NutriPATH
INTEGRATIVE PATHOLOGY SERVICES
P: 1300 688 522
E: info@nutripath.com.au

JANINA VAISNORIENE
12-Dec-1996 Female

10 BRIDGEFIELD PARKWAY
ROCKBANK VIC 3335

-.EBONY NASH
PEAK NATUROPATHY
ONLINE
CLINIC 1000

LAB ID : 3917430
UR NO. : 6191369
Collection Date : 03-Sep-2023
Received Date: 06-Sep-2023

3917430

Hair Mineral Analysis

Summary At A Glance

Essential Mineral Deficiency

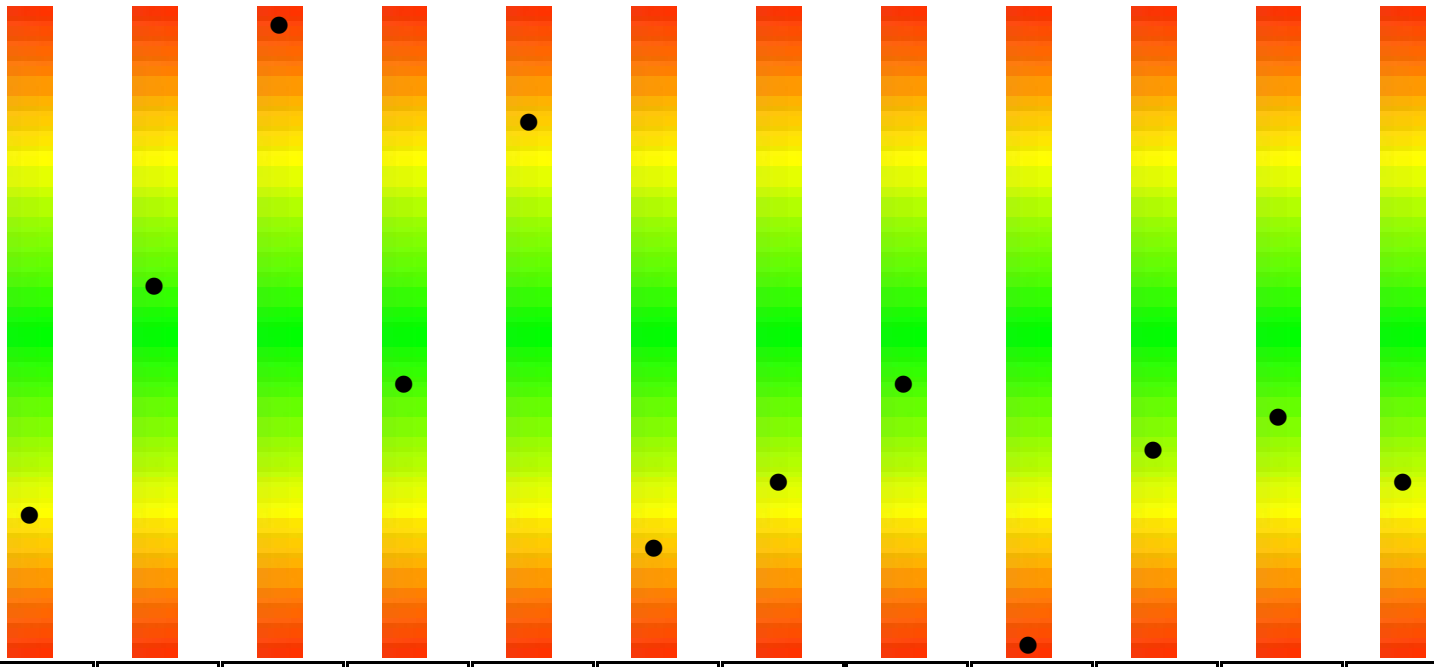
Zinc

Essential Mineral Excess

Copper

Toxic Elements

Essential Mineral Ratios



	Ca/Cu Calcium/Copper	Ca/Fe Calcium/Iron	Ca/Mg Calcium/Magnesium	Ca/Sr Calcium/Strontium	Ca/Zn Calcium/Zinc	Fe/Cu Iron/Copper	Fe/Mn Iron/Manganese	Zn/Cr Zinc/Chromium	Zn/Cu Zinc/Copper	Zn/Fe Zinc/Iron	Zn/Mg Zinc/Magnesium	Zn/Mn Zinc/Manganese
Result	17.1	178.9	46.1 *H	1897	10.9	0.1 *L	26.0	992	1.6 *L	16.4	4.23	427
Range	5.5 - 292.0	16.1 - 293.0	4.9 - 26.1	41 - 5517	0.9 - 11.3	0.1 - 2.5	5.5 - 195.0	383 - 2254	8.2 - 13.2	10.4 - 45.4	1.09 - 12.40	142 - 3542

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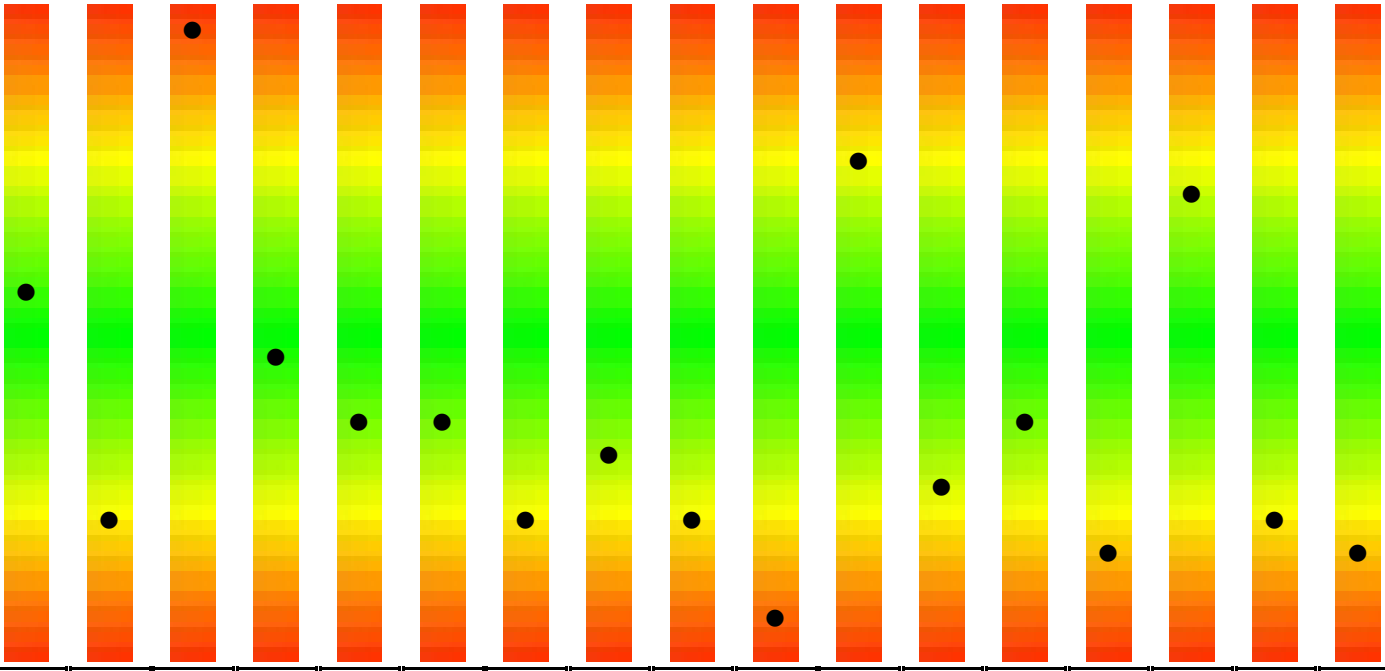
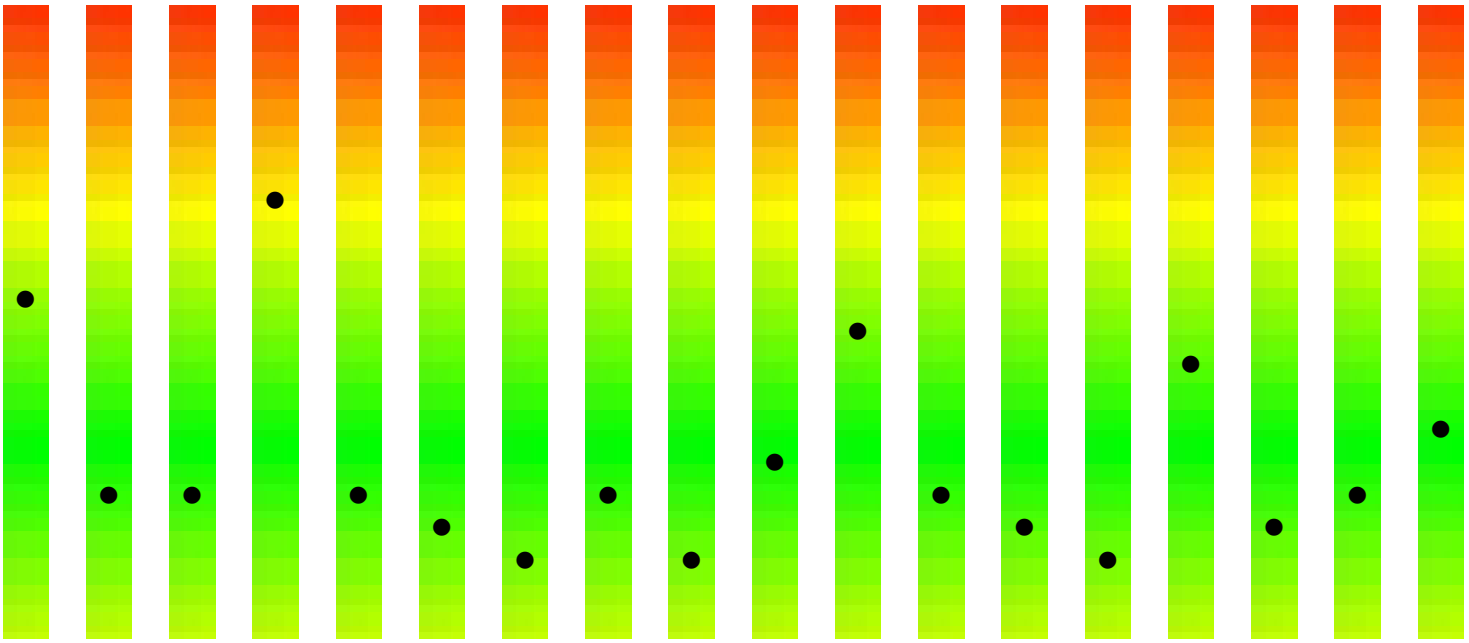
Essential Minerals



	Cr	Co	Cu	Iod	Fe	Mn	Mo	Se	Van	Zn	cal	Mg	Bor	Ger	Li	Str	Tun
	Chromium	Cobalt	Copper	Iodine	Iron	Manganese	Molybdenum	Selenium	Vanadium	Zinc	Calcium	Magnesium	Boron	Germanium	Lithium	Strontium	Tungsten
Result	0.13	0.01	82.0 *H	2.30	7.8	0.30	0.04	0.65	0.02	129 *L	1404	30.5	0.20	<DL	0.25	0.74	<DL
Range	0.02 - 0.21	< 0.30	10.0 - 41.0	0.05 - 5.00	4.6 - 17.7	0.05 - 0.92	0.03 - 1.10	0.40 - 1.70	0.01 - 0.20	150 - 272	220 - 1600	20.0 - 130.0	< 0.84	< 1.65	< 0.30	0.65 - 6.90	< 0.01

Toxic Elements



	Al	Ant	As	Bar	Be	Bis	Cd	Pb	Hg	Ni	Pd	Pt	Ag	Thal	Sn	Ti	U	Zc
	Aluminium	Antimony	Arsenic	Barium	Beryllium	Bismuth	Cadmium	Lead	Mercury	Nickel	Palladium	Platinum	Silver	Thallium	Tin	Titanium	Uranium	Zirconium
Result	4.85	0.04	0.02	2.11	0.01	0.01	<DL	0.35	<DL	0.17	0.05	0.01	0.05	<DL	0.30	0.01	0.01	0.15
Range	< 8.00	< 0.30	< 0.20	< 2.65	< 0.10	< 0.20	< 0.20	< 3.00	< 0.60	< 1.00	< 0.10	< 0.10	< 1.00	< 0.01	< 0.70	< 1.50	< 0.10	< 0.50

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Laboratory Comments

LOW COBALT LEVEL:
Cobalt is part of the Vitamin B12 molecule and is necessary for Vitamin B12 activity and function. Cobalt, which is mainly stored in the liver, activates numerous enzymes, and is excreted in bile. A low dietary intake inhibits foetal development and may reflect a low intake of Vitamin B12.
Sources:
All animal products, including all meats, fish, cheese, brewer's yeast and yeast extracts. Strict vegetarians (vegans) and those who lack intrinsic factor risk vitamin B12 and cobalt deficiency.
Symptoms:
Include pernicious anaemia.
Therapeutic Consideration:
Increase vitamin B12 intake and/or consumption of cobalt-rich foods.

ELEVATED COPPER LEVEL:
Unbound copper is known to be an even more reactive prooxidant than iron, especially in the presence of strong reducing agents such as ascorbate or homocysteine. High levels of copper can induce oxidative damage. Small amounts are required for CuZnSOD and ceruloplasmin.
Toxic levels cause nausea, behaviour problems, vomiting and diarrhoea (250mg CuSO4).
Elevated levels of copper often reflect exposure to swimming pool water treated with algaecide. Occasionally, elevated copper occurs from hair treatments, perm, dye, or bleach. If these conditions do not apply to your patient, then look for possible sources of copper in the environment that may be causing the elevated level.

LOW/LOW NORMAL MOLYBDENUM LEVEL:
Deficiency has been linked to gout. Low levels in heavy meat eaters reflect digestive disorder, the need for digestive enyzmes and dietary changes. Such patients should avoid pork, beef, whole grain and rather eat poultry, fish and other light proteins. Vegetarians should either add some meat to their diet or take molybdenum chelate with B-vitamins, which aid the absorption of molybdenum. Dietary molybdenum is readily absorbed by the intestine and is excreted in the urine and bile.
Sources:
Whole grains, legumes, leafy vegetables and organ meats. The recommended daily intake is 0,15-0,5 mg/day, depending on age and status. Acute deficiency symptoms are unknown in humans. Excess intake of copper, zinc, and sulfates can depress Mo-update, causing disturbances in the uric acid cycle. Low molybdenum levels have been associated with impotency, increased cancer susceptibility, gout, dental caries, defects in the metabolism of sulfur-containing amino acids,and asthma.

LOW/LOW NORMAL ZINC LEVEL:
Deficiency may result in poor wound healing, poor sense of smell and taste, hypochlorhydria, night blindness, and immune dysfunction. Pregnant women, cancer and burn patients are at high risk for zinc deficiency, causing fatigue, poor growth, menstrual problem and sexual maturity problems. Deficiency causes are malnutrition and malabsorption.
Zinc is necessary for spermatogenesis, protein synthesis and degradation, haeme synthesis, CO2 transport, metabolism, RNA polymerases and the cytosol component of SOD. Because it has a fixed outer electron valence of +2 it can inhibit many iron based free radical reactions by displacing iron from its binding site. Zinc can also be toxic at high levels.
Sources:
Meats, crustaceans, nuts, seeds, leafy and root vegetables.
Therapeutic Considerations:
Recommended Daily Intake: 15mg, however keep in mind that only 20-30% of zinc ingested is absorbed, therefore suggest doses of 50mg/day and Vitamin B6 is needed for utilization.
Competition with Calcium, Iron and Copper can significantly impair absorption, as can high phytate foods and folic acid supplementation.

LOW/LOW NORMAL MAGNESIUM LEVEL:
Low hair magnesium has been linked with hypoglycemia, and in certain circumstances schizophrenia, depression, hypertension and increased cardiac risk. Deficiency results in muscle weakness/spasm.
Magnesium is necessary for RNA/DNA synthesis, protein synthesis, ATP synthesis via both glycolysis and Krebs Cycle, muscle contraction and nerve consuction, and cAMP production.
Because it has a fixed outer electron valence of +2 it can inhibit many iron based free radical generating reactions by

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displacing iron from its binding site. Magnesium has been shown to be helpful in preventing heart disease.
Therapeutic Considerations:
Recommended Daily Intake: 400mg. About 30-60% of dietary forms are absorbed via small intestine. Stool fats decrease absorption, as do phytate and fibre. Vitamin D mildly increases absorption. Taurine deficiency causes urinary wasting.