

Herbal Therapeutic Treatments for Hypothyroidism

By Christa Sinadinos, Clinical Herbalist

The Thyroid Gland

Regulation of Thyroid Hormones

Thyroid hormones are regulated by the hypothalamic-pituitary-thyroid axis. The hypothalamus secretes thyrotropin releasing hormone (TRH) in a tropic fashion that activates the anterior pituitary to secrete thyroid stimulating hormone (TSH). TSH targets the thyroid and elevates thyroid hormone production. When adequate thyroid hormones are produced and secreted, the anterior pituitary stops secreting TSH via a negative feedback mechanism.

Normal Range for Thyroid Hormones (According to the AMA)

TSH (.45 – 4.5 uIU/mL) (0.5-6 mIU/L)

Free T4 (Direct) (0.82-1.77 ng/dL)

T4 – Thyroxin (5-12.5 ug/dL)

Free T3 – Triiodothyronine (2.0-4.4 pg/mL)

T3 – Triiodothyronine (120-195 mg/dL)

TPO – Thyroid peroxidase AB (0-34 IU/mL)

TGAB - Antithyroglobulin AB (0-40 IU/mL)

Actions of Thyroid Hormones

- Increases metabolism and oxygen consumption
- Calorigenic effect
- Stimulates the nervous system
- Contributes to growth and development

Thyroid Terminology

Euthyroidism: normal thyroid function

Hyperthyroidism: elevated thyroid function

Hypothyroidism: suppressed thyroid function

Hypothyroidism

The causes of hypothyroidism include:

- 1) Thyroid gland failure
- 2) A deficiency of TRH, TSH, or both
- 3) Inadequate supply of dietary iodine

Primary hypothyroidism occurs when thyroid hormone levels are lowered and TSH is elevated in the blood; it usually indicates defective thyroid synthesis.

Secondary hypothyroidism occurs when both TSH levels and thyroid hormone levels are low. This indicates that the pituitary gland is responsible for low thyroid function.

Hashimoto's disease is an autoimmune condition in which antibodies bind to the thyroid and prevent the manufacture of sufficient levels of thyroid hormone. In addition to binding with thyroid tissue, the antibodies may bind to the adrenal glands, the pancreas, and the acid-producing cells of the stomach.

Cretinism results from hypothyroid function from birth. Low thyroid hormone levels can cause dwarfism, mental retardation, and thyroid deficiency symptoms. Conventional Western medical treatment employs exogenous thyroid hormone.

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Symptoms of Hypothyroidism:

Metabolic

- Lethargy, fatigue, and weakness
- Tiredness, accompanied by sleeplessness
- Difficulty losing weight
- Feel cold (to the core)
- Aversion to cold
- Low body temperature (basal body temperature of 97.3 or below)

Nervous System

- Depression
- Difficulty concentrating
- Forgetfulness
- Headaches or migraines
- Slow response time

Integumentary System

- Dry, flaky skin (possible eczema or psoriasis)
- Myxedema
- Slowly healing wounds
- Hair loss

Hepatic System

- Sluggish liver metabolism
- Poor metabolism of nutrients
- Poor metabolism of hormones

Immune and Lymphatic System

- Lowered resistance to infection
- High inflammatory response
- Food sensitivities
- Sluggish lymphatic function

Reproductive System

- Menstrual irregularities and amenorrhea
- Reduced fertility and difficulty conceiving
- Miscarriages and stillbirths
- Low libido

Respiratory System

- Lower respiration rate; difficulty breathing

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Herbal Treatment of Hypothyroidism

If you take thyroid hormones or any other medications, or if you have any health conditions, consult with a trained herbalist and natural health practitioner before taking any of the herbs listed below. The herbs listed in the first section can alter thyroid hormone levels and affect a person's sensitivity to thyroid medications. Do not suddenly stop taking thyroid hormones.

For the best results monitoring thyroid hormone levels, take thyroid hormone tests before beginning herbal treatments to establish a baseline. Repeat the tests three and six months after taking the herbal treatment consistently. It takes an average of three months to alter thyroid hormone levels. Do not expect immediate changes in thyroid hormone levels because they change slowly.

The treatment of hypothyroidism will vary for each individual based on their constitution, their primary and secondary symptoms, and the organ systems that are the most depleted.

The following treatments can be effective for addressing hypothyroidism:

- Seaweeds rich in iodine
- Adaptogen herbs and adrenal tonics
- Hepatics
- Circulatory stimulant herbs
- Lymphatic herbs
- Immune modulating herbs
- Female hormone balancing herbs
- Demulcents and astringents

Seaweeds Rich in Iodine

The trace element iodine is an essential component of thyroid hormones. Insufficient consumption of iodine-containing can result in hypothyroidism and enlargement of the thyroid gland. Iodine deficiency was the most common cause of hypothyroidism in the past, but has been remedied in the United States from adding iodine to table salt.

- ***Brown Seaweeds and Kelp (Icelandic kelp, Norwegian kelp, bullwhip kelp, sugar kelp, giant Pacific kelp, and hijiki)***

Numerous large brown seaweeds also contain iodine, including *Fucus* spp. (bladder wrack), *Laminaria* spp. (kombu), *Undaria* spp. (wakame), *Sargassum* spp. (sargasso weed), and *Postelsia palmaeformis* (sea palm).

The recommended daily dose of iodine is 150-300 micrograms. Start by taking kelp tablets or pills that contain 150 mcg for two to three months. If thyroid hormone levels are not sufficiently elevated at that time, and TSH levels do not decrease, then increase the dosage to 225 mcg or 300 mcg. It is important to consider other dietary and supplement sources to ensure you do not exceed 600 mcg of iodine unless directed by a knowledgeable practitioner.

Seaweed Iodine Content:

Icelandic kelp, 8000 ppm, Norwegian kelp 4000 ppm, Atlantic kelp 1500-2000 ppm, Pacific kelp 500-1200 ppm, *Fucus* spp. 200-500 ppm, *Wakame* 50-150 ppm, *Sargassum* 35 ppm, and

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Porphyra spp. (nori) 15 ppm. The iodine content listed above are approximate and may vary. Ryan Drum claims that eating 3-5 grams of most dried, unrinsed seaweeds will provide the RDA of 1100-1500 micrograms of iodine.

Contraindications:

Iodine-containing seaweed will not stimulate thyroid function in individuals who have had a complete thyroidectomy or radioactive ablation of the thyroid gland. It cannot be used as a direct replacement for thyroid hormone. Keep dietary and supplement levels of iodine below 600 micrograms; however, some practitioners suggest not to exceed 750 mcg. Excessive consumption of iodine-containing seaweed can inhibit thyroid gland function. Consult a knowledgeable practitioner before consuming iodine-containing seaweed in individuals with Hashimoto's thyroiditis.

Preparations and dosage:

- Seaweed fluid extract: [1:1, 50% alcohol]; consume 30-60 drops, up to three times a day.
- Cold infusion or decoction: Prepare with up to one ounce of seaweed in 32 ounces of water; drink four to eight ounces one to four times a day.
- Capsules: Consume two to three capsules or tablets up to three times a day, being careful note not to exceed the guidelines mentioned above (500 mcg).
- Culinary use: Use small amounts in soups, sprinkled on food, or consume seaweed in the form of a pickled or lacto-fermented food.

Adaptogen Herbs and Adrenal Tonics

Chronic adrenal stress disrupts the hypothalamic-pituitary-adrenal (HPA) axis, which can suppress thyroid function. Most adaptogenic herbs modify pituitary and hypothalamic stress and support the adrenal function. Some adaptogen herbs directly stimulate thyroid function, while others herbs support the thyroid function indirectly.

Adaptogen herbs that directly support thyroid function include: *Centella*, *Withania*, and *Eleutherococcus*. Adaptogen herbs that regulate the HPA axis, but support thyroid function indirectly include: *Panax*, *Oplopanax*, *Aralia* (berries), *Codenopsis*, *Ganoderma*, *Glycyrrhiza*, and *Schisandra*.

Thyroid Stimulating Adaptogenic Herbs

• ***Withania somnifera* (Ashwaganda)**

Preparations and dosage:

- Root tincture: Fresh [1:2], dry [1:5, 70% alcohol]; consume 10-60 drops, up to three times a day.
- Decoction: Consume 8-12 ounces of the strong decoction or the milk decoction, one to three times a day.
- Capsules: Consume one to two "00" capsules, two to three times a day. Also, use the root powder in herb balls.

• ***Centella asiatica* (Gotu kola)**

Preparations and dosage:

- Leaf tincture: Fresh [1:2] or [1:3]; consume 15-30 drops. Recently dried leaves [1:5, 60%

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- alcohol]; consume 15-40 drops, up to three times a day.
- Hot or cold infusion: Consume eight ounces, one to three times a day.
- Consume 3-10 fresh leaves in juice or salad.

- ***Eleutherococcus senticosus* (Eleuthero, Siberian ginseng, devil's bush, ci wu jia, Acanthopanax)**

Preparations and dosage:

- Root tincture: Dry [1:5, 60% alcohol]; consume 10-60 drops, one to two times daily.
- Fluid extract: Dry [1:1, 50% alcohol]; consume 10-30 drops, one to two times daily.
- Capsules: Consume one to two "00" capsules, one to two times a day.
- Cold or hot infusion or decoction: Consume 8-12 ounces, one to two times daily.

Adaptogenic Herbs as Secondary Support

- ***Panax quinquefolium* (American ginseng, xi yang shen)**

Preparations and dosage:

- Root or whole plant tincture: Fresh [1:2] or [1:3], dry [1:5, 70% alcohol]; consume 10-30 drops for root extracts, and 30-60 drops for fresh leaf extract, both up to three times a day.
- Infusion or decoction: Consume up to eight ounces, one to three times a day.
- Capsules: Consume one to two "00" capsules, one to three times a day.

Note: The wild root is practically extinct in the United States. Use only cultivated or woods grown roots; avoid using wildcrafted roots!

- ***Panax ginseng* (Chinese ginseng (white), Korean ginseng, Asian ginseng, ren shen, shang shai shen, seng)**

Preparations and dosage:

- Chinese or Korean uncured (white) root tincture: Dry [1:5, 70% alcohol]; consume 10-40 drops, one to three times a day.
- Decoction: Prepare a strong decoction (traditionally prepared as a single herb tea) using 10-30 grams in a ginseng cooker. Consume 4-8 ounces of tea, one to two times a day.
- Capsules: Consume one to two "00" capsules, one to three times a day. Chewing root pieces is more reliable than the unidentifiable substances found in capsules.

- ***Glycyrrhiza glabra, G. uralensis* (Licorice, gan cao)**

Preparations and dosage:

- Root tincture: Fresh [1:2, 95% alcohol], dry [1:5, 60% alcohol]; consume 15-60 drops, up to three times a day.
- Fluid extract: Dry [1:1, 50% alcohol]; consume 10-20 drops, up to three times daily.
- Strong decoction, cold or hot infusion: consume 8-12 ounces, up to three times a day.
- Fluid Extract: Dry [1:1, 50% alcohol]; consume 5-20 drops, up to three times a day.
- Powder: Consume 1-4 grams of powder a day in capsules or in water.

- ***Aralia californica* (California spikenard, spikenard, elk clover)**

Preparations and dosage:

- Berry tincture: Fresh [1:2], recently dried berries [1:5, 60% alcohol]; consume 10-60

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drops, two to three times a day.

- ***Oplopanax horridum* (Devil's club root-bark, *Echinopanax*)**

Preparations and dosage:

- Root and root bark tincture: Fresh [1:2] or [1:3], dry root bark [1:5, 60% alcohol]; consume 10-50 drops, up to three times a day.
- Cold infusion or decoction: Drink eight ounces, up to three times a day.
- Capsules: Consume one to two "00" capsules, two to three times a day.

- ***Codenopsis pilosula* (Dang shen, tang shen, bonnet bell flower, bastard ginseng)**

Preparations and dosage:

- Root tincture: Fresh [1:2], dry [1:5, 60% alcohol]; consume 20-60 drops, up to three times a day.
- Decoction: Consume 8-12 ounces, up to three times a day.
- Culinary use: Use 2-4 roots simmered in soup stocks.

- ***Ganoderma sinensis* (Reishi mushroom)**

Preparations and dosage:

- Mushroom tincture: Dry [1:5, 70% alcohol]; consume 30-90 drops, up to three times a day.
- Capsules: Consume two "00" capsules, up to three times a day.

- ***Schisandra chinensis* (Schisandra, wu wei zi, five flavor berry, magnolia vine, star vine)**

Preparations and dosage:

- Fruit tincture: Dry [1:5, 60% alcohol] or [1:5, 40% glycerin, 30% alcohol, 30% water]; consume 10-60 drops, up to three times a day.
- Infusion or decoction: Consume 8 ounces, up to four times a day.
- Culinary use: Use small quantities in jams or pastes.

- ***Rehmannia glutinosa* (Chinese foxglove, prepared rehmannia, shu di huang)**

Preparations and dosage:

- Root tincture: Dry [1:5, 60% alcohol]; consume 15-60 drops, up to three times a day.
- Decoction: Consume 8-12 ounces, up to four times a day.

Hepatics

Low thyroid hormone levels can compromise liver and digestive function, resulting in poor digestion and assimilation of nutrients. Hepatic herbs decongest the liver and enhance its activity. Hepatic and cholagogue herbs enhance metabolism and improve excretion of cholesterol. They are useful to lower VLDL cholesterol and triglyceride levels, and help to reduce the risk of cardiovascular disease. They enhance the metabolism and excretion of estrogen, which supports thyroid health and indirectly helps to balance reproductive hormones. Additionally, improving liver function often modifies skin conditions such as psoriasis, eczema, and dry, scaly skin. Consider adding one or more of the following herbs to a formula when a person has poor digestion and elimination, or some of the issues mentioned in the above paragraph.

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- ***Berberis* (Oregon grape)**

Preparations and dosage:

- Root tincture: Fresh [1:2, 95% alcohol], dry [1:5, 60% alcohol]; consume 10-60 drops, up to three times a day.
- Cold infusion or decoction: Consume 4-8 ounces, up to three a day.
- Capsules: Consume one to two “00” capsules, up to three a day.

- ***Silybum marianum* (Milk thistle)**

Preparations and dosage:

- Seed tincture: Dry [1:3, 70% alcohol] or [1:5, 70% alcohol]; consume 1/2 to 1 tsp. up to four times a day.
- Fluid extract: [1:1, 60% alcohol]; consume 20-40 drops, up to four times a day.
- Capsules: Consume two “00” capsules, up to three times a day.
- Powder: Grind the seeds and sprinkle on food; use up to 1 teaspoon a day. Store the ground seeds in the freezer to prevent rancidity.

- ***Curcuma longa* (Turmeric)**

Preparations and dosage:

- Root (rhizome) tincture: Fresh [1:2, 95% alcohol] or dry root tincture [1:5, 60% alcohol]; consume 10-60 drops, up to three times a day.
- Cold infusion or decoction: Consume 4-8 ounces, up to three a day.
- Capsules: Consume one to two “00” capsules, up to three a day.

- ***Rumex crispus* (Yellow dock)**

Preparations and dosage:

- Root tincture: Fresh [1:2, 95% alcohol], dry [1:5, 60% alcohol]; consume 5-60 drops, up to three times a day.
- Strong decoction or cold infusion: Consume 4-8 ounces, up to three times a day.
- Capsules: Consume one to two “00” capsules, up to three times a day.

Additional Hepatic Herbs that Enhance Liver Function

Artemisia (mugwort), *Ceanothus* (red root), *Cynara* (artichoke leaves), and *Taraxacum* (dandelion) reduce blood viscosity and improve the quality of fluids circulating through the lymph. They also improve fat metabolism. *Curcuma*, *Cynara*, *Schisandra*, and *Silybum* have liver regenerating effects. *Ganoderma* and *Glycyrrhiza* have liver protective effects.

Circulatory Stimulant Herbs

Many individuals with hypothyroidism feel cold and suffer from poor circulation. Circulatory stimulant herbs can be useful to improve circulation and warm the body. Enhancing the circulation of the blood in the capillaries improves the health of all tissues in the body. Adding a circulatory stimulant herb to a compound formula will serve as a “carrier,” an agent that enhances the delivery of the other herbs to the tissues. Herbs that increase circulation, such as ginkgo, gotu kola, and prickly ash have energizing qualities, as well as mild anti-depressant actions. Hawthorn is more specific for individuals with hypothyroidism who also have atherosclerosis and high blood pressure.

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- *Zanthoxylum americanum* (Prickly ash, toothache tree, suterberry)
- *Zingiber officinale* (Ginger)
- *Ginkgo biloba* (Maiden hair tree)
- *Crataegus oxycantha* (Hawthorn)

Lymphatic Herbs

Individuals with hypothyroidism may experience suppressed immunity. Some symptoms of immune suppression include frequent colds, slow healing once an infection is contracted, lowered resistance, slowly healing wounds, and lowered white blood cell counts. Other individuals with hypothyroidism experience a heightened immune response. Regardless of the body's immune response, lymphatic herbs improve lymphatic drainage, fluid congestion, and they enhance immune function. Consider adding a lymphatic herb to a compound when a person experiences the symptoms listed previously.

- *Asclepias asperula* (Immortal), *A. incarnata* (Swamp milkweed), and *A. tuberosa* (Pleurisy root)
- *Ceanothus americanus* (Red root)
- *Galium aparine* (Cleavers)
- *Phytolacca americana*, *P. decandra* (Poke)

Immune Modulating Herbs

Immune modulating herbs that strengthen acquired immunity can be beneficial for hypothyroidal individuals with immune weakness. Immune modulating herbs include: *Astragalus*, *Codenopsis*, *Ligustrum*, *Ganoderma*, *Paeonia lactiflora*, *Panax ginseng*, *Panax quinquefolium*, *Poria*, and *Baptisia*. Individuals with hypothyroidism and immune weakness may experience: frequent colds, slowly healing wounds, lowered white blood cell counts, swelling of the glandular and lymphatic systems, chronic fatigue, mononucleosis, weak vitality, feeble circulation, and full congested edematous conditions in the tissues.

Female Hormone Balancing Herbs

Many individuals with hypothyroidism have issues related to their reproductive health. Men and women often have low libido. Women in their reproductive years may have difficulty with their menstrual cycle, as well as issues with conception and miscarriages. While many factors must be considered when treating reproductive issues, a few of the herbs listed below can be useful to correct hormone imbalances. Many of the herbs mentioned in the *adaptogen* section can be used to help regulate thyroid and reproductive hormones, as well as to increase fertility and libido. Some of the herbs mentioned in the *hepatic* section are useful to enhance liver detoxification of hormones.

- *Vitex agnus-castus* (Chaste tree berry)
- *Cimicifuga racemosa* (Black cohosh)
- *Angelica sinensis* (Don quai)

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Demulcents and Astringents

Demulcent herbs such as *Althea* (marshmallow), *Trigonella* (fenugreek), *Rosa* (rosehips), and many types of seaweed are beneficial for soothing dry mucus membranes and dry skin. They work most effectively when they are used in tea form, preferably when prepared as a decoction. This class of herbs can be used by individuals who are prone to internal or external dryness.

Anaphalis margaritacea (pearly everlasting) and *Matricaria recutita* (chamomile) reduce mucus membrane edema. They also soothe the tissues in the respiratory and digestive systems. *Myrica californica* (California bayberry) can be used for chronic mucus membrane congestion, as well as a lack of tone and circulation in the gut. Myrica is beneficial for treating other symptoms such as diarrhea, stools that resemble a toothpaste squeeze, and a thick, white coating on the tongue.

Additional Factors Affecting the Thyroid

Gluten Intolerance Inhibits Thyroid Function

One of the single most important factors in treating patients with Hashimoto's thyroiditis is the complete elimination of gluten. Hashimoto's is an autoimmune disease that accounts for 90% of the cases of hypothyroidism. Reducing the autoimmune response is of utmost importance in healing Hashimoto's thyroiditis and other thyroid diseases.

The molecular structure of gliadin, the protein portion of gluten, closely resembles the structure of the thyroid gland tissues. When gliadin leaves the gut and enters the bloodstream, it is recognized as a foreign protein that stimulates the production of antibodies. These antibodies tag the gliadin but also attack the thyroid tissue, meaning the immune system is attacking the thyroid in individuals with autoimmune thyroiditis.

Eliminating gluten 100% from the diet will reduce the antibody response and allow for the intestinal lining to heal from chronic inflammation. Healing the intestinal tract lining decreases intestinal permeability, reducing the potential for larger protein molecules to leak into the blood stream and trigger an inflammatory autoimmune response.

Most patients will experience a significant reduction in their symptoms when they eliminate gluten. However, there are still some patients who experience some of their symptoms, including fatigue and mental confusion after they eat. Those individuals often feel significantly better when they limit starches that have a high glycemic index such as starchy vegetables, grains, and sweets. Some individuals may have other food allergies or sensitivities to dairy, nuts, or other foods, that can also cause them to feel poorly. Food sensitivities and food allergies are best identified for effective natural treatment.

Avoid Thyroid Suppressing Herbs

Individuals with hypothyroidism should avoid the regular or long-term use of herbs that suppress thyroid function. They include: *Lycopus* (bugleweed, gypsywort), *Melissa* (lemon balm), and *Verbena* (blue vervain).

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Avoid or Reduce Thyroid Disruptive Medications

Medications that can disrupt thyroid function include: antacids (aluminum hydroxide containing antacids), antibiotics and antifungals (sulfonamides, rifampin, keoconazole), antidepressants, anti-diabetics (Orinase, Diabinese), anti-arrhythmia medications (Cordarone, Inderol, Propranolol, Regitine, etc.), aspirin, birth control pills, cholesterol lowering medications (Colestid, Atromid, Locholest, Questron), Coumadin and other blood thinning agents, diuretics (Lasix), pain medications (morphine, Kadian, MS contin, etc.), hormone replacement therapy (Premarin, anabolic steroids, growth hormone, etc.), psychoactive medications (Lithium, Thorazine, etc.), steroids (especially cortisone and prednisone), and stimulants (amphetamines).

Foods Supporting the Thyroid

Thyroid hormones are made from the compound tyrosine. Consuming tyrosine containing foods help to support the thyroid. Mustard greens (*Brassica nigra*, *Sinapis alba*, and others) are high in tyrosine. Mustard greens also contain goitrogens (discussed below), but if they are cooked, they are not problematic. Other foods that contain tyrosine include velvet bean seeds, carob, oats, soybeans, spinach, watercress, sesame seeds, butternut squash, chaya, chives, fava beans, lamb's quarters, pigweed, pumpkin seeds, snow peas, and cabbage.

Foods Containing Goitrogens

Goitrogens are substances that block iodine utilization. Goitrogen-containing foods are best avoided in their raw form, but cooking usually inactivates the goitrogens. Foods that contain goitrogens include turnips, cabbage, mustard, cassava root, soybeans, peanuts, pine nuts, and millet. All of the cruciferous vegetables, especially the uncooked vegetables, and soy products suppress thyroid hormone production. The cruciferous vegetables include broccoli, brussel sprouts, cabbage, cauliflower, kale, mustard greens, radishes, rutabagas, and turnips.

General Dietary and Supplement Recommendations

Ideally, one should consume organic, grass-fed or wild-caught meat; wild-caught fish that are high in omega fatty acids; organic, raw, unpasteurized dairy products; nutrient dense vegetables, sea vegetables, nuts, and seeds; and whole berries and fruits in season. Consume small to moderate amounts of gluten-free whole grains and pre-soaked legumes if they are digested with ease. Avoid foods high that have a high glycemic index. For some individuals, if a gluten-free diet is not enough, a diet free of grains, starchy vegetables, and sweets is recommended for complete recovery from hypothyroidism.

Beneficial supplements include fish oil, cod liver oil, or flaxseed oil. One to two tablespoons daily enhances the integrity of the skin, the mucus membranes, and is beneficial for the nervous system. Vitamins B2, B3, riboflavin, niacin, and B6 pyridoxine are necessary for normal thyroid hormone manufacture. The daily consumption of the following vitamins help support thyroid function: vitamin C (500-3000 mg), vitamin E (400-800 IU), and vitamin A (800 IU), and zinc (30 mg).

Exercise

Regular exercise stimulates thyroid gland secretion and increases tissue sensitivity to thyroid hormone. However, exercise that stimulates the adrenals should be avoided (running or activities that stimulate adrenalin secretion).

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Excessive Drug Use

Personal observations indicate that frequent and long-term use of *Cannabis* or alcohol can suppress thyroid function. The excessive uses of methamphetamines, cocaine, and caffeine have an initial stimulating affect on the thyroid, but they eventually can cause hypothyroidism. Eliminate or greatly reduce alcohol, caffeine, and sugar consumption.

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