



Ionizing Radiation

A SMARTER PLAN ON HOW TO PROTECT YOURSELF

by Dr. Jack Tips (N.D., Ph.D., C.Hom, C.C.N.)



With the recent meltdown of the Fukushima Daiichi nuclear reactors in Japan (March, 2011), Americans bought out the entire supply of *potassium iodine* and *potassium iodide* available on the market in less than two days. However this is a knee-jerk fear reaction, and there's actually a smarter way to address the fact that nuclear radiation will inevitably find its way into your body.

Why Are People Taking Iodine?

Potassium Iodide (KI for *kali iodatum*) is a first aid recommendation for nuclear reactor outgassing because it



Fukushima, Japan reactor explosion

prevents radioactive iodine from entering the thyroid gland where it causes cell death and cancer. The thyroid gland is a sponge for iodine and cannot tell the difference between

stable iodine and radioactive Iodine-131. Since radioactive Iodine-131 is a significant contaminant when nuclear reactors have mishaps, the thyroid suffers the most damage.

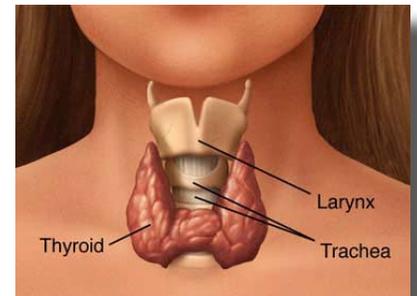
When a person takes KI, a stable form of inorganic iodine, it fills up the thyroid receptors and then the thyroid cannot absorb the radioactive Iodine-131 emitted from the reactor meltdown for up to 24 hours. But where's the radioactive iodine 24 hours later? Yes, it's still there, waiting. So for KI to work, it needs to saturate the thyroid daily, and this can be dangerous as I'll explain.

The current radiation scare brings us right back to the theme of this series of Research Reports – *We Live & Die At The Cellular Level* – and it provides a platform for our further

discussion on the truth that when we nourish our cells, our bodies can be resilient and healthy, even in a polluted world.

Potassium Iodine / Potassium Iodide – Not The Answer

There are a number of reasons to not take KI, and certainly not on an on-going basis. If too much is taken or it's taken for too long, many varied symptoms develop. Such symptoms are listed in the Homeopathic *Materia Medica* and include: allergies, salivary gland inflammation, thyroid pathologies, rhinitis, canker sores, recurring pneumonia,



bone tumors, Hashimoto's, and chronic urethritis. KI can result in making the thyroid either *hypo* or *hyper* depending on the individual's genetics.

Protecting the thyroid is important as it's the most vulnerable tissue to I-131 radiation damage, and KI does offer temporary protection, but KI does not protect other vital organs such as the liver, heart, and lungs. Further, KI does not protect the body from other radioactive particles such as Cesium-137 which affects the potassium rich muscles and every cell via the cell membrane's sodium-potassium pump. Nor does it

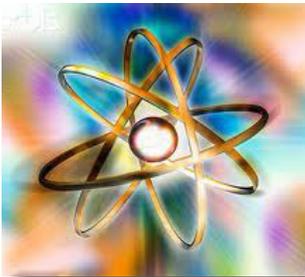
protect the body from uranium isotopes. So KI is really limited in its scope. KI is a band aid, it's not a very good one at that.

Balance in All Things

To understand the danger of taking too much iodine or iodide, let's discuss how the thyroid makes *thyroxines*—its iodine-based hormones that helps run the body's metabolic rate, protein synthesis, and growth hormones.

When thyroxine decreases in the body, the hypothalamus senses this and tells the pituitary to release a hormone called Thyroid Stimulating Hormone (TSH) that tells the thyroid gland to make some more thyroxine. This is how the endocrine system maintains checks and balances for optimal health.

The thyroid gland only uses the molecule known as *iodide* to make its various thyroxine molecules. The thyroid cells absorb iodide and within its cells, it converts *iodide* to *iodine*, and then it makes thyroxine from iodine and tyrosine. This conversion of iodide to iodine utilizes an oxidative process based on hydrogen peroxide.



Oxidative processes require controls called antioxidants. Too much oxidation results in free radical damage. Free radicals damage DNA and cause *apoptosis*, or self-willed cell death. Further, damaged

cells alert the immune system to come help clean up the debris and ensure that those damaged cells do not turn into rogue cells (tumors).

When TSH is elevated, it means that the thyroid must make more hydrogen peroxide. Thus TSH increases free radical concerns within the thyroid. This long term oxidative process causes some thyroid cells to burn up or in nuclear-speak, to “melt down,” and this process is synonymous with *inflammation*. When the damaged cells break open, they release their hydrogen peroxide and this inflames the thyroid tissue. When the immune system arrives on the inflammatory scene, it attacks the thyroid because of the damaged, rogue

cells. This is the basis for the thyroid autoimmune disease, Hashimoto's Thyroiditis.

Here again, we see that chronic inflammation results in chronic-degenerative and autoimmune diseases. [In this series of Research Reports, the first two dealt with inflammation and free radicals, so you can now see how far-reaching this subject is and how we must become masters of cellular health if we're to have optimal health].

A lack of iodine/iodide is a deficiency that causes low thyroid output of thyroxine. An overabundance of iodine/iodide is an excessive condition that can trigger elevated TSH and cause increased oxidative damage to thyroid cells resulting in excessive immune activity. So it's the old story of “Goldilocks And The Three Bears,” not enough iodine is too cold, too much iodine is too hot. The body needs just the right amount.

People taking KI for an extended period of time gain a little thyroid protection but run the risk of pushing the thyroid toward inflammation and the immune system's resulting involvement. That, coupled with the fact that KI does not protect the body from other ionizing radiations (uranium, plutonium, cesium, sulfur, cobalt, etc.) and it does not protect other organs, means that KI is slightly useful, but a feeble solution at best.

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How Radioactivity Kills

What happens when a radioactive molecule impacts a cell? It ionizes the DNA and kills the cell or creates an aberrant cell (tumor) This is the positive-ion, free-radical story. The cells that are the most vulnerable to ionizing radiation are those that rapidly divide, and those that are in the process of reproducing.

This is the basis for medical radiation therapy. The ionizing radiation damages the tumor's DNA causing it to die before the radiation destroys the healthy cells. The result is a partially damaged body instead of a dead body.

Radiation Protection – Not Just For Disasters

The USA has tested nuclear bombs and created nuclear fall out in the following states: New Mexico, Nevada, Mississippi, Colorado, and on Pacific and Atlantic Islands. Radiation exposure is nothing new to the USA peoples. Other countries have tested nuclear bombs all over the world as well. Radioactive ammunition is fired frequently in Southern California (Camp Pendleton) causing radioactive drift around San Diego. So the current concerns about nuclear radiation only serve to punctuate the fact that planet Earth has been enshrouded in nuclear radiation since the first bomb test in New Mexico in 1945. And then there was Three Mile Island, Chernobyl, and minor incidents in many locations.



Dr. Hazel Parcells
age 106

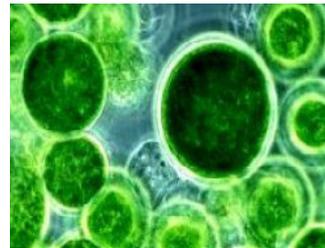
So a temporary and risky plan such as the one provided by KI is not the solution. In 1986 Doc Wheelwright taught the soak baths that Dr. Hazel Parcells developed. A person can get rid of uranium isotopes with a simple soak bath of Epsom Salts, or by adding two pounds of baking soda and two pounds of sea salt to a bathtub of water. Both magnesium salts and baking soda have a well-established history of helping with topical radiation exposures. Baking soda used internally has an additional history of alkalizing the kidneys and promoting excretion of radioactive particles from the body. The baths are for exposures that are on the skin, as well as in the hair and pores of the skin, not for deep tissue exposures.

The real concern regarding the recent radioactivity is that it lands on farm pastures



around the world. The goats and cows will eat the radioactive particles on the grass and pass the radiation to people via milk and cheese and glow-in-the-dark burgers.

So now, dear friends, what is the best thing you can do for radiation? Let's check some research and see if we can find something that can be used every day. Let's see if we can find something that not only addresses radiation protection and detox, but also helps detoxify environmental chemicals such as pesticides and PCB's. What if that same substance happened to provide the body wonderful nascent amino acids as well as nascent vitamin B-12 and trace minerals? As long as we're playing the guessing game, what if this same substance slowed the cellular aging processes by providing rich RNA and DNA nucleic factors? And, what if that same substance boosted the immune system via the macrophage activity? Something this good, surely it's medically documented to help prevent and overcome radiation exposure, right? Right!



Chlorella

Shortly after World War II, the Japanese discovered an amazing characteristic of the single cell algae, *chlorella*.

After the Nagasaki and Hiroshima atomic bombings in 1945, food and crops were obliterated. There was a dire food shortage. The USA helped Japan rebuild and used chlorella as a rapidly produced source of protein and vitamins. Prior to this the Germans had used another species of algae, *spirulina*, in similar fashion after World War I.

Soon a remarkable thing occurred. The chlorella provided dramatic benefits for those who ate it. They recovered from the radiation sickness whereas the people who did not eat chlorella died. This caused the Japanese government to launch extensive studies on the benefits of chlorella. They soon found that chlorella has the unique ability to absorb nuclear radiation as well as mercury and other chemical toxins and remove them from the body. This is why, today, we use chlorella in

the Systemic Formulas Detoxification Program (see Research Report #4: *A New Model for Detoxification*).

Resulting from this initial research, Japan built a multi-billion dollar industry on farming chlorella as a super health food, vegetable source of protein, and nutritional supplement that provides nascent B vitamins, antioxidants, and minerals.

In addition to being the premier solution for nuclear radiation exposure, Chlorella has many benefits such as:

- Supports digestive processes
- Increases colonies of beneficial probiotics
- Protects cells from free radical damage with antioxidants
- Supports repair of RNA and DNA
- Detoxifies heavy metals and PCBs, better than the chelating agent DMPS (Dimaval; 2,3-dimercapto-1-propane sulfonate, Na+)
- Provides super nutrition via chlorophyll
- Supports immune system effectiveness, induces interferon
- Provides a wealth of nascent nutrients
- Provides a vegetarian source of Vitamin B-12
- Helps alkalize and balance the pH
- Supports weight loss and maintenance of proper weight
- Detoxes nuclear radiation
- Supports glutathione (chief detoxifier, anti-oxidant)
- Contains “chlorella growth factor” (CGF) that stimulates rejuvenation and cellular healing
- Provides abundant beta carotene, a cell protective precursor of Vitamin A.
- Normalizes blood sugar and blood pressure
- Protects the body from ultraviolet radiation
- Helps detoxify the liver and blood



Dr. Akizuki

Back in 1945 after the atomic bombing of Japan, Tatsuichiro Akizuki, M.D. was Director of the Department of Internal Medicine at St. Francis’s Hospital in Nagasaki, right in the middle of the high radiation zone. This astute doctor insisted that his staff and patients eat only brown rice, chlorella, miso soup with seaweeds such

as kombu, mozuku, wakame, and other seaweeds. He also prohibited eating sweets and sugar knowing that they stress the immune system.

His patients and staff did not die from radiation poisoning whereas people located many miles away from the explosion suffered severe radiation poisoning and death. Dr. Akizuki knew that the sea vegetables contain substances such as sodium alginate, that bind radioactive particles and help remove them from the body. This is the basis why seaweed and chlorella are used to treat radiation victims.

Seaweeds provide sodium alginate and iodine from nature as opposed to a chemical KI, and the chlorella is the earth’s best anti-radiation food, even better than spirulina.

Chlorella has a unique cell membrane. It’s thick and designed by Nature to repel toxins and heavy metals. This is why chlorella has been able to survive for the past two million years.

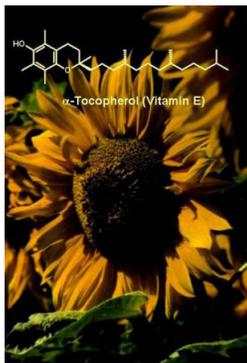
When chlorella is used dietarily, it is best processed to crack the cell to gain access to the rich chlorophyll and nutrients inside the cell, but most of all, it’s the tough cell membrane that imparts chlorella’s anti-nuclear radiation properties. Special technologies are used to crack the cells open so their precious nutrition is readily available for human consumption.

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Tocotrienols Provide Inner Cell Protection From Ionizing Radiations

Natural Vitamin E from plants is a fat-soluble, anti-oxidant composed of four methylated phenols called “tocopherols” (designated *alpha*, *beta*, *gamma*, *delta* *tocopherols*) and four double bonded trienes called “tocotrienols” (designated



alpha, *beta*, *gamma*, *delta* *tocotrienols*). So there are eight fractions comprising the whole Vitamin E complex.

Most research has been focused on the alpha tocopherol fraction, but recently, research is revealing the value of the whole Vitamin E complex. Now medical researchers

(see references) are finding that tocotrienols help the body:

- Lower Cholesterol by reducing the liver’s cholesterol production
- Protect against brain damage particularly after a stroke
- Survive pancreatic cancer
- Inhibit breast cancer by better inducing apoptosis in both estrogen-responsive and unresponsive breast cancer cells.
- Suppress prostate cancer cell proliferation through the cell signaling mechanism
- Reduce incidents of skin cancer and improves chemotherapy outcomes for malignant melanomas
- Reduce the risk of acquiring type 2 diabetes
- Reduce the risk of Alzheimers
- Protect the cells against radiation exposure.

It is interesting to note those powerful and important benefits of Vitamin E’s tocotrienol fractions, especially after the 1994 deliberate smear campaign launched by individuals and business entities opposed to natural health based on a seriously flawed study in Finland that used synthetic beta carotene and a synthetic fraction of Vitamin E (*dl-alpha*, note the “dl” designation which refers to the synthetic, reversed

(mirror image) molecule that won’t work in the body). The study was entitled “*The Effect of Vitamin E and Beta Carotene on the Incidence of Lung Cancer and Other Cancers in Male Smokers.*” This study was conducted on people in Finland where there is a known deficiency of selenium (Vitamin E’s life partner) and who hold the honor “the world’s greatest consumers of alcohol” (known to deplete Vitamin E from the body), and the study commenced shortly after Finland received a very heavy dose of radiation from the Chernobyl nuclear reactor catastrophe.

Despite the hundreds of medical studies that prove that Vitamin E helps prevent lung cancer, the media was fed a study where only one fraction of synthetic *dl-alpha* *tocopheryl* was used with synthetic beta carotene, and it was reported that tobacco smokers had a 5% increase of lung cancer per 100 I.U. administered. There was no increase in non-smokers. The misinformation presented to the media’s sound-byte mentality was that “Vitamin E causes lung cancer,” and the media blindly bought it and spewed it out of their mouths like radiation from a cracked nuclear reactor, and have fostered a criminal disservice upon the people of the United States. Be it known, now and forever, our cells, hearts, arteries, brains, hormones, lungs, prostates and breasts, need Nature’s Vitamin E daily – in fact, we can’t live without it. That’s Nature’s story and she’s sticking to it!

That skewed study’s results parallels a little-known study that showed that the synthetic, isolated, *dl-aphatocopheryl*, in the absence of the complete Vitamin E complex, and more specifically the *gamma* tocotrienol fraction, actually depletes cells of Vitamin E and thus interrupts the glutathione-based antioxidant processes. It seems that overuse of the synthetic fraction serves as a magnet to pull tocotrienols out of the cells (nature abhors a vacuum) in an attempt to reassemble the complete Vitamin E molecule. Thus, there is a precedent for problems with synthetic *dl-alpha* *tocopheryl*, so don’t use synthetic Vitamin E! And please rest assured that Systemic Formulas only uses natural Vitamin E.

Since the smear campaign was so adroitly launched via national newspapers and television, there has been a decline in Vitamin E supplementation. It's past time for the decline to stop and an increase is warranted now more than ever before. Look again at the major benefits of tocotrienol supplementation. There are a hundred more benefits to taking whole-complex Vitamin E. (Whole complex Vitamin E is naturally derived because synthetic tocotrienols are too expensive to isolate and market.)



During his lifetime, Doc Wheelwright was quite outspoken about the dangers of synthetic Vitamin E and he was outraged that it was being used for neonatal infants in hospitals and sold in health food stores as "natural Vitamin E." He taught us

always use Vitamin E from plant sources—not the chemistry set by-product from the photographic chemical industry.

Two components of the natural vitamin E complex, *gamma-tocotrienol* and *delta-tocotrienol* are showing great promise in protecting the cells from ionizing, nuclear radiation. Meticulous research conducted by the Armed Forces Radiobiology Research Institute (AFRRI) demonstrated that subcutaneous gamma-tocotrienol injections to mice a day before giving them doses of radiation increased survival by over 75% compared to controls. Even at lethal, high radiation doses, the gamma-tocotrienol injected mice showed an unprecedented 40% survival rate. Subsequent research by the AFRRI revealed that the delta tocotrienol offers similar protection to radiation.



Drs. Semyon & Valentina Kirlian

Vitamin E, like all vitamins, is best administered in its natural and complete form with all its accompanying synergists. Doc's mentor, Dr. Royal Lee, was an early proponent of whole complex, natural vitamins and published that message citing that Vitamin C required its accompanying bioflavonoids to be effective. Doc

Wheelwright worked with Dr. Lee and was an early crusader for natural supplements, and it was through his correspondence with the Russian bioenergy pioneers, Drs. Semyon and Valentina Kirlian, that Doc authenticated the dramatic difference between nature's vitamins and synthetic vitamins.



Doc researched the bioenergetic signatures of vitamins and even found a way to incorporate them into a specific herbal matrix for increased effectiveness. He claimed that he found that certain herbs could re-align a USP vitamin and make its energy field equate that of a plant-derived vitamin.

He developed specific formulas for what herbs go with each B-Vitamin.

When Doc put his original Vitamin E on the market, called EZV, only the one **natural** fraction, *d-alpha tocopherol* was available. Doc put that into a dry honey-bake base for chewable, sublingual absorption. Doc's research showed that Vitamin E was injured by the stomach acids reducing its bioavailability, and he wanted immediate assimilation of this critically important nutrient.



With the advent of recent research on tocotrienols coupled with availability viable whole Vitamin E complexes, and with Doc's grandson, Dr. Shayne Morris, being responsible for the production of Systemic's formulas, Dr.

Morris immediately updated the EZV formula to include the whole, natural Vitamin E complex that is available today.

Systemic offers a natural tocopherol complex (*alpha, beta, gamma, delta*) replete with its complimentary tocotrienols (*alpha, beta, gamma, delta*) in a chewable form that retains the sublingual absorption properties. And this is just perfect to address the issue of radioprotective nutrition where we want to enrich our cells with specific antioxidants that defend our cells from ionizing radiations. The sublingual absorption

means that the tocotrienols go into the lymphatic system to be delivered to every cell without deterioration by the stomach acids.

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Potassium and Cesium-137

Another concern exists from the Cesium-137 that gets absorbed into the body from nuclear radiation. Dr. Shayne Morris points out that Cesium competes with potassium and thus can damage areas of the body where potassium is rich – the muscles, as well as every cell membrane’s respiratory process known as the sodium potassium pump.

For this reason, Dr. Morris recommends taking additional potassium to protect the body from Cesium filling the potassium slots. Most people are deficient in potassium, so taking 4-6 PTM (Potassium Stabilizer) is advisable, particularly during times where Cesium-137 is an increased environmental factor.

By ensuring that the body’s potassium processes are stoked with potassium, the Cesium-137 is better addressed by the chlorella because it won’t be incorporated into the body matrix, whereas KI won’t help nearly as much.



Putting It All Together

Systemic Formulas has the three most important supplements to help protect the body from nuclear radiation molecules that run errant

in the earth’s atmosphere resulting in lung and skin contact, and end up in the human food chain and thus can damage cells everywhere in the body. The lungs, thyroid, bones and, well, every cell is vulnerable to the DNA-damaging, disease causing effects of radiation.

While at this writing, there is a national fear reaction occurring because of the horrendous nuclear reactor explosions in Japan, so far the radiation poses only a small threat on the American continent. The real issue is the fact that there is ongoing exposure to ionizing radiation and such radiations damage DNA. We are all being exposed to nuclear and ionizing radiation frequently. Even natural health people!

Radiation is part of our natural environment. Here is a table of radiation sources that affect people:

Source	Exposure
Man-made	2%
Food/water	9%
Cosmic Rays	14%
Earth-gamma	14%
Medical	24%
Radon (Earth)	37%

The point emphasized here is that human nutrition is supposed to handle living on the Earth. However, humankind has polluted the earth, created deadly new radioactive elements, and created an empty harvest of nutrient-depleted foods. Supplementation is one necessary response because even organically grown foods can carry radioactive particles into the body. We all need extra protection at the cellular level.

This means that the wise person will use daily supplementation of protective nutrients. Here is a summary of the key components.



REL (Chlorella) - This is the leading radioprotective supplement with a powerhouse of other daily health benefits. It captures radioactive particles like a chelating agent for removal from the body. Its fabulous nutrition provides key protective elements (chlorophyll, nascent vitamins and proteins) for the tissues. Systemic offers a high efficiency, cracked cell chlorella.



EZV (200 I.U. Vitamin E) – Tocopherols & Tocotrienols intact. Specific protection for the inner cell. Prevents ionizing radiation from damaging DNA and other cell organelles. A tumor-inhibitive antioxidant needed throughout the body. Systemic offers a chewable, sublingual whole complex, plant-source Vitamin E.



PTM (Potassium Stabilizer) - Plant derived & greatly needed by all eukaryotic (membrane enclosed complex structures) cells, fills the potassium receptors so Cesium-137 cannot mistakenly be absorbed. Supports the muscles, heart, and electrolyte functions of every cell.

Protocol for Times of Increased Exposure

with Three Meals A Day

- 4 REL
- 2 EZV
- 2 PTM

Protocol for Daily Use

with Two Meals A Day

- 2 REL
- 1 EZV
- 1 PTM

As a follow up program to further support both the thyroid's and liver's detoxification processes, it just makes sense to do the following program offered by Dr. Timothy Kuss and Dr. Cory Carter:

Protocol for Comprehensive Tissue Support

Thyroid/Cell Repair/Liver Detox

- 2 REL
- 1 EZV
- 1 PTM
- 2 Gf
- 1 #5
- 1 ACX

Meta-Oxy Test Helps Monitor Anti-Oxidant Protection

In this program to help protect the body from radioactive particles either damaging or destroying the cells our strategy is to provide the body the radiation scavenging (chelating) advantage of chlorella coupled with the inner cell protection of Vitamin E's tocotrienol activity. Since ionizing radiation can damage DNA and create free radicals, a handy general marker to determine if there is excessive oxidation of cell membranes as well as the cell's ATP (Adenosine TriPhosphate) generating processes.

Referring back to Research Reports #s 1 and 2, if the Meta-Oxy test reveals excessive cell membrane peroxidation, it is an excellent idea to address that with the ROX (Super Antioxidant with Resveratrol) and EPIC (Metabolic NO/ONOO) formulas. The Meta-Oxy test is simple, quick and inexpensive, and it reveals the necessity to increase supplementation so the body can reduce inflammation and have more needed protection. Meta-Oxy determines the amount of oxidative damage by measuring malandialdehyde in the urine and the color change with the test vial reveals the conclusion.

Here is a comprehensive protocol for such circumstances where there is already a high degree of oxidative stress coupled with the issue of radiation exposure. Further, the cells repair mechanism utilized methylation to effect returning to optimal health, so the methylation product, MoRS, is applicable for optimal nutritional support.

Comprehensive Inflammation/Free Radical/Ionizing Radiation Support

with Breakfast, Lunch, and Supper

- 2 REL
- 1 EZV
- 1 PTM
- 2 ROX
- 1 EPIC
- 1 MoRS

Nature provides the answers and natural substances such as chlorella (REL) and potassium from grapes (PTM) hold the best preventatives and best therapies for our modern day concerns.

Disclaimer: This Research Report does not propose a method for diagnosing or treating any disease whatsoever—a process exclusive to the practice of medicine by licensed individuals. This information refers only to whole body nutrition to support the body in caring for itself. It features insights from one individual's clinical perspective and does not constitute labeling for any product.