

Oxidative Stress, Mitochondrial Function, and Carbon 60

Laura Frontiero, FNP-BC interviewing
Ken Swartz



Laura Frontiero, FNP-BC

Welcome back to the "Restore Your Mitochondria Matrix" discussion. I'm your host, Laura Frontiero, and I'm bringing you experts to help you boost your energy and fix your health so you can build the life you love. Today my guest is Ken Swartz. Hi, Ken, welcome to the summit.

Ken Swartz

Glad to be on, Laura.

Laura Frontiero, FNP-BC

Yeah, I wanted to bring you on here because we're talking about solutions on this summit to restoring cellular health and mitochondrial health and building energy and resolving chronic health issues, and really you are a man behind one of the big solutions. So that's what we're gonna talk about today. We're gonna talk about C60. This is C60, everyone, and we're gonna get into what this is and how this helps you. But Ken, you're the founder and Chief Science Officer of C60 Purple Power. It's a health and wellness company committed to delivering the highest quality C60 products available. We're gonna talk about what that means, what high quality means and what you're looking for.

And in your background, you've run several research science laboratories over the course of your career, and discovered that C60 helped with the... You discovered that C60 was awesome while you were developing the MOXY fusion reactor. So you have to tell me what that is. And during your research, you became aware of the powerful free radical neutralizing properties of it, and

that's really critical for mitochondrial health, which is why I wanted to have you on here. So, welcome, welcome. Can you share with us a little bit about, to start off, your personal transformation with C60, how you stumbled on this and then what happened to you?

Ken Swartz

Yes, well, C60 is a little molecule with 60 carbon atoms shaped like a little soccer ball, you can probably see it behind me there. And I was working on a fusion reactor project, and we were gonna be exposed to deadly, potentially, radiation. And so one of the things that I went out looking for... A lot of the people that done the same thing, they had, it was the late doctor this and the late doctor that. I didn't wanna be in that category.

Laura Frontiero, FNP-BC

You didn't wanna die.

Ken Swartz

Yes.

Laura Frontiero, FNP-BC

You didn't wanna die while you were... So let me get this straight, you were working on a nuclear reactor.

Ken Swartz

Yeah, yes.

Laura Frontiero, FNP-BC

So you were gonna be exposed to bad stuff.

Ken Swartz

Yes.

Laura Frontiero, FNP-BC

And so I just wanna say on a side note here, sorry to interrupt you, but I really wanna set this up so people get the importance of this. Everyone, we have radioactive elements in our water. So don't think because you're not working on a nuclear reactor like Ken, that you aren't exposed to radioactive elements. So I'm just gonna let you go from there.

Ken Swartz

Okay. Yeah, so I went out looking for something to protect my crew and myself against radiation. And I came across this stuff called carbon 60. And they did an experiment, they did several of them actually, where they'd give one set of rats would get the C60, and then they had the control group which didn't get any. They exposed them both to like a deadly dose of radiation, and like all the C60 rats would live, where the control ones would immediately die. And so I said, "Ah, that's the stuff for us." So I found a couple sources, and we were taking it during the experimentation, and by the way, we're still all around. And after the experimentation I kept taking it, 'cause I got, kind of got, had more energy. The afternoon blahs you get like after you eat lunch, and you kinda wanna take a nap that kind of went away. And, but the real thing happened about seven months after I'd started taking it. I went into my eye doctor and my druse, or dry macular degeneration, had completely disappeared. And, which is the-

Laura Frontiero, FNP-BC

Incredible.

Ken Swartz

Yeah, my eye doctor had never seen that happen before. And, you know, one thing's just a fluke, you know, I'm a scientist. So in the meantime, when my electrical engineer on the project, Gary Rodriguez, had developed extreme wet macular degeneration. We used to be able to post his before and after pictures, you know, we could see he had all kinds of heinous lesions on the inside of his eyeball. And so he took C60, about a tablespoon of C60 in MCT oil for a year, and his wet macular degeneration completely disappeared.

Laura Frontiero, FNP-BC

Wow.

Ken Swartz

And one of the things you wanna talk about is that, like, for instance, the retina, it's a, macular degeneration is a retina disease, and the retina is part of the brain, and brain cells actually have the highest level of mitochondria in the body. You know, it's like two, you know, it's 2% the weight of the body and it uses 20% of the energy. And so, and so, that's- later we found that C60 is really an SOD mimic, superoxide dismutase, and it's really, it really kind of restarts your mitochondria.

Laura Frontiero, FNP-BC

Wow. So yeah, it's very relevant that we're having you on this summit and discussing this. So we know that oxidative stress is a big damager of mitochondria, so if you can give us the cliff notes on what is oxidative stress and then how that impacts mitochondrial function.

Ken Swartz

Well, oxidative stress is basically your body resting. You've got these oxidative radicals out there, and, just like oxygen will turn rust, you know, turn iron into rust, the same thing would happen inside your cells, you know. These oxidative radicals will cross link proteins so they don't work, they'll punch holes in your cell membrane so things leak out or leak in that shouldn't, and, of course, they can damage your RNA and DNA. And the mitochondria in your cell actually produce 65% of all the oxidative radicals that they face. And, of course, the body produces anti, natural antioxidants to neutralize that, you know, 'cause the mitochondria are the little furnaces of the cell, they're making 95%, you know, making ATP, which is 95% of the energy that your cell uses. And, as we get older, though, some of the key antioxidants that could only be produced in your cell, like SOD, superoxide dismutase, and catalase, and just glutathione tend to go down. And so your mitochondria, because they got their own little DNA, have to like tune down themselves so they don't burn themselves out 'cause they have been self-regulatory, and then of course you don't have all the ATP you do, you get, and then you get all the problems of, like, low mitochondria dysfunction.

Laura Frontiero, FNP-BC

Okay, so clearly oxidative stress is a problem. We've had a lot of speakers on this summit so go back and watch the interviews, you know, where we talk about what's going on with mitochondria decline, and it really drops biogenesis and reproducing of mitochondria, growing

of mitochondria, and then chronic disease is the end result. So what is C60 exactly, and how can it support mitochondrial function?

Ken Swartz

Well, C60 is a little molecule, 60 carbon atom shaped like a soccer ball, and it's one of the most powerful antioxidants known. And it's basically, it's what's called an SOD catalase mimic. That means it can do, the most powerful, most damaging oxidative radical that your mitochondria make is superoxide, and that's an oxygen with an extra electron. And that's extremely rust-causing, damaging. And so, usually your body has catalase, or has SOD, which new turns superoxide into hydrogen peroxide, then catalase turns it into, turns the hydrogen peroxide into water and oxygen. And that's kind of how, but as we age, that goes down, and so the mitochondria have to go down.

Well, you take C60, C60 does the job of SOD and catalase in one step. And it actually, C60 will actually, unlike other molecules, it actually releasing electron into the environment to get a positive charge, which negatively charged oxidative radicals are attracted to, it actually pulls hydrogen ions from the environment inside itself, especially inside the mitochondria. It goes to the outer membrane wall of the mitochondria, which are positively charged because they have lots of hydrogen ions. So it kind of fills up there, and then it becomes positively charged, and it heads toward the inner membrane, which is negatively charged. And also in between, you've got all superoxide and the hydroxyl ion, the second most damaging oxidative radical in the body, and C60 will kind of attract those.

And it just takes the electron off superoxide and contributes it to a hydrogen ion, neutralizing it back to oxygen so it can go back in the Krebs cycle. And, for the hydroxyl ion, it just basically releases one of those hydrogens ions and turns the hydroxyl radical back into water. And then, eventually, it runs out of those positive hydrogen ions, a few oxidative radicals stick to it, then it heads back to the outer membrane, where it fills up and neutralizes, then fills up again. And so you could have hundreds of thousands of these little C60 molecules bouncing back and forth between the membranes and your mitochondria, neutralizing oxidative radicals.



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And something, yeah, and something really critical that I heard you say, and other speakers have talked about this on the summit, is the importance of hydrogen getting into the cell. Hydrogen is quite healing. It helps with cellular regeneration. You know, there's a lot of companies out there that sell hydrogen products, right, like molecular hydrogen that you have, you know, that evaporates in the air, and you have to drink it down really quick. And, you know, and then there's hydrogenated water. There's all different types of it, but this helps drive that hydrogen in. That's what I heard you hear, which is really-

Ken Swartz

Oh, oh yeah, exactly. And yeah, C60 is a hydrogen sponge. So usually if you do a hydrogen gas therapy, within 11 minutes all the hydrogen is out of your body. Whereas C60, it can, it has this affinity for hydrogen, part of the carbon bondings that it is. And so it can hold up to 56 hydrogen atoms and six on the inside.

Laura Frontiero, FNP-BC

Incredible.

Ken Swartz

And so it's, so instead of letting, you know, that, instead of it just going away in 11 minutes, it's gonna stick to your C60 molecules, the C60 is gonna use it to neutralize oxidative radicals. So you get so much more benefit out of hydrogen gas therapy if you're also using C60 with it. It kind of supercharges hydrogen gas therapy.

Laura Frontiero, FNP-BC

Simultaneous. Yeah, if you're gonna do that, make it, make it last. So let's talk about the benefits we can see when someone's using C60. I mean, obviously, it's lifting the oxidative burden on the cells. So what happens when we lift that?

Ken Swartz

Well, what you're gonna do is, well, C60 is a, a free radical sponge, so it kind of sucks up those free radicals. And so first thing that you're gonna notice is probably an increase in mental energy,

'cause that's, 'cause the first thing C60 helps is any parts, cells in your body that have a lot of mitochondria. And the number one cells that do that are brain cells, basically. So you get that increase in energy and mental clarity. You know, the brain fog goes away. It's just, you're more focused. Your ability to focus goes way up. And also, of course, it's an antiox, it goes everywhere, so you'll also get a decrease in inflammation. And that's one of the benefits, 'cause, you know, there's two types of inflammation. There's acute inflammation, when you sprain your ankle, right? You kind of, swells up, it puffs up, and, so it doesn't move. But one thing people don't know is inflammation also causes a suppression in dopamine, which is the motivation molecule.

'Cause you, they don't want you to get up and walk around on your ankle so there's a natural process that suppresses that. And that's great with acute inflammation, but with chronic inflammation, which so many people have because of, basically, of oxidative radical production that causes this chronic inflammation, it just permanently suppresses your dopamine. So you just feel like you don't have any energy, you don't want to do anything. Well, C60 gets in there, gets rid of that chronic inflammation, reduces it, and then that whole process allows, when it's blocked, allows the dopamine production to restore. So another thing people notice is like an increase in motivation. They want to get off the couch and start doing the things that they loved to do before. You know, they'll start to, a lot of people, if you take some, they'll go start cleaning the house. That's a common side effect. Or they'll get up and start doing exercise routines. So you get that motivation back. And a lot of the aches and pains and things that you've been having just kind of go away

Laura Frontiero, FNP-BC

Yeah.

Ken Swartz

and everything works better.

Laura Frontiero, FNP-BC

Yeah, let's talk about some stories about what your clients have experienced. You had this macular degeneration miracle. You're just mentioning, it helps with dopamine. It helps with

motivation. It helps with aches and pains, but I know that it even helps with some other things. So, you know, who might wanna take this?

Ken Swartz

Well, I'll give you an example of a, well, anybody, basically, if you're in the gray-haired crowd, you want C60 because, 'cause as you get older that SOD and catalase and glutathione goes way down, and C60 can take the place of that. And really it's the only thing, there is really, when you have mitochondria dysfunction, there is very few treatments you have because, you know, it's, there's ones where you can do supplementation to build, like, the SOD and the glutathione and the catalase, but it takes a long time, and it's very ineffective. Whereas C60, it's almost immediate there. And I'll give you an example. This is one, it's a little bit much, but this is, this is actually kind of typical. "I'm seventy years old and been in poor health. However, after one year of taking C60 Purple Power, my high blood pressure is gone.

My eyesight is markedly improved. My aches and pains have disappeared. My high frequency hearing loss since I was 18 years old has disappeared. My hair is browner and my energy level is much, much better. I've also lost 50 pounds. I was diagnosed with, by an endocrinologist as being overweight due to a genetic problem with my liver, which runs in my family. So the only explanation for the weight loss is that, was what I would call a miraculous restoration of my liver function. Bless you and all the good people that make this wonderful supplement available. And finally, my whole family and many friends are now on board." And that's what you get. Or here's another one. "I have faithfully taken C60 Purple Power for better than a year. Now at age 52, I feel great, and my energy levels are awesome. I've been suffering arthritis in my lower joints since I was 48 years old. Now, one year later after taking C60 Purple Power, I have no arthritic joint pain at all." You know, "Thank you." And so that's kind of the thanks that we get all the time. We get love letters, like every day kind of describing that.

Laura Frontiero, FNP-BC

Yeah. Now let's, thank you for sharing that. And let's talk about what to look for as a consumer because there's a couple C60 products out there. It's not proprietary to you, right? I mean,

Ken Swartz

Oh, yeah.

Laura Frontiero, FNP-BC

people can make this, so what do they need to be on the lookout for, and what sets this aside? So I'll just say on a side note, I'm part of a functional medicine, you know, mastermind, and we, many of us use this product. This has really been endorsed by many of the specialists that I know in my community. So explain to people why we like this, why we love it, and why we go towards this particular product.

Ken Swartz

Well, there's a, you know, when C60 was small, only a few producers were making it everybody made a good product, and, you know, 'cause they and their families were using it, right? But it became popular, and so we have all these fly-by-nighters, which, and so, which maybe have low quality C60, no C60. So there's basically three things you wanna look for. First, you wanna look for purity. You want 99.99% pure C60, and that's the purest on the market. And the reason for that is kind of the way that it's purified. And that's why you want sublimated C60. And if you remember from, let's say, chemistry class, high school chemistry class, sublimation is the cousin of evaporation.

It's when a solid turns into a vapor then condenses back into a solid, and that's, all of our C60 is that. They basically put it in a sublimator, heat it up to 400 Celsius, and it turns the C60 into a gas from the production ashes, and that gas will float across and then condense on the other side of the sublimator where it's cooler, and that's how you get 99.99% pure C60. Because a lot of C60 producers use C60 that's purified using methylbenzene, toluene, which is toxic, or industrial solvent. And so, like, if you see oven baked or 99.9% pure, you're looking at basically a solvent-based C60, that was purified. And so there's, you know, and no matter how much they purify it, there's always a little bit of solvent left in it.

Laura Frontiero, FNP-BC

That's-

Ken Swartz

So that's why you always-

Laura Frontiero, FNP-BC

That's concerning to me, Ken. I mean, I spend a large part of my practice, helping people remove environmental and industrial toxins from their body. And this is something that people don't realize. You can actually be adding to your toxic load by the supplements you're taking because not all supplements are created equal in purity and quality. So I'm really glad we're talking about this.

Ken Swartz

Yeah. So that's what you wanna, yeah. So always look for sublimated C60. And then there's, I'm not the only producer out there. There's several other producers that make sublimated C60 because we use it and our families use it. And we really don't wanna be, you know, taking toluene or methylbenzene into our diet. And then the third thing is we use, kind of like, the Goldilocks of oils because, you know, there's some oils out there that have that, you know, have a long shelf life, but they got a really high level of omega sixes and are inflammatory, which is, you know, kind of what you're using C60 to get rid of inflammation. Things like canola oil, soybean oil, cottonseed oil, sunflower oil, safflower oil, all of these oils have such high levels of omega six.

They're actually inflammatory for you, and frankly, you shouldn't be eating them at all in your diet anyway, let alone in your C60 product. And then on the other side, there's some oils that are really great for you, like flaxseed oil, and hemp seed oil, and fish oil, krill oil. And those are 'cause they have a really high level of omega threes in them, right? Only problem is they go rancid really quickly. In fact, any of those oils, flax, fish, or hemp seed oil, you should always buy outta the refrigerated section of your grocery store or your health food store. Because if you buy 'em off the shelf, chances are they're rancid and rancid oil's really bad. So what we did is we picked like the Goldilocks of oils. Oils that have a really nice omega three six balance so they're anti-inflammatory and healthy for you. Like for instance, avocado oil, right? Extra virgin, we have 100% organic oils, by the way. So, obviously organic avocado oil, everybody knows about the Mediterranean diet and how people have been using avocado oil for thousands of years, and we all know how healthy it is. And then also when it first came out, you know, the first C60 products I

could get, I could only find it in extra virgin olive oil because that's what a lot of the research was, and everybody imitated that. But I have a sensitive digestive system. So a lot of times if I take too much olive oil, it'll go right through me. So I started putting it in 100% organic avocado oil, which has a really good mix of omega threes and six just like olive oil, but it's a little, it's a lot easier to digest. So that's kind of the oil that I really like. And then the other oil we put in is we also use MCT coconut oil. And I don't know if you've, if your people are familiar with, MCT stands for medium-chain triglycerides, and those MCTs could be taken by your liver and turned into ketones, which your cells can use for an immediate flex fuel. So, like Gary Rodriguez, my engineer, he had type 2 diabetes. Rodriguez, right, it kinda runs there.

And so he needed like that extra, 'cause if, because when you have, you take MCTs, it turns into ketones so if you don't have glucose available, those cells can just take the ketones and run off fat. So it's like flex fuel for your cells. And by the way, his type 2 diabetes went away after a year, besides getting rid of his macular degeneration. So those are kind of the three Goldilocks oils, olive oil, avocado oil, and MCT oil, which are the best, healthiest for you. And so, you know, which, and if you've got a glucose processing issue, you probably wanna do MCT oil.

Laura Frontiero, FNP-BC

And this is best delivered to the body in an oil, I'm assuming because-

Ken Swartz

Yeah, there's no, C60 has no solubility in water.

Laura Frontiero, FNP-BC

Okay. Got it.

Ken Swartz

And so basically you, and so you want to do it, you want to make sure you, yeah, you take it in a healthy oil, 'cause there's really, there's really, there's a poly hydrogenated, but that's, many times, more expensive, and it's only used in, like, certain experiments. And it doesn't matter whether it's poly hydrogenated oil, once it'll, the oils will take you past the gut barrier, and then once it's into your blood, the C60 will pass the blood brain barrier. And so it'll go everywhere in your body.



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It just won't absorb without the oil. Now taking it. Should it be with a meal, on an empty stomach? How do you recommend doing it?

Ken Swartz

Well, that matters on, people's personal preference. If you've never digested an oil straight before, it's best taken on an empty stomach in the morning. 'Cause it does, when it ramps up your mitochondria, you get like an energy boost, and you'll notice that immediately. And so if you've never digested an oil before, it's fine to take it with, let's say, food in the morning at breakfast. That would be fine.

Laura Frontiero, FNP-BC

Okay. Just a teaspoon?

Ken Swartz

Just a, yeah. Somewhere, it's between a teaspoon and a tablespoon. If you're like in your mid-thirties or forties, and, you know, you're moderate weight, right, a teaspoon is fine. Now, if you get a little older, you got some gray hair and a few years on you, then it's probably about a tablespoon, you'd double up.

Laura Frontiero, FNP-BC

Okay.

Ken Swartz

On our website, which is shopc60.com, if you go there, we actually have a dose indicator, you know, where you can kind of find out what it is. But usually it's about, if you're older, it's about a tablespoon, and heavier it's a tablespoon. And for most people younger and lighter, it's just a teaspoon a day in the morning.

Laura Frontiero, FNP-BC

Yeah. Perfect. Okay. So thank you for describing this, for explaining how it works. Now, I'm sure you agree this in combination with healthy lifestyle is your sweet spot. So what do you have to

say, Ken, about healthy lifestyle in combination with the supplement? Because we all know that supplements alone cannot solve the problem. You must walk the walk and talk the talk. So share with us some of the best practices to really amplify the results of this.

Ken Swartz

Oh yes. Yeah, C60 is not some magic pill that's gonna take and fix your things. Look, if you're, you've gotta, first off, it's like an old vet said, "What's the best for animal health?" Same for people. It's diet, diet, diet. So eating healthy is probably one of your number one things, you know. Organic foods, if you can, they found just two weeks of organic fruits and vegetables got rid of 90% of the pesticide herbicide burden that's in a person's body, right? So eating organic and healthy foods for you and staying away from, like, the seed oils, which I talked a little bit about earlier, that's really key. Clean water and supplementation. A lot of the foods today simply don't have the vitamins and minerals that they did in the past. So a good process of getting supplementation would be good, and also avoiding toxic situations. You know, before you get outta the bed, outta your house in the morning, you've been exposed to three to 500 toxic chemicals, right? In everyday products in your house. And there's a, there's actually, there's things you go online, like I think, think dirty. It's actually a program online where you can actually type in whatever, you know, products you have in your house, and it'll tell you, is this a good product or is it like, has toxic substances?

Laura Frontiero, FNP-BC

That's an excellent resource, by the way. It is think dirty, and there is an app you can put on your phone, and it's a barcode scanner. And you can literally scan the barcodes of probably over a hundred thousand products. It's growing all the time. And if you scan a product that's not in there, you can suggest to them to add it, and then they'll go and rate it and you can come back and see if they've put it in later on. Yeah. Excellent reference.

Ken Swartz

Yeah. And also, there's also, there's like, for instance, electromagnetic pollution.

Laura Frontiero, FNP-BC

Yeah.



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Ken Swartz

A lot of people don't think about that, but you know, we're being exposed to billions of times more electromagnetic radiation than our ancestors were, so, you know, you got routers and everything else. And so that can actually, and people, you know, they used to say, oh, it doesn't heat the brain up, you know, if they did the thermal, but they found now that a lot of those electromagnetic frequencies will actually jam open voltage gated channels in your cells. So, like, calcium will leak in and do all kinds of damage because, and so if you can reduce your electromagnetic pollution levels, that's huge. And there's lots of things, there's clothing that you can buy, or you can just, you know, you can, instead of running, you know, running a router, you can just use ethernet, right, wire, directly wire in your computer

Laura Frontiero, FNP-BC

We've got a couple-

Ken Swartz

so you don't have-

Laura Frontiero, FNP-BC

We've got a couple really good talks about that on the summit so make sure you look for those talks about EMS and dirty electricity and all the damage that does to your cellular health. So... Excellent tips.

Ken Swartz

Oh yes. Yeah, and so all of those things working together. So, you know, C60 is just one tool in the toolkit for better health, but you gotta put some effort into it. And the other one, let's think about it, is exercise. You gotta get off your ass, and get out the door, and do exercise. That's number one. And I know the corona thing, let me, I had my corona role, too. I've been out, but I've been out walking and, you know, getting that weight off as a, you know, 'cause we were so inactive during that period. So that's another key one, you know, good food, good water, exercise, good mental attitude. There's a lot of toxic people in your life, and getting rid of toxic people in your life can make it so much better. And it's just, that's those things that just happen. And my, some of my personal things that I do, obviously I do supplementation of, and micronutrients as well, but I

also actually practice intermittent fasting with occasional periodic fasting, and believe me, I tried, when I gained a little bit of weight in the past, and, you know, I do the diets, you know, all, there's all kinds of different diets, and I go down to a certain level, and I just get stuck there. But when I did intermittent fasting, I punched right through those levels, and I went back to the weights I was when I was in high school.

Laura Frontiero, FNP-BC

Excellent. And we've got talks on intermittent fasting on this summit, too.

Ken Swartz

Oh, great!

Laura Frontiero, FNP-BC

'Cause that is, you're hitting all the big points because that is really, really a great way to help restore your mitochondrial function and restore your biology. So thank you, Ken, for all the tips again, we can find you at shopc60.com? Is that right?

Ken Swartz

Yes.

Laura Frontiero, FNP-BC

Okay, fantastic. Thank you so much for being here and outlining this really great solution for our audience.

Ken Swartz

Glad to be on, and help give them some information about C60.

Laura Frontiero, FNP-BC

Okay. You take good care now. Bye.

Ken Swartz

Bye.