

Student Study Guide & Test Questions

The Gerson Therapy

by Charlotte Gerson and Morton Walker (2006)

CLASS: G320

While there are miracles, cancer is not something that usually just goes away. It is seldom an acute situation and, unless you have specific training, I would not recommend that you take on the role of cancer cure provider. The harsh reality is that neither natural or medical cancer treatments are very successful for far too many individuals. I am not saying that you shouldn't work with clients that have cancer!

Working with a client as they go through cancer "treatments" can be very rewarding when you realize that they are "handling" the drugs, radiation, and surgery much better than those with no support. You can help prevent death, increase their ability to heal, protect healthy cells and organs, and be the light of hope in their life. This is not a small role!

One of the most difficult times is when you can't use certain herbs or supplements because they are so protective that they will interfere with the drugs ability to kill the cancer cells. That is when you support the liver, kidneys, and bowels (unless that is where the cancer is of course!) for optimum disposal of toxins and clearing out dead cells from the body. Protect - Rebuild.

Natural health professionals work with many dis-eases and dysfunctions but we should never forget that our most important role is education for prevention. How many cases of breast cancer could be avoided if your clients ate more organic foods, had adequate nutrients that included vitamin A, D, selenium, and molecular iodine (lugol's formula - see end of test notes) and stopped using fragranced body and home products (xenoestrogens)?

"Data from these studies indicated that molecular iodine has potent inhibitory effects on cell growth in both breast cancer and FBC [fibrocystic breast tissue]. The data also showed a dramatic increase in cell death in breast cancer cell lines used in the study and in cells derived from fibrocystic breast tissue". (doi:10.1097/01.COT.0000511599.52147.f1)

"The molecular effects of iodine as well as ongoing epidemiological evidence points to its probable role in prevention of cancers through its antioxidant, anti-inflammatory, prodifferentiating, and proapoptotic effects. This is particularly evident with stomach and breast cancers but may be relevant for many other cancers that have yet to be substantially studied". (<https://www.naturalmedicinejournal.com/journal/2014-06/iodine-and-cancer>)

Cancer..net 2021: This year, an estimated 281,550 women and 2,650 men in the United States will be diagnosed with invasive breast cancer, and 49,290 women will be diagnosed with non-invasive (in situ) breast cancer. Approximately 44,130 will die from breast cancer this year.

Introduction

1. Cancer, a specific cluster of body cells undergoing uncontrolled cell division and multiplication, is the ultimate example of a _____ disease in progress.
 - A. Reproductive
 - B. Sub-acute
 - C. Degenerative
2. At the core of the Gerson Therapy is its diet, which includes organically grown fresh fruits and vegetables and _____ glasses of freshly squeezed juices daily, taken at hourly intervals. All _____ protein is omitted during the first 6-12 weeks of treatment and it's kept to a minimum thereafter.
 - A. Thirteen, animal
 - B. Seven, animal
 - C. Thirteen, dairy

Chapter 1

3. _____ oriented medical practice directs its efforts to finding the generalized formulas for treating types or classes of people with similar symptoms. Classification of patients into groups or categories is indispensable for finding a treatment. Disease-oriented medicine is a system primarily employing drugs in an attempt to produce effects in the body that will directly oppose and so alleviate the symptoms of disease.
 - A. Ayurvedic
 - B. Naturopathy
 - C. Disease
4. Patient-centered medical practice develops its healing procedures by seeking out everything that can possibly be done to _____ the health of a given unique individual.
 - A. Deplete
 - B. Optimize
 - C. Marginalize

5. (Matching) Even if the patient has only subclinical symptoms, as manifested by irregular laboratory tests, an effort is made in patient-centered medicine to accomplish three specific physiological responses: (*match the options below*)

Harmonize the person's _____.

Elevate the workings of a suppressed _____.

_____ the malfunctioning of essential organs.

- A. Correct
- B. Immune system
- C. Biochemistry

6. (Matching) Of the 150 different types of cancerous growths, five major groups are conventionally recognized in oncology (the study and practice of tumor treatment). (*match the options below*)

_____ : form in the epithelial cells that cover the skin, mouth, nose, throat, lung airways, and genitourinary and gastrointestinal tracts or that line glands such as breast or thyroid.

_____ : develop in the bones and soft connective and supportive tissues surrounding organs and tissues, such as cartilage, muscles, tendons, fat, and the other linings of the lungs, abdomen, heart, central nervous system, and blood vessels.

_____ : evolve in the blood and bone marrow. Abnormal white blood cells produced in those tissues travel throughout the bloodstream damaging the spleen and other tissues.

_____ : are lymph gland malignancies composed of abnormal white blood cells congregating in the neck, groin, armpits, spleen, chest center, and around the intestines as solid tumors.

_____ : arise in the antibody-producing plasma cells or blood-cell producing cells of the bone marrow.

- A. Myelomas
- B. Lymphomas
- C. Sarcomas
- D. Carcinomas
- E. Leukemias

7. Cancer cells are essentially _____ and immortal.

- A. Mutualistic
- B. Acoustic
- C. Parasitic

8. Some of the carcinogen hits are cancer “_____” while others are cancer “_____”.

- A. Initiators, promoters
- B. Initiators, inhibitors
- C. Promoters, imitators

Cancerous Growths	Substances that increase risk
Leukemia (abnormal white blood cells are formed and replace healthy white blood cells)	Chemicals such as dioxins, benzene, trichloroethylene, industrial solvents, and DDT; Diagnostic radiation/X-rays; Anesthetic gases for surgery; Air pollution (hydrocarbons, sulfur dioxide, particulate matter); Asbestos; Radon
Lymphoma (solid tumor usually formed from abnormal white cells and found in the glands and nodes of the lymphatic system)	POPs (persistent organic pollutants); Chlorophenols (man-made chemicals that are persistent toxicants widely spread in the environment): Dioxins; Chlordane (termite pesticide banned in 1988 after used on 30 million homes); PCBs (polychlorinated biphenyls)
Myeloma (blood cancer - non-solid tumors that originate in bone marrow plasma cells, the antibody-producing white blood cells)	Ionizing radiation; Agricultural and industrial chemicals (paints, petroleum, solvents, pesticides): POPs (persistent organic pollutants)
Sarcoma (rarest solid tumors that develop in bones and connective tissue such as fat and muscle)	Exposure to chemicals or radiation may increase risk. While rare the incidence of sarcoma is increasing.
Carcinoma (the most common type of cancerous growth/solid tumors that can affect almost any part of the body)	There are many contributing factors including chemicals, lifestyle and food choices, metals, viruses, etc. Some organs are more susceptible to certain factors (i.e. heavy metals and kidneys).
<p>Table Source: <i>The Definitive Guide to Cancer</i>, 3rd ed, by L. Alschuler and K. Gazella</p>	

Chapter 2

9. In the course of his work with tuberculosis patients, Dr. Gerson realized that one of the basic problems of disease was the loss of _____ from tissue cells and the penetration of sodium into the cells (known in medicine as tissue damage syndrome or TDS).
- A. Magnesium
 - B. Potassium
 - C. Calcium
10. While a minimum of sodium is needed by the body for normal function, this inorganic substance is also considered to be an _____ mineral, since it must remain outside of body cells in their fluids. Potassium is the _____ mineral, since it is needed for metabolism within body cells. When the extracellular/intracellular balance is disturbed, health problems start from damage to the cells.
- A. Biocellular, extracellular
 - B. Microcellular, intercellular
 - C. Extracellular, intracellular

Sources that support Dr. Gerson's observations:

“Hyponatremia (**low serum sodium**) was observed in 30 (50%) cases, hypokalemia (**low serum potassium**) was observed in 27 (45%) and hypocalcemia (**low serum calcium**) constituted 21 (35%) among the patients diagnosed with pulmonary tuberculosis...

Conclusion: Screening for serum electrolytes in pulmonary tuberculosis is essential. Early diagnosis and prompt management of these abnormalities are critical. Correction of these electrolyte imbalance could improve outcome of patient”. (International Journal of Health and Clinical Research, 2021;4(5):219-222)

“Tissue damage causes a configurational change of the protein matrix from the normal to the damaged state. This leads to loss of association preference for potassium vs. sodium ions and to loss of water structuring, resulting in replacement of cell potassium by sodium and abnormal uptake of water by the cell. Appropriate therapies for reestablishment of the normal configurational state of the proteins of the cell are reestablishment of normal cell ATP production, for which prostaglandin PGBx is the rational approach, plus diets or drugs that decrease sodium and/or increase potassium concentrations in the body.”. (Physiol Chem Phys. 1977;9(6):547-53. PMID: 614594.)

“If the level of total body potassium declines by just 1% (35 mmol), a serious imbalance in the intracellular and extracellular potassium results. This imbalance alters the electrophysiologic properties of the cell membrane and causes detrimental effects on impulse generation and conduction throughout the heart”. (Women's Health and Menopause pp 151-157)

11. Foods are raised in soil containing artificial fertilizers providing only three particular minerals; potassium, nitrogen, and _____. Normal plants require something like fifty-two different chemicals for good health and strong growth. People, too, require these fifty-two minerals to be present in foods.
- A. Phosphorus
 - B. Calcium
 - C. Fluoride

Interesting:

“In this study, [Table 1] shows the nonorganic vegetables have higher protein content than the organic, ranging from 0.76% for cabbages to 18% for carrot. These results are in agreement with results reported by Kumpulainen who stated that **when a plant is presented with a lot of nitrogen, it increases protein production**. Organically managed soils generally present plants with lower amounts of nitrogen than chemically fertilized soils, so organic crops would have **less protein but of a higher quality** than comparable conventional crops. **Across 18 matched pairs, nitrate levels in the nonorganic samples were higher in 83% of the pairs (undesirable)**, whereas protein levels were higher in 85% of the nonorganic samples...

From the same study:

- Organic vegetables have higher vitamin E content than the nonorganic ones, ranging from 15.6% for squashes to 47.8% for lettuces.
- Organic plant foods (vegetables, legumes, and fruit) were found to have a 5.7% higher content of vitamins and minerals than their conventionally grown counterparts. I
- Organic food contained higher levels of vitamin C and phosphorus and lower content of pesticides than conventional food.
- Organic carrots contained significantly more ascorbic acid, carotenoids, and phenolic acids in comparison with the nonorganic ones.
- Organic cabbage has higher vitamin C, β -carotene, and riboflavin and organic tomatoes have a higher amount of β -carotene than conventional grown. Potassium fertilizer can reduce the amount of β -carotene because of the transfer of most β -carotenes into lycopene.

(Comparable study between organic and nonorganic vegetables in their contents of some nutritive components
El-Bassel Hamdy A, El-Gazzar Hany H; Year : 2019 | Volume: 2 | Issue Number: 3 | Page: 204-208)

12. _____ enemas open the bile ducts and help the liver to release the body's accumulated poisons.
- A. Herbal
 - B. Water
 - C. Coffee

While coffee enemas have been used for a very long time with only a few non-desirable incidences/serious inflammation (cases involved frequent/overuse of coffee enemas, hot coffee!, and existing inflammatory bowel issues) there are many herbs, herbal-food, and herbal-supplement combinations that can safely and effectively increase bowel movements, stimulate the liver to release bile, stimulate the release of gall stones, and supply the liver with the nutrients and phytochemicals needed for it to replenish glutathione levels. I am not saying a person shouldn't do coffee enemas. I am saying that there are alternatives if enemas are not possible or rejected.

Quick Short List:

Milk Thistle, Blue Flag, Yellow dock, Gentian, Oregon grape, Wormwood, Great Greater celandine, Dandelion root, Globe artichoke, Queen of the Meadow, Celery juice, Cruciferous vegetables, Beets and beet greens, Betaine, N-acetyl cysteine (NAC), MSM, digestive enzymes...combinations work best.

13. Fever can help to destroy tumor tissue and should not be suppressed unless it goes way out of range, (i.e. above _____ degrees F).
- A. 101
 - B. 104.5
 - C. 103

Remember that fever, while it should not be suppressed in most cases, does carry risks for some individuals and the very young. Before using fever reducing drugs try using warm/cool baths and a diaphoretic herbal tea before suppressing the immune reaction.

“There is mounting evidence that the increase of 1 to 4°C in core body temperature that occurs during fever is associated with improved survival and resolution of many infections. For example, the use of antipyretic drugs to diminish fever correlates with a 5% increase in mortality in human populations infected with influenza virus and negatively affects patient outcomes in the intensive care unit”. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4786079/>)

14. Dr. Gerson found that the basic problem underlying all chronic disease is twofold: _____ and _____.
- A. Exercise
 - B. Deficiency
 - C. Marriage
 - D. Toxicity

15. When the body truly heals, all of these types of health problems involving overall physiological degeneration disappear, not just a single disease entity. With true healing, one cannot heal selectively - all medical difficulties improve steadily and finally go away _____.
- A. Temporarily
 - B. Incompletely
 - C. Permanently

Chapter 3

16. When active minerals and _____ are restored to the tissues, these nutrients release the excess sodium and toxins that have accumulated during the course of years of faulty nutrition.
- A. Amino acids
 - B. Proteins
 - C. Enzymes

When diet and exercise fails to reduce weight it is often due to excess toxins, bowel dysbiosis and/or overgrowth of bacteria/parasites/yeasts, and damage from the increased inflammation, antibiotics and other drugs. The double-edged sword is that when a person loses weight the fat cells dump the toxins back into the system. It is important to address the bowels and liver before weight loss and supply extra antioxidants, core nutrients, and herbs and homeopathics for lymphatic movement and liver protection before and during weight loss.

“When considering the toxicity of POPs (persistent organic pollutants), it is important to discuss their relationship with adipose tissue (AT), a significant site of toxicant bioaccumulation. AT is a connective tissue that is primarily comprised of white or brown adipocytes, but also contains several other cell types...Of the two primary types of adipocytes, white adipocytes, with a large unilocular lipid droplet, are the prominent storage site of lipophilic POPs...It is clear that POPs have physical characteristics that enable their bioaccumulation in adipose tissue, resulting in greater body burdens of a wide array of environmental toxicants with distinct mechanisms of action in the setting of expanded AT mass. It is also clear that accumulating evidence supports a role for various POPs in the development of obesity, and in obesity-associated conditions such as type 2 diabetes. Association of POPs with obesity and/or diabetes have indicated that low level exposures, as would be experienced by the majority of US citizens, may influence not only the development of diabetes in adults, but also exert gestational influences that influence the health of offspring.” (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6101675/>)

17. Metabolism consists of two fundamental phases, _____ and _____. The Gerson Therapy stimulates both so that the body finds its required homeostatic balance.
- A. Anabolism
 - B. Catabolism
 - C. Metabolism
18. Thyroid hormone signals mitochondria to multiply and increase production of ATP for more _____ energy. Iodides and iodine affect many metabolizing tissues directly in the same way.
- A. Cellular
 - B. Hormone
 - C. Nervous

Thyroid hormone thyroxine (T4) and its biologically active form triiodothyronine (T3) are vital for regulating homeostasis and the metabolic rate of cells and tissues. Why are they called T3 and T4? Iodine is an essential mineral used to synthesize the prohormone T4 and the bioactive hormone T3. T4 contains four iodine atoms and T3 contains three iodine atoms.

Nutrients that are often deficient but necessary for thyroid health and hormone production include iodine, zinc, selenium, vitamin A, all B vitamins, and the hormone called vitamin D. It is important to remember that zinc supplements need to be balanced with the copper.

Several research studies have suggested that a daily intake of 60 mg of zinc for 10 weeks was associated with a decrease in copper status. Additional studies have found that using the ratio of 15 mg of zinc to 1 mg of copper prevents the imbalance. The Recommended Daily Allowance (RDA) for zinc is 9-11 mg of zinc and 40 mg of zinc is considered the Tolerable Upper Intake Level (UL).

“Increased lactate levels and decreased mitochondrial ATP-production **are common findings during critical illness** and considered to be associated with decreased activity of muscle mitochondrial complexes in the electron transfer system. **Adequate nutrient levels are essential for mitochondrial function** as several specific micronutrients play crucial roles in energy metabolism and ATP-production. We have addressed the role of B vitamins, ascorbic acid, α -tocopherol, selenium, zinc, coenzyme Q10, caffeine, melatonin, carnitine, nitrate, lipoic acid and taurine in mitochondrial function. B vitamins and lipoic acid are essential in the tricarboxylic acid cycle, while selenium, α -tocopherol, Coenzyme Q10, caffeine, and melatonin are suggested to boost the electron transfer system function. Carnitine is essential for fatty acid beta-oxidation. Selenium is involved in mitochondrial biogenesis. ([sciencedirect.com/science/article/pii/S0261561418324269](https://www.ncbi.nlm.nih.gov/pii/S0261561418324269))

Chapter 4

19. The human body has a wonderful reserve power and many possibilities of adjustment, but the best defense apparatus is a 100 percent functioning metabolism and reabsorption in the _____ in combination with a healthy liver.
- A. Brain
 - B. Intestinal tract
 - C. Heart
20. (True or False) If people would implement what we know today about diet and nutrition, cancer rates would drop.
- A. True
 - B. False

According to the World Health Organization 30-40 percent of cancer cases can be attributed to lifestyle risk factors such as tobacco smoking, alcohol consumption, a diet low in fruit and vegetables, being overweight or obese, and physical inactivity. Genetic causes of cancer are estimated at 5-10 percent. How many more cancers could be avoided if a person was not exposed to pesticides, fungicides, or the 80,000 plus chemicals approved for use? How many chemicals are monitored in drinking water?

Chapter 5

21. Spontaneous regression (or spontaneous remission) means that the cancer gets smaller or disappears completely (and with no new tumors developing) without any _____ treatment.
- A. Nutritional
 - B. Naturopathic
 - C. Conventional
22. Max Gerson, M.D., has stated repeatedly that cancer regression does not happen spontaneously but that some specific improvement in the patient's _____ causes the cancer to react favorably.
- A. Physiology
 - B. Chemotherapy dose
 - C. Radiation frequency

Cancer.gov: "Now, a new study suggests that stress hormones may wake up dormant cancer cells that remain in the body after treatment. In experiments in mice, a stress hormone triggered a chain reaction in immune cells that prompted dormant cancer cells to wake up and form tumors again".

Stanford researchers reported in a 2000 published study that women with breast cancer and abnormal cortisol levels had fewer immune system cells known as natural killer cells, and this reduced immunity was associated with higher mortality... "We found that patients who had abnormal cortisol patterns died significantly sooner," Spiegel said. "There was no relationship in the first year. It's only down the road that it occurs. It's as if we're tapping into some physiologic system that is a marker for rapid tumor growth."

Adaptogenic herbs are valuable during a variety of health situations and for prevention.

- Adaptogens are herbs that contain phytochemicals that increase the ability of an organism to adapt to physical, emotional, biological, and environmental stressors. Adaptogens, like tonic herbs, may be used daily and are generally non-toxic.
- Adaptogens support the entire neuroendocrine system which includes the hypothalamic-pituitary-adrenal (HPA) axis. Most adaptogens, through endocrine, neuroendocrine, and immune modulation, support longevity, fertility, libido, emotional balance, and an overall feeling of strength, wellness, and vitality.
- "Adaptogens help to modulate and regulate the use of cortisol, allowing the body to maintain a healthy stress response. They also help regulate and support the interconnected neuroendocrine and immune systems allowing the body to maintain optimal homeostasis." (Adaptogens, Winston & Maimes, 2007)
- All adaptogens contain antioxidants and other phytochemicals that are beneficial for the prevention of disease, support during acute infections and chronic diseases (cancer, autoimmune conditions, etc.), and protection from toxins (chemo, radiation, environmental toxins, and internal toxins).

A Quick Look At Three Adaptogens:



Schisandra chinensis is a balancing, tonic-like adaptogen that supports liver detoxification, has anti-inflammation, antitumor and anticancer properties, and stimulates digestion. It is highly astringent and should be taken with food (like almost all herbs and supplements). Use caution if a person has an ulcer or acid reflux. In Chinese medicine, *Schisandra* is highly regarded and used to increase energy and prolong life which may be due to the antioxidant and immune tonic properties. It has a dual effect on the nervous system: it enhances reflexes and mental activity but is also calming and helps relieve anxiety and stress-induced asthma.

Withania somnifera (Ashwagandha): is a balancing adaptogen that is able to calm the mind, greatly reduce inflammation, lower blood pressure, and increase the activity of the immune system (especially the natural killer cells that help you fight infections and kill cancer cells), it enhances thyroid function and increases blood concentrations of both T3 and T4, relieves anxiety, and is helpful with post-traumatic stress disorder (PTSD). It supports and balances the neuroendocrine, central nervous, and cardiopulmonary systems, and increases energy in those experiencing adrenal fatigue. It also has an antitumor, antioxidant, and immunomodulatory actions. *Withania* is in the nightshade family.

- **Withania is not suitable for those with hyper-thyroid conditions or nightshade allergies**
- **Replace Withania with Holy Basil (*Ocimum sanctum*) if allergic to the nightshade family**
- **Replace Withania with Lemon Balm (*Melissa officinalis*) if you have a hyper-thyroid condition.** Lemon balm (*Melissa officinalis*) is a calming and cooling nervine that tones and restores the nervous system. It is indicated for those who tend toward anxiety and nervousness. Some research suggests that Lemon balm may help with hyperthyroidism. While it has been used successfully within a complete protocol for hyperthyroidism, do not rely on Lemon balm as the “magic bullet”.

Eleutherococcus senticosus: is an adaptogen that supports adrenal function, enhances immune function by increasing T-helper and natural killer cells, reduces the duration of respiratory infections, stabilizes blood sugar levels, improves insomnia, physical endurance (exercise), fatigue, concentration, and memory issues. *Eleuthero* improves stamina in exhausted patients and vitality in cancer patients. Eleuthero contains phytochemicals that are antioxidant, anti-cancer, radioprotectant (protects against radiation), anti-inflammatory, neuroprotective, hepatoprotective, and cardioprotective.

Using formulas that contain synergistic adaptogens and support herbs is most often more effective than using a single herb.

23. Dr. Foster discovered that more than half of the recovered chronic disease patients had used some form of nutrition and lifestyle changes. Eighty-eight percent of the patients had incorporated _____ as their daily eating program, and 65 percent swallowed daily amounts of _____, with potassium and iodine being the most frequently taken.
- A. Carnivorism, supplements
 - B. Veganism, medications
 - C. Vegetarianism, supplements

24. Of the recorded (recovered) patients, 175 (87.5 percent) had made major improvements in their diets. What were the top 5 foods avoided by these patients? (*select all that apply*)
- A. Fresh Vegetables
 - B. Smoked foods
 - C. Frozen foods
 - D. White sugar
 - E. Fresh fruits
 - F. Canned foods
 - G. Honey
 - H. Meat

Chapter 6

25. A melanoma (“black tumor”) is a _____ mole, the most dangerous of all skin cancers and among the most malignant of all cancers. It can spread to nearly every organ and tissue and lead to death within a year after it recurs in distant sites (metastasizes).
- A. Infected
 - B. Round
 - C. Malignant
26. Only one type of cell composing all melanomas exist, the malevolent pigment-producing cell called a _____ - but there are a few variants distinguished by their shapes, such as cuboidal or spindle-shaped.
- A. Melanocyte
 - B. Phagocyte
 - C. Macrocyte

Melanoma is the most dangerous type of skin cancer but, if removed before it metastasizes, it is almost always “curable” - the tissue is surgically removed. While melanoma can metastasize to any other part of the body the most common sites are the liver and lungs. It is said that the risk of metastasis decreases over time but never completely disappears. My opinion is that the risk of cancer doesn’t disappear because simply removing the cancer does not fix the person’s state of health that allowed cancer to grow in the first place. If I personally developed a melanoma I would immediately have it surgically removed and then I would look at my food, supplements, lifestyle, and emotions and make necessary changes.

27. Patients that live at least five years after diagnosis are considered “_____” by the American Cancer Society’s oncological scientists. **Note:** If you die in five years and one week after diagnosis you are still statistically cured and included in the cure rate.
- A. Rehabilitated
 - B. Remiss
 - C. Cured

28. (True or False) It is not possible for a healthy body to produce cancer.

- A. True
- B. False

29. Before a cancer establishes itself and becomes evident, a person's major immunological defenses weaken or disappear. Then one's immune system fails to work, the enzyme system becomes damaged, the pancreatic _____ stop destroying foreign proteins (tumor tissue), the hormone system gets depleted, and _____ are lacking.

- A. Enzymes, amino acids
- B. Enzymes, minerals
- C. Enzymes, antioxidants

Chapter 7

30. It is urged that any individual recovering from illness, or a healthy individual wanting to stay that way, to use _____ "defensive", highly nutritious foods.

- A. 34%
- B. 90%
- C. 100%

31. Served in 3 generous meals daily, Dr. Gerson's diet includes food consumption from 2,600 to 3,200 calories per day (approximately ____ - ____ pounds of vegetables and fruits per day).

- A. 8-10
- B. 12-15
- C. 17-20

32. _____ medicine is the use of completely natural remedies without any application of synthetic or other pharmaceutical agents.

- A. Conventional
- B. Orthomolecular
- C. Pharmaceutical

Chapter 8

33. (True or False) Potatoes are best when baked to ensure most nutritional value.

- A. True
- B. False

34. Ice cream is ' _____ ' for children (so bad it should be restricted to holidays!)
- A. Poison
 - B. Ideal
 - C. Delicious
35. Salt, bicarbonate of soda (baking soda), smoked fish, and sausage must be avoided completely. Any cooking equipment made of aluminum is absolutely forbidden, as are _____ ovens, pressure cookers, and steam cookers.
- A. Toaster
 - B. Convection
 - C. Microwave
36. Which prohibited food displays a toxic inhibition to nutrient absorption?
- A. Soybeans
 - B. Broccoli
 - C. Liver
37. (True or False) Vegetables should be cooked with a maximum of water or soup stock (2 or 3 quarts) and quickly boiled on high heat and removed before well done.
- A. True
 - B. False
38. Hippocrates special soup was created as a staple food item for nearly all of his degenerative disease patients. It is extremely important to eat it at both lunch and dinner. This soup helps to cleanse the _____.
- A. Soul
 - B. Liver
 - C. Kidneys
39. Tahebo, also known as _____, is a valuable anti-cancer tea and can be taken in any quantity at night.
- A. Kava kava
 - B. Pau d'arco
 - C. Vitex

“Pau D’arco is sometimes called "Purple Trumpet Tree", "Taheebo", or "Lapacho". It is widely distributed in South America and the Amazon Rainforest and notably used by indigenous tribes in Brazil, Argentina, and Paraguay. The bark of the tree is used in traditional medicine and usually prepared as a tea. It is used as a blood alterative, to support immune function, to support a normal inflammatory response in the body and topically for skin conditions as well as promoting a naturally healthy microbial balance of the intestinal tract. Modern research has focused on a group of alkaloid constituents referred to collectively as Lapachols. Surely the tannin content and entire activity of the bark contributes to the activity”. Gaia Herbs

Chapter 9

40. (True or False) One of Dr. Gerson’s juicing tips was that all parts of the juice machine that come into contact with ground foods should be made of aluminum.

- A. True
- B. False

41. How many ounces of juice should one on the Gerson diet program consume in a 24-hour period?

- A. 76 oz.
- B. 92 oz.
- C. 104 oz.

42. Never keep or take along green juices (made from salad greens) for future ingestion because they _____ quickly and lose their value.

- A. Nitrodize
- B. Oxidize
- C. Taste bad

43. Juice produced by a masticating juicer is richer in _____ than from centrifugal juicers.

- A. Color
- B. Taste
- C. Nutrients

44. Citrus juices should not be used by patients suffering from collagen diseases such as rheumatoid arthritis or lupus erythematosus.

- A. True
- B. False

Chapter 10

45. Dr. Gerson wrote that NaCl (salt) excretion increases in tuberculosis, cancer, and other chronic diseases after two to three days on a saltless diet. This increased salt excretion stays at a higher level for up to _____. Sometimes purgative flare-ups in the form of nausea, diarrhea, and nervous disturbances occur.
- A. 1 week
 - B. 2 weeks
 - C. 3 weeks
46. Potassium (chemical symbol K) is a mineral element needed by all plants and animals to live and thrive. Since it is required in the cells, not in the fluids, it is referred to as the _____* mineral.
- A. extracellular
 - B. intracellular
 - C. intercellular*

The book answer to #46 is INTERcellular - the correct answer is INTRAcellular.

You may have noticed that for question #10 the answer was intracellular. The difference between **intercellular** and **intracellular** is that intercellular means the areas between cells while intracellular refers to what is inside a cell. It is possible that the error was corrected in editions printed after my copy.

47. Bananas have an ideal sodium-to-potassium content of 1:440. However, bananas are too high in _____, especially for cancer patients. They may only be eaten in moderation.
- A. Potassium
 - B. Sugar
 - C. Sodium
48. A compound solution of potassium salts is made from 33 grams (g) each of potassium acetate, monophosphate, and gluconate, diluted in 32 ounces of _____ water. As stated, dosages vary from 1 to 4 teaspoons, representing 3.5 to 14 grams of K per day.
- A. Spring
 - B. Tap
 - C. Distilled

49. The cell must have _____ or it dies. If enough cells die, tissue dies. If too many tissues die, and organ or body part dies. If too many organs die, the person dies. When an excessive amount of water is present in the cell, the production of ATP is inhibited or stops altogether. At the same time, protein synthesis and lipid (fat) metabolism stops.
- A. ATP
 - B. STD
 - C. AIR

Chapter 11

50. _____ solution consists of 5 grams of iodine and 10 grams of potassium per 100 milliliters (mL) of purified water.
- A. Lugol's
 - B. Potassium
 - C. Iodate
51. The thyroid gland adds iodine to the amino acid _____ to create the several thyroid hormones.
- A. Glycine
 - B. Tyrosine
 - C. Valine

Tyrosine is a nonessential amino acid the body makes from another amino acid called phenylalanine. It is an essential component for the production of several important neurotransmitters such as epinephrine, norepinephrine, and dopamine. It also helps melanin and make hormones such as thyroxine. While considered nonessential, supplementing tyrosine may be beneficial.

52. The _____ gland secretes the thyroid-stimulating hormone (TSH) when the thyroid hormone levels in the blood are low. If thyroid hormones levels are decreased and TSH levels are elevated in the blood, this usually indicates defective thyroid hormone synthesis, known as primary _____. **Note:** The pituitary is producing more and more TSH to "tell" the thyroid to produce hormones but, the thyroid is not responding adequately.
- A. Pituitary, hyperthyroidism
 - B. Pituitary, hypertension
 - C. Pituitary, hypothyroidism

53. If TSH levels are low and thyroid hormones levels are also low, an endocrinologist will likely recognize that the patient's pituitary gland is responsible for the low thyroid function. This is known as, referred to as, _____ hypothyroidism.

- A. Secondary
- B. Primary
- C. Beneficial

54. Niacin (vitamin B3) is involved in the metabolism of lipids (fats), gastrointestinal tract functions, the nervous system, and promotion of healthy skin growth. _____, "no flush", shows almost no beneficial effect for most degenerative diseases.

- A. Niacinamide
- B. Vitamin B3
- C. Niacin

55. (Matching) The vital substance pancreatin contains three specific groups of enzymes for the digestion and absorption of food. What are these 3 groups? (*match those that apply*)

_____ for absorption of fats and fat-soluble vitamins.

_____ for the breakdown of starch molecules into smaller sugars.

_____ for the reconstruction of protein molecules into single amino acids.

- A. Lactases
- B. Lipases
- C. Oxidases
- D. Ligases
- E. Amylases
- F. Proteases

56. _____ is an omega-3 fatty acid that is found in flaxseeds. Never heat this oil or add to hot food - heat will render the flax oil harmful to the body.

- A. Alpha-linolenic acid
- B. Beta-linolenic acid
- C. Alpha-pigment acid

Chapter 12

57. Introducing a quart of boiled coffee solution into the colon will accomplish the following physiological benefits: (*match those that apply*)

It dilutes portal blood and, subsequently, the _____.

Theophylline and theobromine, major nutraceutical constituents of coffee, dilate blood vessels and counter _____ of the gut.

The palmitates of coffee enhance glutathione S-transferase, which is responsible for the removal of many toxic _____ from blood serum.

The fluid of the enema itself stimulates the visceral nervous system, promoting _____ and the transit of diluted toxic bile from the duodenum out the rectum.

Because the stimulating enema is retained for up to fifteen minutes, and because all the blood in the body passes through the liver nearly every three minutes, coffee enemas represent a form of _____ of blood across the gut wall.

- A. Lymph
- B. Bile
- C. Inflammation
- D. Circulation
- E. Radicals
- F. Peristalsis
- G. Dialysis

Chapter 13

58. _____ of the body is one of the most important life-enhancement contributions of the Gerson Therapy.

- A. Restructuring
- B. Rejuvenation
- C. Detoxification

59. Besides self-administering the coffee enema, another important feature of detoxification is the castor oil procedure. This castor oil procedure does not apply to cancer patients who were previously treated with _____ or other chemotherapy drugs. They should NOT take castor oil.

- A. Cytotoxic
- B. CoQ10
- C. Iodine

60. Some patients report that when they release the castor oil enema, it burns the anus. Burning can occur, but castor oil does not burn. Instead it's the release of highly _____ material coming out of the body's tissues that burn.

- A. Flammable
- B. Gaseous
- C. Toxic

61. Enema treatments occasionally result in flare-ups like diarrhea or _____.

- A. Yeast infections
- B. Gas or vomiting
- C. Headaches

Chapter 14

62. (Matching) When the thyroid gland's function is lowered by the consumption of fluorine (or chlorine) in drinking water, iodine is displaced from the gland. This weakens the immune system. Then a person's physiology is beset by 3 types of pathology: (*match those that apply*)

It's unable to produce _____.

Allergies and _____ result.

Food fails to be _____ adequately.

- A. Bile
- B. Fever
- C. Asthma
- D. Burned
- E. Digested
- F. Infections

The U.S. food industry claims that potassium bromate is perfectly safe because the potassium bromate gets converted into potassium bromide during the baking process. Potassium bromate has been shown to cause kidney, thyroid, and gastrointestinal cancer in animals. Many scientists believe there is no safe level of exposure to a carcinogen. Potassium bromate is illegal/banned in China, the European Union, Canada, Brazil and elsewhere because it causes cancer in rats and mice. In the United States, however, it has remained legal.

Potassium bromide may be classified as non-carcinogenic but that does not mean it is not harmful to the human body. "Potassium bromide (KBr) is a chemical compound isolated from the Mediterranean Sea in 1826. KBr and other inorganic bromide salts produce sedative effects. Therefore, it was prescribed as an anxiolytic, sedative-hypnotic or antiepileptic agent. It is still indicated for the treatment of refractory seizures in children. These effects are primarily mediated through the activation of GABAA receptor. These receptors are ionotropic channels which, upon activation, increase chloride permeation and cause hyperpolarization of neurons.

This is the main cause of KBr-induced inhibitory effects in the CNS. In this regard, KBr is reported to cause depression, weakness, fatigue, lethargy, coma and other symptoms related to CNS suppression. KBr was withdrawn from the pharmaceutical market because of low efficacy, adverse effects, and the discovery of more effective hypnotic and antiepileptic drugs. However, it is illegally used for material processing in food industry. For example, oxygenated KBr is added to enhance the volume and mature the flour in bakery. Indeed, it helps oxidize the sulfhydryl groups of the gluten into disulphide bridges, and traps carbon dioxide in the dough. This improves the appearance and elasticity of the dough. Likewise, potassium bromate is used as a preservative to keep the concentrated fish paste. As such, brominated vegetable oil is frequently used as a clouding agent in soft drinks. Therefore, people may intake different amount of bromide via food products. Following the ingestion of bromide, it enhances GABA effects in the CNS, which can influence neurobehavioral processes like learning and memory” (Department of Pharmacology and Toxicology and Isfahan Pharmaceutical Sciences Research Center, School of Pharmacy and Pharmaceutical Sciences, Isfahan University of Medical Sciences, Isfahan, I.R. Iran).

63. Goiter (enlarged thyroid gland) exists because of a lack of _____.

- A. Iodine
- B. Salt
- C. Water

64. Flaxseed oil, if not protected from air, light, and heat, will become rancid. An opened bottle must be refrigerated and used within _____.

- A. 3 days
- B. 3 weeks
- C. 3 months

65. Niacin is absolutely _____ (should not be used) for patients with a history of bleeding, ulcers, gastritis or if currently taking prednisone, other steroids, or Coumadin (blood thinner). Acidol, which is betaine hydrochloride and pepsin, should not be used when ulcers, gastritis, severe nausea, intestinal bleeding, or esophageal problems exist.

- A. Recommended
- B. Mildly cautioned
- C. Contraindicated

66. Brewer’s yeast should no longer be used as part of the treatment because of the advent of _____ *albicans* infection.

- A. Borrelia
- B. Candida
- C. Parasitic

Chapter 15

67. All cytotoxic drugs are _____: they will cause future cancer.

- A. Safe
- B. Carcinogens
- C. Effective

Cancer.org: Some types of chemotherapy (chemo) drugs have been linked with different kinds of second cancers. The cancers most often linked to chemo are myelodysplastic syndrome (MDS) and acute myelogenous leukemia (AML). Sometimes, MDS occurs first, then turns into AML. Acute lymphocytic leukemia has also been linked to chemo. Chemo is known to be a greater risk factor than radiation therapy in causing leukemia. Chemotherapy agents that have an increased risk for second cancers include: Alkylating agents (mechlorethamine, chlorambucil, cyclophosphamide, melphalan, lomustine, carmustine, busulfan), Platinum-based drugs (cisplatin, carboplatin), and Anthracycline topoisomerase II inhibitors (etoposide or VP-16, teniposide, mitoxantrone).

68. For a cancer patient who has been chemicalized with toxic drugs, it's advisable to start the juicing regimen with only ___-___ ounces of fresh squeezed vegetable or fruit juice. At the beginning of the juicing procedure, because of its strong efficacy, temporarily eliminate the three recommended _____ only juices.

- A. 1-2, green
- B. 2-4, carrot
- C. 5-6, apple

Chapter 17

69. The use of a full, unmodified protocol of the Gerson Therapy for _____ diseases ordinarily remains inadvisable. While not usually as dangerous as inappropriate application of the therapy to patients with a chemotherapy history, there are still considerable risks to using the intensive protocol in the presence of some illnesses.

- A. Malignant
- B. Cancerous
- C. Noncancerous

70. The term diabetes refers to a set of _____ disorders that cause hyperglycemia, or high blood sugar.

- A. Kidney
- B. Digestive
- C. Metabolic

71. Type 1 diabetes is caused by an insulin _____ or deficiency; Type 2 diabetes is not primarily a result of insulin deficiency, but rather the body's inability to properly _____ the insulin produced.
- A. Absence, use
 - B. Overabundance, use
 - C. Absence, resist
72. Type 1 diabetic patients, when treated with the Gerson Therapy, often notice a great reduction in their insulin requirements, though many will remain _____ dependent on insulin.
- A. Somewhat
 - B. Temporarily
 - C. Permanently
73. Type 2 diabetes is far more easily corrected. Dr. Gerson's diet is able to quickly reverse the clogging problem, allowing cell _____ to use insulin.
- A. Walls
 - B. Receptors
 - C. Nucleases
74. In cases of MS (multiple sclerosis), with proper nutrition and detoxification, the body is able to clear the damaged myelin sheaths, which insulate the nerves so that they can carry _____ messages to the brain and back.
- A. Redundant
 - B. Chemical
 - C. Electrical

FDA.gov: The FDA has found that certain groups may be at greater risk for potential harmful health effects of mercury vapor released from the device. As a result, the agency is recommending certain high-risk groups avoid getting dental amalgam whenever possible and appropriate. These groups that may be at a greater risk for potential harmful health effects include:

- Women who are planning to become pregnant; Pregnant women and their developing fetuses; Nursing women and their newborns and infants;
- Children, especially those younger than six years of age;
- People with pre-existing neurological disease such as multiple sclerosis, Alzheimer's disease or Parkinson's disease
- People with impaired kidney function; and
- People with known heightened sensitivity (allergy) to mercury or other components of dental amalgam

75. _____ introduced into the body and not completely excreted can cause enzyme inhibition. When particular enzymes are blocked or inhibited, certain nutrients are improperly digested and excreted. And that is where disease begins.
- A. Fatty acids
 - B. Toxins
 - C. Amino acids
76. The older people still have somewhat better _____ and are less damaged by the toxins in the air, water, solid, and daily food and newer drugs. The younger people are getting more and more used to taking drugs for pain, discomfort, sleeplessness, low energy, and worse. This drug taking causes more rapid deterioration.
- A. Reserves
 - B. Tolerance
 - C. Luck

It is estimated that 1 in 285 children in the U.S. will be diagnosed with cancer before their 20th birthday - approximately 16,000 cancer cases every single year.

77. In osteoporosis, patients suffer from _____ of the bones. More often than not, the physician will tell the patient to drink plenty of milk (for calcium). This is a simplistic and incorrect approach to the problem.
- A. Decalcification
 - B. Phosphorylation
 - C. Calcification
78. Calcium has to enter the body in the proper combination, together with active, live _____ that we find in carrot juice, juice from green salad leaves, and a great deal of fresh lettuce.
- A. Microbes
 - B. Bacteria
 - C. Enzymes

Chapter 18

79. The body involves but one part of the illness. When the sickness also produces fear, the combination causes a _____ accumulation of more and more toxins in the body and a quickening of physiological deterioration.
- A. Systemic
 - B. Localized
 - C. Minimal

80. A _____ is necessary to prevent the patient from deciding that the Gerson treatment program is impossible to face at home on one's own. Toxins passing through the central nervous system evoke strange reactions and out-of-character behavior.

- A. Lecture
- B. Contract
- C. Caregiver

Chapter 20

81. Laboratory testing of blood and _____ are a standard part of follow-up protocols for Gerson Therapy patients employed by all Gerson-trained health professionals.

- A. Lymph
- B. Urine
- C. Saliva

82. The laboratory test for serum calcium is a measurement of the levels of calcium in the blood (one can be deficient in the tissues and bones with a normal level in the blood). It is absorbed from food provided sufficient _____ is present in the food.

- A. Vitamin A
- B. Vitamin D
- C. Vitamin E

USpharmist.com: "Vitamin K2 has several isoforms or analogues called *MK-4* to *MK-10*. This vitamin provides major protection from osteoporosis and pathologic calcification of the arteries and soft tissues—a major known consequence of aging. Vitamin K2 is found in animals and bacteria, including beneficial probiotic bacteria from the gastrointestinal tract. Antibiotics interfere with normal growth of healthy bacteria and impact vitamin K2 production. Although vitamin D3 has been known as the *bone vitamin* because it puts the osteocalcin gene into action and acts swiftly on bones, the slower-acting vitamin K2 has been recognized as being just as important for bone maintenance. The human skeleton is fully replaced every 8 to 10 years with good, dense bone, and these two vitamins play a large role in the process. The oral osteoporosis treatment dose of vitamin K2 is 45 mg a day."

83. Phosphate ion is the dominant cellular anion, which is essential for _____ formation. Abnormally high concentrations lead to bone loss, tooth demineralization and more.

- A. Cartilage
- B. Blood
- C. Bone

84. Sodium aids the kidneys in regulating body water. An increased level of sodium promotes water _____ (edema).
- A. Excretion
 - B. Retention
 - C. Absorption
85. A reciprocal relationship exists between K^+ (potassium) and Na^+ (sodium); the substantial intake of one causes a corresponding _____ in the other.
- A. Decrease
 - B. Increase
 - C. Inflation
86. Elevated AST levels in the blood helps diagnose myocardial infarction but also helps in the diagnosis of acute _____ disease.
- A. Pancreatic
 - B. Alzheimer's
 - C. Liver
87. Serum bilirubin is a measurement of _____ pigment which indicates the state of health of the liver and gallbladder.
- A. Liver
 - B. Blood
 - C. Bile
88. Elevated total serum cholesterol is _____ with an increased risk of atherosclerotic cardiovascular disease.
- A. Associated
 - B. Combined
 - C. Disassociated

Associated does not mean cause. Current research now shows that inflammation and oxidation of cholesterol from low/improper nutrition and/or high toxicity is what damages the veins and arteries.

89. _____ impairment is virtually the only cause of creatinine elevation in the blood.
- A. Liver
 - B. Kidney
 - C. Bladder

90. Platelets (thrombocytes) promote _____ by supplying phospholipids to the intrinsic thromboplastin pathway.

- A. Binding
- B. Blood thinning
- C. Coagulation

Vitamin K is a fat-soluble vitamin. The "K" is derived from the German word "koagulation." Coagulation refers to the process of blood clot formation and vitamin K is essential for the functioning of several proteins involved in blood clotting.

91. White blood cell (leukocyte) counts are used to detect _____ or inflammation. There are several types of WBCs: neutrophils, lymphocytes, monocytes, eosinophils, and basophils are the most commonly measured.

- A. Osteoporosis
- B. Heart murmurs
- C. Infection

Chapter 21

92. Cancer of the ovary spreads by a shedding of _____ cells into the abdominal cavity and the peritoneum and then implanting on the surface of the liver, large intestine, omentum, small intestine, bladder, diaphragm, or the stomach's attached fatty tissue.

- A. Malignant
- B. Endometrial
- C. Microscopic

Appendixes

93. One of the most offensive cosmetics is _____. Many of the brands offered contain mercury, which, is severely toxic.

- A. Underarm deodorant
- B. Lipstick
- C. Foundation

I am unaware of mercury used in deodorants or antiperspirants. Antiperspirants do use aluminum salts to block the secretion of sweat and aluminum is toxic. Another troubling issue with both deodorants and antiperspirants are the parabens entering the body so close to the breast. Studies demonstrate that parabens can be found intact in the human breast and in breast tumors.

94. In Japan, it turns out, the doctors have become aware of the reason for the problem with immunizing babies too early and, we are told, they are now forbidden to give vaccination shots to babies before the age of 2 years. As a result, there is no more _____ in Japan.

- A. Doctors
- B. Poisoning
- C. SIDS

Japan has been increasingly expanding its immunizations and now recommend closely to what the U.S. recommends for vaccines.

95. It is important that seriously ill patients not have their mercury fillings removed immediately. No matter how well the removal is done, some mercury vapor is released and temporary mercury _____ is inevitable.

- A. Toxicity
- B. Immunity
- C. Poisoning

~ END OF TEST ~

ZRTLAB:

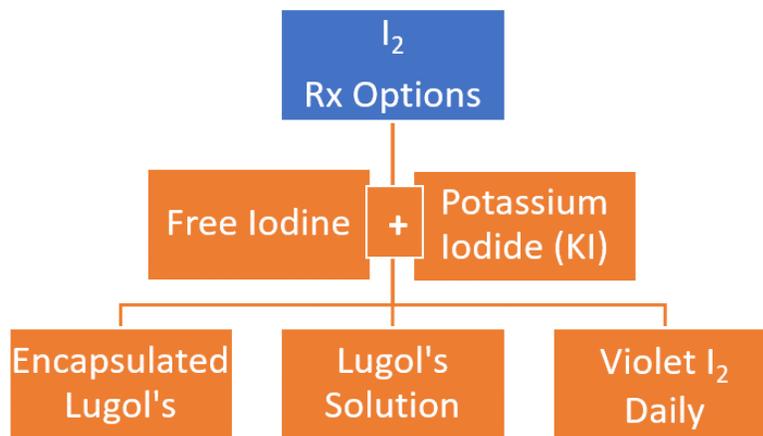
I₂ (Molecular Iodine)

Quite different from iodide, I₂ (aka molecular iodine as referred to in the literature), passes into body tissues in a NIS-independent fashion by facilitated diffusion. It lends more of an antioxidant, anti-proliferative effect to tissues by virtue of its structure and ability to form protective iodolactones and iodinated lipids - rather than concentrating in only the NIS-rich tissues as iodide would. You'll notice when you read the label of any "molecular iodine" supplement that I₂ is supplemented as a mixture of potassium iodide (KI) and iodate (KIO₃) or potassium iodide and free iodine. And free iodine may be referred to as elemental iodine or even molecular iodine depending on where you read about it. The mixture of KI and KIO₃ forms molecular iodine "in solution" in the low pH of the stomach as it's absorbed; the mixtures of free iodine and KI work from the premise that KI improves solubility/absorption of the free iodine portion, and transdermally-applied free iodine seems to be taken up locally as molecular iodine.

Once absorbed and taken up into the body, some studies show I₂ doesn't affect thyroid markers (which is good news for some patients) but does enter the breast, the prostate, tumor sites, and cystic areas, acting at the mitochondrial level to attenuate benign and cancerous growths. So, this is the form to use when attempting to avoid thyroid uptake and to push the reactive oxygen species (ROS) scavenging and cell cycle-limiting effects of iodine in other parts of the body.

Dosing range is typically 1100 µg – 12,500 µg (1.1 mg – 12.5 mg) daily.

*Supraphysiologic dosing is anything over 1100 µg (1.1 mg) although a 2013 paper exploring some of the extrathyroidal actions of iodine recommended at least a 3 mg daily intake of I₂ [3]. Here are some examples of such forms currently available to patients – this is in no way an exhaustive list, just an idea of what's out there.



I ₂ Rx Breakdown	<u>Lugol's 2% Solution</u>	<u>Lugol's 5% Solution</u>	<u>Encapsulated Lugol's</u>	<u>Violet I₂ Daily</u>
K-Iodide	1.5 mg	3.75 mg	5 mg	2.52 mg
Free Iodine	1.0 mg	2.5 mg	7.5 mg	--
K-Iodate	--	--	--	0.48 mg
Total Iodine	2.5 mg/drop	6.25 mg/drop	12.5 mg	3 mg

Caveat(s): It is possible that any of the iodine Rx options listed above will have some iodide effect on the thyroid and caution should be exercised even with the ones that claim 100% conversion to I₂. Regarding iodine testing, when supraphysiologic doses of iodine are used (even transdermally), urinary iodine excretion skyrockets into the thousands. For instance, with a 12.5 mg dose, expect to see lab results between 1,000 and 3000 µg/g Cr! Higher doses yield even higher lab results even days after a dose. For sufficiency, the normal laboratory range for general thyroid health is 100 – 380 µg/g Cr.