

**METALS WHEN FOUND IN TOXIC AMOUNTS**  
**SYMPTOMS and POTENTIAL RELATED DISEASES CAUSATION**

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<b>METAL and Major Sources</b>	<b>ACUTE CLINICAL PRESENTATION</b>	<b>CHRONIC TOXICITY RESULTS IN MULTISYSTEM DISEASE  CLINICAL PRESENTATION</b>	<b>TOXIC CONCENTRATION</b>
<p><b>ALUMINUM</b></p> <p>Aluminum cans for tomato, soda, pineapple.</p> <p>Antacids</p> <p>Aspirin</p> <p>Baby powder</p> <p>Baking powder</p> <p>Cigarette filters</p> <p>Coffee</p> <p>Commercial cheese,</p> <p>Cookware</p> <p>Cosmetics</p> <p>Dental amalgams</p> <p>Deodorants</p> <p>Infant formulas study human milk 5-20 micrograms/L, cow milk formula = 100 – 400, soy formula = 500 – 2000.</p> <p>Toothpaste</p> <p>White flour</p>	<p>A Tulane University study showed that the presence of aluminum makes the brain more permeable to aluminum and other nerve toxins.</p>	<p>ADHD</p> <p>Alzheimer's disease (AD)</p> <p>Brittle bones</p> <p>Kidney malfunction</p> <p>Parkinson's disease (PD)</p> <p>Seizures</p>	
<p><b>ARSENIC</b></p> <p>Drinking water</p> <p>Insecticides</p> <p>Non organic source worse than organic</p> <p>Seafood</p> <p>Skin products</p>	<p>Acute arsenic poisoning is associated initially with:</p> <p>Abdominal pain</p> <p>Nausea</p> <p>Severe diarrhea</p> <p>Vomiting</p>	<p>Abdominal discomfort</p> <p>Acrocyanosis (intermittent)</p> <p>Anorexia</p> <p>Arrhythmias</p> <p>Blackfoot disease (gangrene with spontaneous amputation)</p>	<p>24-h urine:</p> <p>≥50 µg/L urine, or 100 µg/g creatinine.</p>

	<p>Encephalopathy and peripheral neuropathy are reported.</p> <p>"Rice-water" diarrhea,</p> <p>Multiple organ dysfunction syndrome (MODS)</p> <p>Fatal: cardiovascular collapse and hypovolemic shock.</p>	<p>Bone marrow depression</p> <p>Both sensory and motor neuron peripheral neuropathy</p> <p>Cancers: bladder, kidney, liver, lung, lymphatic, prostate and skin cancers</p> <p>Carotid atherosclerosis</p> <p>Cerebral infarction</p> <p>Chronic Fatigue Syndrome (CFS)</p> <p>Chronic obstructive pulmonary diseases (COPD)</p> <p>Cirrhosis</p> <p>Colitis</p> <p>Death if exposed to high levels</p> <p>Decreased intelligence</p> <p>Diabetes</p> <p>Diarrhea</p> <p>Difficulty breathing</p> <p>DNA damage</p> <p>Elevated liver enzymes</p> <p>Encephalopathy</p> <p>Esophagitis</p> <p>Fatty degeneration</p> <p>Gastritis</p> <p>Headaches</p> <p>Hemolysis</p> <p>Hepatomegaly</p> <p>Hepatomegaly</p> <p>Hyperkeratosis</p> <p>Hyperpigmentation</p> <p>Hypertension</p> <p>Increased risk of infections</p> <p>Ischemic heart disease</p> <p>Lens opacity</p> <p>Leucopenia low white blood cells (WBCs)</p>	
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<p><b>BISMUTH</b></p>	<p>Renal failure, acute tubular necrosis</p> <p>Renal toxicity</p> <p>In industry, bismuth metal is used to manufacture alloys, catalysts, ceramics, cosmetics, magnets, paints, pharmaceuticals, semiconductors, and x-ray contrast media. Poisonings from this source are seldom if ever reported. In contrast, toxicity from the medicinal use is not uncommon, and may even occur in epidemic form. Pepto-Bismol and cosmetic compound (DiPalma et al., 2001).</p>	<p>Diffuse myoclonic encephalopathy.</p> <p>Skin a lichen planus-like rash, Mouth stomatitis with a blue black gum line</p> <p>Inflammation and inclusion bodies in the liver, kidney, and bone are characteristic</p> <p>In the brain, the lesions will cause encephalitis.</p> <p>Confusion, disorientation and black stools</p>	<p>The normal blood level is on average less than 1 ug/dl while poisoned subjects average 3 ug/dl. Much more reliable is the urine level which averages 0–20 mmol/L in normal patients and as high as 400mmol/L or more in poisonings.</p> <p>In appropriate cases, a simple flat plate of the abdomen will reveal the bismuth in the intestine because it is almost as dense as lead.</p> <p>A simple, reliable, and fast bedside test is the modified Reinsch's test. It can identify mercury, arsenic, antimony, and bismuth. Use 10 to 15 g of gastric contents or tissue homogenate. Add 3 ml of concentrated hydrochloric and insert a copper wire</p>

			<p>spiral. Heat gently for two hours. A silvery deposit is mercury; shiny black is bismuth; dull black is arsenic; and purple is antimony. Confirmatory tests such as the Gutzeit test can confirm each deposit, and they can even be quantified. (Kaye et al., 1980).</p>
<p><b>CADMIUM</b></p> <p>Cigarette smoke is the major source of cadmium toxicity, whether first or second hand smoke. Cadmium is absorbed much more readily by inhalation than by ingestion.</p> <p>Other sources:</p> <p>Crabs</p> <p>Evaporated milk</p> <p>Fungicides</p> <p>Mussels</p> <p>Organ meats</p> <p>Oysters</p> <p>Some rice</p> <p>Well water</p>	<p>Pneumonitis (oxide fumes)</p> <p>Flu like symptoms including chills, fever, and muscle ache sometimes referred to as "the cadmium blues.</p> <p>Pneumonitis</p> <p>Pulmonary edema.</p> <p>Tracheo-bronchitis</p>	<p>Anosmia</p> <p>Emphysema</p> <p>Hyperchloremia</p> <p>Hypertension</p> <p>Hyperuricemia (gout and arthritis).</p> <p>Increased fracture risk due to demineralization</p> <p>Joint pain</p> <p>Kidney problem</p> <p>Liver damage</p> <p>Lung cancer</p> <p>Osteomalacia (softening of bones).</p> <p>Osteoporosis</p> <p>Prostate</p> <p>Proteinuria (excess protein in urine, possible kidney damage)</p> <p>Renal lithiasis</p> <p>Renal tubular (hypophosphatemia), causing muscle weakness and sometimes coma</p> <p>Weakened immune system allowing bacteria, viruses, yeast and parasites to proliferate</p>	<p>Acute poisoning 1000-3000 µg/L and 100-400 µg/L and higher in fatal events</p> <p>Blood and urine cadmium levels are 5 µg/L and 5 µg/g creatinine.</p> <p>Chronic cadmium exposure in a range of 25-50 µg/L or 25-75 µg/g creatinine</p> <p>Increased concentrations of urinary beta-2 microglobulin can be an early indicator of renal dysfunction.</p> <p>Proteinuria and/or ≥15 µg/g creatinine</p>
<p><b>CHROMIUM (VI)</b></p> <p>Hexavalent chromium</p> <p>Water insoluble chromium(III) compounds and chromium metal are</p>	<p>The acute toxicity of chromium (VI) is due to its strong oxidative properties.</p> <p>GI hemorrhage, hemolysis, acute renal failure (Cr<sup>6+</sup> ingestion)</p>	<p>Hemolysis, renal and liver failure</p> <p>Lung cancer (inhalation). Genotoxicity to the binding to the DNA</p> <p>Premature dementia</p>	<p>The LD50 for chromium (VI) ranges between 50 and 150 mg/kg.</p>

not considered a health hazard	Chromium salts (chromates) are also the cause of allergic reactions dermatitis.  Ulceration of the skin referred to "chrome ulcers"	Pulmonary fibrosis	
<b>COBALT</b>	Beer drinkers (dilated) cardiomyopathy	Goiter Pernicious B <sub>12</sub> anemia Pneumoconiosis when inhaled.	Normal excretion: 0.1-1.2 µg/L (serum) 0.1-2.2 µg/L (urine)
<b>COPPER</b> Beer Chocolate Copperware Copper IUD Copper Pipe Denture Fungicide Icemaker Insecticides Liver organ meat Milk Nuts Oysters Swimming Pools Water	Blue vomitus. Coma GI irritation hemorrhage Hematemesis (vomiting of blood) Hemolysis Hemolytic anemia Hypotension Jaundice Melena (black "tarry" stools) Multiple organ dysfunction syndrome (MODS) when ingested Metal fume fever (MFF) inhaled	Alzheimer's disease (AD) Arteriosclerosis Cluster headache Emotional problems Hyperactivity Liver disease Migraine Parkinson's disease (PD) Schizophrenia Vineyard sprayer's lung when inhaled Wilson disease (hepatic and basal ganglia degeneration)	Normal excretion: 25 µg/24 h (urine)  Copper in the blood exists in two forms: bound to ceruloplasmin (85–95%), and the rest "free"
<b>CHROMIUM</b>		It can increase risk of non-cancerous lung diseases as well as lung cancer. It can also cause allergies and may be involved in Multiple Chemical Sensitivity (MCS).	
<b>IRON</b>	Cardiac depression GI hemorrhage Metabolic acidosis Pain in the stomach Stomach lining becomes ulcerated Vomiting.	Hepatic cirrhosis Liver failure Metabolic acidosis, which in turn cause damages to the brain and the liver	Nontoxic: < 300 µg/dL Severe: >500 µg/dL
<b>LEAD</b>	Abdominal pain	Abdominal pain	Pediatric: symptoms or [Pb] ≥45 µ/dL (blood);

<p>Airborne lead particulates from industrial processing</p> <p>Cigarette smoke</p> <p>Drinking water</p> <p>Lead-based paints</p>	<p>Ataxia</p> <p>Encephalopathy</p> <p>Headache</p> <p>Nausea</p> <p>Obtundation</p> <p>Seizures</p> <p>Vomiting</p>	<p>Acid Blood pH</p> <p>Adrenal dysfunction</p> <p>Anemia</p> <p>Arthralgia</p> <p>Behavioral problems</p> <p>Body aches and pain</p> <p>Nephropathy</p> <p>Decreased sperm count</p> <p>Dysendocrinia</p> <p>Emotional disturbance</p> <p>Encephalopathy</p> <p>Foot-drop/ wrist-drop</p> <p>Hair loss</p> <p>Headaches</p> <p>Hypertension</p> <p>Impotence</p> <p>Kidney damage</p> <p>Memory and learning difficulties</p> <p>Miscarriage</p> <p>Peripheral neuropathy</p> <p>Reduced IQ</p> <p>Thyroid dysfunction</p>	<p>Adult: symptoms or [Pb] <math>\geq 70 \mu\text{dL}</math></p> <p>Lead can cross the placenta – accounts for 50% of fetal absorption</p> <p>Blood Brain Barrier (BBB) is not developed until age 6 thus damages the nervous system, in addition children absorb 50% more lead, whereas adults absorb 10-15%</p>
<p><b>MANGANISM</b></p> <p>or</p> <p><b>MANGANESE TOXICITY</b></p> <p>Mainly industrial pollution and welding</p> <p>Recent study found 40% of welders exhibit signs of idiopathic Parkinson's disease (PD)</p> <p>Small amounts ubiquitous in air, water, and food</p> <p>Major food sources are wheat, nuts,</p>	<p>Metal fume fever (MFF) inhaled</p> <p>Excess levels may result in iron deficiency anemia</p> <p>Interferes with the metabolism of B<sub>1</sub> thiamine, copper metallo-enzymes</p> <p>Estrogen therapy may raise serum manganese concentration.</p> <p>Higher concentrations have been found in severe hepatitis and post hepatic cirrhosis, in dialysis patients and in patients suffering</p>	<p>Manganism: Neuropsychiatric and motor disturbances, reduced response speed, irritability, mood changes, and compulsive behaviors</p> <p>Anosmia</p> <p>Diminished IQ scores</p> <p>Hallucinations</p> <p>High level decreases dopamine levels</p> <p>Hypertension</p> <p>Impaired memory</p> <p>Increased hyperactive and oppositional behaviors</p> <p>Kidney failure</p>	<p>No clear reference standard</p> <p>Exposure to ambient manganese air concentrations in excess of 5 micrograms Mn/m<sup>3</sup> can lead to Mn-induced symptoms.</p>

<p>and liver organ meat</p>	<p>from myocardial infarct (MI).</p>	<p>Loss of appetite</p> <p>Oxidative stress, mitochondrial dysfunction, glutamate-mediated excitotoxicity, and aggregation of proteins</p> <p>Resemble idiopathic Parkinson's disease (PD) tremors and stiff muscles</p> <p>Neurotoxic mechanism: interaction of manganese with iron metabolism, zinc, aluminum and copper.</p> <p>Based on various studies, disturbed iron metabolism could be the major cause of the neurotoxic action of manganese. It participates in Fenton reactions and induces oxidative damage as seen in occupational battery makers, and welders with fewer children and bone malformation of their offspring.</p>	
<p><b>MERCURY</b></p> <p>Canned tuna fish</p> <p>Contaminated food by polluted water from industrial waste or fungicides</p> <p>Dental Amalgam</p> <p>Seafood</p> <p>Shellfish</p>	<p>Elemental (inhaled):</p> <p>Diarrhea</p> <p>Fever</p> <p>Vomiting</p> <p>Inorganic salts (ingestion):</p> <p>Caustic gastroenteritis</p>	<p>Alteration of enzyme function</p> <p>Alteration of tertiary structure</p> <p>Alteration of the genetic code</p> <p>Altered cell membrane permeability</p> <p>Alzheimer's disease</p> <p>Blindness and deafness</p> <p>Blue line along the gums</p> <p>Brain damage</p> <p>Chronic fatigue</p> <p>Contribution to antibiotic resistance</p> <p>Contribution to autoimmune disease</p> <p>Diabetes (mercury bonds to insulin) causing</p>	<p>Background exposure "normal" limits: 10 µg/L (whole blood); 20 µg/L (24-h urine)</p> <p>Chronic fatigue syndrome (CFS) has shown to improve with amalgam removal – streptococcus mutans can methylate mercury, mercury accumulates in RBC membranes reducing oxygen transport, it inactivates sulfhydryl group cellular enzymes, and CoA thus cellular respiration.</p> <p>The improvement in CFS is almost instantaneous by the removal of dental amalgam.</p>

		<p>glycemic regulation homeostatic</p> <p>Diarrhea</p> <p>Digestion and absorption alteration</p> <p>Digestive problems</p> <p>Endocrine imbalances (dysendocrinia)</p> <p>Gingivo-stomatitis</p> <p>Hypersensitivity (Pink disease)</p> <p>Immunotoxic causing immune suppression</p> <p>Infertility</p> <p>Inhibition of DNA repair</p> <p>Interference in nerve impulses</p> <p>Interference with endocrine function</p> <p>Kidney damage</p> <p>Lack of coordination</p> <p>Leukemia</p> <p>Low hemoglobin</p> <p>Mental retardation</p> <p>Metallic taste (parageusia)</p> <p>Nausea</p> <p>Nephrotic syndrome</p> <p>Neurasthenia</p> <p>Neuropsychiatric symptoms associated with mercury toxicity include: anxiety, cognitive problems, depression, dizziness, drowsiness, emotional instability, hallucinations, headache, insomnia, irritability, memory loss, nervousness and even suicide.</p> <p>Paresthesia</p> <p>Tremors</p>	
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<p><b>NICKEL</b> Most toxic nickel compound is Cyclopentadienyl nickel nitrosyl, (C<sub>5</sub>H<sub>5</sub>)NiNO. Auto exhaust Baking powder Dental bridges Fertilizers Hydrogenation of oils Jewelry Nickel air particulates Nickel plating Stainless steel cookware Tap water Tobacco smoke</p>	<p>Allergic dermatitis; nickel carbonyl: myocarditis, ALI, encephalopathy Blisters and exudate in severe cases Chest pain Coughing Dry patches of skin that may resemble a burn. Headaches Itching that may be severe Nausea Rash or bumps on the skin Redness or changes in skin color Vertigo Vomiting Weakness</p>	<p>Activation of hypoxia-inducible factor (HIF-1) and the up-regulation of hypoxia-inducible genes are due to depleted intracellular ascorbate levels caused by nickel. Allergies Asthma, nasal and sinus problems. Breast and Lung cancers. Bronchiectasis Decrease in birth weight of offspring. Nasopharyngeal tumors. Occupational (inhaled): Pulmonary fibrosis. Reduced sperm count. Still births. Weight loss</p>	<p>Excessive exposure: ≥8 µg/L (blood) Severe poisoning: ≥500 µg/L (8-h urine)</p>
<p><b>SELENIUM</b> Selenosis occurs above 400 microgram (µg) Tolerable Upper Intake Level Selenates and selenites are very toxic, having an oxidant effect of action similar to that of arsenic trioxide.</p>	<p>Acute respiratory distress syndrome (ARDS). Cardiac failure Caustic burns Diarrhea Facial flushing Fatigue Garlic breath Hair loss</p>	<p>Chronic toxic dose of selenite for human beings is about 2400 to 3000 mcg. Cirrhosis of the liver. Depression Dermatitis Epistaxis Gastrointestinal disturbances</p>	<p>Mild toxicity: [Se] &gt;1mg/L (serum); Serious: &gt;2 mg/L</p>

<p>Anti-dandruff shampoo</p> <p>Apple cider vinegar.</p> <p>Hydrogen selenide exposure in industrial workplace</p> <p>Photography toning baths</p> <p>Pineapple juice</p> <p>Yeast</p> <p>Yogurt</p>	<p>Irritability</p> <p>Kidney failure</p> <p>Lightheadedness</p> <p>Mood swings</p> <p>Mottled teeth</p> <p>Muscle tenderness</p> <p>Tremors</p> <p>Myocardial infarction (MI)</p> <p>Nausea</p> <p>Nervous system abnormalities</p> <p>Pneumonitis</p> <p>Hypotension</p> <p>Rashes</p> <p>Severe gastrointestinal symptoms</p> <p>Severe neurological symptoms</p> <p>Vomiting</p>	<p>Hemiplegia</p> <p>Multiple Chemical Sensitivity (MCS) can be one of the cause</p> <p>Pallor</p> <p>Paresthesia</p> <p>Pulmonary edema and death</p> <p>Red skin</p> <p>Red stained finger nails, teeth, and hair</p>	
<p><b>SILVER</b></p> <p>The National Center for Complementary and Alternative Medicine (NCCAM) States the following:</p> <p>Reviews of the scientific literature on colloidal silver have concluded that:</p> <p>Silver has no known function in the body.</p> <p>Silver is not a nutritionally essential mineral or a cure-all and should not be promoted as such.</p> <p>Claims that there can be a “deficiency” of silver in the body and that such a deficiency</p>	<p>Very high doses</p> <p>Bone marrow suppression</p> <p>Hemorrhage</p> <p>Hepatorenal necrosis</p> <p>Pulmonary edema</p>	<p>Argyria: blue-grey discoloration of skin, nails and mucosa that is caused by silver salts, including silver nitrate, silver arsphenamine, silver chloride and possibly silver iodide. The estimated amount of silver accumulation over a one-year period that is required to produce argyria is 1 to 5 grams.</p> <p>Irreversible neurologic toxicity associated with poor outcome</p> <p>Mild forms of Argyria are sometimes mistaken for cyanosis.</p>	<p>Asymptomatic workers have mean [Ag] of 11 µg/L (serum) and 2.6 µg/L (spot urine)</p>

<p>can lead to disease are unfounded.</p> <p>Claims made about the effectiveness of colloidal silver for numerous diseases are unsupported scientifically.</p> <p>Colloidal silver can have serious side effects.</p>			
<p><b>THALLIUM</b></p>	<p>Early:</p> <p>Vomiting</p> <p>Diarrhea</p> <p>Painful neuropathy</p> <p>Coma</p> <p>Autonomic instability</p> <p>Multiple organ dysfunction syndromes (MODS)</p> <p>Later onsets:</p> <p>Ataxia</p> <p>Athetosis</p> <p>Coma</p> <p>Cranial nerve palsies.</p> <p>Death</p> <p>Headache</p> <p>Insomnia</p> <p>Seizures</p> <p>Tremor</p>	<p>Late Findings:</p> <p>Alopecia</p> <p>Birth defects</p> <p>Mees lines</p> <p>Residual neurological symptoms</p> <p>Acute agitation</p> <p>Aggression</p> <p>Anxiety</p> <p>Apathy</p> <p>Confabulation</p> <p>Confusion</p> <p>Delirium</p> <p>Depression</p> <p>Diplopia: abnormal color vision, and impairment of visual acuity</p> <p>Hallucinations</p> <p>Hypertension</p> <p>Internal and external ophthalmoplegia and nystagmus</p> <p>Loss of the lateral half of the eyebrows</p> <p>Noninflammatory keratitis, lens opacities, and optic atrophy due to toxic optic neuropathy</p> <p>Paresthesia</p> <p>Personality changes</p> <p>Pleuritic chest pain</p> <p>Psychosis</p>	<p>Toxic: &gt;3 µg/L (blood)</p>

		Scaling of the palms and soles and acneiform or pustular eruptions of the face Seventh nerve palsy Skin lesions on eye lids Ptosis Tachycardia	
<b>TITANIUM</b> Implants and prosthesis		Titanium implants can elevate serum levels, which correlates to lung cancer, osteoporosis and platelet suppression.  A New Zealand study showed higher incidence of death from cancer among hip replacement patients.	
<b>ZINC</b> greater than 225 mg	MFF (oxide fumes); Abdominal pain and/or nausea from (ingestion)  Diarrhea  Vomiting	Copper deficiency:  Anemia  Neurological degeneration.  Osteoporosis  Linked to alterations of blood lipoprotein levels, with increased levels of LDL and decreased levels of HDL seen.	Normal range: 0.6-1.1 mg/L (plasma) 10-14 mg/L (red cells)

### MEDICINAL EMBRYONIC PHYTOTHERAPY (MEP)

#### LEGEND abbreviations:

**P** = *Polycrest* is a remedy of the **first order** for any one given pharmacological indication and necessary for **Acute and Chronic Conditions** - a remedy of primary importance for several diseases. A polycrest is also a medicinal plant that serves many uses and is the strongest for any one given pharmacological indication.

**A** = *Adjuvant* is a remedy of **second order** for any one given pharmacological indication. Combinatorial use of many adjuvants can reinforce and potentiate the biological activity of other phytochemicals. Adjuvants are normally not chosen for acute events since they are known to have a lesser degree of effectiveness; but let it be known that many adjuvants when combined together can serve as a polycrest. A quantitative amount is not necessarily what constitutes being an adjuvant, which greatly depends much more on the qualitative total chemical composition of any one given plant rather than what can be measured in milligrams. Furthermore, smaller amounts from many *adjuvants* do quantitatively add up. It also greatly depends on what is being treated or targeted and what is required in order to be therapeutically effective.

Ash – Fraxinus Excelsior (buds): **P** Chelator and Excretory for All Metals, especially by renal route.

Bilberry – Vaccinium Myrtillus (young shoots): **P** Chelator of Aluminum, Cadmium, Copper, Chromium, Iron and Lead. In addition to reducing the poisoning of Yusho symptoms: Yusho poisoning is caused by ingestion of rice oil contaminated with polychlorinated biphenyls, specifically polychlorinated

dibenzofurans (PCDFs) and polychlorinated biphenyls (PCBs). Propolis is an antioxidant against exposure to excess chromium-induced oxidative stress.

Beech – *Fagus Sylvatica* (buds): **P** Chelator All Metals. In addition it stimulates glutathione levels, inhibits glucose absorption in the intestines, it is a chelator for all toxic metals, scavenges free radicals, and prevents oxidation.

Black Currant – *Ribes Nigrum* (buds): **P** Chelator and Excretory of Aluminium, Copper and Iron. **A** *Potentiate*s the effect of all other plants detoxifying or chelating agents due to its high content of Vitamin C-Complex.

Black Elder – *Sambucus Nigra* (buds): The **Polycrest** for **Copper** homeostasis. Plastocyanin (PC) is a copper-containing protein for the treatment of copper homeostasis. It will increase it when deficient and Chelate Copper when in toxic amounts. Chelator of cadmium and nickel

**Black Poplar – *Populus Nigra* (buds): **Polycrest Chelator and Excretory for All Metals**. NEVER mixed with White Willow and contrary to White Willow, you can mix with Betulinic Acid Concentrate but be ever so cognizant of the blood-thinning synergy by mixing both. Furthermore, do not add Ginkgo as a third plant unless intended to have potent anticoagulation activity.**

Crab Apple – *Malus Sylvestris* (buds): **P** Chelator of Nickel and Excretory.

Dandelion – *Taraxacum Officinale* (embryonic roots): **P** *Assists in the elimination (excretion) of toxic metal out of the body*. Excretory.

Dog Rose – *Rosa Canina* (young shoots): **A** All Metals contains ½ of the vitamin C-complex of Black Currant buds, but Dog Rose is the **polycrest** for increasing natural killer (NK) cell's stimulation. Excretory for All Metals.

Dogwood – *Cornus Sanguinea* (buds) **P** All metals and especially when related to allopathic drugs. Chelator and Excretory.

European Alder – *Alnus Glutinosa* (buds): **P** All metals especially related to **mercury** containing vaccines. Chelator and Excretory.

Giant Redwood – *Sequoia Gigantea* (young shoots): **P** binds metal ions. Especially toxic metal found in the brain. Chelator and Excretory. This plant is capable of crossing the blood-brain barrier (BBB) osmosis.

Grape Vine – *Vitis Vinifera* (buds): **P** Lead. Chelator and Excretory.

Hazel – *Corylus Avellana* (buds): **A** Chelator and Excretory All Metals. Alkalinizer of the blood.

Lemon Tree – *Citrus Limonum* (bark): **A** Chelator and Excretory All Metals. Necessary to restore acid blood pH to alkaline level.

Lilac – *Syringa Vulgaris* (buds): **P** Cadmium, and Nickel Chelator and Excretory.

Maize – *Zea Mais* (embryonic germinating seed-rootlets): **P** Provides heavy metal tolerance.

Mountain Pine – *Pinus Montana* (buds): **P** Chelator and Excretory for All Metals.

Nigella – *Nigella Sativa* (embryonic germinating seed-rootlets): **P** Lead Chelator and Excretory.

Oriental Plane Tree – *Platanus Orientalis* (buds): **P** Cadmium, Lead, and Mercury Chelator and Excretory.

Purple Coneflower – *Echinacea Purpurea* (embryonic roots) **P** *excrete ALL toxic metal out of the lymphatic system preventing stasis*. Chelator and Excretory.

Silver Birch – *Betula Verrucosa* (buds): **P** Cadmium, Chelator and Excretory.

Silver Birch – *Betula Verrucosa* (embryonic germinating seed-rootlets): **P** Especially toxic metal within the amygdala in the brain and other neurotoxic syndrome. Chelator and Excretory

St. John's Wort – Hypericum Perforatum (buds of flowers): **P** Toxic metal, Cadmium, Chelator and Excretory.

Virginia Creeper – Ampelopsis Veitchii (young shoots): **P** Cadmium, Excess Aluminium Chelator and Excretory.

Wheatgrass – Triticum Aestivum (embryonic germinating seed-rootlets): **P** Toxic metal inorganic Arsenic, Chelator and Excretory.

White Birch – Betula Pubescens (flower male-catkins): **P** Cadmium toxicity, Chelator and Excretory.

White Willow – Salix Alba (buds): **P** All toxic metals, Chelator and Excretory. NEVER mixed with Black Poplar with Betulinic Acid Concentrate too many of the same salicylates unless intended.

Yarrow – Achillea Millefolium (young shoots): **A** All Excretory via the bile duct.

**Betulinic Acid Concentrate** (Most Potent **Diuretic** found in Nature increasing the kidneys filtration capacity from toxic compounds: **P** Reduce Cadmium toxicity, Chelator and Excretory. Recommended dosage (shake well before serving): take 50 to 100 drops 3 times daily. Must be taken by itself 1<sup>st</sup> prior to any other MEP extracts put into ½ glass water ½ hour before a meal and DO NOT SIP. Drink quickly. No need for potassium supplement with this diuretic since it is already inclusive in the plants and will not result in the loss of more potassium unless the patient is already potassium deficient prior to its use.

**Please Note** that there are other medicinal embryonic plants that are not listed here. Please refer to your pharmacological indications. The list given here is of the major contenders in the chelating of metals when found in toxic amounts. Non manmade medicinal embryonic phytotherapy (MEP) is a much superior therapy “gentle medicine” with no harsh side effects; does not cause the depletion of other vital nutrients; and is the most effective at not only detoxifying all toxic metals but many other xenobiotics as well such as excess hormones. Re-establishing blood pH thereby increasing oxygen concentration and having potent antiinflammatory activity greatly reduces oxidative stress and damages.

The body prefers zinc for over 100-300 critical enzymes. However, if zinc becomes deficient, the exposure to cadmium, lead or mercury is sufficiently high; the body will use these in place of zinc. So Zinc supplement could be indicated in people with toxic amounts of metals but never to exceed 30mg per day from a whole food source after lunch.

**Adult Dosage:** 10-15 drops of each plant chosen 3 times daily is an average dose.

**Duration:** 6-12 months for a complete Toxic Metal Chelation, providing that the source of the offender(s) has been identified and removed.

General Detoxification OTC Products:

1. Silver Birch – Betula Verrucosa (Sap) (250ml only) Spring cleaning 1/3 of a bottle, tid QD, for 21 continuous days. Taken 30 minutes before meal into ½ glass of water or taken straight undiluted works as well both ways.
2. As Good As New PSC® 30-50 gtts, tid, QD. Duration 3-6 months.
3. Liver-Depurato PSC® bowel tolerance 30-50 gtts, tid, QD. Duration for 3-6 months.