MINERAL DEFICIENCY:

Antimony

Mineral Function
*Effective against blood flukes

Biotin

Deficiency Symptoms
- Alopecia
- Anemia
- Anorexia and nausea
- Depression
- Fatigue
- Hypercholesterolemia
- Hyperglycemia (diabetes)
- Insomnia
- Muscle pain
- Muscle weakness
- Dry, greyish skin
- Pale smooth tongue

Bismuth

Mineral Function
*Ulcers result from lack of bismuth & a bacteria Helio bacter pylori

Boron

Mineral Function
*Aids efficient calcium and magnesium use
*Essential for bone metabolism
*Proper endocrine function
*Reduces calcium loss from bones (Osteoporosis)

Calcium

Mineral Function
*High protein diets increases demands for calcium
Deficiency Symptoms

- Arthritis
- Back pains (sciatica, disc problems)
- Bell’s Palsy
- Bone spurs
- Brittle fingernails
- Calcium deposits
- Cognitive impairment
- Delusions
- Depression
- Eczema
- High blood pressure
- Hyperactivity
- Hypertension
- Insomnia
- Irritability
- Kidney stones
- Limp numbness
- Muscle cramps/spasms/twitches
- Nervousness
- Neuromuscular excitability
- Osteofibrosis (enlargement of bones with scar tissue)
- Osteomalacia (failure to mineralize the protein bone matrix)
- Osteoporosis (& Dowaagers Hump, spontaneous fractures, kyphosis)
- Palpitations
- Paresthesia
- Panic attacks
- Periodontal disease – receding gums (osteoporosis of facial bones & jaw bones)
- PMS
- Pica (eating lead paint)
- Rickets
- Retarded growth
- Tetany
- Tooth decay

Cesium

Mineral Function
* Cancer aid; cesium enters cancer cell and produces alkaline condition

Chromium

Deficiency Symptoms

- ADD/ADHD
- Anxiety
- Aortic cholesterol plaque
- Coronary blood vessel disease
- Depression/Manic depression
- Diabetes (Vanadium also)
- Dr. Jekyll / Mr. Hyde rages
- Elevated blood cholesterol
- Elevated blood triglycerides
- Fatigue
- Hyperactivity
- Hypercholesterolemia
- Hypoglycemia – low blood sugar (Vanadium & Copper also)
- Infertility and deceased sperm count
- Learning disability
- Negative nitrogen balance (body lean mass/protein loss)
- Prediabetes (Vanadium also)
- Peripheral neuropathy
- Retarded growth/short life span
- Hypercholesterolemia
Cobalt

**Deficiency Symptoms**
- Anemia
- Anorexia
- Emaciation, listless, starved look, pale mucus membranes
- Essential part of Vitamin B12 (Growth and nerve system function)

Copper

**Deficiency Symptoms**
- Alopecia (hair loss)
- Anemia (common in vegans & high milk users)
- Aneurysms (on wall bulges)
- Aneurysm/cerebral hemmorage
- Arthritis (especially where growth plate are involved)
- Cerebral palsy & hypoplasia (failure to form) of the cerebellum
- Criminal or violent behavior, blind rage, explosive outbursts
- Depression
- Dermatosis
- Diarrhea
- Dry brittle hair
- Fatigue
- Fragile bones/arthritis
- Hernias
- High Blood cholesterol
- Hypercholesterolemia
- Hypo or Hyper thyroid
- Ptosis (sagging tissue – eye lids, skin, breasts, stomach, etc.)
- Kawasaki disease
- Learning disabilities
- Liver cirrhosis (Number 9 killer in US)
- Otosis (“lipping” of epiphyseal plates)
- Ruptured vertebral discs problems
- Reduced glucose tolerance (low blood sugar)
- Respiratory disease
- Shwachman’s syndrome
- Varicose veins
- White or gray hair

Essential Fatty Acid

**Deficiency Symptoms**
- Acne
- Alopecia
- Arthritis
- Atrophy of endocrine glands
- Diarrhea
- Dry brittle hair
- Eczema
- Endocrine dysfunction
- Fatty degeneration of the liver
- Gall stones
- Growth retardation
- Immunologic dysfunction
- Impaired wound healing
- Infertility
- Kidney dysfunction
- Positive sweat test (cystic fibrosis, anorexia nervosa, etc.)
- Xerosis
Europium

Mineral Function
*Doubles the life span of laboratory animals

Flouride

Mineral Function
*In plant based colloidal form will aid bone strength & no toxicity

Folic Acid

Deficiency Symptoms
- Anemia (megaloblastic.)
- Anorexia
- Apathy
- Birth defects (spina bifida, hydroencephalocele)
- GI upsets/diarrhea
- Dyspepsia
- Fatigue
- Geographic tongue
- Growth retardation
- Headache
- Insomnia
- Memory loss
- Paranoia
- Vitiligo
- Weakness

Germanium

Mineral Function
*Aid in oxygen utilization
*Enhances immune system function (killer cells, interferon, macro phages and T – suppressor cells)
*Highly efficient electrical impulse initiator

Deficiency Symptoms
- Arthritis
- Cancer
- Low energy
- Osteoporosis

Gold

Mineral Function
*Reduces active joint inflammation

Iodine

Mineral Function
*Copper needed to utilize iodine
*Needed by body for thyroid function (Thyroxin is thyroid hormone)
Deficiency Symptoms
- Cold intolerance
- Brittle nails
- Bulging eyes
- Constipation
- Depression
- Dry skin & hair
- Elevated blood cholesterol
- Excessive sweating
- Fatigue
- Frequent bowel movements.
- Goiter (throat swelling)
- Hair loss
- Hand tremors
- Heat intolerance
- Heavy periods or less than 28 day cycles
- Hypothyroidism
- Increased appetite
- Irritability
- Inability to concentrate
- Insomnia
- Light periods or longer than 28 day cycles
- Low basal body temperature
- Low sex drive
- Muscle aches and pains
- Muscle cramps
- Muscle weakness
- Nervousness
- Over-active thyroid
- Poor memory
- Puffy face
- Rapid pulse
- Under-active thyroid
- Weight gain
- Weight loss

Iron
Deficiency Symptoms
- Anemia
- Angular Stomatitis
- Anorexia
- Brittle nails
- Confusion
- Constipation
- Depression
- Dirt eating (pica)
- Dizziness
- Dysphagia
- Fatigue
- Fragile bones
- GI upset
- Growth Retardation
- Headaches
- Ice eating (pica)
- Heart palpations
- Hemoglobin (oxygen carrier in red blood cells)
- Irritability
- Listlessness and fatigue
- Memory deficits
- Sore tongue

Lanthanum
Deficiency Symptoms
- Deficiency may be involved in chronic fatigue diseases
Lithium

**Deficiency Symptoms**
- ADD
- Depression
- Infertility
- Lithium deficiency aggravated by high sugar consumption
- Manic depression
- Rages and fits
- Reduced growth rate
- Reproductive failure
- Shortened life span

Magnesium

**Deficiency Symptoms**
- Anxiety
- Asthma
- Anorexia
- Birth defects
- Calcification of small arteries
- Confusion
- Depression
- Growth failures
- Hyperactivity/synophobias
- Hypotension
- Hypothermia
- Insomnia
- Irritability
- Malignant calcification of soft tissue
- Menstrual migraines
- Muscle pains / tremors / weakness
- Nervousness / neuromuscular irritability
- Neuromuscular problems
- Restlessness
- Seizures
- SIDS
- Tachycardia / palpitations
- Tetany – Convulsions
- Tremors
- Vertigo

Manganese

**Deficiency Symptoms**
- Asthma
- Ataxia
- Atherosclerosis
- Chondromalacia
- Chondrodystrophy
- Convulsions
- Dizziness
- Hearing loss
- Hypercholesterolemia
- Hypoglycemia
- Infertility (failure to ovulate or testicle atrophy)
- Loss of sex drive
- Muscle therapy
- Pancreatic atrophy
- Poor cartilage formation problems
- Repetitive Motion Syndromes (like TMJ, Carpal Tunnel Syndrome)
- Retarded growth rates
- Shortened long bones
- Still births or spontaneous miscarriages
- Tinnitus
**Molybdenum**

**Mineral Function**
*Essential as a metalloenzyme of several enzyme systems*

**Neodymium**

**Mineral Function**
*Doubles life span of laboratory animals*
*Enhanced cell growth*

**Nickel**

**Deficiency Symptoms**
- Anemia (low hematocrit)
- Delayed puberty
- Depressed oxidative ability of the liver
- Dermatitis
- High newborn mortality
- Poor growth
- Poor zinc absorption
- Rough/dry hair coat in animals

**Phosphorus**

**Deficiency Symptoms**
- Anorexia
- Anxiety
- Apprehension
- Bone pain
- Dyspnea
- Fatigue
- Irritability
- Numbness
- Paresthesias
- Pica
- Tremulousness
- Weakness
- Weight loss

**Potassium**

**Deficiency Symptoms**
- Acne
- Arrhythmia
- Cognitive impairment
- Constipation
- Depression
- ECG changes
- Edema
- Fatigue
- Glucose intolerance
- Growth retardation
- Hypercholesterolemia
- Hyperreflexia
- Hypotension
- Insomnia
- Mental apathy
- Muscular weakness
- Nervousness
- Palpitations
- Polydipsia
- Proteinuria
- Respiratory distress
- “Salt” retention
- Tachycardia (rapid heart rate)
- Xerosis
**Praseodymium**

**Mineral Function**
* Doubles life span in laboratory animals
* Enhances normal cell growth

**Samarium**

**Mineral Function**
* Doubles the life span of laboratory animals
* Enhances normal cell proliferation

Animal studies show deficiencies cause:
* Cancer prevention properties
* Hearing loss
* Male pattern baldness
* Poor growth & Poor feeding

**Selenium**

**Mineral Function**
* Effective anti-oxidant

**Deficiency Symptoms**
- Age spots or liver spots
- ALS (Lou Gehrig's disease)
- Alzheimer’s disease (associated high vegetable oil consumption)
- Anemia (red blood cell fragility)
- Cardiomyopathy
- Cataracts
- Cancer risk
- Cystic fibrosis
- Cancer (associated with high vegetable oil intake) (Number 2 killer)
- Fatigue
- Growth retardation
- Heart palpitations (irregular heart beat)
- High infant mortality
- HIV (AIDS)
- Impaired immunity

- Infertility
- Keshan Disease (myocardial fibrosis)
- Liver cirrhosis
- Low birth weight
- Multiple Sclerosis
- Muscular dystrophy
- Myalgia
- Pancreatitis
- Pancreatic atrophy and fibrosis
- Parkinson's disease (associated lead poisoning)
- Scoliosis
- Sterility in males
- Sudden Infant Death Syndrome (SIDS)
- Sickle cell anemia
Silica

**Mineral Function**
* Increases collagen in growing bone by 100%

**Deficiency Symptoms**
- Brittle fingernails
- Dry brittle hair
- Poor calcium utilization arterial wall strength problems
- Poor skin quality

Silver

**Mineral Function**
* Anti-bacterial
* Anti-fungal
* Anti-viral
* Kills over 650 diseases causing organisms
* Systemic disinfectant and immune support
* Subdues inflammation and promotes healing

Sodium

**Deficiency Symptoms**
- Abdominal cramps
- Anorexia
- Ataxia
- Confusion
- Crying jags
- Depression
- Dermatosis
- Dizziness
- Fatigue
- Flatulence
- Hallucinations
- Headaches
- Hypotension
- Illusions
- Infections
- Lethargy
- Memory loss
- Muscular weakness
- Nausea & vomiting
- Seizures
- Taste loss
- Weight loss

Strontium

**Mineral Function**
* Essential trace element
* Strontium can replace calcium in many organisms including man
Sulfur

**Mineral Function**
*Important mineral used in several amino acids within the body
*Involved in functions of hemoglobin, insulin hormone, adrenal hormones, enzymes, and antibodies

**Deficiency Symptoms**
- Degeneration of cartilage, ligaments and tendons
- Lupus
- Several collagen diseases
- Sickle cell anemia

Thulium

**Mineral Function**
*Doubles the life span of laboratory animals
*Enhances growth of normal cells

Vanadium

**Mineral Function**
*Aids in glucose (blood sugar) oxidation and transport
*Anti-cancer properties
*Decreases cholesterol production
*Enhances insulin effectiveness (aids with blood sugar problems)
*Increases effectiveness of heart muscle contraction

**Deficiency Symptoms**
- Cardiovascular disease
- Diabetes
- Elevated cholesterol and triglycerides
- Hypoglycemia
- Increased infant mortality
- Infertility
- Obesity
- Slow growth

Yttrium

**Mineral Function**
*Doubles life span of laboratory animals
*Enhances normal cell growth

Zinc

**Deficiency associated congenital birth defects:**
- Brain defects
- Cleft lip and cleft palate
- Clubbed limbs
- Down’s syndrome
- Heart and lung defects
- Hiatal hernia and umbilical hernia
- Small or absent eyes
- Spina Bifida
- Webbed toes or fingers
- Urogenital defects
Deficiency Symptoms

- Acne
- Acrodermatitis enteropathica
- Alopecia (hair loss)
- Anemia
- Anorexia and or Bulimia
- Apathy
- Birth defects (see above)
- Bad body odors (“smelly tennis shoe” syndrome)
- Brittle nails
- Depression
- Diarrhea
- Enlarged prostate
- Eczema
- Fatigue
- “Frizzy” hair
- High infant mortality
- Hypercholesterolemia
- Hypogeusia (loss of sense of taste)
- Infertility
- Impaired wound healing
- Impotence
- Irritability
- Lethargy
- Infertility
- Impaired wound healing
- Impotence
- Irritability
- Lethargy
- Loss of sense of smell
- Malabsorption
- Memory Loss
- Paranoia
- Pica (eating hair, wool, etc.)
- Poor growth (short stature)
- Sexual immaturity (remain in prepuberty state)
- Small and or poor ovary and testes function
- Sterility
- Weaken immune function
- White spots on nails

NOTES: