood Albumin • Low Blood LDH • High Blood SGOT (AST) • High Blood GGT (r-GTP) • High Blood Serum Iron • High Blood Ferritin

This finding is associated with:

Medications Taken - Lipitor • Prilosec • Naproxen Oral

Nutrients Recommended:

Lipogen • Vitamin C 1000mg

THYROID CONSIDERATIONS

The TSH is high, the T7 and T4 are low, and the T3 Uptake is optimal. These findings could be due to thyroid or other medications. Regardless, the thyroid metabolism appears low due to the level of T4. TSH will usually elevate with low thyroid function. The elevated TSH should push or stimulate the thyroid to produce more thyroid hormones but the thyroid is not responding properly.

If thyroid symptoms are present then further testing and retesting is indicated. The thyroid gland controls your basal metabolic rate. This is the rate at which your body heals and repairs itself. It also determines how fast chemical reactions occur in the body. With a low-functioning thyroid, your immune system is going to be low, digestion is going to be slow and energy will be reduced. It is difficult to have a good cholesterol level with a low functioning thyroid. Large amounts of cauliflower, sauerkraut (cabbage), and asparagus do lower thyroid function; so do not eat these foods more than a couple of times per week. Note: poor digestion, low vitamin D, low protein, lack of exercise, infection, inflammation, liver and kidney dysfunction, deficiencies of minerals

and vitamins as well as exposure to toxic elements and chemicals can cause or contribute to thyroid dysfunction and caffeine lowers thyroid function. Use of nutrients to support the thyroid and changes in diet can change thyroid function can alter the need or dosage of medications. Improving diet and correcting the problems mentioned above might have the best effect. Interestingly, most cancers are seen in people with low thyroid function.

This finding is associated with:

Presenting symptoms - Depression F32.9 • Hypercholesterolemia (High Cholesterol) E78.0 • Energy level is worse than it was 5 years ago • Cold hands • Cold feet • Heart skips beats • Frequently feels cold • Excessive menstrual flow • Abnormal cycle >29 days and/or <26 days • Heart palpitations

Medications Taken - Lipitor

Nutrients Recommended:

ThyroAdvance

ANEMIA AND POSSIBLE HEMOCHROMATOSIS

The Ferritin is very high, the Serum Iron is a little high, the Red Blood Count (RBC), Hemoglobin, and Hematocrit are a little low, and the White Blood Count (WBC) is optimal. Ferritin is a blood test that typically indicates iron reserves. High levels of iron reserves (Ferritin) show the severity of Hemochromatosis or iron overload. Hemochromatosis is possibly the most common genetic condition in the world. The severity of Hemochromatosis symptoms and levels of Ferritin vary widely even within the same family. As levels of iron build up in the organs there can be rust like build up in organs most likely affecting the pancreas, liver, heart and spleen function. This rust/excess iron will destroy cells in the body and alter function. Donating blood or blood letting (phlebotomies) are performed regularly depending on the levels of Ferritin in order to lower your iron stores. As the iron stores are reduced, the Ferritin will also go down. Serial Ferritin testing will indicate the frequency of phlebotomy needed to maintain optimal Ferritin levels as well as the need for future phlebotomies.

Hemochromatosis is difficult to diagnosis based on symptoms because early symptoms are commonly associated with other conditions like chronic fatigue syndrome, arthritis, muscle weakness, thyroid disorders, hormonal problems in men and women, cardiovascular problems including arrhythmias like A-Fib, headaches, high blood pressure, prostate problems and even hair loss are seen. Many autoimmune diseases often show significant improvement with just one phlebotomy if high Ferritin is present. Some people also notice a darkening of mood, lower energy and reduced thought clarity as Ferritin increases.

Interestingly, in pre-menopausal women, Hemochromatosis is rare due to the loss of blood with monthly menstruation but once menopause occurs women develop Hemochromatosis at the same rate as men. Post-menopausal women develop progressive hormone and thyroid problems leading to ever increasing drugs for HRT, bio-identical HRT and thyroid hormone medications as well as conditions associated in men with hemochromatosis like heart diseases, diabetes, cancer, liver, kidney diseases and other problems.

There is anemia indicated with the mild low RBC, Hemoglobin, and Hematocrit that is likely due to the Hemochromatosis. If there is no advanced kidney or liver disease, cancer or diabetes, then one phlebotomy (having blood taken or drawn) of one pint of blood at least 2-4 weeks before your next blood test is recommended but only if cancer or other contraindications for phlebotomy are absent.

Nutrients Recommended:

B6 100mg • Methyl B12 Select • Silymarin 80 (Milk Thistle)

POSSIBLE LACTATE DEHYDROGENASE DEFICIENCY

The LDH is low. Lactate dehydrogenase (LDH) is a key enzyme that converts sugar into cellular

energy, particularly in muscle cells. Two types of LDH deficiency exist: lactate dehydrogenase-A and lactate dehydrogenase-B. Muscle pain, fatigue, and cramping during exercise are common with LDH-A deficiency however, there are typically no signs or symptoms associated with LDH-B deficiency. Consuming large amounts of ascorbic acid (vitamin C) can also be tied to decreased LDH levels.

This finding is supported by:

Low Blood Calcium • Low Blood Total Protein • Low Blood Albumin

This finding is associated with:

Presenting symptoms - Fibromyalgia M79.7 • Energy level is worse than it was 5 years ago

Nutrients Recommended:

MagMalic

NOTED BLOOD VALUES

The Magnesium is high. This is seen with kidney involvement, use of antacids containing magnesium, hypotension and central nervous system depression and poor utilization of magnesium.

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 is not that significant.

The Creatine Kinase (CK) is a little high. This is commonly associated with a mild breakdown of muscle and is commonly seen with exercise. Make sure the diet has sufficient high quality protein. Elevated CK can also be seen with hypothyroidism.

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.

This finding is associated with:

Medications Taken - Glucophage

Nutrients Recommended:

Opti EPA

VERY LOW HAIR CHROMIUM

The chromium level in the hair 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 CADMIUM

The cadmium level in the hair 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. Recent studies have shown associations with cadmium and tumors of the lung, kidney, breast and prostate.

Cadmium also 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:
Chlorella Clean, 180 caps • SBN Calcium MCHC 250mg

NOTED HAIR VALUES

The lead level in the hair is a little high. Clinical signs and symptoms: abdominal pain; colic; severe and repeated vomiting; irritability; hyperactivity; anorexia; loss of appetite; ataxia; mental disturbances. In advanced stage you may see signs of 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 and hair loss. 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 lead intoxication are: anemia; gastric distress; fatigue; weight loss; headaches; vertigo; tremor; joint pain; decreased coordination; neuritis; general mental symptoms; psychoneuroses; poor memory; constipation; inability to concentrate; colic; loss of appetite; loss of muscle strength; muscle tenderness; paresthesia and signs of neuropathy. Lead is known to damage the kidney, the liver, and the reproductive system. It also is known to interfere with bone marrow function, basic cellular processes and brain functions. It has been the cause of 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 are related to decreased visual and motor performance. Lead interferes with utilization of calcium, magnesium, vitamin D and zinc.

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 displaces 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, vitamin 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; automobile emissions, lead smelting and lead-soldered cans, water contamination, newsprint, industrial pollution and some fertilizers.

The selenium level 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.

The barium level in the hair is a little high. Barium compounds are found in soaps, ceramics, paper, glass, plastics, textiles, dyes, fuel 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.

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

The aluminum level in the hair 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. 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. Prosthetic devices produced by Zimmer Company and Johnson and Johnson typically are made of aluminum, vanadium, and titanium, which might cause increased levels in the hair and/or urine.

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.

The arsenic level in the hair is a little 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.

The mercury (Hg) level in the hair is a little high. Mercury 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.

The sulfur level in the hair is 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:

Chlorella Clean, 180 caps • MagMalic • Multiple Vitamin • SBN Calcium MCHC 250mg • Vital Trace Minerals

LIFESTYLE & DIETARY RECOMMENDATIONS

DIET FOCUS

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 with each meal. Fruit should be limited only if you have glucose handling issues. However, always consume more vegetables than fruits.
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").
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/soda
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

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

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 evaluation.

AEROBIC EXERCISE

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

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

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 a few 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 supplements that have been carefully selected for your specific problems. All supplement dosages should be spread throughout the day and taken with food unless otherwise suggested. These supplement brands 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 supplements, along with the dietary changes, to be the best in helping you achieve the necessary improvements needed on your test results.

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

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

Yours In Health,

Science Based Nutrition

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

Test Description	Current Rating 02/20/2019		Prior 04/15/2018	Delta	Healthy	Clinical	Units
Glucose	93.00	★	178.00	😊	80.00 - 95.00	65.00 - 99.00	mg/dL
Hemoglobin A1C (Gly-Hgh)	6.70	High	8.70	😊	4.80 - 5.61	4.50 - 6.41	%
Uric Acid	5.30	★	5.60		3.50 - 6.60	2.50 - 7.10	mg/dL
BUN (Blood Urea Nitrogen)	17.00	★	20.00	😊	8.00 - 18.00	6.00 - 24.00	mg/dL
Creatinine	0.79	★	1.00	😊	0.70 - 0.87	0.57 - 1.00	mg/dL
GFR Est.	66.00	★	70.00		59.00 - 145.00	45.00 - 150.00	/min/1.73m ²
BUN / Creatinine Ratio	18.48	★	21.00	😊	12.00 - 19.00	9.00 - 23.00	ratio
Sodium	141.00	★	139.00		139.00 - 143.00	134.00 - 144.00	mmol/L
Potassium	4.11	★	4.10		3.80 - 4.50	3.50 - 5.20	mmol/L
Chloride	96.00	Low	90.00	😊	102.00 - 105.00	97.00 - 106.00	mmol/L
Magnesium	2.30	High	2.20	😞	1.90 - 2.20	1.60 - 2.30	mg/dL
Calcium	9.40	low	9.30	😊	9.61 - 10.00	8.70 - 10.20	mg/dL
Phosphorus	0.00	Very Low	3.90	😞	3.40 - 4.00	2.50 - 4.50	mg/dL
Total Protein	6.20	low	5.95	😊	7.10 - 7.61	6.00 - 8.50	g/dL
Albumin	4.00	low	3.55	😊	4.10 - 4.50	3.50 - 5.50	g/dL
Globulin	2.20	low	1.40	😊	2.80 - 3.51	1.50 - 4.50	g/dL
A/G Ratio	1.23	★	1.22		1.20 - 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	77.00	★	67.00		64.74 - 91.26	39.00 - 117.00	IU/L
Creatine Kinase	134.00	high	150.00	😊	32.00 - 116.00	24.00 - 173.00	U/L
LDH	87.00	Low	224.00	😞	154.31 - 190.70	119.00 - 226.00	IU/L
SGOT (AST)	32.00	high	65.00	😊	10.00 - 26.00	0.00 - 40.00	IU/L
SGPT (ALT)	40.00	High	70.00	😊	8.00 - 26.00	0.00 - 32.00	IU/L
GGT (r-GTP)	50.00	high	66.00	😊	10.00 - 35.00	0.00 - 60.00	IU/L
Serum Iron	121.00	high	31.00	😊	71.00 - 115.00	27.00 - 159.00	ug/dL
Ferritin	320.00	Very High	430.00	😊	45.00 - 110.00	15.00 - 150.00	ng/mL
Total Cholesterol	188.00	high	227.00	😊	150.00 - 180.00	100.00 - 199.00	mg/dL
Triglyceride	84.00	★	85.00		50.00 - 150.00	0.00 - 200.00	mg/dL
HDL Cholesterol	63.00	★	43.00	😊	50.00 - 150.00	40.00 - 200.00	mg/dL
VLDL Cholesterol	18.00	★	17.00		6.00 - 20.00	5.00 - 40.00	mg/dL
LDL Cholesterol	87.00	high	111.00	😊	50.00 - 75.00	0.00 - 99.00	mg/dL
Total Cholesterol / HDL Ratio	3.00	★	5.20	😊	0.00 - 4.00	0.00 - 4.40	ratio
TSH	5.20	High	2.30	😞	0.50 - 3.50	0.45 - 4.50	uIU/mL
T4 Thyroxine	4.20	Low	9.80	😞	7.10 - 9.00	4.50 - 12.00	ug/dL
T3 Uptake	31.00	★	29.00		29.00 - 35.00	24.00 - 39.00	%
T7 (Free T4 Index) (FTI)	1.10	Low	2.80	😞	2.61 - 3.60	1.20 - 4.90	
CRP C-Reactive Protein	1.40	★	13.00	😊	0.00 - 1.50	0.00 - 4.90	mg/L
White Blood Count	5.80	★	3.80	😊	5.70 - 8.50	3.40 - 10.80	k/cumm
Red Blood Count	4.20	low	3.80	😊	4.27 - 4.78	3.77 - 5.28	m/cumm
Hemoglobin	11.70	low	10.20	😊	12.60 - 14.50	11.10 - 15.90	g/dL
Hematocrit	37.00	low	32.40	😊	38.00 - 42.00	34.00 - 46.60	%
MCV	91.00	★	89.00		84.00 - 92.00	79.00 - 97.00	fL
MCH	30.20	★	30.90		28.60 - 31.00	26.60 - 33.00	pg
MCHC	34.50	high	37.00	😊	33.20 - 34.50	31.50 - 35.70	g/dL
RDW	14.00	★			13.30 - 14.40	12.30 - 15.40	%
Platelets	220.00	★	170.00	😊	215.00 - 319.00	150.00 - 379.00	k/cumm
Polys/Neutrophils (SEGS-PMNS)	52.00	★	68.00	😊	51.00 - 63.00	40.00 - 74.00	%
Lymphocytes	24.00	★	23.00	😊	24.00 - 36.00	14.00 - 46.00	%
Monocytes	6.20	★	6.00		5.00 - 7.00	4.00 - 13.00	%
Eosinophils	3.20	★	3.62	😊	0.00 - 3.50	0.00 - 5.00	%
Basophils	0.09	★	1.00		0.00 - 2.00	0.00 - 3.00	%
ESR-Erythrocyte Sed Rate, Westergren	8.00	★	38.00	😊	0.00 - 10.00	0.00 - 40.00	mm/hr
Vitamin D 25-Hydroxy (total)	45.00	low	12.00	😊	50.00 - 90.00	30.00 - 100.00	ng/mL

Legend: ■ Warning ■ High Risk ■ Critical

	Prior Results					
	06/13/2017	04/13/2017	03/17/2016	04/15/2015	05/10/2014	06/13/2013
Glucose	93.00	93.00	98.00	96.00	99.00	109.00
Hemoglobin A1C (Gly-Hgh)	6.70	5.30	4.00		5.60	5.80
Uric Acid	5.30		4.00		5.50	5.60
BUN (Blood Urea Nitrogen)	17.00		21.00		20.00	20.00
Creatinine	0.79		1.20		1.00	1.00
GFR Est.	66.00					
BUN / Creatinine Ratio	18.48				20.00	20.00
Sodium	141.00		138.00		139.00	135.00
Potassium	4.11		3.60		4.00	4.30
Chloride	96.00		101.00		103.00	101.00
Magnesium	2.30		2.40		2.20	2.20
Calcium	9.40		9.50		9.30	9.40
Phosphorus	0.00		3.80		3.80	3.90
Total Protein	6.20		7.80		7.80	7.00
Albumin	4.00		4.30		4.10	4.10
Globulin	2.20		3.50		3.70	3.80
A/G Ratio	1.23				1.10	1.50
Total Bilirubin	0.44				0.50	0.50
Alk. Phosphatase	77.00		90.00	200.00	68.00	88.00
Creatine Kinase	134.00		125.00			300.00
LDH	87.00			44.00	135.00	99.00
SGOT (AST)	32.00		50.00	70.00	40.00	16.00
SGPT (ALT)	40.00			70.00	55.00	50.00
GGT (r-GTP)	50.00		55.00	200.00	70.00	120.00
Serum Iron	121.00		80.00		110.00	80.00
Ferritin	320.00		10.00		4.00	8.00
Total Cholesterol	188.00		200.00		215.00	200.00
Triglyceride	84.00		150.00		82.00	200.00
HDL Cholesterol	63.00		50.00		45.00	50.00
VLDL Cholesterol	18.00		10.00		30.00	10.00
LDL Cholesterol	87.00		140.00		140.00	140.00
Total Cholesterol / HDL Ratio	3.00		4.00		5.00	4.00
TSH	5.20	2.40				
T4 Thyroxine	4.20	10.02			8.00	
T3 Uptake	31.00	32.00			31.00	
T7 (Free T4 Index) (FTI)	1.10	3.00			2.40	
CRP C-Reactive Protein	1.40	15.01	10.00		22.00	5.00
White Blood Count	5.80	7.60	11.00		7.40	8.00
Red Blood Count	4.20	3.96	2.20		2.90	5.00
Hemoglobin	11.70	9.20	9.50		14.00	14.00
Hematocrit	37.00	38.70	31.00		44.00	40.00
MCV	91.00	90.00	90.00		89.00	98.00
MCH	30.20	30.60	31.00		30.00	33.00
MCHC	34.50	35.00	35.00		34.00	36.00
RDW						
Platelets	220.00	255.00	280.00		268.00	460.00
Polys/Neutrophils (SEGS-PMNS)	52.00	55.00			55.00	54.00
Lymphocytes	24.00	29.00			54.00	47.00
Monocytes	6.20	6.50			6.00	4.00
Eosinophils	3.20	4.33			4.00	0.00
Basophils	0.09	1.00			1.00	0.00
ESR-Erythrocyte Sed Rate, Westergren	8.00		20.00		33.00	22.00
Vitamin D 25-Hydroxy (total)	45.00					

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

Test Description	Current Rating 02/20/2019		Prior 04/15/2018	Delta	Healthy		Clinical		Units
Toxic Elements									
Aluminum	3.80	high	5.00	😊	0 - 2.20	2.21 - 7.00			ug/g
Antimony	0.02	★	0.05	😊	0 - 0.02	0.03 - 0.05			ug/g
Arsenic	0.04	high	0.13	😊	0 - 0.03	0.04 - 0.06			ug/g
Barium	2.00	high	2.12	😊	0 - 1.50	1.51 - 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	0.49	high	5.00	😊	0 - 0.40	0.41 - 0.60			ug/g
Mercury	0.77	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 - 0.02	0.03 - 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			
Essential Elements									
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 - 120.00			ug/g
Sodium	60.00	low	65.00	☹️	95.00 - 174.00	20.00 - 250.00			ug/g
Potassium	17.00	low	19.00	☹️	30.00 - 53.00	8.00 - 75.00			ug/g
Copper	19.00	★			18.00 - 29.00	11.00 - 37.00			ug/g
Zinc	142.00	low			150.00 - 170.00	140.00 - 220.00			ug/g
Manganese	0.50	high			0.28 - 0.40	0.08 - 0.60			ug/g
Chromium	0.28	Very Low			0.48 - 0.57	0.40 - 0.65			ug/g
Vanadium	0.04	★			0.04 - 0.05	0.02 - 0.06			ug/g
Molybdenum	0.04	★			0.03 - 0.04	0.02 - 0.05			ug/g
Boron	1.40	high			0.76 - 1.20	0.25 - 1.50			ug/g
Iodine	0.45	low			0.76 - 1.30	0.25 - 1.80			ug/g
Lithium	0.01	★			0.01 - 0.02	0.01 - 0.02			ug/g
Phosphorus	189.00	★			173.00 - 197.00	150.00 - 220.00			ug/g
Selenium	1.20	High			0.62 - 1.03	0.55 - 1.10			ug/g
Strontium	2.50	★			2.00 - 2.90	0.50 - 7.60			ug/g
Sulfur	45252.00	low			46000.00 - 48000.00	44000.00 - 50000.00			ug/g
Cobalt	0.02	★			0.02 - 0.03	0.00 - 0.04			ug/g
Iron	7.80	low			9.00 - 13.00	7.00 - 16.00			ug/g
Germanium	0.05	High			0.03 - 0.04	0.03 - 0.04			ug/g
Rubidium	0.03	★			0.02 - 0.03	0.01 - 0.10			ug/g
Zirconium	0.11	★			0.07 - 0.25	0.02 - 0.42			ug/g

Legend: ■ Warning ■ High Risk ■ Critical

		06/13/2017	Prior Results			
Toxic Elements						
Aluminum		3.80				
Antimony		0.02				
Arsenic		0.04				
Barium		2.00				
Beryllium		0.00				
Bismuth		0.10				
Cadmium		0.08				
Lead		0.49				
Mercury		0.77				
Platinum		0.00				
Thallium		0.00				
Thorium		0.00				
Uranium		0.01				
Nickel		0.21				
Silver		0.09				
Tin		0.22				
Titanium		0.30				
Total Toxic Representation		2.00				
Essential Elements						
Calcium		1,000.00				
Magnesium		98.00				
Sodium		60.00				
Potassium		17.00				
Copper		19.00				
Zinc		142.00				
Manganese		0.50				
Chromium		0.28				
Vanadium		0.04				
Molybdenum		0.04				
Boron		1.40				
Iodine		0.45				
Lithium		0.01				
Phosphorus		189.00				
Selenium		1.20				
Strontium		2.50				
Sulfur		45,252.00				
Cobalt		0.02				
Iron		7.80				
Germanium		0.05				
Rubidium		0.03				
Zirconium		0.11				

VITAMIN AND SUPPLEMENT RECOMMENDATIONS

SUPPLIER: #1 SBN/Merkle Vitamin Line

PATIENT: Ann Onymous

SEX: F

AGE: 52

WEIGHT: 145

<u>Supplement</u>	<u>Number Per Day</u>
B6 100mg	2
Bio-Dophilus	1
Chlorella Clean, 180 caps	4
Glucoset	2
Lipogen	2
MagMalic	2
Methyl B12 Select	3
Multiple Vitamin	2
Opti EPA	1
SBN Betaine Plus	3
SBN Calcium MCHC 250mg	2
Silymarin 80 (Milk Thistle)	6
ThyroAdvance	4
Vital Trace Minerals	2
Vitamin C 1000mg	3
Vitamin D 5000IU	1