Periodic Table of Elements and Major Nutritional Relationships

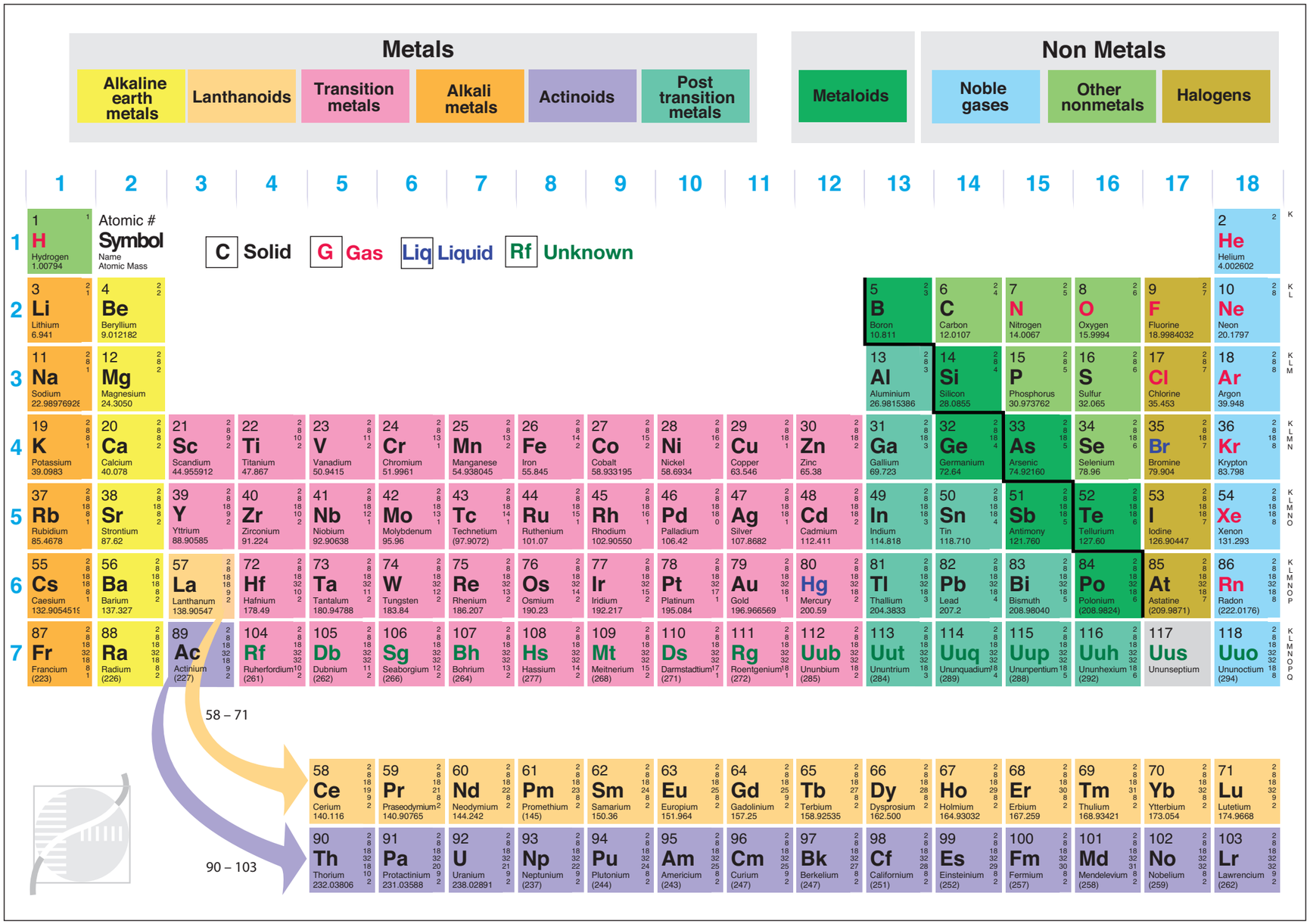
Summary of Major Antagonistic Relationships

Antagonistic nutrients work against each other.

The following is a partial list of
- Mineral-mineral antagonists
- Vitamin-mineral antagonists

Nutritional Element:	Antagonists
Calcium (Ca)	Mg, Na, K, Zn, P, Fe, Mn, Be, Cd, Pb, Sr, Vit B1, B2, B3, B5, A
Magnesium (Mg)	Ca, Na, K, P, Fe, Mn, Co, Cd, Pb, Vit B1, B6, B9, B12, C, D, E
Sodium (Na)	Ca, Mg, K, Zn, Vit B2, B3, K
Potassium (K)	Ca, Na, Cu, Co, Li, Vit B1, B9, B12
Copper (Cu)	K, Zn, P, Fe, Se, Mo, S,Hg, Cd, Pb, Ag, Vit B3, B5, B6, A, C
Zinc (Zn)	Ca, Cu, P, Fe, Mn, Cr, Se, Co, Hg, Cd, Pb, Ni, Sn, Vit B1, Inositol, B9, B12, D, E
Phosphorus (P)	Ca, Mg, Cu, Zn, Fe, Mn, Vit D
Iron (Fe)	Ca, Cu, Zn, P Mn, Cr, Co, Hg, Cd, Pb, Al, V, Sn, Vit B12, D, E
Manganese (Mn)	Ca, Mg, Cu, P, Fe, Cr, Co, Cd, Pb,V, Vit B1, B12, D, E
Chromium (Cr)	Mg, K, Zn, Fe, Mn, Pb, V, Vit B9, B12, D
Selenium (Se)	Cu, Zn,Fe, Mn, S,Hg, As, Cd, Pb, Tl, Sn, F, Ag Vit B2, C, A, K
Boron (B)	Mg, P, Zn, Vit B2, A
Cobalt (Co)	K, Zn, Fe, Mn
Molybdenum (Mo)	Ca, Cu, S, Hg, W

Toxic Element:	Antagonists
Arsenic (As)	Se, S, Vit E, β-carotene
Beryllium (Be)	Ca, S
Mercury (Hg)	Cu, Zn, Fe, Se, S, Vit E, β-carotene
Cadmium (Cd)	Cu, Zn, Fe, Mn, Se, S, Vit C
Lead (Pb)	Ca, Mg, Cu, Zn, Fe, Mn, Se, S, Vit C
Aluminium (Al)	Fe, Vit C



Summary of Major Synergistic Relationships

Synergistic nutrients work together, in co-operation with each other.

The following is a partial list of
- Mineral-mineral synergists
- Vitamin-mineral synergists

Nutritional Element:	Synergists
Calcium (Ca)	Mg, Na, K, Cu, P, Se, B, Sr, Si, Vit A, E, C, D
Magnesium (Mg)	Ca, K, Zn, P, Mn, Cr, Vit B1, B2, B3, B6, A, C, E
Sodium (Na)	Ca, K, Cu, P, Se, Co, Vit B1, B6, D, E
Potassium (K)	Mg, Na, Zn, P, Fe, Mn, Co, Vit B2, A
Copper (Cu)	Ca, Na, Fe, Se, Co, Vit D, B1, B12, C, B9
Zinc (Zn)	Mg, K, P, Cr, Mn, Vit B1, B3, B5, B6, A, E
Phosphorus (P)	Ca, Mg, Na, K, Zn, Fe, Cr, Vit A
Iron (Fe)	Na, K, Cu, P, Mn, Cr, Se, Vit E, B1, B2, B3, B6, B12, C, A
Manganese (Mn)	Mg, K, Zn, P, Fe, Vit B1, B3, B5, B6, A, E
Chromium (Cr)	Mg, K, Zn, Vit B1, B2, B3, B6, A, E,
Selenium (Se)	Ca, Na, K, Cu, Fe, Mn, Co, Vit B1, B6, A,C, D, E
Molybdenum (Mo)	Ca, Cu, Na, Fe, Se, Co, Vit D, B1, B12, C, B9

NB: Imbalances between nutrients are much more common than deficiencies of individual nutrients. In some circumstances certain nutrients can antagonise a particular nutrient, and in others can enhance utilisation of that particular nutrient. These relationships may be direct or indirect. Many relationships are mutual, but not all..

Sources for Antagonistic and Synergistic Relationships: Watts, DL. 2006. Trace Elements and Other Essential Nutrients. 5th ed. and research conducted by Trace Elements Inc.

InterClinical Laboratories

LEADERS IN HTMA PATHOLOGY AND NUTRITIONAL MEDICINE

InterClinical Laboratories Pty Ltd
PO Box 6474, Alexandria
NSW 2015 Australia
02 9693 2888
info@interclinical.com.au
interclinical.com.au

Conditions associated with absolute or relative mineral deficiencies

MINERAL	CONDITIONS			
Calcium	Allergies (histamine) (A)	Osteoporosis (Type1) (A)	Hyperadrenia (A)	Vitamin A excess (A)
	Muscle cramps (A)	Hyperthyroidism (A)	Anxiety (A)	High blood pressure (A)
	Hypoparathyroidism (A)	Vitamin D deficiency (A)	Hyperactivity (A)	Insomnia (Type 1) (A)
Magnesium	Hyperactivity (A)	Seizures (A)	Colitis (R)	Alcoholism (A)
	Noise sensitivity (A-R)	Epilepsy (A)	Diverticulosis (R)	Adrenal hyperactivity (A)
	Allergies (histamine) (A)	Renal dysfunction (A-R)	Arteriosclerosis (A-R)	Excessive perspiration (A)
	Hyperthyroidism (A)	Parathyroid dysfunction (A-R)	Diabetes (A-R)	Cardiovascular disease (A-R)
Potassium	Adrenal insufficiency (A)	Hypochlorhydria (A)	Hypothyroidism (A-R)	Transient hypertension (A)
	Parasympathetic dominance (A)	Poor digestion (A)	Fatigue (A-R)	Carpopedal spasms (A
	Hyperparathyoidism (A)	Acne (A)	Hypoglycaemia (A-R)	Cardiac irregularity (A-R)
Iron	Anaemia (A)	Attention deficit disorder (A)	Hypochlorhydria (A)	Neurotransmitter disturbance (A)
	Palpitations (A)	B6 deficiency (A-R)	Fatigue (A)	Toxic metal accumulation (A)
	Low protein intake (A)	Pica (A)	Hypothyroidism (A)	Stomatitis (A)
	Immunodeficiency (A)	Glossitis (A)	Splitting nails (A)	Candida (A)
Copper	Osteoporosis (Type 1) (A)	Disc degeneration (A-R)	Rheumatoid Arthritis (A)	Iron toxicity (A-R)
	Hypercholesterolaemia (A)	Anaemia (A-R)	Infections (bacterial) (A)	Toxic metal accumulation (A)
	Hypoestrogenism (A-R)	Inflammation (A)	Premature ventricular contraction (A)	Sympathetic dominance (A)
Manganese	Glucose intolerance (A)	Anaemia (A)	Fatigue (A-R)	Weight loss (A)
	Osteochondrosis (A)	Iron toxicity (A-R)	Hypercholesterolaemia (A)	Adrenal insufficiency (A)
Zinc	PMS (R)	Anorexia (R)	Post-partum depression (R)	Autism (R)
	Viruses (R)	Fungal infection (A-R)	AIDS (R)	Sterility (A-R)
	Yeast infection (Candida) (R)	Arthritis (R)	Eclampsia (R)	Gastric ulcers (R)
	Diabetes (A-R)	Peptic ulcers (A)	Prostate hypertrophy (A)	Macular degeneration (A)
	Sickle Cell anaemia (R)	Poor wound healing (A-R)	Lowered immunity (A-R)	Stretch marks (A-R)
	White spots on fingernails (R)	Anosmia (A)	Hypogeusia (A)	Slow growth (A-R)
Chromium	Diabetes (A-R)	Glucose intolerance (A-R)	Peripheral neuropathy (A)	Slow growth (A)
	Hypercholesterolaemia (A-R)	Atherosclerosis (A-R)	Glycosuria (A)	Low respiratory quotient (A)
Molybdenum	Dental cavities (A)	Bronchial asthma (A-R)	Sulfite sensitivity or allergy (A-R)	Wilson's disease (A-R)
	Oesophageal cancer (A)			
Selenium	Cataracts (A)	Chronic inflammatory conditions (A)	Anaemia (A)	Lowered Immunity (A)
	Hypothyroidism (A)	Cardiomyopathy (A)		

Absolute (A) **deficiency :**
Develops as a result of decreased absorption with increased excretion.

Relative (R) **deficiency :**
Develops as a result of compartmental displacement without an increase in excretion.

SOURCE: Based on current literature and research conducted by Dr David Watts, Trace Elements Inc.

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InterClinical Laboratories Pty Ltd
PO Box 6474, Alexandria
NSW 2015 Australia
02 9693 2888
info@interclinical.com.au
interclinical.com.au