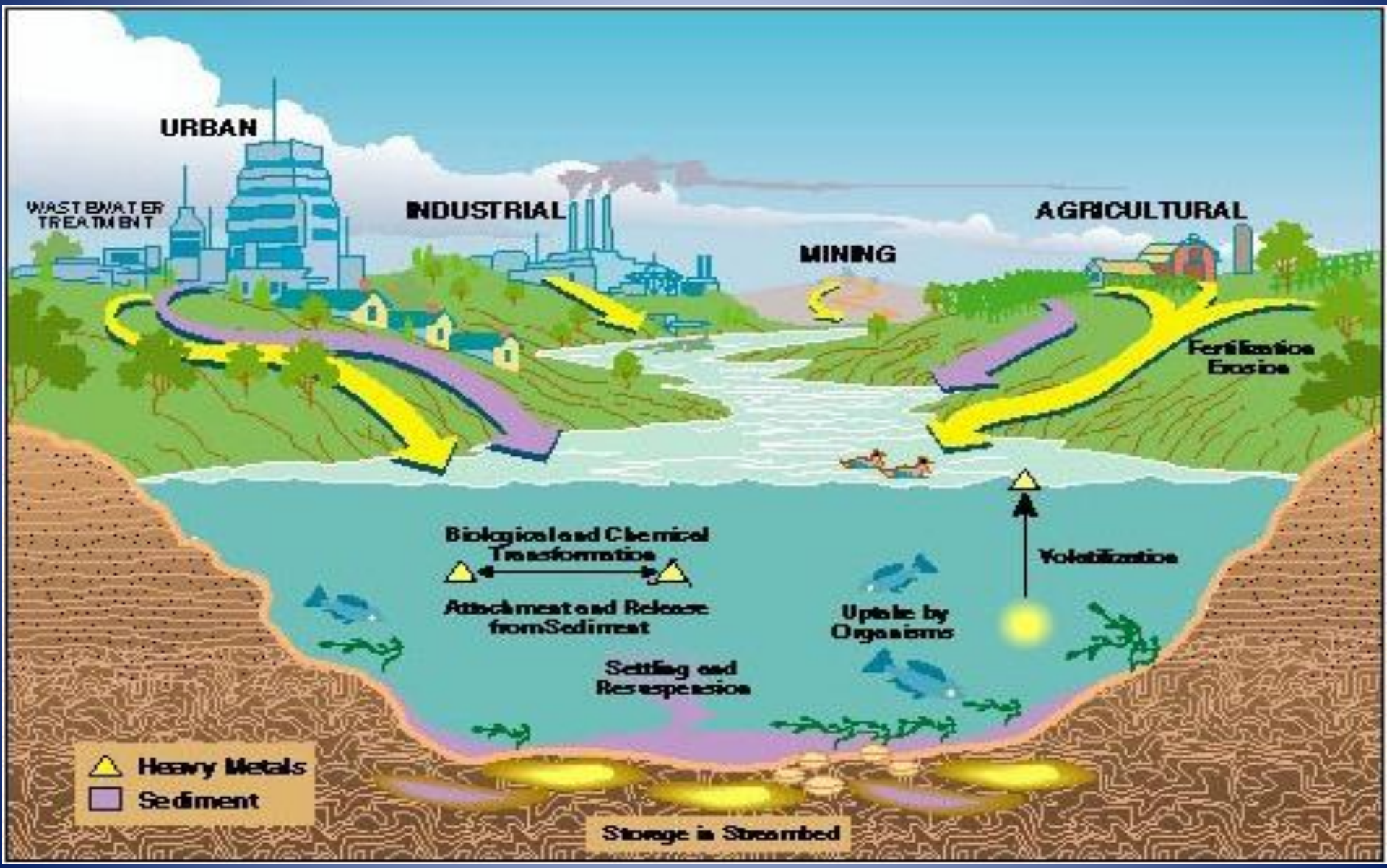
ICAK JUNE 2014

- TOXINS AND DETOXIFICATION WITH AK, NUTRITION, LASER, INFRARED SAUNA AND HOMEOPATIC PREPARATIONS

- John W Brimhall, DC, DIBAK

DANGER
TOXIC
CHEMICALS

Toxicity in the Environment



Toxicity in Consumer Goods

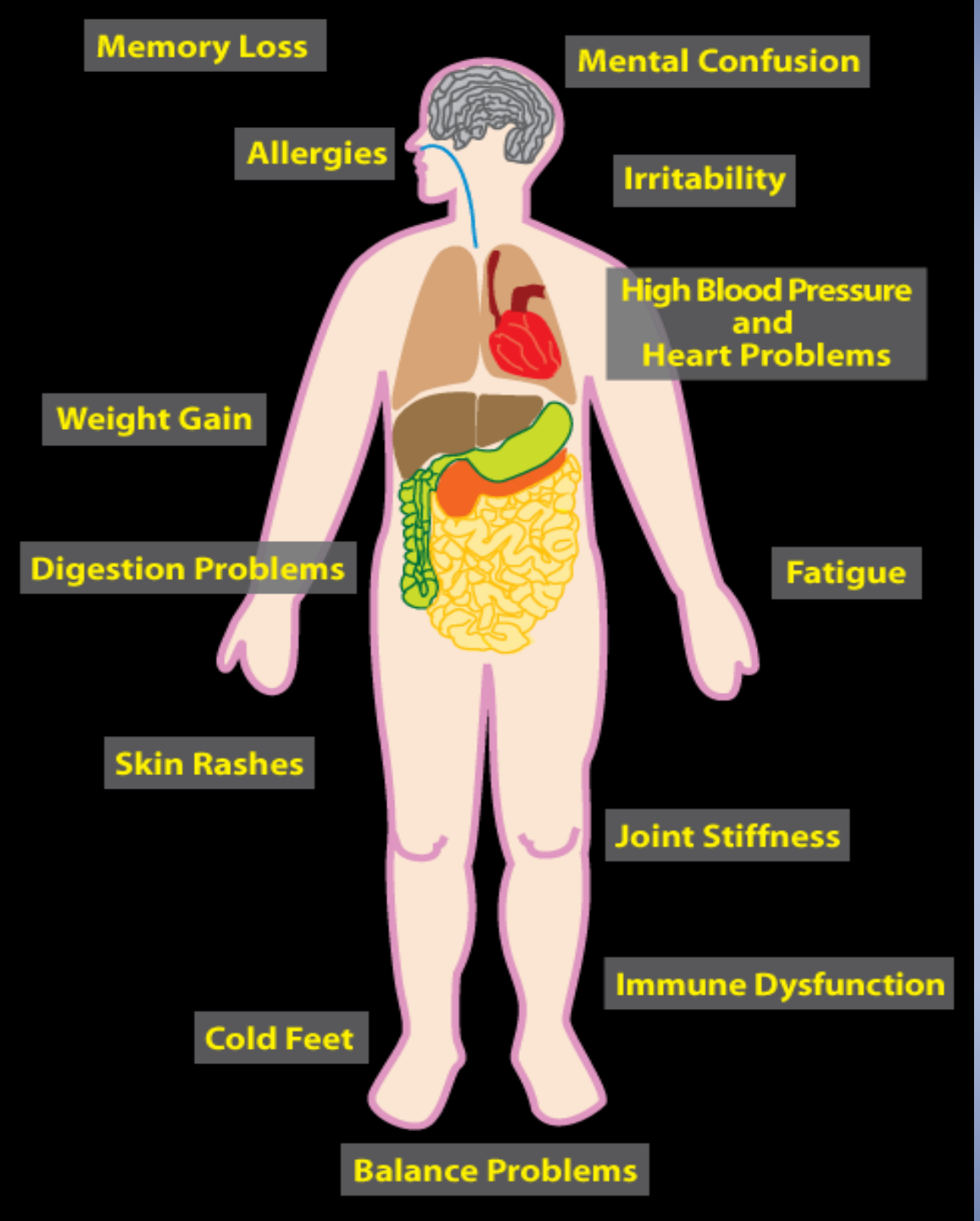
Dangers Of Toxic Deposits In Your Body

Toxicity

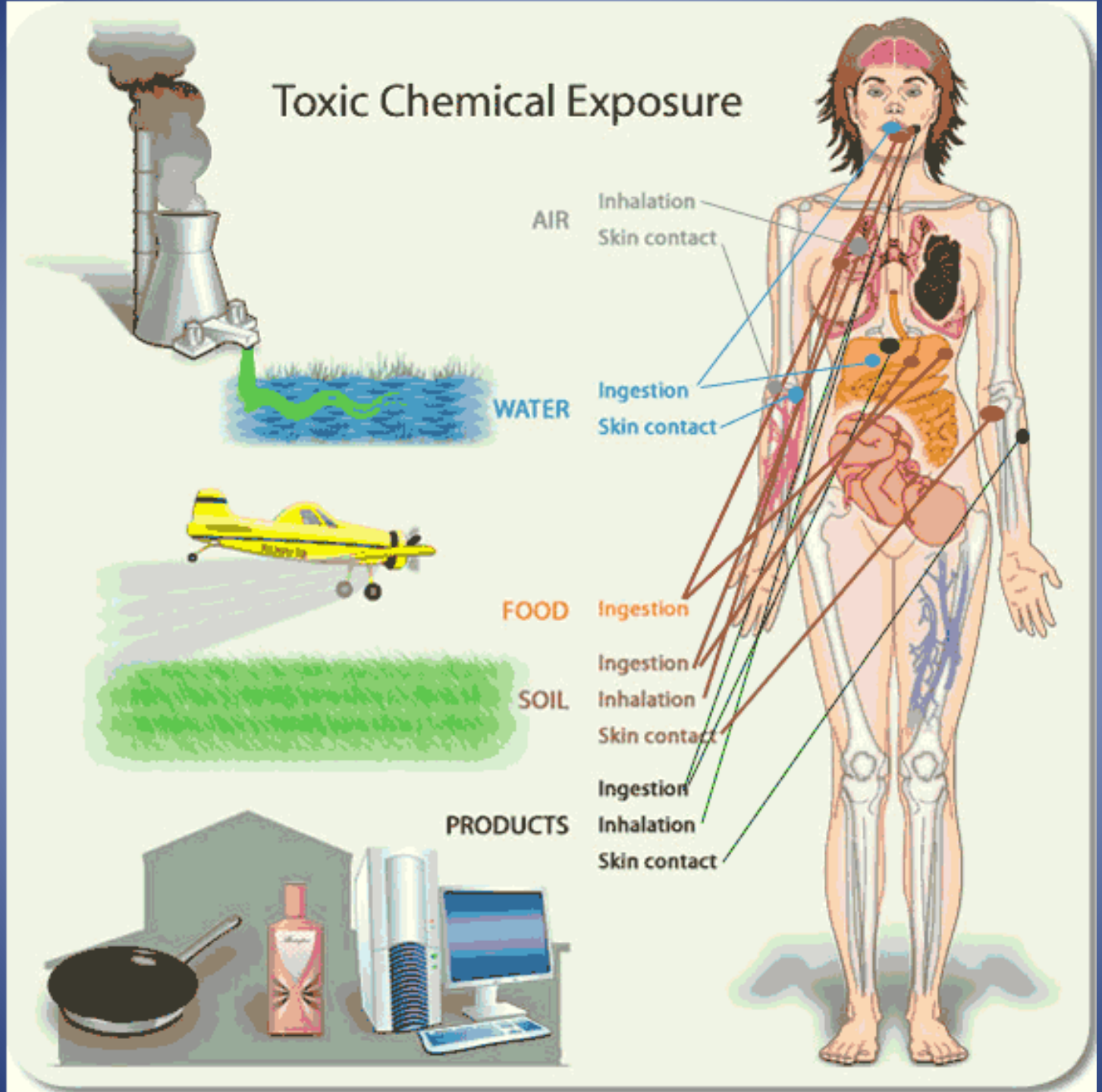
- Toxic exposure is unavoidable and exceeds the body's natural ability to remove toxic waste.
- The EPA estimates over 70,0000 chemicals are used commercially for agriculture, building materials and consumer goods.
- 3,000 chemicals are approved for use in our food directly.
- Over 10,000 chemicals are used in food processing, preserving and storage.

Toxicity *

- From 1999-2004 the Center for Disease Control and Prevention (CDC) found 219 different chemicals in blood and urine; 75 were never seen before.
- From, 2007-2008, the Environmental Working Group (EWG) research detected 287 chemicals in the umbilical cord blood of newborns.
- Of that total, 180 are known to cause cancer in humans or animals, 217 are toxic to the brain and nervous system and 208 cause birth defects or abnormal development.



Health Effects

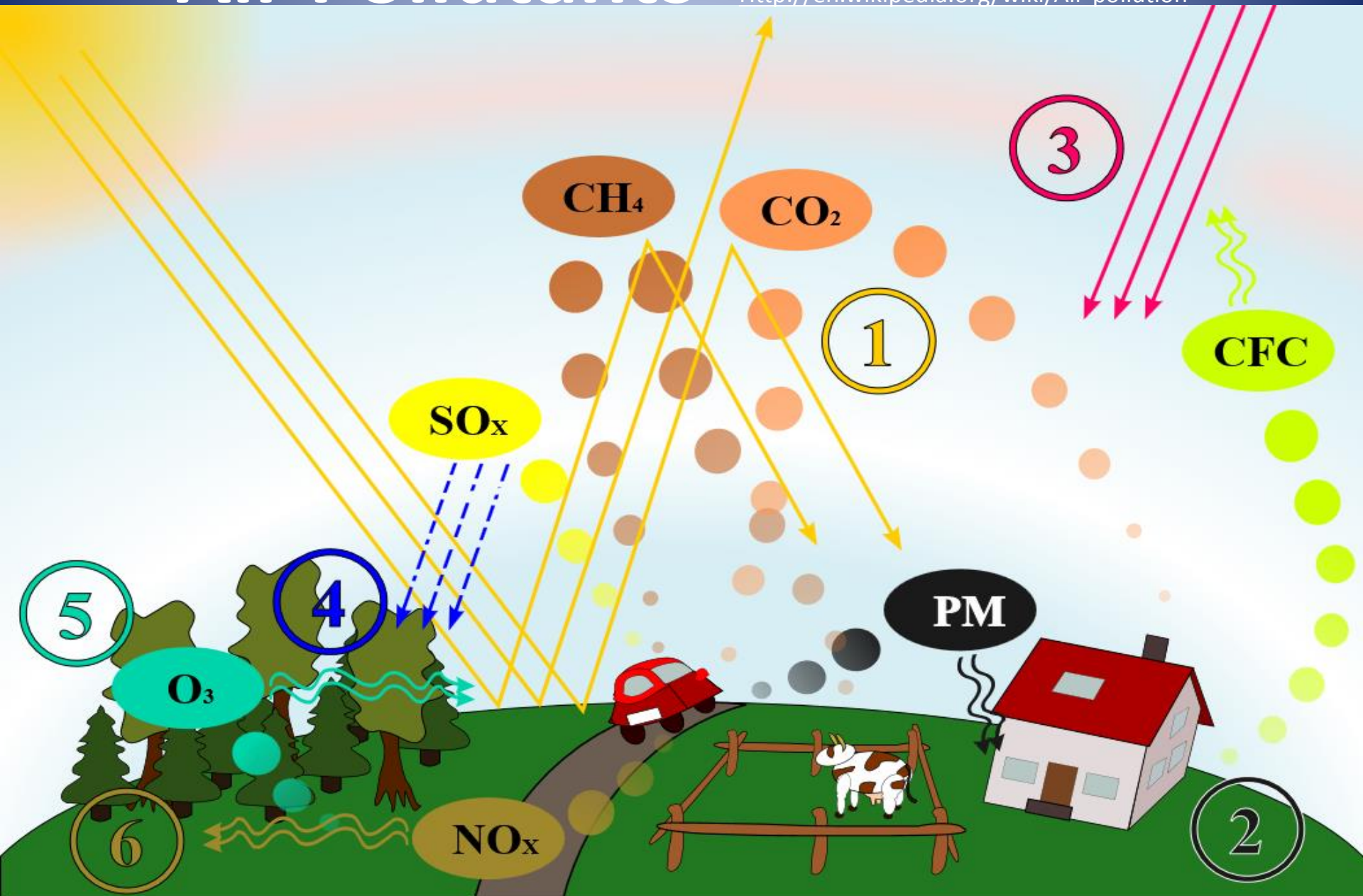

Toxic Chemical Exposure
AIR
Inhalation
Skin contact
WATER
Ingestion
Skin contact
FOOD
Ingestion
SOIL
Ingestion
Inhalation
Skin contact
PRODUCTS
Ingestion
Inhalation
Skin contact

Toxic Symptoms and Health Effects

- **Physical symptoms**: fatigue, headache, stress, joint and muscle pain, frequent colds and flu, allergies, hormone imbalance, chemical sensitivity, cold hands and feet, psoriasis and other skin conditions, insomnia, dark circles under the eyes, depression and anxiety.
- **Psychological symptoms**: poor concentration, memory loss, mood changes, mental confusion, brain fog and changes in behavior.
- All of these toxic symptoms are directly **associated with** MCS, Chronic Fatigue, Lyme, Diabetes, Obesity, Osteoporosis, Cancer and autoimmune diseases.
- These diseases are direct results of **living in a world overrun with toxins**, **chemicals**, **heavy metals** and **environmental byproducts.**

Air Pollutants

Http://en.wikipedia.org/wiki/Air_pollution



Schematic drawing, causes and effects of air pollution:

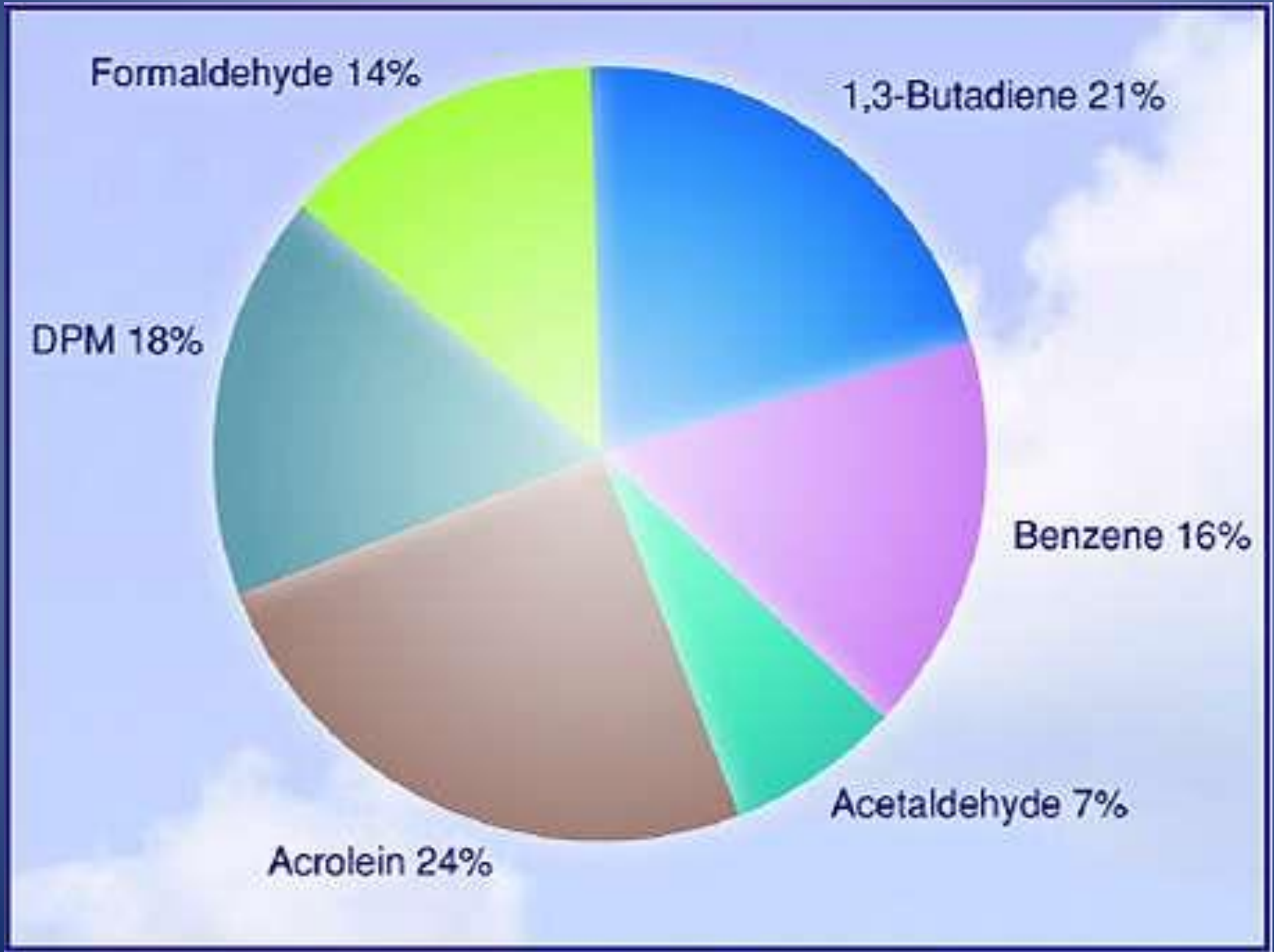
- **(1) greenhouse effect, (2) particulate contamination, (3) increased UV radiation, (4) acid rain, (5) increased ground level ozone concentration, (6) increased levels of nitrogen oxides.**

- ***Carbondioxide*** *from exhausts and energy production*
- ***Methane*** *from cattle breeding*
- ***Sulfur oxides*** *from exhausts and industry*
- ***CFCs*** *(Chloro**Fluro**Carbon) from refrigerants and propellants*
- ***Nitrogen oxides*** *from exhausts and industry*
- ***Ozone*** *from air with high oxygen level, catalyzed by nitrogen oxides*

(CONT.)

- ***Soot and particulate*** *from exhausts and industry*
- ***Greenhouse effect*** *by keeping sun warmth and light from reflecting back into space*
- ***Particulate contamination*** *affecting respiratory systems*
- ***Raised UV radiation*** *levels by destruction of the ozone layer*
- ***Acid rain*** *leads to acidification and forest dieback*
- ***Increased ozone levels*** *affecting respiratory systems*
- *Contamination by nitrogen oxides affecting respiratory systems*

Chemical Air Pollutants



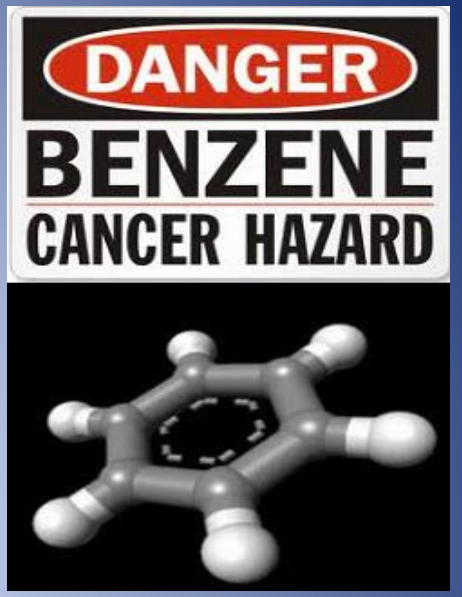
Chemicals *

- **Chemicals compounds** are present in the air, water, food, soil, dust, and consumer products
- Currently, more than 300 environmental chemicals or their metabolites are measured in human samples (e.g. urine, blood, serum, breast milk, and meconium).
- **Of the 70,000 chemicals being used commercially in the country, the EPA considers 65,000 of them to be hazardous to your health.**

Chemicals

- **Acetaldehyde**
  - **Sources**: ***body metabolism of alcohol, wood stoves, incinerators, smog, diesel exhaust, fungal infections***
  - **Effects**:
    - DNA and chromosome damage
    - Binds to liver and other cells causing autoimmune responses
    - Upper respiratory irritation
    - Metabolic disruption
    - Lung damage

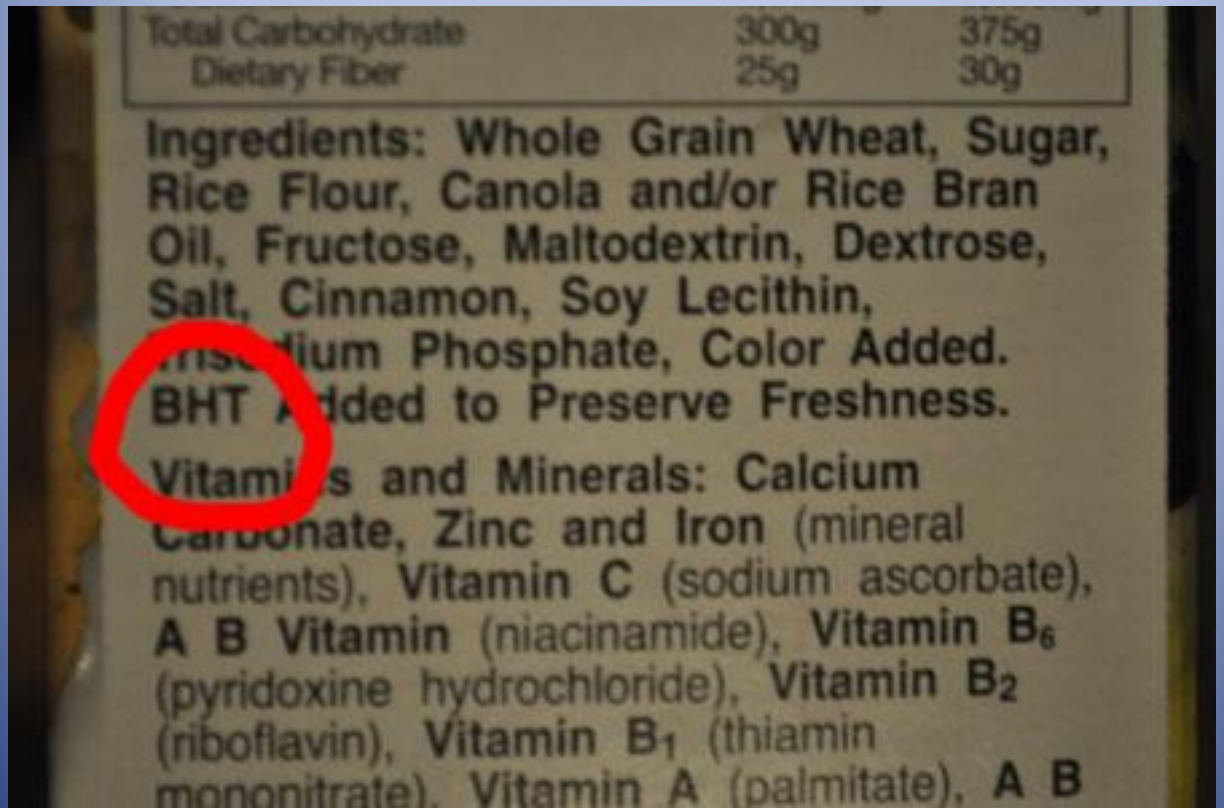
Chemicals *



- **Benzenes**
  - **Sources**: gasoline (auto exhaust & interiors, gas stations) diesel exhaust, building materials, plastics, polypropylene food containers, cooked foods, printers, printed & copied paper, copy machines, incinerators, tobacco smoke, wood smoke, marijuana smoke
  - **Effects:** bronchial, colon, and liver damage; leukemia; DNA damage; tumors including brain, liver, stomach, lung; cardiac abnormalities, eye irritation, drowsiness, unconsciousness, no coordination, heart attack

Chemicals

- **BHT (butylated hydroxy-toluene)**
  - **Sources: migration from polyethylene food packaging, additive in foods (cereals, fats, meats, potatoes, cosmetics, others)**
  - **Effects: allergic reactions, possible cancer, possible kidney damage**



Chemicals

- **Carbon Disulfide**
  - **Sources:** solvents, dry-cleaning, painting, spray painting, glue work, varnishes, fumigation, cereal mills, insecticide, manufacturing rayon, cellophane, carbon tetrachloride, vacuum tubes, volcanoes
  - **Effects:** peripheral nerve damage, emotional instability, insomnia, lessening of libido, affects nervous system

Chemicals

- Chlorobenzene Pesticides
  - DDT, lindane, heptachlor, aldrin, dieldrin, endrin, chlordane, mirex
  - Sources: primarily used in industrial and chemical synthetic processes, chemical intermediates in synthesis of dyes, pesticides, and other industrial products, solvents for pesticides and auto parts degreasers
  - Acute Exposure: EPA has found chlorobenzene to potentially cause anesthetic effects and impaired liver and kidney function from short-term exposures at levels above the MCL, paralysis
  - Chronic Exposure: Chlorobenzene has the potential to cause liver, kidney and central nervous system damage from long-term exposure at levels above the MCL
  - Cancer Exposure: There is inadequate evidence to state whether or not chlorobenzene has the potential to cause cancer from a lifetime exposure in drinking water.

Chemicals *

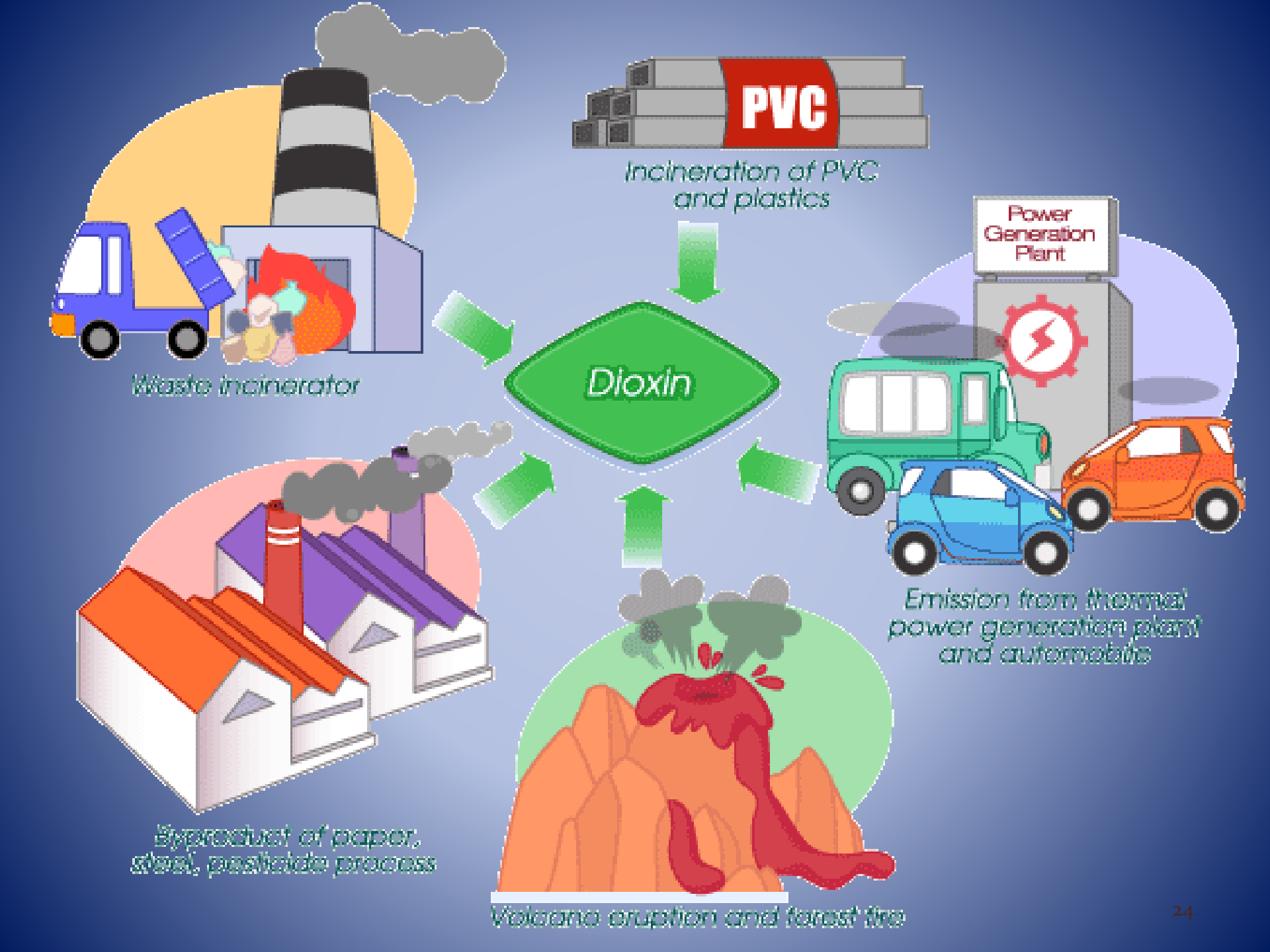
- **Chloroform, Carbon Tetrachloride**
  - **Chloroform is used to make other chemicals and can also be formed in small amounts when chlorine is added to water.**
  - **Sources: solvents, incinerators, groundwater**
  - **Effects: liver- lung- & enzyme damage, cancers, kidney damage, cardiac abnormalities, heart attack**
  - **Affected Organ Systems: Cardiovascular (Heart and Blood Vessels), Developmental (effects during periods when organs are developing) , Hepatic (Liver), Neurological (Nervous System), Renal (Urinary System or Kidneys), Reproductive (Producing Children)**
  - **Cancer Effects: Known as a human carcinogen**

Chemicals *

- **Chlorpyrifos**
  - Chlorpyrifos is an insecticide that is a white crystal-like solid with a strong odor.
  - Sources: food residues; widely used home and agricultural pesticide, herbicide; active metabolite found in urine of 5.8% of U.S population
  - Effects: peripheral nerve damage, autoimmune disease, antibiotic allergy, memory loss, multiple chemical sensitivity, headaches, nausea, muscle cramps; effects are accelerated by other organophosphate pesticides

Chemicals *

- **Dioxins**
  - Sources: environmental pollutants; contaminant in pesticides, herbicides; now worldwide in air, water, meat, fish, human body (especially fat, liver); formed in incineration, electrical fires, wood smoke, chemical reactions (possibly sewage sludge)
  - More than 90% of human exposure is through food, mainly meat and dairy products, fish and shellfish. Many national authorities have programs in place to monitor the food supply.
  - **Effects:** can cause reproductive problems and genetic damage, vitamin A dysregulation, liver toxicity, altered fat metabolism, chloracne (skin cysts, scarring) thymus atrophy, impaired resistance to infection, breast cancer, nerve transmission damage, and cancer


PVC
Incineration of PVC and plastics
Waste incinerator
Dioxin
Power Generation Plant
Emission from thermal power generation plant and automobile
Byproduct of paper, steel, pesticide process
Volcano eruption and forest fire

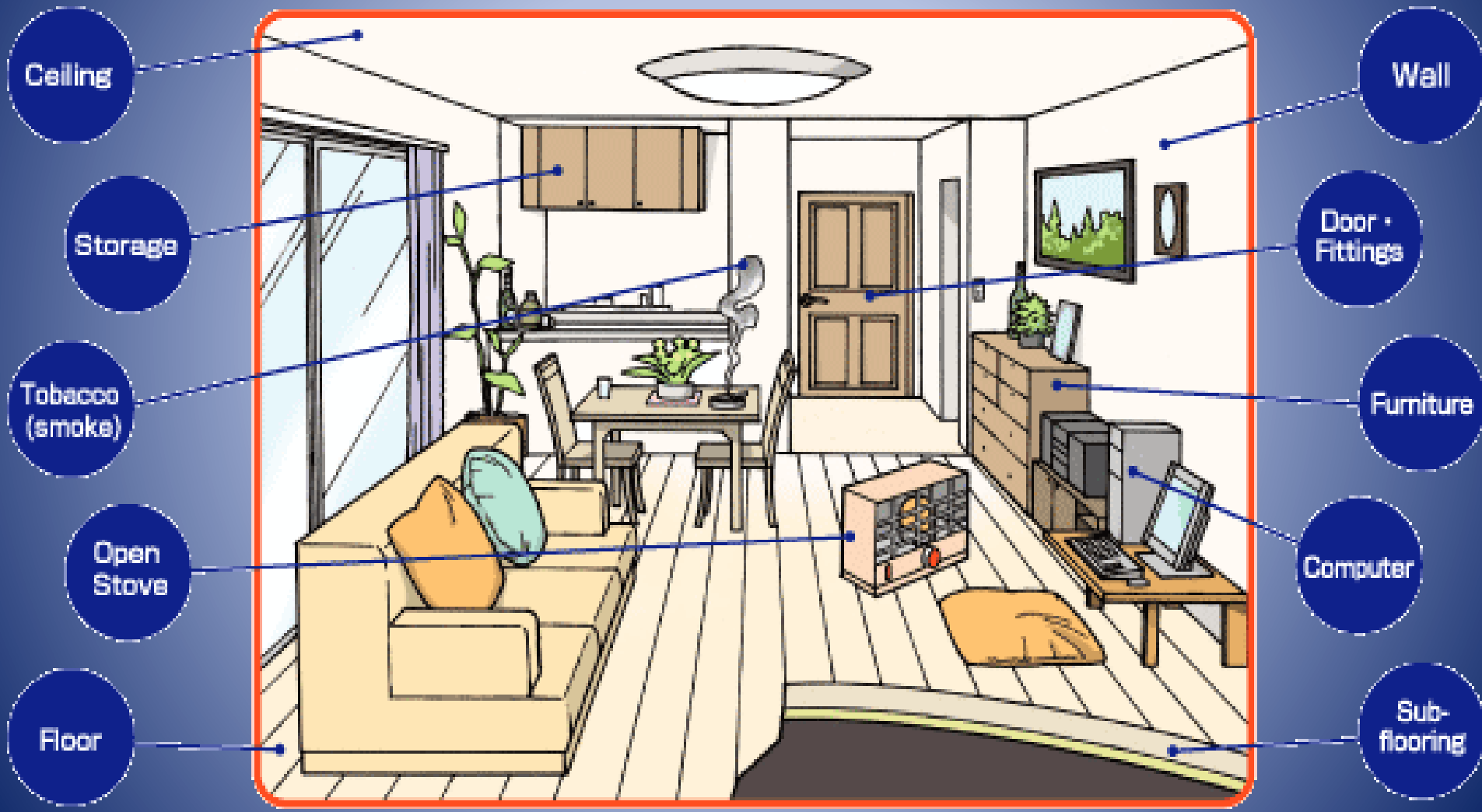
Chemicals

- **Ethanol**
  - **Sources**: glue, alcoholic beverages, alcohol, cologne spirit, ethanol, EtOH, grain alcohol
  - **Exposure routes**: inhalation, ingestion, skin and/or eye contact
  - **Target organs**: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
  - **Effects**: fetal damage, developmental delay, neurologic damage, cirrhosis of liver, zinc and selenium deficiencies; accelerates liver damage of chloroform, carbon tetrachloride, and nitrosamines; interferes with body processing of styrene, xylene, toluene, methyl ethyl ketone, trichloroethylene, benzene

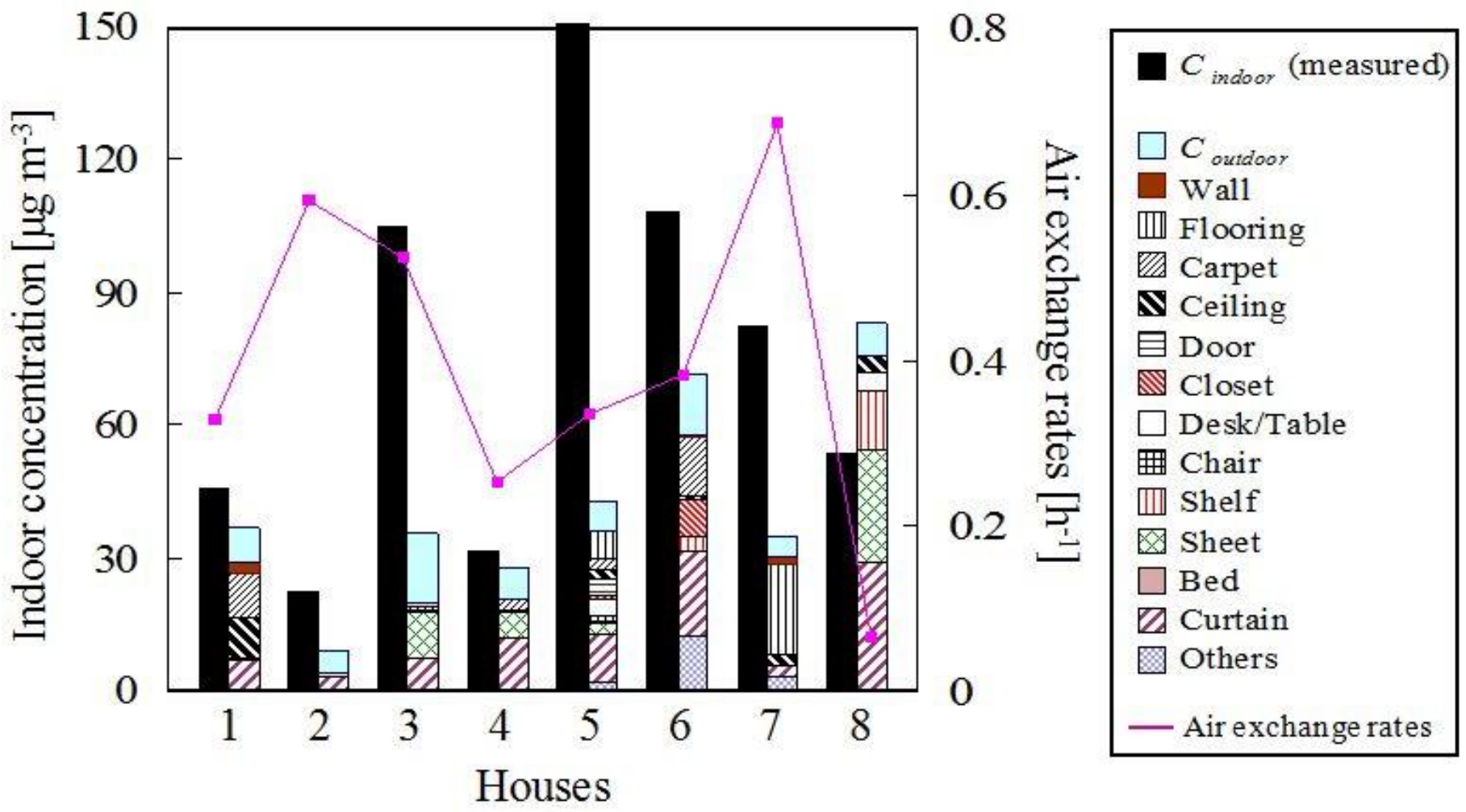
Chemicals

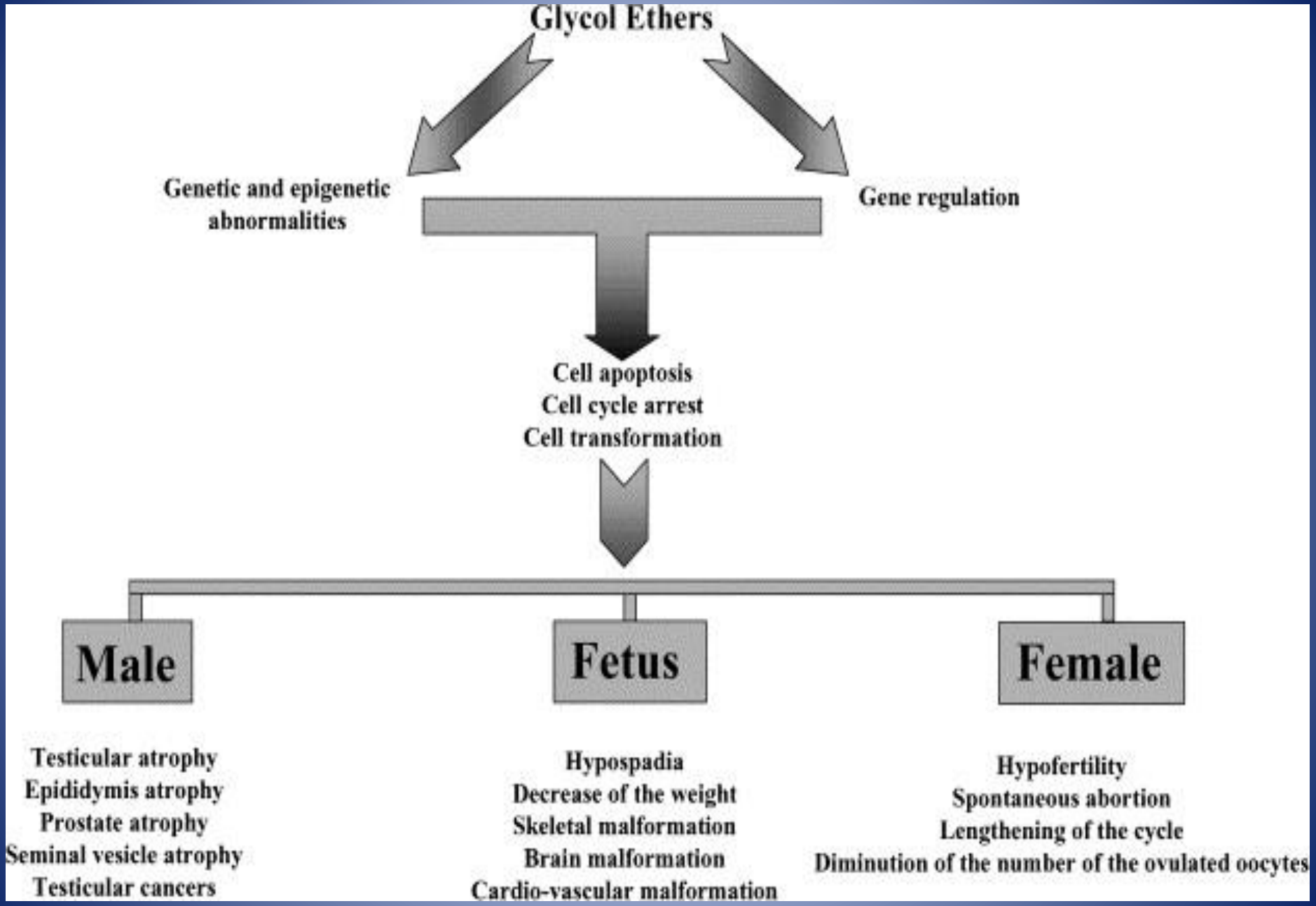
- **Formaldehyde**
  - Sources: solvents, printing, fabrics, mattresses, tobacco smoke, wood smoke, foam insulation, particle board, press wood products, car and diesel exhaust, smog, groundwater, urea-formaldehyde foam insulation (UFFI), durable press drapes, other textiles, foam insulation, and glues.
  - Classified as a **known human carcinogen** (cancer-causing substance) by the U.S. Environmental Protection Agency.
  - Effects: **lung damage, impaired memory & dexterity, immediate and delayed hypersensitivity reactions; asthma, rhinitis; irritation of eyes and respiration, wheezing and coughing, fatigue, skin rash, and nausea**
  - Cancer: association between formaldehyde exposure and several cancers, including nasopharyngeal cancer and leukemia.

Formaldehyde Sources *



Indoor Concentration of Formaldehyde




Glycol Ethers
Genetic and epigenetic abnormalities
Gene regulation
Cell apoptosis
Cell cycle arrest
Cell transformation
Male
Fetus
Female
Testicular atrophy
Epididymis atrophy
Prostate atrophy
Seminal vesicle atrophy
Testicular cancers
Hypospadia
Decrease of the weight
Skeletal malformation
Brain malformation
Cardio-vascular malformation
Hypofertility
Spontaneous abortion
Lengthening of the cycle
Diminution of the number of the ovulated oocytes

Chemicals

- **Hydrazine**
  - **Source: food additives, photographic supplies, herbicides, pesticides, textiles, drugs, plastics**
  - **Effects:**
    - **Acute Effects: coughing and irritation of the throat and lungs, convulsions, tremors, or seizures.**
    - **Chronic Effects: liver and kidney damage, autoimmune disease, as well as serious effects on reproductive organs.**
    - **Eating or drinking small amounts of hydrazines may cause nausea, vomiting, uncontrolled shaking, inflammation of the nerves, drowsiness, or coma.**

Chemicals

Methanol

- **Source**: glue, antifreeze, paint, cement, ink, windshield-wiper solvent; industrial uses
- **Effects:** neurologic damage, blindness, lung and gastro-intestinal problems; irritation eyes, skin, upper respiratory system; nausea, vomiting, dermatitis, dizziness, headache

Detoxification: (List of Toxins)
- Pesticide & Insecticide Residues
- Prescription & Recreational Drugs
- Dioxins
- Alcohol
- Nicotine
- Formaldehydes
- Hair Dyes, Cosmetics, Deodorants
- Petrochemicals: Xenobiotics & Xenoestrogens
- Heavy Metals: Iron, Copper, Mercury, Lead, Aluminum, Cadmium
- Nitrites
- Radon
- Gasoline
- Chlorinated Water
- Perchlorate
- Industrial Chemicals
- Phthalates

Musculoskeletal Improvements:
- Muscle Spasms are reduced or eliminated
- Traumatic Arthritis
- Adhesions
- Tight Shoulders
- Bursitis
- Joint Stiffness
- Low Back Pain
- Compression Fractures
- Shoulder Pain
- Muscle Tension
- Arthritis, Gout, Rheumatoid Arthritis, DJD
- Post Exercise Muscle Pain
- Sciatica
- Facial Paralysis

Collagen Tissue:
- Increased pliability
- Ligaments, joint capsules, tendons, fasciae, and synovia that have become scarred or thickened
- Increased Blood Flow

Ear, Nose & Throat:
- Nettle Rash
- Chronic middle-ear inflammation of infection
- Sore Throats
- Tinnitus (ringing of the ears)
- Nose Bleeds

Skin Conditions:
- Improved Skin Conditions
- Infrared Therapy is utilized routinely in burn units throughout Asia
- Nettle Rash Improved
- Clogged Pores and Blackheads
- Poor Skin Tone
- Scars and pain from wounds and burns
- Lacerations healed quicker
- Acne improved
- Body Odor improved
- Eczema and Psoriasis respond well
- Sunburn Antidote
- Frostbite with inflammation
- Neurodermatitis
- Keloids May Be Softened
- Dandruff
- Cellulite Removal

Other Ailments:
- Menopause
- Cold Hands and Feet
- High Blood Pressure
- Radiation Sickness
- Cancer Pain (greatly relieved)
- Benign Prostatic Hypertrophy (reduced)
- Duodenal Ulcers (eliminated)
- Hemorrhoids (reduced)
- Cystitis (eliminated)
- Cirrhosis of the Liver
- Gastritis (relieved)
- Asthma (cleared up)
- Crohn's Disease / Ulcerative Colitis
- Leg Ulcers (healed when previously static and resistant to other care)
- Weight Loss

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Sources of Toxins *

- **Air Pollutants: Air Toxins**
  - **Over 187 hazardous air pollutants**
- **Chemicals**
  - **Pesticides, Phthalates, DDT, hydrofluoric acids, chlorine, and compounds such as methyl alcohol, medications, and poisons**
- **Heavy metals**
  - **Mercury, Lead, Cadmium, Arsenic, Copper, Aluminum, Chromium**
  - Http://en.wikipedia.org/wiki/Air pollution

Mark Hyman, M.D. Reports

- **There are 287 drugs/toxins found in the umbilical cords of babies today on average.**

20,000 Industrial Facilities are Releasing Toxic Chemicals Daily

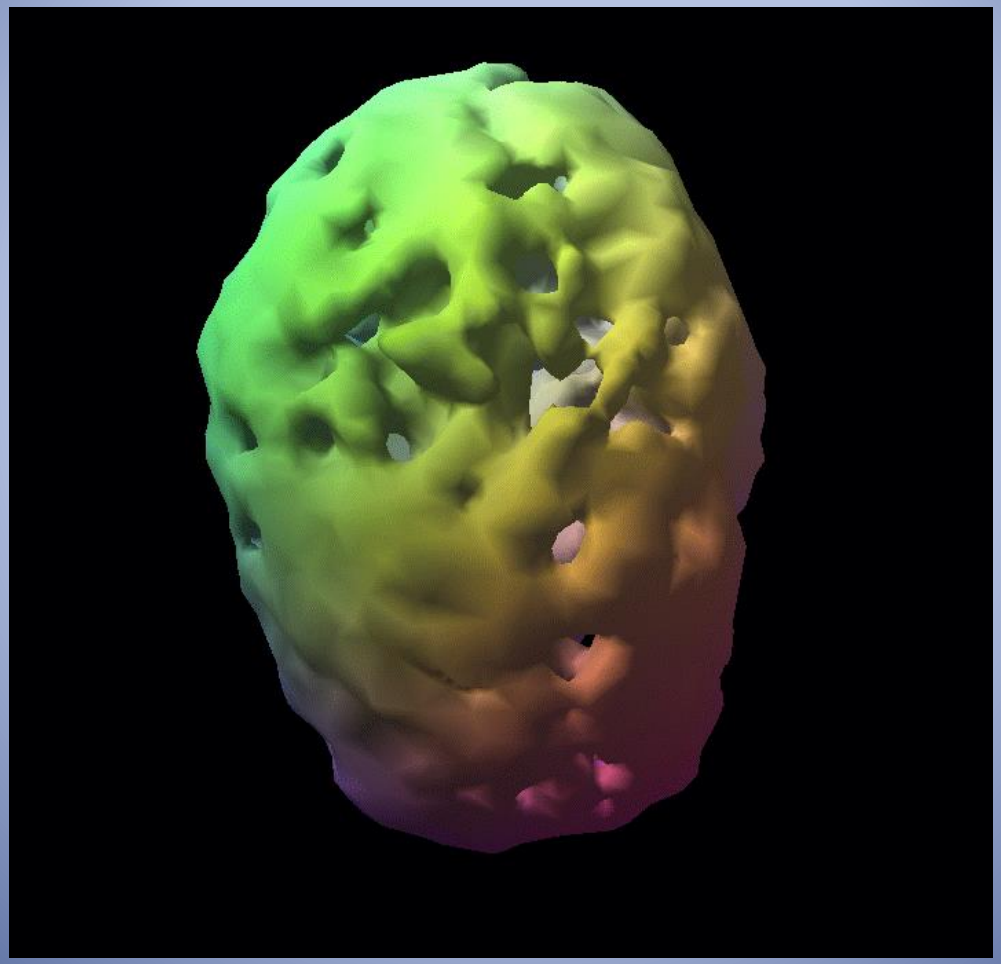
- **Over 4 billion pounds of toxic chemicals are released by industry into the nation's environment each year, including 72 million pounds of recognized carcinogens**

"Please refer to www.ewg.org that paid to do a Ten American's study, $13,000 per child. They selected at random the cord blood from children across the US and reported on the:

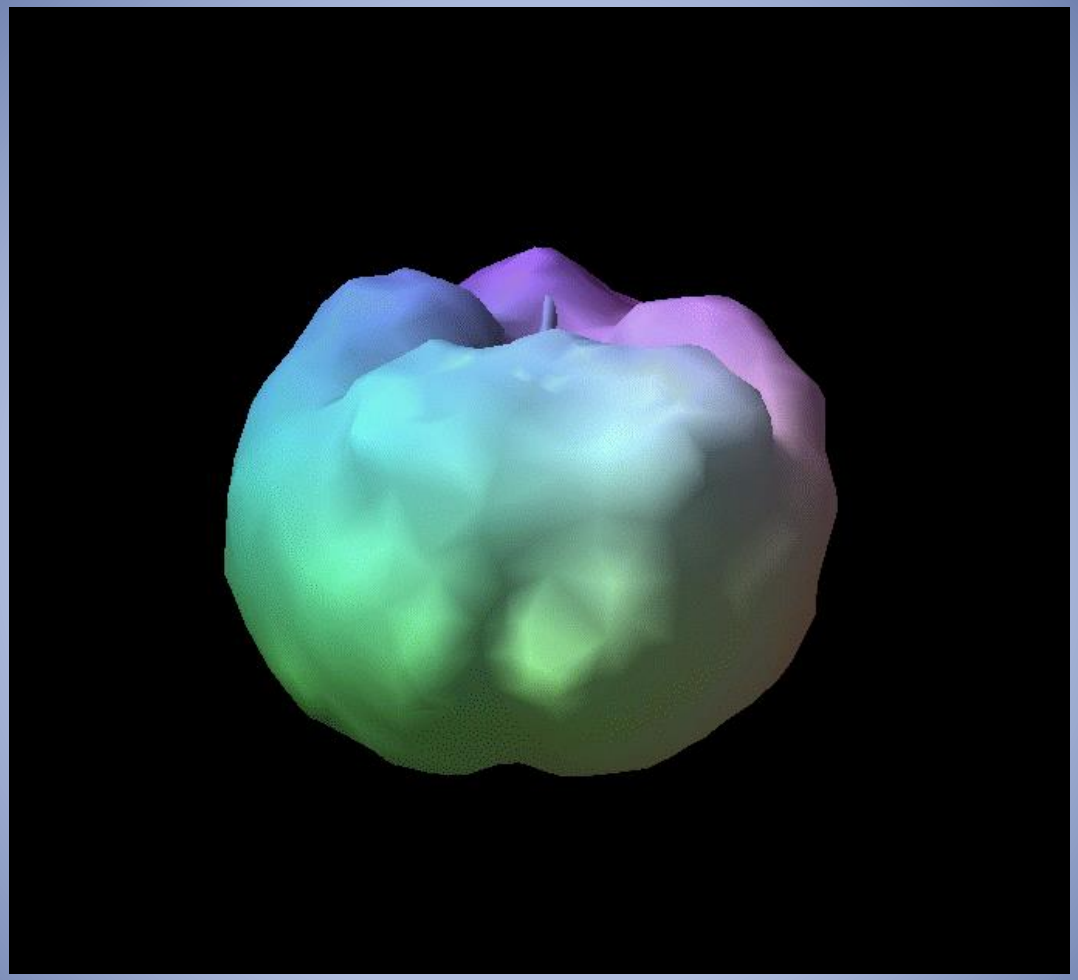
Neurotoxins, Endocrine Disruptors and Carcinogens found in EVERY CHILD.

Mount Sinai does 220 chemicals for $4900 and has found no child is clean, ."

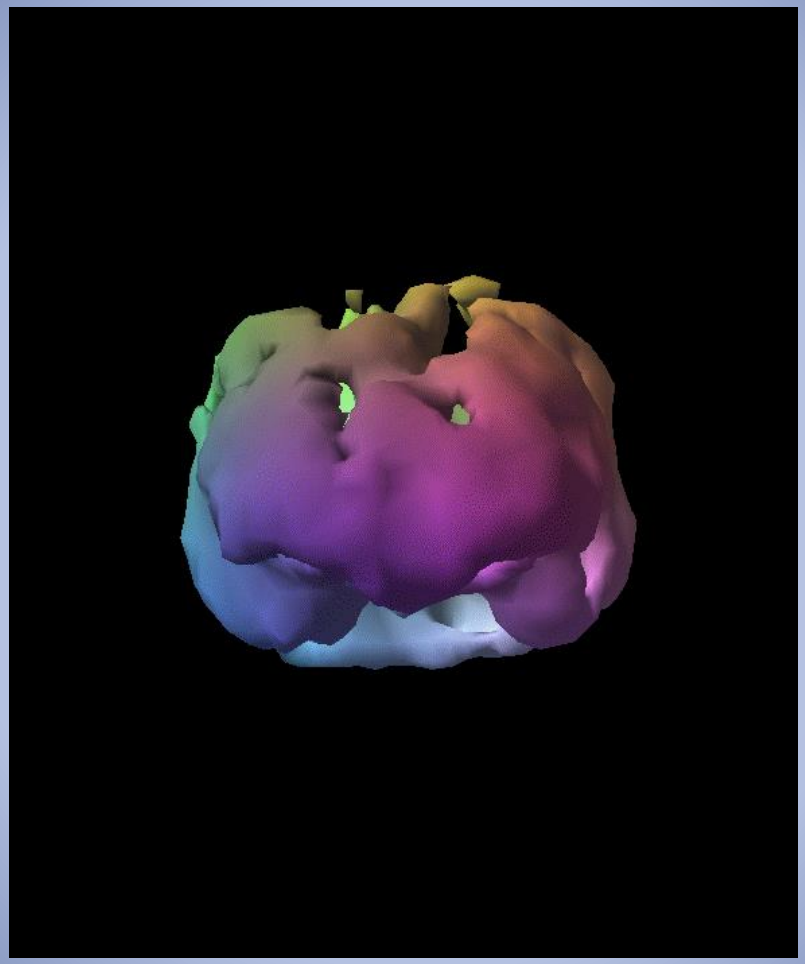
Spec Scan of Toxic Brain (Amen, MD)



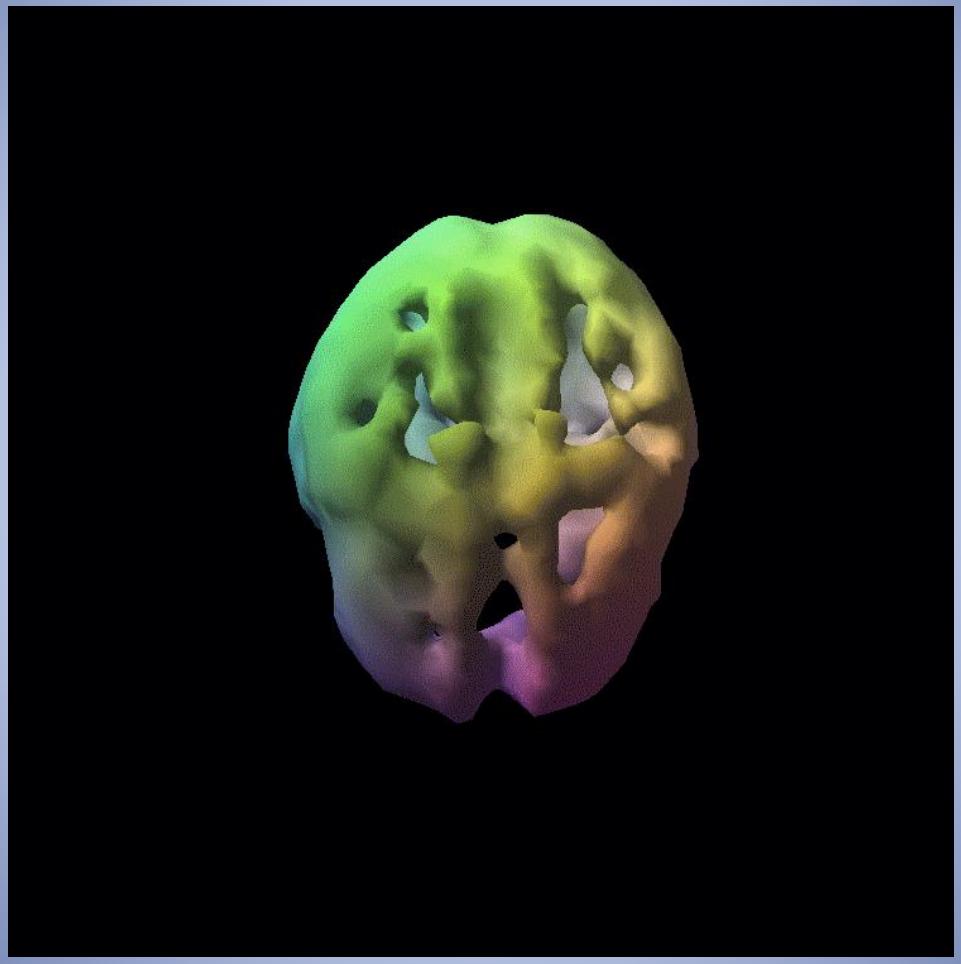
Normal Brain



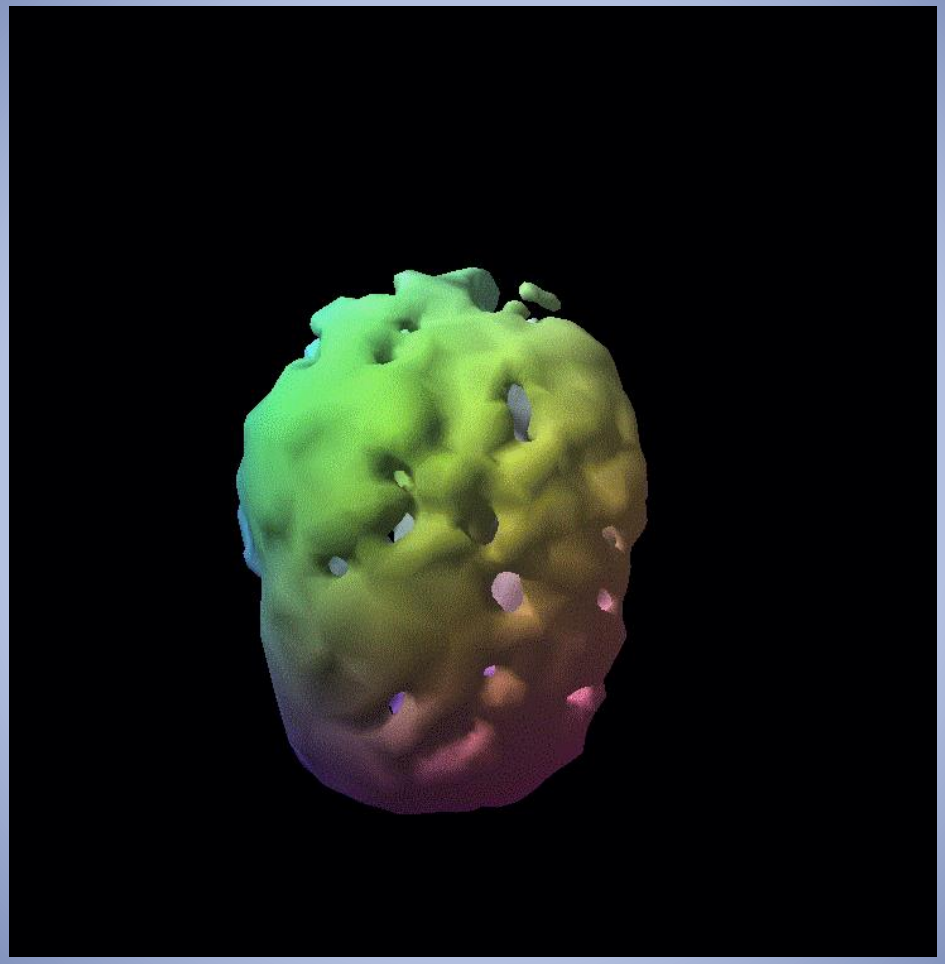
Encephalitis



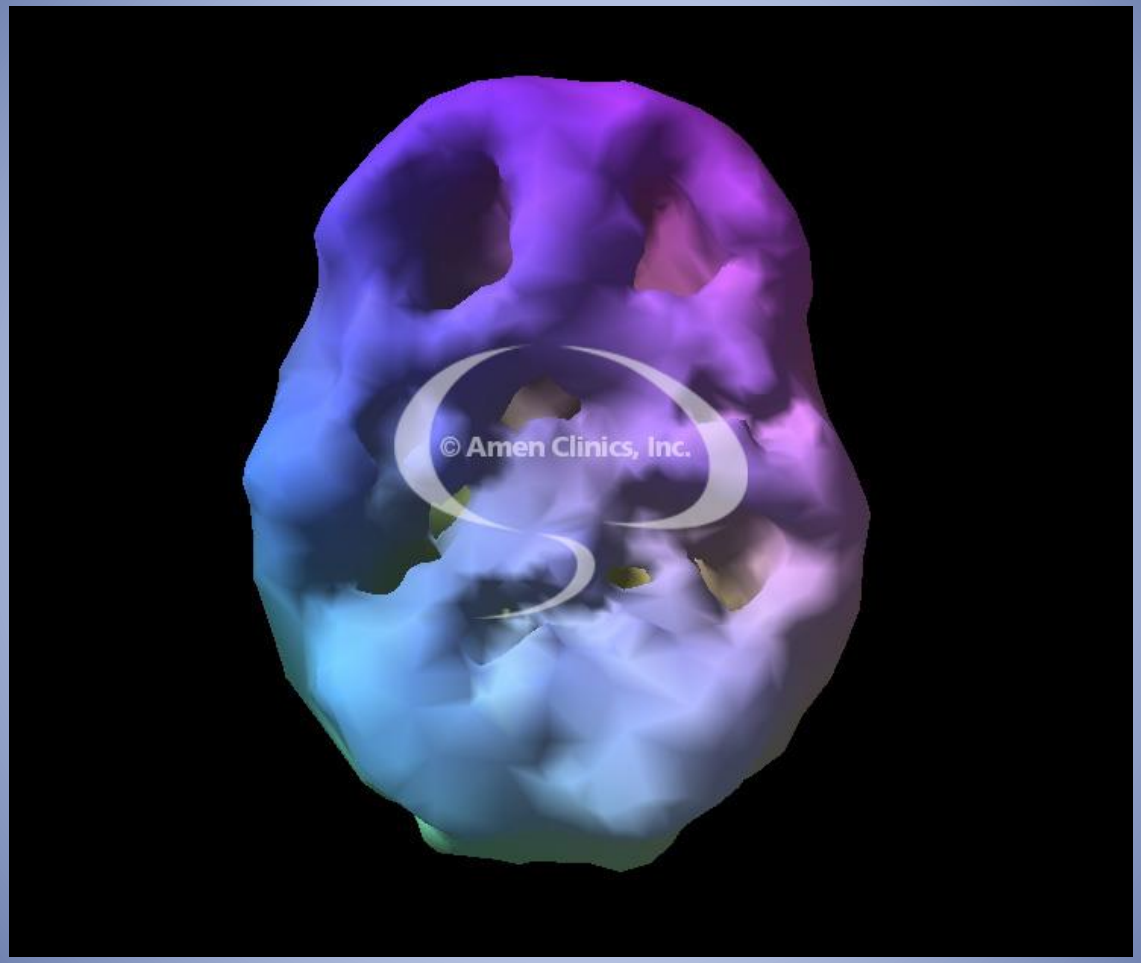
Alcohol



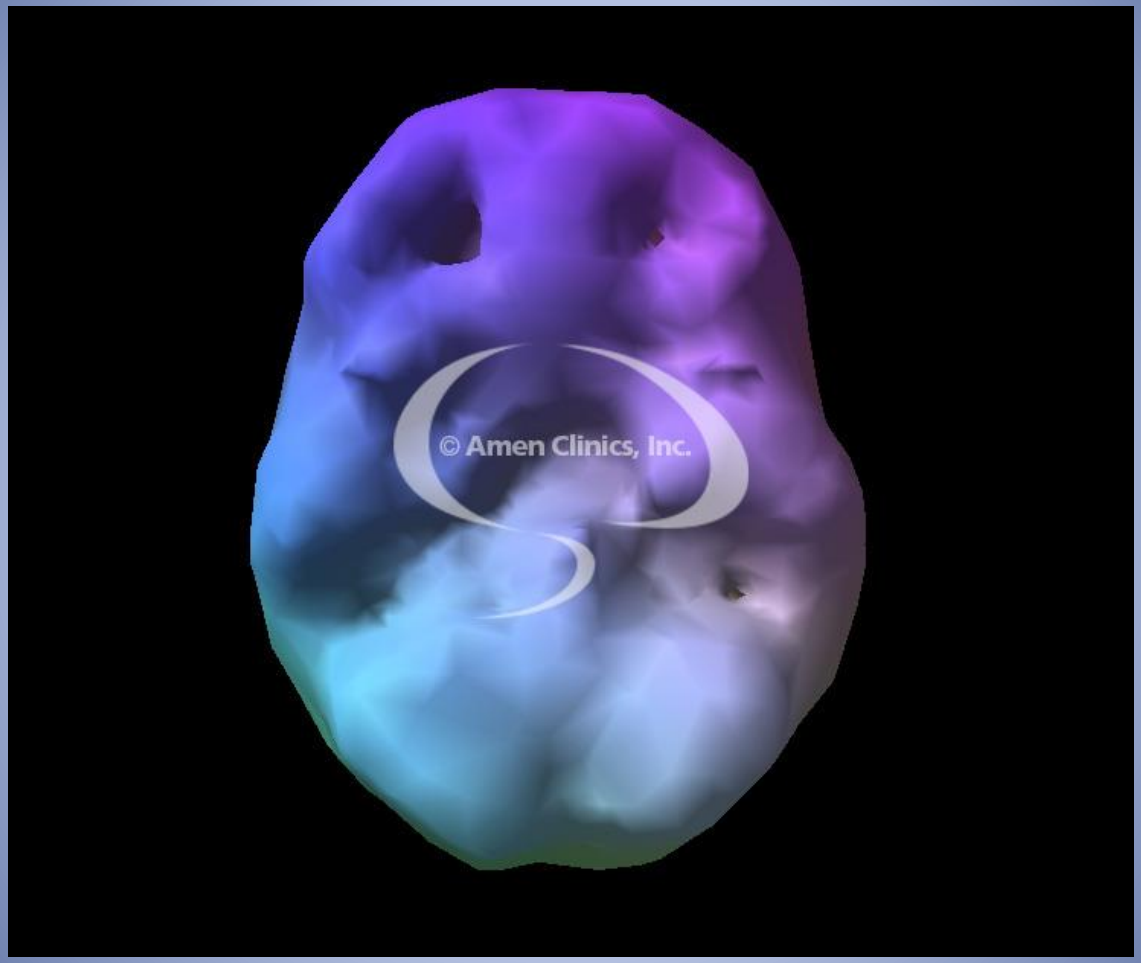
Meth



Before Treatment



After Treatment



Brain is Plastic and can Regenerate

BRAIN NUTRIENTS

Vitamin C (as ascorbic acid) 5 mg
Vitamin E (as d-alpha tocopheryl succinate) 10 IU
Thiamin (as thiamine HCl) 5 mg
Niacin 4 mg
Vitamin B6 (as pyridoxal 5'-phosphate) 5 mg
Folate (as 5-methyltetrahydrofolate†) 100 mcg
Vitamin B12 (as methylcobalamin) 5000 mcg
Calcium (as calcium citrate) 15 mg 2%
Magnesium (as Di-Magnesium Malate)
Zinc (as TRAACS® Zinc Glycinate Chelate) 5 mg
Selenium (as Selenium Glycinate Complex) 50 mcg
Manganese (as TRAACS® Manganese Glycinate Chelate) 0.5 mg
Chromium (as TRAACS® Chromium Nicotinate Glycinate Chelate) 50 mcg 42%
Potassium (as Potassium Glycinate Complex) 5 mg
DMAE (as dimethylaminoethanol bitartrate) 30 mg
Rosemary Extract (*Rosemarinus officinalis*)(leaf)(6% carnosic acid) 50 mg Phosphatidylcholine 10 mg
Dong Quai (*Angelica sinensis*)(root) 25 mg

BRAIN NUTRIENTS CONTINUED

Coenzyme Q10 (as ubiquinone)(Hi-QTen™) 3 mg
Reishi Mushroom (*Ganoderma lucidum*)(mycelium) 13 mg
Phosphatidylserine 10 mg
***Ginkgo biloba* Extract (leaf)(24% ginkgoflavonglycosides and 6% terpene lactones)**
10 mg
L-Glutamine 10 mg
Glutamic Acid HCl 10 mg
Boron (as boron citrate complex) 500 mcg
Inositol 9 mg
S-Acetyl Glutathione 5 mg
Pregnenolone 5 mg
Alpha-Lipoic Acid 5 mg
L-Arginine 5 mg
Huperzine A (from *Huperzia serrata*)(leaf) 25 mcg
5-HTP (5-hydroxytryptophan)(from *Griffonia simplicifolia*)(seed) 2 mg
L-Ornithine (as L-ornithine HCl) 1 mg
L-Lysine (as L-lysine HCl) 1 mg
L-Methionine 1 mg
Vinpocetine

How Can Laser Heal the Brain and Nervous System?

- **Light hits chromophores, photons cause electrons to jump to higher-energy orbits;**
- **Creates ↑ ATP, ↑RNA/DNA, ↑ O_2, Cell metabolism,**
- **810 nm and 660 are the best wavelengths**

Lapchak PA, De Taboada L. Transcranial near infrared laser treatment (NILT) increases cortical adenosine-5=-triphosphate (ATP) content following embolic strokes in rabbits. Brain Res 2010;1306:100-105.

Laser → regen of nerves in the brain

- Rat brains → 780 nm laser
- ↑ fiber sprouting + neuronal cell health in areas of nerve cell damage.
- LLLT potential procedure for neuronal brain injury.

Lasers Surg Med. 2009 Apr;41(4):277-81

Cortex

- **Frontal** – Forethought, Judgment, Initiation of voluntary motor movements
- **Parietal** –Sensory processing, Directional Sense, Initial processing of tactile & proprioceptive info.
- **Temporal** - Memory, Mood Stability, Hearing, Learning, Memory
- **Occipital** - Processing of Visual Info

John Doe E S
13 Year Old Male

Case Studies represent results of one participant. The reader should weigh these results with other scientific data and should not expect the same results as those found in the case studies alone.

PATIENT: E S
DATE OF ANALYSIS: 12/23/2009
SEX M
AGE: 13
BLOOD TYPE: O+

Vitals:
Height: 4'4"
Weight: 88

Tests Used for Analysis:

Vitals 11/8/09

PSS 11/8/09

Medication 11/8/09

Urinalysis 11/16/09

Stool 12/7/09

Hair 11/16/09

Blood 12/21/09

Primary Symptoms:

1. Swollen Joints RA DIAG.
2. Neck pain
3. Joint stiffness in the morning
4. Swelling in the feet and/or ankles
5. In Wheelchair

Case Studies represent results of one participant. The reader should weigh these results with other scientific data and should not expect the same results as those found in the case studies alone.

Presenting symptoms:

- Allergies (grass/pollen); Anemia; Arthritic/Rheumatic Disorder; Blurred Vision; Chronic Fatigue;
- Eye Pain/Problems; Rheumatoid Arthritis; Swollen Joints; Drinks less than 8 glasses of water per day; Dry hair; Energy level is worse than it was 5 years ago; Fingernails peel; Rarely exercises;
- Somewhat Overweight; Unable to recall dreams the next day; Difficulty falling asleep; Difficulty staying asleep; Often annoyed by people; Under considerable emotional stress; Pain in leg/hips when walking; Pains in the heart or chest; Ringing or noises in the ears; Frequently feels hot; Heals slowly; Unusually tired most of the time; Painful feet; Swelling in the feet and/or ankles; 6 or more bowel movements per week; Abdominal gas; Bloated after eating; Excessive hunger; Indigestion within 1 hour after meals; Severe abdominal pains; Craves Sugars/starches; Never had 4 alcoholic
- drinks in one day; Takes vitamins; Bitter taste in the mouth in the morning; Sores or cracks in the corners of the mouth; Tongue is coated; Joint stiffness in the morning; Low back pain; Neck pain; Pain between the shoulders; Rheumatoid Arthritis; Spinal curvature; Bruises easily; Urinates more than 2 times per night; Frequent urination

This analysis and the recommendations are not for the purpose of treating or curing disease (cancer, hepatitis, arthritis, diabetes, M.S., heart disease, etc). The purpose for this nutrition and lifestyle program is to create an optimum environment in which your body can heal and repair itself.

This is achieved by eliminating foods and toxins, which adversely affect the body, and by providing nutrients that the body may be lacking.

Case Studies represent results of one participant. The reader should weigh these results with other scientific data and should not expect the same results as those found in the case studies alone.

Eric Starkey-Siebert | Lab: LabCorp | **BLOOD TEST RESULTS**

Test Description	Date:	Current Result 12/21/2009	Current Rating	Prior Result	Delta	Healthy	Clinical	Units
Glucose		81.00	Opt			80.00 - 95.00	65.00 - 99.00	mg/dL
Hemoglobin A1C (Gly-Hgh)		5.90	hi			5.00 - 5.50	4.80 - 5.90	%
Uric Acid		4.20	Opt			4.10 - 6.00	2.40 - 8.20	mg/dL
BUN (Blood Urea Nitrogen)		11.00	lo			13.00 - 18.00	5.00 - 26.00	mg/dL
Creatinine		0.52	LO			0.93 - 1.10	0.76 - 1.27	mg/dL
BUN / Creatinine Ratio		21.00	hi			13.00 - 20.00	8.00 - 27.00	ratio
Sodium		137.00	lo			139.00 - 143.00	135.00 - 145.00	meq/dL
Potassium		4.00	Opt			3.80 - 4.50	3.50 - 5.20	meq/dL
Chloride		100.00	lo			102.00 - 106.00	97.00 - 108.00	meq/dL
Magnesium		2.10	lo			2.21 - 2.51	1.60 - 2.60	mg/dL
Calcium		10.30	hi			9.70 - 10.00	8.50 - 10.60	mg/dL
Phosphorus		4.10	hi			3.40 - 4.00	2.50 - 4.50	mg/dL
Total Protein		8.40	hi			7.11 - 7.61	6.00 - 8.50	gm/dL
Albumin		4.40	Opt			4.10 - 4.50	3.60 - 4.80	gm/dL
Globulin		4.00	hi			2.81 - 3.51	1.50 - 4.50	gm/dL
A/G Ratio		1.10	LO			1.22 - 1.60	1.10 - 2.50	ratio
Total Bilirubin		0.20	lo			0.39 - 0.93	0.10 - 1.20	mg/dL
Alk. Phosphatase 25-630		155.00	lo			210.00 - 450.00	150.00 - 530.00	IU/L
Creatine Kinase		51.00	lo			64.00 - 133.00	24.00 - 173.00	u/l
LDH		235.00	hi			120.00 - 160.00	100.00 - 250.00	mu/mL
SGOT (AST)		21.00	Opt			15.00 - 26.00	6.00 - 40.00	mu/mL
SGPT (ALT)		23.00	Opt			15.00 - 26.00	6.00 - 40.00	mu/mL
GGT		15.00	lo			22.00 - 39.00	6.00 - 65.00	mu/mL
Serum Iron		28.00	LO			85.00 - 120.00	40.00 - 155.00	mcg/dL
Ferritin		9.00	LO			30.00 - 218.00	22.00 - 322.00	NG/ML
Total Cholesterol		186.00	hi			140.00 - 170.00	100.00 - 199.00	mg/dL
Triglyceride		74.00	lo			80.00 - 115.00	10.00 - 149.00	mg/dL
HDL Cholesterol		77.00	Opt			39.00 - 120.00	36.00 - 140.00	mg/dL
VLDL Cholesterol		15.00	Opt			5.00 - 20.00	4.00 - 40.00	mg/dL
LDL Cholesterol		94.00	hi			50.00 - 75.00	6.00 - 99.00	mg/dL
Total Cholesterol / HDL Ratio		2.40	Opt			0.00 - 4.00	0.00 - 5.00	ratio
TSH		0.48	lo			1.00 - 2.50	0.35 - 5.50	mIU/l
T4 Thyroxine		7.10	Opt			7.10 - 9.00	4.50 - 12.00	mcg/dL
T3 Uptake		33.00	Opt			29.00 - 35.00	24.00 - 39.00	%
T7 Free Thyroxine Index (FTI)		2.30	lo			2.61 - 3.60	1.20 - 4.90	
CRP C-Reactive Protein		10.10	HI			0.00 - 1.50	0.00 - 4.90	mg/L
White Blood Count		11.50	HI			5.00 - 8.00	4.00 - 10.50	k/cumm
Red Blood Count		4.93	Opt			4.50 - 5.50	4.10 - 5.80	m/cumm
Hemoglobin		12.00	lo			13.30 - 15.20	11.50 - 17.00	gm/dL
Hematocrit		38.00	lo			39.50 - 47.00	34.00 - 50.00	%

Case Studies represent results of one participant. The reader should weigh these results with other scientific data and should not expect the same results as those found in the case studies alone.

MCV	77.00	LO			85.00	-	97.00	80.00	-	98.00	cu.m
MCH	24.30	LO			28.10	-	32.00	27.00	-	34.00	pg
MCHC	31.50	LO			33.00	-	34.00	32.00	-	36.00	%
RDW	22.10	HI			11.10	-	14.50	11.00	-	15.00	%
Platelets	376.00	hi			175.00	-	250.00	140.00	-	415.00	k/cumm
Polys/Neutrophils (SEGS-PMNS)	64.00	Opt			55.00	-	65.00	40.00	-	74.00	%
Lymphocytes	27.00	Opt			25.00	-	40.00	14.00	-	46.00	%
Monocytes	8.00	hi			5.00	-	7.00	4.00	-	13.00	%
Eosinophils	1.00	Opt			0.00	-	4.10	0.00	-	7.00	%
Basophils	0.00	Opt			0.00	-	2.00	0.00	-	3.00	%
Neutrophils/Polys (Absolute)	7.40	hi			3.80	-	5.80	1.80	-	7.80	x10E/uL
Lymphs (Absolute)	3.10	Opt			2.00	-	3.20	0.70	-	4.50	x10E/uL
Monocytes (Absolute)	0.90	hi			0.40	-	0.70	0.10	-	1.00	x10E/uL
Eosinophils (Absolute)	0.10	Opt			0.00	-	0.20	0.00	-	0.40	x10E/uL
Basophils (Absolute)	0.00	Opt			0.00	-	0.10	0.00	-	0.20	x10E/uL
ESR-Erythrocyte Sed Rate, Westerg	47.00	HI			0.00	-	8.00	0.00	-	20.00	mm/HR

Case Studies represent results of one participant. The reader should weigh these results with other scientific data and should not expect the same results as those found in the case studies alone.

BLOOD VALUES

- Anemia
- Poor Kidney Function

- **CRP C-REACTIVE PROTEIN 10.10**
- **Optimal 0-1.5**

- **ESR ERYTHROCYTE SED RATE 47.00**
- **Optimal 0 – 6.0**

Eric Starkey-Siebert Lab: Doctor's Data #1, (with Ranges) **HAIR TEST RESULTS**

Test Description	Date:	Current Result 11/16/2009	Current Rating	Prior Result	Delta	Healthy	Clinical	Units
Toxic Elements								
Aluminum		12.00	HI			0- 2.20	2.21- 7.00	ug/g
Antimony		0.04	Opt			0- 0.13	0.14- 0.17	ug/g
Arsenic		0.14	HI			0- 0.03	0.04- 0.08	ug/g
Barium		0.16	Opt			0- 0.45	0.46- 0.75	ug/g
Beryllium		0.01	Opt			0- 0.01	0.02- 0.02	ug/g
Bismuth		1.30	hi			0- 1.00	1.01- 2.00	ug/g
Cadmium		0.05	hi			0- 0.04	0.05- 0.06	ug/g
Lead		0.25	Opt			0- 0.60	0.61- 1.00	ug/g
Mercury		0.10	Opt			0- 0.50	0.51- 0.80	ug/g
Platinum		0.00	Opt			0- 0.00	0.01- 0.00	ug/g
Thallium		0.00	Opt			0- 0.00	0.01- 0.00	ug/g
Thorium		0.00	Opt			0- 0.00	0.01- 0.00	ug/g
Uranium		7.60	HI			0- 0.01	0.02- 0.06	ug/g
Nickel		0.13	Opt			0- 0.15	0.16- 0.20	ug/g
Silver		0.19	Opt			0- 0.70	0.71- 0.10	ug/g
Tin		0.36	HI			0- 0.29	0.30- 0.30	ug/g
Titanium		1.00	HI			0- 0.35	0.36- 0.60	ug/g
Essential Elements								
Calcium		125.00	LO			330.00- 450.00	200.00- 700.00	ug/g
Magnesium		15.00	LO			35.00- 45.00	18.00- 71.00	ug/g
Sodium		34.00	LO			106.00- 154.00	60.00- 200.00	ug/g
Potassium		8.00	LO			32.00- 57.00	9.00- 80.00	ug/g
Copper		11.00	LO			18.00- 25.00	11.00- 32.00	ug/g
Zinc		170.00	lo			170.00- 205.00	145.00- 225.00	ug/g
Manganese		0.16	lo			0.20- 0.38	0.08- 0.50	ug/g
Chromium		0.63	hi			0.50- 0.60	0.40- 0.70	ug/g
Vanadium		0.19	HI			0.04- 0.05	0.02- 0.08	ug/g
Molybdenum		0.08	HI			0.04- 0.05	0.03- 0.06	ug/g
Boron		0.77	Opt			0.23- 0.90	0.20- 1.20	ug/g
Iodine		1.10	Opt			0.76- 1.30	0.25- 1.80	ug/g
Lithium		0.03	HI			0.01- 0.02	0.01- 0.02	ug/g
Phosphorus		234.00	HI			173.00- 197.00	150.00- 220.00	ug/g
Selenium		0.76	lo			0.86- 1.04	0.70- 1.20	ug/g
Strontium		0.66	lo			1.20- 1.60	0.30- 3.20	ug/g
Sulfur		50000.00	HI			46000.00- 48000.00	44000.00- 50000.00	ug/g
Cobalt		0.01	lo			0.01- 0.01	0.00- 0.02	ug/g
Iron		13.00	Opt			9.00- 13.00	7.00- 16.00	ug/g
Germanium		0.03	Opt			0.03- 0.04	0.03- 0.04	ug/g
Rubidium		0.01	lo			0.02- 0.03	0.01- 0.09	ug/g
Zirconium		0.35	hi			0.09- 0.30	0.05- 0.70	ug/g

Studies represent
ts of one participant.
reader should weigh
e results with other
ntific data and should
xpect the same
ts as those found in
ase studies alone.

Results of Initial UA Mineral Test:

Test Description Date:	Current Result 10/16/2006	Current Rating	Prior Result 10/15/2005	Delta	Healthy		Clinical	
Agent	DMSA		Pre-Chall					
Dose	1500mg							
Interval	6		6					
Toxic Elements								
Arsenic (UA)	20.00	Opt	13.00		0-	70.00	70.01-	130.00
Beryllium (UA)	0.00	Opt	0.00		0-	0.40	0.41-	0.50
Bismuth (UA)	0.00	Opt	0.00		0-	10.00	10.01-	15.00
Cadmium (UA)	0.70	Opt	0.60		0-	1.50	1.51-	2.00
Lead (UA)	24.00	HI	0.00	☹	0-	3.00	3.01-	4.00
Mercury (UA)	4.40	HI	1.80	☹	0-	3.00	3.01-	4.00
Nickel (UA)	2.60	Opt	0.00		0-	6.00	6.01-	12.00

Blue = clinically very high or clinically very low
Red = clinically high or clinically low
Yellow = a little high or a little low; this can be considered a warning sign that the value is not optimal.

In addition to the above tests, we also conducted a urinalysis, saliva test and metabolic urinalysis. These tests showed a slight infection, mild toxicity associated with the liver, gastrointestinal involvement, a low pH, and vitamin C and calcium deficiency. A blood test for the HLA-B27 gene also came back positive leading to the diagnosis of Ankylosing Spondylitis.

Case Studies represent results of one participant. The reader should weigh these results with other scientific data and should not expect the same results as those found in the case studies alone.

April 2007, Breast Cancer was diagnosed in a 48 year old female.

- These are the cancer tumor markers- CA 27.29 for the patient below with Breast Cancer.

05-04-2007	185	Medical clinical range is 0-38.60.
05-11-2007	140	2 weeks on her nutritional program
06-07-2007	78.80	4 weeks on her nutritional program
06-29-2007	45.80	
08-03-2007	35.50	All without any medical drugs, chemo, radiation or hormone therapy.
08-17-2007	29.70	Total Cost: Out of Pocket to date was $3,000.00 (HOW MANY ADJUSTMENTS, THERAPY ETC. WOULD IT TAKE FOR YOU TO MAKE $3,000.00? HOW MUCH PAPERWORK AND TIME WOULD IT TAKE FOR YOU TO GET PAID THAT MUCH?)
1-6-2012	23.10	
3-20-2013	23.29	Still no hormones, chemo or radiation!

- Biopsy/surgery was immediately recommended but she came to me before the first biopsy/surgery.
- 5-4-2007 CA27.29 was 185, this level of CA 27.29 indicates that the cancer has already metastasized, (she started on her complete program after the blood and hair and DMSA urinary challenge tests were done.)
- 5-11-2007 CA 27.29 reduced to 140 (this was before ANY medical intervention- no surgery/biopsy, chemo, radiation or hormone therapy)
- 5-24-2007 Patient had lumpectomy and 3 out of three lymph nodes were positive, (I was pretty sure that would be). Radiation was immediately recommended daily for 6 weeks followed with chemo and was told that she would probably have 8-10 years to live, which the oncologist thought was pretty good, (she didn't think that was such a great deal for a 48 y/o).
- This is far less than the copay of conventional cancer treatment for Chemo and/or radiation.

Case Studies represent results of one participant. The reader should weigh these results with other scientific data and should not expect the same results as those found in the case studies alone.

48 y/o Female

5-04-2007

CA 27.29	185.70
Cholesterol	238
HDL	102
LDL	191

CK, LDH, CRP are a little high

Case Studies represent results of one participant. The reader should weigh these results with other scientific data and should not expect the same results as those found in the case studies alone.

Test Description	Date:	05/04/2007		09/06/2002
Glucose		100.00	HI	79.00
Hemoglobin A1C (Gly-Hgh)		5.80	hi	5.30
Uric Acid		4.40	Opt	4.60
BUN (Blood Urea Nitrogen)		11.00	lo	14.00
Creatinine		0.70	Opt	0.70
BUN / Creatinine Ratio		16.00	Opt	20.00
Sodium		140.00	lo	137.00
Potassium		4.30	Opt	4.50
Chloride		101.00	Opt	102.00
Magnesium		2.40	Opt	2.00
Calcium		10.10	Opt	9.80
Phosphorus		3.40	lo	4.30
Calcium/Albumin Ratio		2.15	Opt	2.33
Total Protein		7.70	hi	7.30
Albumin		4.70	hi	4.20
Globulin		3.00	Opt	3.10
A/G Ratio		1.60	Opt	1.30
Total Bilirubin		0.40	Opt	0.40
Alkaline Phosphatase 25-150		72.00	Opt	67.00
Creatine Kinase		146.00	hi	79.00
LDH		180.00	hi	162.00
SGOT (AST) (AST)		27.00	hi	23.00
SGPT (ALT) (ALT)		18.00	Opt	19.00
GGT		35.00	Opt	20.00
Serum Iron		105.00	Opt	128.00
Ferritin		77.00	Opt	68.00
Total Cholesterol		238.00	HI	206.00
Triglyceride		83.00	Opt	145.00
HDL Cholesterol		102.00	HI	98.00
VLDL Cholesterol		17.00	Opt	29.00
LDL Cholesterol		119.00	HI	79.00
Total Cholesterol / HDL Ratio		2.30	Opt	2.10
Triglyceride/HDL Ratio		0.81	lo	
T4 Thyroxine		8.40	Opt	6.90
T3 Uptake		30.00	Opt	28.00
T7 Free Thyroxine Index (FTI)		2.50	lo	1.90
White Blood Count		4.90	lo	4.10
Red Blood Count		4.47	lo	4.60
Hemoglobin		12.90	lo	13.00
Hematocrit		37.70	lo	38.90
MCV		84.00	lo	85.00
MCH		28.80	Opt	28.30
MCHC		34.10	Opt	33.50
Platelets		297.00	hi	224.00
Polys/Neutrophils (SEGS-PMNS)		60.00	Opt	64.00
Lymphocytes		31.00	Opt	29.00
Monocytes		7.00	Opt	6.00
Eosinophils		2.00	Opt	1.00
Basophils		0.00	Opt	0.00
ESR-Erythrocyte Sed Rate, Westergr		2.00	Opt	2.00
CRP C-Reactive Protein		4.30	hi	2.90
CA 27.29		185.70	HI	

Breast Cancer Case Continued . . .

Test Description	Current Rating 06/03/2008	
Toxic Elements		
Aluminum	28.00	Very High
Antimony	0.01	★
Arsenic	0.07	high
Barium	3.70	High
Beryllium	0.01	★
Bismuth	0.33	★
Cadmium	0.09	Very High
Lead	0.20	★
Mercury	0.19	★
Platinum	0.01	High
Thallium	0.00	★
Thorium	0.00	★
Uranium	0.01	★
Nickel	0.18	★
Silver	0.06	high
Tin	0.07	★
Titanium	1.50	High
Total Toxic Representation	3.00	High
Essential Elements		
Calcium	1210.00	high
Magnesium	290.00	High
Sodium	570.00	High
Potassium	230.00	Very High
Copper	7.20	Very Low
Zinc	130.00	Low
Manganese	0.13	Low
Chromium	0.33	Low
Vanadium	0.01	Low
Molybdenum	0.07	★
Boron	6.10	High

Test Description Date:	Current Result 05/18/2007	Current Rating	Prior Result 05/12/2007
Agent	DMSA		Pre-Chall
Dose	1000 mg		
Interval	6		6
Toxic Elements			
Aluminum (UA)	0.00	Opt	53.00
Antimony (UA)	0.00	Opt	0.20
Arsenic (UA)	34.00	Opt	42.00
Beryllium (UA)	0.00	Opt	0.00
Bismuth (UA)	0.00	Opt	0.00
Cadmium (UA)	0.80	Opt	0.40
Lead (UA)	62.00	HI	1.10
Mercury (UA)	9.70	HI	1.80
Nickel (UA)	1.00	Opt	7.70
Platinum (UA)	0.00	Opt	0.00
Thallium (UA)	0.20	Opt	0.08
Thorium (UA)	0.00	Opt	0.00
Tin (UA)	3.30	Opt	0.00
Tungsten (UA)	0.00	Opt	0.00
Uranium (UA)	0.00	Opt	0.00

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1'PBDE: Flame Retardant in Airplanes

- **1'PBDE exposure inside airplanes, *whose plastic and fabric interiors* are drenched in flame retardants to meet safety standards set by the Federal Aviation Administration and its counterparts overseas.**

PBDE's and PCB

- Poly**bromin**ated diphenyl ethers - Wikipedia, the free encyclopedia
- Their **chlorine** analogs are **poly**chlorinated diphenyl ethers (PCDEs). Because of their toxicity **and** persistence the industrial production of some **PBDEs** is restricted under the Stockholm Convention, a treaty to control and phase out major persistent organic pollutants (POPs).

Documentation:

- ^ [1] "Identification of Flame Retardants in Polyurethane Foam Collected From Baby Products"
- ^ Harley, K.; Marks, A.; Chevrier, J.; Bradman, A.; Sjödin, A.; Eskenazi, B. (2010). "PBDE Concentrations in Women's Serum and Fecundability.". *Environmental health perspectives* 118 (5): 699–704. doi:10.1289/ehp.0901450. PMC 2866688. PMID 20103495. edit
- ^ Frank Rahman *et al.* (2001). "Polybrominated diphenyl ether (PBDE) flame retardants". Science of the Total Environment, vol. 275. pp. 1–17.
- ^ Kellyn S. Betts (2001-12-07). "Rapidly rising PBDE levels in North America". Environmental Science & Technology. [*dead link*]

Documentation:

- Hutzinger O, *et al.*; Thoma, H. (1987). "Polybrominated dibenzodioxins and dibenzofurans". ***Chemosphere*** 16 (8–9): 1877–1880. doi:10.1016/0045-6535(87)90181-0.
- ^ Watanabe I, *et al.*; Kashimoto, Takashi; Tatsukawa, Ryo (1987). "Polybrominated diphenyl ethers in marine fish, shellfish and river sediments in Japan". ***Chemosphere*** 16 (10–12): 2389–2396. doi:10.1016/0045-6535(87)90297-9.
- ^ The PBDEs: An Emerging Environmental Challenge and Another Reason for Breast-Milk Monitoring Programs

Documentation:

- ^ Environmental Working Group (September 2008). Fire Retardants in Toddlers and Their Mothers (Report). Environmental Working Group. http://www.ewg.org/research/fire-retardants-toddlers-and-their-mothers. Retrieved May 2013.
- ^ Szabo DT, Richardson VM, Ross DG, Diliberto JJ, Kodavanti PR, Birnbaum LS (January 2009). "Effects of perinatal PBDE exposure on hepatic phase I, phase II, phase III, and deiodinase 1 gene expression involved in thyroid hormone metabolism in male rat pups". Toxicol. Sci. 107 (1): 27–39. doi:10.1093/toxsci/kfn230. PMID 18978342.

Halogens (group17) to Halides

All halogens are highly reactive

The heavier they get the less reactive they are!

- **Halides or Halogenides are binary chemical compounds with F, Cl, Br, I** At (astatine) and Uuo (ununseptium- artificially created).

- Some Halides exist as natural minerals

[wilkipedia.org/wiki/Halogen#Diatomic…]

Halogens are Highly Reactive!
They can be harmful or lethal to biological organisms.

- **The high reactivity is due to the atom being highly electronegative due to their effective nuclear charge.**
- ***FLUORINE is one of the most REACTIVE ELEMENT in existence!***
- **Halogens can gain an electron by reacting with atoms of other elements.**

F2, Cl2, Br2, I2 are Diatomic Molecules

Halogens form:

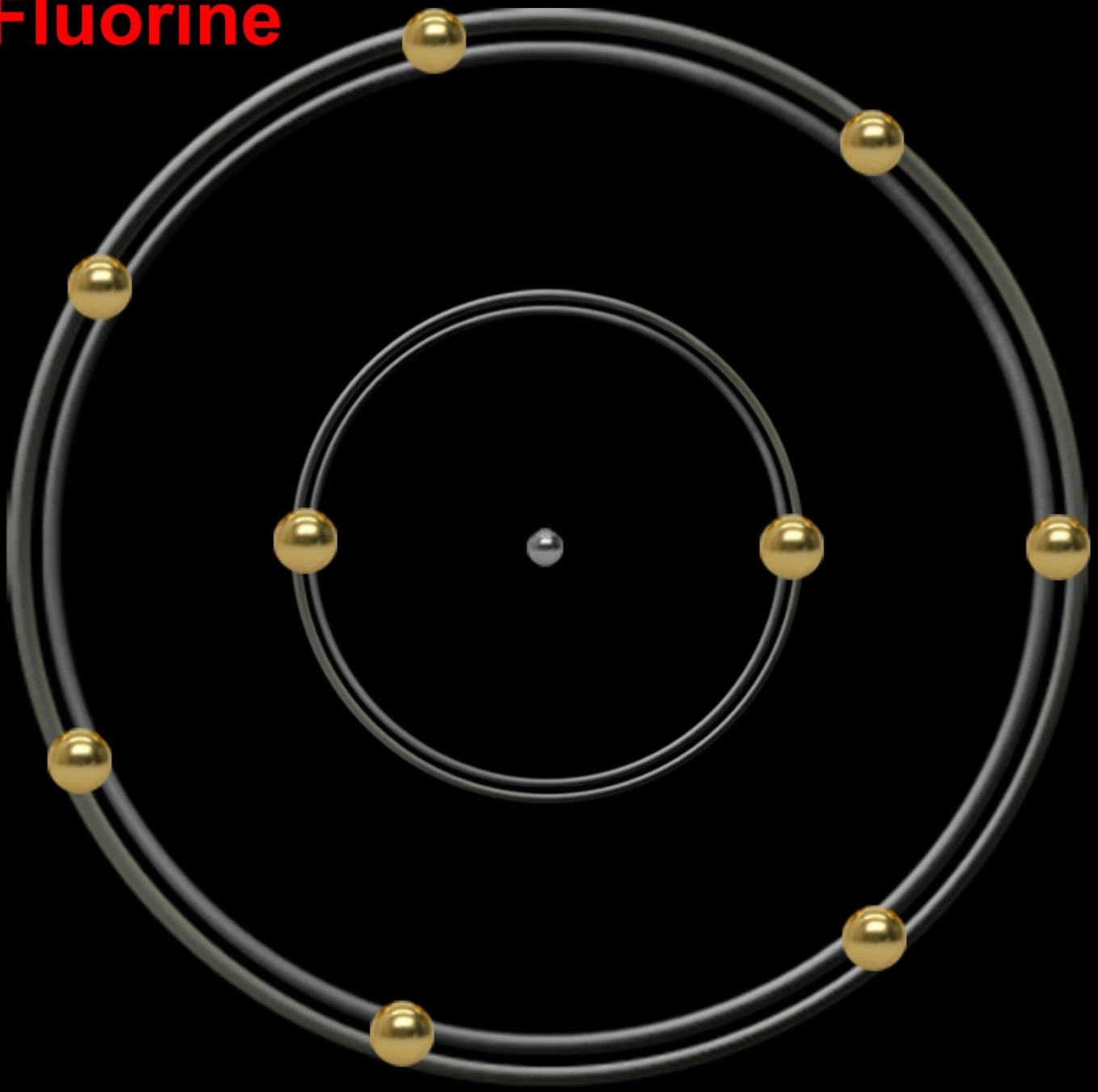
- **Hydrogen halides** H2+X2=2HX
- **Metal halides-**
- **Interhalogen compounds-**
- **Organohalogen compounds-** (synthetic organic compound e.g. plastic polymers) and natural HCl
- **Polyhalogenated compounds** *substituted with multiple halogens-* are **industry created** and are ***very toxic*** and **bioaccumulate** in humans e.g. **PCBs, PBDEs, perfluorinated compounds (PFCs)** etc.

Toxic Halides

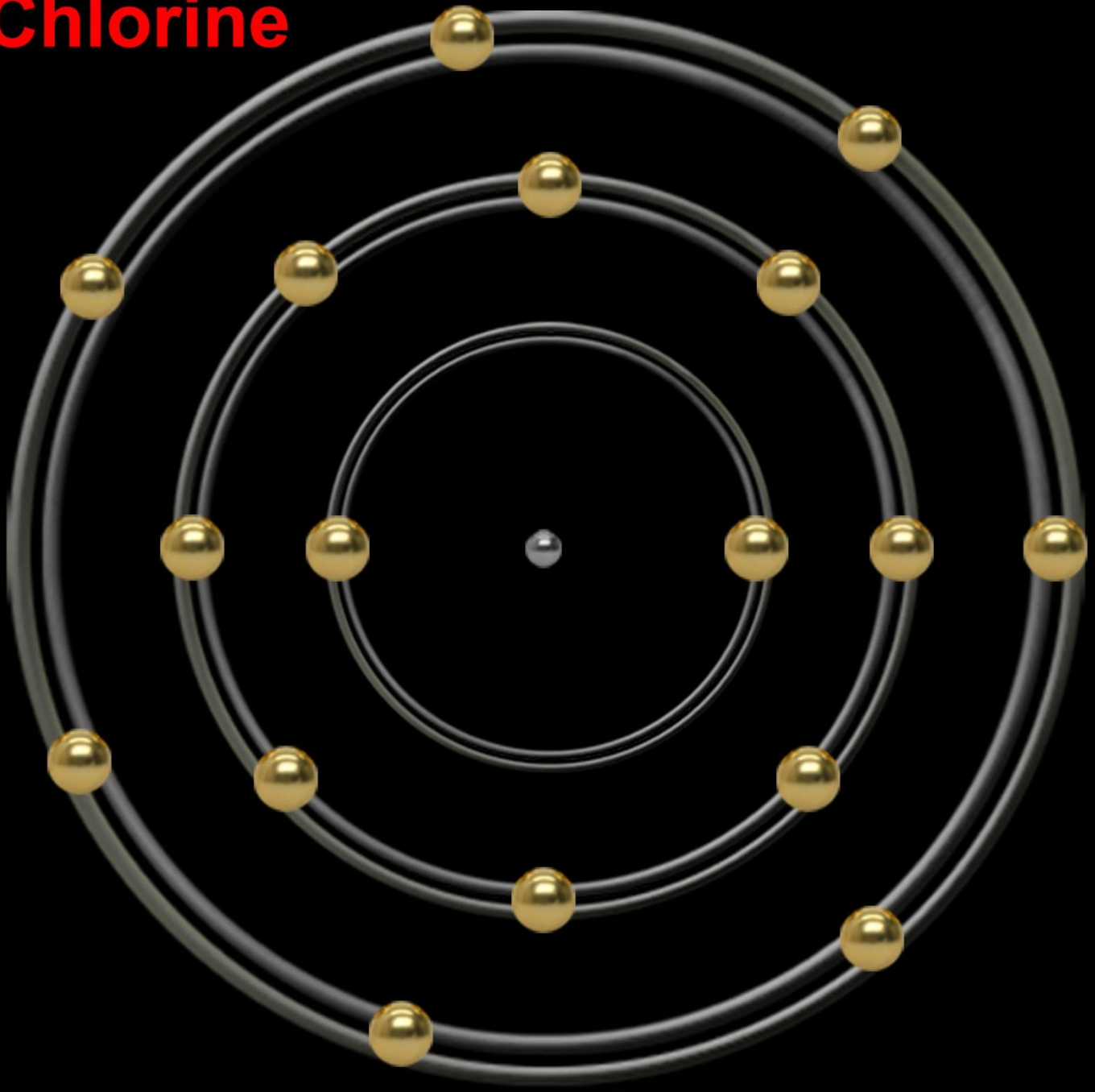
- Toxic Halides inhibit proper Iodine absorption and utilization when forming T3 and T4 by the Thyroid Gland.

- Bromine, Fluorine and Chlorine are members of the halogen family, which are a group of elements that includes iodine, which is weaker and displaced by the more active members.

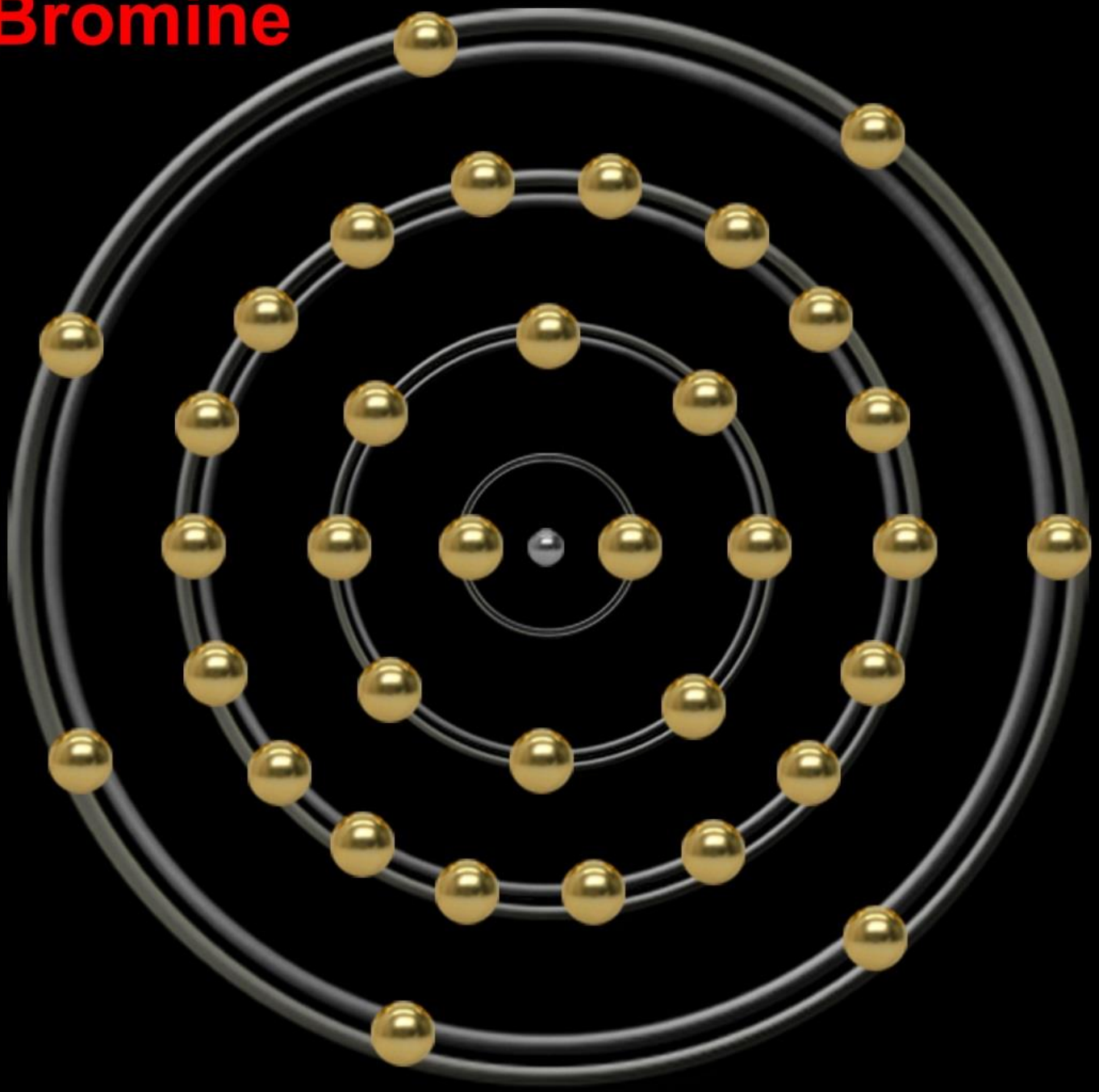
Fluorine



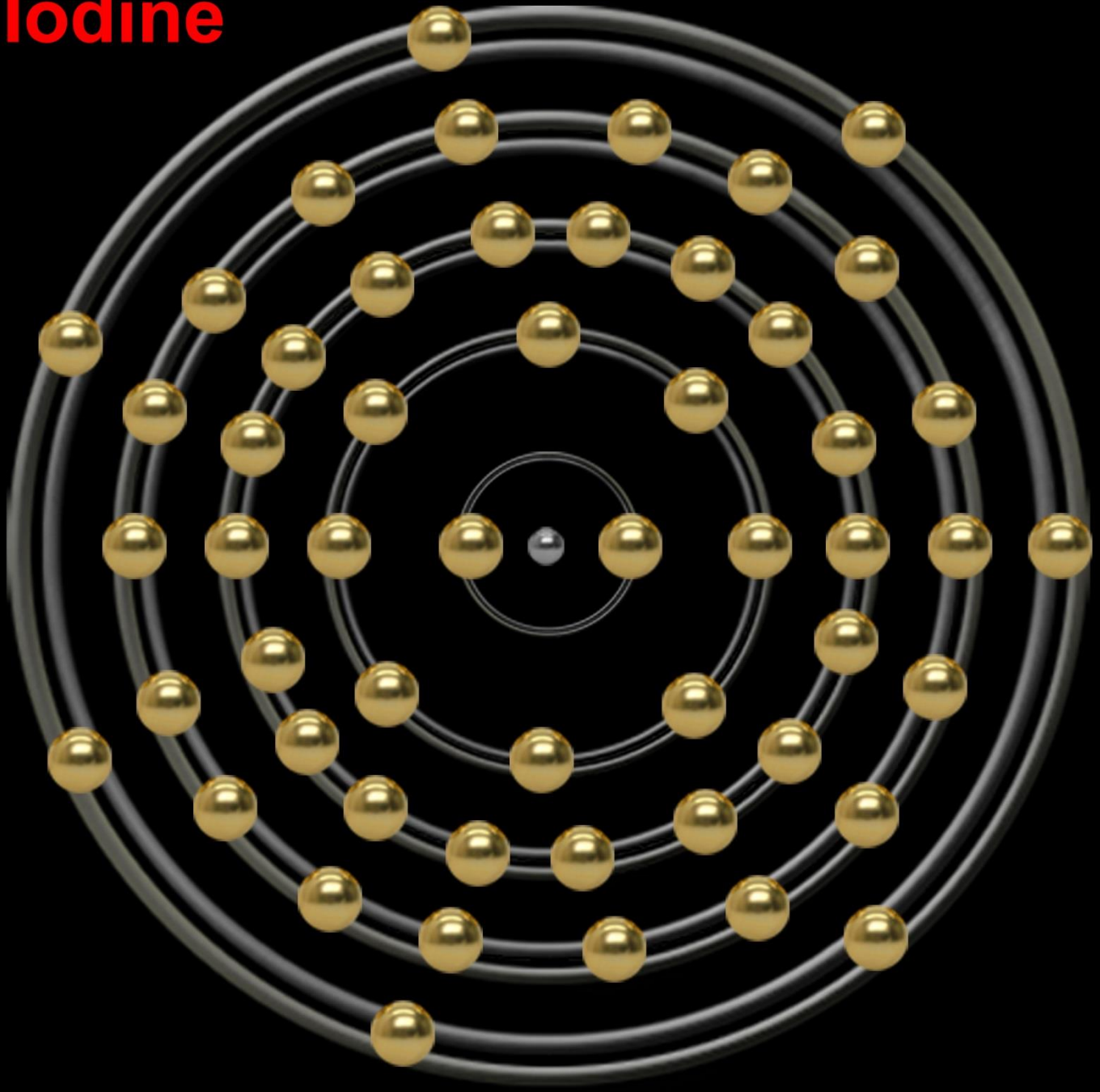
Chlorine



Bromine



Iodine



Bromine and Chlorine

- Bromine and chlorine are some of the most common toxic elements found in automobiles.

- These elements are found in the seats, armrests, door trim, shift knobs and other areas of the car.

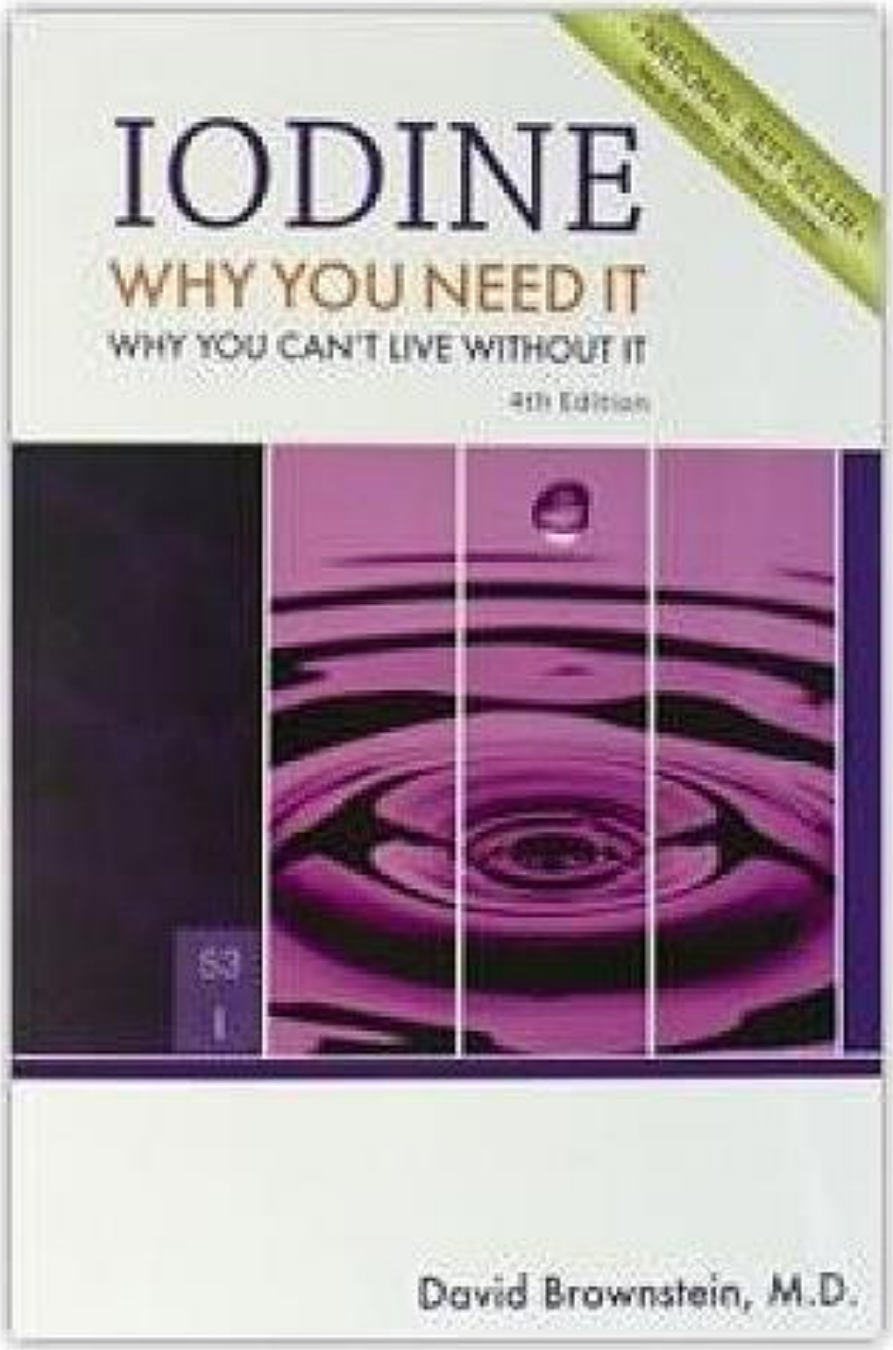
Iodine Depletion is exaggerated from Toxic Halides

- Br and Cl are also found in many plastic products including computers.

- Bromine is a fire retardant found in carpet, clothing, mattresses and many other consumer items.

Clinical Relevance

- Clinically, the result of too much bromine and chlorine and not enough iodine are higher rates of thyroid disorders as well as cancer of the breast, ovary and prostate. (Ref. the book *Iodine* by Dr Brownstein)


IODINE
WHY YOU NEED IT
WHY YOU CAN'T LIVE WITHOUT IT
4th Edition
David Brownstein, M.D.

[Toxic] HALOGENS (gp17) ARE IN OUR FOOD, AIR and WATER…

- Chlorine
- Fluorine
- Bromine
- Iodine
- Book: *IODINE, by David Brownstein*
  ISBN 978-0-9660882-3-6

Dr Brownstein's Book

- **Iodine: Why you need it, why you can't live without it 4th edition**
- **He states in his book:**
- **1) Stop ingesting bromide containing food and medicine,**
- **2) Take iodine,**
- **3) Eat unrefined salt (NaCl). Celtic Salt…**
- **The Brimhall Protocol adds Homeopathic Homochord Detox Formulas of Cl, F, Br**

Halide Absorption

- Once bromide is absorbed, it binds tightly to the iodine receptors in the body.
- In addition, bromine can bind to the transport cells for iodine (sodium-iodide symporter--NIS) and damage the transporter cells.
- The oxidized form of bromide--bromine--is stored in the fat tissues.

An Article by Alex Chrystal States:

- **Per*fluor*inated Chemicals are in your carpet, cookware and your bloodstream and the fear is they have reached our water supply.**

- ***Microwave popcorn bags are coated with PFCs, which migrate into the food when heated.***

PFC Family:

- Perfluorinated Compounds: PFC's make an object oil, stain and water resistant. PFCs persist in the environment, yet unlike *PCBs* (which were banned), they do not degrade by any natural processes due to the strength of their carbon–fluorine bond.

PFC Family (cont.):

- **PFOA (aka C8)** is used to make fluoropolymers such as Teflon, among other applications.
- **PFOS** is used in the semiconductor industry, 3M's former Scotchgard formulation, and 3M's former fire-fighting foam mixture.
- **PFNA is used as surfactant in the emulsion polymerization of fluoropolymers, like PFOA.**
- **PFBS is used as a replacement for PFOS in 3M's reformulated Scotchgard.**

PFC Family (cont.):

- **POSF is used to make PFOS-based compounds.**
- **FTOH, fluorotelomer alcohol can become airborne**
- **FC-75, a 3M Fluorinert liquid and Perfluorinated Cyclic Ether.**

PFOA's

- The perfluoro chemical, PFOA has been detected in the blood of more than 98% of the US population, but oft times the source of exposure is not clear. [1]

- [1] Epidemiologic Evidence on the Health Effects of Perfluorooctanoic Acid (PFOA) - ehp03.niehs.nih.gov

Office and Home Toxins

- ***Is Your Office Making You Sick?*** **Study Finds PFCs in Office Workers' Blood; Workers in New Offices Have Even Higher Levels of the Potentially Toxic Chemical - www.webmd.com**

- **http://www.nature.com/news/manufacturing-chemicals-may-damage-the-immune-system-1.9877**

Heavy Metals

- "**Heavy Metals**": antimony, arsenic, bismuth, cadmium, cerium, chromium, cobalt, copper, gallium, gold, iron, lead, manganese, mercury, nickel, platinum, silver, tellurium, thallium, tin, uranium, vanadium, and zinc
- Small amounts for some of these elements are common in our environment and diet and are actually necessary for good health; large amounts of any of them may cause acute or chronic toxicity (poisoning).
- Heavy metal toxicity can result in damaged or reduced mental and central nervous function, lower energy levels, and damage to blood composition, lungs, kidneys, liver, and other vital organs. Long-term exposure may result in slowly progressing physical, muscular, and neurological degenerative processes that mimic Alzheimer's disease, Parkinson's disease, muscular dystrophy, and multiple sclerosis. Allergies are not uncommon, and repeated long-term contact with some metals (or their compounds) may cause cancer

Heavy Metals:

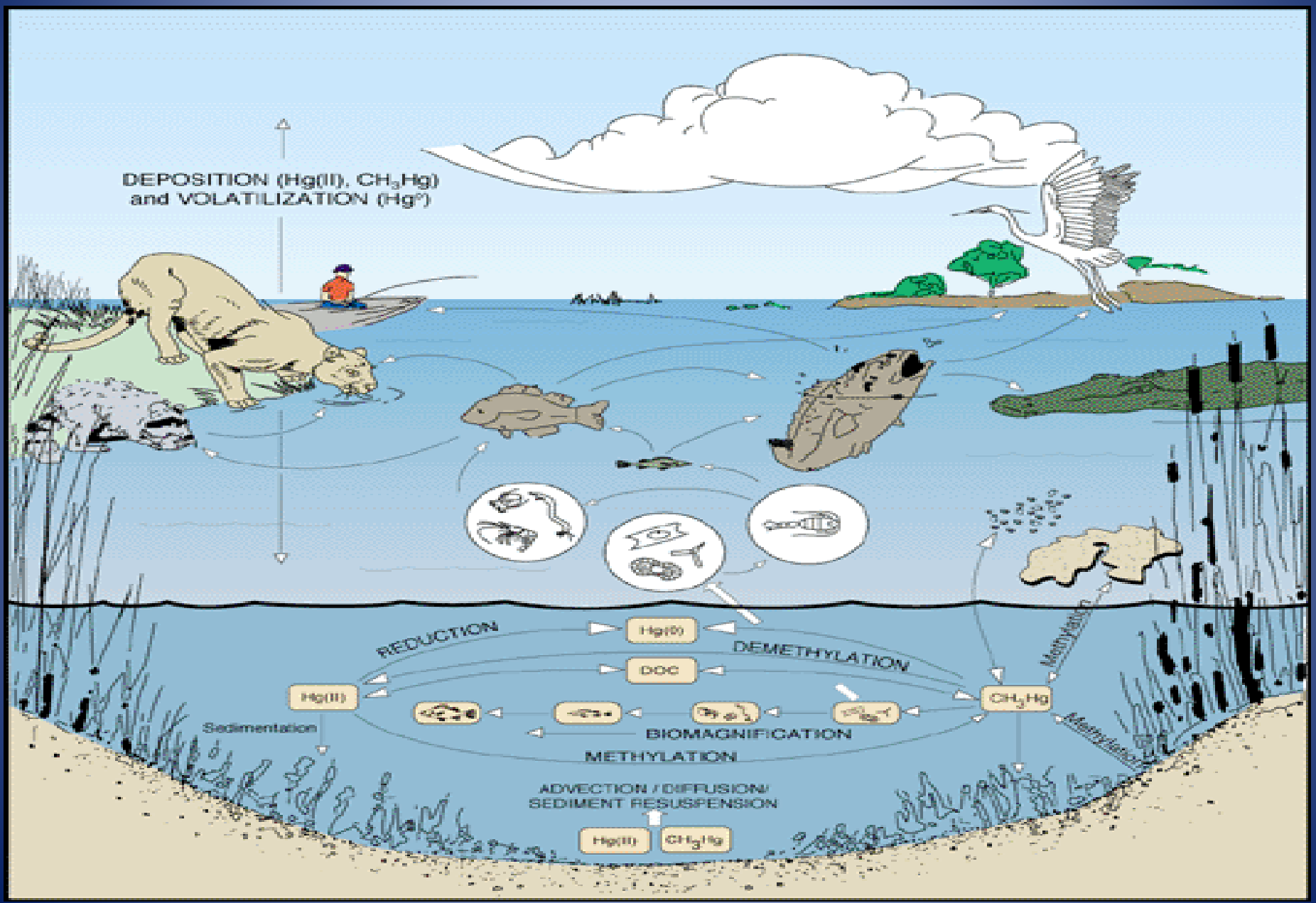
USE HOMEOPATHIC HOMOCHORDS FOR DETOX
plus other CHELATORS e.g. EDTA, DMSA, APPLE PECTIN etc.

- Mercury
- Lead
- Cadmium
- Arsenic
- Copper
- Aluminum
- Chromium
- E tc.

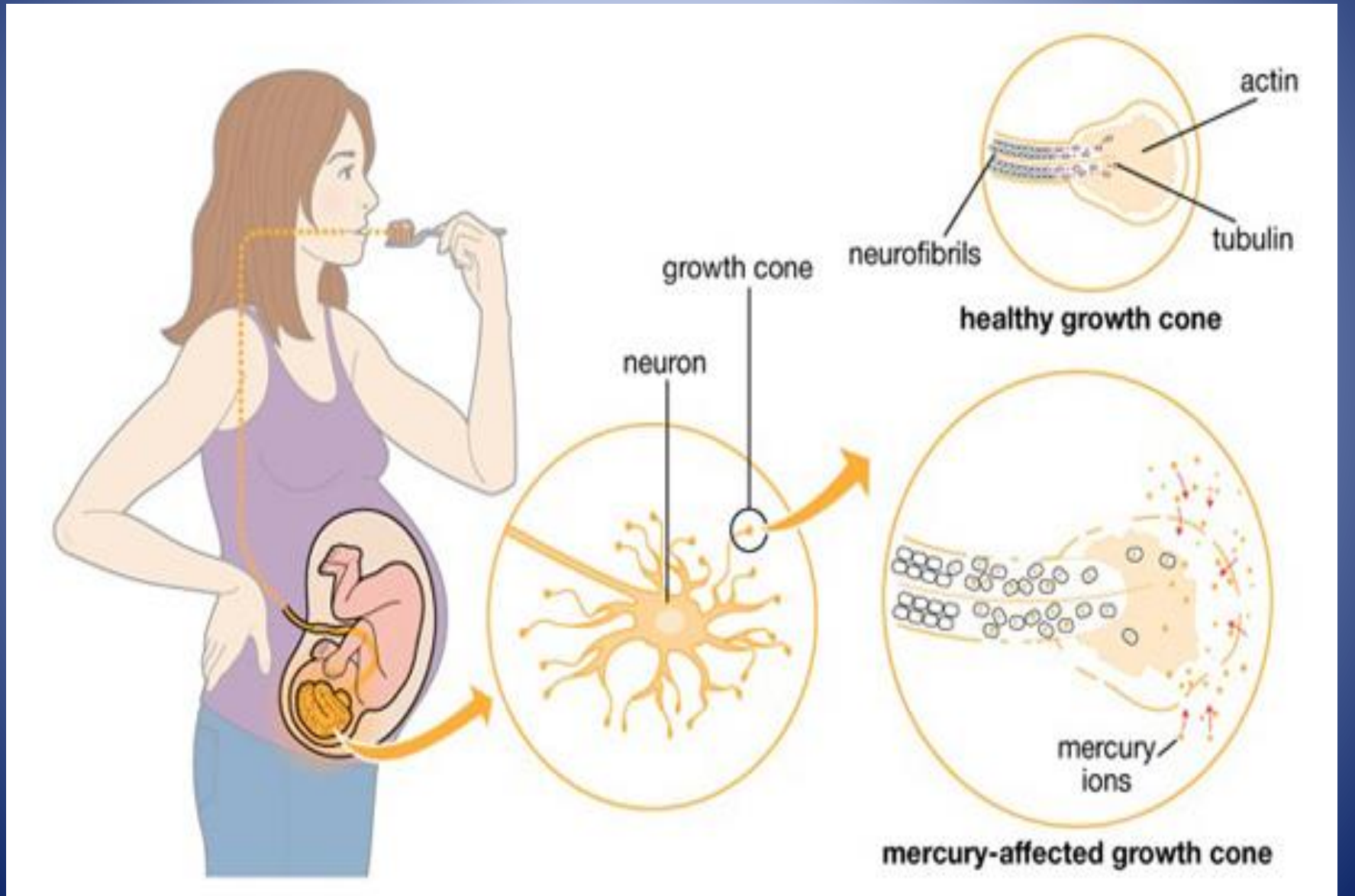
Heavy Metal: Mercury

- Mercury is a powerful metal, more toxic than lead, cadmium, and arsenic.
- Mercury is a naturally occurring element that is found in air, water and soil.
- When mercury is released from industries into the air, it can travel long distances and be deposited on soil and in lakes where small organisms change the mercury to a form of organic mercury (methylmercury) that builds up in the bodies of fish.
- Metallic mercury has been found at 714 hazardous waste sites nationwide.
- Exposure Routes: inhalation, drinking and eating, touching

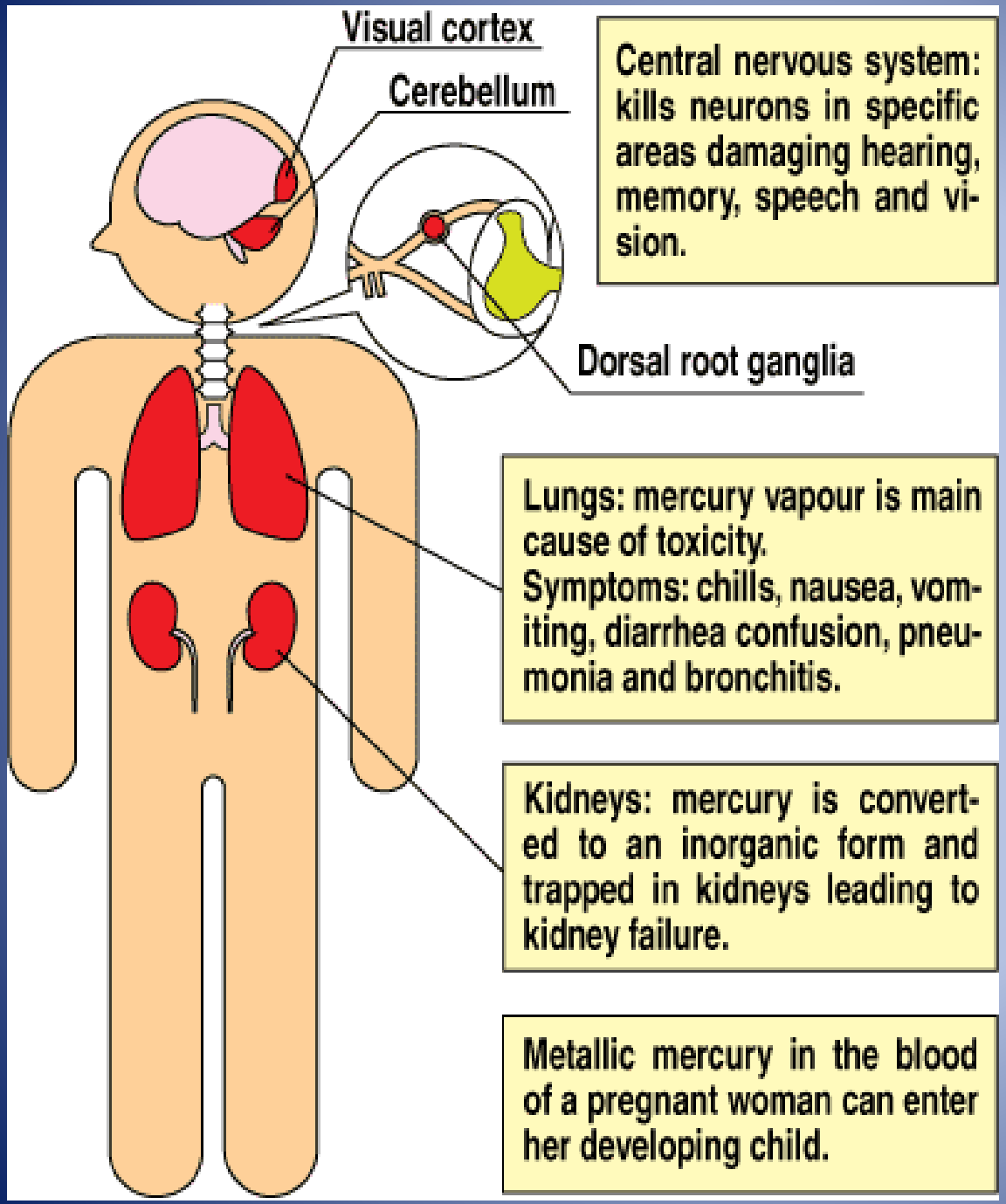
Mercury in the Environment



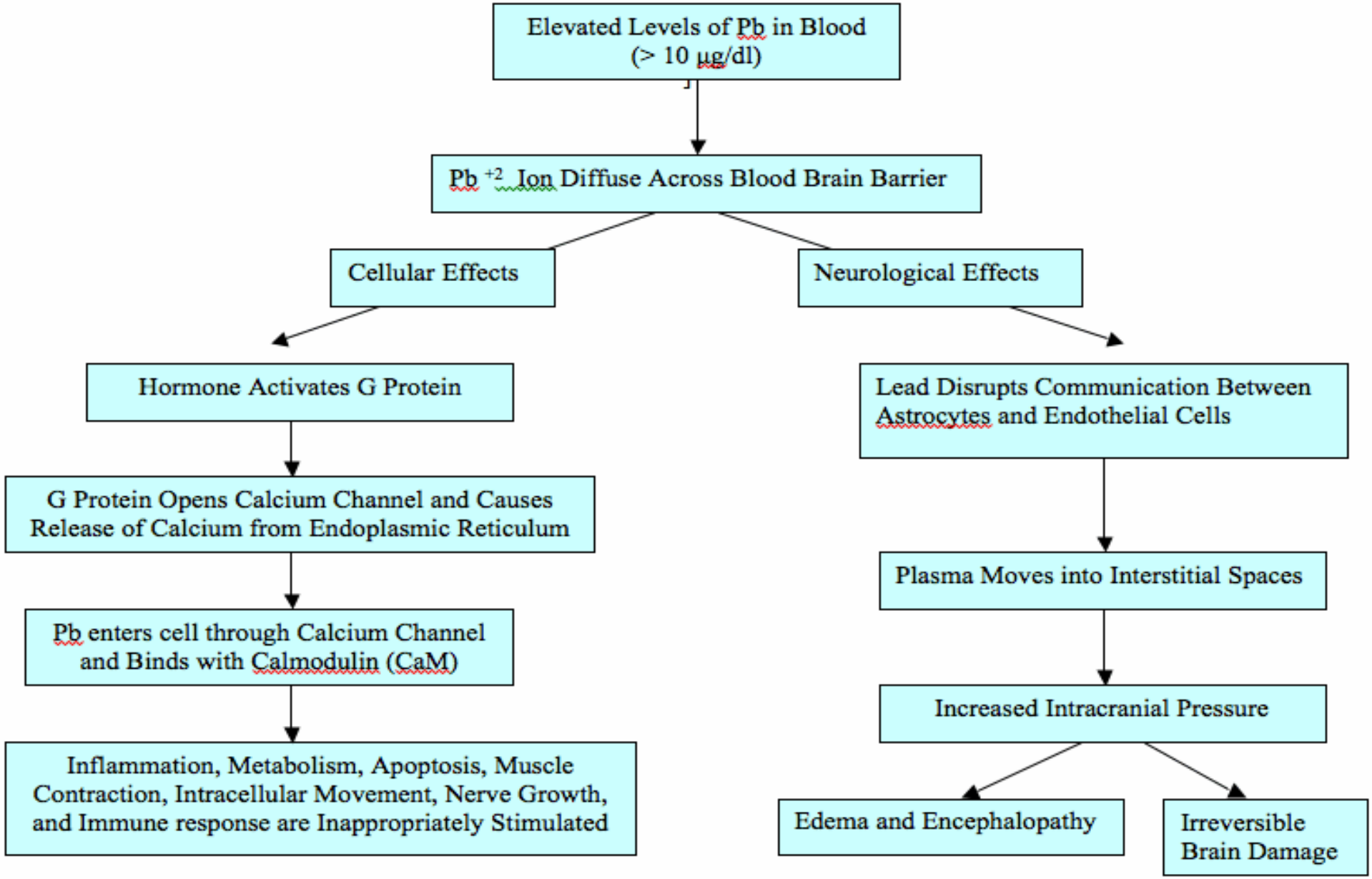
Mercury Health Effects on the Fetus



Mercury Health Effects



Lead in the Blood



Heavy Metal: Lead Poisoning Symptoms

Lowest Exposure:

Decreased learning and memory
Lowered IQ
Decreased verbal ability
Impaired speech and hearing functions
Early signs of hyperactivity or ADHD

Low Exposure:

Myalgia or paresthesia
Mild fatigue
Irritability
Lethargy
Occasional abdominal discomfort

Moderate Exposure:

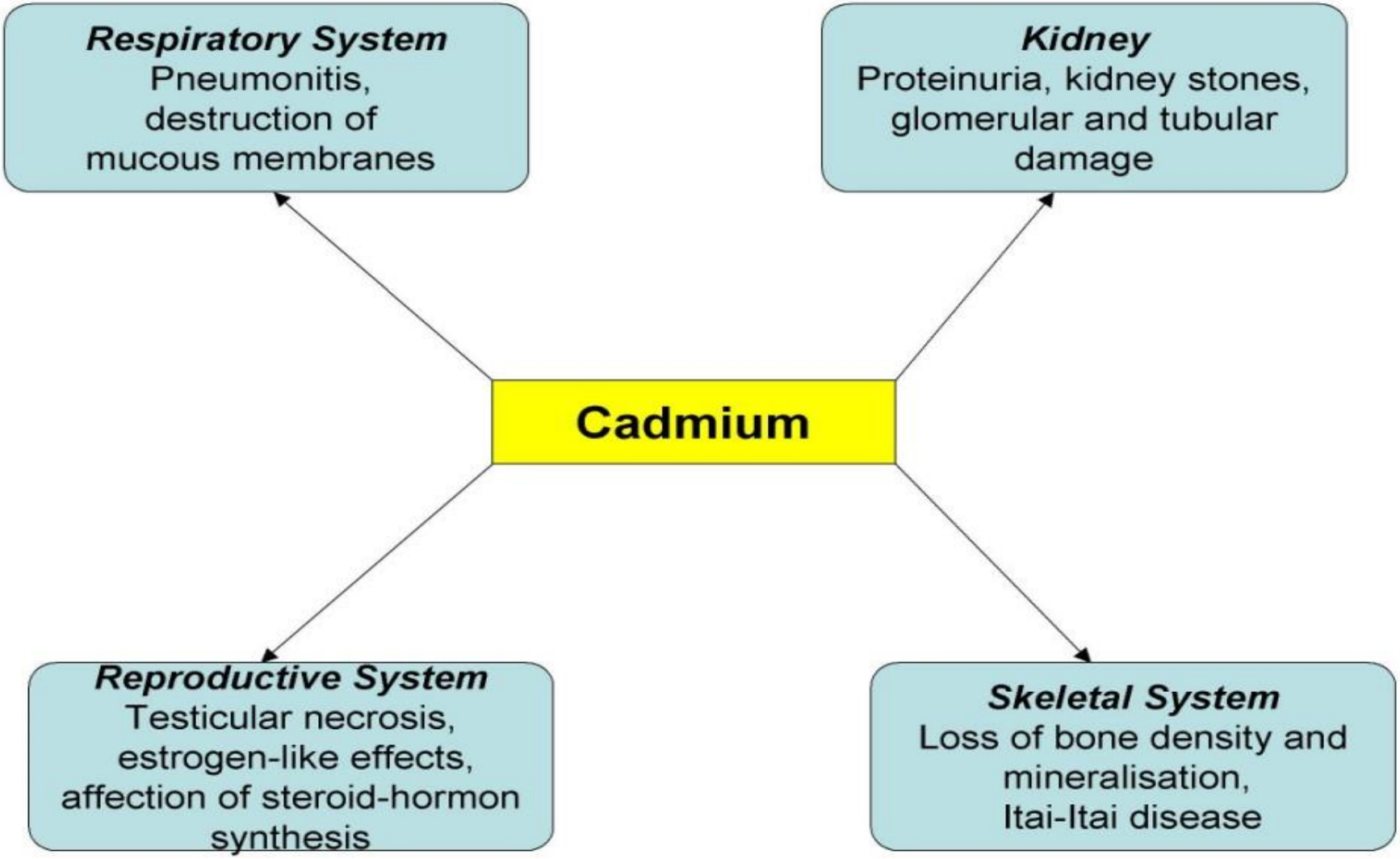
Arthralgia
General fatigue
Difficulty concentrating/Muscular exhaustibility Tremor
Headache
Diffuse abdominal pain
Vomiting
Weight loss
Constipation

High Exposure:

Paresis or paralysis
Encephalopathy
Leadline on gingival tissue

Lead poisoning
Lead buildup in the body causes serious health problems
Symptoms
- Headaches
- Irritability
- Reduced sensations
- Agressive behavior
- Difficulty sleeping
- Abdominal pain
- Poor appetite
- Constipation
- Anemia
Additional complications for children:
Lead is more harmful to children as it can affect developing nerves and brains
Loss of developmental skills
Behavior, attention problems
Hearing loss
Kidney damage
Reduced IQ
Slowed body growth
Source: MedlinePlus/Mayo Clinic
240809 AFP

Cadmium Toxicity *



Arsenic levels in common foods

Arsenic intake occurs through food and drinking water with recent concerns focused on high levels in rice. Elevated levels of arsenic can cause lung, bladder and skin cancers, cardiovascular disease and hypertension and could cause neurological deficits and diabetes.

RECOMMENDED MAXIMUM ARSENIC INTAKE

220-lb. person
30 µg

50-lb. child
14 µg

Health threat = **50+ µg**

RICE, RICE PRODUCTS
3.5-6.7 µg per cup

COOKED SPINACH
1.1 µg per cup

GRAPE JUICE
2.3 µg per cup

MEAT*

Beef
0.1 µg per half pound

Chicken
0.2 µg per half pound

Shrimp
0.4 µg per half pound

***FISH**
Fish has high amounts of organic arsenic that are not as risky to human health as inorganic arsenic.

Arsenic in water

WELL, SPRING, NATURAL WATER

- Concentration can reach 100-200 ppb (parts per billion) = 200-400 µg per 2 liters of water.

PUBLIC WATER

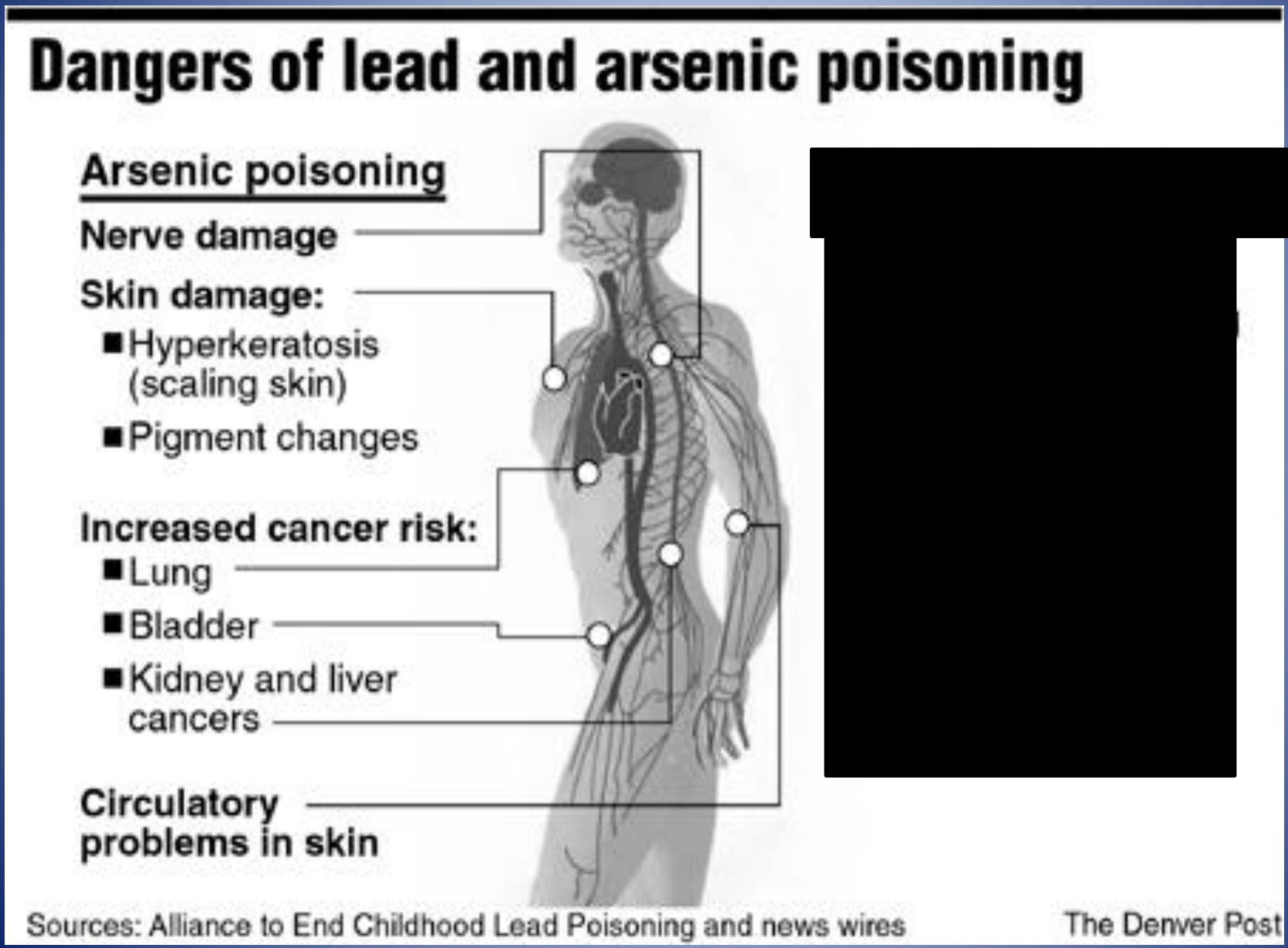
- Typical concentration: 2-4 ppb = 4-8 µg per 2 liters of water.

NOTE: 10 ppb is the maximum concentration allowed, or 20 µg per 2 liters of water.

Sources: "A N… Food and Che…

…ames Hilston/ Post-Gazette

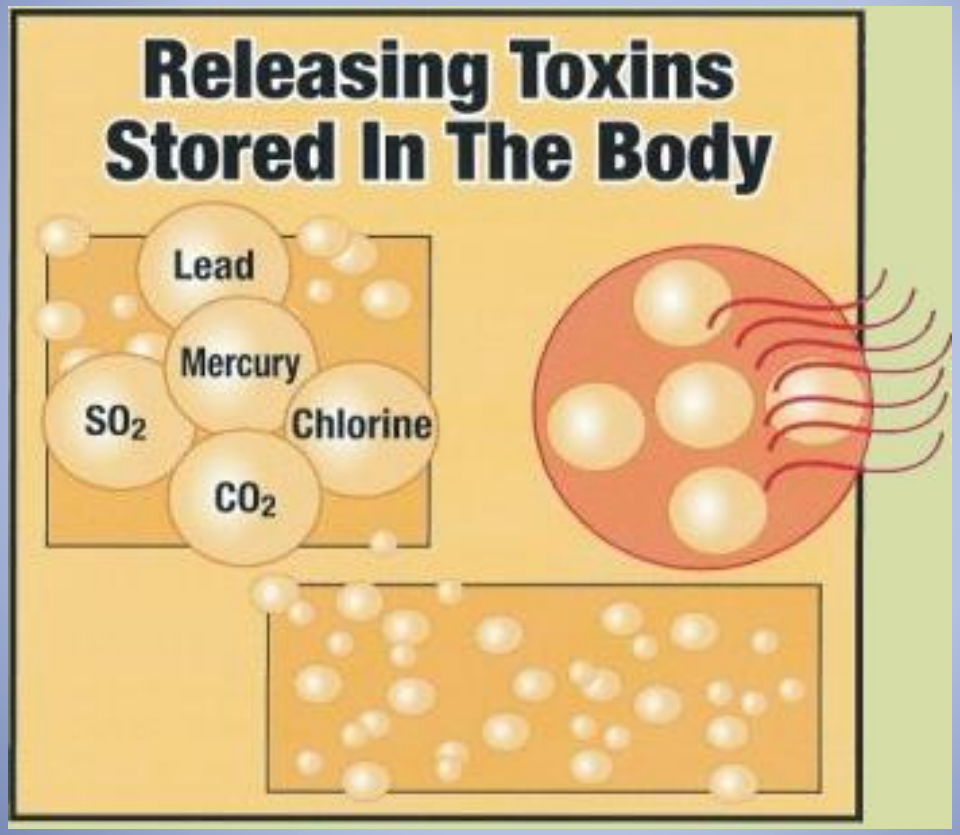
Arsenic Poisoning



Heavy Metal: Aluminum

- **Sources:**
  - **Aluminum metal is used to make a variety of products including beverage cans, pots and pans, automotive components, siding and roofing, and foil.**
  - **Aluminum compounds are used in diverse industrial applications including water treatment, abrasives, and furnace linings. Powdered aluminum metal is used in explosives and fireworks.**
  - **Aluminum compounds are also used in consumer products such as foil and antiperspirants, over the counter and prescription drugs such as antacids, buffered aspirin and in food additiv**

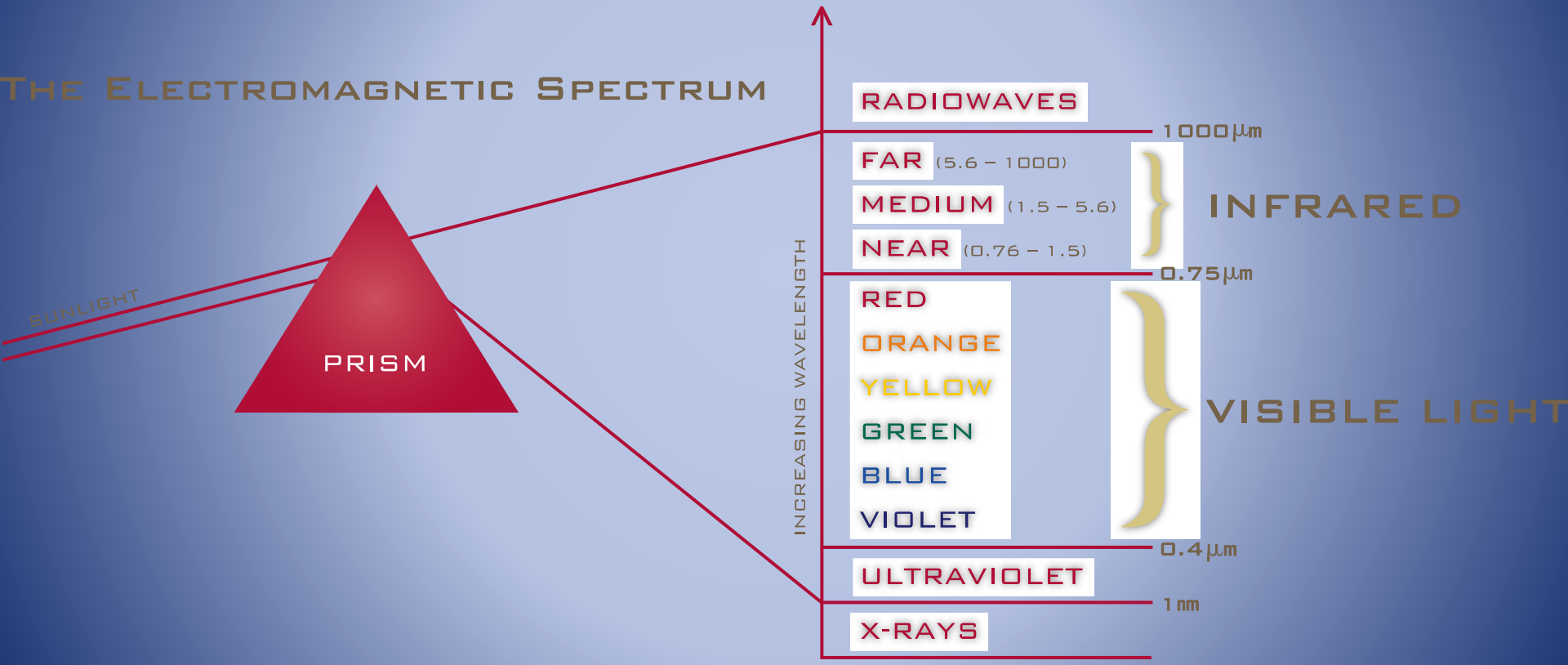
Far Infrared Detoxification



Far Infrared

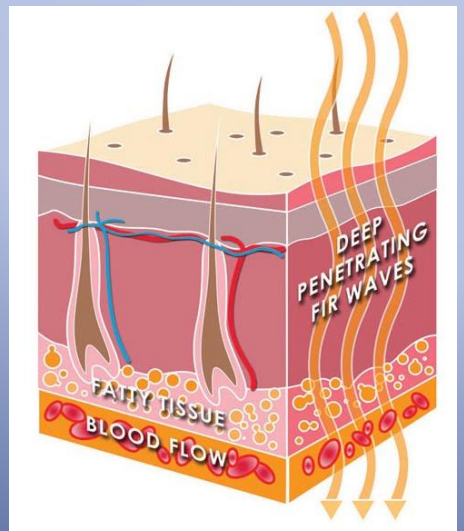
- Inside the electro-magnetic spectrum, Far Infrared heat is manufactured by the sun.
- It is a portion of the sun's invisible band. Even though the band of light is not detectable to the human eye, the heat sensation is felt. In addition, infrared energy is also produced as body heat.
- Far Infrared energy heats things by direct, molecular excitation, without heating the air between the spaces. Far Infrared rays infiltrate the body's tissue much deeper than near infrared rays do.
- The body absorbs Far Infrared heat waves that encourage the transfer of water across cellular membranes.
- Once this happens, and the cellular membranes are hydrated, the blood flow is enhanced and ultimately assists with an assortment of biologically beneficial healing functions.

Far Infrared



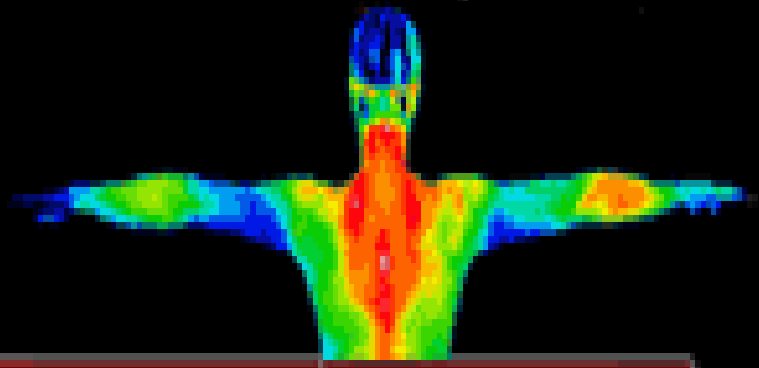
Far Infrared

- The most notable characteristic of Far Infrared heat is its exceptional ability to penetrate far below superficial skin layers.
- When this occurs, it constructs a natural resonance, which has numerous advantageous properties.
- Infrared energy is measured in wavelengths as microns, and the human body can best absorb infrared energy in the 3- to 50-micron range—with the best absorption occurring at 9.4 microns (the same as the human body).
- These rays penetrate deep into the body where they gently elevate the body's surface temperature and assist in expanding capillaries which stimulates blood circulation.
- By elevating the sub-surface tissue temperature, a series of continual changes constructive to human health will be instigated.

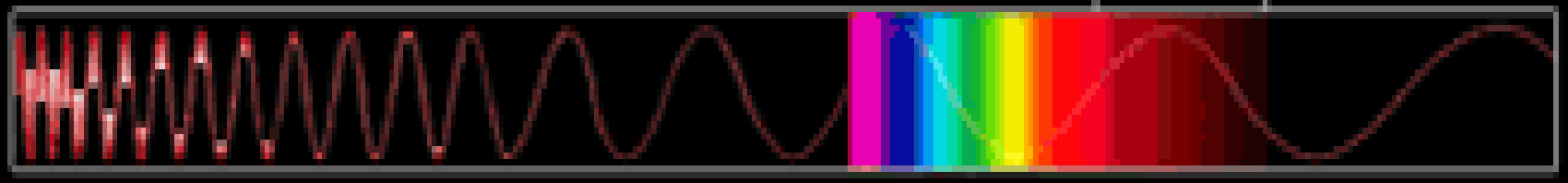


Far Infrared waves have the ability to penetrate up to 2" below the surface of the skin, resonating with the natural frequencies of cells, thereby releasing chemicals, heavy metals, and toxins and their detrimental effects.

Human Body Wavelength
6 -20 Microns
"Vital Rays"



Near Infrared Rays	Medium Infrared Rays	Far Infrared Rays



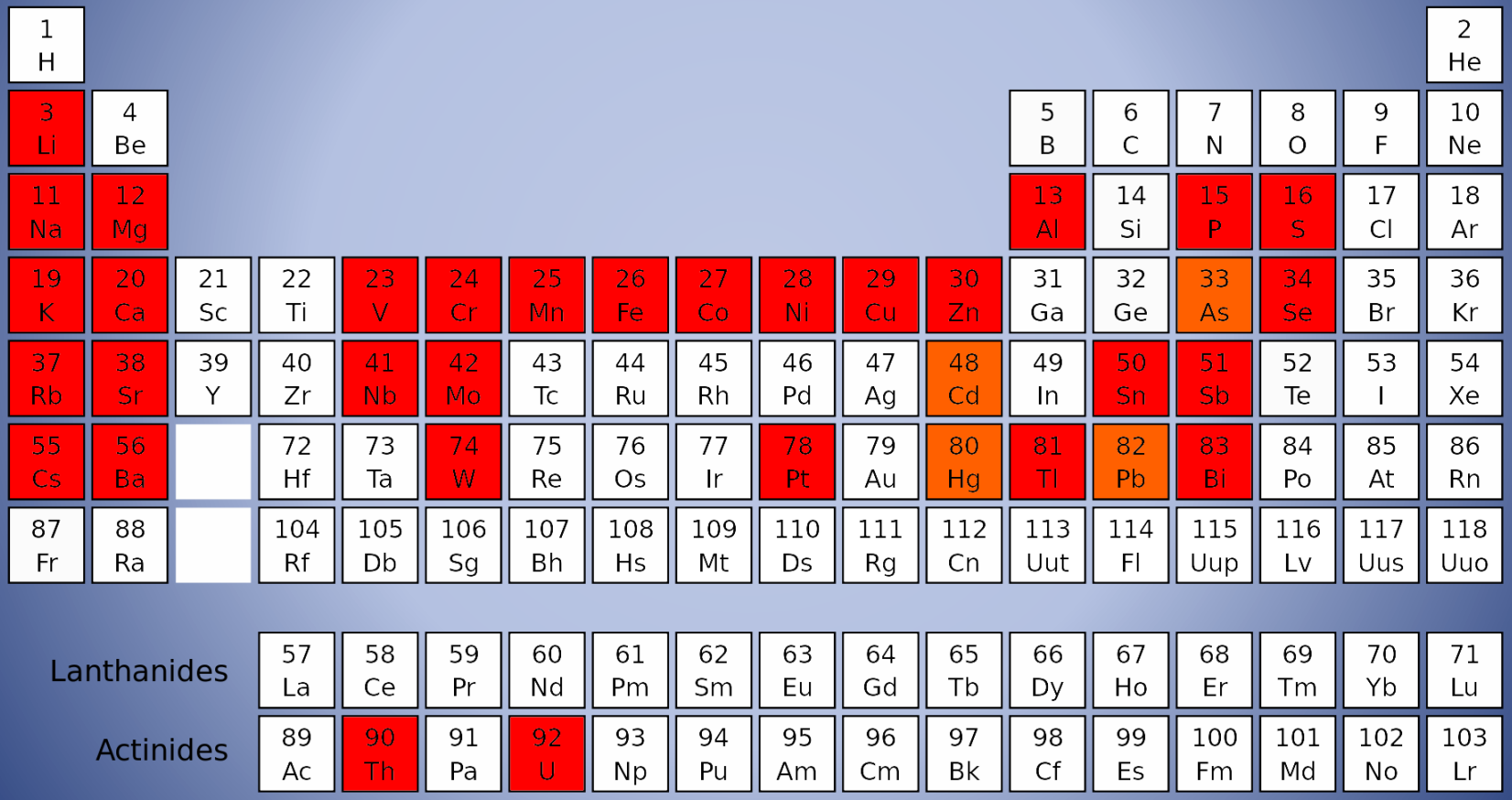
Gamma X-Ray Ultraviolet Visible Infrared Micro

Far Infrared Detoxification

- FIR mobilizes toxins from lipid cells and excrete via perspiration
- Invisible waves of energy absorbed by the tissues, muscles, tendons, bones
- Detoxification at the cellular level
- Significant benefits throughout entire body
- FIR therapy used with the 'Brimhall Six Steps to Wellness Program' will lead to better Function, and better patient results.

HIGH TECH HEALTH INTERNATIONAL

Far Infrared Detoxification

- Removes Toxins at the Cellular Level
- Improves Cellular Health and Function
- Supports a Healthy Nervous System
- Increases Circulation
- Improves Digestive Problems
- Normalizes Blood Pressure
- Enhances Immune System
- Influences Ideal Weight and Cellulite Control
- Reduces Swelling and Inflammation
- Speeds Up Healing Process
- Relieves Spinal Degeneration
- Improves Spinal Corrections
- Improves Stress Management
- Increases Energy
- Reduces Fatigue
- Increases Focus and Clear Thinking
- Encourages Positive Mindset

Sweat Analysis: 35 minute Thermal Life Sauna Session