Stop Taking the WRONG B12 Form: Doctor Explains What Works Transcript

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Introduction to Vitamin B12

Hey everybody, welcome back. I'm Dr. Mark Stengler, and if you've been following this channel for a while, you know I am always trying to bridge the gap between conventional medicine and what the research actually shows.

Today we're going to do a deep dive on one of the most important and most misunderstood nutrients in the human body, vitamin B12. So whether you're vegan or the age of 50, dealing with fatigue, or just curious about your labs, this video is for you.

We're gonna cover what B-12 actually does, what's the best human research tells us, which forms work and which ones don't and exactly how to take it. Let's get into it!

Welcome to Health Breakthroughs with Dr. Stengler. I'm Dr Mark Stegler and each episode we cut through the noise to bring you practical, science-backed insights for more energy, better health and a life that feels like yours again.

Vitamin B12, also called cobalamin, is a water soluble vitamin that your body cannot make on its own. You have to get it from food or supplementation.

It's structurally the most complex of all the vitamins and it contains cobalt, which is actually where the name cobulmin comes from. Now here's something most people don't know.

B12 in food is bound to protein. When you eat it, stomach acid and a digestive enzyme called pepsin have to free it first.

How B12 Is Absorbed and Why Deficiency Happens

Then it binds to something called intrinsic factor, a protein made in the stomach, and that complex gets absorbed into the final part of your small intestine, This is why B12 deficiency isn't always about diet, it's often about absorption, and several things interfere with that process.

For example, metformin, one of the most commonly prescribed diabetes drugs, blocks B-12 absorption. Studies show up to 30% of long-term users become deficient in B 12. Then you have the common proton pump inhibitors like omeprazole taken by tens of millions of people which reduces stomach acid and impairs B12 release from food.

Then there's the H pylori or helicobacter pilari infection of the stomach which can affect B12 absorption or conditions like Crohn's disease, which naturally causes absorption problems.

But here's the scary part. B-12 is stored in the liver and it can take years for a deficiency to show up in symptoms or blood work. So by the time you fill it, the deficit could be quite significant.

B12 is involved in some of the most fundamental processes in human biology. You have first, DNA synthesis. B 12 is essential for making new cells. Every single time your body divides a cell, which is happening billions of times a day, second, B-12's involved myelin production.

This one is huge. Myelin is the protective sheath around your nerve fibers. Think of it like the insulation around an electrical wire. B12 deficiency leads to demyelination, which causes the neurological symptoms we see, like tingling of the hands and feet, balance problems, cognitive decline, and in severe cases, something called subacute combined degeneration of spinal cord.

Third, the methylation cycle. B12 works alongside folate and B6 in the methylation pathway.

What B12 Does in the Body

This is how your body controls gene expression, produces neurotransmitters like serotonin and dopamine, processes homocysteine, and is involved in detoxification.

Elevated homocistine is a well-established independent risk factor for cardiovascular conditions, such as stroke. It's also a risk-factor for dementia.

Number four, energy metabolism. B12 is a cofactor in what's called the Krebs cycle, and this is your cellular energy engine. When B 12 is low, this pathway backs up and you actually get elevated methylmalonic acid, one of the most sensitive markers of functional B-12 deficiency.

The bottom line is that fatigue, brain fog, depression, peripheral neuropathy, anemia, elevated homocysteine are all on the table when B12 is low. So let's go over what the human research shows.

Let's over some of the highlights from clinical research because this is where things get really interesting. Let's talk about cognition and dementia.

A landmark study published in neurology followed elderly individuals and found that those with low B12 status had significantly more brain volume loss over time.

Separately, the Vitacog trial out of Oxford showed that high-dose B vitamins, including B-12, slowed brain atrophy in people with mild cognitive impairment by up to 53% compared to placebo.

This is a remarkable finding. You've done everything you were told to do and something still feels off. Health Breakthroughs with Dr. Stengler, we go beyond symptom management to explore integrative, science-backed approaches to the issues that medicine too often overlooks.

Chronic fatigue, brain fog, gut dysfunction, inflammation, hormone imbalance, and healthy aging. If you're ready for real answers and practical tools to support your health naturally, follow Health breakthroughs of Dr Stegler on Doctor Talks or wherever you listen to podcasts.

Research on B12 Benefits

Then there's also cardiovascular risk. Multiple studies confirm that B12 supplementation lowers homocysteine. Whether that directly translates to reduce cardiac events is still debated.

The HOPE-2 trial showed homocysine reduction but did not show that it moved the needle on hard outcomes. Most researchers believe the intervention may need to happen earlier before vascular damage is established.

Nevertheless, reducing homocysteines levels is important. Then there's depression, a 2020 meta-analysis in the journal Nutrients found in an association between low B12 and depression.

And some intervention studies show B-12 supplementation improves the response to antidepressants, especially in older adults. The mechanism likely involves neurotransmitter synthesis through the methylation pathway.

Then we have Neuropathy. Studies in diabetic patients show that correcting B12 deficiency, especially in metformin users, improves nerve conduction velocity and reduces neuropathic symptoms.

Pregnancy. B-12 is critical in the first trimester alongside folate. Low maternal B12 is associated with neural tube defects, preterm birth, and low birth weight.

The research here is strong and consistent. So what are the best forms of B-12? This is where I really want you to pay attention because not all B 12 is created equal.

There are four main forms of B12. First there's cyanocobalamin. This is the cheap synthetic form you'll find in most commercial supplements and fortified foods.

It contains a small cyanide molecule that your body has to detach and excrete. In healthy people this isn't dangerous but requires conversion steps. And people with certain genetic variants, particularly the MTHFR and some other genes, may not convert it efficiently.

I don't recommend this form really for anybody. Methylcobalamin, this is the active, neurologically active form of B12 found in human tissue. It's used directly in the methylation cycle and in myelin synthesis.

Best Forms of B12

This is my first line recommendation for most patients, especially those with neurological symptoms, cognitive concerns, or known MTHFR variants. Then there's another form called adenosyl cobalamin.

The other active form, primarily used in the mitochondria for energy metabolism, it works synergistically with methylcobalamin. Some high-quality supplements contain both of these types of B12.

Then there's hydroxylcobilamin, a natural form found in food that converts to both active forms. It has a longer half-life in a body and can be a great form to use in injectable B-12, especially in cases of severe deficiency or pernicious anemia.

So my clinical recommendation for most people is that methylcobalamin is the best starting point, especially if you have severe deficiency or malabsorption.

If you're sensitive to methyl cobalamin, which a small percent of people are, then you could use some of the other forms that I described earlier. How to use B12.

Let's talk about delivery, because this matters as much as which form you choose. Our supplementation works for the majority of people, but only at high enough doses.

At low doses, B-12 absorption depends entirely on intrinsic factor. But at very high doses, around a thousand micrograms and above, about 1% gets absorbed through passive diffusion, bypassing intrinsic factor entirely.

This is why many supplements are dosed in the hundreds to thousands of micro grams, even though daily needs are only about 2.4 micro-gram. It seems counter-intuitive, but it's by design.

Then we have sublingual, which is absorption under the tongue.

How to Take B12 and Typical Dosing

Tablets or liquids dissolved under tongue may offer better absorption than swallowing in a capsule, as some B12 can be absorbed through the oral mucosa.

The evidence here is modest but the logic is sound. and I often recommend this option for people with absorption problems. There's also nasal sprays, usually available by prescription, and that's another route to get around the gut, but they're less commonly used and tend to be more expensive.

Then you have intramuscular injection, which is the gold standard. The gold is standard for the people who have pernicious anemia, severe malabsorption, neurological deficiency, or when we need rapid repletion.

Hydroxyl cobalamin is a good form, so is methyl covalamin for injection form. In my practice, I've seen patients with long standing neurological symptoms turn around with a course of intramuscular or subcutaneous B12 injections, especially those who do not respond to oral supplementation.

Hey everybody, I want to take just a quick moment and invite you to my website, drstengler.com. Here we have the supplements that we've been using with our patients for many, many years.

High quality and high potency supplements, very pure. So, if you're looking for high quality supplements where you can notice a difference, both in how you feel and on your lab tests, go to our website at dr.stegler dot com.

But for a typical dosing protocol for healthy adults as a maintenance dosage, usually it's 500 to 1000 micrograms of methylcobalamin daily orally or sublingually.

If you have a known deficiency, we like to up that 1000 to 5000 micro grams daily for one to three months and then reassess. You have severe deficiency or pernicious anemia, then use the injectable form.

Usually do that weekly for few months, and once monthly after that. You can ask your doctor for both serum B12 and methylmalonic acid as tests. Serum B-12 can look normal while functional deficiency exists, and that's why the methyl malonic can be a great functional marker.

So here's the takeaway. B12 deficiency is far more common than most conventional doctors are checking for. It can silently affect your brain, nerves, energy and cardiovascular system for years.

And most people can correct it safely and effectively with the right form, right dose and right delivery method.

Key Takeaways and Testing Advice

If you're on metformin or a PPI medication for blocking stomach acid, or if you are vegetarian or vegan, Or if your over the age of 50, if we have any of these symptoms we talked about, get your levels checked.

Ask for the methylmalonic acid not just CRB12. If You found this helpful please give it a like and share it with someone who might need it. Drop your questions in the comments, I'll read them and try to respond.

And subscribe if you're not already, because we go deep on evidence-based integrative medicine every week. I will see you in next one. Take care of yourself.

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