

HYDRATION & SUPPLEMENTS

Medical Disclaimer

All information contained within this guide is for informational purposes only. It is not intended to diagnose, treat, cure or prevent health problems – nor is it intended to replace the advice of a qualified medical practitioner. No action should be taken solely on the contents of this guide. Always consult your physician or qualified health professional on any matters regarding your health or any opinions expressed in this program.

The information provided within this guide is believed to be accurate based on the best judgment of the authors, but the reader is responsible for consulting with his or her health professional on any matters raised within. We do not assume liability for the information contained within this guide, be it direct, indirect, consequential, special, exemplary, or other damages.

It's advisable to consult your physician before changing your diet, starting an exercise program, or taking supplements of any kind.

Supplements

We all want the magic pill that's going to make weight loss easy and effortless. The one that will make inflammation go away, boost your immunity, and magically just make you the healthiest person ever. Right? Unfortunately, that pill doesn't exist.

That being said, there are plenty of supplements that can be a HUGE help when it comes to losing fat (the right way), reducing inflammation, increasing energy, boosting immunity, balancing hormones, balancing blood sugar, and just all around feeling better. These are supplements that provide your body with nutrients that it may be missing or those that are used too quickly for your food to keep up. These supplements can also help you relax and sleep better.

Unfortunately, the supplement world is a HARD one to navigate. There's a LOT of crap out there, and supplementing with the wrong things can be ineffective at best and dangerous at worst. That's where this guide comes in.

I cannot overemphasize the importance of high-quality supplements. A recent study revealed that four out of five herbal supplements at GNC, Target, Walgreens, and Walmart didn't contain any of the herbs on their labels. Most of them actually contained cheap fillers like powdered rice, asparagus, and houseplants. For people with allergies, these substances can be dangerous.

How do supplement manufacturers get away with this? Dietary supplements are exempt from the strict regulations applied to the prescription drug industry. The trouble is that many people

spend hundreds and even thousands of dollars on supplements thinking that they will improve their health, and they are actually doing little, if any, good. To better understand this, let's first get a better understanding of what a supplement is.

A dietary/nutritional supplement is a product that contains vitamins, minerals, herbs or other botanicals, amino acids, enzymes and/or other ingredients intended to supplement the diet. The U.S. Food and Drug Administration (FDA) has special labeling requirements for dietary supplements and treats them as foods, not drugs.

Check for the following signs of a high-quality supplement:

- Manufactured at a Good Manufacturing Practices (GMP) facility
- List a Certificate of Analysis for each ingredients

Avoid other ingredients like:

Fillers – Inert material added to tablets or capsules to increase their bulk

- Fillers – Inert material added to tablets or capsules to increase their bulk
 - Binders – Substances that give a cohesive quality to powders materials
 - Coatings/ Lubricants – Inert material added in small amounts to prevent tablets from sticking to the molds
 - Colourings – Food dyes
 - Flavourings – Examples are sugar, natural flavouring, sorbitol
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- Look for ingredients that are clinically proven to boost health
 - Avoid supplements that are at a low price point that's too good to be true
 - Pay attention to the company's integrity and reputation
 - Try to choose supplements derived from natural sources and whole foods rather than synthetic chemicals

With so many concerns regarding supplements, it can raise the question - are supplements beneficial? They can be! In addition to a healthy diet and lifestyle changes, nutritional supplementation may be effective in managing hormone imbalances.

Supplements for Daily Use

Fish oil: a good quality fish oil is essential for dealing with inflammation. It's also very important for brain health, hormone health, gut health, etc.

Vitamin C: a powerful antioxidant that is helpful for adrenal health, liver health, thyroid health and building the immune system. As a water-soluble vitamin, we excrete what we can't use right away, meaning you should take a half dose in the morning and another half in the afternoon for optimal benefits.

Probiotic: gut health is essential for good health. Everything, literally everything starts in the gut. Probiotics maintain a healthy gut ecosystem which impacts everything from digestion to skin health to weight (and so much more). You can also choose to eat fermented foods every day like sauerkraut and kimchi; they have their own probiotics all ready to go. If you're opting to supplement, I would suggest the HCP line by Progressive and make sure to take your probiotics in the evening before bed.

B Complex Vitamins: so important for energy as well as supporting your adrenals and thyroid and hormones. Take B complex vitamins in the morning and at lunch for better energy all day.

Biotin: very important for skin, hair, and nails as well as for metabolism of proteins, fat, and carbohydrates. Biotin is poorly absorbed when you have a leaky gut so larger doses may be needed in this case.

Rhodiola: *Rhodiola rosea* (*R. rosea*), also known as “golden root”, is an **adaptogen herb** with tremendous fat-burning, energy-enhancing and brain-boosting power. Adaptogens including *Rhodiola* are a group of plants that can help your body adapt to physical, chemical, and environmental stress. *Rhodiola* is one of the most effective in this family, due to containing active compounds like rosoavin that have the ability to help balance stress hormone including, cortisol. *Rhodiola rosea* is a stress-busting supplement that goes by several names, including: arctic root, roseroot, king’s crown and golden root. What does *Rhodiola* do to the body to help make it more capable of dealing with stress? As an “ergogenic aid” and an adaptogen— or a “natural herbal product that is non-toxic in normal doses, that produces a non-specific response, and that has a normalizing physiologic influence”— *Rhodiola* is very helpful for improving both physical and mental energy and for fighting the negative effects of stress. It helps body adapt to stress by decreasing or preventing hormonal changes tied to prolonged stress. Research suggests that some of the ways it does this is by acting on beta-endorphins and opioid neuropeptides to enhance stress tolerance and by positively affecting other stress adaptation factors. *Rhodiola* has been proven to have at least four major health benefits. The top *Rhodiola* uses include:

1. Helping to lower the stress hormone cortisol
2. Fighting depression and improving brain function
3. Supporting weight loss and helping to burn visceral/belly fat
4. Increasing energy and athletic performance, while reducing mental and physical fatigue

Turmeric: This super powered ingredient is a star when it comes to inflammation. Turmeric is an excellent antioxidant, cancer-preventive, liver protective, AND it aids in fat metabolism. That makes turmeric a superstar something we want to incorporate as much as possible.

RLA: The R+RLA version of ALA is the purest form of Alpha Lipoic Acid. R+RLA helps the body remove sugar from the bloodstream and has an impressive ability to aid in a wide variety of other nutrients including creatine. Can aid in increasing energy levels for sustained periods of time.

Supplements for Occasional Use

- **Aloe** - excellent for stomach or digestive issues. It is super soothing and can help to support an irritated gut. In my house, we keep aloe around in case anyone catches a stomach bug, or eats something that irritates their digestive system.

Supplements for Hormonal & Overall Health

Vitamin D3: Did you know that vitamin D is considered a hormone? The “sunshine” hormone precursor is manufactured in the body by the process of the sun’s ultraviolet rays on the skin converting the biological precursor 7-dehydroergosterol into vitamin D3. It has a role in forming calcitriol, which is the hormone that regulates the calcium and phosphorus in the body. The recommended dose for vitamin D3 is 400 IU daily and up to 5,000 IU daily for a therapeutic dose. Higher doses may be recommended by a healthcare practitioner when Vitamin D3 levels have been tested.

Magnesium: This incredible co-factor participates in over 300 enzymatic reactions in the body. Some of the more important functions include transmission of nerve impulses, muscular activity, production of ATP (energy), temperature regulation, detoxification reactions, and calcium formation of healthy bones and teeth. If magnesium levels are low, PMS cramps and migraines due to smooth muscle contractions may arise or worsen. Additionally, if you take oral contraceptives, they make you release excess estrogen and deplete magnesium and tyrosine. Magnesium deficiency reduces insulin sensitivity (ability to handle carbs) and lowers thyroid hormone production. The RDA dose for magnesium is 400mg per day and up to 1,500 mg per day for therapeutic doses.

Iodine: Dietary iodine is converted to iodide in the gastrointestinal tract, where it’s absorbed and transported to the thyroid gland. Iodine is stored in thyroglobulin. An increase in TSH stimulates the thyroid gland to increase the uptake of iodine and synthesize more thyroid hormones. A deficiency in iodine can cause hypothyroidism, goiter, cretinism, and myxedema. Goitrogens are substances that inhibit the synthesis and secretion of thyroid hormones. The foods that contain goitrogens include: raw cabbage, cauliflower, turnips, soybeans, and peanuts. The RDA for iodine is 150mcg/day and therapeutic dose ranges from 3mg to 6mg daily. Iodine should be avoided in Hashimoto’s thyroiditis due to its ability to worsen an autoimmune attack.

Tyrosine: This may be necessary if you take oral contraceptives. OC's make you release excess estrogen, and deplete tyrosine. Being deficient in tyrosine reduces insulin sensitivity (ability to handle carbs) and lowers thyroid hormone production.

B Complex for Hashimoto's: Hashimoto's thyroiditis is an autoimmune disease that results in hypothyroidism. If there is low thyroid hormone and low stomach acid, then there is a high risk of developing a B12 deficiency. Vitamin B12 is important because it helps keep the body's nerve and blood cells healthy and helps make DNA, the genetic material in all cells.

Vitamin B12 also helps prevent a type of anemia called megaloblastic anemia that makes people tired and weak.

Additionally **Thiamine (B1)** helps fight the antibodies that contribute to Hashimoto's.

Pyridoxine (B6) is involved in liver function, detoxification, gastrointestinal issue, and adrenal fatigue. Each of the symptoms is often linked to Hashimoto's.

Pantothenic acid (B5) plays a key role in the production of some hormones and neurotransmitters. B5 is a constituent of co-enzyme A (CoA) which plays a role in production of fats, cholesterol (needed for steroid hormones), and bile acids.

Diindolylmethane (DIM): If an individual is struggling with perimenopause, premenstrual syndrome, or an enlarged prostate gland, estrogen levels may be the culprit. DIM is a phytonutrient found in cruciferous vegetables that promotes estrogen metabolism and fat loss, supports prostate health, and helps maintain healthy skin, bones, and hormone balance, especially for estrogen dominant conditions (such as fibrocystic breast tissue and uterine fibroids). Cruciferous vegetables include: broccoli, kale, cabbage, cauliflower, sprouts, turnip, watercress, and radish. The appropriate dose is determinant on one's age, health, and any underlying conditions.

DHEA, otherwise known as Dehydroepiandrosterone: DHEA is a hormonal precursor to androgenic hormones like testosterone and estrogen. When taken as a supplement, DHEA promotes the synthesis of these new hormones. Since estrogen production declines with age, it's no surprise that DHEA levels in the body also fall. In fact, some studies report that between the age of 30 and the onset of menopause, DHEA levels can be reduced by nearly 60%. If you've encountered age-related estrogen decline, it's entirely possible that supplementing with a DHEA supplement may improve estrogen status and of course, reduce estrogen-related symptoms.

Probiotics: A majority of the immune system is found in the gut, so if the digestive system is malfunctioning, a weak immune system and hormonal imbalances are often the result. The imbalances can also affect the thyroid gland and result in fatigue, joint pain, depression, and many more symptoms. So, how can probiotics help? They are the good bacteria that line the digestive tract, absorb nutrients and fight off invaders. Probiotics help produce B12, kick out the bad bacteria, create fighting enzymes, and secrete IgA and regulatory T-cells. To gain the benefits of probiotics, find a supplement that has 10 or more strains of probiotics with minimum of 15 billion CFUs. Fermented foods and beverages such as some yogurts, kombucha, and kimchi are also a good source of probiotics.

OTHER SUPPLEMENTS FOR HEALTH & ENERGY

Glutamine: Glutamine is an important amino acid. It is found in foods, supplements and the human body. It is part of the proteins in your body and involved in immune function and intestinal health. Almost any food containing protein will contain some glutamine, but amounts vary. Getting enough protein in your diet can ensure you are getting enough but during illness or injury, the body may not be able to produce enough of it. Supplementation may help improve immune function and preserve protein stores in the body. Glutamine is an energy source for intestinal and immune cells and helps maintain the barrier between the intestines and the rest of your body and aids with proper growth of intestinal cells. Intake of the glutamine found in foods, as well as the short-term use of supplements, is safe. However, glutamine supplements can affect how your body processes amino acids.

Collagen: The amount of collagen in your body decreases as you get older, and increases your risk of developing degenerative joint disorders such as osteoarthritis. Collagen supplements have been attributed to their ability to stimulate your body to produce collagen on its own which may promote the production of other proteins that help structure your skin, including elastin and fibrillin. Collagen supplements may have certain effects in the body that help inhibit the bone breakdown that leads to osteoporosis. Collagen is a protein necessary to keep your muscles strong and functioning properly. Studies suggest that collagen supplements help boost muscle mass in people as they age. Taking collagen may promote the synthesis of muscle proteins such as creatine, and may also stimulate muscle growth after exercise. Collagen supplements may have other health benefits, such as stimulating hair & nail growth, improved gut health and maintaining the integrity of your cartilage.

Herbs for Hormone Imbalances

Ashwagandha for Thyroid Health: Ashwagandha is an adaptogenic herb found in the nightshade family that works to correct thyroid imbalances resulting from Hashimoto's, Graves'

and hyperthyroidism. As an option for hypothyroidism, the herb stimulates the thyroid gland to increase T4 production. In hyperthyroidism, Ashwagandha stimulates the thyroid to increase T4 levels, decrease T3 production, and reduce oxidative stress. The recommended dose to regain balance is 500-1,000mg daily.

Chaga: For centuries, chaga has been used as a traditional medicine in Russia and other Northern European countries, mainly to boost immunity and overall health. It has also been used to treat diabetes, certain cancers and heart disease. It's not only available as a tea but also as a powdered or capsuled supplement. The tea may feature chaga alone or in combination with other mushrooms, such as cordyceps. Taking chaga with either warm or cold water is believed to release its medicinal properties. Chaga extract may boost immunity, prevent chronic inflammation, fight cancer, lower blood sugar levels and reduce cholesterol. It's thought to have anticancer effects due to its high content of antioxidants, which protect cells from damage by free radicals. Chaga also contains the antioxidant triterpene.

Maca: Maca is a cruciferous vegetable and therefore related to broccoli, cauliflower, cabbage and kale. It has a long history of culinary and medicinal use in Peru. The main edible part of the plant is the root, which is generally dried and consumed in powder form, but it's also available in capsules and as a liquid extract. Maca root has traditionally been used to enhance fertility and sex drive. It's also claimed to improve energy and stamina. Maca root powder is very nutritious, and is a great source of several important vitamins and minerals. Maca may help alleviate menopausal symptoms, including hot flashes and interrupted sleep. It may also help with bone health, can enhance mood and may improve energy and sports performance. Note: if you have thyroid problems, you may want to be careful with maca because it contains goitrogens, substances that may interfere with the normal function of the thyroid gland.

Astragalus: Astragalus, also known as Milk Vetch, is an adaptogen beneficial for lowering cortisol and for its immune-enhancing properties. This herb inhibits bone marrow depletion, protects against cellular damage in the liver, helps oxygenate the heart, and help improves the body's response to stress by easing anxiety. Astragalus can also increase insulin sensitivity and protect pancreatic beta cells. Often, the recommended dosage is 250 mg (standardized extract) four times a day.

Milk Thistle: A hepatoprotective (or liver protector), milk thistle is also known as Silybum marianum. It is a combination of chemical agents, which includes flavonoids such as silybin, silydianin, and silychristin. These combine to become silymarin. Milk thistle has an important role in protecting the liver from environmental toxins, which in turn helps with the detoxification process. It also prevents certain toxins from entering liver cells and stimulates regeneration of damaged cells. Milk thistle benefits the gastrointestinal system by increasing

bile flow. For new mothers who are nursing, milk thistle can stimulate milk flow. The recommended dose is 80mg (standardized extract) three times a day.

Chasteberry (Vitex): Chasteberry, also known as Vitex agnus-castus, increases pituitary sensitivity to produce more luteinizing hormone (LH), which then leads to higher progesterone levels. Vitex also inhibits FSH, supports a normal menstrual cycle, increases prolactin levels in the second half of the menstrual cycle, and improves hormonal interactions and the balancing of hormones. The recommended dose of Vitex is 400mg (standardized extract) daily. Women on hormonal therapy may experience synergistic effects.

Evening Primrose Oil: Evening Primrose Oil, also known as Oenothera biennis, is used to build cell membranes, and for hormone and prostaglandin production. High levels of the essential fatty acids gamma-linolenic acid (GLA) decrease inflammation and smooth muscle cramping. To reach optimal benefits, you need to balance out the ratio of Omega-3/Omega-6 by increasing omega-3s. The recommended dosage is 1,500mg (standardized extract) daily.

A large, light blue circular watermark logo is centered on the page. The logo contains the text "HER" in large, bold, blue letters at the top, "power" in a smaller, grey, lowercase font in the middle, and "FITNESS" in large, blue, all-caps letters at the bottom. Below "FITNESS" is the tagline "Health | Energy | Results" in a smaller, grey font.

Additional Supplements Specifically for PCOS
Health | Energy | Results

Polycystic ovary syndrome (PCOS) is a hormonal imbalance resulting in enlarged ovaries with small cysts that disrupt the reproductive system by an overproduction of androgens.

Inositol

Similar to a vitamin, inositol is found in plants, animals, and is also made in a lab. Inositol helps lower triglycerides, testosterone, insulin levels, and blood pressure. It also functions to promote ovulation, fertility, and egg production in women with PCOS. The recommended dose for polycystic ovary syndrome is 1,200mg/daily.

Berberine

New research has indicated Berberine reduces insulin levels, prevents leaky gut syndrome, improves fatty liver disease, fights off cancer, decreases cholesterol levels, boosts fertility,

fighters off inflammation, reduces testosterone, lowers blood pressure, and promotes weight loss. Research has indicated 500mg of Berberine 3 times per day.

Spearmint

Who would have thought that by keeping your breath minty fresh, you can also help reduce the symptoms of polycystic ovary syndrome? If you drink 2 to 3 cups of spearmint tea daily, you can reduce androgen levels, excessive body hair, and hirsutism. Spearmint has been shown to reduce testosterone levels, so start drinking that tea!

Hydration

Electrolyte Balance

As you rely less heavily on carbohydrates, you tend to store less water and therefore can become dehydrated more easily and experience mild electrolyte imbalances. It's important to make sure you are getting enough water and electrolytes for the first few weeks, while your body becomes fat adapted.

Quick note: if you have kidney issues, take water pills, or have been advised against changing your sodium intake make sure you check with your healthcare provider before playing with your electrolyte balance.

Electrolytes needed: sodium, potassium, and magnesium are the key imbalances experienced.

Health | Energy | Results

- **Sodium:** when insulin is lower (the goal here), sodium is excreted from the kidneys more readily meaning you likely need extra. I'm not talking processed table salt here though. My go-to's are pink Himalayan salt or sea salt.
- **Magnesium and Potassium:** we are a magnesium deficient society period. Add into that alcohol intake and stress, and it can be a real problem. Potassium is also at risk of deficiency for similar reasons. Bottom line? You need to get your electrolytes in to feel your best.
- **Best foods:** salmon, avocado, dark chocolate, pink Himalayan salt or sea salt, leafy greens, nuts, bone broth.

Teas

Teas are such a lovely and relaxing way to supplement. Teas are typically made from dried herbs and are usually safer than supplementing with herbal supplements in their whole form

while still being effective. There are many different teas on the market. These teas can aid in detoxification and the beginning stages of balancing your body.

1. Milk thistle: This powerful herb is jam-packed with the ability to support your liver through detoxification. It also decreases inflammation, acts as an antioxidant, and stimulates the production of bile, which is important as we add all sorts of great healthy fats into the diet.
2. Match Green Tea: This slightly different type of tea (it's the powdered leaves of the plant that are added directly into your tea instead of steeped) is a very powerful addition to your routine. Matcha contains the amino acid theanine which produces a relaxed but alert mental state and gives you sustained energy and very clear thinking. Matcha is also rich in something called catechins which have been shown to boost metabolism which is exactly what we want to do as we support healthy fat loss.

EAA's (Essential Amino Acids or BCAAs (Branch Chain Amino Acids))

I strongly suggest purchasing a quality EAA from a reputable store. Drink them in the morning when you are fasting.

EAA's can not only assist in the building of skeletal muscle, they can help you maintain muscle mass while dieting.

Dieting can lead to muscle breakdown. As the body gets leaner, muscle loss can happen as the body tries to hold onto fat stores.

The basic equation for muscle mass is: $\text{Muscle mass} = \text{rate of protein synthesis (Protein synthesis is the metabolic process when your body makes new muscle protein, also known as gains)} - \text{rate of protein breakdown}$

When the rate of synthesis equals the rate of breakdown, you don't gain or lose muscle. If the rate of synthesis is higher than the rate of breakdown, you get muscle growth. When the rate of breakdown is higher than the rate of synthesis, you lose muscle. If you're dieting, you may be burning the candle at both ends: raising muscle breakdown and lowering protein synthesis.

How EAAs May Help

- Increase Protein Synthesis
 - EAAs (which are the 9 essential amino acids) stimulate muscle protein synthesis. Your body cannot produce amino acids on their own.
- Reduce Protein Breakdown
 - Increased EAA levels also work in your favour by reducing the rate of protein breakdown. They do this by decreasing the activity of the protein breakdown pathway, and also by decreasing the expression of several factors involved in

protein breakdown. Increasing synthesis and decreasing breakdown will equate to muscle gain or maintenance.

- **Better Workouts**

- Amino acid supplementation could also help you get a more intense workout. Branched-chain amino acids compete with the amino acid tryptophan for entry into the brain, where tryptophan can be converted to the neurotransmitter serotonin.
- During exercise, serotonin levels rise and can make you feel more fatigued, meaning you won't be able to push as hard.
- EAA supplementation reduces the amount of tryptophan that gets through the blood-brain barrier, and therefore reduces the amount of serotonin produced. This might allow you to work harder and longer.
- It can be beneficial to incorporate EAA's into your fasting phase to help preserve muscle and maintain energy.

This is a summary of supplements and is not meant to be taken as treatment for a medical condition. Always consult with your health care provider before taking supplements.

