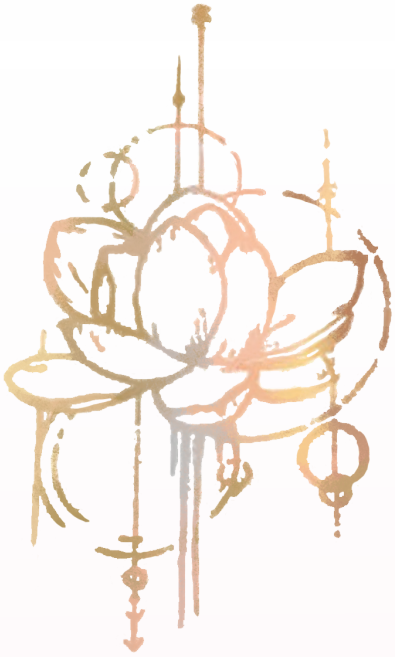
B Vitamins & Acne



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DOSAGE MEASUREMENTS

What's the difference between a milligram and a microgram?

Mg, Mcg, ug, IU the measuring of vitamins and minerals can be confusing. Here we help you through the vitamin measurement maze.

GRAM A gram is a metric measurement of weight. An old imperial measure of weight is the ounce and one ounce = 28.4 grams.

MILLIGRAM One milligram is one-thousandth of a gram and one thousand micrograms. A milligram is generally abbreviated as mg. One mg is equal to 1000 micrograms. This means that a milligram is 1000 times bigger than a microgram.

MICROGRAM One microgram is one-millionth of a gram and one-thousandth of a milligram. It is usually abbreviated as mcg or ug. Mcg and ug are the same.

IU The IU is an International Unit, usually used to measure fat-soluble vitamins including Vitamin A, D, and E. The conversion of IU to mg varies depending on the nutrient.

Please remember that 'more' isn't necessarily better in nutrition. Many nutrients are only required in microgram amounts and taking larger amounts could be unnecessary or even detrimental to health.

DOSAGE MEASUREMENTS

What's the difference between a milligram and a microgram?

Milligrams (mg) to micrograms (mcg)

- 1 mg = 1000 mcg
- 0.1 mg = 100 mcg
- 0.01 mg = 10 mcg
- 0.001 mg = 1 mcg

B COMPLEX

FOR ACNE AND PMS:

B vitamins may be linked to an increase in acne. Particularly the over-consumption of B vitamins, such as those found in multivitamins. This study on vitamin B6 and B12 and acne were done a long time ago, and certainly isn't conclusive. But again, these acne eruptions seemed to be linked to high doses of these vitamins. So reducing intake of Vitamin B6 for acne-free skin works?

This isn't to say that even low doses may not produce desired results in some people, but these cases are almost unanimously linked to extremely high doses, which are never a good idea to be taking, anyway. While 50 – 100 mg/day of the vitamin is sufficient to treat acne, doses higher than 250 mg/day cause acne breakouts.

B1 (THIAMINE)

FOR ACNE: The anti-stress vitamin

What it does: Thiamine was the first B Vitamin ever discovered. It helps to convert glucose into energy, aids in wound healing, and is essential for proper nerve functions. Sometimes called the “anti-stress vitamin,” it bolsters the immune system and soothes the nervous system, helping prevent stress-related breakouts.

Where to find it: Whole grains and fortified cereals/grains, wheat germ, legumes, sunflower seeds, mussels, pork.

The **recommended dietary allowance** (RDA) for thiamin is approximately **1 milligram per day (1000/mcg)** for adults between the ages of 19 and 50. Though thiamin deficiency is relatively rare in the U.S., signs that you may be lacking it include loss of appetite, fatigue, and changes in heart rhythm. Some thiamin-rich **plant-based foods** include sunflower seeds, flax seeds, navy beans, brown rice, and asparagus.

B2 (RIBOFLAVIN)

FOR ACNE: Wound healing

What it does: B2 aids cell turnover and collagen maintenance, which protects the structural integrity of your skin, reduces inflammation, and speeds wound healing. It also helps with mucus secretion in the skin, thus preventing the dryness that leads to oil production (and therefore acne) and improving zinc absorption, another important mineral for skin health.

Where to find it: Dairy products, mushrooms, beef liver, spinach, almonds, seaweed.

The **recommended dietary allowance** (RDA) for riboflavin is approximately **1 milligram per day (1000/mcg)** for adults between the ages of 19 and 50. Riboflavin deficiency can cause symptoms such as a swollen tongue, blurry vision, and anemia. Some riboflavin-rich **plant-based foods** include mushrooms, leafy greens, legumes, nuts, and soy products.

B3 (NIACIN)

FOR ACNE: Anti-aging

What it does: A skin-conditioning powerhouse, B3 treats a variety of skin conditions and irritations, including dermatitis, acne, rosacea, eczema, dry and sun-damaged skin, and hyperpigmentation. It's also a **strong anti-aging ingredient** and as such, features prominently in skincare products targeted at fine lines and wrinkles.

Where to find it: Turkey, chicken, dairy products, liver, mushrooms, fish, peas, fortified breads, and cereals.

The **recommended dietary allowance** (RDA) niacin is approximately **14-16 milligrams per day (14,000-16,000/mcg)** for adults–less for children and more for women who are pregnant or breastfeeding. The signs of a niacin deficiency include indigestion, fatigue, canker sores, and, in severe cases (called pellagra) memory loss, vomiting, a swollen tongue, and a thick rash on the skin. Some niacin-rich **plant-based foods** include brown rice, mushrooms, peanuts, and potatoes.

B5 (PANTETHINE OR PANTOTHENIC ACID)

FOR ACNE: Adrenal & Stress Support

What it does: A humectant, B5 preserves moisture in the skin, which improves skin elasticity and contributes to a fuller, more hydrated-looking face. Since hydrated skin is also more resilient, B5 can help prevent acne and reduce signs of aging, too.

Where to find it: Mushrooms, avocado, sweet potato, legumes, chicken, turkey, broccoli.

Vitamin B5 is as effective as the drug Accutane in treating acne because it also works at the first stage of acne formation. But whereas Accutane shrinks sebaceous glands, vitamin B5 reduces oil production of the sebaceous glands by increasing coenzyme A, which increases the metabolic breakdown of oils—including sebum—by optimizing the normal activity of cell physiology.

The **recommended dietary allowance** (RDA) vitamin B5 is approximately **5 milligrams (5000/mcg)** for anyone over the age of 14. B5 deficiency, though rare in the U.S., can cause symptoms such as a headache, fatigue, and digestion. Some B5-rich **plant-based foods** include avocados, broccoli, sweet potatoes, mushrooms, and lentils.

B6 (PYRIDOXINE)

FOR ACNE: The happy & sleep hormone

What it does: Another major stress-buster, B6 helps to regulate mood and sleep by aiding the body in producing serotonin (the “happy hormone”), melatonin (the sleep hormone), and norepinephrine (a stress hormone), among others. Both stress and inadequate sleep raise inflammation in the body, reduce cell regeneration, and contribute to dryness — all factors that lead to breakouts and premature aging. B6 at 50-250 mg a day reduces sebum production and reduces the effects of testosterone.

Where to find it: Tuna, turkey, beef, chicken, potatoes, sunflower seeds, spinach, bananas.

You only need a small dose of B6 to prevent acne:

- 1.9 mg a day for women
- 2.4 mg a day for men

Vitamin B6 Is Essential For Other B Vitamins To Work For Your Skin

- If you don’t get enough vitamin B6, folic acid can’t lower your homocysteine levels, reducing inflammation both in your skin and in your circulatory system.
- If you don’t get enough vitamin B6, your body is not able to use nicotinamide to regulate cholesterol levels and to prevent the kinds of skin inflammation that cause rosacea.
- If you don’t get enough vitamin B6, your brain can’t use vitamin B12 to fight depression and your skin can’t use vitamin B12 to fight inflammation.

B6 (PYRIDOXINE)

FOR ACNE: The happy & sleep hormone

The **recommended dietary allowance** (RDA) for B6 is approximately **1.3 milligrams (1300/mcg)** for adults between the ages of 19 and 50. Symptoms of a B6 deficiency can include mood changes, a depressed immune system, fatigue, and skin rashes, depending on how severe the deficiency is. Some B6-rich **plant-based foods** include pistachios, spinach, sweet potatoes, bananas, beans, and avocados.

Period Acne

Women who benefit most are those who have a luteal phase defect that causes their periods to come too soon after ovulation. In these women, taking 250 mg of B6 a day along with 200 mg of magnesium a day for up to six months at a time (six months on, three months off) can clear up premenstrual acne along with other signs of PMS, including mood swings, fluid retention, and headache.

B7 (BIOTIN)

FOR ACNE: Metabolism of fatty acids

What it does: B7 is needed for the metabolism of fatty acids and protects cells from damage and water loss, helping to keep your skin moist and plump. Some signs of a deficiency are brittle, dry hair, brittle nails, and dry, flaky skin. Severe cases result in red and scaly skin.

B7 also fights inflammation and protects against acne, fungal infections, and rashes.

Where to find it: Almonds, sweet potato, eggs, onions, whole grains, tomatoes, sardines, broccoli. While it's often included in many hair and skin care products, it's most beneficial when ingested.

All B vitamins, but especially biotin, help your skin, hair, liver, eyes, and nervous system. It's also a critical nutrient for pregnant women as it aids with embryonic growth. Biotin has also been found to help significantly with psoriasis.

Biotin can lead to breakouts in the way **your body absorbs it** and other vitamins. It's not so much that biotin causes acne. It's that it prevents your body from **absorbing other nutrients** that normally help counteract the effects of acne. Biotin is absorbed through the same pathway as other nutrients, including vitamin B5. Therefore, taking more of one prevents your body from absorbing another.

A **deficiency of vitamin B5** can certainly increase your chances of a breakout, and that may be the reason why some people will notice blemishes after taking a

B7 (BIOTIN)

biotin supplement. One way to avoid this is to take a **biotin multivitamin** as opposed to a pure biotin supplement. A multivitamin will include other essential nutrients, including vitamin B5, to help counteract the influx of biotin going into your system.

Vitamin B5 (pantothenic acid) is the most important vitamin for people with acne. As biotin in large amounts reduces the absorption of vitamin B5 in the gut, it is believed that it can cause more acne breakouts. In conclusion, taking biotin in a small amount, 25 mcg.

It's actually pretty rare to have a biotin deficiency if you eat a varied diet. The Mayo Clinic specifically cites conditions like a genetic disorder of biotin deficiency, seborrheic dermatitis in babies (a skin condition that causes a scaly, itchy rash), and surgical removal of the stomach as possible causes of a biotin deficiency. A heavy drinking habit can also inhibit your body's ability to absorb biotin.

Many biotin supplements contain way more biotin than the generally accepted amount you need per day, with many supplements containing anywhere from **1,000 to 10,000 micrograms of biotin per pill**. If you take too much biotin, it's likely that you'll just pee out what you don't need,

Taking biotin supplements might interfere with the results of many different lab tests that test the blood. The FDA specifically warned about this in 2017, releasing a safety communication that states that biotin can "significantly

B7 (BIOTIN)

interfere with certain lab tests and cause incorrect test results which may go undetected."

The **recommended dietary allowance** (RDA) for biotin is approximately **30 micrograms (0.03/mg)** for all adults over the age of 19, regardless of gender. Signs of a biotin deficiency, though rare, can include dry skin, hair loss, fatigue, and seborrheic dermatitis. Some biotin-rich **plant-based foods** include sweet potatoes, walnuts, almonds, avocados, and onions.

B9 (FOLIC ACID)

FOR ACNE: Antioxidant & Free Radical fighter

What it does: B9 works as an antioxidant to promote cell turnover and fight free radical damage. It is usually recommended as a prenatal vitamin as it helps prevent birth defects. Studies have also shown that when applied topically along with creatine, it fights signs of sun damage and aging, leading to firmer-looking skin.

Where to find it: Dark, leafy greens, asparagus, broccoli, citrus, beans and legumes, okra, nuts and seeds, beets.

The **recommended dietary allowance** (RDA) for folic acid is approximately **400 micrograms per day (0.4/mg)**, though more is recommended for women who are planning to become pregnant. Symptoms of a folate deficiency can include fatigue, anemia, mouth sores, and growth problems. Some folate-rich **plant-based foods** include edamame, legumes, asparagus, leafy greens, bananas, papayas, and broccoli.

B12 (COBALAMIN)

FOR ACNE: Blood, Nervous system, and Heart-healthy

Methylcobalamin and Cyanocobalamin

Methylcobalamin has a methyl group (just carbon and hydrogen) while cyanocobalamin contains a cyanide molecule. Although the amount of cyanide in a normal B12 supplement is too small to be harmful, your body will still need to remove and eliminate this compound. As it has no use for the cyano-compound itself, it will set about converting any cyanocobalamin you take into methylcobalamin as soon as possible - it's the methyl-compound that the human body needs to function properly.

Conversion and absorption of the different forms of vitamin B12

The methylcobalamin form of vitamin B12 is the most popular active form of the nutrient for a reason — it plays a crucial role in our methylation cycle, the function through which our DNA is controlled and regenerated, hormones are synthesized, our immunity is maintained, and so much more. Consuming B12 in this form is also considered beneficial for those suffering from a methylation defect.

Methylcobalamin is the type most actively absorbed by our intestines. If **you are prone to acne from vitamin B12**, it would be more likely that methylcobalamin will cause increased breakouts. Your best bet is cyanocobalamin, which is a synthetic, manufactured form of the vitamin. It does not absorb into the intestines as well, making it a more suitable form of vitamin B12 supplementation for people who get breakouts from it.

B12 (COBALAMIN)

What it does: B12 is necessary for cell reproduction and can be applied topically for skin benefits because it reduces inflammation, dryness, and acne. It is sometimes used to treat conditions like psoriasis and eczema.

Where to find it: Only found in animal products, though vegetarians can opt for fortified foods. Sources include eggs, dairy, fish, and meat.

B12 supplements could contribute to acne
Researchers found that when they added vitamin B12 to the bacteria, the microbes started producing compounds called porphyrins, which promote inflammation in acne. Inflammation is a key step in the later stages of acne development. The study found that an excess amount of B12 can lead to an increase in porphyrin production by P. acnes. Basically, more porphyrins mean more pimples.

Luckily, most North Americans receive the recommended daily doses of vitamin B12 from their diet. Adults over the age of 18 should be consuming around **2.4 micrograms daily**. Be sure you're not taking vitamin B12 from an animal-based source. Why? Because even if you're not vegan, taking in animal ingredients in supplement form isn't a smart choice or necessity. Most vegan brands on the market are even non-GMO, and some are even organic and allergen-free. So be sure you read the back of the label and see if it's vegan-certified. Remember, you should view supplements the same way you do food: read labels, be smart, and be knowledgeable about what you're spending your money on (and ensuring your health with).

B12 (COBALAMIN)

The **recommended dietary allowance** (RDA) for cobalamin is approximately **2.4 micrograms (0.0024/mg)** for adults. Signs of a B12 deficiency can include anemia, weakness, a swollen tongue, cognitive issues, and even numbness or tingle in the hands and feet. Though B12 only occurs naturally in animal products (technically it originates from bacteria), some B12-fortified **plant-based foods** can include nutritional yeast, cereal, and non-dairy milk.

10 Vegan-friendly B12 Supplements

- Mary Ruth's Vegan Vitamin D3+B12 Gummy Supplements
- Garden of Life B12 Vitamin Liquid Supplement
- Global Healing Center Vegansafe B12
- Deva Vegan Vitamin B-12 Fast Dissolve Lozenges
- EZ Melts B12 as Methylcobalamin
- VitBoost Vegan Liquid B-12 Drops
- NATURELO B Complex
- Doctor's Best Fully Active B12
- Vitamin B12 Sublingual Liquid Drops
- Garden of Life Vitamin Code Raw Vitamin B12

**NOTE: Methylcobalamin is the type most actively absorbed by our intestines. If you are prone to acne from vitamin B12, it would be more likely that methylcobalamin will cause increased breakouts. You might want to try taking cyanocobalamin, which is a synthetic, manufactured form of the vitamin. It does not absorb into the intestines as well, making it a more suitable form of vitamin B12 supplementation for people who get breakouts from it.*

EAT YOUR WAY TO BETTER SKIN

Sometimes the simplest solutions are the best ones. Following a diet rich in leafy green vegetables, lean proteins, and whole grains — a strategy long-touted as the best way to achieve good health — is also an effective way to look as healthy as you feel and glow from the inside out. Evaluate your diet to see where you might need improvement, and speak with a nutritionist if you want help creating a personalized plan.

Supplements vs. Whole Foods

Supplements aren't intended to be a food substitute because they can't replicate all of the nutrients and benefits of whole foods, such as fruits and vegetables. So depending on your situation and your eating habits, dietary supplements may not be worth the expense.

Whole foods offer three main benefits over dietary supplements:

- **Greater nutrition.** Whole foods are complex, containing a variety of the micronutrients your body needs — not just one. An orange, for example, provides vitamin C plus some beta carotene, calcium, and other nutrients. A vitamin C supplement lacks these other micronutrients.
- **Essential fiber.** Whole foods, such as whole grains, fruits, vegetables, and legumes, provide dietary fiber. Most high-fiber foods are also packed with other essential nutrients. Fiber, as part of a healthy diet, can help prevent certain diseases, such as type 2 diabetes and heart disease, and it can also help manage constipation.
- **Protective substances.** Whole foods contain other substances important for good health. Fruits and vegetables, for example, contain naturally occurring substances called phytochemicals, which may help protect you against

cancer, heart disease, diabetes, and high blood pressure. Many are also good sources of antioxidants — substances that slow down oxidation, a natural process that leads to cell and tissue damage.

The typical American diet is heavy in nutrient-poor processed foods, refined grains, and added sugars—all linked to inflammation and chronic disease. Yet even if you eat a healthy, well-balanced diet, you may still fall short of needed nutrients.

Dietary supplements would seem to be the obvious way to plug gaps in your diet. But taking too much can actually harm you. For example, you can get too much of a particular nutrient without realizing it. Extra vitamin A supplements can lead to dangerous, toxic levels if taken too frequently.

Food tastes better and is often less expensive than adding supplements

I am a big believer in making sure clients have all the internal support necessary for healthy skin and a healthy body before they start adding supplements or lots of skincare products.

Clients need to prioritize food first before.