



ESSENTIAL OILS for Diabetes & Remedy Guide

Dr. Eric L Zielinski

Bestselling Author of *The Healing Power of Essential Oils*



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by Dr. Eric Zielinski

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PART ONE
Type 2 Diabetes 101

CHAPTER 1

Diabetes & Essential Oils

Although there isn't a defined cure, diabetes can be managed with diet and lifestyle and, often, medication. One way to boost its management is with essential oils for diabetes, used in various ways to improve insulin sensitivity, manage body composition, and improve overall digestive wellness.

Diabetes is one of the more widespread metabolic, chronic illnesses of our time. It's estimated that around 10% of the population is diagnosed with diabetes, while another 8 million people likely have it without being diagnosed.

Diabetes and the Body

For a refresher on what diabetes is and how it works in the body, we can look to the *American Diabetes Association* for their summary of the more common variation of diabetes, type 2:

If you have type 2 diabetes your body does not use insulin properly. This is called insulin resistance. At first, your pancreas makes extra insulin to make up for it. But, over time it isn't able to keep up and can't make enough insulin to keep your blood glucose at normal levels.

On the other hand, type 1 diabetes is genetic and behaves differently:

In type 1 diabetes, the body does not produce insulin. The body breaks down the sugars and starches you eat into a simple sugar called glucose, which it uses for energy. Insulin is a hormone that the body needs to get glucose from the bloodstream into the cells of the body.

It's important to have an understanding of the disease itself before we adjust our habits and supplemental efforts in response. For example, if you are using an essential oil with the goal of improving insulin sensitivity for type 2 diabetes, understanding that exercise can have a similar and even more potent result will help you make safe choices and avoid bottoming out. On the other hand, if you are a type 1 diabetic, no amount of insulin sensitivity will correct a lack of insulin.

Therefore, the information in this article is relevant to type 2 diabetics specifically and, when I state to “diabetes,” I refer to type 2 diabetes.

Diabetes can have very serious and life-threatening complications, from poor wound healing to cardiovascular events. Never adjust your medications without the guidance of your physician, and if you suspect you may be diabetic, schedule a consult with your doctor right away.

Essential Oils for Diabetes

Most of us are already familiar with substances that are beneficial for insulin sensitivity, with powdered cinnamon topping the list of kitchen remedies to help deal with blood sugar and diabetes. Aromatherapy has even more to offer – with some oils appearing to benefit the insulin response and others working to ease the symptoms that diabetes can cause.

For using essential oils for diabetes, the key is to think outside of the box. If you are working toward weight loss to relieve the severity of your diabetes, then diffusing essential oils that energize and potentially benefit weight loss might be the way to go. If you’re trying to help a wound heal while diabetes hinders the process, an antiseptic and healing oil in a topical formula could do the trick.

Essential oils for diabetes are best used as integrative components of our wellness routines. For the diabetic who now focuses their lifestyle toward managing both the causes and symptoms of the disease, having such a versatile toolkit can be a lifeline.

6 Ways to Use EOs to Manage Diabetes

Here are some of the most useful essential oils for diabetes.

1. CULINARY CINNAMON ESSENTIAL OIL

Probably the most researched of the essential oils for diabetes relief, cinnamon in general refers to a group of trees whose leaves or inner bark are distilled for its essential oil or the bark harvested as a spice. There are multiple varieties of the *Cinnamon* tree, including *C. cassia*, which we usually refer to as simply cassia when used for its essential oil.

The most heavily researched “angle” for cinnamon and diabetes is that of the powdered spice, with a great deal of focus placed on it for pancreatic support, glucose lowering, weight loss, and general diabetes prevention and management.

Research of essential oils for diabetes is moving through the best applications and preparations, though, and essential oils have made their appearance in the literature. In 2013, an evaluation of cinnamon leaf essential oil found that *“all tested doses of [cinnamon essential oil] significantly lowered fasting blood glucose and fructosamine.”* The researchers pointed to pancreatic support as the likely mechanism leading to the blood sugar benefits.

We don’t have an exact directive from studies and research to tell us how to maximize cinnamon’s potential for diabetic wellness, but we can glean some helpful tidbits:

- Internal use seems to be the most effective.
- Cinnamon in all forms appears to lower blood sugar.
- A little dab’ll do!

Takeaway: Cinnamon essential oil may join the diabetic’s arsenal of culinary weapons against glucose. One or two drops for an entire day is a safe and sufficient amount – dilute it into a lipid and include it in recipes. Remember, cinnamon is a strong oil and can be an irritant if not used properly.

Be sure to monitor your blood sugar carefully when using cinnamon in any form, and consult with your doctor before adjusting medication. Your body might just respond a little TOO well to cinnamon’s strengths!

2. BLENDED ESSENTIAL OILS FOR DIABETES FOR INSULIN SENSITIVITY

One of the most intriguing things about essential oils for diabetes is the effect of synergy, which is the phenomenon in which combinations of oils work together to make even stronger effects. That’s why we’re so frequently making blends and formulas of essential oils for diabetes rather than just using one here and another there. Teamwork makes the dream work, right?

One prominent study out of Georgetown in 2005 took note of the benefits of synergy when they studied essential oils for diabetes. Instead of isolating a single oil for their research, they experimented with blends of multiple oils that

have been suggested as beneficial essential oils for diabetes. Oils named in the summary included:

- Fenugreek (*Trigonella foenum-graecum*)
- Cinnamon (*Cinnamomum zeylanicum*)
- Cumin (*Cuminum cyminum*)
- Oregano (*Origanum vulgare*)

The essential oils for diabetes blends were able to improve insulin sensitivity when taken internally, which can be replicated by including oil blends diluted into a carrier and consumed in capsules, drinks, and recipes.

As a side note, surely it's no accident that culinary herbs play a role in improving the way we digest and use food! God's medicine has been right there around our dinner plates all along!

Takeaway: As you discover oils that can be a) used internally and b) used to improve causes like insulin sensitivity or symptoms of any sort, experiment with blends! Pre-mix your dilution by adding a few drops each of the oils you'd like to blend into a 5 ml or 10 ml bottle of a carrier oil.

3. MELISSA ESSENTIAL OIL FOR GLUCOSE REGULATION

Like cinnamon, some herbs and their essential oil are simply regarded as anti-diabetic. Those are the words anyone with a diagnosis or pre-diagnosis of diabetes wants to hear! Let's fight this disease right at its core, where the body stops short of breaking down glucose into usable energy.

Like most early research, Melissa essential oil was tested on mice for precise tracking of its actions and potential benefits. Lab tests can first tell us the composition of oils, then how it is generally received in a body, and later how the human body responds in various circumstances.

The results of this study in particular were published in 2010 with exciting news. Of the mice that received a low-dose, heavily diluted amount of Melissa essential oil, markers of diabetes were reduced in multiple facets. Ultimately, the researchers concluded that Melissa *"administered at low concentrations is an efficient hypoglycaemic agent, probably due to enhanced glucose uptake and metabolism."*

Once more, we see that it only takes minute amounts of these potent digestive health oils to make a potentially substantial difference for those battling blood sugar imbalances by using essential oils for diabetes.

Takeaway: One drop is plenty, included in blends or diluted on its own for digestive assistance and potential glucose regulation. As with all hypoglycemic/anti-diabetic substances, be sure to monitor your levels carefully and work with your doctor closely.

4. Korean Pine – a New Scent with Strong Benefits

Moving away from the expected culinary herbs and their essential oil content, it seems you can still maintain anti-diabetic benefits while also branching out. Still very much in the foundational levels of research, Korean pine (*Pinus koraiensis*) has also exhibited potential for diabetes relief.

In the same vein as the Christmas favorite and year 'round healer fir essential oil, Korean pine essential oil comes from the needles of an evergreen pine tree. It's woody and grounding, the perfect addition to a blend of anti-diabetic oils we've looked at so far.

Researchers tackled this oil in 2013, very much *in vitro*, by injecting the oil into lab mice. The results were promising, with effects on the body that led to improved glucose levels. We won't be injecting essential oils, of course, but this demonstrates the wide range of oil types that may be part of our anti-diabetes toolkit.

Takeaway: Don't feel restricted with your diabetes-fighting blends! Look for oils like Korean Pine to mix up your approach. If it can't be taken internally, enjoy diffusion or direct inhalation to begin to introduce the oil into your routine.

5. SUPPORTING THE SIDE EFFECTS OF DIABETES

This is where we really get to play with essential oils for diabetes and the diabetic management lifestyle. Diabetes is so much more than how cookies or cakes are used by the body. Any time nutrient use is involved, the whole body is affected. Complications of diabetes can include:

- Heart health
- Oral health
- Respiratory health

- Skin health
- Immune health

In other words, diabetes is a case study in the ways that each body system is intertwined with the others.

Using what we know about essential oils for diabetes to boost these systems and potential complications, we can counter the effects of diabetes while managing the source of the issue with medication, diet, and lifestyle.

We can take this to its logical end and get creative with skin health and healing oils, oils for oral health, clear breathing oils, and antimicrobials. For a more specific look at how essential oils for diabetes comprise complementary therapy, a systematic review had this to say about research that has been conducted:

Essential oils can be used to reduce the side effects of some complication (ulcer: loss of skin integrity) and to reduce that often take longer to resolve than in non diabetic patients. Essential oil[s] can also ameliorate the stress of the coping with a lifelong chronic condition such as diabetes.

The applications are endless here. If you or a loved one is diabetic, learn all you can about the various uses of essential oils for diabetes, and begin to incorporate them into your life. The healing, restorative, and preventative benefits can quickly become your most trusted ally.

Takeaway: Diabetes complications can occur throughout the body, and essential oils can help to counter these issues and support the body's intended processes. Look for anti-inflammatory, antimicrobial, and stress relieving oils as a start to your essential oil "medicine" cabinet.

6. QUALITY OF LIFE IMPROVEMENT FOR KIDS WITH DIABETES

Let's not forget the kids who are impacted by diabetes. As a primarily genetic disorder, diabetes isn't about who ate too much cake as they got older. Kids are affected to the tune of thousands, and many of them spend their lives in and out of doctor's offices getting poked and prodded, not to mention those who receive daily injections.

Very recently, published in August 2015, researchers published findings on the use of essential oils for diabetes to help relieve some of this stress and physical pain for kids with diabetes. Thankfully (and hardly surprising), markers for pain relief were noticeable thanks to diffused orange and lavender oils.

Incidentally, these oils are notable for their anxiety-relieving properties, as well, which only contributes to quality of life for kids who are faced with more than their little lives should have to deal with.

Takeaway: Diffusion of oils can help with anxiety relief and even direct pain relief, and even the most gentle of oils can be potent for this purpose. Diffuse oils during times when painful or frustrating procedures are necessary, or place drops on a handkerchief or other personal inhaler to “sniff” when needed.

CHAPTER 2

Bioactive Foods

Several years ago, we upgraded our diet and focused on eating more *bioactive foods*, and we have found them to be one of the biggest keys to unlocking abundant health for our family. But, if you're like most people, you've never heard of bioactive compounds, so let's start there...

What Are Bioactive Foods?

Today, as a society, we are more unhealthy and overweight than ever. In pursuit of both weight loss and better health, many people turn to fad diets and multi-vitamin supplementation, which often fails to address either of these issues. People discover that their weight-loss is short-lived and true health gains are not apparent.

What if there were a better way? I believe there is. Rather than turning to these quick fixes, adding foods rich in *bioactive compounds* to your diet along with adding essential oils to your routine can help ensure that you are getting the nourishment your body needs. It may even help you achieve your body's ideal weight.

When I was conducting research for our new book, *The Essential Oils Diet*, the term "bioactive" repeatedly caught my attention.

Assuming you're like me and you haven't heard of them before, bioactive compounds, are phytochemicals (plant-based chemicals) that help boost metabolism, prevent disease and make you feel great! Examples you may be familiar with include:

- **Carotenoids** – tetraterpenoids that gives your carrots, corn, tomatoes and pumpkins their distinct orange, yellow and red pigments.
- **Polyphenols** – a group of more than 8,000 antioxidant-rich phytochemicals such as flavonoids, lignans phenolic acid, which boost the immune system.
- **Fiber** – Dietary "roughage" (such as cellulose, lignin, and pectin) that are resistant to the action of digestive enzymes and help gastric motility (i.e. aids in moving food through your system and makes you "regular").

- **Essential oils** – volatile organic compounds that are extracted from plants containing powerful antioxidant and healing properties

While you may not have heard of *bioactive* before, you are most likely familiar with the term “antioxidant.” Antioxidants are the main reasons why more people should be talking about bioactives. In addition to fiber – yes, that stuff we all need for regular bowel movements – bioactive compounds are mainly comprised of *polyphenols, flavonoids, carotenoids* and *essential oils*, which are all plant-derived chemicals that contain outstanding antioxidant properties. Science has identified thousands of bioactive compounds including over 8000 polyphenols alone to date.

- One definition states that *bioactive compounds* are “components of food that influence physiological or cellular activities in the animals or humans that consume them.”
- Or, in more practical terms, they are “phytochemicals found in certain foods “are capable of modulating metabolic processes, resulting in the promotion of better health.”
- With these definitions in mind, “bioactive foods,” therefore, would be those foods that are rich in plant-based chemicals that help boost immune function and promote robust health.

“So, why haven’t I heard about bioactive foods before?” you may be asking.

Good question!

Truth be told I don’t really know the reason. Maybe it’s because a diet in bioactive compounds won’t make anybody rich because the best way to get them in your system is through good ol’ fashioned plant-based foods; not supplements, pills or expensive manufactured powders.

In fact, I’m somewhat befuddled by the fact that [our diet program](#) is the FIRST book ever to usher into the mainstream health and wellness community what researchers have been talking about for years.

Where Bioactive Compounds Fit in Nutrition

To put bioactive compounds into perspective, it's important to remember that our body requires two kinds of nutrients:

1. **Essential Nutrition**- nutrients that are necessary for life that your body cannot make: carbs, fats, proteins, water, certain vitamins & minerals.
2. **Non-Essential Nutrition** – can be made by the body or obtained from sources other than foods and beverages: vitamin D, cholesterol & amino acids.

Bioactive compounds, on the other hand, are considered “*extra-nutritional*,” meaning they contain no calories (as protein, fat, and carbohydrates do), and they are not vitamins or minerals. They are not required for life, but they make you truly healthy.

Think of it like this: You can live on essential nutrients with a feeding tube but it doesn't mean you are truly alive. Bioactive compounds add spice to your life!

The European Journal of Nutrition published an article in 2013 that put it this way: *“Whereas the absence of essential nutrients from the diet results in overt deficiency often times with moderate to severe physiological decrements, the absence of bioactive substances from the diet results in suboptimal health.”*

Unfortunately, today's trendy low-carb diets focus on “essential nutrition” and ignore bioactive compounds, which are necessary for truly robust health. Interest in these carbohydrate-starvation fad diets means that heavy consumption of meat and animal fat is highly promoted. We should be cautious about the “benefits” of these diets. Research strongly suggests that someone's chance of enjoying optimal health is greatly diminished if his or her diet consists primarily of animal fat and protein.

If you want to improve your health, skip the fad diets and add more bioactive compounds to your plate!

The Benefits of Bioactive Compounds

These compounds do more than just help us live vibrantly. Antioxidant bioactives like flavonoids, carotenoids, and polyphenols are plant chemicals that protect your body's cells from damage caused by unstable atoms known as free radicals, which cause disease and illness. If your diet is lacking in foods that contain these compounds, you're going to be sick and gain weight.

Research shows that they also protect us from numerous health problems. Studies have shown that bioactive compounds may help:

- Improve vision
- Prevent diabetes and obesity
- Manage blood pressure
- Protect against cardiovascular disease
- Lower cholesterol
- Possibly fight cancer and slow tumor growth

In fact, a study from the American Association for Cancer Research says, "A variety of bioactive food components have been shown to modulate inflammatory responses and to attenuate carcinogenesis," that is, weaken the process of cancer growth."

While researchers are just starting to dive into this topic, the bottom line is that plant foods and herbal remedies, including essential oils, contain bioactive compounds. Some are more robust than others but we can choose to bolster our so-called "nonessential" nutrition by incorporating more of these into our lives.

Why You Need Bioactive Foods In Your Diet

Every day, we are bombarded by toxins in our food, soil, water, air – in short, all around us. These toxins include:

- Organophosphates and other pesticides used in homes and schools that accumulate in the body.
- Chlorine, pesticides, and preservatives added to or sprayed on foods. These chemicals can cause multiple health problems.
- Overuse of antibiotics, leading to antibiotic resistance. These medications destroy healthy gut bacteria, an important contributor to a healthy immune system. Many are fed to the animals we eat as well.

Currently, scientists are researching the impact of bioactive compounds on the body's detoxification systems, since many studies show that "exposure to an accumulation of toxins play a significant role in cardiovascular disease, type 2 diabetes, and obesity." It's great to see science moving in this direction, however, you can start today with steps to improve your health by adding more bioactive foods to your diet.

The Essential Eight Bioactive Foods

As mentioned, not all bioactive foods are equal. We have picked out the "Essential Eight" foods that you should be putting into your diet to maximize your health. These are all rich in bioactive compounds that promote overall health or support fat-burning by addressing issues such as inflammation, stress, insulin resistance, and hyperglycemia, all contributors to the most common diseases in American today.

The Essential Eight are:

SEEDS

These embryonic plants contain many life-enhancing properties. Some great examples that you can easily incorporate into smoothies and other dishes include:

- **Hemp seed:** Full of omega-3 and omega-6, hemp seeds contain as much protein as an ounce of beef or lamb. They also provide all the essential amino acids your body requires that it cannot produce on its own and

are a good source of Vitamin E and many minerals. They can also reduce inflammation.

- **Cacao seeds:** Cacao is a powerful antioxidant and can help regulate the immune system, protecting against oxidative stress. It can also offset hyperglycemia, improve cellular response, and modulate obesity-related inflammation caused by high-fat diets. Use 72% or more cacao nibs or sugar-free bars.
- **Chia seeds** may help lower total cholesterol and increase “good” cholesterol, reducing your risk of cardiac events.
- **Flaxseed** helps to manage your weight, lowers cholesterol, thereby reducing the risk of cardiovascular disease, and improves insulin resistance which can reduce your risk of developing type 2 diabetes.

HEALTHY FATS AND OILS

Healthy fats and oils are an important part of a balanced diet, however, not all of them are created equal. Some, such as vegetable oils and margarine, are unhealthy foods even though they are often labeled as healthy choices. Here are some excellent choices:

- **Extra-virgin olive oil** is one of the best overall sources of fat and adding it to a nutritious diet promotes weight loss. It contains oleic acid, which has been shown to reduce inflammation, aiding in diseases such as cancer, autoimmunity, and dementia. It is also rich in antioxidants and may even reduce the risk of a cardiovascular event or stroke. We get ours fresh-pressed here.
- **Avocado oil** can lower cholesterol, banish hunger pangs, and spot-reduce fat around the middle. Like olive oil, it’s high in monounsaturated fats, which help bioactive compounds get into your bloodstream and to the mitochondria of your cells to fight free radicals.
- **Butter** is an important dietary fat that must be consumed in moderation if you can tolerate it. Conventional butter, however, often comes from cows that are fed hormone-filled feed and administered antibiotics. Always choose non-GMO and organic butter, preferably from grass-fed cows.

FRUIT

Some fad diets, like Atkins or the ketogenic diet, restrict the consumption of fruit. However, many are rich in antioxidants and appealing to eat.

- **Berries** of all varieties are packed with bioactive compounds and their seeds are a great source of fiber, which can help suppress your appetite.
- **Eating avocados** – not just the oil – can help you absorb bioactive compounds better and can reduce your desire to eat more. They're also a good source of fiber and vitamin K, which helps with weight control.
- **Grapefruit** has been well-researched as a weight loss tool and beneficial in managing diabetes and cardiovascular disorders. Be sure to eat the whole fruit, not just the juice, for the most benefit. However, this fruit can interact with certain pharmaceuticals so ask your doctor before adding to your diet.

CRUCIFEROUS VEGETABLES

This is one of the healthiest food groups we consume. Cruciferous vegetables are potent anti-inflammatories, cancer fighters, and natural detoxifiers. They are rich in bioactive compounds, vitamins C, E, and K, folate, and minerals. In fact, the National Cancer Institute is studying the impact of cruciferous vegetables because they are known to:

- Protect cells from DNA damage
- Inactivate carcinogens
- Produce antiviral, antibacterial, and anti-inflammatory effects
- Induce cell death (apoptosis)
- Inhibit angiogenesis (tumor blood vessel formation) and tumor cell migration (which is needed for metastasis)

Best choices include:

- **Broccoli**, which has been shown to counteract nonalcoholic fatty liver disease that can progress to a deadly cancer. Buy it fresh as the prepackaged type may have reduce levels of bioactive compounds.
- **Bok choy** contains sulforaphane, which improves blood pressure and kidney function. It also has lutein and other anti-inflammatory cancer-protective compounds, vitamins A, B, and C. It's very low in calories and high in fiber!

NUTS

While they are calorie-dense, nuts are nutritional powerhouses full of protein, unsaturated fat, and fiber. A handful of nuts a day can help prevent obesity, type 2 diabetes, and heart disease. See our Fill-in-the-Gap Nut Snack Recipe for a delicious way of using nuts.

- **Almonds:** Research shows that daily consumption of small or large amounts of almonds does not result in weight gain! Even small amounts can improve health, including improving fat metabolism and moderating the rise in blood sugar after meals as well as increasing a pleasant feeling of fullness.
- **Walnuts** offer much of the same benefits as almonds but they contain higher amounts of both omega-3 and omega-6. This makes them particularly effective in reducing the risk of type 2 diabetes.

LEGUMES

Legumes contain bioactive components that may reduce the risk of developing cardiovascular disease and type 2 diabetes. They are also packed with fiber and antioxidants that together combat high blood sugar and excessive lipids in the blood, common for people who follow a typical American diet. (Note: we do not recommend soybeans or unfermented soy products as a legume choice as they are almost invariably GMO.)

- **Black beans** contain bioactive compounds known as anthocyanidins that give a fruit or vegetable its color. These help to lower blood sugar after a meal, which is particularly important in preventing the onset of heart disease and type 2 diabetes.
- **Lentils** may be green, black, red or yellow, and all varieties of lentils contain numerous bioactive components as well as prebiotic carbohydrates that help your healthy gut bacteria to survive. Prebiotic carbohydrates and dietary fiber have the potential to reduce the risks of becoming obese or developing cancer, heart disease, and diabetes.

WILD-CAUGHT COLD-WATER SALMON

Fish is an important protein food to include in your diet if you are not a vegetarian or vegan. Avoid farmed fish, which are fed grains and other unnatural ingredients that change their fat makeup. Cold-water fish are rich in omega-3 fats, making their consumption conducive to cardiovascular health. Avoid fish species that are endangered from overfishing. (Check SeafoodWatch.org to find a list.)

Cold-water salmon is harvested in the waters of Alaska, the Pacific Northwest or Northern Europe among other sources. Avoid Atlantic salmon. Omega-3 fatty acids provided by consuming these fish can help moderate inflammation. Along with caloric restriction, eating wild salmon has shown the best results in effecting weight loss and decreasing concentrations of some inflammation markers.

TEAS

Purified or distilled water is a necessary drink but when you need flavor, tea is your go-to solution.

- **Matcha green tea** is one of the best sources of catechins, bioactive compounds that act as antioxidants. The National Cancer Institute acknowledges that matcha could even help with cancer, partially by protecting DNA. It's also effective at burning body fat. Our favorite brand of matcha is Ujido. Learn why we love this brand.
- **Rooibos and holy basil tea:** This blend combines rooibos, which can help you lose weight and achieve your body's ideal weight with holy basil (tulsi), an herb that increases energy and relieves stress. Combined, they form a tea that revs you up when you're feeling sluggish. One of our metabolism-boosting favorites is the Republic of Tea's Get Burning blend.
- **Senna tea** stimulates the intestines, aiding in the natural process of elimination. [Traditional Medicinal's Smooth Move tea](#) is a natural, gentle bowel cleanser best taken at bedtime.

Essential Oils are Also Bioactive Compounds

Foods are not the only way to access important bioactive compounds. Essential oils are also inherently bioactive but, unlike bioactive-rich foods, they are not a source of nutrition. For example, both the fruit of a lemon and lemon essential oil, which is extracted from the rind, contain bioactive compounds, but the latter doesn't provide any energy in the form of calories, vitamins, or minerals. However, together they become far more than the sum of their parts.

Essential oils offer a more concentrated form of bioactivity than food does. These minute but highly concentrated compounds are able to heal the body (and soul) with metabolic effects that can assist in weight loss – or weight gain, if that is your concern. Certain oils can also boost your energy so you can be more active and burn more body fat.

However, you need to use caution when using essential oils. The scientific term for essential oils is volatile organic compound. The volatile components of a plant are the parts that are quickly released into the air. Essential oils are why you smell lavender when you lean down to sniff the blooms.

When using essential oils, proper dilution is always recommended. The 3 basic ways to use them include: inhaling them, applying them to your skin, or consuming them. Inhalation from a diffuser is the safest and most popular way to use them. There are few risks to diffusing 4-5 drops of essential oils in water as directed. Be sure that your room is well-ventilated especially if you have children or pets. Run it for a few minutes only at first, to gauge your reaction.

When applying topically, make sure that you use a carrier oil and dilute properly. Read more about the benefits of different carrier oils and proper dilution rates, or learn how to consume essential oils safely.

THE PHYSICAL BENEFITS OF USING ESSENTIAL OILS

How can essential oils help you reach your ideal weight? Essential oils have a host of healthy applications, supported by research. Grapefruit, lime, peppermint, and cinnamon oils support appetite reduction, fat-burning, and other processes key to weight loss. Orange oil is one of the most versatile and affordable essential oils and is an effective mood booster. Bergamot, another citrus oil, enhances weight loss, provides stress relief, and reduces anxiety. Topical applications of both peppermint and lavender oils are proven pain relievers and peppermint can help you get moving when you start a fitness routine as well as improving performance, endurance, and respiration rate.

Several oils are known for the blood-sugar balancing prowess, including clove, lavender, melissa (lemon balm), and lemongrass. They can help relieve stress, tame inflammation, and help heal your gut. This is just a small sampling of how the bioactive compounds in essential oils can help you achieve greater health. Learn more do's and don'ts on using essential oils safely with our free Essential Oils for Abundant Living Masterclass Video Series.

What to Expect with Bioactive Foods

Your health is either robust or poor, depending on your diet's proportion of bioactive foods. Many of these compounds are present in foods that you are probably already eating, but taking the time and effort to include more of them into your diet can have a real impact on your life. These benefits include:

- You will burn calories more efficiently, helping you lose weight and attain your ideal weight.
- Your cells will be better protected against free radicals, reducing illness and slowing down aging.
- A diet filled with bioactive compounds fine-tunes your metabolism so that your energy level remains high throughout the day.
- This also enables peak mental and physical performance.
- Since you are not tied to any "fad diet," you will have more food freedom as you integrate the many colors and flavors of bioactive-rich foods into your diet.

As you can see, bioactive compounds provide a wealth of health benefits. Adding them to your diet and your diffuser can help with many goals including achieving your body's ideal weight. With so many varieties and options, you have the freedom to create a healthy diet that you will enjoy while losing weight.

It's not that difficult to get started but here's a good place to start: with our fat-burning matcha latte recipe. This is just one example of the many life-changing recipes you can use to reach your ideal weight with [The Essential Oils Diet](#) program.

CHAPTER 3

Best Natural Sweeteners

By now, every should know that sugar is bad for them and can feed malignant tumors, but most people haven't heard that the best natural sweeteners in their pantries have been shown to fight cancer. And not those artificial sugars that taste horrible and don't have any nutritional benefit!

Current Health Care Crisis

Our health and our health care system both rank at the bottom of virtually every study and survey today, yet Americans spend more on health care and supplements than any other country.

Taking every supplement under the sun and bathe ourselves in coconut oil and fish oils, people are coming to the realization that their food choices – especially processed sugars, artificial sweeteners and high-processed carbohydrate diets – have more to do with causing cancer and other diseases than what they may have initially thought.

As a result, a growing number of people are looking for healthy natural sweeteners for cancer prevention that taste great and satisfy their sugar cravings.

Why you MUST Kick The Sugar Habit

First off, I am convinced that consuming processed sugars is the primary cause of cancer today. Why?

Because processed sugars:

- Feed cancer
- Dampen the immune system
- Has no nutritional value
- Are in virtually EVERY processed food on the market

They are everywhere, which is why it's so difficult to cut harmful sweeteners out of your diet!

Consuming processed sugar and simple carbohydrates can lead to an addictive dopamine cycle, and most people are addicted to the stuff without even knowing it! Research has actually shown that there is a neurochemical similarity between intermittent bingeing on sucrose and drugs of abuse: "both can repeatedly increase extracellular [dopamine levels] in the nucleus accumbens."

In fact, sugar is more addictive than cocaine. Eight times more addictive, to be precise, according to Mark Hyman, MD.

Have you ever wondered why it's so challenging to eat just one cookie or have one slurp of a cola? Like narcotics, the dramatic fall back to Earth after riding high on the sugar clouds will create an intense craving in your body for another "hit."

This is why it's important to consume as many natural, whole foods as possible because they will trigger a gradual, moderate amount of feel-good hormones. However, eating sugary treats will cause a spike in these feel-good hormones which then causes people to crash soon afterwards.

How Sugar Affects Immunity

Everything should be done in moderation, right?

Absolutely not! Nothing could be further from the truth.

In addition to being horribly addictive, sugar dampens your immune system, making you more susceptible to falling prey to an infection and can even lead to chronic disease because of the inflammatory response it triggers in the body.

Immediately after it's been consumed, sugar literally shuts down white blood cell effectiveness and puts the body in danger for up to 5 hours. Most people don't realize this.

According to nutritionist K.C. Craichy (*Quest for the Cure documentary*), just 100 grams of sugar inhibits our white blood cell's ability to kill the pathogens in our body by up to 90%. And this happens within 15 minutes of consumption.

To put this in more familiar terms, American Anti-Cancer Institute Founder Bob Wright confirms that data from a 1973 study published in the American Journal

of Clinical Nutrition still holds true today: "One can of [soda] has enough sugar to shut down 50% of our immune system for a minimum of 4 hours."

And, according to the American Anti-Cancer Institute:

When we consume sugar, we are simultaneously shutting off our defenses while pouring gasoline on the fire that is Cancer. When we take into account that "50 to 70% of our total immune system cells cannot see cancer ... even on our best day," the notion of adding sugar to our diet seems even more blasphemous (A.J. Lanigan, Quest for the Cures).

More Risks With Sugar Than Expected

Sugar is conceivably the most dangerous substance on the planet and we should avoid it like the plague. Nancy Appleton, PhD, even claims that there are literally 141 ways sugar ruins your health.

Sugar contains absolutely no nutritional value, and it has been reported to:

- Cause dental cavities.
- Cause skin conditions like acne and eczema.
- Contribute to hormone imbalance and adrenal fatigue.
- Deplete your body of natural energy and prevent mineral absorption in your bones.
- Encourage stomach ulcer formation.
- Feed candida.
- Greatly inhibit metabolism.
- Lead to osteoporosis and arthritis.
- Cause gallstones.
- Spike blood sugar levels.
- Suppress the immune system.

Sugar is literally everywhere and that's the real danger of sugar.

The American Nutrition Association says:

“According to the American Heart Association (AHA), the average adult in the United States takes in 22 teaspoons of added sugar a day, or a whopping 150 pounds a year, while teens pile in 34 teaspoons a day. That’s more than twice the amount of sugar we should be eating.”

Glycemic Index and Why it Matters

A lot of so-called “best natural sweeteners” have gained a lot of fanfare recently because they are low on the glycemic index.

Spearheaded by the Boden Institute of Obesity, Nutrition, Exercise and Eating Disorders and Charles Perkins Centre at the University of Sydney, the glycemic index (or GI) is a ranking of carbohydrates on a scale from 0 to 100 according to their ability to raise blood sugar (glucose) levels after eating. It is also an important factor to maintaining weight loss.

- High GI foods – those which are rapidly digested, absorbed and metabolized, which result in marked fluctuations in blood sugar (glucose) levels.
- Low GI foods – those that produce smaller fluctuations in blood glucose and insulin levels and are thought to be one of the secrets to long-term health, reducing your risk of type 2 diabetes and heart disease.

It’s important to keep in mind that there is a lot more to the story than just the GI score. Whether or not a sweetener is natural, artificial, loaded with chemicals, and is digestible should be considered before consuming it. This is why I’m a big fan of the three sweeteners: stevia, honey and maple syrup.

For a list of common sweeteners and their glycemic index, see below.

3 of the Best Natural Sweeteners

When it comes to cancer prevention, eating the right foods is just as important as NOT eating the bad ones, so keep this in mind when making baked goods and satisfying your sweet tooth. Thankfully, the best natural sweeteners are readily available so kicking the sugar habit can be a cinch if you use these three instead of sugar.

1. STEVIA

By far one of the healthiest, sweetest, and best natural sweeteners, [stevia](#) is an herb that has been shown to help reverse diabetes and obesity. Stevia is one of the best natural sweeteners for two reasons:

- It is a natural plant that has powerful healing properties.
- It has no calories and has a 0 glycemic index. When it is used instead of sugar (and other natural sweeteners), blood glucose levels are not affected.

Of the 350 scientific articles referencing stevia, we are starting to see that stevia can help with more than diabetes and obesity, which are known causes of cancer. The *Nutrition and Cancer Journal*, for example, recently published a groundbreaking study showing how stevia can actually help prevent and kill breast cancer! Time will tell how truly effective this wonderfully sweet herb can benefit our health and wellness.

2. RAW HONEY

Ranking #2, most raw, unfiltered honey is a rich source of:

- Amino acids
- B vitamins (B6, thiamin, niacin, riboflavin, pantothenic acid)
- Calcium
- Copper
- Iron
- Magnesium
- Manganese
- Phosphorus
- Potassium
- Sodium
- Zinc

Honey is an extremely effective wound healer and has also been known to help with irritable bowel syndrome, acne, eczema, MRSA, tooth decay and a slew of other disorders.

Taking just one teaspoon of local raw honey has been shown to enhance immune function by building a tolerance to local pollen.

The International Archives of Allergy and Immunology published an article that discovered that pre-seasonal daily use of birch pollen honey decreased allergy symptoms by 60%!

If you can afford it, get some [Manuka honey](#). It's a little pricey, but is a powerhouse immune booster. If it's out of your budget, you can find raw, local honey at your local health food store for pretty cheap.

3. MAPLE SYRUP

Shown to kill colon cancer cells, [maple syrup](#) is a delightful replacement for most baked good recipes. It is rich in calcium, iron, zinc and manganese. University of Rhode Island researcher Navindra Seeram states:

"I continue to say that nature is the best chemist, and that maple syrup is becoming a champion food when it comes to the number and variety of beneficial compounds found in it. It's important to note that in our laboratory research we found that several of these compounds possess anti-oxidant and anti-inflammatory properties, which have been shown to fight cancer, diabetes and bacterial illnesses."

We buy our maple syrup a few gallons at a time in Michigan at a Farmer's Market near my wife's old hometown when we visit family. Try to get yours local and organic if possible. [You can also get maple syrup here.](#)

Honorable Mention (Blackstrap Molasses) – being exceptionally nutrient-dense, molasses also contains cancer-fighting properties. According to one study, "Blackstrap molasses is rich in a variety of essential minerals including iron, zinc, selenium, magnesium and potassium as well as the majority of the vitamin B complex, deficiencies of which confer a major cancer risk. Molasses also contains high concentrations of amino acids and linoleic acid, an essential lipid that has a documented anti-tumor effect."

Make sure your [molasses is organic and un sulphured.](#)

What About Agave & Sugar Alcohols?

Both agave and sugar alcohols like xylitol have been praised for being healthy “natural” sweeteners and many health care providers are recommending them because they are low on the glycemic index. First of all, they are anything BUT natural. Secondly, they are quite toxic to the body.

Ever since the 1950s, researchers have known that xylitol:

- Cannot be properly metabolized by humans.
- Causes digestive issues like gas, bloating and diarrhea.
- Gets stored in the liver, which can contribute to long-term liver damage.

Agave is even worse. A great explanation came from a recent Dr. Oz article where the famed medical celebrity retracted his opinion of agave.

After careful consideration of the available research, today I'm asking you to eliminate agave from your kitchen and your diet. Here's why:

“We used to think that because agave has a low-glycemic index and doesn't spike your blood sugar like regular sugar does, it would be a good alternative for diabetics. But it turns out that although agave doesn't contain a lot of glucose, it contains more fructose than any other common sweetener, including high-fructose corn syrup.”

Glycemic Index of Common Sweeteners

Let common sense be your guide when it comes to choosing sweeteners. If it sounds too good to be true, it probably is. Enjoy stevia, raw honey and maple syrup – these three have been tested by both time and science to not only satisfy your sweet tooth, but are also healing and life giving.

The University of Sydney publishes a searchable database containing the results of glycemic testing.

Sweetener	Type	Glycemic Index
Maltodextrin	Sugar	110
Maltose	Sugar	105
Dextrose	Sugar	100
Glucose	Sugar	100
Trehalose	Sugar	70
HFCS-42	Modified Sugar	68
Sucrose	Sugar	65
Caramel	Modified Sugar	60
Golden Syrup	Modified Sugar	60
Inverted Sugar	Modified Sugar	60
Refiners Syrup	Modified Sugar	60
HFCS-55	Modified Sugar	58
Blackstrap Molasses	Sugar Extract	55
Maple Syrup	Natural Sugar	54
Honey	Natural Sugar	50
Sorghum Syrup	Natural Sugar	50
Lactose	Sugar	45
Cane Juice	Sugar Extract	43
Barley Malt Syrup	Modified Sugar	42
HSH	Sugar Alcohol	35
Coconut Palm Sugar	Natural Sugar	35
Maltitol	Sugar Alcohol	35
HFCS-90	Modified Sugar	31
Brown Rice Syrup	Modified Sugar	25
Fructose	Sugar	25

Galactose	Sugar	25
Agave Syrup	Modified Sugar	15
Xylitol	Sugar Alcohol	12
Glycerol	Sugar Alcohol	5
Sorbitol	Sugar Alcohol	4
Lactitol	Sugar Alcohol	3
Isomalt	Sugar Alcohol	2
Mannitol	Sugar Alcohol	2
Erythritol	Sugar Alcohol	1
Yacon Syrup	Natural Sweetener	1
Oligofructose	Sugar Fiber	1
Inulin	Sugar Fiber	1
Brazzein	Natural Sweetener	0
Curculin	Natural Sweetener	0
Glycyrrhizin	Natural Sweetener	0
Luo Han Guo	Natural Sweetener	0
Miraculin	Natural Sweetener	0
Monellin	Natural Sweetener	0
Pentadin	Natural Sweetener	0
Stevia	Natural Sweetener	0
Thaumatococin	Natural Sweetener	0
Acesulfame K	Artificial Sweetener	0
Alitame	Artificial Sweetener	0
Aspartame	Artificial Sweetener	0
Cyclamate	Artificial Sweetener	0
Neotame	Artificial Sweetener	0
Saccharin	Artificial Sweetener	0
Sucralose	Artificial Sweetener	0

CHAPTER 4

Chia Seeds

The connection between chia seeds and diabetes highlights just how possible type 2 diabetes can be prevented naturally. Regular moderate exercise, weight management, stress reduction and proper nutrition are key.

Diabetes Dangers

Death is one of the biggest concerns most people face today. But when it comes to dying, most people think of cancer or some sort of terrible accident. However, the most rapidly growing and overtly dangerous disease facing people today is not cancer. It's not heart disease. It's not stroke. It's not dementia.

It is type 2 diabetes.

Type 2 diabetes directly affects hundreds of millions of people around the world and is a gateway to a plethora of health concerns, including:

- Complications of pregnancy
- High blood pressure
- Blindness
- Amputations
- Depression
- Decreased libido
- Erectile dysfunction
- Hearing loss
- Seizures
- Stroke
- Skin infection
- Kidney disease (nephropathy)
- Nerve damage (diabetic neuropathy)
- Non-alcoholic fatty liver disease
- And more ...

Nevertheless, on the bright side, type 2 diabetes is easily treatable and largely avoidable with some simple lifestyle changes, including a diet rich in super foods, such as Chia seeds. That's right: Cha-cha-cha-chia!

An Upward Trend of Diabetes

Type 2 diabetes has become much more commonplace over the last two decades, increasing the overall dangers of the disease. In fact, a report from the Centers for Disease Control and Prevention (CDC) says:

- In 2010, diabetes was the seventh leading cause of death in the U.S.
- Native Americans are at a higher risk, followed by non-Hispanic blacks, Hispanics, Asian Americans and non-Hispanic whites.
- 3 percent of the U.S. population (29.1 million people) have been diagnosed with diabetes.
- Nearly one-third of all people with diabetes are undiagnosed.
- It is estimated that nearly 90 million Americans are pre-diabetic.
- Nearly 208,000 youth under age 20 have diabetes; both type 1 and type 2.
- More than 85 percent of diabetics require insulin or oral medications.

Now, here's the really scary part: The CDC predicts that these alarming numbers will triple by 2050. Just over 30 years from now, one-third of U.S. adults will have diabetes.

Chia Seeds and Type 2 Diabetes

Here's the sad truth. This epidemic could have been and still can be prevented. For instance, eating a handful of chia seeds (*Silva hispanica*) on a daily basis is a great first step to warding off diabetes.

Researchers at *University of Litoral* in Argentina, looking to help prevent metabolic disorders, such as insulin resistance and dyslipidemia, targeted chia seeds due to their rich alpha-linolenic and fiber makeup. I found this research regarding chia seeds and diabetes particularly fascinating because two side-by-side studies came to similar conclusions. Published in the *British Journal of Nutrition*, the scientists:

- In study number one, looked at the response when healthy Wistar rats had three weeks of a sucrose-rich diet (SRD). During this experiment, chia seeds represented the primary source of dietary fats.
- In study number two, examined the response of healthy rats on a similar SRD diet for three months without chia. This ensured the rats developed dyslipidemia and insulin resistance. Those rats were then fed an SRD diet with chia seeds for two months.

The results will blow your mind:

- Study number one found that feeding the rats chia seeds completely blocked the development of dyslipidemia and insulin resistance. Shockingly, the blood sugar levels in these rats stayed the same despite a diet consisting of 65 percent sugar.
- Study number two found that once the diabetic rats were fed chia seeds along with the SRD diet, they recovered from the condition within the two-month period. An added benefit was that by adding chia seeds, visceral adipose tissue was also reduced.

Nutritional Makeup of Chia Seeds

The number one reason chia seeds are so effective on dyslipidemia and lipid resistance is due to its nutritional makeup. For instance, one ounce (28 grams) of chia seeds contain the following:

- Zinc (1.0 mg – 7% RDV)
- Potassium (44.8 mg – 1% RDV)
- Copper (0.1 mg – 3% RDV)
- Omega-6 fatty acids (1620 mg)
- Calcium (77 mg – 18% RDV)
- Omega-3 fatty acids (4915 mg)
- Phosphorus (265 mg – 27% RDV)
- Protein (4.4g – 9% RDV)
- Dietary fiber (11g – 42% recommended daily value)

3 Additional Chia Seed Benefits

With such a robust nutritional profile, researchers have found that eating chia on a regular basis can resolve numerous conditions beyond just type 2 diabetes and cholesterol issues.

1. HEART HEALTH

Chia's unique ability to lower blood pressure, reverse inflammation and regulate cholesterol is what makes it perfect for improving heart health. Chia also reverses oxidative stress, which means your odds of developing atherosclerosis is reduced when consuming chia on a regular basis.

2. SKIN

Recently, studies have found that the phenolic concentration of chia seeds is nearly twice as much as previously reported and up to 70 percent of free radical movement was halted by antioxidants. This proves that chia seeds provide a wealth of antioxidants, which can stop premature aging caused by free radical inflammation.

3. GUT HEALTH & WEIGHT LOSS

Thanks to its high dietary fiber content, chia can help promote gut health and ensure bowel regularity. The excess of fiber content also helps us feel full quicker since it absorbs water and expands in our stomachs. This could explain why scientific research has confirmed that chia curbs hunger and suppresses the appetite, which in return promotes weight loss.

To sum it up, an article in the journal *Reviews on Recent Clinical Trials* said:

"The available human and non-human studies show possible effectiveness for allergies, angina, athletic performance enhancement, cancer, coronary heart disease (CHD), heart attack, hormonal/endocrine disorders, hyperlipidemia, hypertension, stroke, and vasodilatation. Some evidence also suggests possible anticoagulant, antioxidant, and antiviral effects of Salvia hispanica."

How to Consume Chia Seeds

Since research suggests that there's a relationship between chia seeds and type 2 diabetes, we need to find ways to include them in our diet so we can get those chia seed benefits. Chia is an excellent garnish on most dishes or it can be added to smoothies and shakes. In fact, we use them as a main ingredient in our healthy snack bites.

Chia seeds can also be eaten directly, however, chewing small seeds like flax or chia generally does not make the omega-3's and other nutrients readily available for digestion and assimilation. Have you ever noticed that when you eat seeds, more times than not, they appear undigested in your stool? For this reason, it's important to grind the seeds before eating them to ensure you get the full nutritional value.

Chia, once grinded down, makes an excellent addition to pastas, breads and even pancakes. However, once a seed rich in omega-3s is ground, its shelf life is considerably reduced. In order to avoid the seeds spoiling, they should be stored in a sealed glass container and refrigerated or frozen.

CHAPTER 5

Magnesium

If you're asking yourself "What does magnesium do for my body?" you might be better asking, what doesn't it do! As you'll see below, magnesium is a very important mineral for bones, nervous system, and proper functioning of our cells. Make sure you're not missing out on this wonderful nutrient!

What Does Magnesium Do For Your Body

First off, if you live in the U.S., it's likely that you are not getting enough of this important mineral. Research shows that 68% of adults in the U.S. fall below the recommended dietary allowances for magnesium. That means that two-thirds of all adult Americans suffer from "magnesium inadequacy."

Magnesium is said to be crucial for optimal health because this it is required for over 300 enzyme systems in the human body to function properly. It plays a significant role in cellular processes and protein synthesis. It's also important for proper maintenance of your bones, nerve function, muscles, digestive system, and many other parts of your body.

Magnesium works together with calcium. It helps flush it out of the cells when calcium has served its function. When magnesium is depleted, calcium levels in the cells can rise, causing hyperexcitability in the nervous system, calcification, and cell dysfunction.

It can even kill cells. Elevated levels of calcium in the cells can lead to muscle twitching, cramping, and in severe cases to seizures or convulsions. Additionally, it can contribute to some of the more serious health issues listed below.

The George Mateljan Foundation breaks down magnesium's many roles into 5 main categories:

1. Creating and maintaining bone integrity. In fact, even a mild but ongoing deficiency can result in bone loss.
2. Enabling energy production so your cells can function properly. Without proper amounts of magnesium, certain chemical reactions that impact

enzymes cannot take place. Enzymes are needed throughout your body. Without proper energy production, you can experience fatigue.

3. Balancing the nervous system. Because magnesium helps to maintain balance in the nervous system, it can impact brain functions. It impacts a receptor in the brain called NMDA so when levels are low, there is an increased risk of depression. And research shows that magnesium can help alleviate depression.
4. Enhanced control of inflammation. Chronic inflammation has been linked to risk of diseases such as heart disease, obesity, and diabetes.
5. Enhanced control of blood sugar. Magnesium is involved with blood sugar and glucose metabolism.

Are You At Risk For Magnesium Deficiency?

The NIH states that true deficiencies are rare in healthy people because your kidneys limit how much of it is expelled from your body. However, there are certain health conditions that can lower your levels by either reducing the amount of magnesium that your body absorbs or increasing its loss from the body. They include:

- People with gastrointestinal disorders, renal disorders, Crohn's disease, or kidney disease.
- People who suffer from chronic alcoholism.
- People with parathyroid problems.
- Other diseases that can impede the absorption of magnesium include stomach infections, immune diseases, and inflammatory bowel disease.

Additionally, certain medications can put you at risk for abnormally low levels of magnesium, including:

- Some antibiotics.
- Medications for cancer.
- Bisphosphonates used for osteoporosis.
- Diuretic medications for diabetes.
- Certain drugs called proton pump inhibitors, which are prescribed for acid reflux, such as Nexium or Prilosec.

If you fall into any of these groups or take these medications, you may be at risk for magnesium deficiency. Seniors are also at risk for reduced magnesium levels as well. Talk to your doctor about testing your levels.

Recommended Dietary Allowances (RDAs) for Magnesium

For the rest of us, the bigger problem is falling below recommended levels. Here are the recommended levels as outlined by the *Institute of Medicine's Food and Nutrition Board*:

Age	Male	Female	Pregnancy	Lactation
0-6 months	30mg	30mg		
7-12 months	75mg	75mg		
1-3 years	80mg	80mg		
4-8 years	130mg	130mg		
9-13 years	240mg	240mg		
14-18 years	410mg	360mg	400mg	360mg
19-30 years	400mg	310mg	350mg	310mg
31-50 years	420mg	320mg	360mg	320mg
51+ years	420mg	320mg		

The Health Risks of Low Magnesium Levels

Unfortunately, low levels can have serious implications on your health. People with low levels of magnesium are at least 1.5 times more likely to have elevated levels of C-reactive protein, a marker of inflammation.

Low magnesium levels are linked to cardiovascular disease and also play a role in cancer, Alzheimer's disease, obesity, and other age-related disorders. Deficiency has also been shown to increase the risk of osteoporosis and metabolic disorders such as hypertension (high blood pressure) and Type 2 diabetes.

Signs of Deficiency Or Inadequacy

If you are deficient or not getting recommended levels of magnesium, the signs can be very confusing since they include common symptoms. For example, early signs of deficiency include loss of appetite, nausea, vomiting, and fatigue. As the deficiency goes on, you can also experience seizures, numbness, tingling, seizures, and even personality changes.

Symptoms of low magnesium can also include:

- Muscle weakness
- Hyperexcitability
- Sleepiness
- Seizures
- Low blood calcium or potassium

The most advanced symptoms, however, are far more serious:

- Cardiovascular issues including irregular heart rhythm
- Muscle cramping, spasms, and twitching
- High blood pressure
- Type 2 diabetes
- Osteoporosis
- Migraine headaches
- Diabetes

If you don't suffer any of these symptoms or are not in one of the high-risk groups mentioned above, you may be getting sufficient amounts of magnesium from your diet. If so, you can try increasing your intake of foods rich in magnesium to see if they make a difference.

Blood lab tests can determine if you have inadequate levels of magnesium but they are not reliable unless your levels are low. That's because you may have enough in your blood but not in your cells. Remember, magnesium provides energy that allows your cells to function properly.

There are two other options. The red blood cell (RBC) magnesium test is a better indicator and the white blood (WBC) test is the most accurate. Unfortunately, the WBC is complicated and few labs will perform it.

Common Problems Caused by Low Levels

Here are the most common health problems caused by inadequate levels of magnesium:

CARDIOVASCULAR DISEASE AND IRREGULAR HEARTBEAT

Magnesium deficiencies have been linked to cardiovascular issues, including arrhythmias (irregular heartbeat). In fact, low levels could even be a predictor of heart disease because it is associated with all its known risk factors, including high blood pressure, cholesterol, plaque build up on the arteries, diabetes, and hardening of the arteries. What precisely does magnesium do for the circulatory system? Research is showing, it can do a lot!

Low levels mean calcium buildup, which can calcify the arteries. This narrows the passage and impedes blood flow, enabling plaque build up. That can lead to heart attack, heart failure, and heart disease.

However, we also see that people who routinely drink hard water have a lower mortality rate from cardiovascular disease. Hard water is frequently high in magnesium as well as calcium and fluoride, making it difficult to ascertain which element contributes the most. If you filter your water (and most of you probably should!) be sure you are getting enough magnesium in your daily food choices.

Deficiency may predispose people to irregular heartbeat when potassium levels are also low. We see that impact on the circulatory system is profound.

HIGH BLOOD PRESSURE (HYPERTENSION)

Research shows that those with a low dietary intake of magnesium have a higher incidence of high blood pressure. This is important because hypertension is a major risk factor for both heart disease and stroke. While magnesium supplements have been shown to reduce blood pressure, it only makes a small contribution.

Diuretic medications are often prescribed for high blood pressure, further depleting magnesium levels as well as other key minerals. A better option is making sure you are eating enough in your diet along with other minerals that can help lower blood pressure. Look at essential oils for high blood pressure, and choose healthy meat options to help naturally manage blood pressure as well.

OSTEOPOROSIS

To understand how magnesium is important for good bone health, you should understand bone mineral density (BMD), or the “amount of mineral in a given area of the bone,” according to Oregon State’s *Micronutrient Information Center*. BMD is used to diagnose osteoporosis, which means that bones are more fragile than they should be and are at risk of fracture.

Low levels of magnesium can contribute to an increase in bone loss. Studies show that people with higher levels in their diet had better levels of BMD, thereby protecting against osteoporosis. However, these same foods often contain high levels of potassium, so it’s not clear which mineral is providing protection. Once again, we see the benefits of balanced, mineral-rich diet.

MIGRAINE HEADACHES

People suffering from recurring migraine headaches have been shown to have lower levels. While there is conflicting data about whether magnesium supplements can help alleviate migraines, *The American Migraine Foundation* considers this a relatively safe treatment, particularly if you have aura with your migraine.

Magnesium comes in many varieties as a supplement. For migraines, you should try magnesium citrate. You can also try magnesium oxide supplements but it does leave the body quickly. Side effects may include diarrhea and abdominal cramping so check with your doctor before adding any supplements to your health regimen.

TYPE 2 DIABETES

Magnesium helps the body process glucose and insulin. Low magnesium can contribute to metabolic syndrome, also called insulin resistance syndrome resulting in many of the diseases we’ve discussed. Studies show that low levels are found in people with type 2 diabetes. Additionally, other research shows that increasing levels with food or food and supplements decreases the risk of diabetes.

A supplement might be a helpful solution if you are on a restricted diet. You can try magnesium citrate, magnesium glycinate, or magnesium taurate, as well as magnesium theonate.

Choose supplements from a high-quality, reliable company. You can try trust worthy brands – we like Natural Vitality for magnesium supplements if needed. Of course it's best to use wise food choices whenever possible to help maintain healthy levels, but these supplements can help keep your body in balance!

What Foods Are High In Magnesium?

The foods that provide the richest sources of magnesium are:

1. Pumpkin Seeds – ¼ cup, 190mg (45% DV) - See a delicious way to use pumpkin seeds in a healthy nut butter recipe!
2. Organic Spinach – 1 cup, 156mg (37% DV)- You'll love this healthy spinach salad for a nutritious energy boost!
3. Swiss Chard – 1 cup, 150mg (36% DV)
4. Organic Soybeans – 1 cup, 148mg (35% DV) (Note soy is one of the most frequently modified foods. Look for GMO-free sources if you choose soy.)
5. Sesame Seeds – ¼ cup, 126mg (30% DV)
6. Black Beans – 1 cup, 120mg (29% DV)- Not only high in magnesium, see how black beans fight cancer!
7. Quinoa – ¾ cup, 118mg (28% DV)- Learn more about the health benefits of quinoa.
8. Cashews – 1 cup, 115mg (23% DV)
9. Sunflower Seeds – 1 cup, 98mg (27% DV)
10. Beet Greens – 1 cup, 98mg (23% DV)

Add these to a nutritious diet, rich in clean meats and fish, whole foods and produce, while limiting or eliminating white sugar and processed food. Many other nuts, green vegetables, and legumes are good sources as well. Additionally, oats, tofu, and millet are also beneficial as are roasted chicken and grass-fed beef.

It's important to select and cook foods that are as close to their natural state as possible when you are attempting to renew your body's magnesium stores with diet. Cooking or processing food, including as milling flour or roasting nuts, can deplete magnesium. Eat as fresh and as raw as you can for the best nutrition.

SIDE EFFECTS OF MAGNESIUM

Magnesium does not generally pose any risk in a healthy individual since the kidneys flush out any excess. The exception includes supplements, which can result in diarrhea or constipation. However, it can be toxic at very high levels – 5,000mg or more per day. Generally, that can only be achieved by taking too high of a supplement. Be careful that you stick to recommended guidelines with dosage unless otherwise recommended by your physician.

However, people with impaired kidney function or diseases such as chronic kidney disease or renal disease can be at elevated risk from magnesium toxicity since the kidney is not properly cleaning out the excess. This is called hypermagnesemia. Symptoms include nausea, vomiting, neurological impairment, flushing, headache, and low blood pressure, also called hypotension. When severe, this can cause cardiac and muscular problems.

You are also at risk for hypermagnesemia if you have one of these conditions:

- Hypothyroidism
- Addison's disease
- Milk-alkali syndrome
- Familial hypocalciurichypercalcemia

Elevated magnesium levels can be treated by removing any excess sources of magnesium and then following up by treating symptoms with intravenous calcium. Medication is then used to rid the body of any remaining excess.

How Does Magnesium Help Health Concerns?

Magnesium is also used to treat certain conditions, including the following:

PROBLEMS DURING PREGNANCY

- Preeclampsia: Elevated blood pressure and severe swelling can be very dangerous, leading to seizures and eclampsia, which poses a high risk of death. Treatment with intravenous magnesium sulfate has been shown to be more effective at preventing seizures and death than the standard pharmaceutical treatment of diazepam. We recommend you request this treatment if you are diagnosed with this condition. Additionally, babies born after eclampsia treatment had higher Apgar scores.

- Protecting the child's brain in the womb during prolonged pregnancy or anticipated premature delivery. Research shows that treating mothers before birth with magnesium therapy lowered the risk of cystic fibrosis and gross motor dysfunction.

Cardiovascular disease: Shown to help heart disease patients with exercise. It can also open up blood vessels when needed.

High blood pressure: Oral supplements have also been shown to lower blood pressure. Consider combining proper nutrition with essential oils for high blood pressure if this is something you're struggling with.

HOW WILL MAGNESIUM HELP GENERAL WELLNESS?

The benefits of magnesium don't end with its use as a low-risk medical intervention. It can aid in:

- Detoxing your body. Magnesium seems to aid detoxification pathways and neutralize toxins, protecting us from acidic conditions and heavy metals in the body.
- Reducing stress and depression. High stress can reduce your body's levels of magnesium as well. Studies have shown that low magnesium may also impact mood and contribute to depression.
- Teeth and dental care. We talked about the positive effects of magnesium on your bones, in concert with calcium. Those benefits include your teeth and oral health according to research.
- Preventing dementia. More recently, magnesium levels have been linked to Alzheimer's and other dementias. More research needs to be done but this is certainly a great argument for getting safe amounts into your diet.

Safe Ways To Add More Magnesium To Your Routine

- Topical treatments are helpful for people who cannot get enough magnesium in their diet and want a simpler choice than supplements. Consider making a magnesium oil spray-on recipe.
- Baths with Epsom salt are a great way to relax and soothe aches and pains from a variety of causes, from working out to fibromyalgia. In water, Epsom salt breaks down into magnesium and sulfate and then it gets absorbed into your skin. Use Epsom salt in our DIY essential oil bath bomb recipe.

As you can see, magnesium is a very important mineral for our bones, nervous system, and proper functioning of our cells. Make sure you're not missing out on this wonderful nutrient.

CHAPTER 6

Turmeric

The main spice in curry, many experts claim that turmeric health benefits include more disease-fighting properties than any other plant on the planet. In fact, over 15,000 peer-reviewed articles review the healing benefits of curcumin, which is the main curcuminoid within turmeric, and the biggest finding is that turmeric be more helpful in disease management than many conventional drugs!

What is Turmeric?

The RT French Company, which makes French's Mustard, first used turmeric as a color agent and preservative for its "creamy salad mustard" in the early 1900s. Tragically, turmeric actually has a long history of misuse as a food dye dating all the way back to medieval England when it was more commonly known as "Indian saffron."

Turmeric is a traditional Chinese and Indian medicinal herb that comes from the rootstock of the *Curcuma longa* plant, a member of the ginger family. To produce turmeric, the roots of the *Curcuma longa* plant are boiled, dried and then ground into a powder.

Turmeric has been used over the centuries to treat a variety of diseases, including cancer, and is a powerful anti-inflammatory and antiseptic. With its warm, bitter, peppery flavoring, turmeric's mild smell resembles orange and ginger, which is why it is so popular in curry dishes. Today, it can mostly be found as a coloring agent in mustards and in a few natural health supplements.

The Super Power Behind Turmeric

Turmeric's secret healing powers aren't, well, all that secret. In fact, the herb draws its miracle powers from the chemical compound curcumin. And just in case you find the skeptic in you questioning this powerful healer, consider that over 20,000 peer-reviewed articles have been published in scientific journals exploring turmeric and its main component, curcumin.

Here's what just a few recent studies say curcumin can do:

- Defend against intellectual/memory deficiencies from heavy ion irradiation.
- Lower blood cholesterol levels.
- Destroy lung cancer
- Kill bladder cancer cells.
- Prompt tumor cell death in the deepest parts of individual cells.
- Stronger antifungal than ginger, clove, and oregano.
- Protect the liver oxidative stress
- Increase lifespan.

The Impacts of Dosage

Turmeric dosage varies by age. It is recommended that adults, for example, follow the following guidelines:

- Supplement: 450 milligrams of curcumin capsules each day or up to 3 grams of turmeric root daily (divided into several doses).
- Tea: 1 to 1.5 grams of dried root steeped in 5 ounces of water for 15 minutes twice daily.
- Oil: One-half tablespoon of turmeric oil three times daily.

For kids, on the other hand, there is no clinically known dose that's considered safe. However, I recommend culinary uses of turmeric, such as including it in your children's natural health meal plan as you would any other spice or herb. This will help ensure your children are getting the curcumin they need on a daily basis. It's helpful to know that the "Average dietary intake of turmeric in the Indian population may range between 2 to 2.5 grams, corresponding to 60 to 200 milligrams of curcumin daily."

In some cases, you may be in a position where you simply have to be on medications. If this is the case for you, do not discount taking ample amounts of turmeric in organic, fresh form. Of course, contact our physician and pharmacist to make sure there are no potential side effects, but adding turmeric health benefits to your diet can help reduce the negative effects of your medicine.

A recent study in the *Journal of Pharmacy and Pharmacology*, for example, described how combining prednisolone, which is a steroid, and curcumin can greatly reduce side effects from glucocorticoids when it comes to managing arthritis symptoms.

In fact, when curcumin was involved, there was a marked reduction in toxicity from steroids and a marked reduction in anti-arthritic activity. The study said that this was “Evidenced by an increase in body weight, low toxicity to immune organs, reduction in leucocyte count, increase in spleen anti-oxidant enzymes and potent inhibition of cytokines in the combination group.”

You can use it as a spice to flavor your food, or you can take it as a supplement. We know that the turmeric health benefit results will be very helpful.

7 Benefits of Turmeric

In the mid-1980s, groundbreaking studies also showed that curcumin should be recommended by doctors as being preferable for those who are prone to diseases that require anticoagulant treatment.

There’s a seemingly endless list of health benefits associated with turmeric. In fact, of the more than 7,000 reports looking at turmeric’s effectiveness, few have found any reportable turmeric side effects. While there are some dangers connected to the spice for certain individuals, the research by far points to its health benefits. Just a few conditions turmeric is known to help are:

1. CHRONIC INFLAMMATION & PAIN

Curcumin is also widely known to manage pain conditions. When compared to aspirin (Bayer, etc.) and ibuprofen (Motrin, Advil, etc.), curcumin is the strongest anti-inflammatory and antiproliferative agents on the planet, according to a report published in the journal *Oncogene*.

Severe burns are another types of pain conditions that turmeric may be able to help. Usually, those who are affected by burns are treated with non-steroidal

anti-inflammatories, anticonvulsants, dangerous opioids, and antidepressants. But because we know that curcumin has wonderful anti-inflammatory powers, it has been suggested in *U.S. Army Institute of Surgical Research* that the commonly unmet clinical needs of these patients may be able to be treated by curcumin.

2. RHEUMATOID ARTHRITIS

Turmeric has been shown to be highly effective at helping people manage Rheumatoid Arthritis (RA) thanks to its well-known anti-inflammatory properties. In fact, the relationship between turmeric and Interleukin (IL)-6, a common inflammatory known to contribute to RA, was found to be beneficial to RA sufferers. The study from Japan found that turmeric “significantly reduced” the inflammatory markers in Interleukin (IL)-6, suggesting that routine use of the spice can possibly ward off RA from the onset.

In comparison to Voltaren, Cambia, Zipsor, and Cataflam (drugs used for arthritis that often puts people at risk for getting heart disease or gastrointestinal disease), researchers uncovered that curcumin may be “superior” to convention medicine:

The curcumin group showed the highest percentage of improvement in overall [Disease Activity Score] and [American College of Rheumatoid criteria] scores (ACR 20, 50 and 70) and these scores were significantly better than the patients in the diclofenac sodium group. More importantly, curcumin treatment was found to be safe and did not relate to any adverse events. Our study provides the first evidence for the safety and superiority of curcumin treatment in patients with active RA, and highlights the need for future large-scale trials to validate these findings in patients with RA and other arthritic conditions.

3. DEPRESSION

There is a growing body of research evaluating curcumin’s impact on depression. In one particular study, 60 patients, who had been diagnosed with a major depressive disorder (MDD), volunteered to undergo turmeric treatments compared to fluoxetine (Prozac) treatments. Scientists from the *Government Medical College* (Bhavnagar, Gujarat, India) found that turmeric was not only equally as effective as Prozac, but it didn’t carry with it all the perilous side effects associated with antidepressant drugs. According to the report, “This study provides *first clinical evidence* that curcumin may be used as an effective and safe modality for treatment in patients with MDD.”

4. DIABETES

One of the more interesting benefits of turmeric is its ability to reduce blood glucose levels and reverse insulin resistance. In fact, curcumin suppresses glucose production in the liver, according to a study out of Auburn University published in *Biochemistry and Biophysical Research Communications*. Now here's what's even more amazing: That study found that turmeric is 400 times better than the diabetes drug Metformin when it comes to triggering AMPK and its downstream goal acetyl-CoA carboxylase (ACC).

It was also shown to help reverse numerous issues that are related to hyperglycemia as well as insulin resistance. Let's look at diabetic retinopathy. This is a common complication of having type II diabetes, and it can severely damage blood vessels inside the retina. In some cases, it can even cause blindness.

Last year, a study was published in *International Journal of Physiology, Pathophysiology, and Pharmacology* that looked at how curcumin may be able to use its antioxidant and anti-inflammatory properties to delay this disease complication. The results showed that it slowed down vascular endothelial growth as well as nuclear transcription factors that are in charge of gene expression regulation. Numerous other side effects of diabetes, such as diabetic neuropathy have been seen to improve with the use of curcumin as well.

5. CANCER SUPPORT

One of the most thoroughly evaluated topics in regards to how curcumin may be able to help with disease is cancer. We are looking at cancer prevention and reversal. Global authority, *Cancer Research UK*, had these words to say about cancer and curcumin:

A number of laboratory studies on cancer cells have shown that curcumin does have anticancer effects. It seems to be able to kill cancer cells and prevent more from growing. It has the best effects on breast cancer, bowel cancer, stomach cancer and skin cancer cells.... combined curcumin with chemotherapy to treat bowel cancer cells in a laboratory showed that the combined treatment killed more cancer cells than the chemotherapy alone.

In line with the trends to study turmeric health benefits more within arthritis research, numerous studies are cropping up everywhere looking at natural approaches to cancer as well. As we move forward, we expect and hope to see

larger amounts of studies on humans with cancer that look at the ways in which turmeric and other curcumin-rich foods can help prevent and reverse it. We are hopeful that the results from these studies will be groundbreaking as we move forward!

6. GASTROINTESTINAL SUPPORT

Much of the time, those who have stomach complaints and digestive problems cannot take medical interventions. The flora in the stomach is already compromised, so drugs worsen the state of the mucosal lining. On the other hand, it was revealed through a meta-analysis of every study that has evaluated how curcumin may be able to take care of inflammatory bowel conditions that curcumin can definitely decrease symptoms that are caused by this condition. In fact, some patients were even able to stop taking the corticosteroids that were being prescribed to them because the effects were so wonderful.

7. STEROID ALTERNATIVE

Finally, let's look at how well turmeric health benefits do against corticosteroids in the treatment of illnesses like:

- Lupus
- Rheumatoid arthritis
- Vasculitis
- Dermatomyositis
- Ankylosing spondylitis
- Scleroderma

Numerous studies have looked at the ability of curcumin to treat chronic anterior uveitis. A breakthrough trial conducted in 1999 was the catalyst for these studies because it proved that, "The efficacy of curcumin and recurrences following treatment are comparable to corticosteroid therapy which is presently the only available standard treatment for this disease."

One of the other studies published was released in 2008 in Critical Care Medicine. It looked at dexamethasone and curcumin and attempted to evaluate which was better for lung injury patients who had had transplantations.

Dexamethasone is a corticosteroid and is often used to treat organ disease and cancer. Chinese Zhongshan Hospital researchers found that both treatments

help to prevent barrier disruption, decreased oxygen, tissue inflammation, and lung swelling. It was also found that, "Curcumin can be an alternative therapy for protecting lung transplantation-associated injury by suppressing the nuclear factor-kappa B-mediated expression of inflammatory genes." This has great possibility and could mean reversing countless illnesses and diseases on a large scale.

Possible Side Effects

It has been reported that one of the turmeric side effects is that it can cause allergic reactions, especially if it comes in contact with the skin. Side effects of turmeric can cause symptoms which include mild itching and rash. Also, the side effects of turmeric used in elevated doses can cause:

- Increased menstrual flow
- Uterine contractions in pregnant women
- Hypotension (lowered blood pressure)
- Alopecia (hair loss)
- Hyperactive gallbladder contractions
- Increased liver function tests
- Increased risk of bleeding
- Liver problems
- Diarrhea
- Nausea
- Heart burn
- Indigestion

Please pay attention to the side effects of turmeric. You should also use turmeric with caution if you're taking other medications. Turmeric has the ability to interfere with warfarin, aspirin and other anticoagulants. It is also known to impact other anti-inflammatory drugs.

Chapter 7

Stevia

Is stevia safe? Is stevia healthy? These are questions many are asking since stevia is an alternative to processed sugar and artificial sweeteners.

There is a lot of controversy around sweeteners, especially naturally occurring alternatives to sugar, such as stevia. Stevia is an herb, and after all, all herbs are safe, right? So when I started seeing headlines attacking stevia, I knew I had to investigate. Is stevia safe?

And I really did my homework in order to get to the bottom of all this!

Asking Ourselves if Stevia is Safe

Stevia has been in the spotlight since Coca-Cola unveiled, in South America, a stevia-sugar combo dubbed Coca-Cola Life. This, quite obviously, quickly drew the attention of the natural health community. I mean, pretty much anything the Atlanta-based beverage giant does pings our radar.

Many people ask the question, “Is stevia safe?” especially considering the fact that Coca-Cola has purchased a slew of “all natural” brands, including Zico, Vitamin Water, Simply Orange, Odwalla, and Honest Tea.

Besides asking, is stevia safe, we have to ask ourselves a few other questions:

- Do we really trust anything Coke does?
- Do we think Coca-Cola is trying to pull a “fast one” with its new stevia drink?
- Is Coke now safer to consume with stevia as a sweetener?

While some of these questions are a little more personal in nature, one thing is for sure: not all stevia is the same.

Natural Stevia vs. Processed Stevia

Stevia comes from the leaf of a plant and it's a good bet that Coca-Cola isn't using freshly ground stevia leaves in their soft drinks. For starters, the cost of that would be exorbitant and not conducive to the soft drink industry. That method would also create a storage problem, as it would be nearly impossible to keep that much stevia on hand.

For the sake of this argument, we're going to safely assume Coke is using a highly processed version of stevia, which is more affordable and much easier to transport and store. Most of the time, synthetic versions like these contain bleach as a preservative, taste more like cane sugar than the stevia herb and are much sweeter than stevia.

Is stevia safe? Truth be told, many of the lesser brands aren't 100 percent stevia. Their products are cut with filler sugars, such as xylitol and dextrose, which can lead to several diseases. This is why not all stevias are created equal.

The stark contrasts between chewing on a stevia leaf and pouring a white powdery substitute on your breakfast cereal are incredible. The natural plant version has been used medicinally for thousands of years while the modern processed versions are virtually untested.

Some Research Behind Stevia Benefits

When we're talking about the natural plant form of stevia, there are hundreds of studies touting its medicinal benefits. 322 studies to be exact. It is generally accepted that stevia has the power to reverse obesity, diabetes and even certain cancers. According to research, the two main points about stevia are:

1. The herb contains medicinal benefits for healing.
2. White cane sugar is a primary cause of diabetes, obesity, cancer and heart disease, meaning people using stevia as a replacement are less likely to experience these conditions.

According to a few of the more prominent studies, stevia has the following benefits:

1. REDUCING BREAST CANCER

The journal *Nutrition and Cancer* published a revolutionary report that connected stevia use to reductions in breast cancer. Scientists saw that stevioside, a cancer-killing compound found in stevia leaves, increased cancer apoptosis (cell death) and limited some stress conduits in the body that promote cancer growth.

2. BOOSTING ANTIOXIDANTS

A recent study out of Croatia published in the journal *Food Chemistry* stated that stevia worked to boost antioxidant levels when mixed with colon cancer fighting blackberry leaves.

3. FIGHTING DIABETES

The effects of stevia use in rats was documented in a recent report highlighted in the *Journal of Dietary Supplements*. Researchers found that lab rats that were given 250 to 500 mg a day of stevia experienced “significant” reductions in fasting blood sugar levels and saw more balanced insulin resistance.

The bottom line is that stevia, when consumed in its raw plant form, is absolutely healthy for you and an excellent sugar substitute.

The 5 Best Natural Sweeteners

While stevia has few side effects, it is an herb, and different reactions can occur. It is important to listen to your body. Some people, however, have a hard time accepting stevia’s tangy flavor. Here are the 5 best natural sweeteners:

1. COCONUT NECTAR

One of my all-time favorite natural sweeteners is the sap from the coconut blossom. While this is relatively new to the U.S. market, Pacific Islanders have been using it for centuries.

At room temperature, coconut nectar is similar in consistency to honey and is an excellent source of the following vitamins and minerals: amino acids, Vitamin C, and broad-spectrum B vitamins. Better yet, the sap isn’t processed.

2. DATES

There's not much to say about dates other than the fact that they are one of the greatest natural sweeteners on Earth.

3. MAPLE SYRUP

Maple syrup is highly processed – even the most natural brands – and it still ranks light years ahead of white cane sugar. When syrup is made, maple sap is boiled down. Depending on the amount of sugar used in the water, it can take 100 gallons of maple sap to make one gallon of syrup.

Maple syrup is packed with minerals such as calcium, iron, magnesium, potassium and zinc. However, it is important to steer clear from Grade A maple syrup. It tends to be lighter in color and lacks the strong maple taste found in Grade B and Grade C.

4. RAW HONEY

Honey is by far the healthiest natural sweetener – hands down. In fact, the health benefits of raw local honey are unbelievable. Throughout all my research, including scientific research, I have found that honey is used to prevent seasonal allergies, enhance the immune system, and fight tooth decay, acne, eczema, irritable bowel syndrome and much more. Personally, I have found that mixing raw local honey with organic ground cinnamon is a great way to fight allergies.

5. STEVIA

Last, but not least is stevia. When buying stevia, look for green stevia. White stevia has been bleached and processed beyond the point of being healthy.

In reality, no sweetener is 100 percent perfect and moderation is always important. The more popular stevia becomes, the more and more press you will see, both negative and positive. It's important to pick a good brand and always read your labels. Avoid harmful fillers and only use stevia in small amounts.

CHAPTER 8

Xanthum Gum

Many people ask me about common food additives, and one of the biggest questions is – What is xanthan gum? All you have to do is look for this term on Google. You'll come up with almost 1.2 million results. This makes it pretty difficult to get the real idea on what xanthan gum actually is. It's called a carcinogen some of the time and a natural health food other times.

So what is xanthan gum? What's the truth behind this odd ingredient that can be found in almost every type of food?

What Is Xanthan Gum?

Xanthan gum is what's called a complex exopolysaccharide. In other words, this means that it's a polymer made up of sugar residues. Microorganisms in the environment secrete these sugar residues. In fact, xanthan gum comes from plant pathogenic bacterium. This is a disease-causing microorganism that is often found in plants. What is xanthan gume? In foods and other products, xanthan gum is often used as a stabilizer and thickener.

What is xanthan gum? You'll see xanthan gum commonly used in:

- Sherbet and ice cream
- Jams, jellies and sauces
- Pudding
- Lotions
- Cosmetics
- Pastry fillings and baked goods
- Industrial products
- Salad dressings
- Yogurt
- Toothpaste
- Medicines
- The list continues ...

What is Xanthan Gum: The Facts

It's quite fascinating how xanthan gum is manufactured.

First, the bacteria *Xanthomonas campestris* ferments sucrose, lactose, glucose. This produces the xanthan gum. It is then made into a solid or precipitated by isopropyl alcohol.

After this, it is dried and ground into a powder that is very fine. At this point, liquid can be added to the powder, and a gum is created.

So what is xanthan gum? Xanthan gum is an all-natural and effective emulsifier. Therefore, it is also considered nonhazardous for numerous fracturing and drilling fluids and brines. According to Cargill, Inc., it is often used to make VerXan™ D gum. This is a popular product for:

- Decreasing maintenance expense
- High viscosity at low concentrations
- Maximizing drill bit penetration
- Decreasing solids buildup in drilling fluids
- Decreasing damage to oil formation
- Handling high gravel concentrations
- Minimizing pumping friction in lime, freshwater and saltwater muds
- Accelerating drilling rates in low viscosity/high shear conditions
- Stabilization of hole cleaning fluids
- Lowering total cost of operations
- Efficient suspension/solids transport in high viscosity/low shear conditions

Of course, you shouldn't let the above worry you. Xanthan gum is fairly harmless as long as you're not allergic to it. But one important point is that those with digestive issues may not tolerate xanthan gum very well. With that being said, it's not as bad as many say that it is.

What is Xanthan Gum: Safety and Side Effects

Most people would agree in the scientific community that it's perfectly fine to consume a maximum of 15 grams of xanthan gum every day. On the other hand, those who have issues with digestion might want to reconsider consuming foods that have xanthan gum.

Xanthan gum has been found to be a powerful laxative. According to the *British Journal of Nutrition*, it can actually cause "significant increases in stool output, frequency of defecation and flatulence."

Other than this problem, however, it has been consistently said that xanthan gum is relatively harmless. According to a *Toxicology and Applied Pharmacology* article in 1973, there was, "No significant effect on growth rate, survival, hematologic values, organ weights or tumor incidence" when rats were given one gram of xanthan gum every day.

As would've been expected, "Soft stools were noted more frequently for the high- and middle-level males, but the differences from the control group barely reached the level of statistical significance." This means that your digestive system will be affected by xanthan gum the more that you consume it. That's why you should only take a maximum of one gram every day or less.

There are not many studies that look at the effects of xanthan gum on humans, but there are a few, and they seem to prove that xanthan gum is a rather favorable food additive.

For example, a study was published in 1987 that gave 10.4 or 12.9 gram of xanthan gum to male volunteers. This equals approximately 15 times the acceptable intake per day of xanthan gum. This was given to the men every three weeks.

According to the study, there was expedited digestion in all study participants, and there was significant change in the texture and weight of fecal matter, but it did not affect:

- Insulin tests
- Plasma biochemistry
- Urinalysis parameters
- Hydrogen and methane breath testing, which is a test for sugar malabsorption

- Glucose tolerance
- Triglycerides, phospholipids and HDL cholesterol
- Blood markers
- Immune markers

This generally shows that xanthan gum does not go into the bloodstream, and you should feel confident that most of it will stay in your digestive tract when you eat it.

What is Xanthan Gum: The Health Benefits

There have not been very many research studies that have looked at the benefits of xanthan gum, but one study was published in the journal *International Immunopharmacology* in 2009. This study showed that there were some cancer fighting properties in xanthan gum. It looked at giving the gum to people orally, and found that it “significantly retarded tumor growth and prolonged survival” of mice inoculated with melanoma cells.

Xanthan gum may even be able to help those who have oropharyngeal dysphagia. Because of its increased viscosity, it may be able to help them swallow easier. Oropharyngeal dysphagia is a condition where individuals have trouble with food entering into their esophagus because of nerve or muscle abnormalities. It is quite common in those who have had strokes. In this way, xanthan gum may be able to help these individuals considerably as it can aid in aspiration.

Another interesting point is that because of the increased viscosity of xanthan gum, when it is mixed with fruit juice, it may help to keep blood sugar spikes to a minimum.

Additionally, there were a few Internet sources that said that xanthan gum is good for the hair and skin, and there were several studies to back this up.

Is There A Xanthan Gum Substitute?

Some people use xanthan gum as a binding agent when baking and as a healthy alternative to gluten. The largest manufacturer of gluten-free mixes and flour in the wild is Bob's Red Mill. And they call xanthan gum a "plant-based thickening and stabilizing agent." In fact, they charge \$70.69 for a 3.5 pound bag of xanthan gum! It's a pretty penny to charge for fermented bacteria poop with alcohol.

To me, this seems rather outlandish, which is why I would suggest using a truly natural alternative to binding agents than one that is unnatural. Of course, xanthan gum isn't terribly bad for you, but keep in mind that there are natural alternatives that may be even better.

Psyllium Fiber

Food Research International recently published an article that said: "Psyllium, besides being an excellent source of natural soluble fiber, has been widely recognized for its cholesterol-lowering effect and insulin sensitivity improvement capacity." In fact, researchers in Iraq have found that psyllium fiber, which is sold often as a dietary fiber supplement, is a great alternative for gluten.

It is well known that in water, soluble fibers immediately become sticky and gelatinous. From this, they found that just "adding up to 5 percent of psyllium can improve the baking characteristics of bread."

Of course, you will read in other sources that you should use upwards of 10 percent because additions that are higher will create a crumb that is softer. As you might expect, you'll also need to up the liquid content or add some water in your recipe in order to compensate for the fiber absorbing extra water.

There's no one rule for this, but I do suggest doing a little bit of experimentation. Let your batter or dough sit for a while in order to allow the psyllium to create a gelatin consistency. From there, you can add more liquid in order to achieve your desired consistency.

Chia Seeds

Chia seeds are actually very similar to psyllium. They contain a high amount of soluble fiber, and they are quick to gelatinize. In America, they've become a quick super food because they have tons of energy and are packed with nutrients.

The reason that chia seeds are so successful is that they contain a favorable omega-6 fatty acid and omega-3 fatty acid ratio (3:1). This has been shown to help greatly with inflammation, which is linked to numerous diseases.

If you add chia seeds to liquid, you'll get a substance that is Jell-O like, and it can help the overall structure of your pastries or baked goods. These seeds also retain water, so they're extremely effective at preventing gluten-free foods from getting too dry. This is a common negative of gluten-free foods.

Flax Seeds

Flax seeds are known to be rich in omega-3 fatty acids too, and they have been used in food items and breads for thousands of years. There are numerous health benefits to flax seeds, and they've been linked to improvements in high cholesterol, cancer, and obesity.

When you grind flax seeds into a fine powder, they can be a great binding agent, and they can be a great replacement for the gooey gluten effect that many bakeries want in their goods.

Of course, it must be noted that the same effect cannot be achieved with whole flax seed. You have to take off the hard outer shell in order to get the binding benefits. Put ground flax seed in some boiling water, and you'll get a gluten-free, thick paste that can be used in any recipe you want to create.

Gelatin

Gelatin is a breakdown of collagen. It has been used for numerous health and medical conditions for thousands of years. It can help with sensitive stomachs, food allergies, and promoting overall healthy bacteria growth and balance.

Gelatin is definitely a health food, and according to the Weston A Price foundation, "Prior to the mid-20th century, doctors recommended the addition

of glycine-rich gelatin to the homemade infant formulas that were used when breast feeding was not possible!”

I could continue on and on about this health food, but let's just say that it's a great super food. Similar to ground flax seed, it's a great alternative to xanthan gum and a wonderful gluten-free product. Just add some water and you'll get a great gooey mixture that can help you with your baking.

Agar Agar

Vegetarians and vegans won't be able to eat gelatin because it's an animal product. Therefore, agar agar is a great xanthan gum substitute and the best alternative. It's a great plant-based substitute for gelatin. Japanese people often use this product to drop excess weight because it has a great bulking effect. Moreover, it can even help with constipation and possibly with diabetes.

Agar agar is made from seaweed. It is fast thickening, and it is great as a food-stabilizing agent. It is flavorless. Add water just like you would with gelatin, and you'll get a substance that is gel-like and one that will give your foods a true breadlike texture.

So here's the decision you need to make. Ask yourself, what is xanthan gum and is it healthy or should I use a xanthan gum substitute?

CHAPTER 9

Sorbitol Dangers

Beware of sorbitol dangers. As American waistlines continue to grow, millions are seeking out “alternative” ways to satisfy their sweet tooth without the extra calories. More and more people are flooding the grocery stores to get their hands on things like sorbitol sweetened goodies that, interestingly enough, science has already proven are harmful. Why the FDA allows these products to be sold is another story completely.

But let me just say this, *Just because something is legal doesn't mean that it's good!*

What is sorbitol? The list of conditions caused by these deadly chemical continues to grow, and one of the most dangerous is sorbitol diabetic neuropathy.

What is Sorbitol & Its Side Effects

Although it was once widely accepted as a sugar alternative for diabetics and people trying to lose weight, research strongly suggests that *sorbitol* is now unfit for human consumption. Basically, it is a sugar alcohol that is often used to sweeten processed foods. Here's where we start running into problems (especially for diabetics).

Some tissues contain sorbitol dehydrogenase, an enzyme that converts sorbitol into fructose. Tissues lacking this enzyme run the risk of sorbitol accumulating within the tissue. Moreover, an enzyme known as aldose reductase converts glucose into sorbitol. This process occurs in everyone to a degree, but in those with diabetes for example, the conversion of glucose to sorbitol is *greatly accelerated*. When this happens, it depletes the body of essential nutrients like vitamins, minerals and amino acids.

Sorbitol is also osmotically active, drawing water into cells, which causes these cells to swell. This can eventually result in serious complications such as sorbitol diabetic neuropathy and other issues diabetics should be aware of:

- Vision problems (retinopathy)
- Kidney problems (nephropathy)

- Blood vessel damage.

This osmotic characteristic makes it especially useful as a laxative, which would explain the common complaint of gas, bloating, and other digestive issues after eating foods sweetened with this and other alcohol-sugars. Ultimately, because of its chemical constitution, sorbitol is not used by the body, so it takes a long time for the body to rid itself of the sugar molecule. As more food items are made with sorbitol and consumed by diabetics, combined with the accelerated conversion of glucose, sorbitol can build up over time.

Calorie Counters & Diabetics Beware!

Diabetics and those counting calories should give serious consideration to the dangers of not only sorbitol, but all artificial sweeteners. Like many medical interventions, artificial sweeteners were initially recommended by diabetes organizations and MDs globally only to be retracted as “dangerous” due to the inherent risks. Sadly, millions of people have been affected by this misguided advice with irrevocable negative effects. Organizations like *American Diabetes Services* are now stating that,

“In general, you should try to avoid eating or drinking too many products with artificial sweeteners. Opt for those with natural sugar substitutes instead.”

The irony of it all is quite disheartening because all the damage ensued by artificial sweetener consumption was directly caused by organizations like this who once heralded these toxins as “safe.” The question begging to be asked is, “What’s next?” What new chemical invention today is being widely accepted and recommended only to be shunned later on at the risk of millions of naive and unquestioning people?

Choose Safe, Natural Sweeteners

There are very safe and natural options diabetics and those wanting to lose weight can utilize. For example, increasingly gaining popularity and becoming more common in processed foods and non-milk substitutes, stevia is a zero calorie herbal sweetener that will not increase blood glucose levels, and has a delightfully pleasant flavor. Now, pretty much available in health and generic grocery stores in processed, powdered forms the plants themselves are very easy to grow in most climates and do not require much maintenance.

Next to stevia, the best natural sweeteners are:

- Raw honey
- Pure grade B or C maple syrup
- Molassas
- Soaked dates & raisins

Once you start to use these, you'll never miss sugar or alternative sweeteners!

PART TWO

Must-Have Essential Oils

CHAPTER 10

EOs for Weight Loss

From shedding some extra pounds to seriously shaking off weight, getting fit and getting healthy top most resolution lists and using essential oils for weight loss should be part of your journey!

Getting Serious about Weight Loss

Before we go any further, it's important to call out the elephant in the room here: there is no magic easy button. There's very little research on essential oils and weight loss, and when it comes down to it, nothing beats good old fashioned food choices and body movement for effective weight loss. With that out of the way, we can more clearly see the role essential oils have to play when weight loss is the goal.

You already know that there's no shortcut. If you think there is, you're bound to be disappointed. Instead of looking for a magic oil to melt away the pounds, let's look at what we know about a handful of essential oils and their parent plants to see how essential oils can support our efforts for weight loss. With all of the tools God left at our disposal, we are without excuse for a healthy and Abundant Life!

7 Essential Oils for Weight Loss

Essential oils play a supportive role in so many ways. From relieving side effects of treatments to ameliorating effects of illnesses, it's often the indirect benefits that are felt the strongest. For weight loss, this list is just a starting point – get creative with your oil “stash” to see what might help you achieve your weight loss goals.

Maintaining a natural, holistic lifestyle is absolutely crucial to being healthy and the key to preventing weight gain. One of my favorite ways is to drink matcha green tea and make my favorite fat-burning matcha green tea latte!

To try [matcha green tea](#) out for yourself, you can visit Ujido, my favorite supplier, [HERE](#).

They are also blessing us in a big way by giving every Dr. Z's Essential Oils Club member a special coupon – just type in MATCHA20 when you're checking out to enjoy 20% on me.

Like I always say, "Eating at McDonald's and using essential oils is like taking one step forward and two steps back!" so be sure to focus on abundant life giving eating and exercise habits when incorporating essential oil therapy into your life!

1. LIME ESSENTIAL OIL

Of the well-researched citrus oils, lime in particular has had very promising results regarding weight loss. One study, published in 2010, observed lime essential oil both assisting weight loss and preventing weight gain. The study concluded: *The data obtained in this study suggested that lime essential oil plays an important role in weight loss and could be useful in the treatment of drug-induced obesity and related diseases.* For anyone who has packed on weight after a procedure or prescription, this comes as welcome news!

Application: Include lime in culinary recipes, topical formulas, and diffusion blends to maximize a wide range of actions.

2. GRAPEFRUIT ESSENTIAL OIL

Another much-loved citrus oil, grapefruit, shatters our expectations of what a weight loss tool should be. Instead of yet another thing to drink, eat, or take, grapefruit seems to be just as effective in other ways. In evaluating the effects that grapefruit and lavender essential oils have after simply being smelled, researchers found that nerve impulses were affected extensively, leading to fat-burning and appetite-reducing benefits. Topically, grapefruit is a cosmetic boost during weight loss efforts. As part of a topical blend massaged onto the abdomen, grapefruit essential oil weight loss contributed to reduced waist-circumferences and composition changes, boosting self-image for the women who participated.

Application: Include grapefruit essential oil weight loss in lotion and massage oil blends; diffuse before and during meals.

3. CINNAMON ESSENTIAL OIL

The primary evaluation for cinnamon in various forms centers around diabetes itself, and cinnamon oil has been able to modify glycemic control in those

cases. Additionally, in one recent study, researchers were able to observe some pancreatic protection – the pancreas being our center for insulin regulation. For diabetics, reaching and maintaining a healthy weight is paramount, and glycemic control is part of the process. For everyone else, protecting the pancreas and helping the body better deal with glucose can be beneficial for weight loss, as well.

Application: Enjoy a drop or two diffused in stimulating weight loss blends or diluted into culinary or internal preparations.

4. Peppermint Essential Oil

Considered a mild stimulant, peppermint has been studied for its ability to improve athletic performance and endurance. Baby steps and good choices will get you to your goals, though, and that's where peppermint comes into play for weight loss. As a digestive herb, the peppermint plant has been enjoyed with meals in many cultures and for countless generations. As an inhaled essential oil, it has another suggested digestive purpose: affecting appetite and caloric intake for weight loss.

Application: Diffuse with grapefruit for a bright scent that may also brighten up your daily calorie count!

5. CARDAMOM ESSENTIAL OIL

Indicated in traditional and folk uses for weight loss and control, one suspected reason behind this may be cardamom's gastroprotective effects. As a digestive oil, cardamom has been known to protect the stomach against ulcers and damage. Weight loss and control begins and ends in the stomach, not only what you eat but the way your body uses it. Damage in the stomach and the gut can put a damper on even the best diet. Take care of your gut and it will take care of you!

Application: Culinary preparations, or dilution into a capsule. As with all oils indicated for internal use, one or two drops at a time is more than sufficient.

6. CUMIN ESSENTIAL OIL

We don't know a lot about cumin essential oil yet, but what we do know is promising. The whole herb, for example, is often used to combat inflammation and diabetes. It's this direction that researchers followed in 2005. In evaluating the chemical composition of cumin seeds, the study was able to pinpoint specific

ways in which cumin – notably, some of the compounds found in the essential oil – affects the body's blood sugar response. Cumin is considered a digestive herb and essential oil, and it's certainly worth trying out in your weight loss blends.

Application: Try cumin in culinary preparations or simply diffused as part of a blend.

7. BLACK PEPPER ESSENTIAL OIL

To really demonstrate thinking outside of the box for weight loss support, let's turn to black pepper. In the 1990s, black pepper essential oil was used via inhalation to help reduce the symptoms of withdrawal for people as they quit smoking. How might this benefit weight loss? The spiral of food addiction is often part of weight management problems, especially related to sugar. Taking care of your body as you make changes is important – going “cold turkey” on anything can create problems. Perhaps black pepper will help you take these steps for weight loss as it did for smokers. You never know until you try!

Application: Diffusion in an ultrasonic diffuser and personal inhalers.

Diffusing Blends

Try this stimulating, appetite-curbing combination for use around workout times, when cravings hit, or during mealtimes. Add 2 drops of the following oil blend in a gel cap for occasional support. Be sure to discontinue use immediately if acid reflux develops (can sometimes happen with peppermint).

Essential Oils for Weight Loss Blend – equal parts of:

1. *Grapefruit*
2. *Peppermint*
3. *Lime*
4. *Cinnamon*

For instant hunger curbing relief, add 5 drops of the Essential Oils for Weight Loss Blend into your favorite diffuser and take slow, deep breaths for 3-5 minutes. Keep the diffuser running as you go about your daily routine.

You can also use this blend to make a body oil or body wrap. I explain how to do all of this and more in my bestselling book, [*The Healing Power of Essential Oils*](#).

CHAPTER 11

EOs for Metabolic Syndrome

With all the talk about how to use natural solutions for obesity, diabetes, and heart disease, it's interesting to note that most people haven't heard about using essential oils for metabolic syndrome.

When I wrote this article, there was literally just one blog post about essential oils and metabolic syndrome online! My hope and prayer is that you find this report helpful, and that you share it with your loved ones because the information that I share below can spare someone a lot of pain and needless suffering.

Why Metabolic Syndrome is Important

Metabolic syndrome is a combination of various risk factors that together create the perfect storm for increased risk of type 2 diabetes, cardiovascular disease and death. Not clearly defined in the literature, I've narrowed the main contributing risks down to these four:

1. Excessive weight gain (abdominal obesity)
2. Elevated blood sugar (insulin resistance)
3. High blood pressure (hypertension)
4. Imbalanced blood cholesterol (dyslipidemia)

Truth be told, we really don't even know how far-reaching metabolic syndrome can be. It wasn't too long ago, for example, that science uncovered that these four associated factors are linked to autoimmune disease. What we do know, however, is that metabolic syndrome is quite pervasive.

Who has metabolic syndrome?

- Nearly 35% of all U.S. adults.
- 50% of those are 60 years of age or older.
- Gender: women are affected more.
- Race: Hispanics, followed by non-Hispanic whites and then blacks.

What are the risks from developing metabolic syndrome?

- Increases the risk of type 2 diabetes mellitus 5x.
- Increases the risk of cardiovascular disease 3x.
- Associated with a number of cancers including breast, colon, liver and pancreatic.

Not to mention that obesity, heart disease and diabetes are among the leading causes of deaths worldwide!

Maintaining a natural, holistic lifestyle is absolutely crucial to being healthy, and the key to preventing and treating metabolic syndrome is to approach each of the contributing risk factors individually. Meaning that you need to target weight loss differently than how you will balance your blood sugar and cholesterol levels.

Please keep this in mind as you dive into the ways you can use essential oils for metabolic syndrome below...

Losing Weight

Nearly 1.5 billion are affected by obesity around the globe and this number is rising year after year. Affecting all races and genders indiscriminately, abdominal obesity is the primary prerequisite for metabolic syndrome.

The bottom line is that, to beat metabolic syndrome, you need to lose weight. It's as simple as that. And I'm not talking about short-term diet solutions. I'm referring to sustainable, life-transformation!

When using essential oils for weight loss, you'll want to keep these on hand: lime, grapefruit, cinnamon, peppermint, cardamom, cumin and black pepper.

Take grapefruit, for example. You've likely seen it recommended in popular diets, because virtually every part of the fruit benefits your body composition – especially the essential oil!

One reason is that the scent basically tells your body that it's time to burn fat. According to one study, "Olfactory stimulation with scent of grapefruit oil (SGFO) excites the sympathetic nerve innervating the white adipose tissue..." It can also reduce appetite and body weight. Pretty cool, huh?

Before you dive in, though, remember that eating at McDonald's every day and using essential oils is like taking one step forward and two steps back! Be sure to focus on abundant life-giving eating and exercise habits when incorporating essential oil therapy into your life.

One of my favorite tricks is to drink matcha green tea and make my favorite fat-burning matcha green tea latte! It tastes great and has been proven to help people lose weight and burn fat.

To try matcha green tea out for yourself, you can visit Ujido, [my favorite supplier](#). They are also blessing us in a BIG way by giving every Dr. Z's Essential Oils Club member a special coupon – just type in MATCHA20 when you're checking out to enjoy 20% on me.

The Weight Loss Essential Oil Blend – equal parts of:

- Grapefruit
- Peppermint
- Lime
- Cinnamon bark

Application: Try this stimulating, appetite-curbing combination around workout times, when cravings hit, or during mealtimes. Add 2 drops of the following oil blend in a gel cap for occasional support. Be sure to discontinue use immediately if acid reflux develops (this can sometimes happen with peppermint).

For the inhalation benefit, add 5 drops of the blend into your favorite room diffuser and enjoy!

Balancing Blood Sugar

One of the most intriguing things about essential oils is their ability to *synergize* – the phenomenon in which combinations of oils work together to create even more potent healing properties than they contain individually. This is a fundamental concept behind creating blends.

In 2005, Georgetown researchers took note of the benefits of synergy when they studied essential oils for lowering elevated blood sugar. Instead of isolating a single oil for their research, they experimented with blends of multiple oils that

have been suggested as beneficial for diabetes. Oils named in the summary were:

- *Cinnamon bark (Cinnamomum zeylanicum)*
- *Cumin (Cuminum cyminum)*
- *Fenugreek (Trigonella foenum-graecum)*
- *Oregano (Origanum vulgare)*

The blends were able to improve insulin sensitivity when taken internally, which can be replicated by including oil blends diluted into a carrier and consumed in capsules, drinks, and recipes. Alternatively, you can create a body oil and apply for similar results!

Application: Make my Blood Sugar Balancing Body Oil and use twice a day!

Blood Pressure Control

In 2012, Korean researchers evaluated how inhaling essential oils could benefit 83 pre-hypertensive and hypertensive patients. They created a blend of lavender, ylang-ylang, marjoram, and neroli (20 : 15 : 10 : 2). They chose these oils because they suspected they would do the following:

- Lavender – alleviate cardiac excitation, lowers BP, and is effective in hypertension and palpitations.
- Ylang-ylang – lowers BP, alleviates palpitations and nervous system excitation, and promotes emotional relaxation.
- Marjoram Essential Oil – lowers sympathetic nervous system activity and stimulates the parasympathetic nervous system, resulting in vasodilatation to reduce cardiac strain and decrease BP.
- Neroli – brings forth emotional soothing and comfort and is effective in cardiac palpitations secondary to shock or fear.

As the method of intervention, the study group was provided with an aromatherapy necklace containing an essential oil-soaked stone, while the placebo group was given a necklace with artificial fragrance. Instructed to wear the necklace during the day, they were told to place an aroma stone with two oil drops by their bedside to ensure 24-hour inhalation.

Researchers discovered that by inhaling this special essential oil blend, patients were able to enjoy immediate and sustained blood pressure reduction – as well as lower stress levels!

Application: Try my Essential Oil Inhaler for High Blood Pressure and enjoy reduced blood pressure throughout the day!

Lower Blood Cholesterol

Since the groundbreaking 1975 paper that evaluated how onion and garlic essential oils could lower blood cholesterol levels in rabbits, people have been trying to find ways to use oils to prevent heart attacks.

Much more recently, the journal *Food and Chemical Toxicology* published an article showing how lemongrass oil can not only reduce elevated cholesterol levels but is quite safe to use!

According to the study:

“No significant changes in gross pathology, body weight, absolute or relative organ weights, histology (brain, heart, kidneys, liver, lungs, stomach, spleen and urinary bladder), urinalysis or clinical biochemistry were observed in EO-treated mice relative to the control groups.”

“Additionally, blood cholesterol was reduced after EO-treatment at the highest dose tested [~2 drops].”

“Similarly, data from the comet assay in peripheral blood cells showed no genotoxic effect from the EO.”

“In conclusion, our findings verified the safety of lemongrass intake at the doses used in folk medicine and indicated the beneficial effect of reducing the blood cholesterol level.”

At roughly 2 drops per day, taking lemongrass essential oil is a superbly effective and simple approach to balance your cholesterol levels!

Application: Consume 2 drops of lemongrass in a gel capsule filled with olive oil twice a day for one month between blood work evaluations.

CHAPTER 12

Cinnamon

Cinnamon essential oil benefits the body in so many ways that you may be surprised that the warm, spicy, fragrant, and powerful remedy can even be dangerous. Even as a potentially sensitizing and irritating oil, we shouldn't make the mistake of avoiding cinnamon altogether. There are many benefits of this classic spice and essential oil.

Cinnamon Essential Oil Uses and Sources

While we know cinnamon as simply sticks, powder, or oil, there is much more to it than a simple cinnamon source. The flavorful "sticks" we know are derived from the inner bark of a *Cinnamomum* tree, of which there are many different varieties. In fact, cassia essential oil comes from a cinnamon tree – *Cinnamomum cassia*. This is a different essential oil though with its own therapeutic benefits. This post is going to discuss cinnamon essential oil uses though and we'll save cassia for a different article.

As always, variety effects composition, and cinnamon essential oil most commonly comes from the *Cinnamomum zeylanicum* tree. From there, either the inner bark or the leaves can be harvested for distillation. This should be indicated as either "cinnamon bark" or "cinnamon leaf" on your bottle of essential oils.

And yep, you guessed it: the bark and leaf oils have their own composition, as well.

- Cinnamon bark essential oil, on the other hand is steam distilled from cinnamon bark, is reddish/ brown in color and contains mostly cinnamaldehyde (63.1-75.7%) and much less eugenol (2.0-13.3%). It's a known sensitizer and irritant.
- Cinnamon leaf essential oil, for example is steam distilled from cinnamon leaves, is yellowish in color and contains high amounts of eugenol (68.6-87.0%) and some cinnamaldehyde (0.6-1.1%). It's not as common a sensitizer as cinnamon bark is, though it's still a known irritant.

Cinnamon leaf is typically more heavily filled with eugenol – used to relieve pain and inflammation and fight bacteria – while the bark is comprised more of cinnamaldehyde – potent as an antioxidant and antidiabetic.

The History of Cinnamon Essential Oil Uses

One of the oldest and most beloved spices, cinnamon was prized in ancient times as a costly and decadent substance, usually burned for its aroma. Biblical mentions include cinnamon as a “choice spice” and part of the holy anointing oil of Exodus.

Further east, cinnamon was used in medicinal preparations in the Ayurvedic model of medicine. It was thought to be “warming” and was used as an antimicrobial treatment or protective substance.

Over time, the spice trade waned and culinary preparations became standard, at least in the Western world. The ability to distill essential oils specifically has opened up another avenue of use for us, and extensive research on this ancient spice has confirmed both aromatherapy uses and medicinal whole-spice uses.

Top 5 Cinnamon Essential Oil Benefits

Because the leaf and bark oils work differently, I’ll note where one is preferred over the other. The safest use for essential oil is aromatic, via sprays and diffusion or inhalation methods. Some internal and topical use can be utilized as well, though, as long as you carefully dilute and use appropriate amounts. With that in mind, here are the top 5 uses for your cinnamon essential oil.

1. ANTIBACTERIAL STRENGTH

Cinnamon oil is well known as antibacterial, and that is translating to varied uses as researchers begin to think outside of the box. In 2015, a couple of interesting studies were released for uses of cinnamon’s antibacterial strength.

The first combined antibiotic doxycycline with isolated components of 3 essential oils, one of which being cinnamon – with all three components (carvacol, eugenol, cinnamaldehyde) found in both cinnamon leaf and bark oils. The combination had a synergistic effect, which could imply some answers to the problem of antibiotic resistance!

The second addressed an issue on our minds for awhile now, that of oral health with natural products. Cinnamon oil on its own was protective against an array of oral bacterial colonies. The oils didn't contain prominent levels of cinnamaldehyde, indicating a potential preference toward leaf oil.

A much earlier study had confirmed more traditional uses for this antibacterial oil – relieving bacterial respiratory conditions. Of the essential oils tested in 2007, cinnamon and thyme rose to the top as most effective against respiratory infections.

Indications: Diluted into alcohol for mouthrinse blends, cleaners, hand sanitizers, room diffusion, respiratory blends for inhalation.

2. ANTIDIABETIC POTENTIAL

We know that cinnamon as a whole spice can be used for anti-diabetic purposes, helping to lower fasting blood sugar levels. Further research is diving into the way this works, and some studies have found specific compounds of cinnamon are responsible for the effect – compounds also found in the essential oil.

For example, cinnamaldehyde in animal models has been observed reducing glucose levels and normalizing responses in circulating blood. In 2015, researchers found cinnamic acid to improve glucose tolerance and potentially stimulate insulin production.

These results are promising, and it will be interesting to see how it ultimately plays out. Diabetes affects a large swath of the population, and natural remedies are needed now more than ever.

Indications: One or two drops diluted in a lipid and included in recipes; inhalation or diffusion; whole-spice culinary inclusion.

3. ANTIFUNGAL SYNERGY

Especially with such a strong and potentially irritating essential oil like cinnamon, blending and dilution are important. Fortunately, the oils seem to work even better that way. A 2013 study demonstrated the effects of synergy on fungal infections, with the lavender and cinnamon blend performing the best.

Incidentally, lavender soothes what cinnamon may irritate! When creating your blends, use small amounts of cinnamon to enhance the other oils in the combination for an overall effective result.

Indications: Topical fungal infections, diffusion and sprays for in-home fungal growth.

4. GUT HEALTH PROTECTION

Traditional medicinal uses of cinnamon essential oil include protecting the digestive system. The whole spice is still indicated for this purpose, but aspects of the essential oil are finding their way into studies on this topic, as well.

Eugenol, for example, found in the cinnamon leaf oil, was the subject of a study in 2000. It was found to have a protective effect on the mucosal lining against ulcers and lesions. More recently, in 2015, both eugenol and cinnamaldehyde were explored as additives in animal feed for intestinal protection.

Both cinnamon leaf and bark oils could be utilized here, though the leaf is much milder in taste and should contain the eugenol content that is recurring in studies.

Indications: One or two drops diluted into a lipid and added to recipes; whole-spice use in culinary preparations.

5. CANCER FIGHTING

Last, but certainly not least, is cinnamon essential oil's ability to fight cancer. Eighty studies to date have investigated cinnamaldehyde's ability to inhibit tumor cell proliferation via trigger cancer cell apoptosis ("programmed cell death") and other mechanisms and the research is clear: cancer patients should be encouraged that natural solutions truly do exist!

Cinnamon Essential Oil Blends & Applications

For all of its known benefits, cinnamon oil is also known as a sensitizer. And keep to 1% max dilution and no more than 2 drops per culinary dish. Remember that oil and water don't mix, so dilution should happen first in a lipid like coconut oil or another carrier oil.

Use cinnamon oil in:

- Cleaners and sprays with clove and citrus
- Respiratory diffusions with eucalyptus and frankincense
- Culinary preparations with sweet orange
- Highly diluted topical treatments with ginger and lavender

Dilution is the key to unlock the many benefits of cinnamon oil!

CHAPTER 13

Lavender

Lavender essential oil benefits are some of the safest and most versatile natural remedies on the planet. While the millennia have used lavender based on tradition and ancient wisdom, modern science is only just now discovering the mechanisms of lavender's benefits and its rich health benefits.

5 Lavender Essential Oil Benefits

Since antiquity, the precious herb has been documented in medicinal and religious uses, from ancient texts through modern movements.

Beginning with Egyptian mummification, it moved to Roman bathhouses, fragrance, and cooking. In modern times, lavender essential oil has been credited as the healing solution that Gattefosse instinctively covered his burned arm with, igniting a renewed interest in essential oils and inspiring the term *aromatherapy*. That lavender has stood the test of time, inspiring interest in so many eras, cultures, and generations, is a testament to the varied and effective capabilities it carries.

To scratch the surface of its capabilities, let's look at the top 5 properties that lavender essential oil benefits brings to the table – a table riddled with health concerns.

1. POTENT ANTIOXIDANT

A recurring theme in any natural health discussion, antioxidants are, in effect, the super healers that our culture needs. The free radicals created by toxins, pollutants, chemicals, and even stress are the culprits for a cascade of cellular damage, immune inhibition, and limitless health risks – including chronic illness and cancer.

If free radicals are the villain, antioxidants are the hero.

The body itself creates antioxidants in the form of the enzymes glutathione peroxidase (GSH-Px), superoxide dismutase (SOD) and catalase (CAT), among

others. But we expose our bodies to an onslaught of free radicals and drain our bodies in sedentary lifestyles, so our natural production is not always sufficient.

We've already seen some super antioxidants, like clove essential oil, and lavender joins the ranks as a powerful natural antioxidant support. Not long ago, Chinese researchers observed that lavender essential oil would attenuate all three major antioxidant enzyme levels in mice within the first day of treatment.

In Romania, researchers noted similar activity using inhaled lavender for an hour each day and, according to the study, *"Taken together, our results suggest that antioxidant and antiapoptotic activities of the lavender essential oils are the major mechanisms for their potent neuroprotective effects against scopolamine-induced oxidative stress in the rat brain."* Tap into this power by including lavender essential oil into your diffuser blends on a regular basis.

2. HELP MANAGE DIABETES

Tunisian traditional medicine utilizes lavender, grown in their region, as a remedy and health support. In 2014, local scientists released the results of a study they had conducted to determine how this traditional remedy actually works. Their findings were fascinating.

The researchers established a 15-day study of diabetic rats, during which lavender essential oil was used as a treatment. The lavender treatment protected against all of the following, each one a hallmark of the diabetic illness:

- Blood glucose increases
- Metabolic illness
- Weight gain
- Depletion of antioxidants
- Liver and kidney dysfunction and lipoperoxidation

The presence of unmitigated free radicals, the depletion of antioxidants and liver and kidney function, the descent into metabolic illness and weight gain – all are components of diabetes as an illness. Potent antioxidants like lavender essential oil are allies in the pursuit of long term health, and this study underscored its abilities.

There are other essential oils for diabetes if you are struggling with this in your life. With more research and concrete answers, perhaps one day lavender

essential oil and other natural treatments will be the standard for diabetic prevention and relief!

3. PROTECT THE BRAIN

While Tunisian researchers were analyzing metabolic health, lavender was taking center stage in published neurological research, and for similar reasons – to confirm longstanding traditional use. Lavender essential oil has long been used for stress, headaches, depression and anxiety, which all fall under the umbrella of neurological conditions.

Just as confirmation of diabetic and metabolic support was uncovered in 2014, lavender's neuroprotective abilities were confirmed time and again in 2012 – the year of the lavender! In other words, science and history are slowly but surely meeting on common ground.

A full literature review made its way to the *International Journal of Psychiatry in Clinical Practice* in 2010, confirming lavender oil's efficacy over the breadth of seven separate trials. A lavender essential oil capsule under the name Silexan was shown to consistently relieve symptoms such as sleep disturbance, anxiety, and improve the quality of life of those with these conditions. What's more, no one reported side effects, interactions, or withdrawal symptoms. If you've ever encountered pharmaceutical use for these conditions, you know how incredible that statement is!

Lavender's neuro-heroics don't stop with sleep. Research confirms time and again its incredible properties.

- A 2012 study conducted in Germany demonstrated the restorative benefits of inhaled lavender essential oil vapor. With 60 minutes a day inhaled by patients with dementia, lavender was shown to prevent scopolamine-induced oxidative stress.
- The same study took Post Traumatic Stress Disorder into consideration, as well, finding significantly improved sleep, moods and health, as well as reduced depression in individuals who were plagued with PTSD.
- In the same year, *Complementary Therapies in Clinical Practices* published a control study that highlighted the benefits of lavender for postpartum women. Twenty-eight women at high risk for postpartum depression found lessened anxiety and depression symptoms under a four week lavender aromatherapy treatment plan.

- Finally, in 2012, Molecules took a different neurological route when they published the theory that lavender may be a treatment worth considering for stroke. Yes, you read that right! According to the murine study, “In comparison with the model group, treatment with lavender oil significantly decreased neurological deficit scores, infarct size, the levels of [free radical], and attenuated neuronal damage [and antioxidants].”

4. ANTIMICROBIAL ACTION

As much as lavender has been inhaled for neurological health, it has been utilized as an antimicrobial protectant against infections and disorders. Nearly one hundred studies have been conducted and published on this topic, confirming repeatedly what history has known to be true.

Generational wisdom has rarely used oils singly when treating infectious illness. The combination of oils creates a synergistic reaction, maximizing each oil's potential. This has been validated with science.

Scientists from the University of the Witwatersrand, South Africa found that 75.6% of the forty-five blends they attempted produced favorable results. Of the blends used for this in vitro trial, the *lavender-cinnamon* and *lavender-orange* mixtures were the most powerful. *Candida albicans* and *Staph aureus* were susceptible to a 1:1 ratio of these oils, both frequent causes of topical and respiratory illness.

5. SOOTHE & HEAL SKIN

Those antimicrobial and antioxidant components come full circle in this last – and certainly not least – major benefit of lavender essential oil.

Particularly when mixed with a soothing carrier oil like aloe or coconut – 10 drops per 1 ounce – lavender essential oil is highly effective against sunburns, dry skin, minor scrapes and cuts, and canker sores. Even some immediate-type allergic reactions may be mitigated with lavender according to this rat study!

As part of a calming, soothing skin salve for daily use, lavender oil blends well with sandalwood essential oil. Try incorporating lavender into relaxing bath bombs you make yourself!

Lavender & Working Memory

As we've already seen, lavender essential oil can possibly help protect people with dementia from oxidative stress. However, we need to remember that lavender is so calming, that it can affect "working memory." This doesn't mean that lavender will make people stupid, it's just that you don't want to be diffusing lavender while taking an important test or doing work at the office when you need to focus; especially if you have dementia or Alzheimer's disease!

Over 140 participants were gathered for the study conducted by University of Northumbria, Newcastle. Aromatherapy including rosemary and lavender, as well as a control group were utilized to affect cognitive performance.

- Regarding lavender and its calming abilities, "lavender produced a significant decrement in performance of working memory, and impaired reaction times for both memory and attention based tasks."
- On the other hand, as a memory stimulant, "rosemary produced a significant enhancement of performance for overall quality of memory and secondary memory factors."

In other words, lavender made participants feel relaxed and complacent, while rosemary increased alertness and provoked memory retention.

A Note About Estrogen & Lavender

The only reason why we're even having this discussion is because of a poorly researched 2007 *New England Journal of Medicine* article titled, "Prepubertal Gynecomastia Linked to Lavender and Tea Tree Oils." The long and the short of it is that three boys obscurely developed idiopathic cases of prepubertal gynecomastia (when boys experience enlarged, tender breast buds) for a short period of time (1 – 5 months).

It was determined that all three patients were using either a shampoo, lotion, soap or balm that included lavender oil and *Melaleuca alternifolia* (tea tree) oil as ingredients. The researchers extrapolated that these essential oils were "estrogenic" based off of a preliminary *in vitro* evaluation. In their words, "On the basis of the three case reports and the *in vitro* studies, we suspect that repeated topical application of over-the-counter products containing lavender oil or tea tree oil was the cause of gynecomastia in the three patients." It is likely that the

plastic used with the essential oils leached estrogenic materials, making the results of this study flawed. See more about how we evaluate studies about essential oils.

There are several epidemiological reasons why this conclusion is false and is out of the scope of this article to cover each one, but I'll leave you with this thought: just because lavender and tea tree oils were two common ingredients in the products that these three boys were using, it does not prove that they were the cause. This is a classic statistics blunder that many make. "Correlation does not imply causation," because there are countless other variables that not being considered (diet, environmental triggers, medicines, and etc.).

Suffice it to say that essential oils safety expert Robert Tisserand emphatically states that, "Lavender oil does not mimic estrogen nor does it enhance the body's own estrogens. It is therefore not a 'hormone disruptor', cannot cause breast growth in young boys (or girls of any age), and is safe to use by anyone at risk for estrogen-dependent cancer." And Tisserand's conclusion has been supported by more recent research.

In 2013, for instance, the International Journal of Toxicology published a study confirming that lavender is not estrogenic, at least in female rats. Whether it is for humans remains to be seen, but there is literally no research to prove otherwise.

CHAPTER 14

Melissa

Melissa essential oil benefits us in so many ways, from daily comforts to long-term effects. Be sure to incorporate this into your natural health regimen! More properly referred to as lemon balm, this remedy is a pleasant fragrance to add to your essential oil collection.

Why Lemon Balm is Costly

Lemon balm – also called melissa essential oil, short for its Latin name *Melissa officinalis* – is distilled from the leaves, which are quite easy to grow and replenish. Lemon balm comes from the same family as peppermint, which is typically known for being prolific and even invasive.

In spite of easy-growing techniques, the leaves themselves yield very little essential oil. So it isn't a question of how quickly the plant produces but how much it must produce in order to yield a true, pure essential oil.

With that said, the benefits of true lemon balm or melissa essential oil are specific and clear. An investment in lemon balm is worthwhile. By the same token, keep an eye out for cheap lemon balm – a warning sign that the oil may be synthetic or cut with similar oils to stretch the yield.

Cancer Prevention Potential of Melissa

Within my protocols and recommendations, lemon balm stands out as absolutely valuable due to its cancer prevention potential. As researchers uncover more and more about the mysteries of cancer and the potential that God-given substances have to erase it, I grow more excited about our work with essential oils.

Lemon balm (melissa essential oil), for example, went through an extensive study in 2014, testing its ability to mitigate brain cancer cells. The results taught scientists much about the way the composition of lemon balm interacts with brain cancer cells. In the end, they found that a major part of lemon balm – citral – had numerous effects on the process and behavior of brain cancer and “*may be of potential interest for the treatment*” of this particular kind of cancer.

While the words may sound vague and unfinished, the concept is strong. Lemon balm (melissa essential oil) holds pieces to the puzzle of a cancer cure, and hopefully researchers will fit them together in our lifetimes!

4 More Benefits of Melissa Essential Oil

Until we know just how to maximize lemon balm (melissa essential oil) as a cancer prevention and even treatment, lemon balm can benefit our lives in many ways, from daily comforts to long-term effects.

1. ANTI-DIABETIC ACTIONS

Diabetes affects more and more people every day, from type 1 lack of insulin production to type 2 lack of insulin sensitivity. For type 2 diabetes, diet and lifestyle changes are a huge component of treatment.

Where diet and lifestyle are indicated, you are likely to find an essential oil to help as well. Such is the case with lemon balm, which has been tested as an anti-diabetic essential oil. Mouse studies suggest that even small amounts of lemon balm essential oil can help to curb type 2 diabetes.

It's important to know your diabetes diagnosis well before looking toward additional nutritive treatment like essential oils. Once you understand what your body needs, you can look to oils like lemon balm to assist treatment.

Application: Use lemon balm essential oil as part of your shift toward healthy mind and body lifestyle decisions to combat diabetes. See some of our other favorite essential oils for diabetes here.

2. HEALING COLD SORES

Not only are cold sores uncomfortable and unsightly, they are a virus that can be transmitted. In fact, cold sores fall under the umbrella of herpes – the *herpes simplex* virus. So if you are struggling against cold sores, it's not just a soothing reprieve you need. You need an antiviral!

Many essential oils are antivirals and could be used against cold sores. Lemon balm, though, appears to be directly effective against the herpes simplex virus. (3) As part of a soothing lip balm, you can address both the need to sooth painful sores and attack the virus at its root.

Application: Include a few drops of lemon balm in a melted mixture of a bit of coconut oil and beeswax. Pour into a small tin and let set up. Remember not to share this lip balm – it's a source of healing and you don't want to share your cold sore, as well!

3. COGNITIVE CALM & RELAXATION

Lemon balm is traditionally used for its calming effects. Essential oils are perfectly suited for this purpose, with easy application (just breathe deep!) and relaxation promotion. Lemon balm may do much more than just relax you, though.

For example, one study published in 2012 demonstrated the ability that lemon balm has to directly affect the brain and neurotransmitters. The specific action studied actually has implications for improving cognitive function and even reversing the effects of Alzheimer's disease.

Such direct effects on the brain show us how deeply essential oils work in our bodies. Simply inhaling an oil like lemon balm is not just relaxing us because we like the scent, but it's actually helping to change things deep within ourselves!

Application: Use a drop or two of lemon balm in calming and cognitive-enhancing blends. Diffuse for room-wide calming benefits or inhale directly for more targeted and specific results.

4. BUG REPELLENT

You've probably noticed by this point that bug repellent effects are a repeated benefit of many essential oils. It's not universal for all essential oils, but many have shared components that are effective against mosquitoes, ticks, and other pests. With Lyme disease on the rise, this is more important than ever. For lemon balm, the shared component is citronellol and citral, shared with the popular bug repelling oil citronella.

Sometimes, these natural components are much more effective than synthetic alternatives. As one study noted of essential oils, *"these natural products have the potential to provide efficient, and safer repellents for humans and the environment."* Why use potentially toxic chemicals when we have perfectly effective natural substances at our fingertips?

Application: Include lemon balm in topical sprays and oils for synergistic bug repelling protection.

CHAPTER 15

Turmeric

Turmeric essential oil benefits are profound. This ancient spice has been used for thousands of years for healing and we are literally just now discovering the wide spectrum of health benefits of this amazing oil.

One Plant, Two Extraction Methods

Turmeric spice has long been used in Eastern cooking and has historically played a prominent role in Ayurveda, Chinese medicine, and traditional home treatments. As millions of consumers use it for everything from pain to mental health (it is being touted as the most versatile natural remedy in the world next to CBD oil), the demand for *stronger*, more *medicinal* grades of turmeric has reached the marketplace. *Enter turmeric essential oil and CO2 extract.*

The most potent and bioavailable (i.e. ability of the body to absorb and assimilate chemicals and nutrients) forms of turmeric available in the world, as the demand for *turmeric CO2 extract* and *essential oil* increases, the need for researchers to substantiate their potential therapeutic efficacy has reached an all-time high.

The *proven* benefits turmeric can have on your body have been heralded by experts across the globe as “the most effective nutritional supplement in existence.” Thousands upon thousands of research studies exist evaluating the therapeutic efficacy of turmeric (and its primary healing component *curcumin* – the orange/yellow compound that colors mustard and curry) showing it has potent anti-inflammatory, anti-cancer, and immune-stimulating properties to name a few. It benefits your brain, heart, immune system and everything in between!

Though, not all of the research on turmeric and curcumin is applicable to the essential oil, and it all starts with how the *plant* has been extracted. There are several processes used to extract essential oils from plants, and turmeric is one of a many plants that will derive very different products, depending on the process chosen.

TURMERIC ESSENTIAL OIL

Derived from the *Curcuma longa* plant, which comes from the *Zingiberaceae* family – the same as ginger, turmeric essential oil can be extracted through traditional steam distillation, which loosens up the essential oils from the plant along with plant components. This is commonly done with the turmeric plant's rhizome, the underground stem of the plant that sends out roots and shoots.

It is important to note the *curcumin* has not been reported in turmeric essential as it has with oleoresin & CO2 extracts.

TURMERIC CO2 EXTRACT

Another extraction method requires a solvent to “dissolve” the different compounds and components of the plant. CO2 extraction uses carbon dioxide as a nontoxic solvent to extract the oil. The CO2 completely returns to a gaseous state, leaving no traces behind, unlike other, less eco-friendly solvents.

The end result? *Two very different products!* The CO2 extraction contains curcumin as one of its major components, a widely researched compound with a long list of health benefits and also contains turmerones. The steam distilled essential oil, on the other hand, does not contain curcumin. Instead, turmerones are its major components and are the cause of the distinctive spicy aroma of many turmeric products.

It's important to know which version you are purchasing, however, the CO2 extract is what most companies sell under the generic term “turmeric essential oil.” If you are ever in doubt, turmeric oil that is yellow in color comes from the CO2 extract – curcumin gives both the spice and the oil its bright pigmentation!

Turmeric Essential Oil Compounds

As mentioned above, turmeric essential oil is predominantly derived from the rhizome and roots of the turmeric plant, although sometimes its leaves flowers are used as well.

The major constituents of this essential oil include the following:

- *Turmerone*
- *ar-Turmerone*

- *Zingiberene*
- *Alpha-Phellandrene*
- *Beta-Sesquiphellandrene*
- *ar-Curcumene*

ar-Turmerone, has been shown to have powerful cardiovascular effects (antiplatelet aggregation and hypoglycemic activity), as well as antimutagenic properties and anti-carcinogenic properties.

Some derivations also contain cineole, a compound found in ginger, helichrysum, rosemary, tea tree, and peppermint oils.

However, it's important to note that these are just a handful of the constituents in turmeric essential oil. Turmeric oils and extractions have been found (4) to contain up to over 50 different components!

There is no doubt that the synergy between all these compounds contributes to its awesome healing potential.

10 Turmeric Essential Oil Uses

Turmeric oil is safe to be used via inhalation, topically and ingestion if dosed and diluted properly. Try some of the recommendations below and be sure to consult with your physician if you're being treated for a medical condition or are currently taking pharmaceuticals.

1. CANCER-FIGHTING PROPERTIES

One of the most promising areas of research for turmeric oil is in the field of cancer prevention and management. Traditional treatments for cancer can have very damaging side effects to your overall health that make the process difficult and exhausting.

However, adding a holistic component, such as essential oils, to your treatment plan may ease or reduce symptoms, and can alleviate the stress of your healing journey.

Compounds in turmeric oil have been shown to impact cancer. Current laboratory research performed on cells or on animals demonstrate the following benefits of turmeric oil for cancer:

- Curcumin and turmerones inhibited the spread of breast cancer cells.
- Additionally, the turmerones in this study were shown to have “immunostimulating effects,” that is, they kickstarted the immune system into action.
- Turmeric oil killed pancreatic cancer cells.
- Ar-turmeric, one of the turmerone compounds, induced cell death in two separate human leukemia cell lines. Turmeric oil has been tested (8) on other leukemia cell lines as well with similar results.
- Turmeric essential oil demonstrated anticarcinogenic effects in a 2014 study. It also displayed antimutagenic effects, meaning it might help prevent cells from mutating into a more serious problem.

These demonstrate the ancient healing potential of this turmeric essential oil for treating cancer and relieving treatment symptoms.

Application: Add 1-2 drops of turmeric essential oil to your curries, soups, stir-frys, stews, and other entrees to enjoy a safe, culinary dose. Be sure to discuss different methods of adding this oil to your treatment plan with your doctor.

2. PROTECTS BRAIN CELLS

Neurological diseases impact over 100 million Americans every year and costs are expected to skyrocket to \$600 billion by 2030 for dementia and stroke. The potent medications that are used to treat these diseases are difficult to manage if a patient has multiple conditions and some have devastating side effects. And for some conditions, like Alzheimer’s, there is currently no cure available at all.

Fortunately, research is looking to turmeric essential oil for its promise in healing and preventing neurological disorders. In the lab, one study of turmerone suggested that inhaling it could help regenerate stem cells in the brain. This is exciting news! And scientists from China and the U.S. also demonstrated that this compound may reduce neuroinflammation and the memory impairment it can cause.

Researchers have also been examining the impact of turmeric extracts on Alzheimer’s disease. Current science suggests that plaque buildup on the brain

caused by amino acids likely contributes to this disease. Turmeric oil extracts were shown to inhibit the buildup of these amino acids.

More research is needed, but the neuroprotective qualities of turmeric essential oil on the brain make it an important tool that may be able to help you stave off brain deterioration and damage caused by neurodegenerative diseases – or even prevent them!

Application: Use a personal aromatherapy inhaler with 10 drops turmeric, 5 drops frankincense and 5 drops lime essential oil.

3. FIGHTS PAIN AND INFLAMMATION

A little pain is not always a bad thing. Inflammation causes pain but it's part of your body's normal, healing response to injury and other harmful agents. That said, prolonged inflammation can lead to chronic pain, disorders, and even serious diseases. When inflammation doesn't heal, turmeric essential oil can be a powerful ally to alleviate your pain.

Arthritis is one such disease. It has numerous causes and encompasses over a hundred diseases but they all have one thing in common: inflammation that causes pain. This occurs in joints and bones as well as the tissues that surround them. The most common forms are:

- Osteoarthritis, which is caused by aging or physical wear and tear on the bones over time, and
- Rheumatoid arthritis, an autoimmune disease.

While the root cause of your inflammation should be addressed with your healthcare provider, turmeric essential oil may be able to ease your symptoms.

Research from 2011 shows that turmerones are more effective in reducing certain types of inflammation in cells while curcumin inhibits other types of inflammation. Another study from 2006 demonstrated that curcumin from turmeric extract prevented experiential rheumatoid arthritis in mice.

It's also been demonstrated that high doses of turmeric essential oil had an anti-inflammatory effect on joints when tested on rats. This suggests that this oil may be helpful for arthritis, however, more research is needed.

However, for continued pain, it can't hurt to add turmeric essential oil to your routine to get some much-needed relief!

Application: Make a homemade pain relief cream by adding 12 drops of turmeric to 1 ounce of Mama Z's DIY Salve Base & Lotion Bar Recipe.

4. POWERFUL ANTIOXIDANT CAPABILITIES

Over time, our bodies are exposed to a host of natural – and unnatural – compounds, chemicals, and toxins. These are called free radicals, and they increase oxidative stress. This can damage different cells that are overexposed to it, leading to disease and the ravages of aging.

Antioxidants, on the other hand, are chemicals that help prevent free radicals from causing too much damage. These compounds, found in many essential oils, serve many functions and are necessary for your body's optimal well-being.

Turmeric is an oil that is widely known for its antioxidant abilities. In lab studies, turmeric oil appeared to remove free radicals that cause oxidative stress. It was also shown to reduce certain types of oxidative stress that are responsible for causing high cholesterol. A healthy diet and regimen full of antioxidants is a recipe for anti-aging and good health!

Application: Take advantage of the antioxidants in turmeric oil by consuming 2-3 drops of turmeric in a gel capsule filled with olive oil once daily during cold/flu season. Be sure to discuss adding this oil to your treatment plan if you're currently being treated for a disease by a doctor.

5. ANTIMICROBIAL BENEFITS – FUNGUS AND BACTERIA

Turmeric essential oil is also useful for killing fungal and bacterial pathogens. *Candida albicans* is a type of fungal yeast infection that is very difficult to fight – ask anyone who's dealt with it!

Candida overgrowth wreaks havoc in the gastrointestinal tract, causing an imbalance in bacteria in the gut. It's been linked to chronic fatigue, sinus allergies, bloating, constipation, eczema, and more! It is particularly harmful to people who are immunocompromised and is a common infection for those in treatment for cancer or HIV.

Researchers tested the impact of turmeric essential oil on candida cells and found that it was *twice as powerful as the commonly prescribed antifungal*

medication, Nystatin, to combat this fungus. Other studies have shown that it can combat other forms of bacteria, making this an effective and useful oil for both clearing the gut and adding to your homemade cleaning formulas!

Turmeric essential oil was also one of four oils tested for its efficacy in combating the *P. Gingivalis* bacteria, which primarily lives in the oral cavity and may cause certain periodontal diseases. All the oils tested were effective in combating this bacteria, including turmeric.

If you are battling candida overgrowth, a clean eating regimen along with adding turmeric oil to your culinary dishes can help. Check out our book, *The Essential Oil Diet Book*, to discover a sustainable way to enjoy food while living your healthiest life ever!

Application: Try adding a drop of turmeric to your oil pulling routine if you are fighting gingivitis or to promote oral health.

6. USE TURMERIC OIL TO HELP MANAGE OR PREVENT DIABETES

Diabetes requires a change in eating habits, however, using essential oils for diabetes can be a healthy part of combating – or preventing – this disease. In the lab, food scientists studied turmeric essential oil and found that it inhibited important enzymes that are linked to the development of type 2 diabetes.

Animal research from 2006 also showed that the compounds in both turmeric essential oil and the CO2 extract may be able to reduce blood sugars in rats, particularly curcumin. Additionally, turmeric oil without curcumin and turmeric oleoresin inhibited abdominal fat in the subjects. This does not replace the benefits of a healthy diet low in sugar along with regular exercise but it can assist you in healing your body.

Application: Add 1-2 drops of turmeric essential oil to your favorite dishes to enjoy a safe, culinary dose. Be sure to discuss different methods of adding this oil to your treatment plan with your doctor.

7. POTENTIAL ANTI-SEIZURE APPLICATIONS

According to the CDC, epilepsy is common and it's more frequently seen in children than adults. All seizure disorders are life-threatening and are usually treated with medication. Unfortunately, finding the right medication and dosage is tricky, and side effects can have a heavy impact on patients.

In fact, some 30% of epilepsy patients don't respond to treatment. That is why in 2013, scientists researched one of the components of turmeric oil, ar-turmerone, as a potential future drug candidate to treat epilepsy by testing it on zebrafish and mice embryos. Their results indicate that ar-turmerone is a safe candidate as a drug for some forms of epilepsy.

Hopefully, research will develop proven solutions for epilepsy with turmeric oil but for now, you can use this amazing elixir in your home to discover its benefits.

Application: Enjoy a diffuser blend with 2 drops each of turmeric, lavender and Roman chamomile Be sure to consult with your physician and discontinue use immediately if any adverse reactions occur.

8. AIDE FOR GASTROINTESTINAL HEALTH

Turmeric essential oil might also have protective benefits for digestive health. A 2014 study compared turmeric and ginger essential oils for inhibiting ulcers in rats. The animals were given different doses of each oil in different groups. Both oils appeared to inhibit ulcers by over 80%! They also reduced lesions and stomach injuries.

Turmeric root extract has been shown to improve the symptoms of irritable bowel syndrome (IBS). Scientists randomly tested 207 otherwise healthy adults before and after treatment with the extract and surveyed the subjects. About two-thirds of the subjects reported improvements in symptoms after the treatment, including pain and discomfort demonstrating that turmeric oil may be beneficial in addressing IBS.

Application: Consume 2-3 drops of turmeric in a gel capsule filled with olive oil once daily for 3-4 weeks and monitor symptoms. Be sure to discuss adding this oil to your treatment plan if you're currently being treated for a disease by a doctor.

9. SAFE FOR BACKYARD GARDENING

Is turmeric essential oil a safe tool to use in your backyard garden? Research shows that you can! Food scientists in China studied the benefits of turmeric essential oil in combating *Aspergillus flavus*, a fungus known for harming maize, grains, and legumes, and found it to be both effective and eco-friendly.

Turmeric essential oil, along with ginger oil, was also found to be to useful as an

herbicide on maize plants. Turmeric was most effective after the weeds started to emerge and caused no damage to the crops. Learn more about organic backyard gardening from Mama Z!

Application: Add 20-30 drops of turmeric oil to 16 oz of your natural weed killer recipes.

10. BUG REPELLENT

Many essential oils have been studied for their effectiveness as a bug repellent. Turmeric essential oil and CO2 extract are both safer choices for bug repellent than most brand name pesticides, which commonly contain malathion, DEET, and permethrin. All these chemicals are linked to a variety of health concerns and you'd be wise to avoid them.

In fact, essential oils can work even better than these harmful products, including turmeric! Research showed that it was more effective than DEET for reducing mosquito bites and killing mosquito larvae. Essential oils are an excellent choice to keep your family safe from warm-weather outdoor pests.

Application: Add 10 drops of turmeric oil per 1 ounce of your favorite DIY bug repellent recipes.

Turmeric Oil and Safety

Yes, as seen in the recommendations above, turmeric oil is safe to consume.

One of the peer-reviewed studies done on inflammation and arthritis raised concerns about the toxicity of ingesting turmeric essential oil because it proved fatal to mice that were given very high doses. However, this conflicts with another animal study performed in 2013 that showed no toxicity from the oil.

In earlier research from India, nine healthy volunteers were given 0.6ml of turmeric essential oil three times a day for one month and 1ml/day divided into 3 doses for the following two months. While two subjects had a mild reaction, this dose of turmeric oil had no effect on weight, blood pressure, or symptoms of the subjects for up to 12 weeks, and no additional toxicity at three months. This size of the study, however, is far too small to be conclusive.

Turmeric essential oil has powerful benefits but there are some common-sense precautions you should take when using this essential oil, including:

- At present, there is no clinically safe level of dosage for children, but this doesn't mean that you cannot give it to them. Start off small and in "culinary doses" – no more than 1 drop per dish. Also safe to use in your diffuser and topical applications (1% or less for children).
- Don't consume straight out of the bottle, and don't drink with water (remember oil and water do not mix).
- Try adding in some turmeric essential oil in your food (culinary doses), replace 1 teaspoon turmeric spice with 1-2 drops of essential oils in your curries and favorite recipes.
- Consume safely by adding 2-3 drops of turmeric essential oil into a veggie gel capsule, and fill capsule with olive oil. Consume with food.
- Do not stay on turmeric oil for an extended length of time. Ideally, you should rotate your oils every few weeks.
- Stop using it immediately if you experience any side effects.
- Use with caution if you take medications, especially aspirin, warfarin, or other blood thinners. Turmeric oil can also interact with anti-inflammatory drugs. Check with your healthcare provider first.

Turmeric essential oil abounds in health and wellness applications, and in keeping your home and body fungus-free. It blends well with citrus oils, as well as ginger essential oil – not surprising since they share the same family!

With such a great number of wonderful healing properties, don't miss out on this lesser-known oil. It's a great addition to your home, even if you regularly cook with turmeric spice!

CHAPTER 16

Ylang Ylang

If frankincense is the *King of Essential Oils*, then ylang ylang essential oil benefits make this his Queen! Simply put, the healing efficacy of this potent remedy is absolutely remarkable and the research supporting therapeutic claims is impressive. Ylang ylang oil is widely known and you will commonly find it in food, body care and cleaning products.

Grades of Ylang Ylang Essential Oil

Scientifically referred to as *Cananga odorata*, this evergreen produces the wonderfully fragrant blossoms that we distill to get the essential oil. Also known as the “perfume tree,” it is native to tropical Asia – Philippines, Malaysia, Indonesia, and islands of Indian Ocean.

Although steam distilled, the process required to extract ylang ylang oil is interestingly similar to pressing olives for oil in that the essential oil is collected at various stages of the process and graded. Through a method known as *fractional distillation* (the separation of volatile components of different boiling points in a mixture by the gradual increase of temperature and the separate collection of each component) each successive collection of oil produces varying grades containing a wide array of chemical constituents. This is something of an anomaly in essential oil manufacturing, therefore, ylang ylang essential oil is sold in various grades: Extra, 1, 2, 3, Complete.

- Extra Grade: Regarded by many as containing the finest notes from the distillation process, the first collection after an hour or two of steam distillation. Contains roughly 30 different chemical constituents, it is usually the most expensive.
- Grade I – III: As the steam distillation process continues, essential oil collections are taken every few hours, which make up less potent (and expensive) oils in descending order: Grade I, then II and finally III.
- Complete: Represents the whole distillate encompassing all the collections from the entire distillation process. This synergy oil offers maximum fragrance potency.

7 Ylang Ylang Essential Oil Benefits

Ylang ylang has had many uses in traditional medicine ranging from a skin tonic to help relieve insect bite irritation to treating more serious health concerns like malaria, asthma, gout, and digestive issues. Here are 7 that stand out:

1. SOOTHES INFLAMMATION

This is a big one.

Inflammation is arguably one of the most destructive processes that can destroy your health known today, and nonsteroidal anti-inflammatory drugs (NSAIDs) have been introduced as the answer. Unfortunately, prolonged use has been linked to, "Renal problems, gastrointestinal irritation, and even myocardial infarction and strokes have been reported due to the prolonged use!"

Is there a solution?

Yes!

- Eating an anti-inflammatory diet
- Practicing anti-inflammatory activities like deep breathing and meditation
- Exercising regularly
- Getting sound sleep
- And using natural remedies like essential oils!

In a study evaluating the antioxidant properties of essential oils, ylang ylang interestingly stood out as containing substantial anti-inflammatory properties. Most likely due to its ability to calm the senses and stop anxiety in its tracks, regular topical use is key to enjoying the anti-inflammatory therapeutic benefits as is inhaling the volatile organic compounds via diffusion.

2. DECREASES BLOOD PRESSURE & HEART RATE

In a comprehensive study that appeared in the *Journal of Exercise Rehabilitation* researchers evaluated whether inhaling ylang ylang essential oil in a closed room for 20 minutes is an effective tool to lower blood pressure in healthy men. The results were not only tested using the traditional blood pressure cuff but also tested using a 12-lead EKG. The results show that there was a marked difference between the control group and the test group.

More specifically, the ylang ylang oil group had significant decreases to both their systolic and diastolic blood pressure. Further, the results of the 12-lead EKG showed that the test subjects who inhaled ylang ylang oil experienced a slower heart rate following the application.

If you'd like to take advantage of the heart healthy properties of ylang ylang, but do not enjoy the aroma, don't worry!

Research suggests that you'd be well served by blending ylang ylang oil with others like lavender and lemon. Evidently, mixing with key oils help produce a synergistic effect that produces reduced systolic blood pressure and sympathetic nerve system activity via heart rate variability.

Application: To enjoy heart healthy benefits, add 3 drops ylang ylang, with 2 drops of lavender and lemon into your diffuser and enjoy for at least 30 minutes!

3. CALMING APPLIED TOPICALLY

In addition to the sedative properties mentioned above via inhalation, studies also suggest that topical application is exceptionally calming as well. The results of one 2006 study uncovered that simply massaging a 20% solution of ylang ylang oil in sweet almond oil over the abdomen for 5 minutes resulted in a "significant decrease of blood pressure and a significant increase of skin temperature." Skin temperature lowering, by the way, is an indication of muscle relaxation and, therefore, a decrease in sympathetic nervous system function.

It is interesting to note that the study participants had their abdomen wrapped with plastic film to prevent evaporation. In addition to these physical measures, ylang ylang oil had a direct effect on their feelings and emotions: participants reported more "calm," "relaxed,"

Application: To enjoy the calming effects and to start your day on a stress-free note, mix 2 drops of ylang ylang essential oils with 1 tablespoon of sweet almond oil and massage over abdomen first thing in the morning. Use just enough to cover the skin and store until used completely. Note that while the study above used a higher concentration, we recommend observing the dermal limit of 0.8%.

4. ANTI-DIABETIC

It has been well-established that terpenoid derivatives and flavonoids isolated from the flower buds of *C. odorata* can reduce the effects of aldose reductase;

an enzyme that changes glucose to sorbitol. This is important because the accumulation of intracellular sorbitol can lead to diabetes complications such as:

- Cataracts
- Diabetic neuropathy
- Retinopathy
- Nephropathy

Application: Try applying a 0.8% dilution over the abdomen twice a day for 2 weeks and monitor results with physician.

5. INSECT REPELLENT & INSECTICIDAL

Traditionally, ylang ylang has been used to treat bites, repel biting insects (like mosquitos) and can also kill their eggs. One study revealed that a 10% dilution serves as a potent egg control agent against these types of mosquitos: *Aedes aegypti*, *Anopheles dirus*, and *Culex quinquefasciatus*.

That is significant as *Aedes aegypti* is a known carrier for the Zika virus. Hopefully, essential oils will one day be on the forefront of the public health eye as humanity faces emerging diseases spread by insects such as the Zika virus where the best course of action is prevention. Note, the study did not mention that ylang ylang oil could treat the Zika virus, simply that it kills the mosquito eggs that spreads it.

Application: Apply ylang ylang oil to your homemade insect repellent and into your DIY floor cleaner to proactively kill mosquito eggs.

6. AS A SURFACE TREATMENT

Along with oregano, eucalyptus, tea tree oil, cinnamon oil and lemongrass, ylang ylang essential oils has been shown to exhibit potent anti-biofilm activities. Biofilm, the slimy film of bacteria that adheres to slick surfaces is becoming more of a public health concern because of its role in infectious disease and importance in a variety of device-related infections.

Biofilm formation of *Staphylococcus aureus* is also a mechanism of drug resistance. Of 83 essential oils that were evaluated in a 2014 study published in *Applied Microbiology and Biotechnology*, ylang ylang oil was a Top 3 performer, destroying upwards of 80 % of the biofilm produced by *S. aureus*. The implication is that ylang ylang may make a good home-based topical oil for protecting against certain types of bacteria and potentially virus and other microbial organisms.

Application: Add ylang ylang to your favorite homemade dusting spray and all-purpose cleaners!

7. AN APHRODISIAC (OR IS IT?)

Ending on a passionate note, you most likely know of ylang ylang as an aphrodisiac. But is this true?

Actually not really. Traditionally used to enhance sexual function, inhaling ylang ylang oil is actually proven to reduce the anxiety related to sex. This is not to say that our ancestors were misled in using it for sexual enhancement, but just that there is little modern research to substantiate it.

Either way, using ylang ylang oil can help enhance your sexual experience, so I give it a thumbs up!

Side Effects of Ylang Ylang

When 140 people were evaluated after smelling peppermint and ylang ylang aroma, something interesting was discovered.

- Peppermint was found to enhance memory
- Ylang ylang impaired memory and lengthened processing speed.
- Peppermint increased alertness
- Ylang ylang decreased alertness
- Additionally ylang ylang significantly increased calmness

What does this mean?

Well, the effects are not long-lasting so ylang ylang essential oil uses aren't going to make you stupid. However, I wouldn't want it around me before taking an important exam or when I'm about to speak in public!

PART THREE
Easy Quick-Start Recipes

Beat the Craving Diffuser Blend

Print out these recipe cards and share one with a friend.

CRAVING BUSTER DIFFUSER BLEND

Ingredients

Equal parts of:

- ✓ Grapefruit
- ✓ Peppermint
- ✓ Lime
- ✓ Cinnamon



Instructions

- For aromatherapy, add 5 drops of the blend into your diffuser.
- Enjoy!

CRAVING BUSTER DIFFUSER BLEND

Ingredients

Equal parts of:

- ✓ Grapefruit
- ✓ Peppermint
- ✓ Lime
- ✓ Cinnamon



Instructions

- For aromatherapy, add 5 drops of the blend into your diffuser.
- Enjoy!

Blood Sugar Balancing Oil

Print out these recipe cards and share one with a friend.

BLOOD SUGAR BALANCING BODY OIL

Ingredients

- 2 oz. carrier oil (we use Mama Z's Base)
- 3 drops cumin essential oil
- 2 drops cinnamon bark essential oil
- 2 drops fennel essential oil
- 2 drops melissa essential oil
- 2 drops myrtle essential oil
- 2 drops oregano essential oil
- Glass bottle



Instructions

- Drop essential oils into a medium glass bowl.
- Add in carrier oil and mix.
- Between blood sugar tests, massage over abdomen and lower back twice a day for one month.
- Store in glass jar or in a lotion dispenser.

BLOOD SUGAR BALANCING BODY OIL

Ingredients

- 2 oz. carrier oil (we use Mama Z's Base)
- 3 drops cumin essential oil
- 2 drops cinnamon bark essential oil
- 2 drops fennel essential oil
- 2 drops melissa essential oil
- 2 drops myrtle essential oil
- 2 drops oregano essential oil
- Glass bottle



Instructions

- Drop essential oils into a medium glass bowl.
- Add in carrier oil and mix.
- Between blood sugar tests, massage over abdomen and lower back twice a day for one month.
- Store in glass jar or in a lotion dispenser.

Magnesium Spray

Print out these recipe cards and share one with a friend.

HOMEMADE MAGNESIUM OIL SPRAY

Ingredients

- ✓ 1 cup distilled water
- ✓ 1 cup magnesium chloride flakes
- ✓ 5 drops lavender essential oil (optional)*
- ✓ 5 drops Roman chamomile (optional)*



Instructions

- Boil the water.
- Pour the water over the magnesium flakes in a glass container.
- Stir until the flakes are dissolved.
- Add essential oils and stir.
- Does not need to be refrigerated.
- Can last up to 6 months.

* **NOTE:** the essential oils are optional but if you need some muscle-soothing or help relaxing, especially at night, lavender and Roman chamomile make a great addition to this recipe!

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* **NOTE:** the essential oils are optional but if you need some muscle-soothing or help relaxing, especially at night, lavender and Roman chamomile make a great addition to this recipe!

Neuropathy Massage Blend

Print out these recipe cards and share one with a friend.

NERVE PAIN RELIEF MASSAGE OIL

Ingredients

- 1 oz. carrier oil (we use Mama Z's Base)
- 3 drops geranium
- 3 drops lavender
- 2 drops bergamot
- 2 drops eucalyptus oil
- 2 drops tea tree oil
- Glass bottle



Instructions

- Drop essential oils into a medium glass bowl.
- Add in carrier oil and mix.
- Massage over feet, legs or over problem areas.
- Store in glass jar or in a lotion dispenser.

NERVE PAIN RELIEF MASSAGE OIL

Ingredients

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Instructions

- Drop essential oils into a medium glass bowl.
- Add in carrier oil and mix.
- Massage over feet, legs or over problem areas.
- Store in glass jar or in a lotion dispenser.

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About the Author



ERIC ZIELINSKI, D.C. has pioneered natural living and biblical health education since 2003. Trained as an aromatherapist, public health researcher, and chiropractor, Dr. Z started NaturalLivingFamily.com alongside his wife Sabrina Ann in 2014 to help people learn how to use natural remedies like essential oils safely and effectively. Now visited by more than six million natural health seekers every year, it has rapidly become the #1 source for Biblical Health and non-branded essential oils education online.

Dr. Z is an accomplished researcher with several publications, conference proceedings and is committed to sharing the healing power of natural therapies at churches and events across the globe.

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