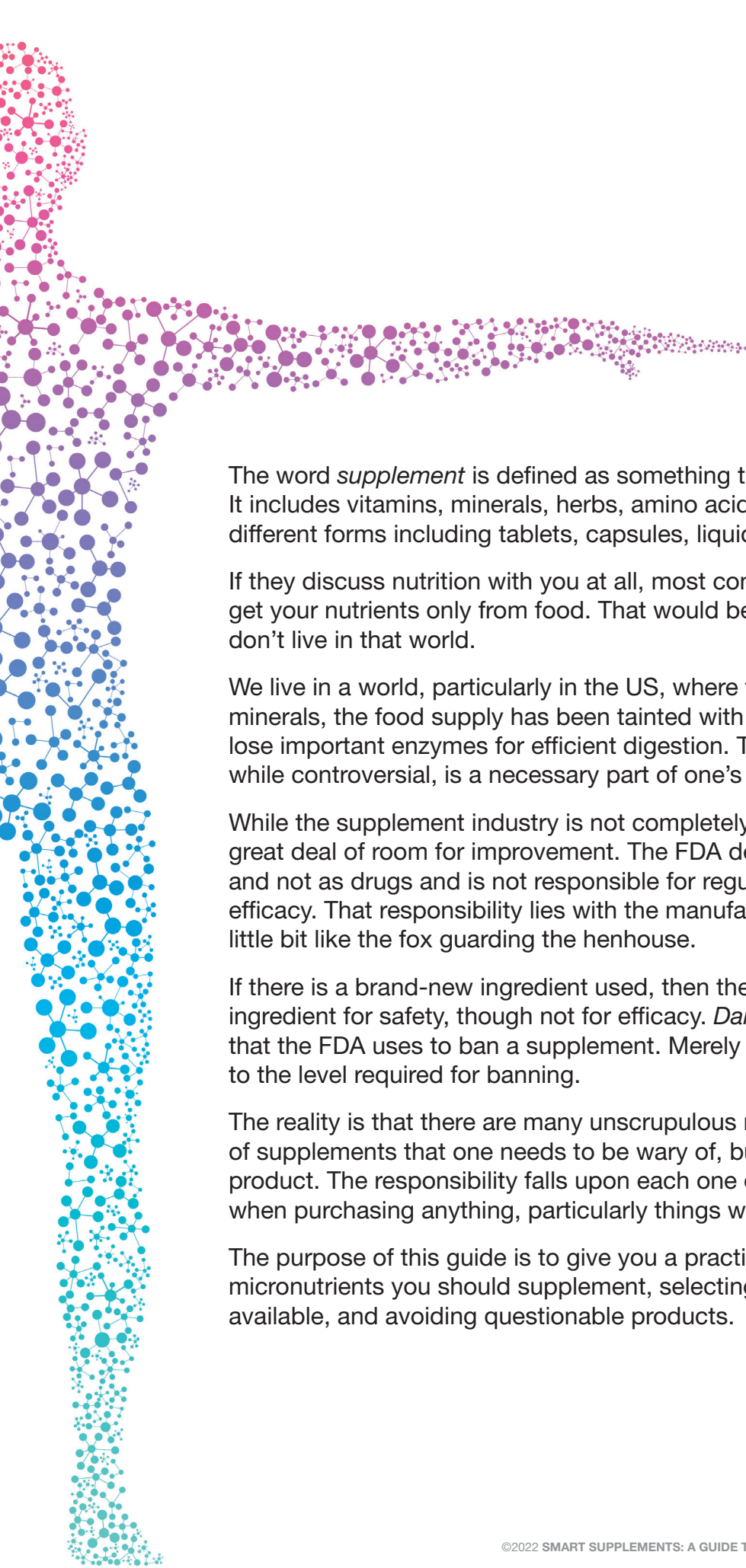


SMART SUPPLEMENTS

A Guide to
Creating
Your Own
Personalized
Supplement
Regimen





The word *supplement* is defined as something that is added for improvement. It includes vitamins, minerals, herbs, amino acids, and enzymes. They come in different forms including tablets, capsules, liquid, powder, soft gel, and chews.

If they discuss nutrition with you at all, most conventional doctors will tell you to get your nutrients only from food. That would be ideal in a perfect world, but we don't live in that world.

We live in a world, particularly in the US, where the soil has been depleted of minerals, the food supply has been tainted with pesticides, and as we age we lose important enzymes for efficient digestion. Therefore, taking supplements, while controversial, is a necessary part of one's quest for optimal health.

While the supplement industry is not completely without regulation, there is a great deal of room for improvement. The FDA designates supplements as food and not as drugs and is not responsible for regulating either their safety or efficacy. That responsibility lies with the manufacturer and distributor which is a little bit like the fox guarding the henhouse.

If there is a brand-new ingredient used, then the FDA will step in and "review" the ingredient for safety, though not for efficacy. *Dangerous* is the only designation that the FDA uses to ban a supplement. Merely *unsafe* or *ineffective* doesn't rise to the level required for banning.

The reality is that there are many unscrupulous manufacturers and distributors of supplements that one needs to be wary of, but that is true for every consumer product. The responsibility falls upon each one of us to do careful due diligence when purchasing anything, particularly things we ingest.

The purpose of this guide is to give you a practical strategy for determining which micronutrients you should supplement, selecting the highest quality supplements available, and avoiding questionable products.

Determine Your Nutrient Deficiencies Before Supplementing



Before even taking the first step to purchase supplements, it is best to do some testing of one's levels. That way, you can get as close to personalized treatment as possible.

There are several tests available to determine your individual level of vitamins, minerals, amino acids, enzymes, and antioxidants.

Some companies offer “custom” supplements to match your genetic profile, but the science is not quite advanced enough to accurately prescribe in this manner. One day, it will be, but until that day, current vitamin, mineral, and nutrient testing will have to suffice.

Keep in mind that blood tests are subject to interpretation and are based on functional and pathological ranges. They are not perfect, but they can reveal information about your metabolic pathways, vitamin levels, fluid and electrolyte balances, mineral levels, and hydration.

You should not aspire to the “normal” range but rather what is optimal for you. Learning this information will allow you to supplement for deficiencies and avoid supplementing for nutrients in which you are not deficient.

Nutrients act in a synergistic manner in the body, and one's absorption and ability to utilize a supplement depends upon the availability of other existing nutrients.

Know the Difference Between Synthetic vs. Natural



Ninety percent of supplements are made in laboratories and are processed or synthesized from petroleum, coal, tar, formaldehyde, cyanide, or other chemicals that you don't want to ingest.

There are synthetic and there are natural supplements. The body absorbs and reacts differently to different supplements.

Synthetic means that they are industrialized from isolated nutrients, and they are cheaper to manufacture and more shelf-stable. The word *natural* has lost its intended meaning because it has been manipulated by marketing efforts.

While it is supposed to mean that the supplement is not heated during production and contains no added synthetics, the reality is that the law pertaining to a label with the word *natural* only requires 10% of the supplement to contain plant-derived ingredients, and the remaining 90% can be synthetic.

While some people do respond well to synthetic supplements if they are high quality, natural food ingredients tend to have fewer adverse side effects than ingredients that are synthetic and unrecognized by our bodies.

While it has yet to be put into practice, there is a new standard for natural supplements called Naturally Occurring Standards (NOS). This certification will indicate that a product is naturally occurring, organic, and free of GMOs (genetically modified organisms) and synthetics.

A particularly bad issue with synthetic vitamins is illustrated with folic acid. Those with one or two variants of the MTHFR gene lack the enzyme required to convert synthetic folic acid into a usable form of B9. Without this conversion ability, the folic acid collects in the liver and can become toxic.

It is recommended if you test positive for the MTHFR genetic variation, you should supplement with methylated B vitamins to compensate for a compromised ability to methylate.

Be Mindful of Fillers



Fillers are used to “fill up” the supplement so they are a reasonable size. They are bulking agents to make the supplement proportional because some ingredients like iodine, selenium, and biotin are so small that on their own, the appropriate dose in a capsule would appear so minuscule that it would hardly be visible. These fillers include artificial colors, hydrogenated oils, starches, and sugars.

There are countless fillers in supplements. Here are the key ones to watch out for:

Magnesium Stearate and Carrageenan

Two fillers that should be avoided are magnesium stearate and carrageenan. While the science is inconclusive about whether the suppression of immune cells in rats by stearic acid applies also to humans, this substance is made from cottonseed and canola oils, which should be avoided. Carrageenan, which is also found in nut milks and other products along with supplements, is a thickening agent and has been found to trigger inflammation.

Gelatin

Another frequently used additive in food and supplements is gelatin. While it is not definitive, it has been suggested that gelatin, which is known to be made from the skin and bone of beef and pork, can also contain diseased organs.

Gelatin is frequently used to make the outer layer of a capsule. This form of a capsule, unlike vegetarian capsules made from methylcellulose, can be responsible for side effects because the gelatin used comes from an animal source and can be tainted with pesticides and antibiotics from the animals.

Artificial Colors and Flavors

Artificial colors and flavors have no place in anything that you ingest. If you see FD&C, or Blue No. 2, or Red No. 3 or 40, these are artificial colors added for no health benefit and have the potential to harm.

Artificial flavoring is a chemical soup that will not add to your goal of health optimization. If you have any allergies to gluten, dairy, or soy, it will be worthwhile to familiarize yourself with the ingredients which have names associated with these allergens. Two examples are “food glaze” and “hydrolyzed vegetable protein,” and both are gluten contaminants.

Be Mindful of Fillers



Other Unnecessary Ingredients

Other ingredients to be mindful of are flow agents, acidulantes found in liquid supplements, and disintegrants, which are for rapid breakdown. If you see the words “time release,” don’t count on it. Ideally, you want the purest supplement possible, unadulterated with other unnecessary or potentially harmful ingredients.

Excipients

Along with harmful chemical ingredients, synthetic supplements also contain excipients and binders. Excipients are supposed to be inert additives that are used to stabilize, bulk up, or enhance another ingredient.

The problem is that they are not always inert and can cause adverse reactions. They include artificial coloring, sweeteners, and preservatives.

One noteworthy example of an excipient that is widely used and has the potential to cause harm is titanium oxide. It is a whitening agent and is linked to inflammation, oxidative stress, and decreased nutrient absorption. It seems as though a supplement manufacturer would want to avoid a decrease in nutrient absorption but the use of this excipient does exactly that.

Titanium oxide is a nanoparticle and is so small that it slips past one’s immune system defense mechanisms. It has been associated with allergies, immune disorders, organ toxicity, and has been classified as a carcinogen.

More Supplement Tips



Avoid White Label Supplements

Many supplement companies “white label” their products. This means that a product is sold under a brand name but is manufactured by a different company. If you see a “proprietary blend” listed in the ingredients, be wary. This is a way for the company to avoid accountability and transparency. It is not in the consumer’s best interest.

Look for Third-Party Certification and CGMP

In doing your own due diligence, look for third-party certification and CGMP which stands for “Current Good Manufacturing Practice.” This will reduce the risk that the supplements have not undergone proper lab testing and medical supervision and will, accordingly, reduce the risk of harm.

Only Take Pure Supplements

Choose your brands of supplements carefully; only ingest the purest ones. Choose brands that are free of heavy metals, toxins, and binders. ConsumerLab is a website that provides independent test results and uses evidence to identify the most effective and safe supplements. Certain supplement companies only sell to doctors and tend to be of higher quality. Some of these practitioner companies include Designs for Health, Metagenics, and Ortho Molecular Products.

Monitor Your Absorption

It is thought that most people only absorb about one-third of the minerals and vitamins ingested. Your urine color is an indication of your absorption level. If it is bright yellow, you are not absorbing most of your supplements.

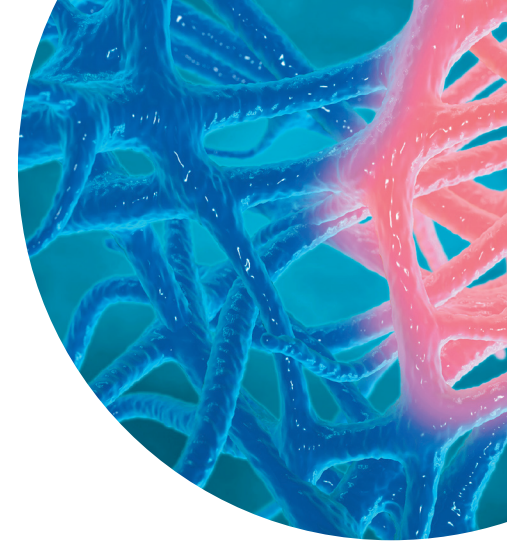
Rotate Your Supplements

There are many recommendations of “cycling” or “pulsing” your supplements, and I think it’s a good idea to adopt a rotational regime. This can be done in many ways from taking them for two to three months and then stopping them or taking a few one day and then a different combination the next, and so on.

Research Medication Interactions

Research the potential interactions of any medications you are taking before adding supplements. For example, iron and calcium supplements can affect your body’s ability to absorb certain medications. It is rarely mentioned that supplements usually lack the requisite cofactor nutrients necessary to assist in absorption.

The Future of Supplements & Action Steps



In the future, my hope is that artificial intelligence, other forms of technology, and diagnostics will all collaborate to determine precisely which nutrients we have in our body, which ones we are lacking, and the precise doses to compensate. We will be measuring deficiencies, addressing deficiencies, and measuring again. This will be life-changing as micronutrient sufficiency is essential.

Until then, it's up to us to do our due diligence. We must research, monitor, and adjust our supplementing to make sure we get the best results possible. Refer to this guide as you continue to develop the supplement regimen that works best for you.

The information in this guide can be a lot to take in at once. With that in mind, here is a 7-step action plan that can get you started. Think of it as a smart supplement quickstart guide:

Action Steps

- 1** Begin with testing. Have your blood drawn to determine your level of micronutrient deficiency. Do not randomly take supplements because an article or a friend persuaded you it would be helpful.
- 2** Choose your brands of supplements carefully with the goal of only ingesting the purest ones.
- 3** Look for third-party certification and CGMP on your supplement bottles.
- 4** Monitor your symptoms and experiment with the dose.
- 5** Adopt a rotational regime, instead of taking all of your chosen supplements seven days a week continuously.
- 6** Pay close attention to how you feel when taking your supplements and when you are not taking them.
- 7** Only add one new supplement at a time and monitor your reaction, or lack thereof, for a week before adding another one.



About Emily

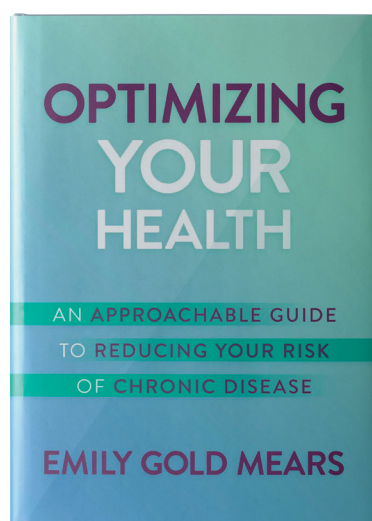
I am a mother of two sons, a research analyst, a consultant to a New York based think tank and sit on several non profit boards focused on science and medicine.

Before I discovered how interesting and fulfilling scientific research is, I was a practicing lawyer. While I did not love the practice of law, it did teach me the valuable skill of careful and extensive research. I am now part of a growing group of society called “citizen scientists,” where the public gets to collect and contribute data for the advancement of science.

About *Optimizing Your Health*

In *Optimizing Your Health*, Emily Gold Mears shares years of research and knowledge to help others understand how they can become their own health advocate, modify their lifestyle to reduce their risk of chronic disease, and take a proactive role in their own healthcare.

Gold Mears features real life stories, clinical studies, the latest discoveries, and infographics to demonstrate what is hurting us and what can help us in our pursuit of a long, healthy life.



This book curates a vast amount of health and wellness information and focuses on the most salient aspects.

Gold Mears’s book is essential reading for those who are committed to reducing their risk of chronic disease, aging well, and feeling their best.