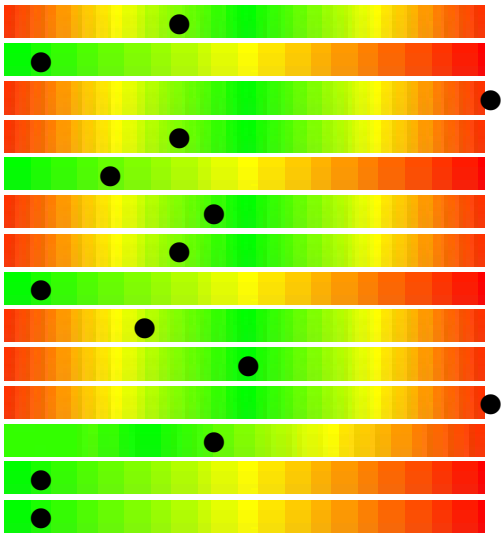
NutriPATH
Integrative Pathology Services
P: 1300 688 522
E: info@nutripath.com.au
A: PO Box 442 Ashburton VIC 3142

TEST PATIENT
Sample Test Name
Sex : F
Date Collected : 00-00-0000
111 TEST ROAD TEST SUBURB
LAB ID: 00000000 UR#:0000000

TEST PHYSICIAN
DR JOHN DOE
111 CLINIC STREET
CLINIC SUBURB VIC 3000

INTEGRATIVE MEDICINE

URINE, POST CHELATION 12 HOUR	Result	Range	Units
Essential Elements, 24hr Urine			
Chromium, 24hr Urine	1.36	0.55 - 4.83	ug/gCR
Cobalt, 24hr Urine	1.08	< 5.00	ug/gCR
Copper, 24hr Urine	*418.89* *H	1.45 - 60.00	ug/gCR
Iron, 24hr Urine	13.96	2.20 - 45.00	ug/gCR
Manganese, 24hr Urine	3.68	< 4.50	ug/gCR
Molybdenum, 24hr Urine	42.50	9.70 - 100.00	ug/gCR
Selenium, 24hr Urine	31.84	12.00 - 90.00	ug/gCR
Vanadium, 24hr Urine	0.12	< 1.40	ug/gCR
Calcium, 24hr Urine	89.35	55.00 - 245.00	mg/gCR
Magnesium, 24hr Urine	82.75	12.00 - 150.00	mg/gCR
Zinc, 24hr Urine	*1.43* *H	0.06 - 0.78	ug/gCR
Germanium, 24hr Urine	0.61	0.00 - 1.50	ug/gCR
Lithium, 24hr Urine	4.66	< 175.00	ug/gCR
Strontium, 24hr Urine	121.96	< 570.00	ug/gCR



Toxic Metals, 24hr Urine

Urine Metals Information

URINE ANALYSIS AND CHELATION INFORMATION:
Urine analysis is an indispensable tool for assessing the renal ability to excrete and to assess renal disease. The information contained in this report is designed as an interpretive adjunct to normally conducted diagnostic procedure. The findings are best viewed in the context of a medical examination and history.

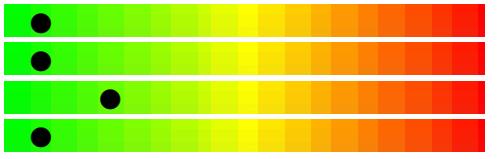
The results are reported in ug/g creatinine for the trace elements and heavy metals. Normalization per ug creatinine reduces the potentially great margin of error which otherwise can result from sample collection and variation in sample volume given.

Chelation treatment or provocation with complexing agents increase metal binding and urinary excretion. The maximum urinary excretion varies, depending on the chelating or complexing agent used and the binding capacity of the various chelating agents varies considerably. 24hrs prior to chelation, intake of mineral-containing supplements and algae products, medication or food such as fish which may be containing high levels of toxic metals such as Arsenic (As) or Mercury (Hg) should be avoided

To maximize the detoxification process, it is important to understand the binding capacity of these agents. Since the maximum metal excretion depends on the chelating agent's half-life, the appropriate urine collection protocol must be followed.

Urine analysis allows close monitoring of a patient's response to chelation therapy. In addition, urine mineral analysis reflects the body's immediate nutritional status, and factors influencing excretion. However, blood mineral analysis and other mineral assays are better indicators of a patient's nutritional status.

Aluminum, 24hr Urine	9.82	< 40.00	ug/gCR
Antimony, 24hr Urine	0.22	< 1.00	ug/gCR
Arsenic, 24hr Urine	12.92	< 15.00	ug/gCR
Barium, 24hr Urine	1.93	< 8.22	ug/gCR



(*) Result outside normal reference range (H) Result is above upper limit of reference rang

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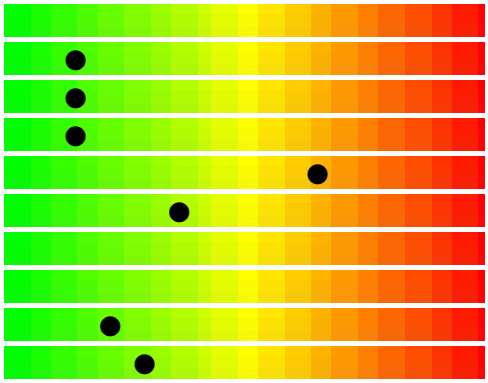
Beryllium, 24hr Urine	**<DL (a)**	< 1.20	ug/gCR
Bismuth, 24hr Urine	**0.07**	< 0.15	ug/gCR
Cadmium, 24hr Urine	**0.32**	< 0.80	ug/gCR
Lead, 24hr Urine	**2.27**	< 5.00	ug/gCR
Mercury, 24hr Urine	***6.63* *H**	< 1.00	ug/gCR
Nickel, 24hr Urine	***5.66* *H**	< 3.00	ug/gCR
Platinum, 24hr Urine	**<DL (a)**	< 0.60	ug/gCR
Silver, 24hr Urine	**<DL (a)**	< 1.40	ug/gCR
Thallium, 24hr Urine	***0.60* *H**	< 0.60	ug/gCR
Tin, 24hr Urine	***2.50* *H**	< 2.00	ug/24h



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Toxic Metals Comments

ARSENIC
Associated with increased risk of: Vascular disease, Atherosclerosis, Cancers of skin, bladder and lung.

Sources:
Environmental sources of arsenic exposure include food, water, soil, and air, esp. around arsenic-containing mineral ores. In industry, arsenic is a by-product of the smelting process for many metal ores such as lead, gold, zinc, cobalt, and nickel. Arsenic is used for purifying industrial gases (removal of sulfur), burning fossil fuels, electronics manufacturing (microwave devices, lasers, light-emitting diodes, photoelectric cells, and semiconductor devices), hardening metal alloys, preserving animal hides, bronze plating, and clarifying glass and ceramics.
Other potential sources of arsenic exposure are:
- Wood preservatives, insecticides, herbicides (weed killers and defoliants), fungicides, cotton desiccants, cattle and sheep dips, paints and pigments, antifouling paints, leaded gasoline, and fire salts (multicolored flame).
- Wine (grapes sprayed with arsenic-containing pesticides), Seafood (especially certain cold water and bottom-feeding finfish) and Seaweed.
- Smokers may also inhale small amounts of arsenic as a result of pesticide residue on tobacco leaves.
- Medicinals: Fowler's solution (potassium arsenite), antiparasitic drugs (carbasone), Donovan's solution, folk remedies ("Asiatic pill," kushtay, yellow root), kelp-containing health foods, some naturopathic remedies.

Treatment:
Address underlying causes and consider EDTA chelation IV.

Laboratory Information:
The given reference range applies only if 48hrs prior to the urine collection no fish, or algae products were consumed. Mineral waters high in arsenic may also raise urinary excretion levels. Consumption of any of these sources raises urine levels consi
MERCURY
Pervasive toxic tissue effects due to non-specific enzyme poisoning.
Urine is the most reliable way to assess exposure to inorganic mercury. Levels >50 ug/24h indicate mercury overload.
However, quantity found in urine does not correlate severity of symptoms.
Hair & Whole blood mercury levels correlate with severity of symptoms.

Treatment:
Avoid Mercury, consider DMSA or DMPS chelation. Check urine challenge test every 6 weeks and stop chelation when mercury level is below 10mg/24h in urine post chelation. Consider removing amalgalm dental fillings with a well-qualified dentist in amalgalm removal, particularly if sick (neuro symptoms) or high mercury levels are noted. Sauna treaments can help. Use antioxidants Vit C 3000 mg/day, Selenium 200-400mcg/day (protects against cellular toxic effectts of mercury), SAMe 200 mg twice a day, Manganese 15 mg/day, Molybdenum 75-250 mcg/day, Zinc 50 mg/day, Amino Acid chelates.

Increase elimination:
Methionine 3000 mg/day (ensure adequate Vit B12 and folate to prevent homocycteine elevation), Vit C 3000 mg/day, Lipoic Acid 100 mg three times a day.
Add competing nutrient elements: Selenium 200-400 mcg/day.

NICKEL (Ni) HIGH:
Smoke, cigarette smoking and food are major sources of nickel exposure.
- Elevated nickel in baseline urine reflects increased immediate exposure

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- Studies (Micro Trace Minerals 2004) indicate that the highest nickel binding has been observed with the combination treatment EDTA+DMSA. The 95 Perzentile (Reference Range) for EDTA IV chelation was 41mcg/g creatinine for patients not industrially exposed. The 95 Percentile for DMPS Provocation urines was 21mcg/g crea; for oral DMSA 20mcg/g crea.

Environmental/Occupational Sources
- Ni is found in ambient air at very low levels, as a result of releases from manufacturing facilities, oil and coal combustion, sewage sludge incineration, and other sources.
- Exposure may be through contact with everyday items such as nickel-containing jewellery, cooking utensils, stainless steel kitchens, and clothing fasteners.

Toxicity and Symptoms:
- Nickel carbonyl is the most acutely toxic nickel compound, also found in cigarette smoke.
  Symptoms include headache, vertigo, nausea, vomiting, insomnia, and irritability, followed by chest pains, dry coughing, cyanosis, gastrointestinal symptoms, sweating, visual disturbances, and severe weakness.
- Lung and kidney appear to be the target organs for acute nickel carbonyl toxicity in humans and animals, with pulmonary fibrosis and renal edema reported.
- EPA's Office of Air Quality Planning and Standards, for a hazard ranking under Section 112(g) of the Clean Air Act Amendments, considers nickel carbonyl to be a "high concern" pollutant based on severe acute toxicity.

Chronic Effects (Noncancer):
- Contact dermatitis is the most common effect in humans from nickel exposure, and have been reported following occupational and non-occupatio

COPPER HIGH
A cofactor in: lipid metabolism, liver detoxification, neurological control, erythrocyte superoxide dismutase.
Used in thyroid function, melanin production, used for lumbar disc health.
Causes for high level: Supplementation, copper water supply pipes, copper element in kettles, infection, inflammation, anemia, cancer, hemochromatosis, poisoning, pregnancy, primary biliary cirrhosis, renal disease, rheumatoid arthritis, SLE, thyroid disease.
Medication causes: Carbamazepine, Oral contraceptives, Phenobarbital, phenytoin, Valproic acid.
Symptoms and conditions: Elevated systolic blood pressure, learning and other mental disorders, vomiting, hepatic necrosis.
Treatment: Stop supplementation, address underlying causes, methionine (chelation action).

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SPECIMEN RECEPTION

URINE, 24 HOUR Result Range Units

SPECIMEN RECEP. COMMENTS

PLEASE NOTE: This is a POST Challenge specimen.

CHELATOR-SPECIFIC ORIENTATION RANGES:
The chelator-specific ranges have been developed based on the fact that each chelator has a specific binding capacity. The ranges were developed based on statistical calculations of a population challenged with one ampoule DMPS or 300mg DMPS.

A urine excretion value higher than the Orientation Ranges (below) indicates a moderate to high toxic burden.

A test value higher than the normal reference range and lower than the Orientation Range indicates a low to moderate toxic burden.

	DMSA, Oral ug/gCR	EDTA ug/gCR	DMPS, I.V. ug/gCR	DMPS, Oral ug/gCR
As			100	86
Ca		465		
Cd		1.30	1.50	1.50
Cu			1000	700
Fe		350		
Hg	2.8	3.50	50	35
Mn		35.0	10	10
Ni	5.0	14.8	7	7
Pb	10.0	22.0	25	11
Pd		1.80	1.70	
Sn			15	15
Zn		19.5	10	2

Tests ordered: SRCOM,24UMetox,24uEssEl,IMPEI