

PRO-HOLISTIC CARE

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NUTRITION EVALUATION: 08/03/2017

PATIENT INFORMATION

Chicago il 60641
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Sex: F
Birth Date: 1955
Age: 61
Blood Type: O+

DATA USED FOR ANALYSIS

Hair	05/08/2017
PSS	05/23/2017
Vitals	08/01/2017
Medication	08/01/2017
Blood	08/01/2017

VITALS

Height: 5'2"
Weight: 195
Blood Pressure: 182 / 88
O2 Level: 98%
Heart Rate: 71

PRESENTING SYMPTOMS

Chronic Fatigue R53.82 • Desires Nutritional and Metabolic Analysis • Eczema L25.9 • General Good Health • Hypercholesterolemia (High Cholesterol) E78.0 • Skin Disorder L25.9 • Swollen Joints • Type 2 Diabetes E11.65 • Drinks less than 8 glasses of water per day • Dry hair • Energy level is worse than it was 5 years ago • Fingernails are soft • Rarely exercises • Frequent swollen ankles • High blood pressure • Varicose veins • Diabetic • Mild Cataracts • Near sighted • Frequent nausea • Loose bowel movements • Has had a flu shot in the last year • Home water is filtered • Home pipes are copper • Home built prior to 1978 • Low back pain • Muscle weakness • Chronic cough • Frequent colds • Problems with Eczema

Patient Comments

She mentioned is feeling ill for the last 3 plus months

Provider Comments/Findings

The patient feels weak and fatigue. Look pale and confused.

PRIMARY FINDINGS SUGGESTIVE OF

- Hypercholesterolemia
- Possible Kidney Involvement
- Gastro/Intestinal dysfunction
- Thyroid Considerations
- Anemia and Possible Hemochromatosis
- Chronic Wasting Symptoms
- Very High Hair Tin
- Very High Hair Magnesium
- Very Low Hair Molybdenum
- Noted Hair Values
- Diabetes
- Dehydration effects
- Inflammation of Liver
- Anemia
- Possible infection and/or inflammation
- Noted Blood Values
- Very High Hair Calcium
- Very Low Hair Vanadium
- Very Low Hair Selenium

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

- Pioglitzone/Metformin - 6 months - 2 years.

SIDE EFFECTS OF MEDICATIONS

- **Actoplus Met Oral** (Otherwise known as Pioglitazone/Metformin) is used along with a proper diet and exercise program to control high blood sugar in people with type 2 diabetes (non-insulin-dependent diabetes). This medication works by helping to restore your body's proper response to the insulin you naturally produce. Controlling high blood sugar helps prevent heart disease, strokes, kidney disease, blindness, and circulation problems, as well as sexual function problems (decrease in sexual ability). Pioglitazone belongs to a class of drugs known as thiazolidinediones or "glitazones". Metformin is a biguanide-type drug. Side Effects: Nausea, stomach upset, diarrhea, loss of appetite and metallic taste may occur at the beginning of treatment as your body adjusts to the medication. If stomach symptoms return later (after you are on the same dose for several days or more), tell your doctor immediately. Returning stomach symptoms may be due to lactic acidosis. Headache, dizziness, tooth problems, weight gain, stuffy nose, cough and fever may also occur. Tell your doctor immediately if any of these unlikely but serious side effects occur: new/worsening vision problems (e.g., color or night vision problems), bone fracture. Seek immediate medical attention if any of these rare but very serious side effects occur: vomiting, stomach pain, yellowing eyes/skin, dark urine. This medication usually does not cause low blood sugar (hypoglycemia), but this effect may occur if you do not consume enough calories (from food, juices, fruit, etc.). The symptoms include chills, cold sweat, dizziness, drowsiness, shaking, rapid heart rate, weakness, headache, fainting, tingling of the hands/feet, or hunger. To help prevent hypoglycemia, eat meals on a regular schedule and do not skip meals. Symptoms of high blood sugar (hyperglycemia) include thirst, increased urination, confusion,

drowsiness, flushing, rapid breathing, and fruity breath odor. Symptoms of a serious allergic reaction may include: rash, itching, swelling, severe dizziness, trouble breathing.

Possible Nutrients Depleted: Vitamin B12 and Folic Acid.

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: 172	■ HDL Cholesterol: 46
■ LDL Cholesterol: 106	■ VLDL Cholesterol: 20

Coronary Risk Assessment: 3.74 Average

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.

HYPERCHOLESTEROLEMIA

The LDL Cholesterol is high and the VLDL Cholesterol is a little high. This is too much of the bad cholesterol. The HDL Cholesterol is a little low. This is significant even though the Total Cholesterol is good. Excess weight, poor diet, caffeine intake and lack of exercise all contribute to this condition. This should be reasonable to manage and correct with the recommended dietary plan, nutrients and exercise.

This finding is supported by:

Low Blood T3 Uptake • High Blood CRP C-Reactive Protein • High Blood ESR-Erythrocyte Sed Rate, Westergren • Low Hair Chromium • Low Hair Selenium

Nutrients Recommended:

Niatab 500 • Opti EPA

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:

Low Blood HDL Cholesterol • High Blood LDL Cholesterol • High Blood Phosphorus • High Blood LDH • High Blood SGPT (ALT) • High Blood GGT • Low Blood Serum Iron • High Blood Ferritin • Low Blood Polys/Neutrophils • Low Hair Chromium • Low Hair Vanadium

This finding is associated with:

Medications Taken - Pioglitzone/Metformin

Nutrients Recommended:

Glucoset

POSSIBLE KIDNEY INVOLVEMENT

The BUN/Creatinine Ratio is high. This suggests a urinary tract infection. Dehydration may be a factor.

This finding is supported by:

Low Blood HDL Cholesterol • High Blood LDL Cholesterol • High Blood Phosphorus • Low Blood A/G Ratio • High Blood Creatine Kinase • High Blood LDH • High Blood SGOT (AST) • High Blood GGT • Low Blood Serum Iron • Low Blood Red Blood Count • Low Blood Platelets • High Blood ESR-Erythrocyte Sed Rate, Westergren • High Blood BUN / Creatinine Ratio

This finding is associated with:

Medications Taken - Pioglitzone/Metformin

Nutrients Recommended:

Vitamin C 1000mg

DEHYDRATION EFFECTS

High Protein.

A high Phosphorus level. This level of Phosphorus, while not critical, needs to be monitored. Causes of high phosphorus: Youth or children that are growing. In adults high phosphorus can be linked to: exercise; dehydration and hypovolemia; high phosphorus content enema; acromegaly; hypoparathyroidism; pseudohypoparathyroidism; bone metastases; hypervitaminosis D; sarcoidosis; milk-alkali syndrome; liver disease, such as portal cirrhosis; catastrophic events such as cardiac resuscitation, pulmonary embolism, renal failure; diabetes mellitus with ketosis; serum artifact-sample not refrigerated; overheated, hemolyzed sample, or serum allowed to remain too long on the clot. Although phosphate accumulation occurs as renal disease progresses, hyperphosphatemia is not a feature of early renal failure; it does not usually develop before renal function has diminished to about 25% of normal. Osteitis fibrosa in uremic subjects, from excessive bone turnover, relates to hyperphosphatemia. The role of hyperphosphatemia in promotion of such secondary hyperparathyroidism is well established. A relationship to osteomalacia in hemodialysis patients exists. Retesting and possibly further testing is necessary if the levels of phosphorus are decreasing or increasing.

This finding is associated with:

Medications Taken - Pioglitzone/Metformin

GASTRO/INTESTINAL DYSFUNCTION

The Calcium is a little low. This is likely a calcium deficiency associated with poor digestion or malnutrition (insufficient proper calcium intake).

This finding is supported by:

High Blood SGOT (AST) • Low Blood Serum Iron • High Blood Lymphocytes • High Blood Monocytes

This finding is associated with:

Presenting symptoms - Type 2 Diabetes E11.65

Medications Taken - Pioglitzone/Metformin

Nutrients Recommended:

Betaine Plus • Calcium MCHC 250mg

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 HDL Cholesterol • High Blood Total Protein • High Blood Globulin • Low Blood A/G Ratio • High Blood LDH • High Blood SGOT (AST) • High Blood GGT • High Blood Ferritin • Low Blood Polys/Neutrophils • High Blood Lymphocytes • High Blood ESR-Erythrocyte Sed Rate, Westergren

This finding is associated with:

Presenting symptoms - Type 2 Diabetes E11.65

Medications Taken - Pioglitzone/Metformin

Nutrients Recommended:

Lipogen • Vitamin C 1000mg

THYROID CONSIDERATIONS

The T4 is a little high, the T3 Uptake is a little low, and the T7 and TSH are optimal. These findings could be due to thyroid or other medications. Regardless, thyroid function appears a little elevated due to the level of T4.

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. No additional nutritional thyroid support is indicated.

This finding is associated with:

Presenting symptoms - Chronic Fatigue R53.82 • Hypercholesterolemia (High Cholesterol) E78.0 • Energy level is worse than it was 5 years ago • Dry hair

ANEMIA

The RDW is high and this stands for Red cell Distribution Width and is usually seen with iron deficiency anemia.

This finding is supported by:

Low Blood HDL Cholesterol • High Blood Hemoglobin A1C • High Blood LDH • High Blood SGOT (AST) • Low Blood Platelets • Low Blood Polys/Neutrophils • High Blood ESR-Erythrocyte Sed Rate, Westergren • High Hair Tin

This finding is associated with:

Presenting symptoms - Chronic Fatigue R53.82 • Energy level is worse than it was 5 years ago • Has had a flu shot in the last year • Home built prior to 1978

Medications Taken - Pioglitzone/Metformin

ANEMIA AND POSSIBLE HEMOCHROMATOSIS

The Ferritin is high and the Serum Iron, White Blood Count (WBC), Red Blood Count (RBC), Hemoglobin, and Hematocrit are a little low. This may be an inflammatory condition possibly involving the liver or a more serious disease. This may also be a condition associated with

improper utilization of iron known as Hemochromatosis. More serious conditions might be developing as noted below but it is also possible that the Ferritin is so high that it is affecting the ability to produce RBC's. A single trial phlebotomy is recommended as long as there is no history of cancer, liver disease or serious inflammation.

Hemochromatosis is excess iron stores. The solution for Hemochromatosis is periodic phlebotomies (blood letting) in order to pull excess iron out of your system and lower your iron stores. Ferritin is a blood test that detects the level of iron stores and iron reserves. The Ferritin test determines the severity of Hemochromatosis and can be used to monitor the need for therapeutic phlebotomies. In the early stages there are no symptoms or only vague symptoms such as painful joints, fatigue, weakness, a loss of libido/sex drive, abdominal pains and swelling, auto immune thyroid problems, auto immune disease, and various heart problems, such as a-fib and heart flutters. If left untreated, the excess iron (Ferritin) builds up in the organs for hemochromatosis patients - especially in the liver, heart, spleen, and pancreas - it tends to destroy cells. Eventually, the iron builds up in the organs similar to rust. Long term excess iron can cause hormonal problems in men and women as well as frequent infections, skin bronzing or hair loss. Hemochromatosis can be a significant cause of early death especially in men who are being treated for heart, liver, kidney disease, cancer, high blood pressure, diabetes, stroke or other chronic problems. Liver cirrhosis (liver scarring), spleen enlargement (splenomegaly), liver cancer, heart failure, diabetes, and arthritis are all possibilities for advanced untreated hemochromatosis sufferers as the excess iron builds up to cause tissue damage.

Hemochromatosis is rare in women who are having monthly periods. However, as a women enters menopause, women develop it at the same rate as men once menses stops. Various extensive drugs, hormones and treatments might be tried when the most important thing to do is to get rid of some iron using phlebotomies on a regular basis. Genetic or not, this is a familial condition- if one person in the family has it, more than likely other members and extended family are also affected.

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 Plus • Silymarin 80 (Milk Thistle)

POSSIBLE INFECTION AND/OR INFLAMMATION

The Globulin is a little high and the A/G Ratio (Albumin/Globulin) is very low. This may be associated with infections, inflammatory diseases, arthritis, chronic fatigue syndrome and of course more serious conditions. These findings result in a lowered immune system.

The LDH and the C-reactive Protein (CRP) are a little high and the Erythrocyte Sed Rate (ESR) is very high, which indicates nonspecific tissue injury and inflammation. This ESR indicates a very high inflammatory process. 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.

The White Blood Count (WBC) is a little low, the Polys (Neutrophils) and Platelets are low, the Lymphocytes are high and the Monocytes are a little high. Bacterial and viral infections, cancer and many other conditions will most commonly elevate WBC's and Polys initially, with more severe problems or chronic infections the WBC's and Polys (neutrophil) reserves and productive capacity of bone marrow may be incapable of keeping up with demand resulting in lower and

lower WBC's and Polys indicating a weakening immune system and slower healing. This could be a sign of a more serious condition developing. The Platelets at this level likely support the finding of infection. The Lymphocytes and Monocytes support an auto-immune imbalance, viral infection and even food allergies may need to be considered.

This finding is supported by:

High Blood Total Protein • High Blood Globulin • Low Blood A/G Ratio • High Blood Creatine Kinase • High Blood LDH • High Blood SGOT (AST) • Low Blood Serum Iron • High Blood CRP C-Reactive Protein • Low Blood Platelets • Low Blood Polys/Neutrophils • Low Hair Selenium

This finding is associated with:

Presenting symptoms - Eczema L25.9 • Skin Disorder L25.9 • Swollen Joints • Chronic cough • Problems with Eczema • Has had a flu shot in the last year

Medications Taken - Pioglitzone/Metformin

Nutrients Recommended:

Coryza Forte • Inlflavonoid • Lauricidin • Vitamin C 1000mg

CHRONIC WASTING SYMPTOMS

The Creatinine is a little low. This may be seen with low muscle mass, inadequate dietary protein or a small body mass.

This finding is associated with:

Medications Taken - Pioglitzone/Metformin

NOTED BLOOD VALUES

The Creatine Kinase, LDH and C-reactive Protein are a little high, which indicates mild and possibly chronic tissue injury, inflammation or infection. The slightly elevated LDH is associated with cell destruction. It doesn't tell where, just that there is a problem. This elevated Creatine Kinase may be associated with muscle breakdown from exercise. The body is continually breaking down and rebuilding. The problem is when the breakdown is too much or the body isn't repairing quickly enough. These three 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 heart attack or stroke. A CRP close to zero is desired.

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.

The MCHC is a little low indicating a possible mild iron deficiency or a need for B12 and/or Folic Acid. Mean Corpuscular Hemoglobin Concentration is the amount of hemoglobin present in the average red cell as compared to its size.

Nutrients Recommended:

Methyl B12 Plus • Nutri E Forte 400 • Vitamin C 1000mg

VERY HIGH HAIR TIN

The tin level in the hair is very high. The **most common sources of tin are: tap water, preserved foods in tin cans, asparagus packaged in glass, processing and packaging of: gelatin, smoked fish, macaroni, dried legumes, dried milk, milk in large cans, tea, dental amalgams, cosmetics, preservatives, pewter, bronze, and anticorrosive platings.**

Organic tin has appreciable toxicity. Experiments have shown that increased tin ingestion causes depressed growth and reduced hemoglobin levels and liver function in rats.

Elevated tin resulted in elevated losses of calcium, selenium and zinc.

Symptoms of excess tin include: skin, eyes and/or GI tract irritation; muscle weakness; anemia and testicular degeneration; vomiting; diarrhea; abdominal cramps; loss of appetite; tightness of chest; metallic taste; dry throat; coma (in very extreme cases) and pneumoconiosis as a result of excessive inhalation of tin oxide.

Nutrients Recommended:

Calcium MCHC 250mg • Chlorella Clean, 180 caps • Vital Trace Minerals

VERY HIGH HAIR CALCIUM

The calcium in the hair is very high. High levels of calcium in the hair is most often associated with an imbalance of the calcium to phosphorus ratio in the body. Other causes include hyperparathyroidism and excess vitamin A or D intake. Excess calcium may depress nervous functions, and lead to depression, irritability, memory impairment, and psychosis.

Nutrients Recommended:

Calcium MCHC 250mg

VERY HIGH HAIR MAGNESIUM

The magnesium level in the hair is very high. High levels of magnesium in the hair has been associated with hypoglycemia, maldistribution, renal failure, prolonged emotional or physical stress, depression of the central nervous system, and physiological imbalance of calcium and phosphorus. Symptoms include chronic kidney disease, respiratory depression, cardiac arrest, and coma.

VERY LOW HAIR VANADIUM

The vanadium level in the hair is very low. Vanadium is found in the body of mammals, and there is evidence that it is essential for chicks, rats, and goats. Chickens require vanadium for the growth and development of wings and feathers. In rats, inadequate vanadium intake results in stunted growth. Vanadium-deficient goats show irreversible bone deformities in their front legs. Vanadium catalyzes the oxidation of catecholamines (norepinephrine: adrenergic vasoconstriction, epinephrine, dopamine: vasoconstriction), may inhibit cholesterol synthesis and lower phospholipid levels in blood, may have anti-hyperglycemic function, a weight-reducing function, some anabolic effects, reduces caries formation, and influences sodium/potassium transport. Vanadium supplementation reduced fasting blood glucose levels after only a few days. Vanadium activated transport and conversion of fructose independent of insulin.

Source: liver, pancreas, kidneys, thyroid, and testes are rich in vanadium. This element is found especially in fiber-rich foods. The highest concentration is found in vegetable oils. Dill seeds, parsley and black pepper are especially rich in vanadium.

Long-term excessive vanadium supplementation can be toxic because vanadium readily combines and interferes with the biological functions of amino acids, peptides, proteins, enzyme substrates, nucleotides, carbohydrates and ATP. Toxicity is higher after inhalation. Vanadium is poorly absorbed by the gastrointestinal tract.

Nutrients Recommended:

Vanadium 250mcg • Vital Trace Minerals

VERY LOW HAIR MOLYBDENUM

The molybdenum level in the hair is very low. Molybdenum is essential for plants. Medical research states that it is possibly anticarcinogenic. The states of Colorado and Ohio have soils particularly rich in molybdenum, and report the lowest incidences of cancer of the esophagus. This type of cancer is particularly widespread in South Africa, which has very low molybdenum concentration. Molybdenum is important for uric acid metabolism. Liver and kidney are good meat sources. Good plant sources are legumes, wheat germ, and leafy vegetables.

Molybdenum deficiency: reduced resistance against cancer, impotence, uric acid accumulation (gout), defects in the metabolism of sulfur amino acids, dental caries, susceptibility to asthma.

Nutrients Recommended:

Multiple Vitamin • Vital Trace Minerals

VERY LOW HAIR SELENIUM

The selenium level in the hair is very low. Selenium is found in the liver, red blood cells, platelets and other tissues. It is a strong antioxidant that works with vitamin E. It is an antioxidant that helps prevent chromosomal damage and protects cellular function. A deficiency has been associated with many types of cancers and tumors. In animals a deficiency of selenium can lead to brain dysfunction, cardiovascular, liver and muscle problems and can affect fetal development. Statistically, the occurrence of cancer is considerably higher in areas with a low selenium content of the soil. It also counteracts the effects of chemical allergies and sensitivities.

Nutrients Recommended:

Selenium 200mcg • Vital Trace Minerals

NOTED HAIR VALUES

The sodium level in the hair is high. Sodium (Na) is an essential element. Blood testing for hair sodium may be the result of an electrolyte imbalance, or possibly adrenocortical hyperactivity. In this condition, blood sodium is elevated while potassium is low. Potassium is elevated (wasted) in the urine. High levels of sodium and potassium in the hair are commonly high in association with elevated levels of toxic elements or xenobiotics. Elevated sodium and potassium levels are frequently concomitant with low levels of calcium and magnesium in hair.

The zinc level in the hair is low. Low levels of zinc in the hair are commonly associated with diabetes, ADD/ADHD, and autism. Symptoms of zinc deficiency include fatigue, decreased vision, anorexia, anemia, dermatitis, weak or brittle nails and hair, impaired wound healing, and sexual dysfunction in males. Dietary sources of zinc include lean meats, eggs, and whole grain breads and cereals.

The copper level in the hair is low. Common symptoms of copper deficiency include elevated cholesterol, increased inflammatory response, anemia, bone disorders, reproductive failure, degeneration of the nervous system, depression, microcytic anemia, heart disease, pancreatic dysfunction, diarrhea, and impaired immunity. Dietary sources include dried legumes, nuts, and dark green leafy vegetables.

The chromium level in the hair is 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.

The Lithium level in the hair is low. Only very small amounts of Lithium are needed. Hair levels of lithium do not necessarily indicate a deficiency according to most recent studies.

The strontium level in the hair is very high. This does not necessarily reflect high levels of serum strontium.

The barium level in the hair is 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.

Nutrients Recommended:

Chlorella Clean, 180 caps • Lithium 50mcg • Multiple Vitamin • 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").
 - 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/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,

Rae Bouvin, DC

Name:

Lab: LabCorp

Blood Test Results

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

Test Description	Current Rating 08/01/2017		Prior 05/10/2017	Delta	Healthy	Clinical	Units
Glucose	90.00	★	303.00	😊	80.00 - 95.00	65.00 - 99.00	mg/dL
Hemoglobin A1C (Gly-Hgh)	7.60	High	12.00	😊	5.00 - 5.60	4.80 - 6.40	%
Uric Acid	5.40	★	3.90		3.50 - 6.60	2.50 - 7.10	mg/dL
BUN (Blood Urea Nitrogen)	20.00	★	21.00		11.00 - 24.00	8.00 - 27.00	mg/dL
Creatinine	0.66	low	0.75	😞	0.70 - 0.87	0.57 - 1.00	mg/dL
GFR Est.	96.00	★	86.00		59.00 - 145.00	45.00 - 150.00	/min/1.73r
BUN / Creatinine Ratio	30.00	High	28.00	😞	14.00 - 23.00	11.00 - 26.00	ratio
Sodium	141.00	★	139.00		139.00 - 143.00	134.00 - 144.00	meq/dL
Potassium	4.40	★	4.60	😊	3.80 - 4.50	3.50 - 5.20	meq/dL
Chloride	102.00	★	98.00	😊	102.00 - 105.00	97.00 - 106.00	meq/dL
Magnesium	2.20	★	2.20		1.90 - 2.20	1.60 - 2.30	mg/dL
Calcium	9.60	low	9.10	😊	9.61 - 10.00	8.70 - 10.20	mg/dL
Phosphorus	4.70	High	3.40	😞	3.40 - 4.00	2.50 - 4.50	mg/dL
Total Protein	8.30	high	8.30	∅	7.10 - 7.61	6.00 - 8.50	gm/dL
Albumin	4.10	★	3.90	😊	4.10 - 4.50	3.50 - 5.50	gm/dL
Globulin	4.20	high	4.40	😊	2.80 - 3.51	1.50 - 4.50	gm/dL
A/G Ratio	1.00	Very Low	0.90	😊	1.20 - 1.60	1.10 - 2.50	ratio
Total Bilirubin	0.80	★	0.50		0.30 - 0.90	0.00 - 1.20	mg/dL
Alk. Phosphatase 25-530	65.00	★	91.00	😊	65.00 - 88.00	45.00 - 108.00	IU/L
Creatine Kinase	122.00	high	51.00	😞	32.00 - 116.00	24.00 - 173.00	u/l
LDH	213.00	high	201.00	😞	120.00 - 160.00	119.00 - 226.00	IU/L
SGOT (AST)	37.00	high	44.00	😊	10.00 - 26.00	0.00 - 40.00	IU/L
SGPT (ALT)	36.00	High	50.00	😊	8.00 - 26.00	0.00 - 32.00	IU/L
GGT	40.00	high	66.00	😊	10.00 - 35.00	0.00 - 60.00	IU/L
Serum Iron	79.00	low	78.00	😊	85.00 - 120.00	27.00 - 133.00	mcg/dL
Ferritin	163.00	High	158.00	😞	45.00 - 110.00	15.00 - 150.00	NG/ML
Total Cholesterol	172.00	★	167.00		150.00 - 180.00	100.00 - 199.00	mg/dL
Triglyceride	99.00	★	263.00	😊	50.00 - 125.00	0.00 - 149.00	mg/dL
HDL Cholesterol	46.00	low	40.00	😊	55.00 - 120.00	39.00 - 140.00	mg/dL
VLDL Cholesterol	20.00	high	53.00	😊	6.00 - 20.00	5.00 - 40.00	mg/dL
LDL Cholesterol	106.00	High	74.00	😞	50.00 - 75.00	6.00 - 99.00	mg/dL
Total Cholesterol / HDL Ratio	3.70	★	4.20	😊	0.00 - 4.00	0.00 - 4.40	ratio
TSH	1.06	★	1.26		0.50 - 3.50	0.45 - 4.50	uIU/mL
T4 Thyroxine	10.70	high	11.00	😊	7.10 - 9.00	4.50 - 12.00	mcg/dL
T3 Uptake	28.00	low	23.00	😊	29.00 - 35.00	24.00 - 39.00	%
T7 (Free T4 Index) (FTI)	3.00	★	2.50	😊	2.61 - 3.60	1.20 - 4.90	
CRP C-Reactive Protein	2.20	high	4.90	😊	0.00 - 1.50	0.00 - 4.90	mg/L
White Blood Count	5.20	low	5.60	😞	5.70 - 8.50	3.40 - 10.80	k/cumm
Red Blood Count	4.26	low	4.78	😞	4.27 - 4.78	3.77 - 5.28	m/cumm
Hemoglobin	12.60	low	13.70	😞	12.60 - 14.50	11.10 - 15.90	gm/dL
Hematocrit	37.90	low	41.80	😞	38.00 - 42.00	34.00 - 46.60	%
MCV	89.00	★	87.00		84.00 - 92.00	79.00 - 97.00	cu.m
MCH	29.60	★	28.70		28.60 - 31.00	26.60 - 33.00	pg
MCHC	33.20	low	32.80	😊	33.20 - 34.50	31.50 - 35.70	%
RDW	15.50	High	14.50	😞	13.30 - 14.40	12.30 - 15.40	%
Platelets	138.00	Low	142.00	😞	215.00 - 319.00	150.00 - 379.00	k/cumm
Polys/Neutrophils (SEGS-PMNS)	40.00	Low	48.00	😞	51.00 - 63.00	40.00 - 74.00	%
Lymphocytes	49.00	High	39.00	😞	24.00 - 36.00	14.00 - 46.00	%
Monocytes	9.00	high	10.00	😊	5.00 - 7.00	4.00 - 13.00	%
Eosinophils	2.00	★	3.00		0.00 - 3.50	0.00 - 5.00	%
Basophils	0.00	★	0.00		0.00 - 2.00	0.00 - 3.00	%
Neutrophils/Polys (Absolute)	2.10	low	2.70	😞	2.90 - 5.50	1.40 - 7.00	x10E/uL
Lymphs (Absolute)	2.50	★	2.20		1.20 - 2.60	0.70 - 3.10	x10E/uL
Monocytes (Absolute)	0.50	★	0.50		0.30 - 0.65	0.10 - 0.90	x10E/uL

Test Description	Current Rating 08/01/2017		Prior 05/10/2017	Delta	Healthy	Clinical	Units
Eosinophils (Absolute)	0.10	★	0.20		0.00 - 0.20	0.00 - 0.40	x10E/uL
Basophils (Absolute)	0.00	★	0.00		0.00 - 0.10	0.00 - 0.20	x10E/uL
Granulocytes - Immature	0.00	★	0.00		0.00 - 1.50	0.00 - 2.00	%
Granulocytes - Immature (Abs)	0.00	★	0.00		0.00 - 0.05	0.00 - 0.10	x10E/uL
ESR-Erythrocyte Sed Rate, Westergren	52.00	Very High	47.00	☹	0.00 - 10.00	0.00 - 40.00	mm/HR
Vitamin D 25-Hydroxy (total)	50.00	★	22.50	☺	50.00 - 90.00	30.00 - 100.00	NG/ML
Urine- Specific Gravity			1.01		1.01 - 1.02	1.01 - 1.03	60 sec
Urine- pH			5.00		6.00 - 7.00	5.00 - 7.50	60 sec
Urine- WBC Esterase			0.00		0.00 - 1.02	0.00 - 2.00	pos/neg
Urine- Protein			0.00		0.00 - 1.00	0.00 - 2.00	pos/neg
Urine- Glucose			250.00		0.00 - 100.00	0.00 - 250.00	60 sec
Urine- Ketones			0.00		0.00 - 1.00	0.00 - 2.00	60 sec
Urine- Occult Blood			0.00		0.00 - 1.02	0.00 - 2.00	pos/neg
Urine- Bilirubin			0.00		0.00 - 1.00	0.00 - 2.00	60 sec
Urine- Urobilinogen, Semi-Qn			0.20		0.30 - 0.70	0.20 - 1.00	mg/dL

Name:

Lab: Doctor's Data #1, (with Ranges)

Hair Test Results

Legend:  Warning  High Risk  Critical  Optimal  Improvement  Worse  No Improvement

Test Description	Current Rating 05/08/2017		Prior	Delta	Healthy		Clinical		Units
Toxic Elements									
Aluminum	2.00	★			0-	2.20	2.21-	7.00	ug/g
Antimony	0.01	★			0-	0.04	0.05-	0.07	ug/g
Arsenic	0.01	★			0-	0.03	0.04-	0.06	ug/g
Barium	4.40	High			0-	1.00	1.01-	2.00	ug/g
Beryllium	0.01	★			0-	0.01	0.02-	0.02	ug/g
Bismuth	0.00	★			0-	1.00	1.01-	2.00	ug/g
Cadmium	0.01	★			0-	0.03	0.04-	0.05	ug/g
Lead	0.10	★			0-	0.40	0.41-	0.60	ug/g
Mercury	0.04	★			0-	0.50	0.51-	0.80	ug/g
Platinum	0.00	★			0-	0.00	0.01-	0.00	ug/g
Thallium	0.00	★			0-	0.00	0.01-	0.00	ug/g
Uranium	0.01	★			0-	0.03	0.04-	0.06	ug/g
Nickel	0.17	★			0-	0.25	0.26-	0.30	ug/g
Silver	0.04	★			0-	0.10	0.11-	0.15	ug/g
Tin	4.50	Very High			0-	0.29	0.30-	0.30	ug/g
Titanium	0.34	★			0-	0.40	0.41-	0.70	ug/g
Essential Elements									
Calcium	4440.00	Very High			663.00-	753.00	300.00-	1200.00	ug/g
Magnesium	1100.00	Very High			53.00-	62.00	35.00-	120.00	ug/g
Sodium	270.00	High			72.00-	126.00	20.00-	250.00	ug/g
Potassium	24.00	low			30.00-	53.00	8.00-	75.00	ug/g
Copper	11.00	Low			18.00-	29.00	11.00-	37.00	ug/g
Zinc	130.00	Low			150.00-	170.00	140.00-	220.00	ug/g
Manganese	0.19	low			0.28-	0.40	0.08-	0.60	ug/g
Chromium	0.33	Low			0.48-	0.57	0.40-	0.65	ug/g
Vanadium	0.01	Very Low			0.04-	0.05	0.02-	0.06	ug/g
Molybdenum	0.01	Very Low			0.03-	0.04	0.02-	0.05	ug/g
Boron	1.30	★			0.65-	1.30	0.25-	1.50	ug/g
Iodine	0.50	low			0.76-	1.30	0.25-	1.80	ug/g
Lithium	0.01	Low			0.01-	0.02	0.01-	0.02	ug/g
Phosphorus	166.00	low			173.00-	197.00	150.00-	220.00	ug/g
Selenium	0.30	Very Low			0.62-	1.03	0.55-	1.10	ug/g
Strontium	16.00	Very High			2.00-	2.90	0.50-	7.60	ug/g
Sulfur	47600.00	★			46000.00-	48000.00	44000.00-	50000.00	ug/g
Cobalt	0.01	low			0.02-	0.03	0.00-	0.04	ug/g
Iron	11.00	★			9.00-	13.00	7.00-	16.00	ug/g
Germanium	0.04	High			0.03-	0.04	0.03-	0.04	ug/g
Rubidium	0.02	low			0.02-	0.03	0.01-	0.10	ug/g
Zirconium	0.10	★			0.07-	0.25	0.02-	0.42	ug/g

VITAMIN AND SUPPLEMENT RECOMMENDATIONS

SUPPLIER: #1 SBN/Merkle Vitamin Line

PATIENT:

SEX: F

AGE: 61

WEIGHT: 195

<u>Supplement</u>	<u>Number Per Day</u>
B6 100mg	2
Betaine Plus	3
Calcium MCHC 250mg	2
Chlorella Clean, 180 caps	6
Coryza Forte	3
Glucoset	2
Inflavonoid	6
Lauricidin	2
Lipogen	3
Lithium 50mcg	0.25
Methyl B12 Plus	4
Multiple Vitamin	3
Niatab 500	2
Nutri E Forte 400	2
Opti EPA	1
Selenium 200mcg	0.25
Silymarin 80 (Milk Thistle)	6
Vanadium 250mcg	0.5
Vital Trace Minerals	2
Vitamin C 1000mg	6

CUSTOMIZED THERAPEUTIC NUTRITION PER INDIVIDUAL TESTING AND FINDINGS