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**Preliminary work up**  
1. Identify current meridian using SCN and cross TL to each meridian or use Biophoton acetates.  
2. Identify negating meridian.  
3. TL Kid 27 bilaterally while the patient TL's negating meridian B&E points or use Biophoton acetate.  
4. Tap SCN 60x at 2Hz.  
Patient now in Definitive Meridian.  
5. Check weak associated muscles.

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**1. Scale of Health**  
"If 100 is the very best you have ever been in your health, and health being all encompassing i.e. Emotional, Biochemical and Structural, your Scale of Health currently calibrates at ....."

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**2. Scale of Vitality**

On a scale of 1-100 your Scale of Vitality, as defined as your ability to generate energy, calibrates at.....?

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**3. Scale of Ingestion**

On a scale of 1-100 the percentage of essential nutrients that you ingest i.e. eat and drink, to maintain optimal health and wellness is .....

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**4. Scale of Digestion**

On a scale of 1-100 the percentage that you digest i.e. reduce long chain molecules down to short chain molecules to readily absorb, these essential nutrients is .....

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**5. Scale of Absorption**

On a scale of 1-100 the percentage that you absorb these short molecules i.e. getting them from the intestine into the blood is.....?

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**Repair is to restore damaged tissue to optimal condition.**

**Regeneration is the formation of new tissue. (When a tissue regenerates, stem cells duplicate and reform the same cellular type that was damaged)..**

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**Essential minerals**  
Spectroscopic emission strengthens  
Spectroscopic absorption weakens

**Toxic minerals**  
Spectroscopic emission weakens  
Spectroscopic absorption strengthens

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## The Periodic Table

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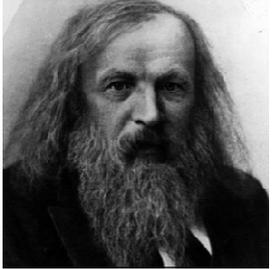
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**1834 – 1907** was a Russian chemist and inventor. He formulated the Periodic Law, created a farsighted version of the periodic table of elements, and used it to correct the properties of some already discovered elements and also to predict the properties of eight elements yet to be discovered.

### Dmitri Ivanovich Mendeleev



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Essential minerals	Toxic minerals
Boron	Aluminium
Calcium	Antimony
Copper	Arsenic*
Chromium*	Beryllium*
Indium	Bismuth
Iodine	Bromine
Iron	Cadmium*
Magnesium	Caesium
Manganese	Chlorine
Molybdenum	Cobalt
Platinum	Fluorine
Potassium	Lead
Selenium	Lithium
Silica	Mercury
Silver	Nickel*
Sulphur	Palladium
Zinc	Radium
	Radon
	Thallium
	Thorium
	Uranium
	Known to be * Carcinogenic

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**Toxic Metals**

- Toxic insults on body behind the rise of MCDs
- The symptoms depend on the nature of the toxin and the individual genotype
- In time overwhelm the body's detoxification system

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**Toxic metals**

- Quantity of toxins may be small but damage is enormous
- "Symptoms produced are out of proportion to the amount of toxin released and can be anywhere or in any system of the body" Dr Weston Price

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**Toxic metals**

- Symptoms are a result of the types, concentration & duration of exposure
- Event can be a trigger. The reserves of the body have been reduced, gradual build up

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**Toxic metals**

- Recovery time is proportional to length of time of exposure to toxins as well as genetic make-up and mental attitude
- “a toxin is anything that acts as a poison and can cause allergy”

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**Toxic metals**

- Poison is dose dependant. Slow and shut down body functions. Interfere with feedback mechanisms, corrupt messenger molecules, stop oxygen utilisation

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**Toxic metals**

- Allergy or sensitivity – not dose dependant. Triggers the immune system into a reaction.
- Most patients have both
- Poor nutrition reduces effectiveness of body to deal with toxins

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**Toxic metals**

- Candice Pert – mental state has a direct effect on physical workings of the body. Lowers the resistance to infection and toxin.
- Lowers immune system.  
Weakened by toxins>infections

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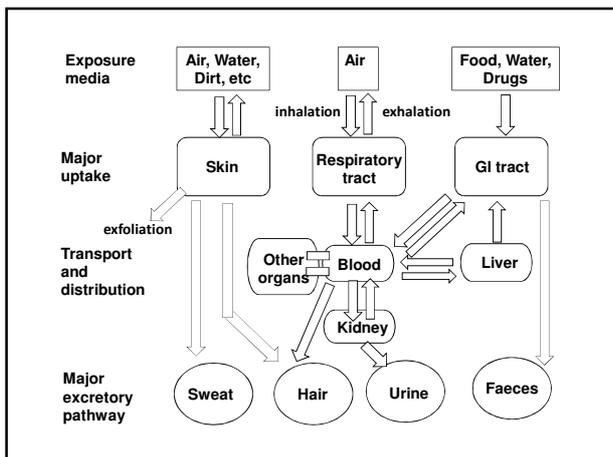
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**Cellular targets for toxicity are specific biochemical processes (enzymes) and / or membranes of cells and organelles. The interaction of toxic with essential metals occurs when the metabolism of a toxic metal is similar to that of the essential element.**

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**Toxic metals may influence the role of essential metals as co-factors for enzymes or other metabolic processes (e.g. lead interferes with the calcium dependent release of neurotransmitters and the activation of Vitamin D to the hydroxylated forms.)**

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**Lead, calcium and iron (and cadmium and iron) interfere with the GI homeostasis mechanism.**

**Vitamin C reduces the absorption of lead and cadmium because of an increased absorption of ferrous iron.**

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**Anecdotal observed benefits from chelation of toxic metals:**

- **Reduction of liver-produced cholesterol.**
- **Lowered insulin requirements in diabetics.**
- **Reduced high blood pressure.**
- **Normalization of cardiac arrhythmias.**
- **Relief from leg-muscle cramps.**
- **Reduction in allergic symptoms.**
- **Normalized weight.**
- **Improved psychological and emotional status.**
- **Enhanced sensory input: better sight, hearing and taste.**
- **Reversal of impotence.**
- **Cold extremities warmed.**

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### Meridian VEP Spray

- Collection of organic aromatherapy oils for each meridian
- Work on emotional centre of brain
- Associated emotional state with each meridian

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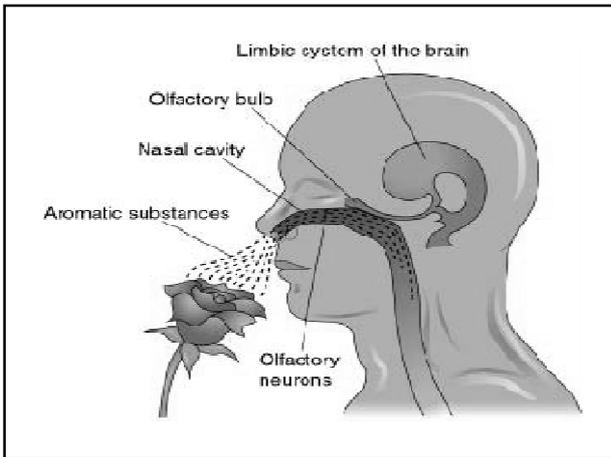
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**Chelation therapy is a medical procedure that involves the administration of chelating agents to remove heavy metals (As, Hg, Pb) from the body.**

**Dimercaptosuccinic acid (DMSA)  
2,3-Dimercaptopropanesulfonic acid (DMPS)**

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**Alpha lipoic acid (ALA)**  
**Dimercaprol (British anti-Lewisite; BAL)**  
**Ethylenediaminetetra-acetic acid (EDTA)**  
**2,3-Dimercaptopropanesulfonic acid (DMPS)**

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**Thiamine tetrahydrofurfuryl disulfide (TTFD).**  
**Penicillamine**  
**Ethylenediamine tetra-acetic acid (calcium disodium versante) (CaNa<sub>2</sub>-EDTA)**

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The image shows a standard Mendeleev Periodic Table with element symbols and atomic numbers. The title "Mendeleev Periodic Table" is prominently displayed in the center. The table includes all elements from Hydrogen (H) to Oganesson (Og), with the lanthanide and actinide series shown as separate rows at the bottom.

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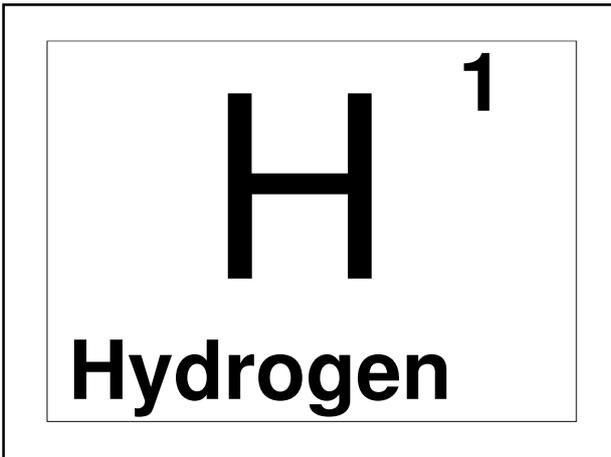
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**Biomarker for intestinal gas**

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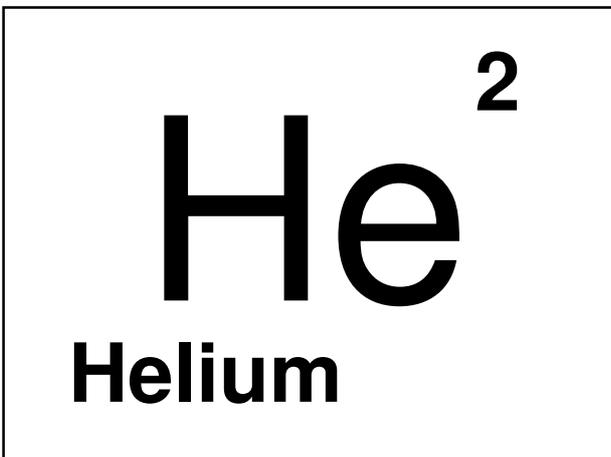
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**Li** <sup>**3**</sup>  
**Lithium**

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**Lithium (Li) 3**

- **Industrial – heat resistant glass & ceramics, lubricants & flux additives for Fe, steel, Al production**
- **Lithium batteries**
- **Mood stabilising drug for bipolar disorder, cyclic major depression**

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**Lithium (Li) 3**

- **Occurrence of tremor may suggest lithium toxicity**
- **Risk of developing Ebstein’s cardiac anomaly in infants born to women who take Li in first trimester of pregnancy**
- **Research for cluster headaches**

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**Biomarker for drug effectiveness and intolerance**

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**Lithium is useful in the treatment of bipolar disorder. Lithium salts may also be helpful for related diagnoses, such as schizoaffective disorder and cyclic major depression. The active part of these salts is the lithium ion  $\text{Li}^+$ .**

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**They may increase the risk of developing Ebstein's cardiac anomaly in infants born to women who take lithium during the first trimester of pregnancy. Lithium has also been researched as a possible treatment for cluster headaches.**

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**4**

**Be**

**Beryllium**

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**Beryllium (Be) 4**

- Easily absorbed through the skin and lungs
- Immune system problems with hypersensitivity reactions
- Electronic components, metal alloys, aerospace applications, treated lenses, in steel,

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**Beryllium (Be) 4**

- Bicycle wheels, fishing rods and many household items
- Damage lungs and cause pneumonia
- Most common effect – berylliosis
- Persistent lung disorder, also damages other organs, heart

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**Beryllium (Be) 4**

- Can cause allergies in people hypersensitive to this metal
- Chronic Beryllium Disease CBD ( ) develop anorexia and blueness of hands and feet
- Carcinogenic

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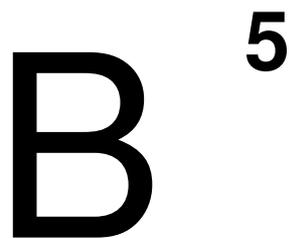
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**Boron**

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**Boron is a chemical element with symbol B and atomic number 5. Because boron is produced entirely by cosmic ray spallation and not by stellar nucleosynthesis, it is a low-abundance element in both the Solar system and the Earth's crust.**

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**Boron is concentrated on Earth by the water-solubility of its more common naturally occurring compounds, the borate minerals. These are mined industrially as evaporites, such as borax and kernite. The largest proven boron deposits are in Turkey, which is the also the largest producer of boron minerals.**

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**Chemically uncombined boron, which is classed as a metalloid, is found in small amounts in meteoroids, but is not found naturally on Earth. According to conventional medicine it is not known if boron is essential for humans but research shows that we do need it.**

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**The reason why it was difficult to answer this question is the presence of boron in all plants and unprocessed foods. Diets with a fair amount of fruit and vegetables provide about 2 to 5 mg of boron per day, but this also depends on the region where the food was grown and how it was grown.**

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**In reality the average intake in developed countries is 1-2 mg of boron per day. Chemical fertilizers inhibit the uptake of boron from the soil: an organic apple grown in good soil may have 20 mg boron, but if grown with fertilizer it may have only 1 mg of boron.**

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**The cooking water of vegetables may be discarded during home cooking or commercial processing; phytic acid in baked goods, cereals and cooked legumes may greatly reduce availability, while gluten sensitivity and Candida overgrowth inhibit the absorption of minerals.**

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**Health Effects of Boron  
1. Protects from Fluorides.  
Borax protects against the accumulation of fluorides in the body; is effective as an antidote in fluoride toxicity; and can remove fluorides from the body.**

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**2. Anti-microbial. Borax is toxic to insects, parasites, protozoa and bacteria.**  
**3. Fungicide. Effective against moulds and fungi, internally and externally.**  
**4. Anti-viral**

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**5. Hormone normalizer. Stimulates the production of hormones, stabilizes estrogen, assists with insulin use and blood glucose control, triglyceride use and production of reactive oxygen. With boron sufficiency, blood serum triglyceride levels are significantly lower.**

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**6. Immune system enhancer. Promotes healing of wounds.**  
**7. Reduction and control of inflammation.**  
**8. Aphrodisiac for men and women. Boron stimulates the production of testosterone and normalizes estrogen.**  
**9. Toxin removal. Powerful chelator of heavy metals.**

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**10. Stabilizer of calcium, copper and magnesium levels, inhibits calcification. Boron sufficiency normalizes calcium levels, preventing both abnormal calcium deposition and bone weakness. Boron sufficiency inhibits the concentration of copper in the bones and prevents loss of bone.**

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**11. Mental enhancement. Improves attention, both short and long term memory, perception, hand-eye coordination, and manual dexterity. Boron is distributed throughout the body with the highest concentration in the parathyroid glands, followed by bones and dental enamel.**

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**It is essential for healthy bone and joint function, regulating the absorption and metabolism of calcium, magnesium and phosphorus through its influence on the parathyroid glands. With this boron is for the parathyroids what iodine is for the thyroid.**

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**Boron deficiency causes the parathyroids to become overactive, releasing too much parathyroid hormone which raises the blood level of calcium by releasing calcium from bones and teeth. This then leads to osteoarthritis and other forms of arthritis, osteoporosis and tooth decay.**

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**With advancing age high blood levels of calcium lead to calcification of soft tissues causing muscle contractions and stiffness; calcification of endocrine glands, especially the pineal gland and the ovaries; arteriosclerosis, kidney stones, and calcification of the kidneys ultimately leading to kidney failure.**

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**Boron deficiency combined with magnesium deficiency is especially damaging to the bones and teeth.  
Boron affects the metabolism of steroid hormones, and especially of sex hormones. It increases low testosterone levels in men and oestrogen levels in menopausal women.**

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**It also has a role in converting vitamin D to its active form, thus increasing calcium uptake and deposition into bone and teeth rather than causing soft tissue to calcify. Also other beneficial effects have been reported such as improvement of heart problems, vision, psoriasis, balance, memory and cognition.**

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**Areas in the world with highest boron levels have lowest incidence of osteoarthritis. Areas with lowest levels of boron have the highest incidence. Synovial fluid in osteoarthritic joints is low in boron.  
With additional boron bone fractures heal in about half the normal time in both man and animal.**

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**Borax is also effective with other forms of arthritis, such as Rheumatoid Arthritis, Juvenile Arthritis, and Lupus (Systemic Lupus Erythematosus). Boron inhibits the formation of biofilms and also the transformation of harmless yeast cells into invasive hyphal form.**

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**Epigenetics Ltd Products**  
**Boron liquid 100ml Sodium borate**

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**C**<sup>6</sup>

**Carbon**

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**N**<sup>7</sup>

**Nitrogen**

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**9**

**F**

**Fluorine**

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**Fluorine (F) 9**

- Halogen family
- Chemically very similar to iodine
- Displaces iodine in thyroid gland
- Added to drinking water 1ppm
- Foods, medications, chemicals
- Accumulates in body

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**Fluorine (F) 9**

- Slows down the production of T3 and T4 by interfering with the enzymes
- Inhibits the secretion of TSH
- Competes with TSH for receptor sites on the thyroid gland

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## Fluorine (F) 9 - Sources

- Drinking water
- Toothpaste. Higher in Sensodyne toothpaste
- Tea – accumulates more fluoride that any other edible plant
- Fluoride pesticides
- Soft/carbonated drinks
- Medication eg SSRI

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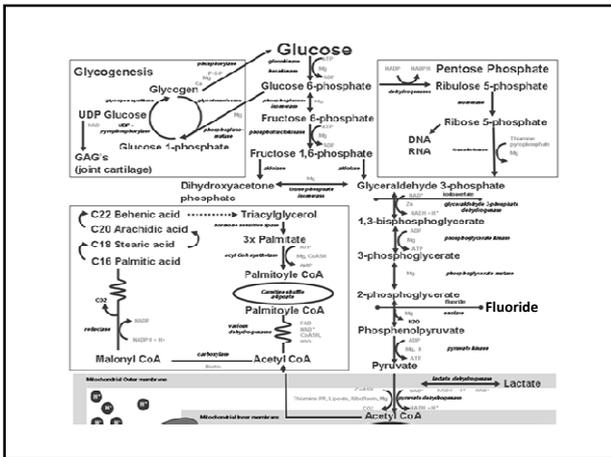
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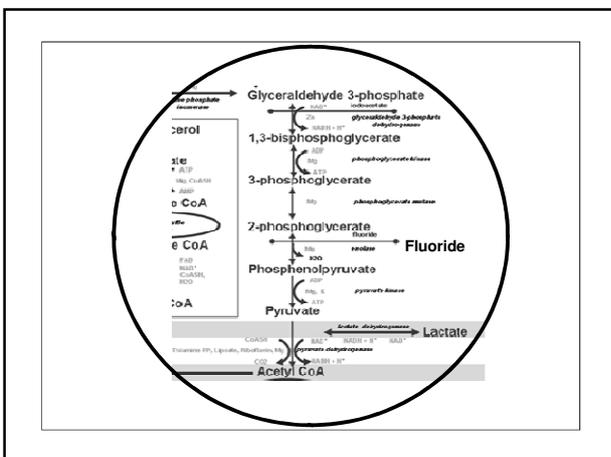
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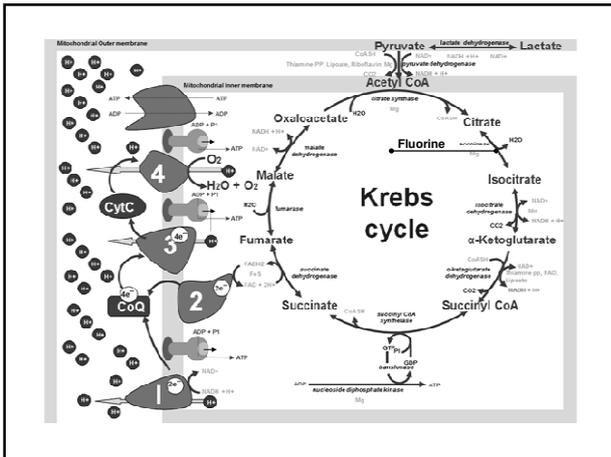
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**Biomarker for Fluoride toxicity and maybe requirement. The teeth require calcium hydroxyfluoroapatite for their enamel.**

**Products**  
**Calcium fluoride 100ml**  
**Calcium phosphate 100ml**

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**Fluoride catalyzes the diffusion of calcium and phosphate into the tooth surface, which in turn remineralizes the crystalline structures in a dental cavity. The remineralized tooth surfaces contain fluoridated hydroxyapatite and fluorapatite.**

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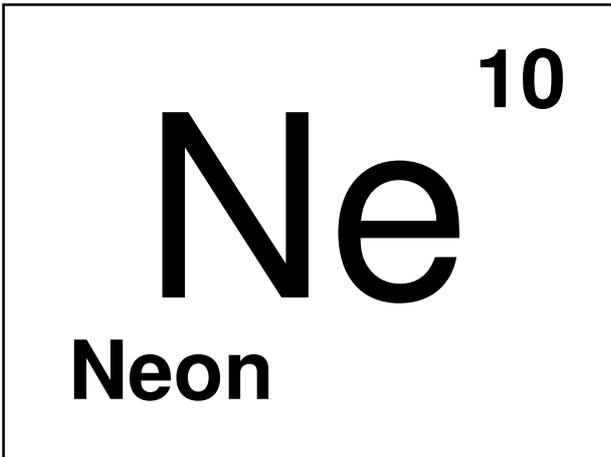
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**Biomarker for tolerance to Neon lighting**

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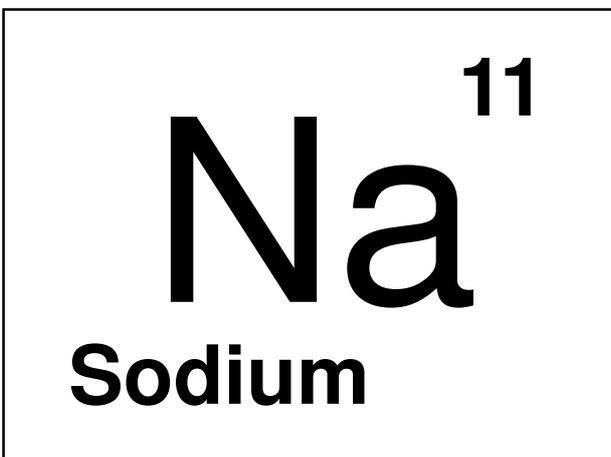
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**Biomarker for Sodium  
electrolyte.  
Hyperadrenal – weakens  
Hypoadrenal - strengthens**

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**Mg<sup>12</sup>  
Magnesium**

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**Magnesium is the second major  
intracellular cation.  
Its intracellular concentration is  
10x that of the serum.  
Normal dietary absorption is  
44%.**

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**Major signs of deficiency**  
Confusion  
Hallucinations  
Muscle twitching and tremor  
Tetany  
Convulsions  
Rigidity  
Delirium  
Coma

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**Abnormal heart conduction and arrhythmia may occur.**

**Neuromuscular irritability is equated by**

$$\text{Neuromuscular irritability} = \frac{\text{K}^+ + \text{Na}^+}{\text{Ca}^{++} + \text{Mg}^{++} + \text{H}^+}$$

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**Functions of magnesium include**

**Many enzymes in carbohydrate metabolism and energy synthesis.**

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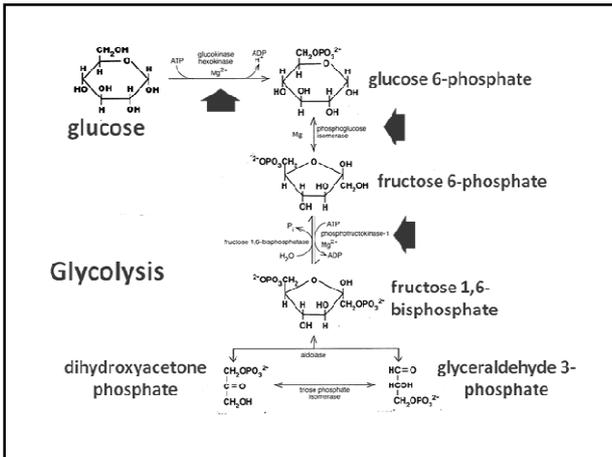
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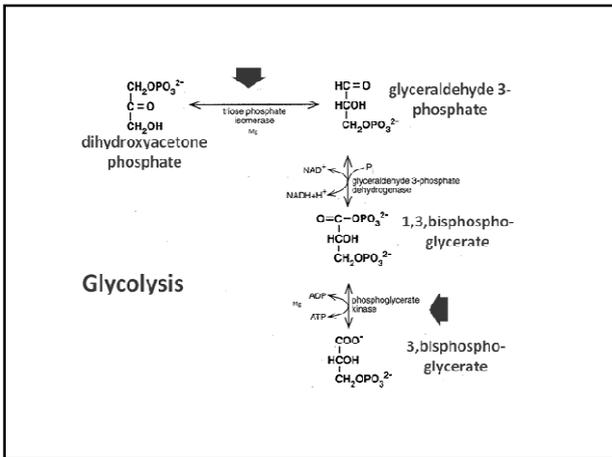
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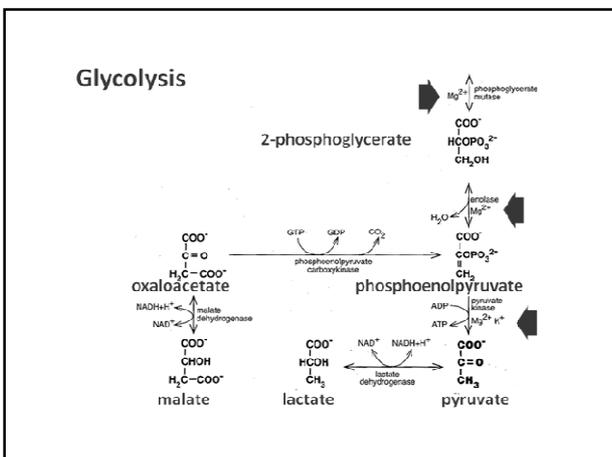
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**Synthesis of heme in hemoglobin**

*Delta-aminolevulinate synthase* requires magnesium, glycine, succinyl CoA and P5P. It is involved with the first step in the synthesis of porphobilinogen, a precursor of heme in hemoglobin.

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**Functions of magnesium include**

Synthesis of purine and pyrimidine bases in RNA and DNA.

Synthesis of flavin nucleotides.

Synthesis of nicotinamide adenine dinucleotides.

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**Synthesis of phospholipids**

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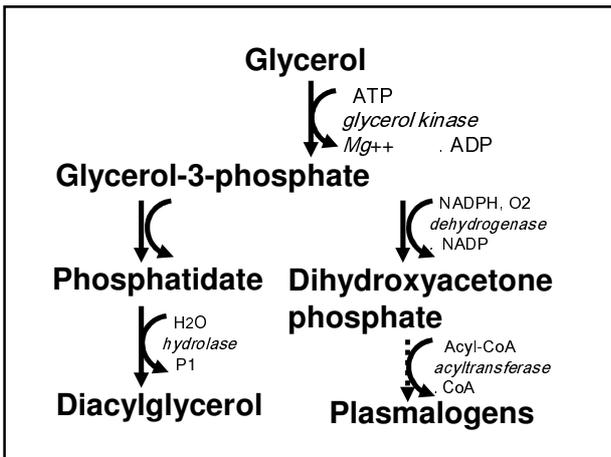
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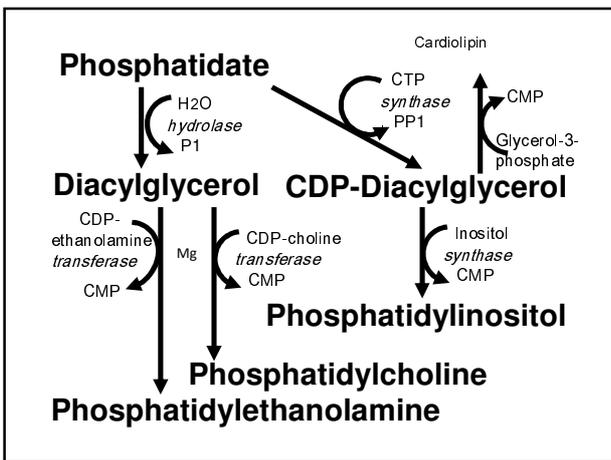
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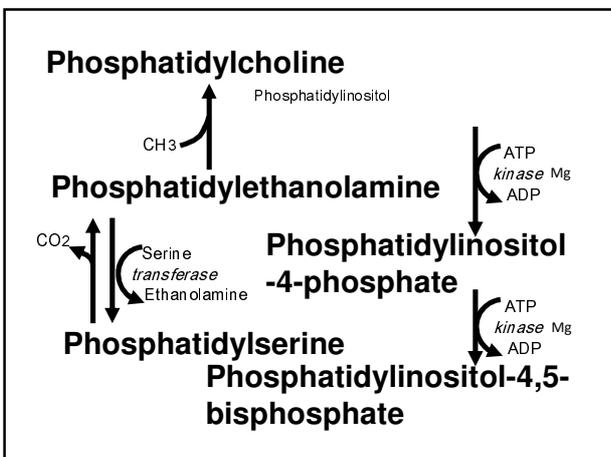
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**Synthesis of CoA and of Acyl-CoA derivatives of fatty acids.  
Synthesis of active sulfur (PAPs).  
Catecholamine metabolism.  
Muscle contraction.**

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**Gene protein synthesis.  
Synthesis of glutathione.  
Synthesis of glutamine and asparagine and P5P.**

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**Magnesium deficiency may lead to excessive body odour and excessive body sweat production.**

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### RDA's

Child 2-12 years	Adult male	Adult female
200-600mg	350-750mg	300-700mg

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### Epigenetics Ltd Products Colloidal Magnesium 200ml Magnesium citrate caps

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**Magnesium right on time as role in body rhythms is recognised**

By Will Chu BSc, 15-Apr-2016  
Last updated on 11-Apr-2016 at 11:17 GMT Post a comment

Related tags: Magnesium, Cell, Circadian, Edinburgh, Cambridge, Algae, Fungi, Agriculture, Photosynthesis

The amount of magnesium in the diet plays a central role in helping to adjust to the rhythms of night and day, researchers have discovered.

The researchers may also point towards magnesium as a gatekeeper of cellular energy, balance and expenditure over the daily cycle.

The study pinpointed the nutrient magnesium as a determinant of how cells keep to a schedule, helping them adjust to the natural environmental cycle of day and night, also known as circadian rhythms.

**NIA**  
Nutrition Information Agency

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**Al** <sup>13</sup>  
**Aluminium**

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**Aluminium (Al) 13**

- Most widely distributed metal on the planet
- Cookware, soft drink cans, foil, deodorant
- Processed and frozen food packaging

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**Aluminium (Al) 13**

- Antacids, aspirin, vaccine, flour, table salt
- Accumulates in kidney, liver, lungs, thyroid where it competes with calcium for absorption and can affect skeletal mineralisation
- Targets CNS. Brain disease.

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### Aluminium (Al) 13

- **Linked to degenerative brain diseases such as Alzheimer's**
- **Accumulates with age leading to elderly cognitive impairment**
- **Autopsy study found elderly to have 20+ times more than middle aged group**

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### Aluminium (Al) 13

- **Agency for Toxic Substances and Disease states Al is one of the metals to affect neurological system**
- **Mining, factory, welding. Vapours in a super absorption state – to blood, bones, brain**

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### Aluminium

Salt in tap water as a deflocculant and softener.  
Antacid, Anti-inflammatory, antidiarrhoeal medication.  
Aluminium silicates in medications.  
All foods wrapped with aluminium foil. Oxo cubes.  
Insides of milk and fruit juice cartons.  
Aluminium take-away cartons.  
Aluminium food, soft drinks and beer cans.  
Squeazy tubes such as tomato paste.  
Baking powder, Self raising flour, Salt and certain food additives.  
Naturally high levels in Tea, spearmint and peppermint teas, tea bags, instant coffee, Spinach and Potatoes.  
Processed cheese.  
Deodorants, antiperspirants, skin lotions, make-ups, douches, toothpaste.  
Saucepans, frying pans, kettles, baking sheets.

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**Dr Goodheart says**

**Always think about aluminium toxicity in low phosphorus cases.**

Aluminium removes the phosphorus from the phospholipid cell membranes.

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**Antacids containing Aluminium**

**Aluminium combines with phosphorus and calcium preventing optimal absorption. Aluminium can be absorbed into bones leading to osteomalacia.**

**Look also for other sources of aluminium such as cans and pans.**

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**Increased exposure to aluminium harmful to gut homeostasis, review warns**

By Will Chu <sup>30</sup>, 31 Apr 2016  
Last updated on 04-Apr-2016 at 13:07 GMT Post a comment



**IBD** (inflammatory bowel disease) and irritable bowel (IB), or chronic diarrhoea, which is not really a worry, patients. (© iStock.com)

**Editorial note:** Oral exposure, intestinal homeostasis, inflammatory bowel diseases, IBS, I amn, Aluminium, Cells, EFSA, GI, Dysbiosis

**Aluminium is likely to harm gut homeostasis as increased exposure is strongly linked to inflammatory bowel disease (IBD) as an environmental risk factor, a review has concluded.**

The claim points to an increased exposure to the element as a result of intensified food consumption that is placing undue pressure on the gastrointestinal tract, resulting in increased numbers suffering from IBD symptoms of disorders.




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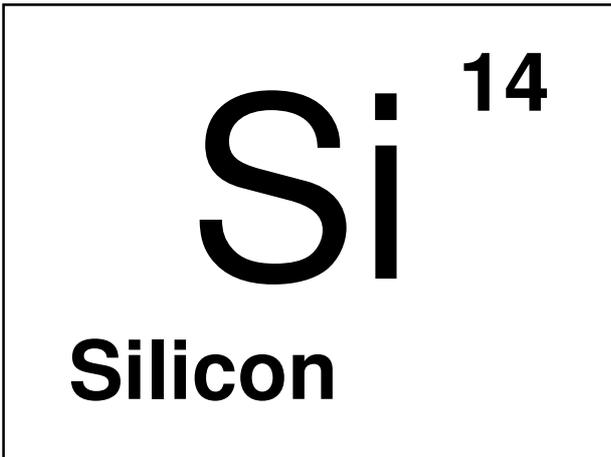
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**Biomarker for Silica for joints,  
skin, nails and hair.**

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**Epigenetics Ltd Products  
Silica from Bamboo caps**

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**P**<sup>15</sup>  
**Phosphorus**

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**Biomarker for imbalance in  
phosphorus / calcium /  
magnesium ratios**

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**Dr Goodheart says**  
**Always think about  
aluminium toxicity in low  
phosphorus cases.**

Aluminium removes the phosphorus from  
the phospholipid cell membranes.

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**S** <sup>16</sup>  
**Sulphur**

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**It is a component of all proteins  
It is essential for humans,  
animals and plants.  
An average adult man's body  
contains about 140 g sulfur (as  
much as potassium).**

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**Compounds containing sulfur  
are found in all kinds of cells  
and are indispensable for life.  
Sulfur resides mainly in keratin,  
the superficial layer of the skin;  
in the hair; in the nails; and in  
the joint cartilage.**

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**Of primary importance are amino acids – methionine, cysteine, cystine, glutathione, taurine; their derivatives.**

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**It is constantly needed for the processes of detoxification of pharmaceuticals and environmental poisons as well as steroid hormones (including pathological kinds of estrogens) produces by our body.**

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**Epigenetics Ltd Products  
Methionine caps  
Cysteine caps  
Glutathione reduced caps  
Taurine caps  
MSN caps  
alpha Lipoid acid  
Nutrient Phase 1&2**

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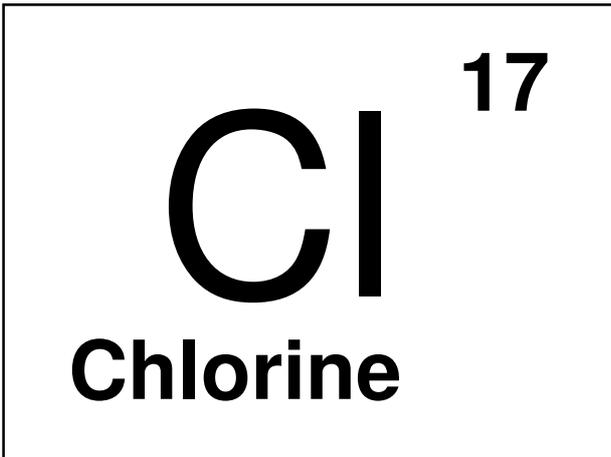
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**Chlorine (Cl) 17 - Sources**

- Water purification, swimming pools, disinfectants and bleach
- Depletes P-5-P, inhibits pathway to make P-5-P
- Paper production, paints, plastics and solvents
- Most cancer patients weaken to Chlorine.

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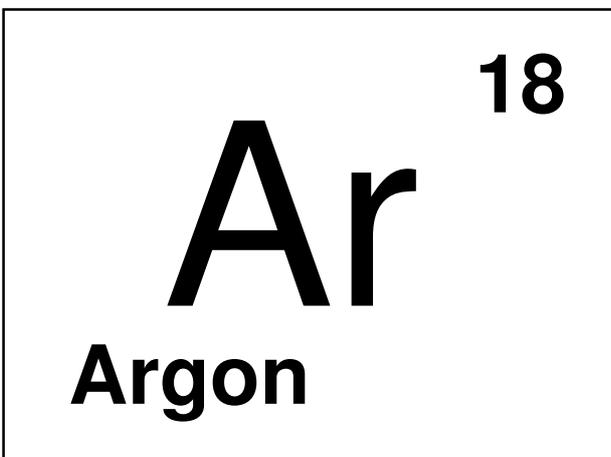
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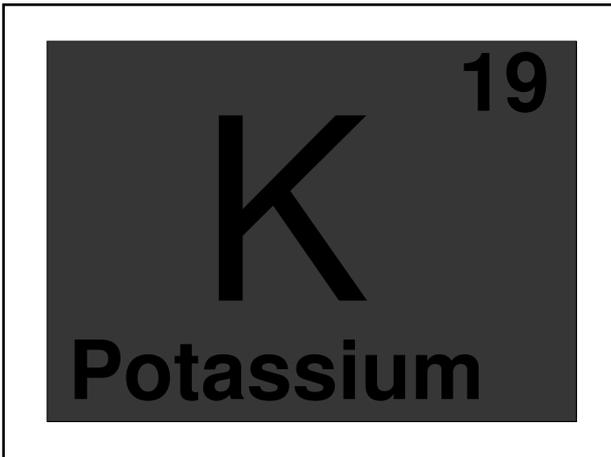
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**Potassium is the major cation found inside all plant and animal cells.**

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**Potassium constitutes five percent of the total mineral content of the body even though only about 120-150 grams are found in the body at one time. It is easily absorbed but at least 90% it is excreted, mainly through the kidney but it is also found in faeces.**

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**Potassium is vital to eliminate wastes in the body. It is a natural diuretic, helping excrete water and sodium, thus possibly lowering blood pressure.**

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**It is fundamental to the function of membrane  $\text{Na}^+/\text{K}^+$  ATPase and uptake of various molecules by cells, to neuromuscular transmission and acid-base balance. It is one of the key regulators of osmolality of both intracellular and extracellular fluids.**

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**Potassium deficiency is usually results from vomiting, use of diuretics, diarrhoea, steroid administration, primary overproduction of aldosterone (Cohn's syndrome). It is a threatening condition leading to generalised muscle weakness and cardiac arrhythmias.**

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**Dr Goodheart  
says patient  
needs potassium  
if they have a dry  
mouth.  
Lump in the  
throat give  
potassium. In  
need of  
alkalizing.**



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**Epigenetics Ltd Products  
Liquid Potassium 100ml  
Potassium chloride 100ml  
Potassium phosphate 100ml  
Potassium sulphate 100ml  
Potassium citrate caps  
Potassium / Magnesium citrate caps**

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**Ca<sup>20</sup>  
Calcium**

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**Biomarker for muscle and nerve  
function  
Immune system  
Bone density**

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**Epigenetics Ltd Products  
Calcium liquid 100ml  
Calcium fluoride liquid 100ml  
Calcium phosphate liquid 100ml  
Calcium sulphate liquid 100ml  
  
Calcium citrate caps  
Calcium / Magnesium citrate caps**

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**Sc<sup>21</sup>  
Scandium**

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**Ti** <sup>22</sup>  
**Titanium**

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**Biomarker for electromagnetic sensitivity**

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**V** <sup>23</sup>  
**Vanadium**

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**Biomarker for Glucose tolerance.**

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**Cr<sup>24</sup>**  
**Chromium**

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**Biomarker for Glucose tolerance.**

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Trivalent chromium (Cr(III)) ion is possibly required in trace amounts in human metabolism for sugar and lipid metabolism. While chromium metal and Cr(III) ions are not considered toxic, hexavalent chromium (Cr(VI)) is toxic and carcinogenic.

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**Mn**<sup>25</sup>  
**Manganese**

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Manganese is an essential part of the construction of bone, cartilage and collagen. It plays an important role in energy production and brain function where it is often found in combination with lecithin.

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**As a regulator of collagen formation, manganese is often required to improve the properties of intervertebral discs and joints.**

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**Due to its capability of accelerating the maturation of connective tissue, manganese has been proven to stimulate the repair of wounds, in particular, if the repair rate is delayed.**

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**Manganese aids in the protection of cells from oxidative injury, especially in combination with curcumin, an active ingredient of turmeric.**

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**Manganese is a vital component of various metalloenzymes – pyruvate carboxylases and decarboxylases, transferases, hydrolases and the antioxidant enzyme superoxide dismutase.**

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**An excess of manganese, usually associated with occupational exposure, leads to neurotoxicity.**

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**Think manganese in cases of SLE. Must use for at least 3 months.**

**Symptoms are similar to hydrazine intoxication.**

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Think about supplementing manganese in excess dreaming with a lot of action.

RDA	
UK	USA
NA	2mg

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Epigenetics Ltd Products  
Colloidal Manganese 200ml  
(coming soon)  
Manganese citrate caps

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**Fe**<sup>26</sup>  
**Iron**

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### Iron spectroscopy

absorption



emission



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• Iron deficiency is one of the most common deficiency diseases in the world amongst men as well as women.

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• The daily loss of iron is 0.5-1.0 mg and is due to: gastrointestinal tract turnover, desquamation of intestinal mucosal cells and biliary excretion, sweat and desquamation of skin cells and urinary losses.

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- They are counterbalanced by the absorption of dietary iron in the duodenum.
- The demand for iron increases during growth, pregnancy, and menstruation (1 ml of blood loss is equal to 0.5 mg of iron).

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- The daily iron requirements are:

adult male	1.0 mg;	child	1.5 mg;
menstruating woman	2.0 mg;	pregnant woman	3.0 mg;

- Only about 10% of dietary iron is absorbed, therefore, the required daily amount should be 10 times more, that is, 10-30 mg.
- Many metalloproteins contain iron such as haemoglobin, myoglobin, cytochromes etc
- Dietary sources of iron are liver, meat, green vegetables, and cereals.

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**Epigenetics Ltd Products**  
**Colloidal Iron 200ml**  
**Iron citrate caps**

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**27**

**Co**

**Cobalt**

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**Cobalt (Co) 27**

- **Essential component of B12**
- **Blue pigments in glass**
- **Industrial plants leak into the environment – food, water, air**
- **Hip replacements made of cobalt and chromium**

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**Cobalt (Co) 27**

- **Wear and corrosion produce soluble metal debris in the form of nano particles that enter the lymph nodes and CV system**
- **Affect immune system, damage DNA & chromosomes**

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**Cobalt (Co) 27**

- Florida University found a negative effect on vision
- People with hip replacements suffering tinnitus, deafness, vertigo, blindness

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**Ni<sup>28</sup>**  
**Nickel**

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**Nickel (Ni) 28**

- Dental metal in crowns, bridges, dentures, inlays, implants
- Metals in combination in dental alloys
- Used to be gold, silver, platinum, palladium, copper
- Now nickel, chrome - cheaper

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**Nickel (Ni) 28**

- Faraday's law – dissimilar metals corrode when in contact
- Different alloys in mouth – different dentists and times
- Same alloy – different amounts of each metal, not evenly mixed

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**Nickel (Ni) 28**

- Orthodontics may contain Ni
- In contact with saliva, acidic fluids and temperature change – the UK Bristol Dental Hospital warns of corrosion and ingestion

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**Nickel (Ni) 28**

- NY University School of Medicine found increased risk of lung cancer, CV, neurological problems, development in children, high Bp
- Free radicals lead to oxidative damage

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**Nickel (Ni) 28**

- Damages kidney and liver
- University of California have linked Ni to breast cancer. Binds to oestrogen receptors
- Can damage reproductive health, infertility, miscarriage, birth defects, nervous system defects

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**Nickel (Ni) 28**

- Jewellery – nickel plating gives a shiny look
- Silver and gold contain varying amounts of nickel
- Study in Saudi Arabia “Ni induced cytotoxicity, oxidative stress and apoptosis negated by antioxidant curcumin”

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**Nickel**

Sunflower seeds, Licorice, Hydrogenated oils, Peanut butter, Vegetable shortenings. Rolled oats. 7% Stainless steel. Watch straps and glasses frames. Non silver or gold jewellery such as earrings. Dental fillings and retainers. Cooking utensils and cappucino machines. Nickel / cadmium batteries. Cosmetics and permanent waves. Tobacco smoke, industrial exposure and ceramics. Superphosphate fertilizers.

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**Cu**<sup>29</sup>  
**Copper**

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- **Copper is classified as an essential mineral because deficiencies can produce various symptoms. The total body copper content is 75-150 mg.**
- **Highest copper concentrations are found in the liver, brain, heart and kidneys.**

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- **It is absorbed in the stomach and duodenum and transported to the liver loosely bound to albumin. The absorption is about 30% effective. It is then incorporated into ceruloplasmin, a glycoprotein synthesised in the liver, which transports copper to the tissues where it can be used for the synthesis of other copper-containing enzymes.**

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• If the body does not acquire a sufficient amount of copper, absorption of iron is also impaired because of the lack of ceruloplasmin, and the deficiency anaemia can result. Insufficient amounts can lead to the decreased activity of various enzymes with relevant clinical sequelae:

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Lysyl oxidase (weak walled blood vessels, intervertebral discs);  
Tyrosinase (depigmentation);  
Dopamine hydroxylase (neurological defects);  
Cytochrome C oxidase (decreased energy production);  
Superoxide dismutase (oxidative damage to tissues).  
• Copper is usually found in foods containing iron.

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Epigenetics Ltd Products  
Colloidal copper 200ml  
Copper citrate caps

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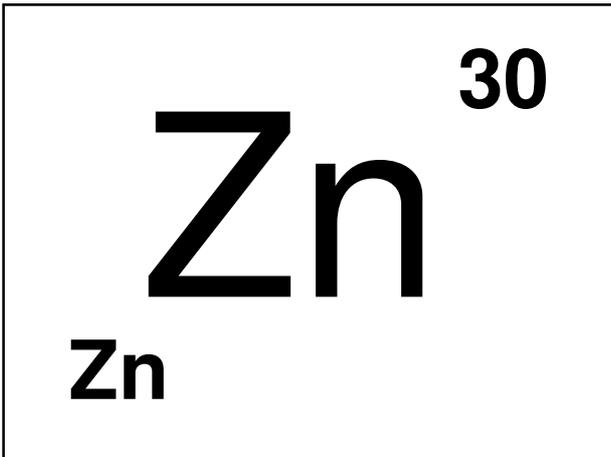
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**Total body amount 1.4-2.0gm.**  
**Highest amounts are contained in the placenta, choroid of the eye and prostate followed by the liver, kidney, muscle, heart, pancreas, spleen, testes and brain.**

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**Zinc is stored in the liver, kidney and other organs as zinc metallothionein.**  
**Zinc in serum is bound to number of proteins or single amino acids.**  
**It's absorption is inhibited by dietary phytates and geophagia.**

Clay

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**To date over 100 zinc metalloenzymes have been found present in the body carrying out reactions in the cells essential for growth, development and health.**

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**Other functions include, taste, appetite, wound healing, prostate function, testes, brain and sexual development, immunity and cellular membrane function.**

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**Only 20-30% of dietary zinc is absorbed. Absorption occurs in the duodenum by attaching to a low molecular zinc binding ligand thought to be picolinic acid secreted by the pancreas.**

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**Increased intestinal absorption occurs with the administration of prostaglandin E2.**

**PgE2 mediates the orgasm.**

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**Some common zinc enzymes**

**1. Carbonic anhydrase – catalyses the conversion of  $\text{CO}_2 + \text{H}_2\text{O} = \text{HCO}_3^- + \text{H}^+$**

**It is found in red blood cells, kidney tubule cells, parietal cells of the stomach and skeletal muscle cells.**

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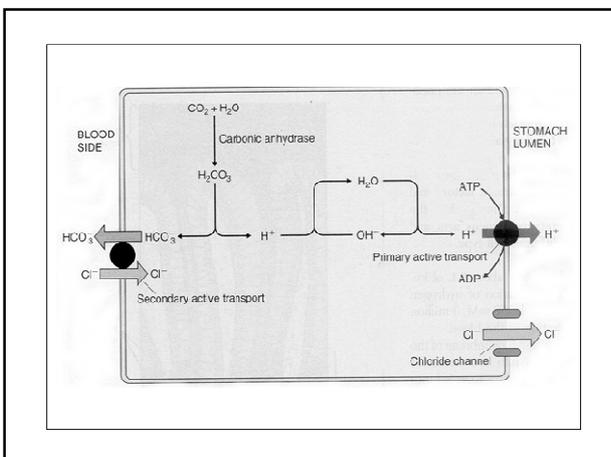
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**2. Carboxypeptidase A – produced in the acinar cells of the pancreas. It catalyzes the hydrolysis of specific aromatic amino acids.**

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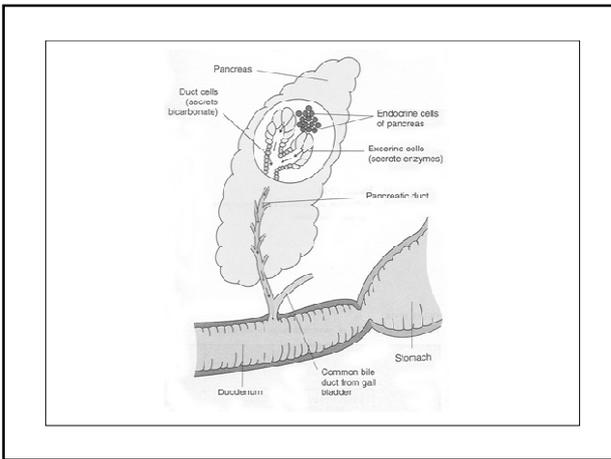
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**3. Alcohol dehydrogenase is a liver enzyme that catalyzes the conversion of ethanol to acetaldehyde. It contains 4 atoms of zinc per molecule.**

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Failure to oxidise alcohol with this enzyme shunts oxidation to the liver endoplasmic reticulum P450 enzyme system resulting in the production of free radicals and a need for extra antioxidant nutrients.

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**4. Retinol dehydrogenase** is present in the retina and catalyzes the conversion of retinol to retinal. The enzymatic activity of this zinc metalloenzyme in the eye accounts for the choroid containing the highest concentration of zinc per gram of tissue in the body.

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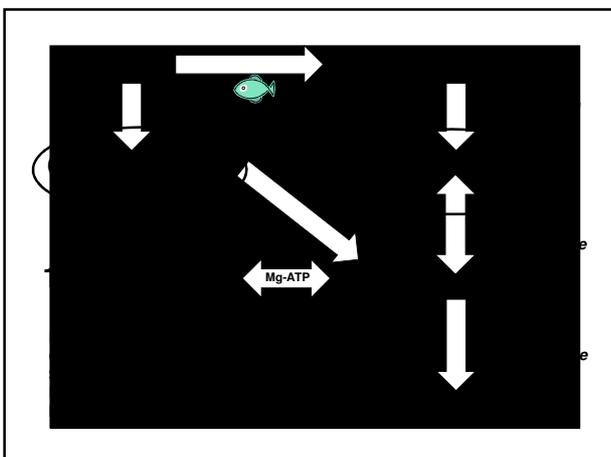
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**5. Lactic acid dehydrogenase catalyzes the conversion of lactate to pyruvate and requires NAD. It is predominately present in the liver, kidney, heart and muscles.**

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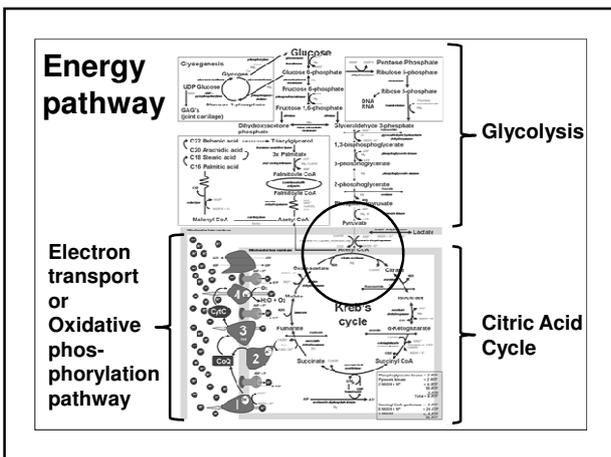
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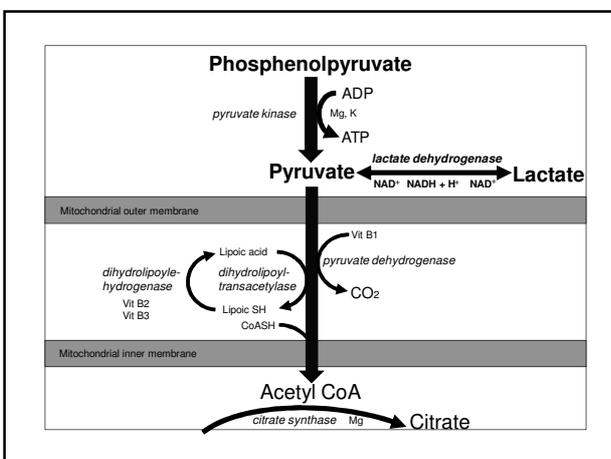
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**Lactate dehydrogenase is elevated in myocardial infarction, congestive heart failure, angina, cirrhosis, hepatitis, anaemias, strenuous exercise, mononucleosis, pneumonia, leukaemias and many malignant neoplasms.**

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**6. Malate dehydrogenase catalyzes the conversion of oxaloacetate + NADH + H<sup>+</sup> = malate + NAD**

**Oxaloacetate is not permeable to the mitochondrial membrane and must be reduced to malate in order to cross the membrane.**

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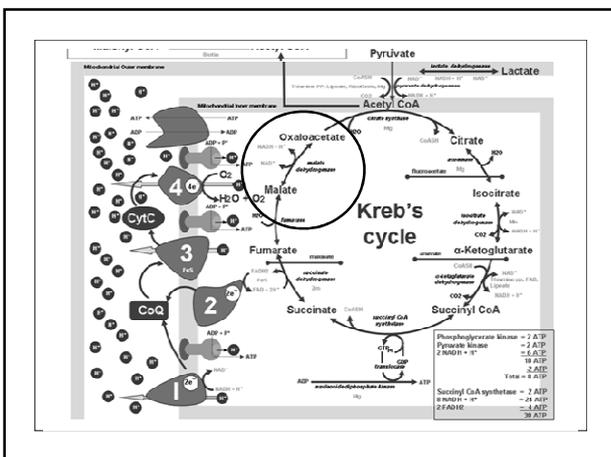
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**7. DNA polymerase is found in all cells and is involved with the initiation of DNA synthesis. This zinc dependant enzyme is critical for cellular growth, development and repair.**

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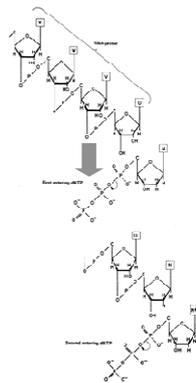
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**The initiation of DNA synthesis upon a primer of RNA and the subsequent attachment of the second deoxyribonucleoside triphosphate.**



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**Zinc deficiency results in a decrease in DNA and RNA synthesis and repair.**

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**Zinc deficiency during the last trimester of pregnancy and during breast feeding results in impaired growth, decreased number of brain cells and retarded brain maturation.**

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**8. *Superoxide dismutase (SOD Zn/Cu)* contains a single atom of zinc and copper. It catalyzes the conversion of superoxide to hydrogen peroxide.**

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**SOD (Zn/Cu) is found predominantly in the red blood cells, liver, kidney and brain. It is naturally found in watermelon seeds.**

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**Prostatic zinc binding protein is stimulated by dihydrotestosterone which regulates testosterone reductase.  
Its concentration changes with ejaculation.**

**It is necessary for the integrity of the prostate epithelium and lumen.**

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**Zinc and taste**

**Gustin is the major protein found in parotid saliva and contains zinc.**

**It is a growth factor involved in the synthesis of a zinc containing protein found in the taste buds.**

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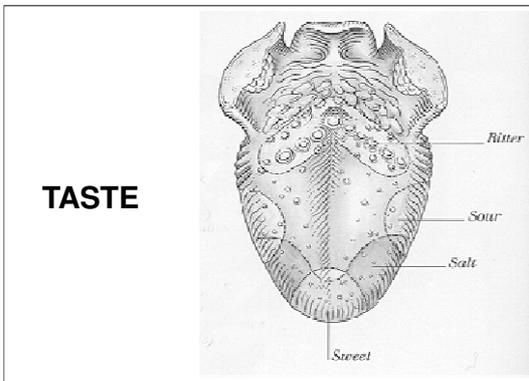
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**TASTE**



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**People with taste and smell dysfunction have a decreased level of zinc in parotid saliva and have a poor appetite.**

**Nasal mucus protein is also a zinc containing protein.**

**Traditional zinc taste test uses zinc sulfate 0.1% solution.**

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**Zinc in wound healing**

**Administration of high dose zinc in patients with leg ulcers, bedsores and slow collagen synthesis resulted in accelerated wound healing.**

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**Zinc in testes development**

**Zinc deficient children have testicular atrophy, no pubic or facial hair.**

**Administration of zinc resulted in testicular growth, growth of pubic and facial hair, nocturnal emission, penis growth in males and menarche in females.**

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**Zinc in brain and body growth and development**

**Zinc deficiency in utero has been shown to produce decrease in brain size, brain DNA and RNA concentration and synthesis, utilization of amino acids in the synthesis of proteins and the level of serum proteins.**

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**Zinc deficiency in pregnant animals leads to abnormalities such as cleft palate, clubbed feet, heart abnormalities and hydrocephalus.**

**Acrodermatitis enteropathetica is a congenital defect in intestinal absorption of zinc.**

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**Zinc and the immunity**

**The maintenance of normal zinc intake is important in host defence mechanism against infectious micro-organisms, on phagocytic cell function (neutrophils), complement activity, lymphocytes, and T helper cell function.**

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**Zinc deficiency in animals has shown thymic atrophy, thymocytic cell depletion, depressed peripheral lymphocyte T cell number and function, a decrease in thymic hormones and decreased interleukin-2-production.**

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**Symptoms of zinc deficiency**

**Growth retardation, congenital malformation, decreased brain development, mental lethargy, male hypogonadism, anorexia, hypogeusia (decreased taste),**

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**abnormal dark adaptation, alopecia, delayed immune response, inter-current infections, skin rashes, bullous-pustular dermatitis, and parakeratosis.**

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**Look for zinc deficiency in people with chocolate cravings!**

**Look for white spots on the fingernails, body odour and eczema.**

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Zinc taste tally

30ml dropper bottles containing  
Zinc sulphate 7 Hydrate 0.1%  
dilution or  
Ionic Zinc 300ppm

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**RDA's**

<b>Child 2-12 years</b>	<b>Adult male</b>	<b>Adult female</b>
<b>8-30mg</b>	<b>16-65mg</b>	<b>15-65mg</b>

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Epigenetics Ltd Products  
Colloidal Zinc 200ml  
Zinc liquid 100ml  
Zinc ascorbate caps  
Zinc citrate caps  
Zinc picolinate caps  
Zinc sulphate caps

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**31**  
**Ga**  
**Gallium**

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**32**  
**Ge**  
**Germanium**

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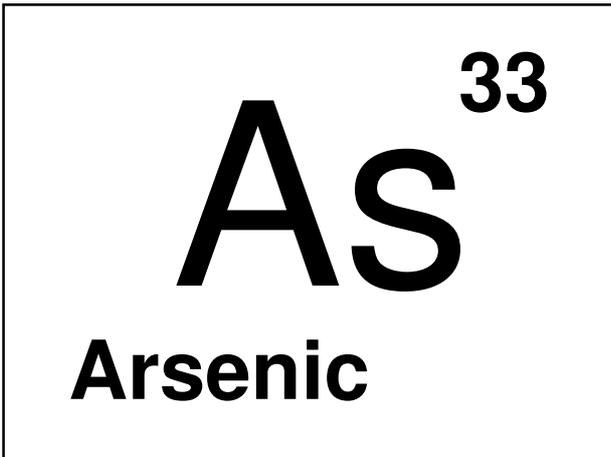
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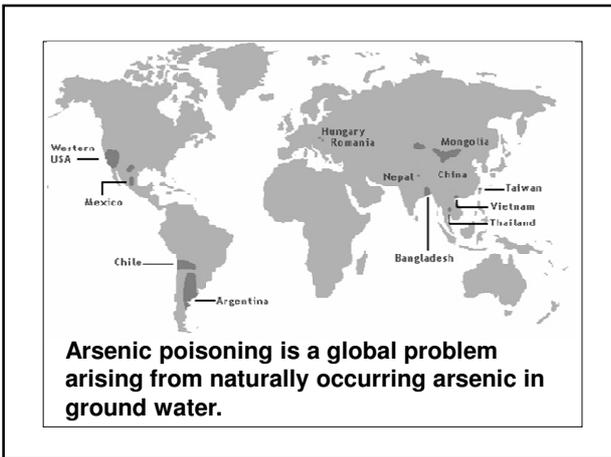
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**Symptoms of arsenic poisoning begin with headaches, confusion, severe diarrhea, and drowsiness. As the poisoning develops, convulsions and changes in fingernail pigmentation called leukonychia striata (Mees' lines, or Aldrich-Mees' lines) may occur.**

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**When the poisoning becomes acute, symptoms may include diarrhea, vomiting, vomiting blood, blood in the urine, cramping muscles, hair loss, stomach pain, and more convulsions. The organs of the body that are usually affected by arsenic poisoning are the lungs, skin, kidneys, and liver.**

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**The final result of arsenic poisoning is coma and death. Arsenic is related to heart disease (hypertension-related cardiovascular disease), cancer, stroke (cerebrovascular diseases), chronic lower respiratory diseases, and diabetes.**

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**Chronic exposure to arsenic is related to vitamin A deficiency, which is related to heart disease and night blindness. Inorganic arsenites (arsenic(III)) in drinking water have a much higher acute toxicity than organic arsenates (arsenic(V)).**

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**The acute minimal lethal dose of arsenic in adults is estimated to be 70 to 200 mg or 1 mg/kg/day. Chronic arsenic poisoning results from drinking contaminated well water over a long period of time. Many aquifers contain high concentration of arsenic salts.**

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**In Asia it is still a popular pesticide. It has been found that rice is particularly susceptible to accumulation of arsenic from soil. Arsenic is a ubiquitous element present in drinking water.**

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**It is detected in commercially grown chickens. The source of the arsenic appears to be the feed additives roxarsone and nitarsone, which are used to control the parasitic infection coccidiosis as well as to increase weight and skin colouring of the poultry.**

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High levels of inorganic arsenic were reportedly found in 83 California wines in 2015. The current biological exposure index for U.S. workers of 35 µg/L total urinary arsenic may easily be exceeded by a healthy person eating a seafood meal.<sup>1</sup>

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Artenic interferes with cellular longevity by allosteric inhibition of an essential metabolic enzyme *pyruvate dehydrogenase complex*, which catalyzes the oxidation of pyruvate to acetyl-CoA by NAD<sup>+</sup>. Also inhibits *alpha-ketoglutarate dehydrogenase enzyme*.

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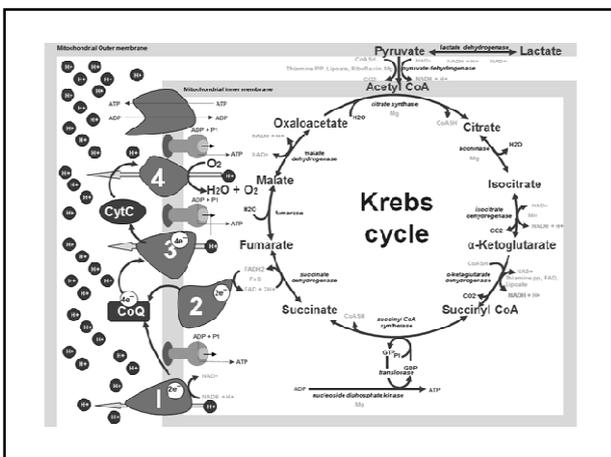
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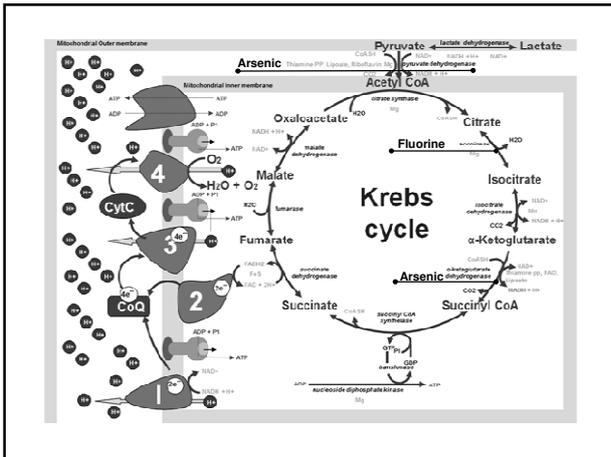
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**With the enzyme inhibited, the energy system of the cell is disrupted resulting in a cellular apoptosis episode. Biochemically, arsenic prevents the use of thiamine resulting in a clinical picture resembling thiamine deficiency.**

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**Poisoning with arsenic can raise lactate levels and lead to lactic acidosis. Low potassium levels in the cells increases the risk of experiencing a life-threatening heart rhythm problem from arsenic trioxide. Arsenic in cells clearly stimulates the production of hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>).**

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**When the H<sub>2</sub>O<sub>2</sub> reacts with certain metals such as iron or manganese it produces a highly reactive hydroxyl radical.**

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**Inorganic arsenic trioxide found in ground water particularly affects voltage-gated potassium channels, disrupting cellular electrolytic function resulting in neurological disturbances -**

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**cardiovascular episodes such as prolonged QT interval, neutropenia, high blood pressure, central nervous system dysfunction, anemia, and death.**

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**Arsenic exposure plays a key role in the pathogenesis of vascular endothelial dysfunction as it inactivates endothelial nitric oxide synthase, leading to reduction in the generation and bioavailability of nitric oxide.**

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**In addition, the chronic arsenic exposure induces high oxidative stress, which may affect the structure and function of cardiovascular system.**

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**Arsenic exposure has been noted to induce atherosclerosis by increasing the platelet aggregation and reducing fibrinolysis. Arsenic exposure may cause arrhythmia by increasing the QT interval and accelerating the cellular calcium overload.**

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**The chronic exposure to arsenic upregulates the expression of tumour necrosis factor- $\alpha$ , interleukin-1, vascular cell adhesion molecule and vascular endothelial growth factor to induce cardiovascular pathogenesis.**

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**By competing with phosphate it uncouples oxidative phosphorylation, thus inhibiting energy-linked reduction of NAD<sup>+</sup>, mitochondrial respiration, and ATP synthesis.**

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**Tobacco plants essentially take up arsenic naturally present in the soil. Also, in the past, the potential for elevated arsenic exposure was much greater when tobacco plants used to be treated with lead arsenate insecticide.**

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**Chelation**

**Dimercaprol and dimercaptosuccinic acid are chelating agents that sequester the arsenic away from blood proteins and are used in treating acute arsenic poisoning. The most important side effect is hypertension.**

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**Nutrition**

**Supplemental potassium decreases the risk of experiencing a life-threatening heart rhythm problem from arsenic trioxide.  
a-Lipoic acid is the principle natural chelator.  
Ornithine, Taurine + Colloidal silver Silica, Sulphur, Selenium**

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**Selenium is a chemical element with symbol Se and atomic number 34. It is a nonmetal with properties that are intermediate between those of its periodic table column-adjacent chalcogen elements sulfur and tellurium. It rarely occurs in its elemental state in nature, or as pure ore compounds.**

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**Named for the moon goddess Selene, the mineral selenium deserves to be treated with reverence. Selenium is versatile and has a wide array of health benefits. Selenium is crucial for antioxidant defences, boosts the immune system, and helps prevent cancer in several distinct ways.**

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**Selenium is required for the functioning and development of certain areas of the brain that open a person to higher emotions and higher thought. It is also an essential mineral for thyroid functioning, along with iodine.**

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**Selenium dependant enzymes**  
**Selenoproteins**  
At least 25 selenoproteins have been identified, but the metabolic functions have been identified for only about one-half of them  
**Main ones are**  
1. Thyroid deiodinase (T4 > T3)  
2. Glutathione peroxidase

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1. Thyroid deiodinase (T4 > T3)  
Three different selenium-dependent iodothyronine deiodinases (types I, II, and III) can both activate and inactivate thyroid hormone by acting on T<sub>3</sub>, T<sub>4</sub>, or other thyroid hormone metabolites essential for normal development, growth, and metabolism.

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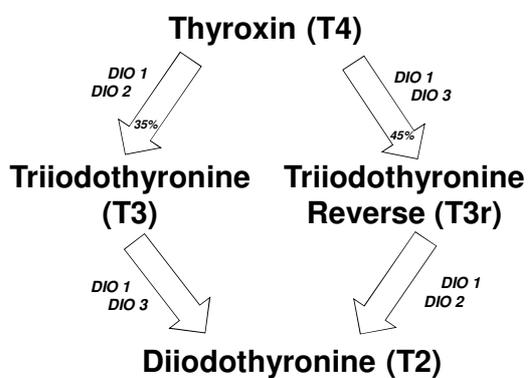
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**2. Glutathione peroxidase**  
Five selenium-containing glutathione peroxidases (GPx) have been identified:

- 1. Cellular or Classical GPx**
- 2. Plasma or Extracellular GPx**
- 3. Phospholipid hydroperoxide GPx**
- 4. Gastrointestinal GPx**
- 5. Olfactory GPx**

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Although each GPx is a distinct selenoprotein, they are all antioxidant enzymes that reduce potentially damaging ROS, such as hydrogen peroxide and lipid hydroperoxides, to harmless products like water and alcohols by coupling their reduction with the oxidation of glutathione.

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Sperm mitochondrial capsule selenoprotein, an antioxidant enzyme that protects developing sperm from oxidative damage and later forms a structural protein required by mature sperm, was once thought to be a distinct selenoprotein but now appears to be phospholipid hydroperoxide GPx..

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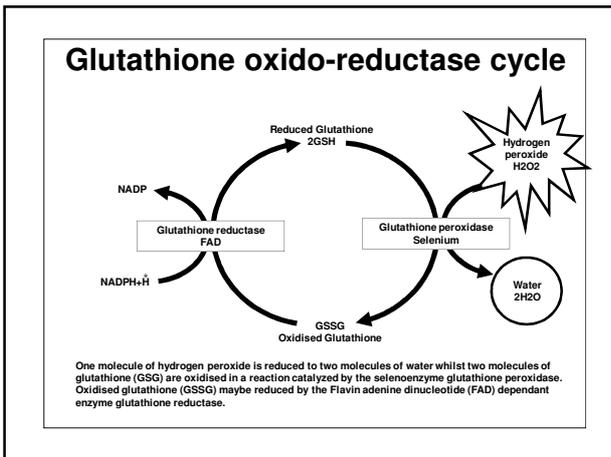
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**Glutathione conjugation (cysteine, glycine and glutamic acid) is catalyzed by *glutathione-S-transferase*.**

**This enzyme is present mostly in the cell cytosol.**

**This enzyme is inhibited by Lead**

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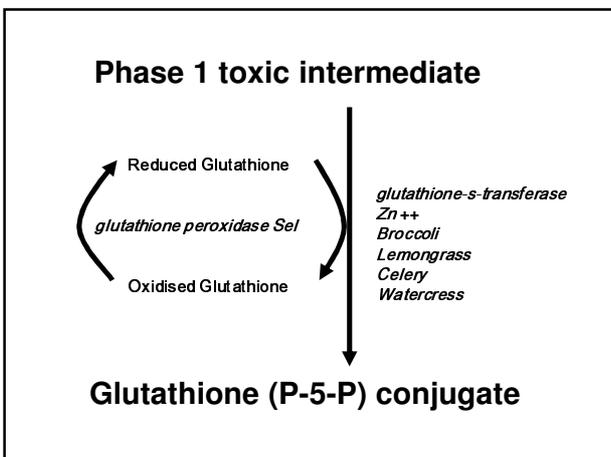
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**A failure in the glutathione conjugation would lead to covalent combination to DNA and RNA and other cell proteins creating serious cell damage. They are further metabolised before excretion. The glutamic and glycine groups are removed and an acetyl group donated by Acetyl CoA is added to the cysteine moiety.**

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**The resulting compound is a mercapturic acid, a conjugate of N. Acetyl Cysteine, which is then excreted in the urine.**

**N. Acetyl Cysteine is thus an excellent supplement to use to up-regulate this pathway.**

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**N.Acetyl Cysteine aids detoxification**

- 1. Glutathione**
- 2. Acetylation**
- 3. Sulfation**
- 4. Cysteine**

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Fat soluble toxins are primarily metabolized by phase 1, phase 2 liver detoxification. The most powerful component of this system is glutathione. Fat soluble toxins can completely eradicate total glutathione levels. When glutathione is depleted all of the thiols become depleted to include S-adenosyl-methionine (SAME), L-cysteine, L-methionine, cystathione, etc. Toxin exposure through glutathione depletion collapses methylation as SAME (the body's one carbon methyl donor) is depleted.

L-cysteine is the rate limiting step in the synthesis in glutathione. It is freely converted into glutathione. Be it during weight loss or other fat soluble toxin exposure in the course of normal day-to-day activities the glutathione may become completely depleted. There are hundreds of articles which link methylation collapse to almost every cancer known. The toxin takes out the glutathione then overwhelms the body at which point methylation collapses This methylation collapse is not from a 5-MTHF reductase polymorphism, but from total depletion of the sulfur containing amino acid (thiol) substrate. When total thiol collapse occurs secondary to toxin exposure no amount of polymorphism attention will bring the system back to normal function. Thiol amino acid precursors are needed.

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## Glutathione

1. Antioxidant
2. Detoxification conjugator
3. PgE and Leukotrien modulator (inhibits *lipxygenase* enzyme conversion of arachidonic acid to leukotriens)

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## Other Selenium dependant enzymes

3. *Thioredoxin reductase* participates in the regeneration of several antioxidants, possibly including vitamin C and Vitamin E.

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**4. Selenoprotein P is found in plasma and also associated with vascular endothelial cells (cells that line the inner walls of blood vessels).**

**It functions as an antioxidant that protects endothelial cells from damage induced by peroxynitrite.**

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**5. Selenoprotein W is found in muscle. Although its function is presently unknown, it is thought to play a role in muscle metabolism**

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**6. Selenophosphate synthetase  
Incorporation of selenocysteine into selenoproteins is directed by the genetic code and requires the enzyme selenophosphate synthetase. A selenoprotein itself, selenophosphate synthetase catalyzes the synthesis of monoselenium phosphate.**

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**7. Methionine-R-sulfoxide reductase studies revealed that the protein catalyzes stereospecific reduction of oxidized methionine residues in reactions that use thioredoxin as a reductant.**

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**8. Sep15 is mammalian protein located in the endoplasmic reticulum of the cell. Here, it binds UDP-glucose:glycoprotein glucosyltransferase, an enzyme that senses protein folding. Sep 15 has a redox function and is also implicated in cancer prevention**

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**9. Selenoprotein V is expressed exclusively in testes and is thought to function in spermatogenesis.**

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**10. Selenoprotein S is involved in retrotranslocation of misfolded proteins from the endoplasmic reticulum to the cytosol.**

**This protein may also be involved in inflammatory and immune responses.**

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**Selenium neutralises methylmercury in the CNS.**

**Should always be administered with dental amalgam removal and when NAC or Cysteine is used to stimulate Glutathione.**

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**Heavy metal detoxification. This has to do with glutathione production, mainly, although thyroid activity and other functions related to selenium are required for all metal detoxification. This is why garlic, and the other sources of selenium are so important.**

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**Infection-fighting ability.**  
Selenium enhances the immune response in most cases. This has to do with thyroid enzymes, and other factors as well.

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**Mental health.**  
Selenium, along with silicon, share certain characteristics. They help impart a silky, smooth quality to the personality. They help with feelings of joy and happiness, and give a certain lightness to the personality.

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**Symptoms of selenium deficiency are exhaustion, high cholesterol, infections, liver impairment, and pancreatic insufficiency. May prevent muscular dystrophy and cystic fibrosis (J. Wallach)**

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**Epigenetics Ltd Products**  
**Colloidal Selenium 200ml**  
**Sodium selenate 100ml**  
**Selenium phosphate caps**  
**Selenium methionine caps**

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**Low selenium levels increase prostate cancer risk: Study**

By Will Chu MS, 11-Apr-2016  
Last updated on 11-Apr-2016 at 14:14 GMT [Post a comment](#)



Se, an essential trace mineral, has been noted for its cancer-protective effects. It (Stock.com)

Related tags: Selenium, Selenoprotein P, Prostate cancer, Prevention, Curical

**Low selenium levels could lead to a higher risk of prostate cancer, a study has concluded.**

Essential trace mineral Selenium (Se), has been noted to possess cancer-protective effects. The variation in human dietary intake is reflected in the global variation in blood Se levels, observed in Europe.



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**35**

**Br**

**Bromine**

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**Bromine (Br) 35 - Sources**

- Evaporates easily
- Flameproofing agents
- Water purification compounds
- Dyes
- Photographic products
- Brominated vegetable oil – emulsifier in soft drinks

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**Bromine (Br) 35 - Sources**

- Brominated Flame Retardants (BFR)
- Computer monitors and casings
- Interior of new cars
- Televisions
- White goods
- Mobile phones

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**Bromine (Br) 35 - Sources**

- Carpet
- Polyurethane foam in furniture and bedding
- Easily outgases into the environment
- Found in blood, liver, fat, breast milk

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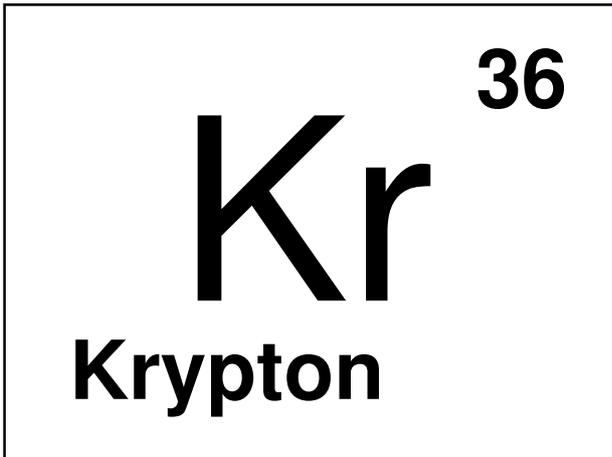
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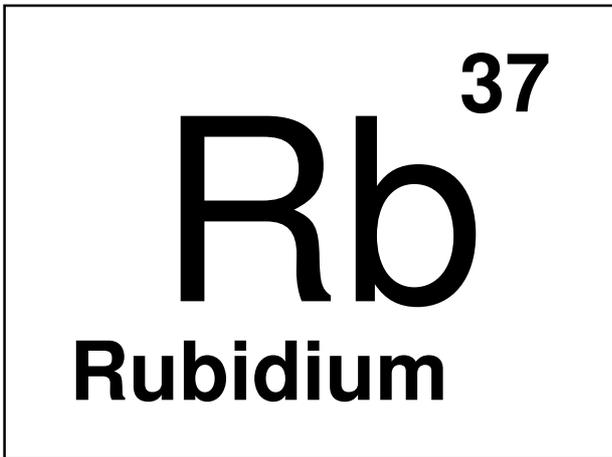
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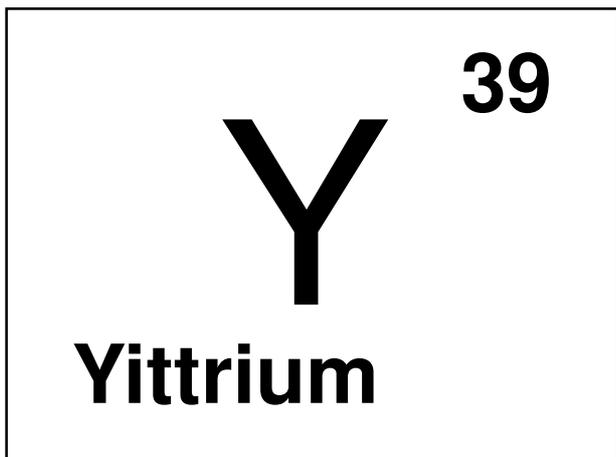
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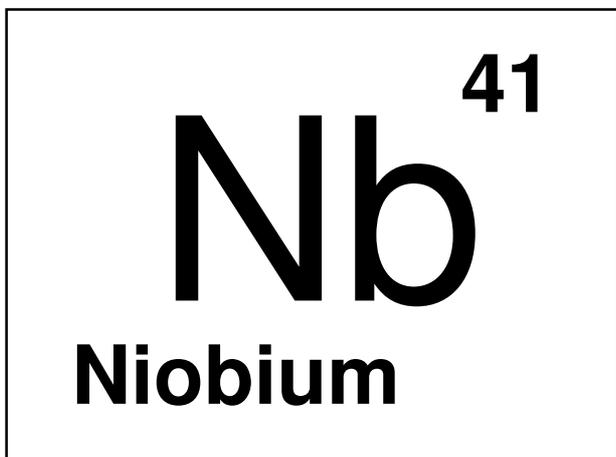
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**42**

**Mo**

**Molybdenum**

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**Molybdenum is an essential component of three metalloflavoprotein enzymes, namely, xanthine oxidase, aldehyde oxidase and sulfite oxidase. Xanthine oxidase catalyzes the production of uric acid.**

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**Aldehyde oxidase is necessary for the detoxification of inhaled and ingested aldehydes, and is involved (along with niacin) in the metabolism of alcohol.**

**Sulfite oxidase is an important enzyme required to make sulfates for the synthesis of active sulfur (PAPs).**

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**Xanthine oxidase is also known as one of the most potent generators of peroxynitrite that, in physiological conditions, is formed by macrophages to kill pathogenic protozoa, worms and some fungi.**

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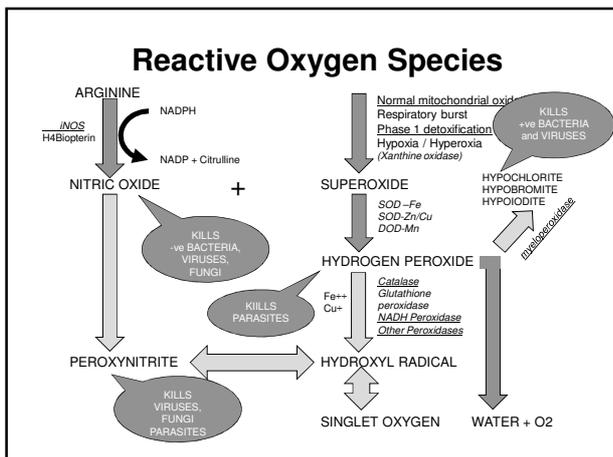
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**Sulfite oxidase also produces free radicals which, when under a strict physiological control, act as a natural antifungal.**

**The major dietary source of molybdenum is liver and lima beans.**

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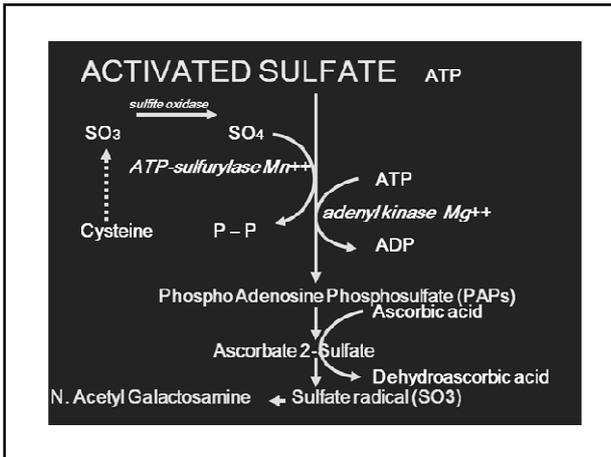
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**Epigenetics Ltd Products**  
**Liquid Molybdenum 100ml**

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**Tc<sup>43</sup>**  
**Technetium**

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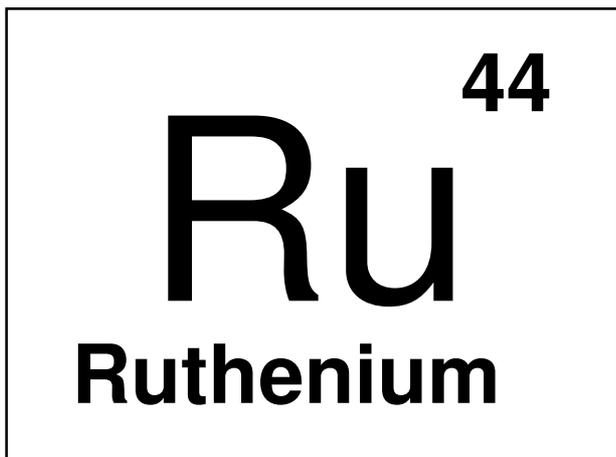
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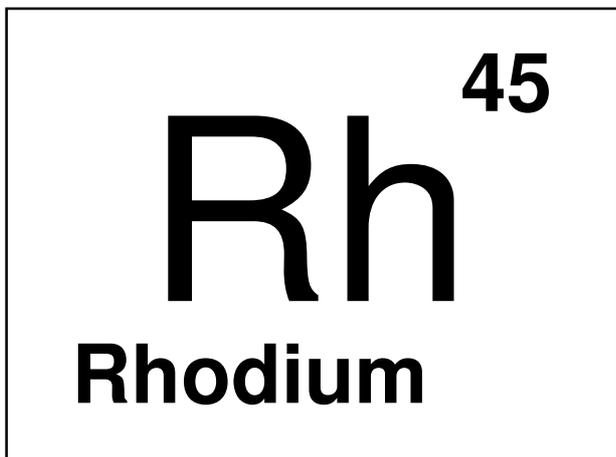
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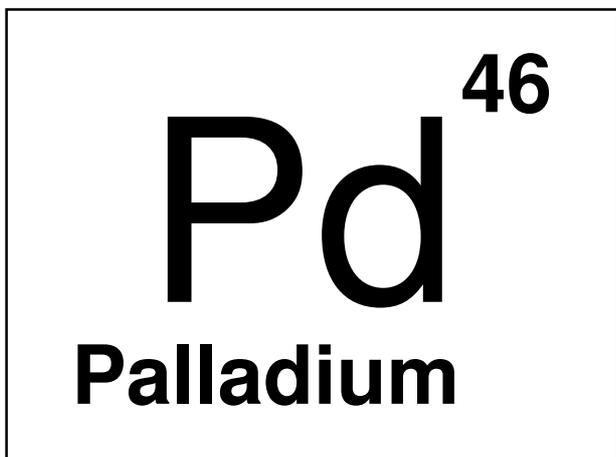
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**Palladium (Pd) 46**

- Used in electronics, dentistry, medicine, groundwater treatment and jewellery
- Cheaper alternative to platinum in white gold
- 3 popular metals to make white gold alloys – palladium, silver and nickel

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**Palladium (Pd) 46**

- Most common use is in catalytic converters. This has put a fine mist of Pd into the air
- In dentistry one way to reduce costs is to substitute gold for Pd
- Pd crown exposed 24/7 to Pd vapour
- Tests on rats - carcinogenic

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**Silver is a natural element that occurs as a trace mineral in the soil.**

**The use of silver for health care has been documented since ancient Roman time.**

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**It has been proven to inactivate ATP-producing enzymes of micro-organisms, by damaging their cell membranes and suppress the replication of bacteria by inhibiting the functions of their DNA.**

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**It tends to inhibit bacterial catalase - a defence against free radicals produced by activated macrophages and neutrophils in order to kill ingested microorganisms.**

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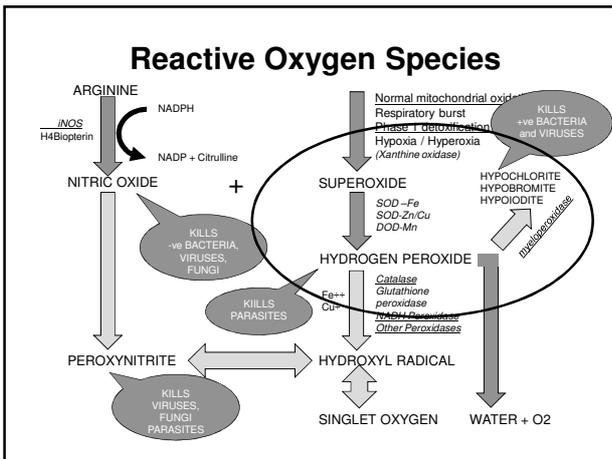
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**Silver may act by an allosteric activator on the myeloperoxidase enzyme in phagocytes, thus stimulating them to secrete reactive halogen anions to kill bacteria, some viruses and fungi.**

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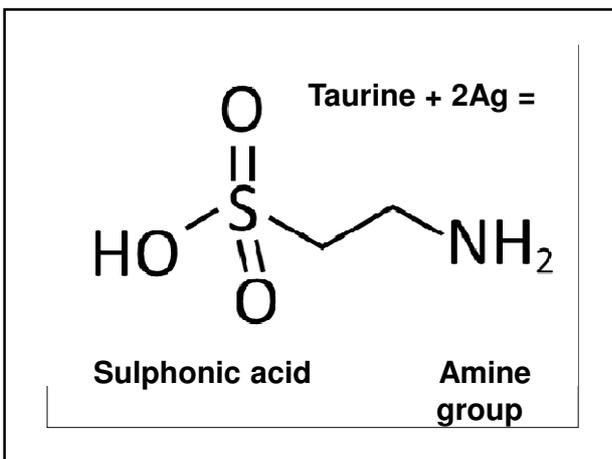
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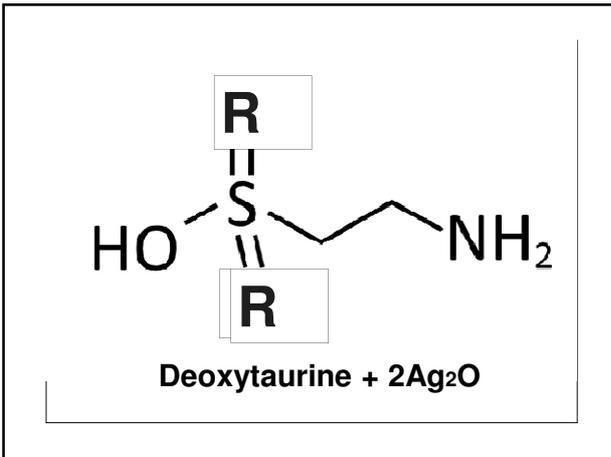
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Epigenetics Ltd Products  
Colloidal Silver 200ml

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**Cd**<sup>48</sup>  
**Cadmium**

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**Cadmium (Cd) 48**

- Exposure through plant derived food, phosphate fertilisers, batteries
- Component of cigarettes – every cigarette involves 1.4 mcg reducing antioxidant activity
- Can increase the thickness of the basal membrane of capillaries, reducing circulation

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**Cadmium (Cd) 48**

- Sources – Liver, Kidney, Shellfish, Agriculture sludge used as a fertilizer

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**Cadmium (Cd) 48**

- In women disrupts uterine circulation leading to premature birth or foetal deformities, size
- US EPA – impact – reproductive, pulmonary, kidneys, eyes, brain, prostate, testosterone, bone and dopaminergic in young

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**Cadmium (Cd) 48**

- Hypertension
- Reduces glutathione peroxidase, SOD and Catalase.
- Affects the mitochondria at Complex IV.
- Lung and prostate cancer and sarcomas.

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**Cadmium (Cd) 48**

- Carcinogen and linked to pancreatic cancer
- Detrimental effect on CNS Decreased attention & memory. Induces neuron cell death
- Induces calcium excretion especially when Vitamin D levels are low.

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**Toxic metals disrupt the thyroid**

- Cadmium blocks the action of selenium and zinc and depletes levels in the body. So with cadmium toxicity supplement with zinc, selenium and cobalt (Vitamin B12)
- These are required for conversion of T4 to T3
- Lead suppresses conversion of T4 to T3

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**Cadmium inhibits decarboxylase enzymes**  
**e.g. Histamine decarboxylase**  
**L.DOPA decarboxylase**  
**Tryptamine decarboxylase**

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**Cadmium inhibits the secretion of gastrin.**  
**Gastrin is a peptide hormone that stimulates secretion of gastric acid (HCl) by the parietal cells of the stomach and aids in gastric motility.**

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**It is released by G cells in the pyloric antrum of the stomach, duodenum, and the pancreas.**  
**It mediates the release of histamine which in turn stimulates the parietal cells to secrete H<sup>+</sup> ions.**

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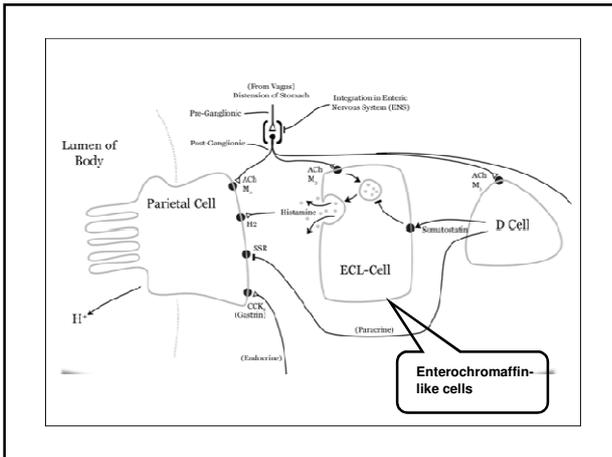
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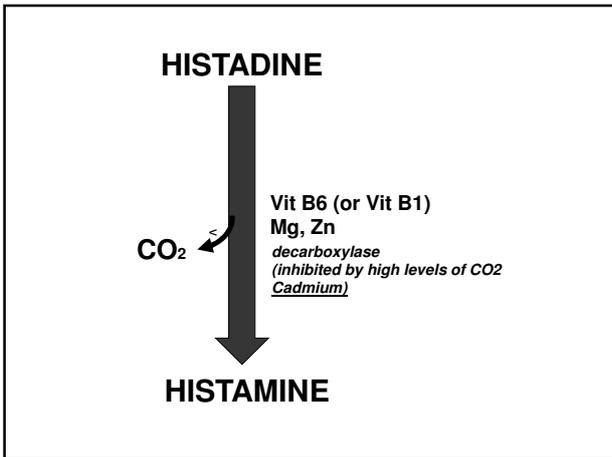
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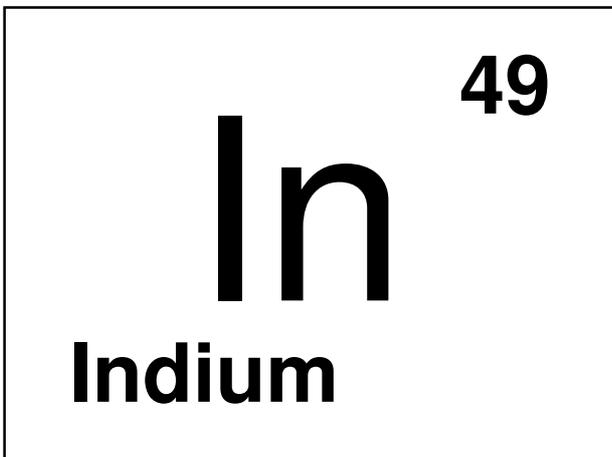
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**Indium is a chemical element with symbol In and atomic number 49. It is a post-transition metallic element. The name comes from the Latin 'indicum', meaning violet or indigo. The naming of the element is after its indigo blue spectrum line.**

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**Indium appears to work via the hypothalamus/pituitary/adrenal (HPA) feedback loop complex. The hypothalamus is the key to homeostasis and parasympathetic functions such as breathing, body temperature, food and water intake, and stimulation of the gastrointestinal tract.**

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**Your pituitary controls growth hormone release, sexual glands and the function of the adrenal glands which produce mineralocorticoids, cortisol and the sex hormones. These hormones down regulate the effects of inflammation as well as the perception of pain, fatigue, and mental alertness.**

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**Balancing the feedback of the HPA complex synchronizes the function and production of at least thirty-one hormones. This synchronization produces a feeling of euphoria and well-being in most users.**

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**Indium stimulates hormonal production back to youthful levels by stimulating the HPA. These hormones then circulate throughout the body and help prevent and fight various aspects of the aging process – e.g. supplies of growth hormone are boosted, which controls metabolism and affects bone density.**

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**Indium also potentiates your thyroid gland and supports proper thyroid levels, more calories are burned and weight is normalized. It hastens the removal of the lactic acid build-up in muscle mass.**

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**Indium has been shown to increase the uptake of creatine by as much as 500 times, and so bodybuilders using creatine would reduce their creatine intake in order to compensate.**

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**Additional reported benefits of Indium include:**

- increased endurance
- improved memory
- better sleep
- help with migraine headaches
- healthier blood sugar levels (with some diabetic patients reducing their insulin by 80 %)

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- normalization of blood pressure (with high blood pressure going down and low blood pressure going up)
- reduction in incidence of lip and lung cancers
- improved hair growth
- lessened menopause symptoms
- alleviation of hypertension
- more youthful appearance

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- elevated immunity activity
- reduced severity and duration of colds
- drop in prostate PSA levels (as much as 75%)
- increased libido in both men and women
- Use Indium for meditations of the true unknown, the unfamiliar, and to expand consciousness.

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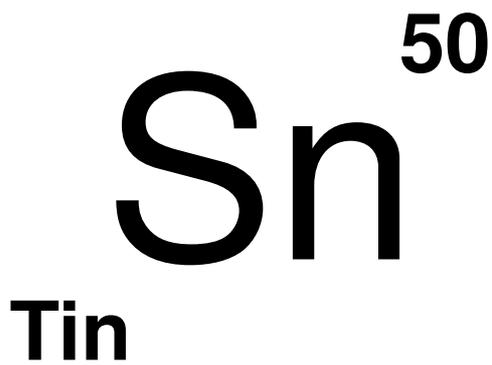
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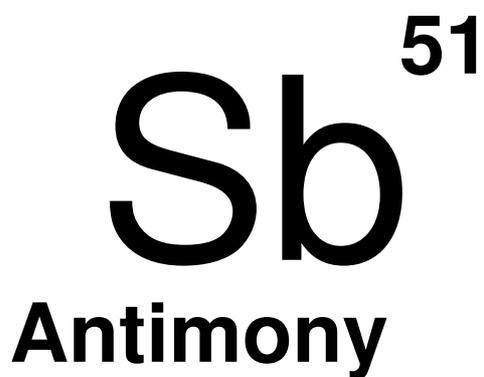
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**Antimony (Sb) 51**

- Naturally occur as ore deposit or as a white powder
- Mica – mineral powder foundation and make up
- Flame retardant – toys, car seat covers, kids’ clothing, uniform for fire fighters
- Brake pads on heavy vehicles

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**Antimony (Sb) 51**

- EPA and EU have standards for drinking water. But in UK need to be careful of drinking juice concentrates. Discovered levels exceeding tap water requirements

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**Antimony (Sb) 51**

- Mail online 2010. “Fruit juice cancer warning as scientists discover harmful chemical in 16 drinks”
- Sb can leak from plastic bottles into water. California law 2009 test for Sb in water

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**Te** **52**  
**Tellurium**

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**I** **53**  
**Iodine**

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**An estimated total body iodine amount is 28mg – 60% is concentrated in the thyroid. Iodide is used in 3 body systems**

- 1. Thyroid**
- 2. Estradiol / Estrone metabolism**
- 3. Immune system**

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# Thyroid hormones

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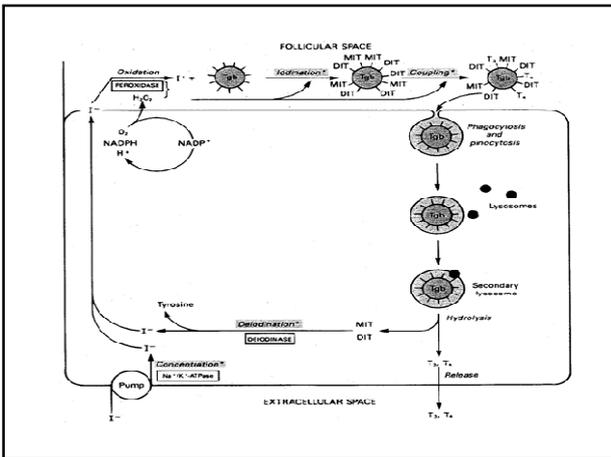
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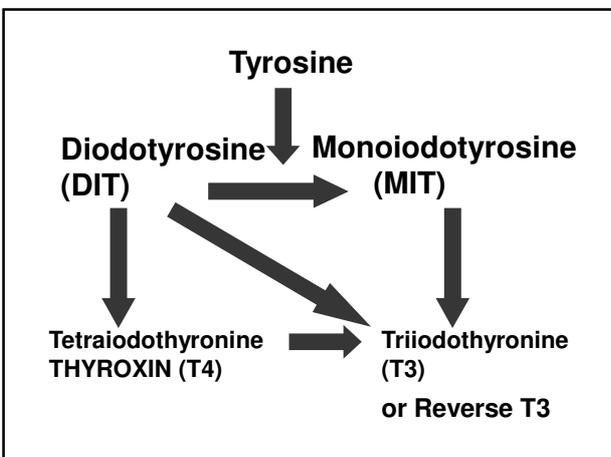
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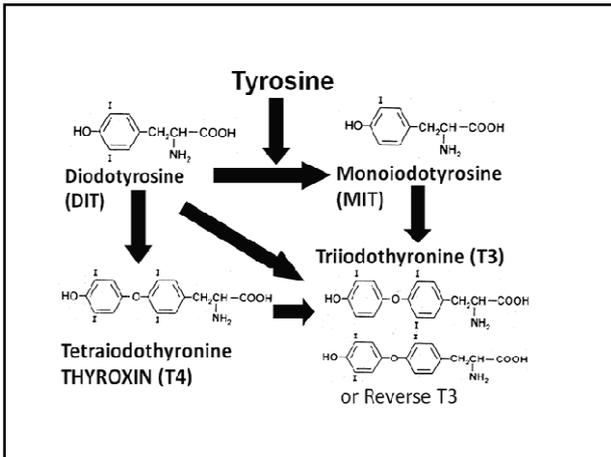
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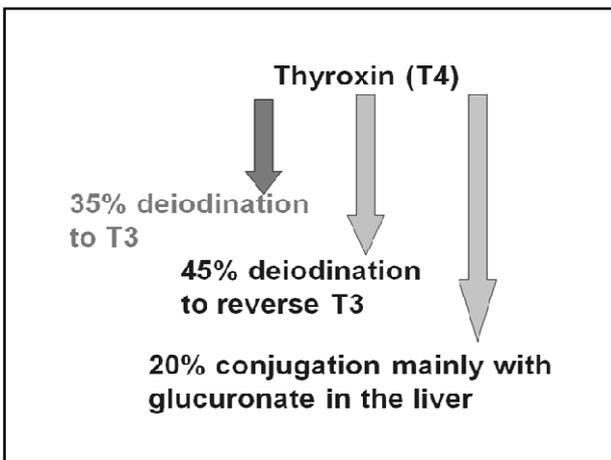
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**T3 is 10x more metabolically active than thyroxin. It targets receptors on the nucleus thus stimulating general protein synthesis and a positive nitrogen balance via increasing or decreasing gene transcription.**

**It stimulates the conversion of riboflavin to FMN and FAD.**

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**Functional tests for thyroid**

**Weak muscle**

1. Strengthen to TSH
2. Strengthen to MIT
3. Strengthen to DIT
4. Strengthen to Thyroxin
5. Strengthen to T3

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**Strong muscle weakens to**

1. TSH
2. Thyroxin
3. Reverse T3    - Acetyl CoA  
                          Cholesterol

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**The Estrogens**

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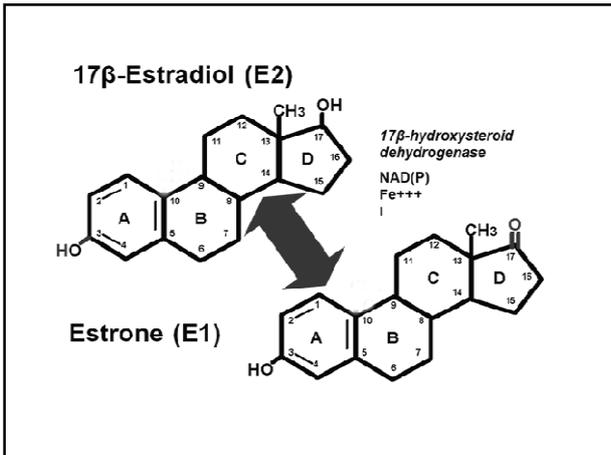
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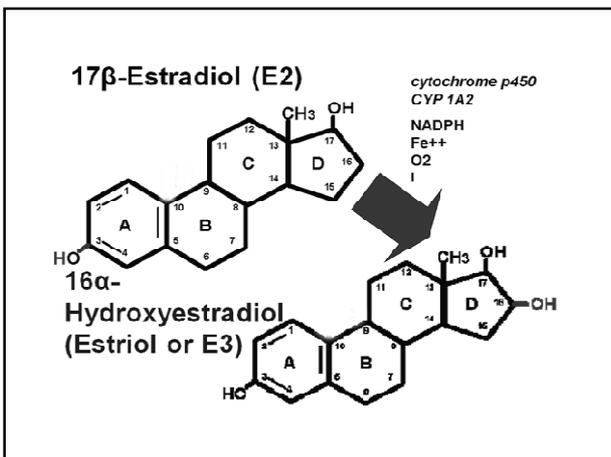
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**Functional test for Estrogen excess –**

- 1. Strong muscle weakens when challenged against Estradiol + Estrone**
- 2. Weakness negated with iodide or other nutrients**

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## The Immune System

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**The body kills gram positive bacteria and certain viruses by stimulating myeloperoxidase to convert H<sub>2</sub>O<sub>2</sub> to the halogen anions -**

- 1. Hypoiodide**
- 2. Hypobromide**
- 3. Hypochloride**

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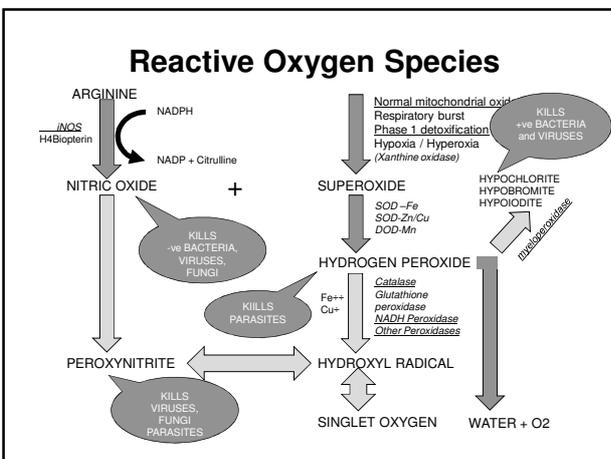
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**Functional challenge for an overactive immune system producing excess ROS**

- 1. Strong muscle weakens to NF Kappa B or Malondaldehyde**
- 2. Weakness negated with Iodide.**

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**Dr Goodheart says give iodine in cases of thick and heavy secretions in the sinuses or vagina.**



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**Functional test for iodide –  
Paint 1 drop organic iodine onto the back of the wrist.  
The faster the colour disappears the more the person needs iodine.**

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<b>&lt; 15 minutes</b>	<b>5+ drops</b>
<b>15 minutes – 1 hour</b>	<b>4 drops</b>
<b>1 – 2 hours</b>	<b>3 drops</b>
<b>2 – 4 hours</b>	<b>2 drops</b>
<b>4 hours +</b>	<b>1 drop</b>

**Organic iodine is a mixture of potassium, magnesium and ammonium iodides from kelp.**

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**RDA**

<b>EEC</b>	<b>USA</b>
<b>150mcg</b>	<b>150mcg</b>

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**Epigenetics Ltd Products**  
**Iodine from kelp 15ml**  
**Magnesium iodide 100ml**  
**Potassium iodide 100ml**  
**Smart Iodides 100ml**  
**Black walnut tincture 100ml**  
**Rosemary tincture 100ml**  
**Yarrow tincture 100ml**

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**Dairy Council issues booklet on iodine in dairy**

By Jim Conall  
26-Apr-2016  
Last updated on 26-Apr-2016 at 12:20 GMT

Post a comment



A new Dairy Council booklet promotes the role of dairy products in addressing iodine deficiency issues. Photo: iStock - Anikone20

Related tags: National diet and Nutrition Survey, Iodine, Dairy Council, Thyroid

Certain groups of the UK population are classified as mildly iodine deficient, however, according to The Dairy Council, consuming milk, yogurt and cheese can help ensure that

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**Xe**<sup>54</sup>

**Xenon**

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**Cs**<sup>55</sup>

**Caesium**

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**Caesium (Cs) 55**

- Similar chemical properties to those of potassium
- Compound of waste from nuclear reactors
- Used in production of highly accurate atomic clocks

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**Caesium (Cs) 55**

- Forms alloys with other alkali metals, as well as with gold and amalgams with mercury
- One of the long lived fission products of uranium that form in nuclear reactors

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**Caesium (Cs) 55**

- Strong emitter of gamma radiation
- Its half life makes it the principal medium lived fission product along with Strontium
- Both are responsible for radioactivity - spent nuclear fuel

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**Caesium (Cs) 55**

- This radioactivity lasts for several hundred years
- Half life of approx. 30 years
- Caesium salts have been used in the treatment of epilepsy
- Can cause infertility & cancer

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**Ba<sup>56</sup>**  
**Barium**

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**La<sup>57</sup>**  
**Lanthanum**

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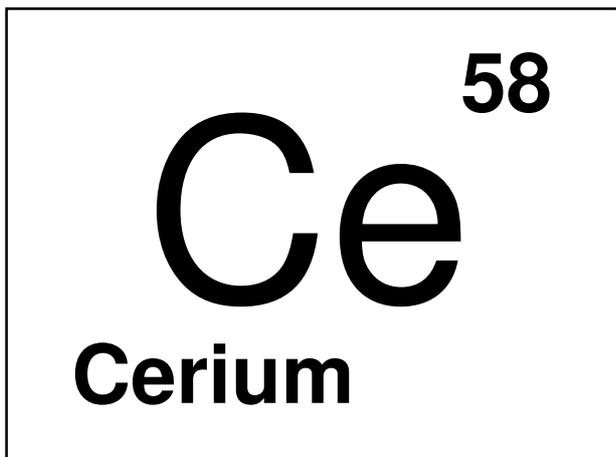
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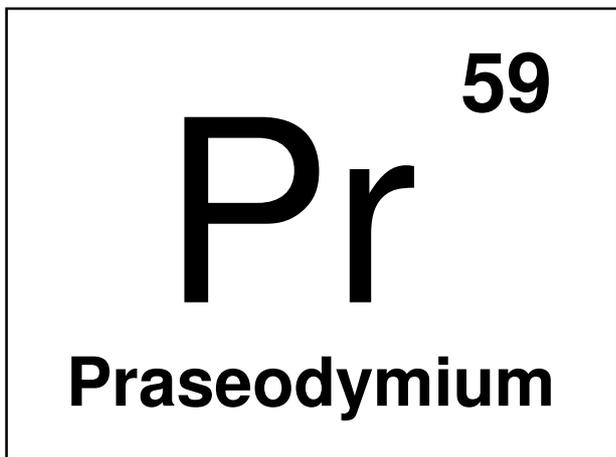
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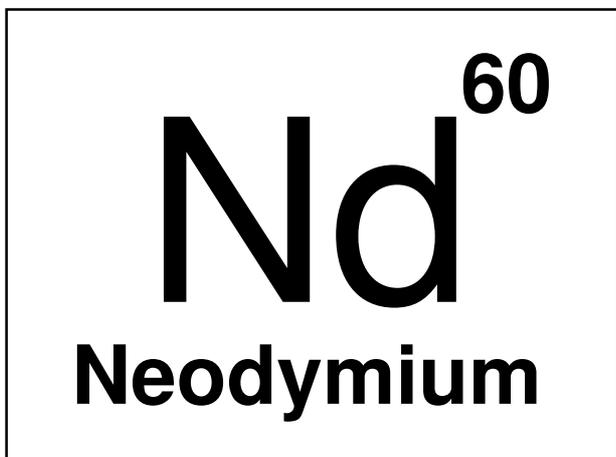
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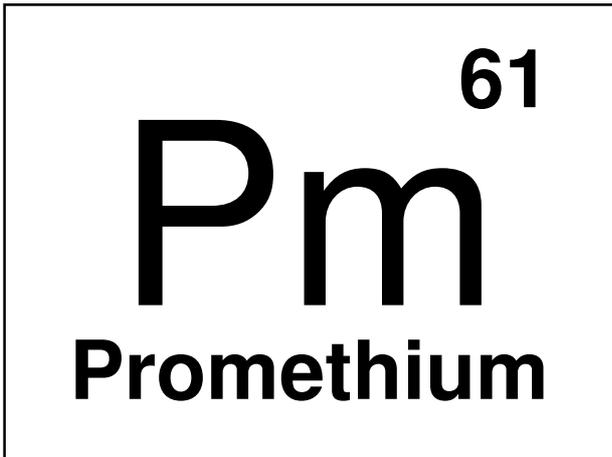
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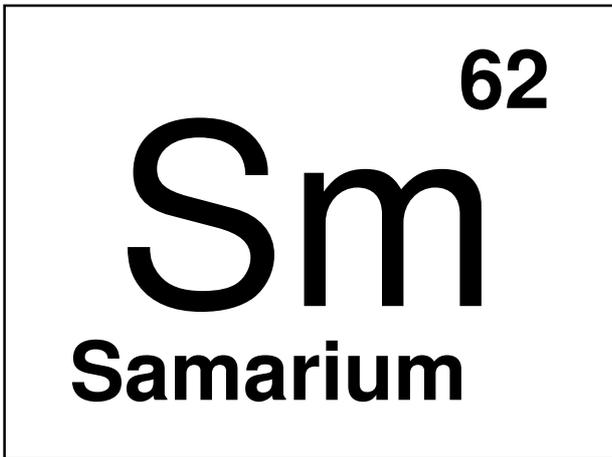
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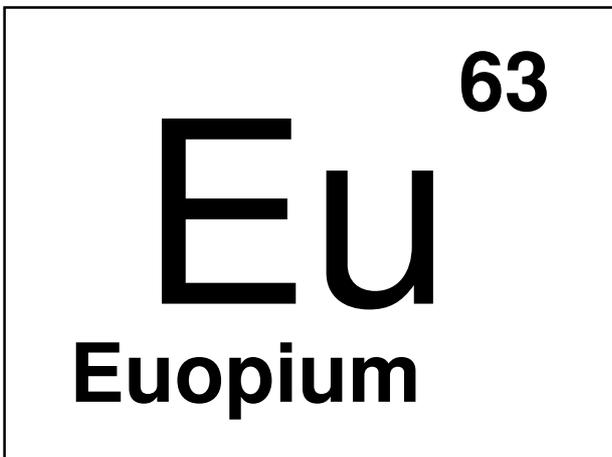
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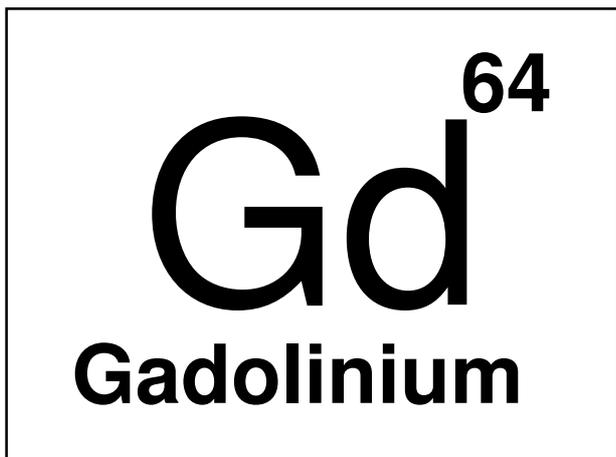
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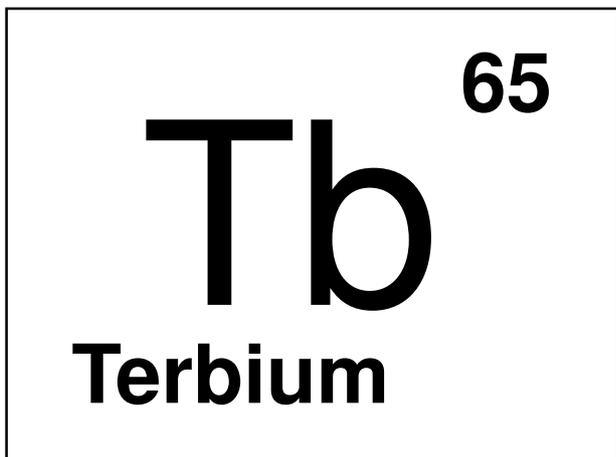
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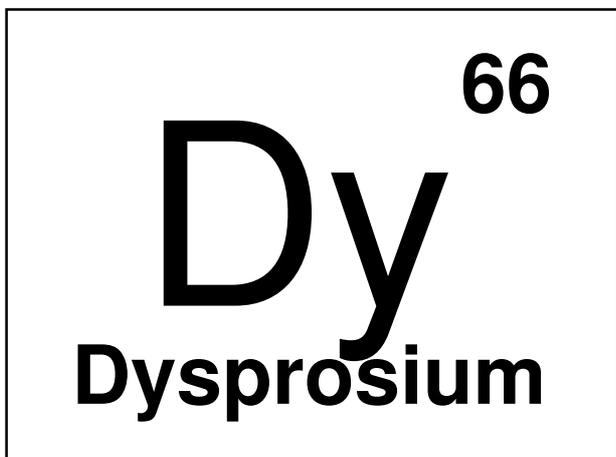
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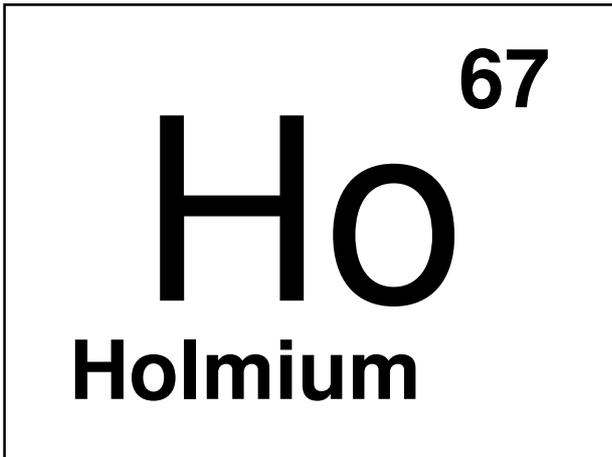
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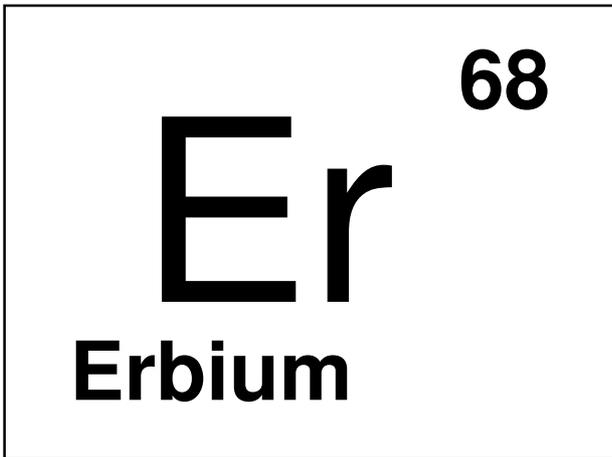
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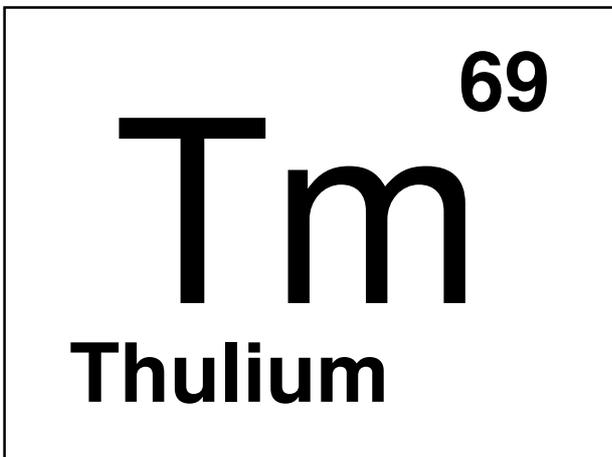
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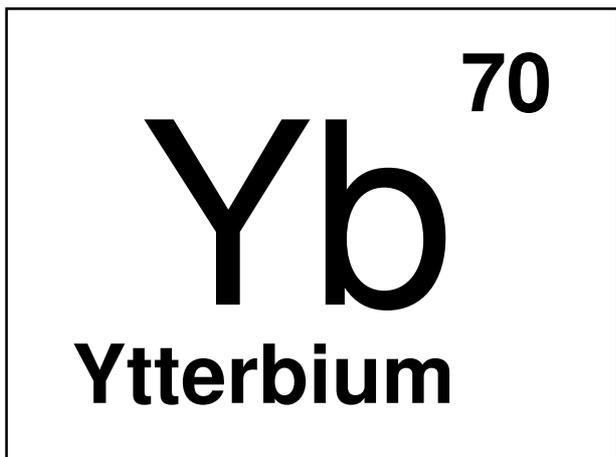
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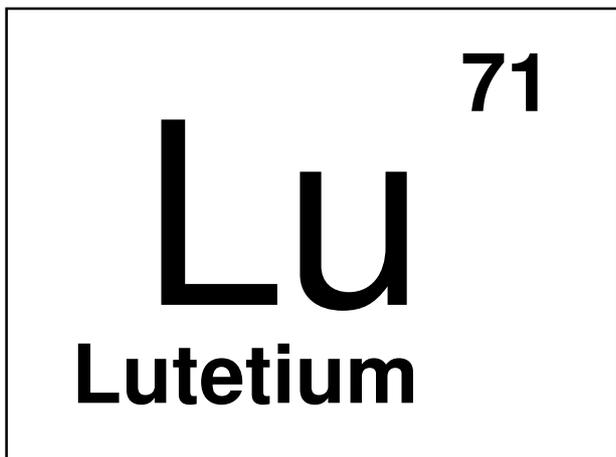
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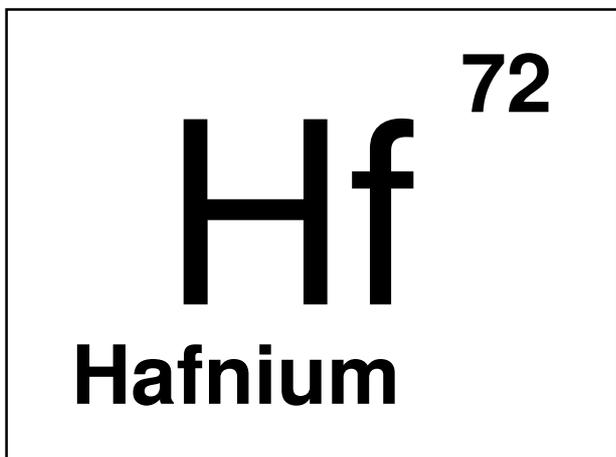
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# Ta

## Tantalum

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# W

## Tungsten

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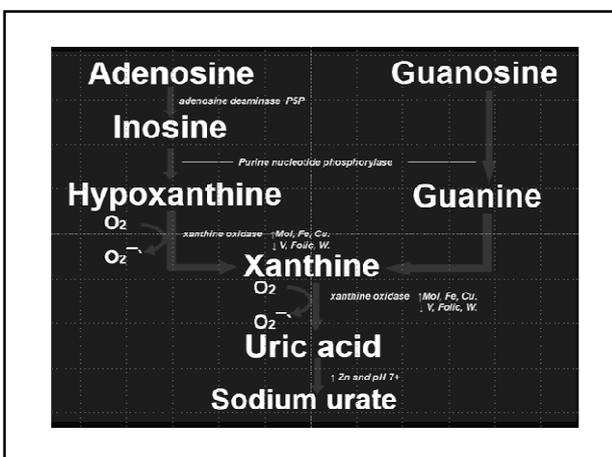
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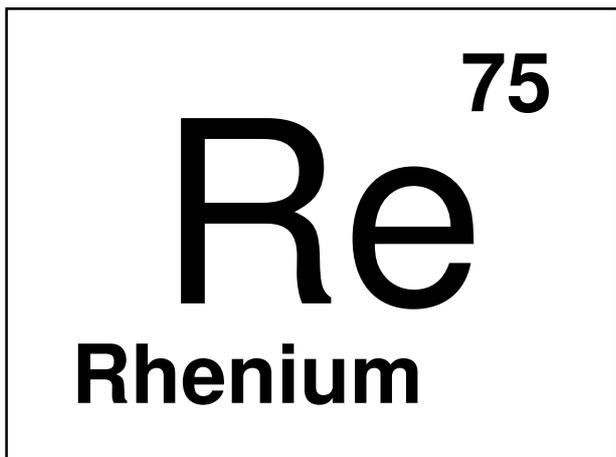
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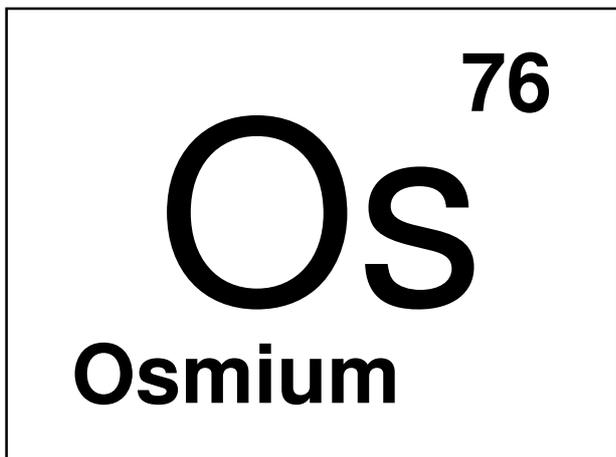
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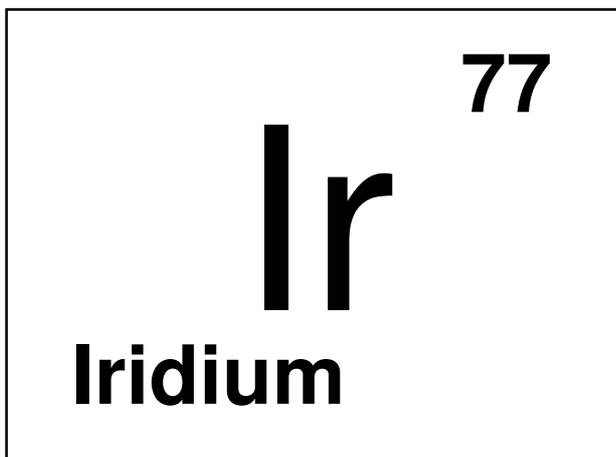
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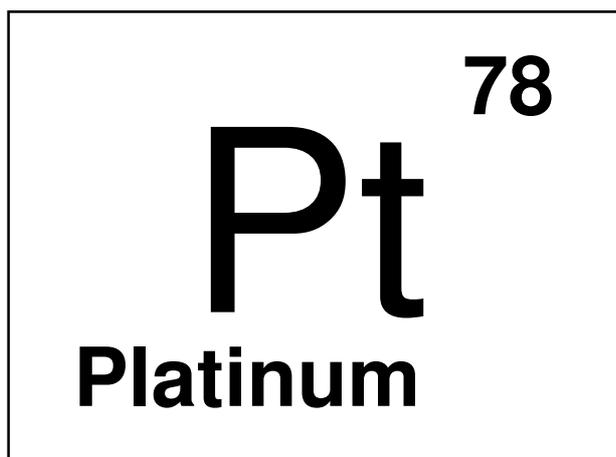
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Platinum is used in catalytic converters, laboratory equipment, electrical contacts and electrodes, platinum resistance thermometers, dentistry equipment, and jewelry. Compounds containing platinum, such as cisplatin, oxaliplatin and carboplatin, are applied in chemotherapy against certain types of cancer.

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Platinum is a chemical element with symbol Pt and atomic number 78. It is a dense, malleable, ductile, highly unreactive, precious, gray-white transition metal. Its name is derived from the Spanish term *platina*, which is literally translated into "little silver".

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**Promotes increased mental focus and concentration.  
Promotes enhanced mental acuity.  
Supports healthy tissue regeneration of the heart tissue, thymus and the entire endocrine system.  
Promotes increased creativity.  
Promotes lucid dreaming.**

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**Promotes improved memory.  
Supports DNA repair  
Promotes increased libido in both males and females.  
Platinum is reported to promote healthy tissue regeneration.**

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**It is believed to increase the electrical transmission across the synapses within the brain to improve memory, increase mental alertness and promote general tissue regeneration of the neurological tissues.**

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**Platinum, a very shiny metal, works like gold in bringing a shining and confident you to the surface, and also builds an inner strength that equates to your recognition of that true inner beauty. It's a very balanced metal which is the reason why it is represented by both the sun and the moon.**

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**79**  
**Au**  
**Gold**

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**Colloidal gold harmonizes body, mind and spirit.. Improves mental attitude, increases energy, will power, mental focus and libido. Antibacterial properties especially against TB and MRSA? Used to relieve depression and addictive states. Anti-inflammation.**

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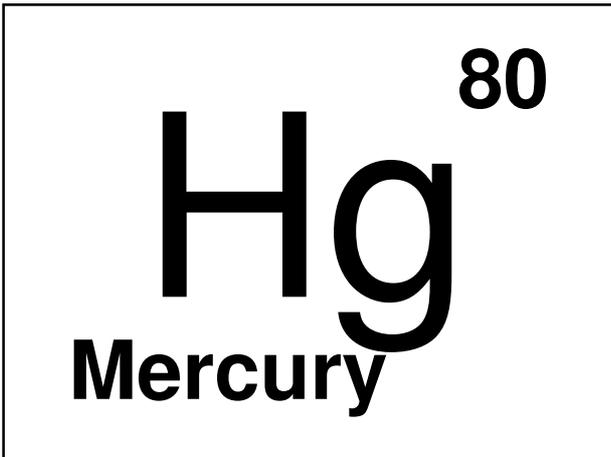
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**Mercury (Hg) 80**

- Only liquid metal at room temperature. Emits very toxic fumes
- Accumulates in fish, particularly large fish like tuna
- Innoculation with vaccines
- Dental amalgams

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**Mercury (Hg) 80**

- Amalgams in the mouth with other dental metals react and cause up to 10 times more mercury to be released
- An alloy on top of an amalgam drives the Hg through the nerves of teeth directly to brain

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**Mercury (Hg) 80 - Neurological**

- Vapour emitted during the life of the amalgam. Goes into the lungs and deposited in brain and vital organs
- In Multiple Sclerosis and Parkinson's, high levels found in CSF

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**Mercury (Hg) 80 - Neurological**

- Autism Research Institute convinced that mercury is the prime cause
- Prof Boyd Haley shown that autistic children lack the mechanism for excreting Hg
- Vaccines deliver a dose 64 times

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**Mercury (Hg) 80 - Neurological**

- Greater than the adult allowed exposure
- Hg from mother's amalgams passing through the umbilical cord
- Hg in breast milk

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**Mercury (Hg) 80 – Learning**

- Hg stored in the foetus and concentrated in mother's milk
- If mother drinks alcohol the amount of mercury deposited in the foetus increases
- Reduces intelligence, learning ability and risk of hyperactivity

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**Mercury (Hg) 80 – Alzheimer's**

- High levels found in brains of Alzheimer's patients
- Rats and monkeys given same amount of Hg show same changes in brain
- Remedy Acetyl-L-carnitine. Made from methionine. Hg depletes methionine in body

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**Mercury (Hg) 80 – Alzheimer's**

- APOE4 – 2 arginine molecules instead of cysteine. Cysteine gives protection against Hg
- Prof Boyd Haley "Mercury poisoning bears all the diagnostic hallmarks of Alzheimer's disease"

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**Mercury (Hg) – Mental conditions**

- Psychosis discovered in children of 12 years – selenium remedy
- Anxiety and depression
- Obsessive compulsive behaviour
- Memory loss
- Decreased self confidence

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**Mercury (Hg) – Mental conditions**

- Inability to comprehend or accept new ideas
- Sleep disturbances
- Eye problems
- tremor

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**Mercury (Hg) 80 – Dentists**

- In tests dentists who worked with Hg compared to those who did not
- Reduced hand co-ordination
- Reduced concentration
- Reduced memory
- Reduced intelligence

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**Mercury (Hg) 80 – The Gut**

- Hg lodges in the gut
- Alters gut bacteria because Hg is so toxic only certain bacteria can survive
- Leads to growth of unwanted organisms causing gut inflammation and leaky gut

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**Mercury (Hg) 80 – The Gut**

- Food leaks out and reacts with the immune system causing multiple allergies
- This increases body's acidity which reduces the resistance to Hg overall. Reduced nutrition.
- Vicious circle leading to MCDs

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**Mercury (Hg) 80 – The Gut**

- Hg causes the bacteria in the gut to become antibiotic resistant
- These pass on the resistance not only to their offspring but to other species of bacteria
- Antibiotic resistant bacteria is an ever increasing problem

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**Toxic metals disrupt the thyroid**

- **Mercury – reduces production of T4 and inhibits conversion of T4 to T3**
- **Selenium antagonist and selenium is required by enzyme that converts T4 to T3**

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**Mercury**

Dental amalgams. Vaccines  
High fructose corn syrup  
Sanitary towels, Cotton balls and buds, Dental floss,  
Toothpicks, Paints, Explosives, Batteries,  
Mercurial diuretics, Fungicides, Laxatives containing  
camomel, Hemorrhoid suppositories,  
Fluorescent lamps, Cosmetics, Hair dyes. Fibreglass,  
Manufacture and delivery of petroleum. Sewage  
sludge.  
Methylmercury chlorine bleaches. Fabric softeners,  
Polishes, wood preservers, Latex, Solvents, Plastics,  
Inks used by printers and tattooists, some Paints.  
Salt, Fish from contaminated water such as tuna.

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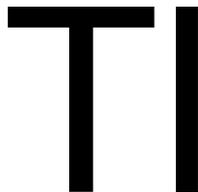
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**81**



**Thallium**

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**Thallium (Tl) 81**

- Replaces potassium in certain functions within the red blood cells
- Chronic exposure can affect the kidneys, heart, muscles & brain
- Cause multiple neuritis, inability to walk, fatigue, lower immunity

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**Thallium (Tl) 81**

- Used in electronics industry, pharmaceutical and glass manufacturing
- Nuclear medicine scan, during one type of nuclear cardiac stress test
- Very toxic, historically used in rat poisons and insecticides
- Present in tampons

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**Thallium (Tl) 81**

- Poisoning results in hair loss
- Historic popularity as a murder weapon, "poisoner's poison" or "inheritance powder", like arsenic
- Water soluble and nearly tasteless

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**Thallium (Tl) 81**

- Pollution from gaseous emissions from cement factories, coal burning power plants and metal sewers
- Source of elevated levels in water is the leaching of Tl from ore processing operations

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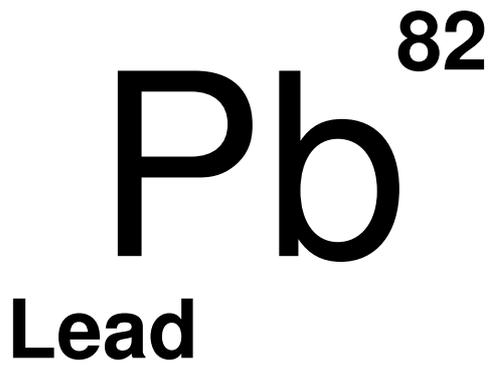
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**Lead (Pb) 82**

- Lead based paint banned – older buildings
- Banned from petrol but still in aviation fuel
- Soil contaminant as will not decay, not biodegradable. Root crops in particular. Chickens.

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**Lead (Pb) 82**

- One study looked at accumulation in bones and noted higher concentrations in elderly linked to cognitive decline
- Associated with learning difficulties in children, lower IQ, hearing loss

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**Lead (Pb) 82**

- Pb interacts with glutathione, glutathione peroxidase and selenium so blocking our antioxidant defence mechanism
- Blocks the porphyrin pathway so inhibiting production of heme
- Lead suppresses conversion of T4 to T3

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**Lead (Pb) 82**

- Causes spasm in smooth muscles of digestive system leading to abdominal pain
- Causes hypertension
- Renal impairment
- Changes in cell membrane of red blood cells leading to hemolysis

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Lead inhibits methyltransferase and glutathione transferase enzymes

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Lead (Pb) 82

- Cysteine maybe good chelator along with selenium, turmeric.

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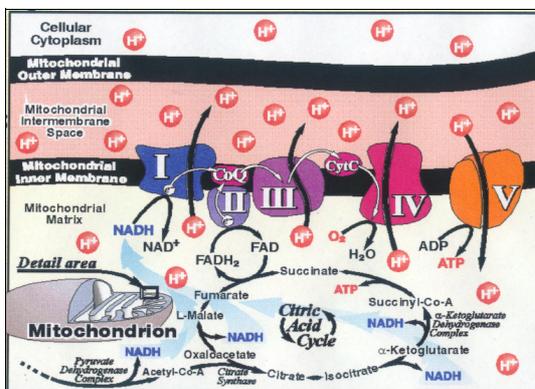
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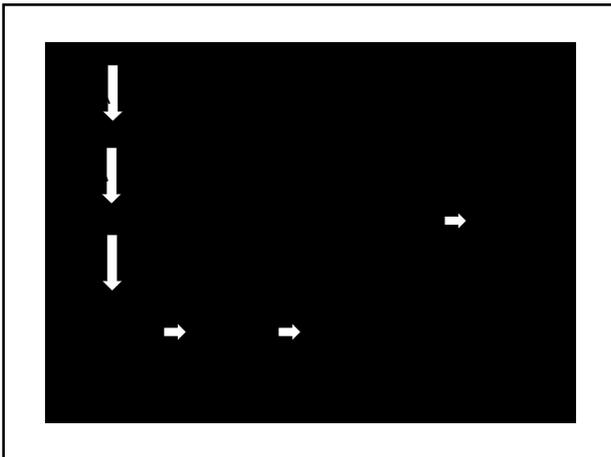
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**Lead inhibits Glycine to ALA, ALA to BPG, Protoporphyrin IX to Heme**

**Mercury inhibits HMB to UPG, CPG to PPG, Protoporphyrin XI to Heme**

**Cadmium inhibits HMB to UPG, Protoporphyrin XI to Heme**

**Fluorine inhibits PBG to Protoporphyrin IX**

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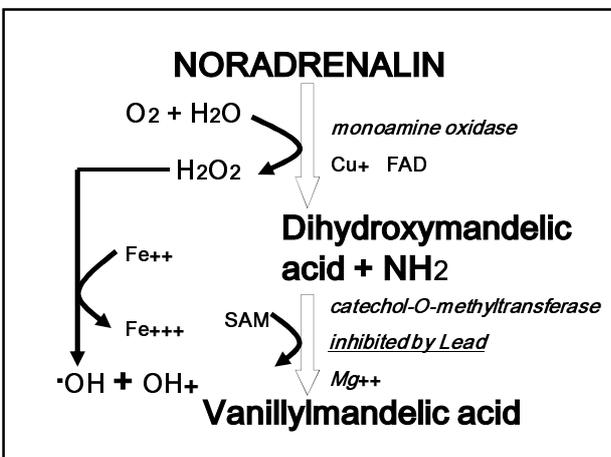
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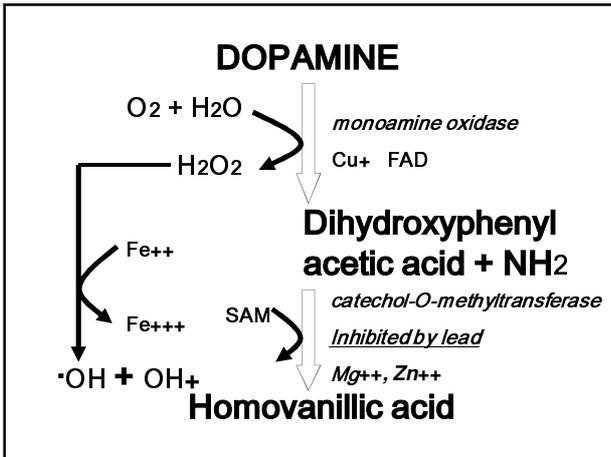
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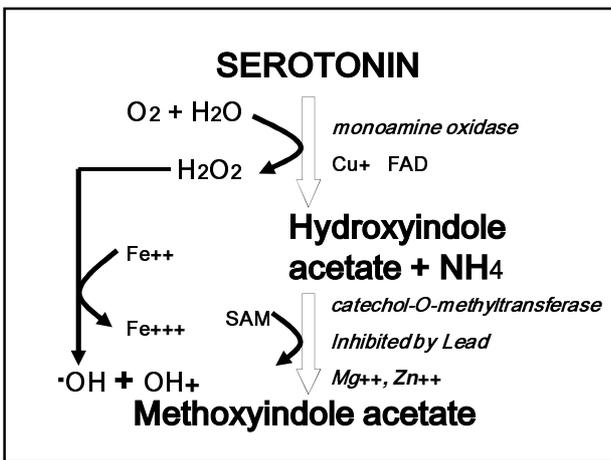
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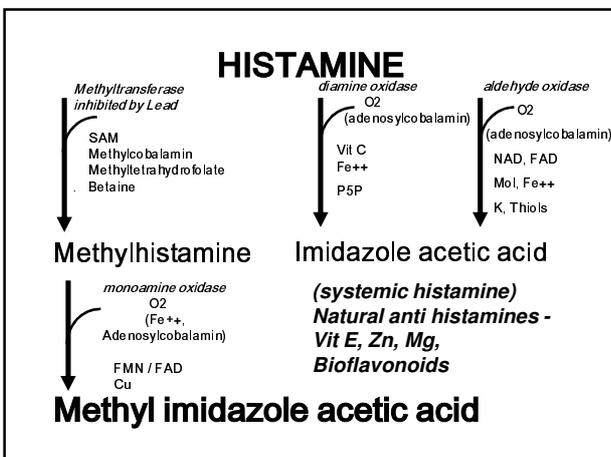
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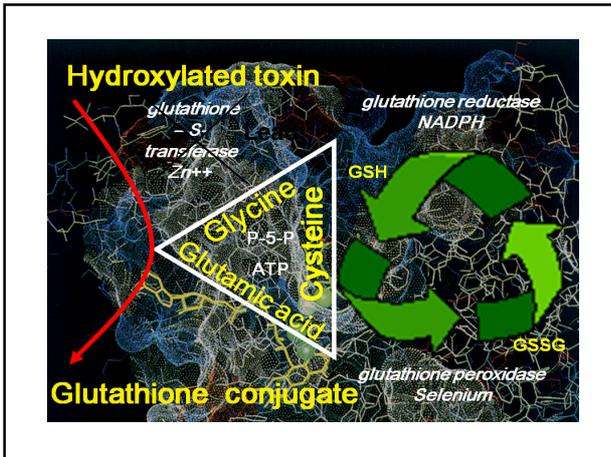
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**Glutathione conjugation (cysteine, glycine and glutamic acid) is catalyzed by *glutathione-S-transferase*.**

**This enzyme is present mostly in the cell cytosol.**

**This enzyme is inhibited by Lead**

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**Organ Benefit**  
**Just the benefit of lead removal is of tremendous benefit to the heart, the kidneys and the nervous system. Heavy metal toxicity may be a big factor in causing immune-system compromise.**

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## Lead exposure may alter gut microbiota and promote obesity, study finds

By Will Chu , 14-Mar-2016  
Last updated on 14-Mar-2016 at 14:06 GMT

 Post a comment



Exposure to lead during foetal development could change the gut microbiota makeup, contributing to a higher risk for obesity in later life, researchers have determined.

Lead has been linked to a host of health problems and exposure during the gestation period can cause permanent changes to the gut microbiome. Health problems that arise have been documented and include neurodevelopment disorders, and an increased insulin response.

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**83**

**Bi**

**Bismuth**

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### Bismuth (Bi) 83

- Bismuth subsalicylate used in over the counter medication, antacid tablets
- Bismuth oxychloride used in cosmetics, face powder
- Bismuth subgallate – to help flatulence odour

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**Bismuth (Bi) 83**

- **Manufacture of solder, plumbers may be affected by inhaling solder fumes**
- **University of Tübingen in Germany found anaemia, reduced sperm metabolism**

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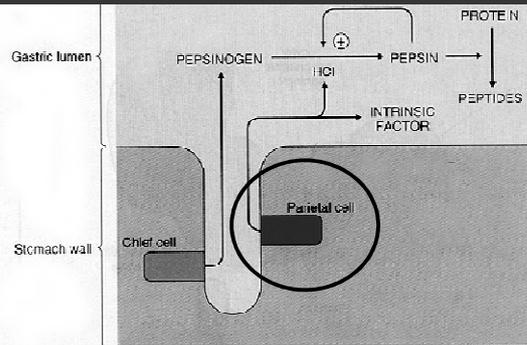
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Bismuth inhibits the production of HCl from the parietal cells which alongside secrete intrinsic factor. So bismuth creates B12 deficiency.




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**84**

**Po**

**Polonium**

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All polonium isotopes are radioactive.  
Uranium > Radium > Radon >  
Polonium > Lead.

Polonium has been found in tobacco  
smoke from tobacco leaves grown  
with phosphate fertilizers.

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**At** <sup>85</sup>  
**Astatine**

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Astatine is the rarest natural  
element on the Earth's crust. It occurs  
on Earth as the decay product of  
various heavier elements. All  
its isotopes are short-lived; the most  
stable is astatine-210, with a half-  
life of 8.1 hours. Elemental astatine  
has never been viewed because any  
macroscopic sample would be  
immediately vaporized by its  
radioactive heating.

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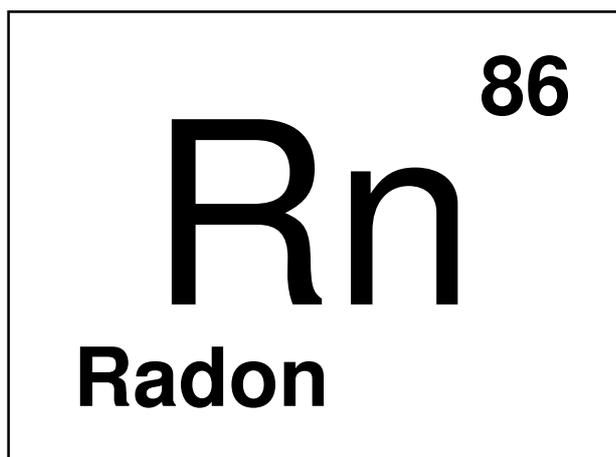
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**Radon (Rn) 86**

- Naturally occurring radioactive gas – odourless and tasteless
- Formed from the radioactive decay of uranium
- U found in most rocks & soils

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**Radon (Rn) 86**

- U slowly breaks down to other products like Radium (Ra), which breaks down to Rn
- One of the densest substances that remains as a gas and it is radioactive

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**Radon (Rn) 86**

- US EPA estimates that indoor Rn exposure leads to 21,000 lung cancer deaths annually
- Radon may be second only to smoking as a cause of lung cancer

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**Radon (Rn) 86**

- Rn is responsible for the majority of public exposure to ionising radiation
- Single largest contributor to a person's radiation dose and is the most varied from location to location

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**Radon (Rn) 86**

- A significant indoor contaminant
- Emanates from the ground and building materials wherever uranium or thorium is high and soils containing granite or shale – more uranium

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### Radon (Rn) 86

- International Agency for Research on Cancer – stated Rn is carcinogenic to humans
- Inhalation. Danger from the radioactive products in the decay of Rn. Radiation induced cancer – lung cancer

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### Radon (Rn) 86

- Found in some petrol
- Same boiling point as propane so freshly separated propane can be radioactive due to Rn
- Residues from the oil and gas industry often contain radium and its daughters

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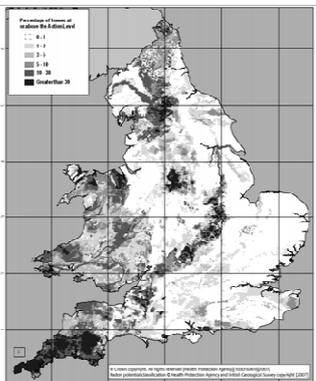
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Every building contains radon but the levels are usually low. The chances of a higher level depend on the type of ground. Public Health England has published a map showing where high levels are more likely. The darker the colour the greater the chance of a higher level. The chance is less than one home in a hundred in the white areas and greater than one in three in the darkest areas.



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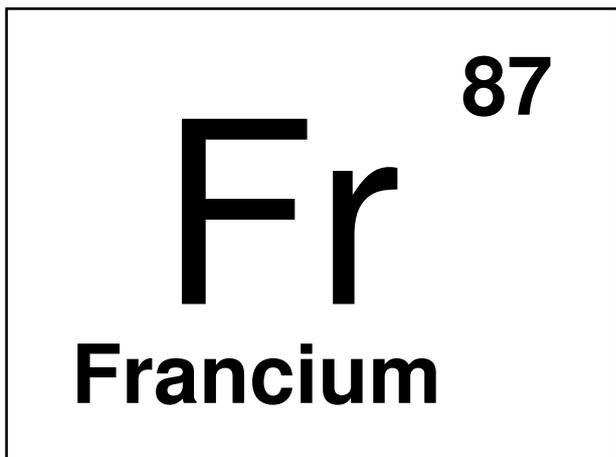
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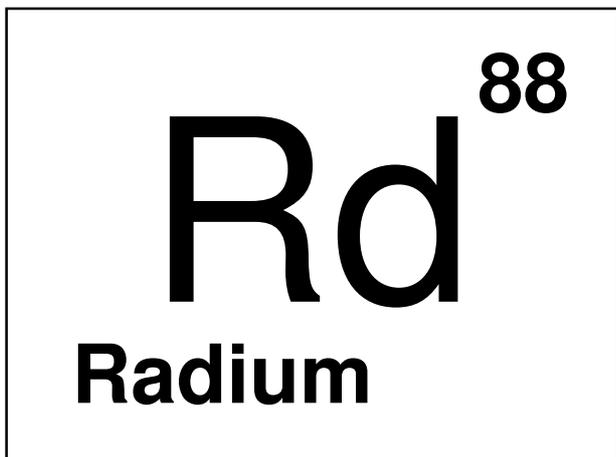
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**Radium (Ra) 88**

- All isotopes are highly radioactive, the most stable being radium-226 with a half life of 1600 years
- Decays into Radon gas
- Found in uranium and thorium ores

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**Radium (Ra) 88**

- Used in nuclear medicine
- Formerly used in self-luminous paint for watches
- Lawsuit by the “Radium Girls” – sores, anaemia & bone cancer

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**Radium (Ra) 88**

- Rn is treated as calcium by the body and deposited in the bones where it degrades marrow and mutates bone cells
- Exposure can cause cancer due to emission of alpha and gamma rays – kill and mutate cells

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**Ac**<sup>89</sup>  
**Actinium**

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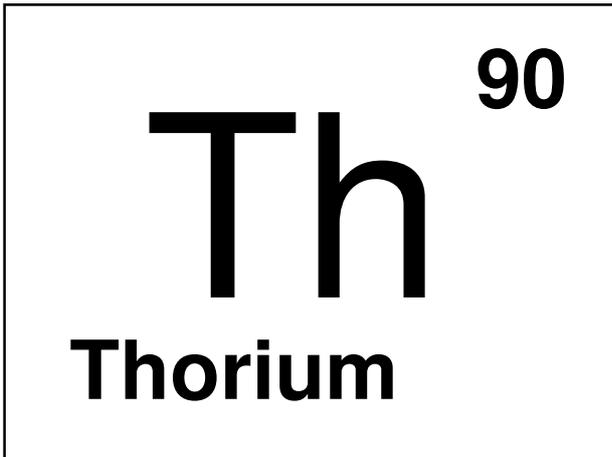
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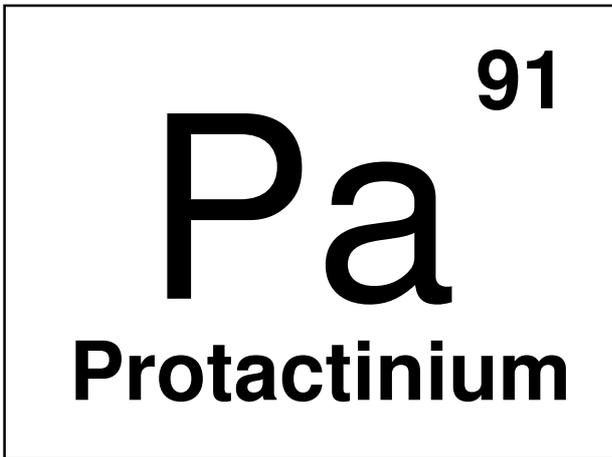
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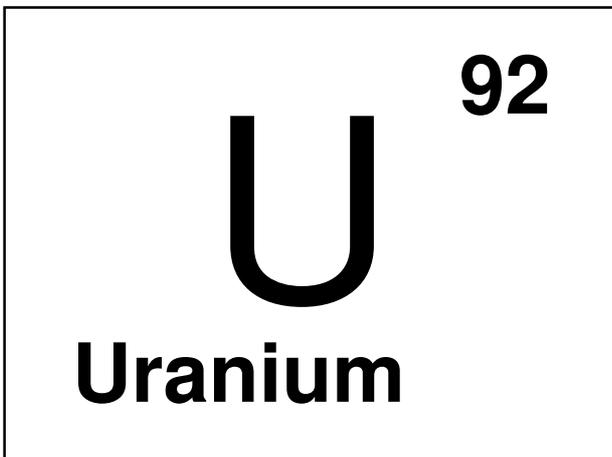
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**Uranium (U) 92**

- U has been present since the earth was formed and its most common isotope has a very long half-life – 4.5 billion years
- U, Ra and Rn will continue to occur for millions of years in same concentrations as now

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**Uranium (U) 92**

- Half lives of the 6 naturally known isotopes – uranium 233-238 varying between 69 years and 4.5 billion
- Unique radioactive properties used in nuclear power stations and nuclear weapons

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**Uranium (U) 92**

- Fallout from nuclear accidents – fish?
- 2004 review of U toxicity in Journal of Toxicity & Environmental health
- Damage to kidney, reproductive system

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**Uranium (U) 92**

- Brain/CNS – decreased performance on neurocognitive tests
- DNA – reports of cancer
- Immune – chronic fatigue, ear/eye infections, hair/weight loss

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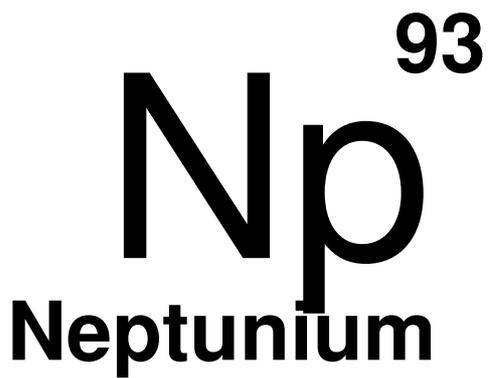
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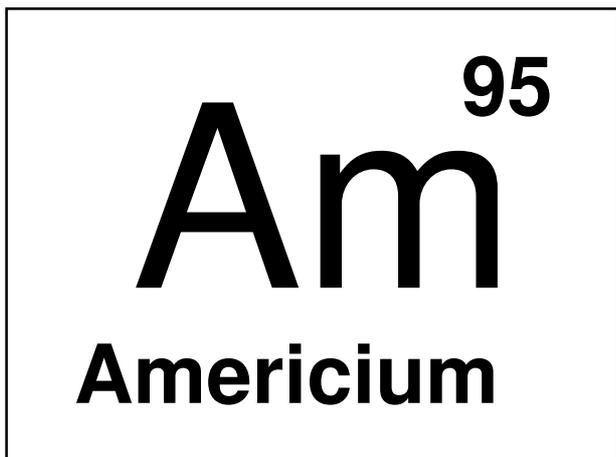
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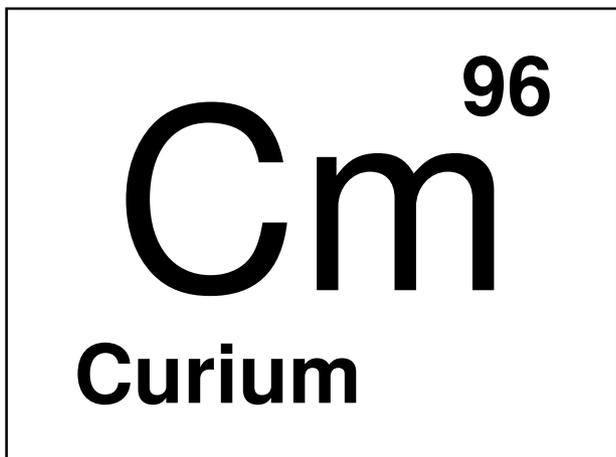
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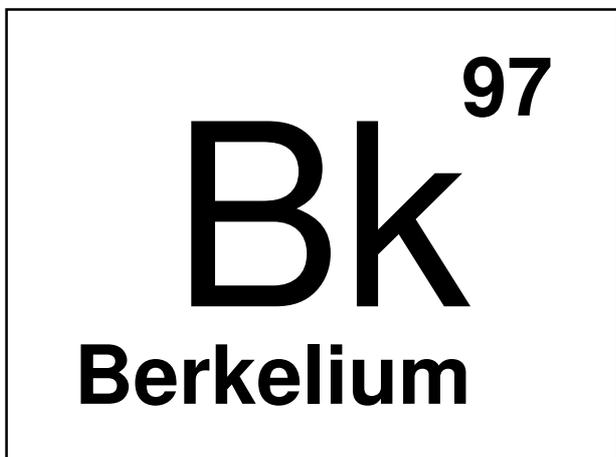
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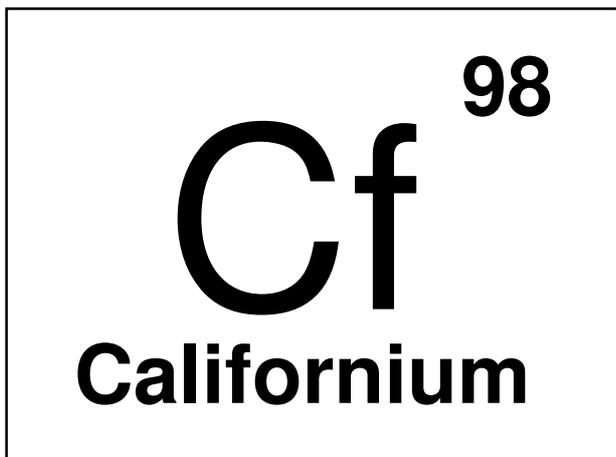
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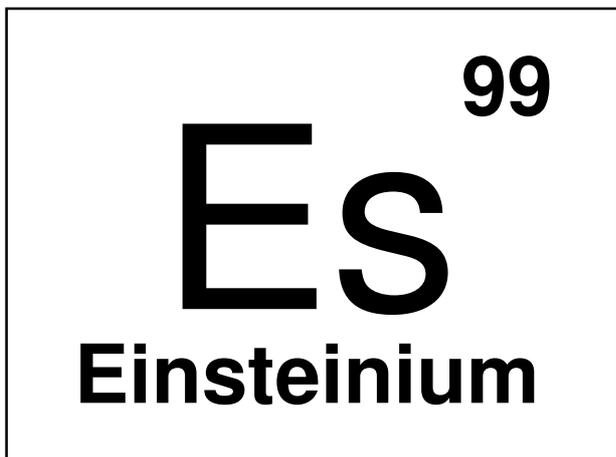
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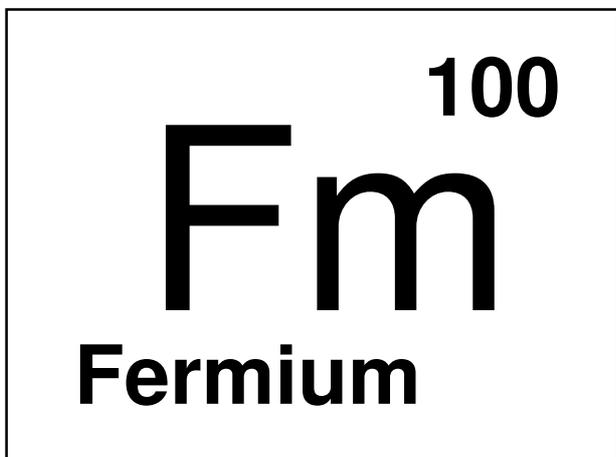
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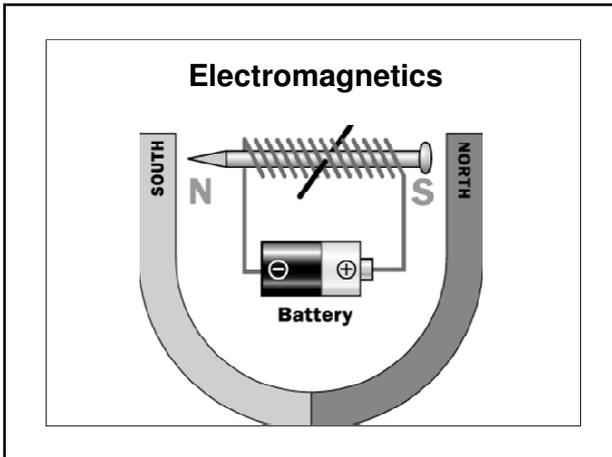
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**Environmental factors due to spending too much time indoors nowadays.**  
**Not enough sun exposure or fresh air as a result.**  
**Post war housing causing adverse effects on health.**  
**Sick house syndromes.**

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**First investigations were about formaldehyde as a problem in houses.**  
**Mould toxicity.**  
**Electromagnetic exposure.**  
**What can a healthy person stand for a short period of time?**  
**What can an unhealthy person stand for long periods of time in chronic exposure?**

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**Two choices –**  
**1. Remove the toxin.**  
**2. Remove the pathway to the intoxicant.**  
**In Germany you have trouble finding a toxic paint because they are not available and the public do not demand them. Not so here???**

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**Sweden leads the world in electromagnetic safety restrictions as are the Russians. High frequency electromagnetic fields harm the body and harm organic matter.**

**[www.buildingbiology.net](http://www.buildingbiology.net)**

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**Building materials**

**Control of moisture materials – must be hygroscopic – take in moisture on high humidity days and release it on low humidity days. Our bodies like moisture to be within a certain frame 40%-60% humidity is optimal. Higher or lower than that is not a healthy environment.**

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**Materials and furnishings must not take in moisture otherwise mould develops.**

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**Dry walls such as Chinese dry walls are best as they contain magnesium oxide (Chinese Dragon) are better than gypsum (calcium sulfate dehydrate which is the main constituent in many forms of plaster, blackboard chalk and wallboard).**

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**Building materials must be absorptive in taking the toxins out of the air and convert the toxins to a non-toxic material – magnesium oxide, clay and natural brick are best.**

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**Materials should help with the natural ion balance in the air. Aluminium ducts create positive ions.  
Human bodies seek a negative predominance.  
Negative ions are typically found in rain forests, by the ocean or in lightening storms.**

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**Natural materials do not replete them but prevent positive ions from building up.**



**Rudolph Steiner  
1861-1925**

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**Himalayan salt lamps replace negative ions.  
Also water features in the home do. Disadvantage is they may create moulds and if stagnant may breed bacteria.  
Not as good as the salt lamps.**

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**To optimise humidity use natural cork such as bath mats, on the walls with natural wood framing it.**

**Unfired brick from brickworks before they are fired. Can build a plant holder inside the house from them. Use a sealant around the earth in the planter such as black landscape polythene.**

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**It does not get hot so there is no off-gassing like other plastics. Put them in areas where you would expect most chemical pollutants. Natural brick is just clay. Adobe is sun fired brick.**

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**Also reduces toxins in the air such as herbicides and pesticides. (Clay is absorptive and is alive with bacteria that breakdown the toxins to non-toxic substances).**

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**Carbon can be used but it does not regenerate itself.  
Natural brick or clay (1/8<sup>th</sup> inch thick) can be made as a wall.**

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**Absence of light  
Windows should be used to take advantage of natural sunlight.  
This supplies both heat and natural light.  
Ideally natural light onto a brick wall will supply heat for night time supplies passive solar power.**

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**Most glass is transparent to natural UV radiations and allows Uv(a) which affects the skin and decreases Vitamin D, whereas opaque glass does not allow UV(a) and so does not deplete Vitamin D.  
For lighting also can use reflective shelves.**

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**Paints and vapour barriers (in cavity walls) prevent walls from breathing especially if the inside wall is tiled or resistant painted. Moisture in the wall then becomes trapped thus leading to a build up of mould. Vapour must travel in and out of the walls to prevent moulds.**

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**Concrete bases of houses must be allowed to dry fully ideally for 3months. They often get covered with wall to wall carpet with a plastic base to it.**

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**Electromagnetic fields  
An electromagnetic field (also EM field) is a physical field produced by electrically charged objects. It affects the behaviour of charged objects in the vicinity of the field. EMFs – must look at the entire spectrum.**

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**Ionising radiation** is radiation that carries enough energy to free electrons from atoms or molecules thereby ionising them. Ionising radiation is made up of energetic subatomic particles, ions or atoms moving at high speeds (usually greater than 1% of the speed of light), --

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and electromagnetic waves on the high-energy end of the electromagnetic spectrum. Gamma rays, X-rays, and the higher ultraviolet part of the electromagnetic spectrum are ionizing.

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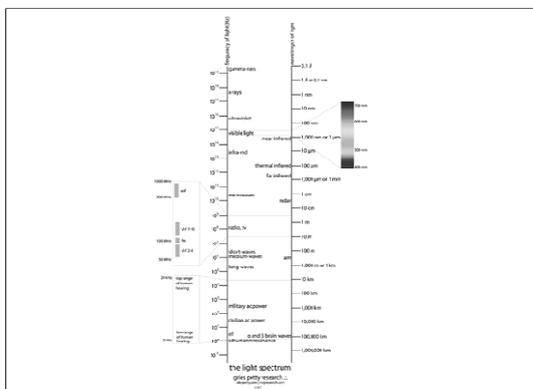
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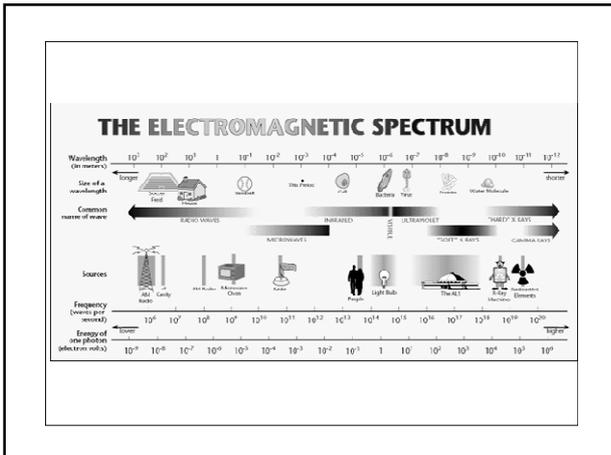
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**Ionising radiation – from cosmic radiation especially with flying is extremely high and rays can destroy DNA.**

**Use Ornithine to protect.**

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**Starting from the bottom is static meaning it is not alternating. When an EM field is not varying in time, it may be seen as a purely electrical field or a purely magnetic field, or a mixture of both. Observers who see only an electric or magnetic field component of a static EM field, have the other component suppressed.**

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**Static magnetic fields are the earth's natural magnetic fields we have adapted to exist with. Our bodies seek a uniform magnetic field. The level is not important as to where you live longitudinally in spite of the orientation being different.**

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**Normal level 600 milli gause at the equator and then decreases down to 200 milli gause at the north and south poles. The body need this to be uniform. If when we sleep it varies say by between 500 to 540 it is disturbing to us.**

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**Geopathic stress**

**Could be due to a natural cause such as subterranean water (deep underwater rivers), geological faults, a cavern, metallic ore in the ground. Some people are more disturbed by this than others.**

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**It is thought that they may be a causative aspect to cancer as well as insomnia.  
Other causes maybe unnatural such as metal beds.  
Metal in the box springs in beds can also have residual magnetism or become magnetised.**

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**Check the bed with a compass. North should always point to north normally. Check each spring which are usually set 14 inches apart.  
Every time a spring is folded or compressed there will be some magnetism.**

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**Especially do this in baby cribs.  
Best to have non metal beds for babies.**



**Use wooden cribs.**



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**Also check for world wide grids known as ley lines. Do not sleep where the lines cross. Check where animals don't sleep (except cats, ants and termites like geopathic stress) or where plants don't grow.**

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**Mistletoe likes geopathic stress. Can detect with a geomagnetometer but these are very sensitive. Look for lines of plants where poor or no growth. Trees will lean away from geopathic stress.**

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**Cats often sleep in geopathic stress areas especially during the day in 2 or 3 places which are often linear. Cats purr and seek high vibrations. They like magnetic fields like the top of a refrigerator or a TV.**

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**Static magnetism is very soothing, anti-inflammatory and induces healing.  
North pole sedates  
South pole tonifies**

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**Autistic children often seek out high magnetic fields because they find them soothing.  
Head sets and metal framed glasses can have residual magnetism in them.**

**Beware of hearing aids!!**

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**Static electric fiels have no frequency and thus no wavelength.  
Static electricity maybe caused by**

- 1. Ions**
- 2. Using materials that are unnatural such as bedding material e.g. polyester. A lot of friction may occur.**

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**Static electricity is a common symptom for people who have a high toxic metal condition.  
Dental amalgams. Buccal currents  
Tinnitus.  
Colloidal Titanium.  
Static can penetrate deep into the body.**

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**Biological frequencies which are used for cellular communication are less than 250 Hz so our bodies will respond to anything less than this.  
Lowest frequency would be the heart beat (1 Hz).  
Electric power supplies use low frequencies (50-60Hz) as do communication bands and cell towers.**

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**Nerves and brain use 1- 40 Hz  
  
Delta brain waves 1-4Hz  
Theta brain waves 4-8Hz  
Alpha brain waves 8-12 Hz  
Beta brain waves 12 -16 Hz  
Gamma brain waves 16 – 40+ Hz**

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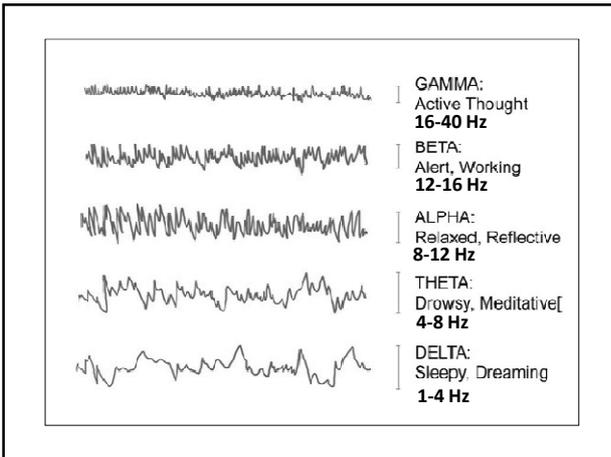
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**This is a natural signal which are either spacially coherent i.e. same shape and magnitude and in the same direction or temporarily coherent meaning they have the same frequency.**

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**Two wave sources are perfectly coherent if they have a constant phase difference and the same frequency. It is an ideal property of waves that enables stationary (i.e. temporally and spatially constant) interference.**

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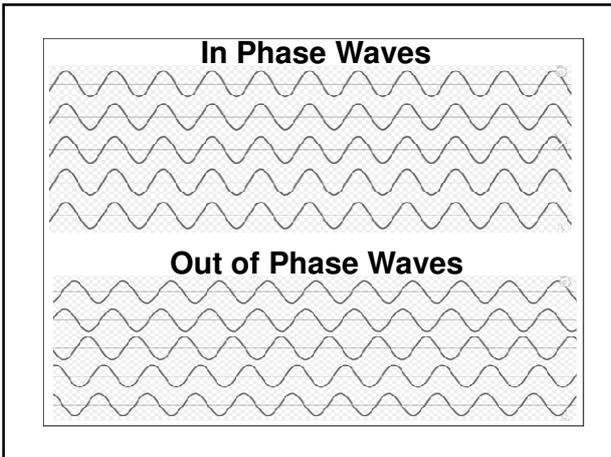
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**The earth's electrical field is due to lightening strikes and has a constant frequency of 7.83 Hz but always changing in its direction and magnitude. Cosmic radiation from space has various frequencies.**

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**So its going to be either temporally constant or spacially constant but not both.**

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**Our bodies are acclimatized to these. Unfortunately man made machines are both temporally coherent and spacially coherent – always the same magnitude and the same direction at the same frequency and the body does not always understand this.**

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**Vibratory cell receptors go into resonance and start vibrating at the time. If its variable they cannot resonate. The cell DNA has to interpret this as to whether it understands it i.e. is it the brain waves or is it the nerve cells.  
60 Hz is not something our body understands.**

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**The cell membranes lock themselves down and become impermeable because they think they are under attack. Our body hears all the static like a radio under a power line!**

**400 Hz would have been a better frequency to have chosen.**

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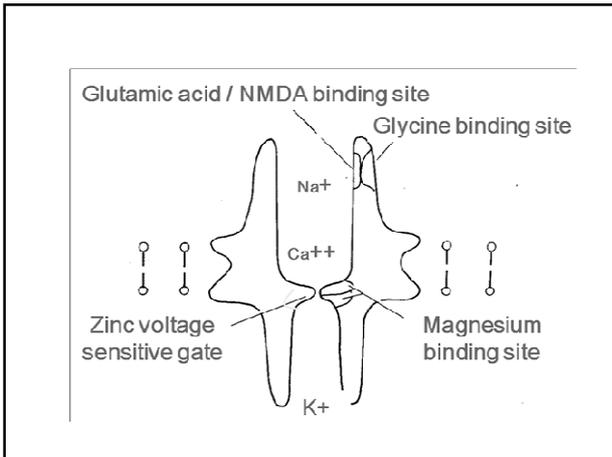
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**So at night when our bodies need to detoxify we don't want these constant signals hitting us as the receptors are closed.**

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**Must find the circuit breakers in a room where you sleep and turn them off so there are no electrical fields there or put in a switch that will turn off those outlets or sleep far enough away – 4 feet.  
If the wires are in conduit then no problem.**

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**Avoid appliances that plug in by the bed that remain switched on. Always switch off from the plug. 6 foot is a good distance from an unshielded cable. Less than that can affect the theta and delta brain waves during sleep.**

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**Always put a baby's crib in the middle of the room. Certainly the head end.**

**Think about this in chronic fatigue and restless leg syndrome.**

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**Magnetic fields from electrical appliances**

**Anything that has a motor or pump such as a refrigerator, drier, air conditioning unit or a transformer such as everything electronic, TVs, phone chargers, stereos, printers all have high magnetic fields.**

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**These are called point sources i.e. strong at the source and decreases 1/ cube of the distance so fall off quickly but can penetrate walls so must check appliances behind the sleeping wall.  
Always run an alarm clock on battery.**

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**External sources of magnetic fields - such as power transformers and underground power lines fade at 1/ the distance so are much more powerful. So house should be 70-80 feet away minimum.**

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**Building wiring – location of electric meter, service panel and circuit breaker box.  
Remember that currents can flow in copper plumbing pipes that can lead to high magnetic fields.  
Building wiring errors can lead to high magnetic fields.**

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**Only way to know is to use a gauss meter. Very important for immune compromised people to sleep in a safe place.**

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**Communication frequencies  
Mobile phones, cordless phones. Base or carrier frequency are those of 2.4 GHz or 5.8GHz or 6GHZ which are cordless phones and wireless routers. Frequency is so high that the body ignores them.**

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**Cell phones range from 600MHz upwards as more bands become available. Again, these frequencies are ignored by the body as they are all over 250Hz**

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**Two types of effects**

**1. Thermal due to microwave radiation causing skin burning so cell phones are not considered dangerous from the frequency range. However although skin is not burning the brain cells overheat.**

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**Maybe between 4-5 degrees C the brain has no sensing ability so does not know it is being cooked. Check by holding the on phone against another part of the body and feel for heat. Will do so any distance below 7 inches from the skull.**

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**Depends upon the thickness of the cranial bones. *Note here why children should be cell phone restricted.***

**Keep cell phone chargers away from the bed. Many teenagers sleep with their phone under the pillow!**

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**2. Non thermal  
Information or modulatory  
frequency wireless devices and  
cordless phone.  
Base units transmit a signal 24  
hours a day regardless of the  
phone use or charging.**

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**This is a constant output signal.  
The signal is not a problem. The  
data carried forms a secondary  
wave at 200 Hz which can lead to  
a biological response. Range  
could be up to 1/4 mile. Further  
away less intensity.  
Energy from the phone is much  
less than the base station.**

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**It doesn't have to be your phone.  
Consider a block of flats. If you  
use a cordless try and get an  
analogue (works off 900 MHz).  
They do not have the added  
pulsing range like digital ones.**

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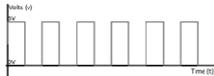
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**A digital signal might be a discrete representation of an analogue waveform. Viewed from afar, the wave function below may seem smooth and analogue, but when you look closely there are tiny discrete steps as the signal tries to approximate values:**




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**RF baby monitors are digital. Try and use an analogue or intercom system or just use two phones and listen to the speakers. Could put the base station in the garage. The satellite bases are just chargers. Measure using a RF detector or an RF analyser.**

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**Cell towers**

**How far is a safe distance?  
Distance is irrelevant. It's the direction its beaming at which is determined by the direction of the dishes. Again the frequency is not the problem – it's the data transmitters especially Blackberry and iPhones.**

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**They become base stations even when they are off. Technically its called a repeater.  
iTouches are not repeaters but you can't make calls. Phones in airplane mode do not repeat.  
Anyone within 6ft of an iPhone will be impacted by it!!**

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**Don't put it in your bedroom or within 6ft of your sleeping, confined areas such as in your car or airplane because the radiation bounces off the wall.  
Must be 7 inches minimum from the head.  
5ft from the bed to avoid thermal effects.**

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**Non thermal is the far field. Direct impact is 3ft. This is the more serious biological effect, the biological impact is all the way out to 3ft, does not decrease on route. Its not graduated.**

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**Headsets will decrease the near field but the far field is more dangerous.  
Think of a mother with an infant??**

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**Wireless internets even to next door neighbour will be impacted. Biological effect is only when data is being transmitted. Put them on a timer so they go off at night time. People who live in multi-story dwelling the second floor upwards is always worse than the ground floor.**

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**The higher you get the more WiFi sprayers there are at you, outside cell towers, antennae on top of buildings. Hotels, always choose a lower floor. Its safer in case of fire too!!**

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**Lymes disease contributes to electromagnetic sensitivity and visa versa.**

**In electromagnetic stress viruses, bacteria and moulds start proliferating because they think they are under attack and they fight back by multiplying.**

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**Healthy home tips  
Don't wear shoes in your home as they track in chemicals from outside.  
Open windows everyday. If you don't have fresh air ventilation for at least 15 minutes daily.**

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**This will dilute the chemicals in the air, rebalances the ions with nature and it rebalances the humidity.  
Use cross ventilation.  
Use a fan in stagnant windowless rooms.  
Use a MERVE (minimum efficiency rated value) 11 filter and change them regularly**

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**Most protectors are ineffective.  
Remove or shielding is best.  
Active magnetic cancellation  
does work.**

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**Summary**

1. Electricity off to bedrooms or distance yourself from the sources.
2. No electrical appliances near the bed
3. Check for static magnetics
4. No metal in the bed that has static magnetism – use a compass
5. Natural materials
6. No sources for a magnetic field – use a gauss meter. Possible shielding against radio waves such as foil
7. Timer switch for WiFi

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CONJUGATE	BIOMARKER	NUTRIENTS
XOH + GLUTATHIONE	GLUTATHIONE-S-TRANSFERASE	GLUTATHIONE (NAC, Glutamate, Glycine) B6, Zn
XOH + GLUCURONIDATION	GLUCURONICACID	GLUCURONICACID
1. XOH + SULFATION 2. SULFITE OXIDASE	1. PAPs 2. SULFITE OXIDASE	PAPs, S, MSM Mol, Fe.
XOH + ACETYLATION	ACETYL CoA	Acetyl CoA (B5, Mg, Acetic acid)
XOH + METHYLATION	SAM	Methionine, MgATP, B12, Folic, Betaine, DMG
XOH + TAURINE	TAURINE	Taurine, NAD, Vit C, Vit A
XOH + THREONINE	THREONINE	Threonine
XOH + GLYCINE	GLYCINE	Glycine, B6, B2, Mg, Folic.
XOH + CYSTEINE	CYSTEINE	Cysteine, NAC, Methionine, B6

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**Toxins**

**Radiation -      Chlorella  
Coriander spice  
Smart Vitamin C  
(Rutin)  
Turmeric  
Yarrow**

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yourhealthnaturally.co.uk

**Sue Bryant Radiation Test Kits  
[www.yourhealthnaturally.co.uk](http://www.yourhealthnaturally.co.uk)**

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