ARNOLD'S PUMP CLUB

THE SUPPLEMENT GUIDE

Finally: The Truth About What Works, What's a Waste, and the Sweet Spot for Real Results.

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INTRODUCTION

Don't get suckered

That's my first piece of advice, and why I insisted that Adam and Daniel had to put together this guide.

I love supplements. But I don't love the supplement industry.

Let me explain.

Nutrition supplements have come so far from when I competed. Back then, it was terrible-tasting protein and liver tablets. Today, we have scientists working every day to understand how different supplements can support performance, longevity, and overall health.

But what happens in the lab does not represent what's sold in products. And what's discovered in the lab is often twisted and manipulated to make you believe certain supplements are far more effective than they actually are.

The problem isn't that you don't have access to supplements — it's that you have access to too many of the wrong ones. Most are filled with empty promises, underdosed formulas, inaccurate labels, and zero science to back up the hype.

That's why we've rejected millions in deals from companies that didn't meet our standards. And it's why we partnered with brands that put your health first — the ones that invest in quality, third-party testing, and ingredients proven to help you feel and perform better.

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INTRODUCTION

Because here's the reality: Those third-party tests cost hundreds of thousands to millions of dollars. And that's why most companies don't have them. They offer you a cheaper product at a risk to you.

It's why we are big believers and **advocates of Momentous.** They don't just follow the latest science to use the dose that will make a difference. They also put their money where their mouth is and spare no expense to ensure quality, safety, and purity. In an industry that doesn't require that type of investment— and even rewards and encourages those who cut corners — they are a model that every supplement company should follow.

But don't get it twisted. We're not here to sell you pills. We're here to help you understand what works, what doesn't, and how to take fewer supplements while getting better results.

We have recommendations for products we love, but we'll also show you how to make sure you aren't taking anything unnecessarily, or how you can fill the gaps with foods. But if you prefer, we'll share the right amounts you can take if you choose to get a supplement.

This guide reflects the most up-to-date look at the supplements that work, how they work, and who they might help most.

Continued...

INTRODUCTION

But with that comes a word of caution: if you have a medical condition or take prescription medications, please consult with your doctor. Supplements can be effective and safe, but the studies often reflect healthy individuals, not those using other drugs to help support your health needs. So be smart and work with your medical team to ensure that what is good for one person isn't a threat to you.

If nothing else, we hope this guide makes it so that the supplement industry isn't a guessing game.

If you do the basics — move your body, sleep well, eat real food — then the right supplements can help take your progress to the next level. But no powder or pill can fix a broken foundation.

Let's simplify the science, save you money, and show you what really works.

And remember, **keep pumping!**

CHAPTER 1

THE DIRTY TRUTH ABOUT SUPPLEMENTS

Walk down any supplement aisle or scroll through social media, and you're bombarded with promises: "burn fat fast," "build lean muscle," "get shredded in 30 days." The marketing is loud, slick, and effective, which is exactly how most people end up wasting money on products that don't work. But the problem isn't just wasted cash. It's the risk you're taking with what you put in your body.

CHAPTER 1

THE DIRTY TRUTH ABOUT SUPPLEMENTS

Most supplements are either underdosed, mislabeled, or flat-out unsafe.

According to a study, 89 percent of dietary supplements tested did not accurately list their ingredients. **Nearly 1 in 3 contained banned substances** like steroids, stimulants, or hormone modulators. And these weren't shady products sold in back alleys — they were found on Amazon, health store shelves, and even promoted by influencers.

In another study, **researchers purchased 30 popular supplements directly from Amazon.** They found that 17 were inaccurately labeled, 13 were misbranded, and 9 contained undeclared ingredients. That means you could be taking something harmful without even knowing it — and it happens more often than you'd think.

The supplement industry is lightly regulated in the U.S., which means manufacturers don't have to prove their product works (or that it's safe) before selling it. That's why choosing a trustworthy brand is the most important decision you can make.

Continued...

THE DIRTY TRUTH ABOUT SUPPLEMENTS

We recommend and support Momentous because they earned our trust with "The Momentous Standard." It's a guarantee that they use the highest-quality ingredients possible and formulate using the latest science on effective dosing. Nothing is hidden behind vague or mysterious labels like "proprietary blends" or mystery titles; if it's in our formula, it's on the label. They also source from the highest-quality partners, conducting rigorous reviews and audits of their production practices.

But it's not just about Momentous. It's about any brand willing to invest in your safety.

Here's how you protect yourself: Look for third-party supplements certified by organizations like NSF Certified for Sport or Informed Sport. These certifications verify that a product contains what it claims, is free from banned substances, and has been tested for purity and safety. If you're an athlete — or just want to avoid a nasty surprise — this step is non-negotiable.

Before you buy any supplement, flip the bottle over and check for NSF Certified for Sport or Informed Sport. Don't take their promises of testing at face value. If it's not there, it's your choice, but we recommend that you don't buy it. If you want peace of mind, stick with brands that go beyond the bare minimum.
Your health deserves that kind of protection.

THE MOMENTOUS STANDARD™

Momentous is the supplement company determined to bring trust and transparency to a space lacking both. All of their formulas are designed with human performance experts and are NSF- and Informed Sport-certified, providing a high level of trust to their 200+ pro sports and collegiate customers. They source every ingredient for quality, not just what's cheapest, so that you know what's on the label is exactly what you're getting. They're driven by what they call The Momentous Standard™, their unwavering code of quality, rigor, and transparency that has become synonymous with the industry's gold standard.

Head to livemomentous.com and use code PUMPCLUB to save up to 35% at checkout.

SHOP THE DEAL

CHAPTER 2

THE MOST DEPENDABLE SUPPLEMENT (THAT'S NOT REALLY A SUPPLEMENT)

Before we talk about protein powder, let's make something clear: even though it's classified as a supplement, we consider most protein powders a food.

CHAPTER 2

THE MOST DEPENDABLE SUPPLEMENT (THAT'S NOT REALLY A SUPPLEMENT)

That's because whole foods are the base ingredients of good dairy- or plant-based protein powders.

Whey protein starts as milk, and through a process of filtration (such as separating the curds for cheese and the whey for protein, think Little Miss Muffet, sat on a tuffet, eating her curds and whey). The same can be said for plant protein, which might start as something like peas or soy.

By almost every measure, it's a processed food and not a synthetic ingredient. And maybe that's why, if there's one supplement that earns its spot in nearly every routine — from pro athletes to busy parents — it's protein powder.

Despite all the new trends in the industry, no other supplement matches protein's ability to support muscle, performance, and fat loss. And yet, it's one of the most misunderstood.

Protein powder is one of the few supplements that consistently delivers results — if you use it the right way.

Continued...

THE MOST DEPENDABLE SUPPLEMENT (THAT'S NOT REALLY A SUPPLEMENT)

Protein is essential for repairing and building muscle tissue, preserving lean mass, and managing appetite. However, research shows that most people fall short of their daily protein needs. This shortfall is even more common if you're trying to lose weight, eat fewer meals, or follow a plant-based diet.

A landmark review concluded that higher-protein diets help reduce body fat while preserving muscle. Another study found that **replacing just one meal per day with a protein shake** led to an average of 5.5 pounds of weight loss, even when participants weren't tracking calories.

Protein shakes are not better than the protein you can get from a meal. However, they are uniquely helpful because they offer calorie-controlled, high-protein convenience. Unlike many meals — which are often underestimated in calories — shakes provide consistent nutrition and reduce the chance of overeating.

And for those worried about digestive issues or artificial ingredients, you have more options than ever: grass-fed whey, plant-based blends, organic, flavorless, and even hypoallergenic choices.

But not all protein powders are equal. Some are underdosed or loaded with sugar. Others use "proprietary blends" to hide lower-quality ingredients.

Continued...

THE MOST DEPENDABLE SUPPLEMENT (THAT'S NOT REALLY A SUPPLEMENT)

The Protein Percent Test: How To Get Your Money's Worth

Take the total amount of protein in the product and divide it by the total number of grams per serving.

For example, on Momentous Whey, there's 23.3 grams of grass-fed whey protein isolate and 26 grams per serving. That means the product is 90% protein per serving.

When you're getting a whey protein product, look for 85% protein per serving or higher. When you're getting a plant protein, go for 75% protein per serving or higher.

Whey isolate is your best choice for absorption and purity. If you're plant-based, choose a blend pea + rice, which provides a complete amino acid profile. Or, if you prefer, you can also opt for soy.

Continued...

THE MOST DEPENDABLE SUPPLEMENT (THAT'S NOT REALLY A SUPPLEMENT)

WHEY VS. PLANT PROTEIN: IS ONE BETTER?

For years, whey protein reigned supreme as the gold standard. It absorbed quickly, contained all the essential amino acids, and was proven to build muscle. But as plant-based diets became more popular, a question emerged: Can plants compete?

When properly formulated, plant proteins are just as effective as whey.

Traditionally, plant proteins (like pea, rice, or hemp) were seen as inferior because they lacked all nine essential amino acids or were low in leucine — the amino acid most responsible for triggering muscle protein synthesis. But that's no longer true.

A study compared 30 grams of milk-based protein (whey and casein) to a plant-based blend (pea, wheat, and corn) that was carefully formulated to match the amino acid profile of whey. The result? No difference in muscle growth or protein synthesis.

Continued...

THE MOST DEPENDABLE SUPPLEMENT (THAT'S NOT REALLY A SUPPLEMENT)

In other words, when the right plant proteins are combined in the right ratios, they perform just as well as animal-based options. That's huge news for anyone who wants to reduce dairy, avoid bloating, or support a more sustainable lifestyle.

The key is to avoid single-source plant proteins, which can be low in critical amino acids. A good plant protein should blend multiple sources to create a complete amino acid profile.

As for whey, it still holds its place — especially in isolate form. Whey protein isolate is 90%+ pure protein by weight, mixes easily, and digests quickly. But watch out for whey concentrates, which can range from 30 to 80 percent protein by weight. That means you could be getting far less protein than the label claims.

Continued...

THE MOST DEPENDABLE SUPPLEMENT (THAT'S NOT REALLY A SUPPLEMENT)

How To Find An Amazing Protein Powder

Look for a protein powder with:

- **20—30 grams of protein per serving**
- **Minimal added sugar (under 5g)**
- **At least 4g of BCAAs, especially leucine**
- **Clear labeling (no "proprietary blends")**

Here is **our top pick for whey protein** and **our favorite option for plant protein.**

CHAPTER 3

THE CREATINE ADVANTAGE

If you told us there was one supplement that could improve muscle strength, boost cognitive function, support fat loss, protect your brain, and potentially extend healthspan, you'd think it was a scam.

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CHAPTER 3

THE CREATINE ADVANTAGE

But over the past 40 years, creatine has proven that it's more than just hype — and some of the biggest benefits might have nothing to do with your performance in the gym.

Creatine works by increasing your body's stores of phosphocreatine, which helps produce ATP — the primary energy source for your cells. That means you can push harder during short, intense efforts like lifting weights, sprinting, or HIIT. Over time, that leads to more reps, more weight, and more results.

Hundreds of studies — and dozens of meta-analyses — confirm that creatine helps increase lean mass, strength, and power across men and women of all ages. But the real surprise is what it does for your brain.

Creatine is naturally produced in your body and stored in the brain, where it supports mental energy and neurological health. When your brain is stressed (such as during sleep deprivation), it burns through creatine more quickly. Supplementation helps replenish those stores to **keep your brain healthy.**

Continued...

THE CREATINE ADVANTAGE

There's even emerging evidence that creatine may help:

- **Support mood and fight depression**
- **Improve recovery from concussions or neurological injuries**
- **Reduce fat mass (likely due to increased training output)**

And despite decades of fear-mongering, the latest research, including studies using Mendelian randomization (a method to isolate cause and effect), **shows no evidence that creatine harms kidney function in those with healthy kidney function.**

HOW CREATINE BOOSTS BRAIN HEALTH

A recent review suggests that creatine might also boost short - and long-term memory.

The researchers discovered that supplementing with creatine led to a 14 percent improvement in short-term memory and a 12 percent improvement in long-term memory.

Creatine may improve memory performance by increasing energy availability in your brain. Creatine plays a crucial role in the production of ATP, the energy currency of cells. That's why creatine research previously showed improvement in exercise and building muscle.

But ATP isn't just limited to your muscles; it also influences your brain cells. By enhancing brain energy levels, creatine supplementation may improve memory formation and retrieval processes, and support better overall cognitive function and health.

Continued...

THE CREATINE ADVANTAGE

And that knowledge could lead to other big breakthroughs in brain health. A recent study found creatine — the popular supplement for strength and muscle — might play an important role in the battle against Alzheimer's.

The fight against Alzheimer's has focused on preventing plaques (amyloid-β, in particular) from building up in the brain. One potential way is to improve "brain energy metabolism," which slows down before getting Alzheimer's and is apparent in people with the disease.

Creatine supplies energy to your brain cells, aiding their proper functioning. As Alzheimer's progresses, brain cells struggle with energy production, and this is where creatine steps in, offering a potential lifeline. Two studies on mice showed creatine could help overcome this energy dysfunction to help prevent plaque build-up.

We don't usually focus on animal studies, and it's too soon to know how this will work in humans (animal models don't always carry over, but creatine might be worth it. As we've previously discussed, creatine is one of the most studied supplements, and the past decade has revealed many promising cognitive benefits, such as improving learning and memory and fighting against cognitive decline. And that doesn't even include the performance benefits for strength and muscle. It's becoming increasingly likely that creatine is a great foundational supplement for almost anyone.

Continued...

THE CREATINE ADVANTAGE

BUYER BEWARE: THE DARK SIDE OF CREATINE

There's just one catch when taking creatine: many people are taking the wrong type of creatine — and paying more for a version that might do less.

Research overwhelmingly suggests that **creatine monohydrate** is the safest, most effective, and most absorbed form of creatine — that everything else is fighting for second place.

Creatine monohydrate has been studied for decades, and the consensus is clear: it works. It's the most proven form of creatine on the market, helping with strength, lean muscle gain, and overall performance. Yet, myths about creatine lead people to skip it altogether or buy less effective alternatives that don't deliver on many of their claims.

Some companies claim that alternatives like creatine HCL are better because they dissolve more easily in water. While that's true, solubility doesn't mean better absorption. Research shows that monohydrate is the gold standard for getting creatine into your muscles.

Continued...

THE CREATINE ADVANTAGE

But — and we hate sounding like a broken record — make sure the product id not only third-party certified but also uses a proven form of creatine monohydrate.

In an analysis of 175 creatine brands, 88% used a form of creatine with limited or no evidence of effectiveness or safety.

That's why **we recommend Momentous Creatine,** which uses Creapure Creatine, which has the strictest lab standards to ensure all creatine is 99.9% pure.

How to Take Creatine

For strength and fitness: Take **3 to 5 grams of creatine monohydrate daily.**

For brain health: Consider **up to 10 grams daily**, split into two servings (AM and PM).

No need to cycle. No need to "load." Just take it consistently and you're good to go.

CHAPTER 4

WHY FAT BURNERS DON'T WORK

If there's one type of supplement that embodies the worst of marketing hype and scientific disappointment, it's fat burners. They're everywhere, promising effortless weight loss, faster metabolism, and six-pack abs in a bottle. But once you strip away the flashy claims, the truth becomes painfully clear.

CHAPTER 4

WHY FAT BURNERS DON'T WORK

Most fat burners are a waste of money and offer little to no real fat loss benefit.

In one recent study, researchers gave participants a popular "fat-burning" supplement for four weeks. Compared to the placebo group, there was **no significant difference** in body weight, body fat, caloric intake, sleep quality, or activity levels. The supplement did slightly increase resting metabolic rate — but not enough to matter. We're talking about **an extra 20—50 calories burned per day** — roughly the equivalent of walking for five minutes.

Worse yet, many fat burners are packed with stimulants that can lead to increased heart rate, jitteriness, disrupted sleep, and even anxiety — making them a poor long-term solution.

There is one surprising exception: creatine.

While it's not a traditional fat burner, research shows that people who supplement with creatine may reduce body fat percentage over time. This is likely because creatine improves workout quality and recovery, which leads to more muscle and higher overall energy expenditure — not because it directly burns fat.

The real fat-loss formula hasn't changed: smart nutrition, strength training, sleep, and consistency.

Continued...

WHY FAT BURNERS DON'T WORK

Fat Burners That Work

They don't.

Unless we're talking about GLP-1s, none make a significant difference. If a supplement promises fat loss without effort, it's likely selling you frustration. Burn fat the sustainable way — no shortcuts needed.

If you want a boost, caffeine is indirectly your best bet. Research suggests about 200 to 400 mg pre-workout may improve your ability to train harder and burn more calories as a result of better workouts.

Ultimately, weight loss comes down to what you eat and how much.

A **recent study** tested four different types of diets and tracked nearly 1,000 participants for two years.

On the surface, the results didn't reveal much we didn't already know. Caloric intake was the biggest determinant of weight loss, even when following very different eating styles. Those who were able to stick to their plan—regardless of the type of diet—saw similar results.

The study created different scenarios in which participants ate different variations of protein, fat, and carbohydrates. For most people, carbohydrates were moderate to high (anywhere from 35 to 65 percent of their calories), while total fat and protein levels were low or high. All of the diets stayed relatively low in calories and restricted saturated fat.

Continued...

WHY FAT BURNERS DON'T WORK

When you examine the data more closely and analyze what happened during the two years, a few habits stick out that you can adjust to your dietary preferences.

The scientists found that if you want to lose more weight, your best bet is to prioritize protein and fiber.

At the end of the two years, the people who ate more protein lost an average of about 17 pounds, which was three times as much fat loss as those who ate the least amount of protein.

And during the first six months of the study, those who consumed the most fiber lost an average of 23 pounds.

So you can keep on using pills with big marketing promises, or you can focus on foods that help you eat less and drive more meaningful results.

CHAPTER 5

THE FISHY FAT YOUR BRAIN AND BODY NEEDS

For decades, fish oil has been positioned as a must-have supplement for heart health, brain function, and even fat loss. And while omega-3s offer real benefits, the full story is more nuanced than you've been led to believe.

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CHAPTER 5

THE FISHY FAT YOUR BRAIN AND BODY NEEDS

Fish oil helps — but only if you don't eat enough fatty fish, and maybe later in life.

The magic of fish oil lies in its two primary omega-3 fatty acids: EPA and DHA. These fats help reduce inflammation, **support cardiovascular health,** and enhance brain function.

But here's the catch: **studies show the most consistent benefits appear in people who are deficient.**

Studies suggest that eating a 4 to 6-ounce serving of fattier fish (think salmon, mackerel, or sardines) at least twice per week can improve heart and brain health.

In one large meta-analysis, eating fish or taking fish oil supplements significantly reduced the risk of heart-related events, but only in people with low dietary intake of omega-3s. For people who already eat two or more servings of fatty fish weekly (like salmon or sardines), the extra supplementation had minimal added value.

There's also concern about supplement quality. **Research has found that up to 67% of fish oil supplements are mislabeled, and 20% contain impurities or oxidation, which could potentially be harmful.**

Continued...

THE FISHY FAT YOUR BRAIN AND BODY NEEDS

That said, fish oil still holds promise beyond the heart. Studies suggest it may:

- Improve **cognitive function** and protect against brain inflammation
- Support **mood regulation**, including reduced symptoms of depression and anxiety
- Enhance **sleep quality**, particularly in those with low DHA levels

The key is knowing when — and why — to take it.

Struggle With Sleep? Go Fish

Research suggests that people who eat fish or take a fish oil supplement experience improved sleep quality.

Scientists reviewed data from 19 studies, focusing on DHA (docosahexaenoic acid) and EPA (eicosapentaenoic acid), on sleep duration, sleep onset latency (the time it takes to fall asleep), sleep efficiency, and the number of nighttime awakenings. The researchers found that approximately 75 percent of all studies found a positive relationship between fish oil and sleep improvements.

Participants who took omega-3s spent a higher percentage of their time in bed asleep, had more uninterrupted sleep, fell asleep faster, had more dreams, and increased total sleep time.

Continued...

THE FISHY FAT YOUR BRAIN AND BODY NEEDS

And it might not just be adults who benefit from fish oil. While many parents use melatonin, there are many unknowns with long-term use and potential dependency risks. **A study found** that children who took 600 mg of omega-3 DHA supplements each day for 16 weeks slept nearly an hour longer each night and had fewer walking episodes.

The scientists believe that it's not necessarily the fish oil but how it interacts with other mechanisms that improve (or hurt) sleep. Fish oil might help by decreasing inflammation and increasing melatonin, both of which are associated with better sleep quality.

A Surprising Muscle Protector?

Resistance training is your best bet if you want to build or maintain muscle. But if you're taking some time off or injured, there might be a supplement that can help.

New research suggests that omega-3 fatty acids might help maintain — and even gain — muscle when you're not exercising.

Scientists reviewed seven studies focusing on inactive individuals who consumed higher amounts of fish oil. For the shorter-term studies (two weeks or less), consuming 390 mg of DHA and 1,770 mg of EPA prevented a loss of muscle mass during immobilization.

Continued...

THE FISHY FAT YOUR BRAIN AND BODY NEEDS

During longer studies (more than six weeks), a minimum of 800 mg of DHA and 1,600 mg of EPA increased muscle mass during inactivity (less than 1.5 hours of movement per week). Two studies even found muscle maintenance and growth benefits at doses as high as 1,500 mg of DHA and 1,860 mg of EPA.

In the last few years, more research has focused on the role of fish oil in slowing muscle loss and supporting muscle gain. **Some studies suggest omega-3's might support protein synthesis, which is involved in muscle growth.** At this point, it's unclear why we see the connection between omega-3s and preserving muscle or if the improvements in inactive people are the same as in those who exercise. (Just because it assists when you're not exercising doesn't mean it helps when you are.)

If you're battling inactivity (for whatever reason), omega-3s could be a good way to help fight off muscle loss, and fish oil has other possible benefits for cardiovascular health, as well.

Continued...

THE FISHY FAT YOUR BRAIN AND BODY NEEDS

How to Use Fish Oil

If you eat fish twice a week or more, you likely don't need a supplement. If not, supplement with a third-party tested fish oil that provides:

- At least 840 mg of combined EPA/DHA daily
- For muscle or cognitive benefits: 1,600—2,400 mg of EPA/DHA

Fish oil has a lot of quality control issues. And many of the studies of limited effectiveness reflect that. That's why **this is our go-to source of fish oil,** which is a clean, potent, sustainably sourced Omega-3 supplement delivering 1600 mg of EPA and DHA in a balanced 1:1 ratio.

THE MOMENTOUS THREE

The Momentous Three is made up of Protein, Creatine, and Omega-3. Expert research shows most people don't get adequate amounts of these three nutrients from diet alone, yet they form the critical foundation to long-term health and performance.

Taken daily, this routine supports every cellular function of the brain and body, from muscle recovery and growth to focus and energy. If you're looking for the easiest way to drive the biggest impact on healthspan, The Momentous Three can help you continue doing what you love for longer.

Take the first step in making a long-term investment in your cognitive and physical health. Head to livemomentous.com and use code PUMPCLUB to save up to 35% at checkout.

SHOP THE DEAL

CHAPTER 6

DO YOU REALLY NEED VITAMIN D?

Vitamin D is often called the “sunshine vitamin” and for good reason. Your body can produce it with just a few minutes of sunlight each day. Yet, it’s also one of the most supplemented nutrients in the world. So, what’s the truth? Are we all deficient, or is the fear overblown?

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CHAPTER 6

DO YOU REALLY NEED VITAMIN D?

Most people don't need high-dose vitamin D, but some do benefit from supplementation.

Despite what you might hear, **research suggests** that most people are not Vitamin D deficient. That's because as little as three minutes of sun exposure can help **fill your Vitamin D tank,** and many foods are fortified with Vitamin D.

More importantly, Vitamin D is stored within your fat cells and liver. So even if you're not getting much sun, your body stores the vitamin because it plays an important role in vital processes such as immune function and glucose metabolism.

Vitamin D appears to be an easy supplement to add. However, research has found that Vitamin D toxicity can be a problem for people, especially for those who overestimate their deficiency.

Still, some people are more at risk, including those who live in northern climates, work indoors, or have darker skin (which reduces vitamin D production). In these cases, low vitamin D can contribute to fatigue, impaired immune function, and even mood disturbances.

So, does supplementing with vitamin D help? Sometimes, especially for brain health.

Continued...

DO YOU REALLY NEED VITAMIN D?

In a recent 10-year study of over 12,000 older adults, those who took vitamin D supplements had a 40% reduced risk of developing dementia, and lived an average of five years longer without cognitive decline. The benefit was strongest in women and in people without existing cognitive issues.

That said, more isn't better. **Research suggests** that a level of 12 ng/ml can get the job done and that you max out your benefits around 20 ng/ml.

For example, Vitamin D's bone-strengthening benefits are linked to blood levels between 12 and 15 nanograms per milliliter. However, if you supplemented to boost your levels higher, there were no additional benefits when blood levels were above 20 ng/ml

And remember, excessive doses can lead to negative side effects like calcium imbalance or kidney issues.

THE VITAMIN D TEST

First, get your Vitamin D levels tested. It can be determined with a simple blood test. Otherwise, you might be popping pills unnecessarily and wasting your money.

Continued...

DO YOU REALLY NEED VITAMIN D?

If you're below 12 ng/mL, you may **benefit from adding a quality supplement.** Aim for 1,000 to 5,000 IU of vitamin D3, depending on your levels or guidance from a physician.

Although Vitamin D is fat soluble and some suggest better absorption when taking with fat, long-term studies suggests that your body will absorb the Vitamin D regardless of whether or not you take it with food. So, it's likely just personal preference.

Alternatively, you can boost your Vitamin D by getting outdoors. Getting 10 to 20 minutes of sunlight per day can help restore normal levels.

CHAPTER 7

WHY MULTIVITAMINS ARE THE ULTIMATE "IT DEPENDS" SUPPLEMENT

Multivitamins might be the most commonly used supplement — and also the most misunderstood. Some people take them religiously. Others think they're pointless. So who's right?

CHAPTER 7

WHY MULTIVITAMINS ARE THE ULTIMATE "IT DEPENDS" SUPPLEMENT

Multivitamins aren't magic, but they can be useful, especially if your diet is inconsistent or you're over 60.

The goal of a multivitamin is simple: fill in small nutritional gaps. But most people who take them already eat a healthy diet. Ironically, the people who need them most — those who eat the fewest fruits and vegetables — often skip them entirely.

It's true that multivitamins won't extend your life or prevent chronic diseases like cancer or heart disease. But that doesn't mean they're worthless. **A recent study tracked more than 21,000 older adults over two years.** The results?

Those who took a daily multivitamin showed significant improvements in memory and cognitive performance, reducing brain aging by two to five years.

Continued...

WHY MULTIVITAMINS ARE THE ULTIMATE "IT DEPENDS" SUPPLEMENT

The study included four conditions, including testing against placebos and other supplements. Those who took a multivitamin daily for three years experienced two major improvements:

MEMORY BOOST

There was a noticeable enhancement in episodic memory — the ability to recall specific events or experiences.

GLOBAL COGNITIVE FUNCTION

Overall, the multivitamin group had better scores in global cognitive function tests, which assess general brain health and performance.

According to the researchers, many people, especially older adults, do not get all the essential vitamins and minerals from their diet alone. Deficiencies in certain nutrients, like B vitamins, vitamin D, and antioxidants have been linked to cognitive decline.

Continued...

WHY MULTIVITAMINS ARE THE ULTIMATE "IT DEPENDS" SUPPLEMENT

Multivitamins provide a broad spectrum of these nutrients, potentially improving brain function by ensuring the body has what it needs to support cognitive health, and can also help fight against oxidative stress and inflammation, both of which contribute to cognitive decline.

The improvements were not insignificant, either. In **one part of the study,** participants taking the multivitamin showed an impressive 30 percent improvement in memory, including recall and cognitive function, compared to the placebo group.

Good nutrition, proper sleep, and consistent exercise are the best prevention against age-related decline. But a well-balanced multivitamin could help protect against blind spots.

Other research suggests multivitamins might be especially helpful for people with:

- **Diets low in fruits and vegetables**
- **Higher risk of iron, zinc, or B12 deficiencies**
- **History of cardiovascular disease**

One caveat: don't expect a multivitamin to fix a junk-food diet. Real food still delivers more bioavailable nutrients and health benefits than any pill ever could.

Continued...

WHY MULTIVITAMINS ARE THE ULTIMATE "IT DEPENDS" SUPPLEMENT

In fact, one clever study found that simply adding an apple, a pear, broccoli, carrots, onions, and tomato throughout the day provided more health benefits than taking a multivitamin alone.

When To Take A Multivitamin? Calculate It

Use a multivitamin as nutritional insurance, not a primary defense. If you're over 60 or don't eat enough plants? A good multivitamin might be a smart way to protect your memory, one pill at a time.

Otherwise, most people don't need a multivitamin if your diet is decent. That said, your diet could leave you with specific gaps. For example, vegans tend to need additional iron and Vitamin B12.

If you're not sure what you need, use this tool. It calculates your daily nutrient recommendations based on the Dietary Reference Intakes (DRIs) established by the Health and Medicine Division of the National Academies of Sciences, Engineering and Medicine.

This is not prescriptive, but it does let you know the minimum amounts you need, which can help you find a multivitamin that works for you.

In most cases, you want **a quality multivitamin that provides the RDA for minimum needs** across a wide range of vitamins and minerals.

Continued...

WHY MULTIVITAMINS ARE THE ULTIMATE "IT DEPENDS" SUPPLEMENT

But buyer beware: you won't get the full RDA for some ingredients. In fact, for sodium, potassium, calcium, magnesium, chloride, and phosphorous, the amounts needed to hit the RDA are so high that no multivitamins sold include the full amount.

If you want a point of reference, here's the multivitamin breakdown of the ingredients used in the study that was effective for aging adults.

VITAMIN OR MINERAL	AMOUNT
• Vitamin A (UI)	2500 40% β-carotene
• Vitamin C (mg)	60
• Vitamin D (IU)	1000
• Vitamin E (IU)	50
• Vitamin K (µg)	30
• Thiamin (mg)	1.5
• Riboflavin (mg)	1.7
• Niacin (mg)	20
• Vitamin B6 (mg)	3
• Folic Acid (µg)	400
• Vitamin B12 (µg)	25

Continued...

WHY MULTIVITAMINS ARE THE ULTIMATE "IT DEPENDS" SUPPLEMENT

VITAMIN OR MINERAL	AMOUNT
• Biotin (µg)	30
• Pantothenic Acid (mg)	10
• Calcium (mg)	220
• Phosphourus (mg)	20
• Iodine (µg)	150
• Magnesium (mg)	50
• Zinc (mg)	11
• Selenium (µg)	19
• Copper (mg)	0.5
• Manganese (mg)	2.3
• Chromium (µg)	50
• Molybdenum (µg)	45
• Chloride (mg)	72
• Potassium (mg)	80
• Nickel (µg)	5
• Vanadium (µg)	10
• Silicon (mg)	2
• Lutein (µg)	250
• Lycopene (µg)	300

CHAPTER 8

COLLAGEN: MIRACLE POWDER OR OVERPRICED PROTEIN?

Collagen has exploded in popularity, appearing in everything from powders and gummies to coffee creamers and skincare products. But is it really worth the hype? That depends on what you're hoping to achieve.

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CHAPTER 8

COLLAGEN: MIRACLE POWDER OR OVERPRICED PROTEIN?

Collagen might help improve skin and joint health, but it won't help you build muscle or lose fat.

Collagen is the most abundant protein in your body, playing a key role in the structure of your skin, tendons, ligaments, and joints. As you age, your body naturally produces less collagen, which contributes to wrinkles, joint discomfort, and reduced elasticity in connective tissues.

Studies suggest that 5 to 10 grams of collagen peptides per day, taken consistently for 12 to 24 weeks, can lead to:

- **Improved skin hydration and elasticity**
- **Reduction in visible wrinkles**
- **Better joint comfort and reduced joint pain**

For example, a meta-analysis found that oral collagen supplementation significantly improved skin moisture, elasticity, and dermal collagen density. Meanwhile, other studies suggest potential benefits for joint health in active individuals and older adults with osteoarthritis.

Continued...

COLLAGEN: MIRACLE POWDER OR OVERPRICED PROTEIN?

But here's where the line gets fuzzy: collagen is not a complete protein. It's very low in essential amino acids like leucine, which means it won't support muscle building, recovery, or fat loss the way whey or plant-based proteins can.

Some studies might suggest otherwise, but don't be fooled.
A recent study suggested that adding collagen to whey protein boosted muscle protein synthesis — but they were comparing it to flavored water!

In short, collagen isn't a substitute for a protein shake — it's a targeted supplement with a specific purpose.

Continued...

COLLAGEN: MIRACLE POWDER OR OVERPRICED PROTEIN?

When To Use Collagen

Want to look 20 years younger? You don't need a social media filter, expensive creams, or collagen to make it a reality. Research suggests exercise can shave decades of aging from your skin.

Scientists took skin samples of people in their 60s with "average" skin health. Those participants performed two workouts per week for 30 minutes, pushing themselves at a moderate intensity. Just 12 weeks later, their skin was biopsied, and the inner and outer layers of their skin looked like that of someone more than 20 years younger and — in some cases — as much as 40 years younger.

What's going on? Exercise acts like the fountain of youth for your skin (and your mind and body).

Exercise might help prevent aging by controlling blood sugar and minimizing oxidative stress (both of which make you look your age). But the age-reversing magic might result from a special protein created by your muscles called IL-15, which powers your skin's mitochondria. When you exercise, and your heart beats faster, more IL-15 is produced, which could revitalize the quality of your skin so it looks younger.

Continued...

COLLAGEN: MIRACLE POWDER OR OVERPRICED PROTEIN?

Or, if you want more collagen, start by focusing on your nighttime routine.

While you're asleep, your body produces collagen and elastin, the 2 proteins that help your skin stay smooth.

If you're sleeping well and exercising and still want to go the extra mile for improving skin appearance or supporting joint health, collagen can help — but be patient.

- **Use 5—10 grams of hydrolyzed collagen (type II is best for joints) daily**
- **Look for products with added vitamin C, which helps with collagen synthesis**
- **Don't expect overnight results — allow at least 3 months of consistent use**

Skip it if your main goals are fat loss, performance, or muscle growth. But for aging skin or creaky knees, collagen might be worth the long game.

CHAPTER 9

BCAAS HAVE A DIRTY SECRET

Walk into almost any supplement store and you'll see shelves packed with BCAAs. They come in neon-colored powders, exotic flavors, and promises of faster recovery and muscle growth. But when you strip away the marketing, the science paints a very different picture.

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CHAPTER 9

BCAAS HAVE A DIRTY SECRET

BCAA supplements are overrated and unnecessary if you're eating enough protein.

Branched-chain amino acids — leucine, isoleucine, and valine — are essential to muscle protein synthesis. Leucine, in particular, is the switch that triggers muscle building. So it makes sense to assume that taking isolated BCAAs would be beneficial. But the full picture is more complex.

Here's the issue: building muscle isn't a one-man show. It requires all nine essential amino acids — and BCAAs only provide three. Without the others, your body can't complete the process of repairing and growing muscle tissue. It's like trying to build a house with just nails and no wood.

In study after study, **BCAAs have failed to outperform either placebo or complete protein sources** when it comes to improving strength, reducing soreness, or building muscle. A review in found no significant performance or recovery benefit to BCAA supplementation in trained athletes who were already consuming adequate protein.

Even if your protein intake is low, BCAAs are still inferior to just getting a complete source of protein — like whey, eggs, meat, or a plant-based blend. The kicker? If you're already using a high-quality protein shake, you're already getting all the BCAAs you need.

Continued...

BCAAS HAVE A DIRTY SECRET

How to Use BCAAs

Don't.

There's no need to buy a standalone BCAA product. If you choose to go the amino acid route, then go with essential amino acids. But even then, it's misleading.

Supplements will have you believe that amino acids are "calorie-free," but that's just because supplement labels are almost comical for the number of loopholes available for exploitation.

The Food and Drug Administration (FDA) regulations only require reporting calories derived from protein, carbohydrates, and fats. Individual amino acids, even though they contribute to protein, are not treated as a source of protein for calorie calculations.

This allows BCAA products to be labeled as low-calorie or calorie-free, even though a serving of BCAAs can still contain a significant number of calories (4 calories per gram of amino acid)

Continued...

BCAAS HAVE A DIRTY SECRET

Instead of buying BCAAs, focus on eating at least 20 to 40 grams of complete protein per meal. That could look like:

- **4 oz of chicken, beef, or fish**
- **3—4 whole eggs**
- **1.5 cups of lentils or beans**
- **A protein shake with at least 20g of protein and 4g of BCAAs**

If your protein is dialed in, BCAA supplements add cost, not value. Save your money for something that actually works.

But Can An Amino Acid Strengthen Your Heart?

A recent study analyzed 20 randomized controlled trials and found that the amino acid taurine improves cardiovascular health and reduces the risk of heart disease.

Taurine is found naturally in various tissues (particularly the heart, muscles, and brain). Prior research has found that it has antioxidant and anti-inflammatory properties. These attributes help protect the heart from oxidative stress and inflammation, which are significant contributors to cardiovascular disease.

Continued...

BCAAS HAVE A DIRTY SECRET

The scientists focused on participants who had no health conditions, as well as those with increased risk for cardiovascular disease, such as high blood pressure or type 2 diabetes.

Compared to a placebo, those who took taurine reduced their resting heart rate, improved their blood pressure, and improved heart efficiency (which is an indicator of a lower risk of heart disease).

And those who were at higher risk saw benefits that helped prevent hypertension and enhance overall cardiac function. Prior research also suggests that taurine could help lower LDL cholesterol and triglycerides. Add it all up, and the researchers speculate that the combined benefits likely contributed to the overall cardiovascular improvements.

Before supplementing, as with any health condition, consult your physician to ensure it's the right option for your body.

The researchers found that consuming approximately .5 to .7 grams per day was linked to health benefits.

CHAPTER 10

THE GLUTAMINE MYTH: WHY IT DOESN'T BUILD MUSCLE

Glutamine was one of the original supplement superstars. It promised muscle growth, improved recovery, and better performance. For years, athletes and bodybuilders swore by it. But once the science caught up to the hype, a hard truth emerged.

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CHAPTER 10

THE GLUTAMINE MYTH: WHY IT DOESN'T BUILD MUSCLE

Glutamine does not improve muscle growth, recovery, or performance in healthy individuals.

Glutamine is an amino acid that your body produces on its own, and it's the most abundant free amino acid in your blood. Early lab research suggested that glutamine could support muscle growth because of its role in cell hydration and protein synthesis. On paper, it made sense. In practice, it didn't work.

In clinical trials, supplementing with glutamine has repeatedly failed to produce measurable gains in muscle size, strength, or performance in healthy adults.

Why the disconnect? It turns out that your gut and immune system love glutamine — and they use it up before it ever reaches your muscle tissue. In healthy people, supplementing with more glutamine doesn't increase the amount that gets to your muscles. Your body has a built-in gatekeeper that redirects it where it's most needed — and that's not your biceps.

Continued...

THE GLUTAMINE MYTH: WHY IT DOESN'T BUILD MUSCLE

That said, glutamine may have specific benefits for people with extreme physical stress (such as endurance athletes training for hours), serious illness, or **digestive issues.** It's also been used clinically to support gut health and recovery after surgery.

But for the average person looking to build muscle or recover faster? Glutamine simply doesn't deliver.

The Glutamine Guide

Unless you fall into a special category (serious illness, GI issues, or extreme endurance training), glutamine is not necessary.

If you still want to try it for gut support:

- **Use 5—10 grams per day, taken on an empty stomach**
- **Look for pure L-glutamine powder**
- **Don't expect it to build muscle — that's not what it does**

CHAPTER 11

PROBIOTICS: A GUT CHECK

Probiotics are everywhere — in capsules, drinks, yogurts, and even granola bars. They're sold as a cure-all for digestion, immunity, mood, and brain health. But despite all the excitement, we're still figuring out how they work — and who actually needs them.

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CHAPTER 11

PROBIOTICS: A GUT CHECK

Probiotics can help, but the biggest benefits will likely be experienced only if you have a condition that disrupts your gut.

Probiotics are live microorganisms that, when consumed in the right amounts, may benefit your health by supporting the balance of "good" bacteria in your digestive system. They can help restore the microbiome after disruption, such as when you take antibiotics or deal with a gut-related illness like IBS.

That's where the science is strongest. For example, probiotics have been shown to:

- **Reduce symptoms of irritable bowel syndrome**
- **Help with antibiotic-associated diarrhea**
- **Support gut barrier function and immune response**

But what about the average healthy person? **That's where the story gets murky. Researchers agree on one thing: the benefit of probiotics is strain-specific. That means if one probiotic worked in a study, it doesn't mean all probiotics will help you.**

And many "functional" foods (like probiotic popcorn or protein bars) don't contain the right strains — or enough of them — to make a difference.

Continued...

PROBIOTICS: A GUT CHECK

The Future Is Unlocking The Brain-Gut Relationship

Many scientists call the gut your body's "second brain." But can targeting bacteria in your stomach improve the chemical reactions in your brain?

A recent study found that probiotics might help improve symptoms of depression and anxiety.

Scientists reviewed 42 studies across the United States, Asia, and Europe. They compared the probiotics Lactobacillus, Bifidobacterium, and Bacillus species to traditional treatments such as selective serotonin reuptake inhibitors (SSRIs), serotonin-norepinephrine reuptake inhibitors, tricyclic antidepressants, and ketamine.

This isn't the first time researchers have analyzed the relationship between probiotics, depression, and anxiety — but this was the most thorough review to date.

The meta-analysis found that probiotics were associated with a modest reduction in depression symptoms but not a cure or solution for major depressive disorder.

Participants who took probiotics reported some improvement in mood and overall mental well-being. And while the probiotics were more effective than the placebo, they weren't more effective than all prescription medications. However, the research suggests the best outcome might be a combination of SSRIs and probiotics.

Continued...

PROBIOTICS: A GUT CHECK

Another recent review of 13 studies suggests probiotics may help treat depressive symptoms.

This meta-analysis showed that when people with mild or moderate depression supplemented with probiotics, prebiotics (fiber that helps feed probiotics), and synbiotics (a combination of probiotics and synbiotics), they experienced a reduction in their depression symptoms. Further studies are needed to determine if probiotics could help in the context of severe depression. Notably, studies that provided prebiotics alone did not show any benefits, so probiotics are likely the primary provider of the effects.

And a recent research review found that prebiotics and probiotics, the unsung heroes of gut health, could also play a critical role in improving mental well-being. If you've ever struggled with stress, low mood, or anxiety, these tiny but powerful tools might be just what you need to feel better naturally.

Another randomized controlled trial investigated whether probiotics could influence cognitive reactivity to sad mood—a factor linked to depression. Cognitive reactivity refers to how our thoughts and emotions respond to sadness, and people with heightened cognitive reactivity are more prone to negative thought patterns.

Participants in the probiotic group had significantly lower scores for rumination (repeatedly dwelling on negative thoughts), aggression, and emotional resilience, meaning they experienced fewer negative thoughts triggered by sadness.

Continued...

PROBIOTICS: A GUT CHECK

While more research is needed to determine why probiotics may help treat depression, there are two current theories: gut microbes produce short-chain fatty acids with mood-altering **effects.** In addition, certain gut bacteria may **stimulate the vagus nerve,** which sends signals from the gut to the brain that improve mood.

The studies highlight the potential role of the gut-brain axis in mental health, suggesting that probiotics may help regulate mood by influencing healthy gut bacteria and reducing inflammation, which has been linked to depression. Or, it could be that probiotic strains improve the production of neurotransmitters like serotonin, which play a key role in mood regulation.

More research is needed to understand the relationship between the microbiome and mental health.

THE POTENTIAL OF PROBIOTICS

While there's still so much to be learned about different probiotic strains and how they interact in different bodies, research suggests the following **multi-strain probiotics** have a higher likelihood of benefits. Here are the strains with the most supporting research:

Continued...

PROBIOTICS: A GUT CHECK

- Lactobacillus rhamnosus
- Bifidobacterium lactis
- Saccharomyces boulardii
- Lactobacillus acidophilus
- Bifidobacterium longum
- B.lactis
- At least 10 to 20 billion CFUs (colony-forming units)

However, if you want to improve your gut health, a few changes to your diet are the easiest, most proven way to improve the health of your microbiome.

Your gut health is linked to everything from weight loss to your immune system and disease prevention. Most people recommend probiotics as a quick fix, but there's much more research suggesting what you eat can offer more benefits.

Continued...

PROBIOTICS: A GUT CHECK

A 10-year study revealed that high-fiber fruits and vegetables, herbs, spices, and fermented foods can help your gut flourish.

When you eat **fermented foods,** in particular — such as yogurt, kimchi, sauerkraut, and kombucha — you can help lower inflammation, reduce GI tract sensitivity, and support a healthier immune system. Try adding one or two servings per day, and you'll likely give your gut what it needs without popping additional pills.

CHAPTER 12

TURMERIC: NATURE'S PAIN PILL

When your joints ache or your recovery lags, your first instinct might be to reach for ibuprofen. But there's a growing body of research suggesting a natural alternative that might be just as effective — without the long-term side effects.

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CHAPTER 12

TURMERIC: NATURE'S PAIN PILL

Turmeric (specifically, curcumin) can reduce inflammation and joint pain — if you take the right dose.

Curcumin, the active compound in turmeric, is a powerful anti-inflammatory and antioxidant. It works by blocking inflammatory pathways and oxidative stress, two drivers of joint pain, soreness, and chronic disease.

In one study, researchers compared 1,500 mg of curcumin to 1,200 mg of ibuprofen in people with knee osteoarthritis. The result? Equal pain relief — but the turmeric group reported fewer side effects, including less bloating and stomach discomfort.

Beyond joint pain, curcumin has also been studied for:

- **Supporting recovery after intense training**
- **Reducing post-exercise muscle soreness**
- **Improving markers of inflammation (like CRP)**

Continued...

TURMERIC: NATURE'S PAIN PILL

However, most people never experience these benefits because **curcumin is poorly absorbed** on its own. To be effective, it needs help — usually in the form of **black pepper extract (piperine)** or a special delivery system (like liposomal or nanoparticle formulations).

And just like ibuprofen, you'll need a consistent dose to see results. Popping a turmeric capsule once a week won't cut it.

How to Use This

For joint relief and inflammation support:

- **Take 500 to 1,500 mg of curcumin daily**
- **Look for a supplement with black pepper extract (piperine) or enhanced absorption technology such as BCM-95®, Meriva®, or lecithin.**
- **Use daily for 4—8 weeks to feel the full benefits**

CHAPTER 13

ASHWAGANDHA: THE STRESS-RELIEF SUPPLEMENT THAT MIGHT ACTUALLY WORK

Adaptogens have become the supplement world's favorite buzzword — but most don't have enough human research to back up their bold claims. One exception? A root called ashwagandha.

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CHAPTER 13

ASHWAGANDHA: THE STRESS-RELIEF SUPPLEMENT THAT MIGHT ACTUALLY WORK

Ashwagandha is a rare adaptogen with real human data showing it reduces stress, improves sleep, and even boosts performance.

Used in Ayurvedic medicine for centuries, ashwagandha (also known as Withania somnifera) is believed to support the body's ability to adapt to physical and emotional stress. And now, modern science is starting to catch up.

A meta-analysis of 11 randomized controlled trials found that ashwagandha supplementation significantly reduced stress and anxiety, while also lowering cortisol levels — the body's primary stress hormone. The effect size was moderate to large, especially in people with elevated stress levels.

Another review in PLOS ONE found that ashwagandha improved sleep quality, sleep duration, and sleep efficiency. On average, people fell asleep faster and slept more soundly — without the dependency risks of melatonin or pharmaceutical sleep aids.

Continued...

ASHWAGANDHA: THE STRESS-RELIEF SUPPLEMENT THAT MIGHT ACTUALLY WORK

And it's not just a wind-down tool. Some studies suggest that ashwagandha may also enhance physical performance, particularly strength and VO2 max in resistance-trained individuals.

According to **another analysis,** ashwagandha also has other potential health benefits. The review highlighted several studies demonstrating how ashwagandha improved memory, attention span, and overall cognitive performance. One study even found that ashwagandha supplementation led to a 28 percent improvement in memory scores.

Furthermore, the review discussed ashwagandha's antioxidant properties, which help protect our cells against damage caused by free radicals. Ashwagandha was found to increase glutathione levels, a powerful antioxidant, by 36 percent. Incorporating ashwagandha into your diet could boost your body's natural defense against oxidative stress and support overall cellular health.

The most researched forms are KSM-66 and Sensoril, both of which are standardized for active compounds known as withanolides. These forms offer better consistency and potency than generic powders or capsules.

Continued...

ASHWAGANDHA: THE STRESS-RELIEF SUPPLEMENT THAT MIGHT ACTUALLY WORK

How to Use Ashwaganda

If you're looking for stress relief, better sleep, or improved performance:

- **Take 300—600 mg of ashwagandha extract daily**
- **Choose products using KSM-66 or Sensoril**
- **For sleep benefits, take in the evening**
- **For general stress or performance, morning or post-workout also works**

Here's our **favorite Ashwagandha product.**

But a word of caution: higher dose usage of Ashwagandha has been linked to several health issues, including liver toxicity and kidney problems. And some experience increased anxiety. So it's important to be mindful of any medications and not to take too much.

Give it at least 4—6 weeks of consistent use, and assess how you feel.

CHAPTER 14

BETA-ALANINE: FUELING YOUR NEXT GEAR IN TRAINING

If your workouts involve pushing through fatigue — think sprint intervals, high-rep lifting, or hard cycling sessions — there's one supplement that might help you go further, faster.

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CHAPTER 14

BETA-ALANINE: FUELING YOUR NEXT GEAR IN TRAINING

Beta-alanine helps buffer fatigue during high-intensity training and can improve performance — but only at the right dose.

Beta-alanine is a naturally occurring beta-amino acid that increases levels of carnosine in your muscles. Carnosine acts as a buffer, delaying the buildup of lactic acid, which contributes to that burning sensation and muscle fatigue during intense effort. The more carnosine in your muscles, the longer you can push before exhaustion sets in.

In a recent study of elite cyclists, supplementing with 20 grams of time-release beta-alanine daily for one week significantly improved time trial performance and reduced fatigue during a demanding training camp. And this isn't an isolated result — a 2021 review in Nutrients showed that beta-alanine consistently improves anaerobic performance, muscular endurance, and training volume across multiple sports.

Continued...

BETA-ALANINE: FUELING YOUR NEXT GEAR IN TRAINING

But here's the rub: most supplements contain too little beta-alanine to make a difference. The effective dose for performance benefits starts at 3.2 grams. But it might be that you need up to 6.4 grams daily, taken consistently for at least 2—4 weeks, to see a real difference.

But unlike other supplements, high doses can cause a harmless but uncomfortable tingling sensation (paresthesia), which is why slow-release formulas are often preferred.

It's most effective for efforts lasting 60 to 240 seconds — like CrossFit, rowing, sprint intervals, or high-volume weightlifting — and may have less benefit for lower-intensity endurance or strength-only efforts.

CHAPTER 15

CBD AND SLEEP: THE HYPE DOESN'T MATCH THE RESULTS

CBD is in everything now — gummies, oils, teas, skincare, even sports drinks. One of its most marketed benefits? Sleep. But when you separate buzz from data, it becomes clear that CBD isn't the miracle sleep solution it's often made out to be.

CHAPTER 15

CBD AND SLEEP: THE HYPE DOESN'T MATCH THE RESULTS

Despite the hype, CBD does not reliably improve sleep quality or duration.

In a recent randomized controlled trial, researchers gave participants 150 mg of CBD before bed to treat insomnia. The result? No significant improvement in total sleep time, how quickly they fell asleep, or how often they woke up during the night. Even worse, there were no meaningful changes in sleep quality or overall well-being.

And this isn't an isolated finding. **Another trial using 300 mg of CBD — double the dose — also showed no sleep benefit in healthy adults. Even outcomes like reduced anxiety or improved mood (which could indirectly support sleep) failed to materialize when CBD was rigorously tested.**

Why does this matter? Because the sleep supplement space is crowded with promises, and CBD is often priced like a pharmaceutical — despite the fact that it performs more like a placebo.

Continued...

CBD AND SLEEP: THE HYPE DOESN'T MATCH THE RESULTS

To be fair, there may be exceptions. People with clinical anxiety disorders, chronic pain, or epilepsy sometimes respond better to CBD, especially under medical supervision and at higher doses. But for the average person just looking to sleep better? The evidence isn't there.

If you're currently using CBD and feel it helps, it's likely safe in moderate doses. But if you expect it to fix your sleep, there are better places to start.

Instead of CBD, build better sleep habits: reduce screens before bed, eat your last meal at least 2 hours before sleep, and get morning sunlight.

CHAPTER 16

IS ECHINACEA GOOD FOR IMMUNE SUPPORT OR JUST AN EXPENSIVE PLACEBO?

Echinacea is one of the world's most popular herbs marketed for immune support, especially during cold and flu season. But despite its long history and strong brand recognition, the scientific evidence isn't doing it any favors.

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CHAPTER 16

IS ECHINACEA GOOD FOR IMMUN SUPPORT OR JUST AN EXPENSIVE PLACEBO?

Echinacea is largely ineffective for performance, immunity, or illness prevention.

One analysis looked at six randomized controlled trials where participants supplemented with up to 8,000 mg per day of echinacea. That's a hefty dose — far above what you'll find in most over-the-counter products. Despite the aggressive dosing, researchers found no improvements in aerobic performance, endurance, VO_2 max, or red blood cell production.

And what about immunity — echinacea's main selling point? The story's not much better. While some older studies hinted at a mild reduction in cold symptoms or duration, more rigorous reviews have found inconsistent or underwhelming effects. One study concluded that echinacea may slightly reduce the chance of catching a cold, but the effect is so small it might not be meaningful.

In other words, if echinacea does anything, you'd barely notice it — and that's assuming you're taking the right dose at the right time (which most people aren't).

For most people, there are far more effective ways to support immunity: focus on adequate sleep, zinc, and good hygiene like washing your hands.

CHAPTER 17

GINKGO BILOBA: ANCIENT TREE, UNDERWHELMING SCIENCE

Ginkgo biloba is one of the oldest tree species on Earth — and also one of the most heavily marketed “brain health” supplements. You’ll find it in memory pills, energy drinks, and cognition-enhancing formulas promising sharper focus and better recall. But despite its long history, modern science tells a different story.

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CHAPTER 17

GINKGO BILOBA: ANCIENT TREE, UNDERWHELMING SCIENCE

Ginkgo biloba does not improve memory, cognition, or prevent dementia.

For decades, researchers hoped ginkgo might improve blood flow to the brain, reduce oxidative stress, and protect neurons from aging. But when the most rigorous trials were conducted, the results fell flat.

One of the largest and longest studies — the Ginkgo Evaluation of Memory (GEM) study — tracked over 3,000 older adults (ages 72–96) who took 240 mg of ginkgo daily for six years. The outcome? No benefit in slowing cognitive decline, improving memory, or preventing Alzheimer's disease.

Another large review published by the National Institutes of Health concluded that ginkgo shows no conclusive evidence of benefit for any health condition, cognitive or otherwise. While earlier studies were more promising, they were often small, poorly controlled, or used varying doses and extracts, making them unreliable.

Continued...

GINKGO BILOBA: ANCIENT TREE, UNDERWHELMING SCIENCE

So why is ginkgo still around? Habit, nostalgia, and great marketing. People want to believe in a safe, natural way to protect their brain, and ginkgo has just enough history to make it believable.

But today, better options exist. Supplements like creatine, omega-3s, and even multivitamins at older age have far stronger evidence for cognitive support.

Ginkgo is safe if you feel that it's helping you, but studies suggest it's ineffective. If brain health is your goal, there are smarter places to invest your time — and your money.

CHAPTER 18

MAGNESIUM L-THREONATE: THE SLEEP SUPPORTER

Magnesium is one of the most important minerals in your body, involved in over 300 processes ranging from nerve signaling to muscle relaxation. But while many forms of magnesium help with general health, one form appears to be more effective at delivering health benefits.

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CHAPTER 18

MAGNESIUM L-THREONATE: THE SLEEP SUPPORTER

Magnesium L-threonate may improve sleep quality, cognitive function, and mental clarity — especially if you're magnesium deficient.

Unlike other forms of magnesium (like citrate or oxide), magnesium L-threonate can cross the blood-brain barrier. That makes it especially valuable for brain-related benefits like memory, focus, and mood. It also plays a role in calming neural excitability — which is why it can help you wind down and fall asleep more easily.

In a recent randomized controlled trial, participants with self-reported sleep issues took magnesium L-threonate daily. After several weeks, they experienced:

- **Better sleep efficiency**
- **Fewer nighttime awakenings**
- **Improved daytime mental performance**

Other studies suggest magnesium L-threonate may support working memory, neuroplasticity, and even help offset age-related cognitive decline.

Continued...

MAGNESIUM L-THREONATE: THE SLEEP SUPPORTER

That said, like most magnesium forms, the benefits are more noticeable if you're deficient, and most people are. It's estimated that more than 50% of Americans don't get enough magnesium from food alone, especially those who eat low-carb, high-processed diets or train intensely (which depletes magnesium through sweat).

THE MAGNESIUM BONUS?

If you're looking for a low-risk, low-cost way to bounce back faster from exercise, your body might need more of a critical mineral.

A new review suggests magnesium supplementation can help reduce muscle soreness, especially for endurance athletes or when following an intense resistance training program.

The researchers found that magnesium decreased muscle soreness 24, 48, and 72 hours after a long (6-mile) run and improved recovery after a heavy upper body resistance training workout.

If you struggle with muscle recovery, magnesium supplementation is a low-cost, low-risk approach that could help you bounce back faster.

Continued...

MAGNESIUM L-THREONATE: THE SLEEP SUPPORTER

How to Add Magnesium To Your Routine

To support brain function, memory, and sleep:

- **Take 1,000 mg of magnesium L-threonate daily (typically divided into 2 doses)**
- **Best taken in the evening or before bed to support sleep**
- **Combine with a consistent bedtime routine for best results**

Whether you're an endurance athlete or lifting heavy in the gym, the research suggests about 300 to 500 mg of magnesium daily (based on your body weight and activity level) can help reduce soreness, lower inflammation, and improve muscle function.

Alternatively, you can make changes to your diet to provide your body with more of the nutrients it needs. Magnesium-rich foods like spinach and kale, almonds and pumpkin seeds, beans, avocados, and even dark chocolate are all great natural sources.

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Most supplements are all hype, no substance—underdosed, untested, and overpromised. That's why Arnold's Pump Club only partners with brands that earn your trust. Momentous is exactly that: third-party tested, clinically dosed, and built on science—not shortcuts. They know that long-term performance and better health come from mastering the basics, consistently, which is why they formulate products to help you do just that.

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CHAPTER 19

NITRATES: THE NATURAL PRE-WORKOUT HIDING IN YOUR SALAD

When people think of performance-enhancing supplements, they often imagine powders, pills, or high-tech formulas. But one of the most effective — and natural — performance boosters might already be in your fridge.

CHAPTER 19

NITRATES: THE NATURAL PRE-WORKOUT HIDING IN YOUR SALAD

Nitrates from vegetables can improve endurance, reduce fatigue, and enhance recovery — no fancy supplements required.

Nitrates are naturally occurring compounds found in leafy greens (like spinach and arugula) and root vegetables (especially beets). Once consumed, nitrates are converted into nitric oxide (NO), a molecule that improves blood flow, oxygen efficiency, and muscle function.

One study discovered that beetroot juice improves aerobic performance.

Researchers recently tested female endurance athletes to see if they could boost their workouts with a pre-workout cocktail. One group drank a placebo while the other had about 1.5 ounces (50 ml) of beetroot juice, approximately the amount of liquid in a shot glass.

Compared to the placebo, beetroot juice improved VO2 max by about 5 percent.

The nitrates in beetroot juice help dilate blood vessels, increasing blood flow, allowing for better use of oxygen, and helping the juicers run more efficiently.

Continued...

NITRATES: THE NATURAL PRE-WORKOUT HIDING IN YOUR SALAD

For athletes—or anyone looking to improve endurance—this study suggests that beetroot is a low-risk supplement that offers real performance benefits without the side effects of stimulants.

According to a research review from Examine.com, elevated nitric oxide levels can:

- **Improve aerobic and anaerobic endurance**
- **Enhance muscle contractility**
- **Reduce perceived exertion**
- **Support faster recovery between high-intensity intervals**

And it's not just theoretical. Studies have shown that nitrate-rich beetroot juice improved time-to-exhaustion and power output in both elite athletes and recreational exercisers. Better yet, it does so without stimulants, crashes, or side effects.

THE NITRATE RX

Food as fuel isn't just a slogan — in this case, it's a scientifically backed performance edge.

Continued...

NITRATES: THE NATURAL PRE-WORKOUT HIDING IN YOUR SALAD

While beetroot powders and nitrate supplements exist, **whole foods like beets, spinach, and arugula are a great source, and include other micronutrients.**

Scientists found that spinach extract significantly improves physical performance, particularly in endurance and strength-based activities.

The review analyzed multiple studies where participants supplemented with spinach extract and measured muscle strength, endurance, fatigue resistance, and recovery. Across the board, participants who took spinach extract showed improvements.

While the exact dose varies, most studies used 1 to 2 grams of spinach extract daily. If you don't want to use an extract, this is the equivalent of about 20 grams of fresh spinach, which is how much raw spinach fits in one cup. Unlike traditional pre-workout supplements, you don't necessarily need to load up on spinach before a workout. Instead, you need to consume it consistently in your diet.

If you want to add beetroot juice, try 250—500 ml of beetroot juice about 1 to 2 hours before a workout.

CHAPTER 20

SUPPLEMENT SMARTER: LESS HYPE, BETTER RESULTS

After reviewing hundreds of studies on the most popular supplements, one thing becomes clear: the right supplement can help. However, they are not a replacement for the basics.

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CHAPTER 20

SUPPLEMENT SMARTER: LESS HYPE, BETTER RESULTS

Supplements only work when they're used strategically and support the behaviors that matter most: nutrition, training, sleep, and stress management.

The supplement industry thrives on confusion. Every week, a new "breakthrough" promises to burn fat, build muscle, or slow aging. But most products are either underdosed, unproven, or unnecessary — and the ones that do work often require consistency and realistic expectations.

Let's simplify it:

THE PROVEN ALL-STARS

- **Protein powder:** Convenient, effective, and backed by decades of research.
- **Creatine:** Supports strength, brain health, and even fat loss.
- **Fish oil (EPA/DHA):** Especially if you don't eat fish.

Continued...

SUPPLEMENT SMARTER: LESS HYPE, BETTER RESULTS

THE NICE-TO-HAVE, BUT NOT NECESSARY (UNLESS YOU HAVE THE BUDGET)

- **Magnesium L-threonate:** Great for sleep and mental clarity.
- **Multivitamin:** Helpful if you're 60+ or eat a limited diet.
- **Turmeric (curcumin):** Works for inflammation if dosed properly.
- **Nitrates (from vegetables):** Enhances performance, but requires large servings.
- **Vitamin D:** Test first; supplement only if levels are low.
- **Probiotics:** Best for specific gut issues or post-antibiotic recovery.
- **Ashwagandha:** Reduces stress, improves sleep, and may support recovery.

Continued...

SUPPLEMENT SMARTER: LESS HYPE, BETTER RESULTS

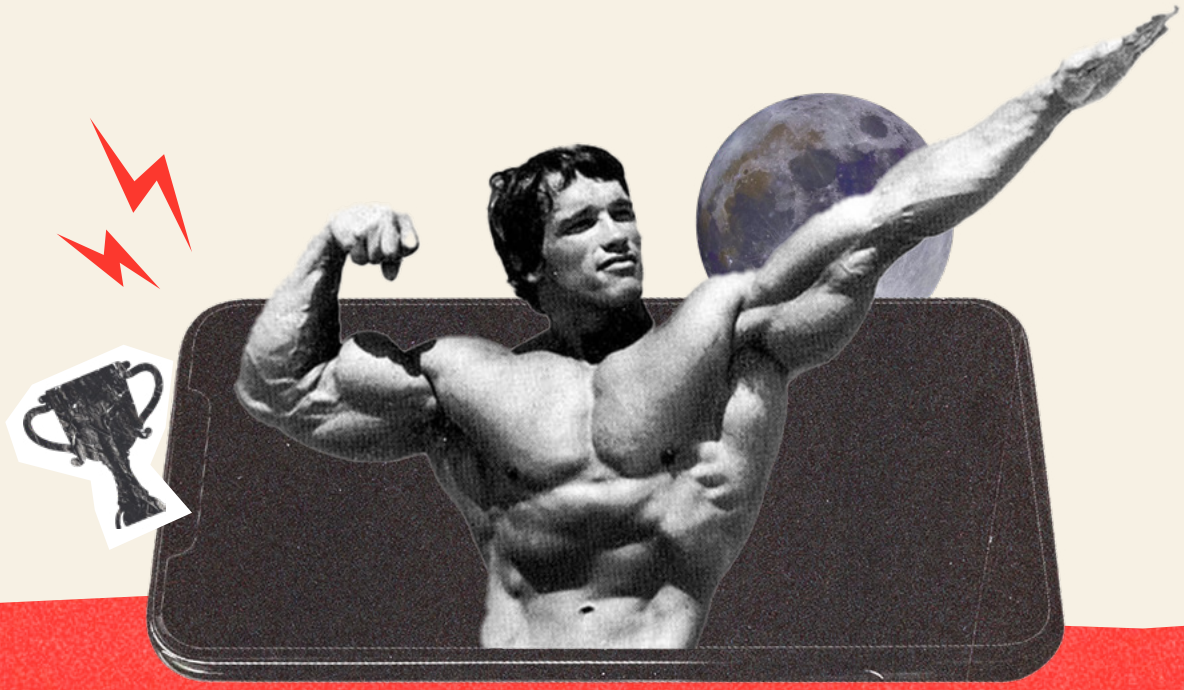
THE OVERRATED

- **BCAAs:** Useless if you eat enough protein.
- **Glutamine:** Doesn't improve muscle or recovery.
- **Echinacea & Ginkgo:** Long on claims, short on results.
- **CBD for sleep:** Doesn't hold up in clinical trials.

The best strategy? **Supplement with purpose. Choose a few products that align with your goals, are backed by research, and are certified for purity.** And most importantly, use them to support your habits, not replace them.

And remember, for your safety and higher likelihood of effectiveness, only buy from companies with third-party certification, like NSF Certified for Sport or Informed Sport. Without that, even "healthy" supplements could be spiked, mislabeled, or ineffective.

Because better results don't come from more products — they come from smarter choices.



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