

## Do supplements work? part 2

**Erik Eng:** Check... one, two. Yeah, didn't feel much at all actually. The taste of it was maybe the most impactful. Didn't taste great... yeah.

**Kim Gajraj:** As the keto diet gets more popular a number of keto related products are coming onto the market. Exogenous ketones are one of them, a supplement that claims to boost up your level of ketosis and by doing so, increase physical and mental performance, improve mood and energy levels and reduce hunger and brain fog. But do they work?

With the help of some of the DietDoctor team members we're going to put some ketone supplements to the test and find out if they really do have all the benefits they claim to.

Hi my name is Kim. I'm here in the DietDoctor kitchen in Stockholm. Today's the day one of the ketone supplements experiment, so what we're doing here now is we're going to mix the different supplements that we have. We're only going to give them a number so that our test subjects don't know which supplement is which.

And that's also really important because one of the supplements is actually not a supplement. It's a control. We're going to use this sweetened drink that says it's got natural colors and flavors to have something that tastes a bit like a ketone supplement, but isn't actually one. And our subjects are not going to know which one is which. If there are any effects from the ketone supplements, whether those effects are down to the ketone supplements or whether there are some other factors that's causing them.

So this is the number one. It's the Pruvit KETO//OS Max. Number two is going to be the control. And next we have a Ketōnd Advanced ketone blend, that's number three. We have Perfect Keto's chocolate sea salt based ketone supplement. And then we also have this powder from Kegenix Prime. So we're just going to mix those according to the manufacturer's instructions and then there will be ready for our subjects to drink.

Each day of the experiment I mixed four of the drinks, one for each of the team members taking part. We ran the experiment over five days so that each person tested each drink once. Now we have our four supplements ready. This is number one, the Pruvit KETO Max. This is number two, which is the control. This is number three,

which actually needs topping up. That's the Ketōnd Advanced. And then this is the Perfect Keto chocolate sea salt one.

Our test subjects think that there are five ketone supplements. They don't know that one of them is a control. So we try to make this one to taste as much as possible like the other ketone supplements. So we're now going to go over to our team members.

We're going to do a physical test, a mental cognition test and a ketone test, both before and after taking these supplements. So let's go over and meet the team and we'll get the test started. It's time to meet our team DietDoctor test subjects.

**Emöke Csoma:** Cheers.

**Giorgos Chloros:** Cheers, people.

**Emöke Csoma:** Bottoms up.

**Kim Gajraj:** So welcome to the DietDoctor couches. This is where we hang out, have our coffee breaks, but today we're here because we're going to start rolling with the ketone supplements experiments. So Giorgos, you're going to start with cognition today. Emöke, you're going to start with push-ups. Jonatan, you're going to start with the questionnaire and Erik, you're going to start with testing your ketones.

**Erik Eng:** Okay.

**Kim Gajraj:** Let's do it.

Over five different days the team members will run through tests both before and after taking the supplements to check blood ketones, physical performance and mental cognition. They'll also answer a questionnaire asking about hunger, energy, mood, brain fog and taste. We'll compare the results to measure the effects of the supplements.

**Giorgos Chloros:** That was the sweetest thing I've had in like a year and a half.

**Jonatan Victor:** Wow!

**Kim Gajraj:** A full dose.

**Emöke Csoma:** I recommend to friends and family.

Even though I liked the taste of the supplement, it was surprisingly good, after I drank it I felt quite a bit nauseous and also I got extremely hungry. It was like a monstrous hunger that came over me. I haven't felt like that in months I would say. So I didn't have such a positive experience to be honest.

**Erik Eng:** Yeah, didn't feel much at all actually. The taste of it was maybe the most impactful. It didn't taste great. The supplement I tested was... I think the flavor was chocolate. It didn't say but that's what I reckoned. I didn't feel perfect later in the evening, but a couple of hours later it was okay.

**Giorgos Chloros:** I felt nothing special at all. The only thing I felt was a little bit of hunger and it didn't feel very nice to my stomach. That lasted for a few hours I think, until I went home. It was very sweet and I would probably blame this nauseous feeling to the sweetener, because I'm not used to that. But again, I don't know, I'm just saying.

**Jonatan Victor:** I didn't feel very much, to be honest. I don't know what the reason was for it, but maybe I felt just a bit less energetic. I had this small nauseous feeling, just a tiny sensation.

**Kim Gajraj:** I tend to be suspicious of companies that promoted supplements as an easy alternative to lifestyle changes. Ryan Lowery does research on ketone supplements and he is listed as a specialist on Prūvis website. I wanted to ask him how he recommends using the supplements.

**Ryan Lowery:** I think real food and whole foods is key, it's a priority. I think getting people closer and closer to that is absolutely essential. The key is also to figure out how to make this lifestyle sustainable.

I'd rather provide someone with tools and resources to make sure that they are able to sustain this for a long-term, rather than, "Hey, I'm just going to do this diet for a couple of weeks and then go back to my old ways."

I think ketones can be one of those options. But make sure you're not utilizing those every single day and relying on them as a crutch and eating all these sweets and sugar replacement things all the time.

**Kim Gajraj:** Error number four.

**Emöke Csoma:** Suck on their own blood. It's delicious.

**Kim Gajraj:** Like this. It's down, out, back and up.

**Giorgos Chloros:** That was 49.

**Erik Eng:** How many did you? Dude?

**Giorgos Chloros:** I did 49.

**Erik Eng:** Oh my God.

**Giorgos Chloros:** How many did you do?

**Erik Eng:** 28.

**Giorgos Chloros:** Could you say the number?

**Jonatan Victor:** You don't want to hear it, Giorgos. It was only 51.

**Kim Gajraj:** It's the end of the experiment. So what did that test subjects think about the experiment?

**Giorgos Chloros:** Well, I thought it was pretty fascinating because I didn't know what to expect. And I think probably... maybe or maybe not... I was one of the participants with the least bias so to speak knowing that there should've been some sort of drastic improvements both physically and mentally and not sure that that ever happened.

So I actually made a wild guess which one was the placebo and it turned out I was right. It was obviously the one that had the best taste. I would recommend these ketone supplements to my friends and family... Once they have so much money they just don't know what else to spend it on.

**Erik Eng:** It was kind of fun to do the experiment for the science, right? I don't think I would be able to tell any difference from the results on either one. Even though one was a placebo. But I don't know, for some people it might work better than for me. Yeah, it was fun to be part of it.

**Giorgos Chloros:** For sure I was very curious. I still am very curious about like seeing the final result of the experiment with it. It was just fun to do it, you know, in a random day here, all of us, colleagues and friends just taste some supplements. And you know, see what happens.

Well, I can tell for sure that I haven't noticed any positive effects, but negative effects maybe it was one, for sure, maybe two, if I try to look back and remember now, maybe there were two supplements that made my stomach a little bit upset. All of the five days that we did the ketone supplements experiment I was fasting, so I took all the supplements on a fasted stomach.

**Jonatan Victor:** I didn't really enjoy any of it. Well, it was fun competing with some of the other employees like when doing the physical activities. I could watch the difference in ketones afterwards. Some of them were better, of course. But aside from that, no. From maybe one of two of them I noticed that I got this bit of nausea and I can't say that I felt like that with all of them. So yeah, that was probably the only thing.

**Kim Gajraj:** We were unable to show you that the supplements had much effect on any of the markers we tested. On average there were small increases in mental performance and moderate increases in mood when comparing the supplements as a group to the placebo. There was no difference in brain fog and there was a small decrease in energy levels.

In fact the supplements were associated with a big decrease in physical performance and even more surprisingly blood ketones had only increased by an average of 0.3 one hour after taking the supplement. You can see the full writeup of the experiment plus the breakdown of the results for the individual brands on [DietDoctor.com](http://DietDoctor.com).

What do you think about the way that ketone supplements are marketed?

**Ryan Lowery:** So unfortunately ketone supplements when they are brought to market are marketed as, "Hey, drink this and lose weight". And that's really not the intent and that's really not what they do. And I am glad that now more and more research is coming out showing that, "Here's the real benefits of exogenous ketones. Here is where they may have application."

It's one of the reasons we're looking into traumatic brain injury and some of these neurological deficits where a lot of it is impaired glucose metabolism. And if you provide a fuel source that is superior, like ketones, that your brain can still take up and utilize, you do see improvement.

So that's where the research needs to go, I think there's a lot more being done in the right way scientifically, to really analyze what they do do, what they don't do, but people just need to be careful when they see these claims being brought out like, "Hey, drink this and you're instantly going to lose weight."

That's not the intent. Nothing in the world that you take, that you're going to be able to drink and instantly lose weight, I haven't seen any product in my entire life that can do that.

**Kim Gajraj:** Our conclusion? You don't need to spend money on products to revolutionize your health. Just enjoy real, delicious, low-carb food, get plenty of sleep, some exercise and reduce stress. And remember, when the way a product is marketed sounds too good to be true... it probably is.