
Julia Ross: Mood & Carbs Addiction

SVHI Transcript, Transcribed by [Bulletproof](#)
Originally Recorded: 12/2004

File URL	https://www.youtube.com/watch?v=_CMnh7nYOrM
Length	90 min (01:29)

Speaker 1: A nutritionist of holistic physicians, have helped developed an innovative treatment while incorporating specialized nutrient therapy in biochemical re-balancing strategies to address some of the most difficult and increasingly common problems faced by Americans today: depression, anxiety, carbohydrate addiction and chemical dependence. I give you Julia Ross.

Julia: Thank you for giving me the energy to do this tonight. My background in addiction and eating disorders prepared me to expect miracles from psychotherapy and instead I found dismal failure. At that point I stumbled across some research on nutrition that persuaded me to start hiring nutritionists on staff at my program. That was in nineteen eighty. For six years we educated people about the benefits of an improved diet and got almost no response.

In nineteen eighty-six I stumbled on some other research which is the basis of what I'm going to be talking to you about tonight because everything changed then in my life as a professional and in the lives of everybody that I was able to help from then on. I still love psychotherapy but I see it as a sideline. The main work at our clinic is done by the nutritionist and the holistic physicians. I'd like to tell you about what we discovered and why I think it's important for you and for the people that you care about.

This isn't working.

The big revelation for me as a psychotherapist was that the problems that the addicts, and the people with eating disorders, and mood problems ... The problems that they had that seemed to me to be obviously caused by early childhood trauma, loss, death, and so forth wasn't. We worked, and worked, and worked and people didn't feel any better. They still went back to their addictive substances whether they were alcohol, drugs, or foods. I had to face the fact that there were emotions that were just terribly powerful and overwhelming, destroying lives, that I had finally labelled false. False emotion. We're suffering really an epidemic of these false emotions that lead to generalized misery as well as specific misery in the form of addiction and eating disorders.

What I want to talk about tonight is how you can recognize the false emotions in your own system generated by a malnourished brain and distinguish them from the real losses and hazards of life. Life is always going to be painful, we're always going to struggle, we're going to have loss inevitably but do we survive it, do we bounce back, or don't we? If we don't we're in the grip of a false mood. The question is why is this so prevalent now? When I say prevalent I'm saying that we're a hundred times more likely to be depressed now in the United States than they were a hundred years ago, that our rates of anxiety have tripled in the last twelve years.

There are a few possibilities. Genetics; seventy-five percent of the addicts that I've worked with have had parents, or grandparents, or both who were addicted but among eating disorders and people with general mood problems I don't see that. The next possibility is stress. Stress will definitely strip the brain of it's capacity to produce

genuine positive emotion. But are we really more stressed than we were a hundred years ago. Is that really the situation? We've had several world wars and a major depression that people survived and still were members of a country that was known for it's whistling, it's humming, it's singing, the barbershop quartets. I don't think it's stress although stress doesn't help and we're certainly more stressed in some ways than we every have been.

I vote, after all these years of discarding causes for emotional misery, is that diet is the real problem here. The American diet, the most common American diet. The problem with the American diet started after World War two and it started with a change from our traditional foods which had generated solid emotion, reliable sense of well being. The first thing to go was fat. The first thing that we lost was real fat. We stopped eating butter, we started eating margarine. Fifteen years later the margarine manufacturers admit that trans-fats are the number one cause of heart disease, a few other things. We lost a tremendous benefit to our brains and our bodies, our overall health in our loss of saturated fats.

First of all, we switched over to trans-fats and then we found out that any fat was dangerous so we dumped as many fats as possible ignoring the fact that the brain, my main focus tonight, is sixty percent fat. Will just any fat do? No. The brain really wants saturated fat. It wants omega nine fats. Of course what it really wants most of all are the omega three fats and it loves to get them from fish, which we also stopped eating. Because protein is associated with fat in most foods we also lost our protein when we jettisoned the fat. Our concern about fat had to do with heart disease, yes. Misinformation about heart disease but also had to do with our concerns about weight. Right?

We started to deduce another daring dietary experiment in the United States, never been done before anywhere, and that was the starvation. The systematic starvation of all of the females of the species. Now, this is a well nourished brain. Blue seems to be ... Sorry that that's not ...

Speaker 3: It's good.

Julia: It's all right?

Speaker 3: The other one is.

Julia: We're looking for blue in all the brains that I'm going to show you tonight. Blue is good, red is bad. I'll give you the details. This is a brain that's in trouble. I was talking about stress being a problem. This is the brain of someone with post traumatic stress disorder. The four neurotransmitters that can generate positive moods, this brain is deficient in all four.

Speaker 4: Can you tell us how that image was made? What is it showing?

Julia: Yes. It's brain spectrometry. It's radioactive iodine.

Speaker 4: It's a cat-scan?

Julia: Spect. Spectrometry.

Speaker 4: Okay.

Julia:

Speaker 5: S-P-E-C-T?

Julia: Yeah. Okay. This is a real, honest-to-god poster representing the concerns of people in the late eighteen hundreds. Eighteen ninety-one to be precise. In those days we were concerned about being too thin. Theodore Roosevelt said, "we need a nation of Amazons!" We've come a long way from that, unfortunately. Pretty much any woman could identify with that image of beauty in those days and even up through the sixties when Marilyn Monroe's body and Rosalind Russell's were relatively close to the average American woman. We didn't have to surgically remove things or starve ourselves.

When we did begin to starve it never occurred to us that what we were losing was going to be anything but fat, right? It never occurred to us that the brain was sixty percent fat and it never occurred to us that the only kind of food that could supply the brain with its four mood and appetite regulating neurotransmitters was protein and fat. We actually have been experiencing brain starvation and there are spectrometry studies of anorectics showing the brain actually shrinking. The good news is that in recovery the brain is restored to close to the normal size.

What do we have next? Yes. I want to talk about these four parts of the brain. I want to make the point again ... I started out talking about mood. I'll be talking about mood a lot but one of the things that I think is perhaps more important to a lot of you is the fact that these same neurotransmitters that program our positive moods in these four different styles that we'll go into tonight also program our appetites. If we don't have enough of these four neurotransmitters we start to crave drug foods and drug substances; so alcohol, pot, other drugs, sugar, and refined starch.

Anyone who's struggling with health problems needs to have the freedom to choose, particularly someone who's already struck down with the [inaudible 00:12:36], needs the freedom to choose healthy foods, does not need to be addicted to toxic chemicals like sugar and like flour. But these toxic substances are highly addictive. They're the white powders, refined substances with very specific effects on the brain, very much the way white powders like cocaine and heroin have very specific effects on the brain. Of course this isn't common knowledge. These foods are packaged up and served as wholesome. We've always had some sugar in this country but how about twenty-five pounds a year as opposed to a hundred a fifty pounds or more now a year per person.

If we can regulate our brain chemistry we can leave the sugar behind, we're simply indifferent to it. That's what the gift that I hope you will get from this presentation is that we can be free of even the cleverest food science experiments of which we are the guinea pigs. We do not have to be addicted to these substances. In our clinic where we work with people with very severe eating disorders, not just your garden variety chocolate addicts, but major bulimics and compulsive over-eaters we get reports within twenty-four or forty-eight hours at the latest. Those cravings are gone.

We love working at the clinic because on the other end of the phone we hear, "amazing! I walked down the bakery aisle and I wasn't tempted and I got to the other end and bought my vegetables, and my protein, and my butter." I have to just throw something in that we may or may not get a chance to talk about; but as opposed to our traditional diet which was strong in protein, strong in traditional fats, strong in homegrown garden vegetables and fruits, we have now these artificial or absent fats, we have low calorie diets, we have stress diets. I. E people are only eating maybe twice a day. This was the land of the three squares. That's how come we hummed and sang no matter what was going on. We are simply not eating and when we are eating we're eating this empty addictive substances.

There's another, what I think of as experimental diet, in addition to the one that package foods provide and that's the vegan or vegetarian diet. Which most practitioners don't get enough protein. They tend to avoid fats as well. I just want to make a pitch again, for the traditional diets, that we tip-toe back to where we were before we fell off the edge. What were we eating in nineteen hundred? There were lots of nationalities in this country but we were kind of all eating something similar. Mostly, we weren't eating what we're eating now and we were eating three times a day.

My main concern about eating is that we feed the brain properly. Most of us are so far behind in brain nutrition that to restore deficiencies in our neurotransmitters and to pull up our moods and eliminate our cravings for junk foods we're going to need to use nutritional supplements. The supplements are what allow people to call in in twenty-four, forty-eight hours and say, "It's over. My compulsion is gone." The first thing that we do at our clinic and I want you to do is to, with me tonight, is to figure out which of the four parts of your brain chemistry are depleted. Maybe none of them are. Steve eats very well, he had dinner tonight. I'd find his neurotransmitters to be depleted on that kind of a diet.

Speaker 6: Hungarian goulash, right?

Julia: With veggies.

Speaker 6: That's it.

Julia: The first part of this four part project, Brain Repair project, is the most interesting especially at this moment. First of all, let me tell you the name and brain chemical we're going to talk about for a few minutes; serotonin. Is there anybody here whose

never heard of the word before? Not in this room. Okay, well it's terribly important right now for two reasons: one, it's the only light sensitive neurotransmitter. It's the only one that sinks every winter and it's deficiencies in serotonin that cause seasonal depression. Of course, deficiencies in serotonin can cause year round depression too.

Getting back to genetics for a minute, women are much more likely to be deficient in serotonin at any time of the year, like twice as likely as men, genetically programmed with less serotonin. Not fair. Twice as likely to be taking antidepressants; ten percent of American women are taking antidepressants, four percent of American men. Which brings up to the second reason why it's so important that we talk about natural ways to raise serotonin right now because the false serotonin raising drugs, which never could raise serotonin but could only activate whatever few molecules we happen to have floating around, are taking a beating, a well deserved beating.

As the facts come out about SSRIs like Prozac, and Effexor, and so forth people are getting very frightened. They're certainly frightened for their children because that's the most clear-cut danger of these drugs. But England is leading the way, has just this week announced that antidepressants are no longer recommended for depression unless it's severe. Period. They don't know how they're going to pay for it because they have no budget for psychotherapy but there are studies showing that psychotherapy can be as effective as antidepressants which isn't terrible hard because antidepressants in the studies have a very mixed record.

But into the void, a lot of people who've suffered depression, and there are millions of us, know no other aid than antidepressant drugs. It's terribly important that you take this information and spread it around that there are excellent alternatives to antidepressants that are safe and that have been, not only in our clinic since nineteen ... In this case, nineteen ninety-five, but in research studies in Europe starting in the seventies comparing antidepressant drugs with the natural serotonin precursors. Here it is, isn't it lovely? It's really a shame that we don't have enough of it. Can you see that this is serotonin? This is a serotonin molecule

Speaker 7: Psychedelic.

Julia: This is the important thing for you to know. Do you have the symptoms of low serotonin? Most psychiatrists and other MDs who prescribed antidepressants do not have such a list. I have no idea how they come up with their diagnosis in that treatment plan. There are perfectly respectable and relatively inexpensive tests, left platelet testing for serotonin is well established, an excellent form of testing. Most of these symptoms were acquired by testing of the blood platelets and cerebrospinal fluid, which means what's actually in the brain can be tested only through cerebrospinal fluid. What they found was that people with these symptoms had low serotonin.

In our clinic we take the shortcut. We look at the symptoms and if someone has the symptoms of serotonin deficiency we raise up their serotonin. It takes about fifteen

minutes. We have our test right there. For anyone who would like to test and for pregnant and nursing women we'll do the blood platelet testing.

Speaker 3: You mean the testing takes fifteen minutes or the raising?

Julia: No, the raising and the feeling of elimination of these negative symptoms takes about fifteen minutes. Let me tell you my favorite example currently. It just happened this week. I had a mother call me about her eleven year old son and she brought him in. She called last week and she was able to get him in this week. I meet with all the children because I think it's so much fun. This particular child had been in therapy for a couple of years at eleven. They were worn to the nub. The whole rest of the family was worn to the nub by his behavior which had always been explosive, tantrum-y, and difficult but was just getting ... As he got bigger it got louder and more aggressive and more difficult to bear.

That's what I heard about him, that he was a problem. She brought him in and he was an adorable child. Very animated, very bright, doing very well in school but he had hardly any friends because he alienated everybody along with every member of his family. His mother sat kind of this way looking at him. As we were talking ... He was quite willing to talk on, and on, and on about things but he never looked anybody in the eye. I mentioned it to him and he said, "It's scary." We talked a little bit about his anger and he gave me a little demo with his mother right there. I could see what was going on.

I told him that I thought about five eighths of his anger was probably false. I gave him the false emotion lecture, "Because sometimes when you're angry it's because people are really being obnoxious, but it looks to me like most of the time when you're angry there really isn't a reason. I think you probably wonder yourself, 'Why am I so angry and why is everybody mad at me? Why am I making them mad at me?'" I said, "Fear is one of the primary symptoms of serotonin deficiency." I didn't use the word serotonin but, "The deficiency in the part of your brain that I think is very hungry."

You can see here how many symptoms of fear there are. There's worry, there's anxiety, there's panic, there's low self esteem, shyness. This negativity. He tended to be quite negative about his self and about other people. He thought he was too fat and he was a tiny little thing. Irritability and rage, you can see, is also on this list. He had a lot of symptoms and so I asked him whether he would like to feed the part of his brain that was making him mad and making him too frightened to look us in the eye. He said, "I'd be delighted." Or words to that affect.

We have little, tiny twenty-five milligram 5-HTP Sublinguals by LifeLink. They've got lactose in them unfortunately but they're neutral tasting and most children and adults don't mind them. Because they're chew-able we can get more bang for the buck. They get right into the brain and don't get lost in the digestive tract. He chewed it up and, like a lot of kids with low serotonin, very picky and didn't like the taste of it and swallowed the rest of it. But within ten minutes he was laughing a lot. We asked him to have a staring contest with his mother and he said, "Okay!" He beat her. She

blinked first. This is not unusual. This is not unusual with adults or with children. The brain is very, very eager to have the specific food that it needs to make serotonin.

We have two choices here, and I'm sure that you have been very well informed about these choices, but I want to tell you what our experience has been. 5-HTP, the current supply, is from an African bean that happens to be high in this particular amino acid; 5-HTP, 5-Hydroxytryptophan. But probably many of you used the other form of tryptophan, just ever so slightly more primitive form. Most foods that contain protein contain some tryptophan. How many people here used tryptophan in the eighties before it disappeared? Okay.

Speaker 5: Missing out.

Julia: Missing out, yeah. Once again. The question is why use 5-HTP, is there a preference? 5-HTP, tryptophan. I don't know what 5-HTP use to be made out of but when we tried to use it in the early nineties we didn't find it to be effective at all. This bean derived 5-HTP we find to be wonderfully effective and we've used it on the the same people and compared tryptophan with 5-HTP in terms of eliminating these symptoms.

Fifteen milligrams of 5-HTP is equivalent to five hundred milligrams of tryptophan for about eighty-five percent of the people that we work with who prefer it because it's cheaper, the 5-HTP. But about fifteen percent of the people who need more serotonin don't do well in our clinic with 5-HTP. Those people, almost invariably, do very well with tryptophan. The reverse is also true. There's about fifteen percent group who don't do so well on tryptophan and do much better on 5-HTP.

There's one study that showed that obsessive compulsive disorder, which is one of the low serotonin symptoms, responds better to tryptophan than to 5-HTP. The sleep promoting properties are sometimes more evident in tryptophan than in 5-HTP. Do all of you know that tryptophan was banned because there was a contaminated batch that was knowingly sent here by the company that made it, and that companies never made anymore, and that there's a psychiatrist in New York who patented the cure for the illness that the contaminated batch caused? Anybody know that? Yeah. The cure, the patented cure, is tryptophan, uncontaminated tryptophan. Unfortunately some of these people are so terrified, so deformed, so disabled that they're terrified to try the uncontaminated tryptophan and they're just continuing to suffer.

Speaker 5: You're saying it was deliberate?

Julia: It certainly seems like it. I can tell you something that will interest you very much. That is that Prozac, which came out in eighty-eight, wasn't making any money when it first came out. Why? Because the psychiatrists were already using tryptophan. They weren't interested in it. They didn't have anything against medication in general, but they already discovered that they were people's hero for giving them tryptophan. Why would they want to mess with that? It wasn't until we got rid of tryptophan that Prozac was able to take its ride.

Speaker 7: Scary.

Julia: Followed by all these others. This is someone that came to us, an adult woman that came to us, who had had a brain scan at Daniel Amen's marvelous brain spectrometry clinic. If you're not familiar with Daniel Amen's work *Change Your Brain, Change Your Life*. He's written a lot of books and they're all very interesting. He does give at least lip service to using amino acids and other natural things for correcting brain chemistry problems but he, actually, mostly uses drugs. With some of his cases brought in in chains from the local prison it may be that the natural things wouldn't work, I don't know.

This woman he described as having the serotonin producing area of the brain called the cingulate ... He said, "You have the cingulate from hell." What he was talking about was ... The cingulate is this area on the top of the brain, this arch, and you can see the red and the white all the way through that archway. He said it's one of the worst serotonin deficiency pictures he'd ever seen. This woman had been an attorney, she was totally disabled. She'd spend her day eating chocolate, lying in bed, so depressed she couldn't get up and involved in a lot of negative obsessing and inappropriate acting out; miserable and ashamed.

In her case she responded better to tryptophan. Of course we don't use amino acids alone. We always use them with a good multivitamin and mineral, B-Complex, Extra C, fish oil, and an improved diet, and other nutrients as needed. We do an individualized program at our clinic. It wasn't just the amino acids but I can tell you that for six years we used vitamins and minerals, and vitamin b, and vitamin c, and great dietary suggestions and got no where. It wasn't until we added the aminos that people's mood started to change and their cravings disappeared.

Three months later on this regiment of amino acids, highlighting tryptophan with other nutrients, Doctor Amen scanned her brain again. Before we do that I want to show you what her symptoms were on a scale of one to ten. Now, you can see this twenty afternoon or evening cravings. What's going on in the afternoon or evening that makes cravings for alcohol, sugar, pot, so much more powerful? Why do those cravings really erupt then? That's because it get's darker then. The suns going down.

The sun goes down, serotonin levels go down, serotonin levels go down and we start to feel miserable. The body instinctively knows that if it shoves some sugar and starch into the brain that it'll get a short increase of serotonin. It'll force a short, not increase in the amount of serotonin, but the amount of activity of whatever serotonin is there. It acts like a very short acting Prozac with many terrible side effects as we know.

There she was. Three months later; I defy you to find the cingulate. It's gone. That arch is gone. Her serotonin problem is gone. She's now a functional attorney. She's representing the parents of disabled children. She has a disabled child. Very, very productive life. She's in love with her husband again. She couldn't stand him when she came to us. We've saved many marriages! When somebodies lost serotonin everything looks bad and everybody looks bad. You could only focus on what's wrong.

When you get yourself balanced the other person doesn't look half bad. That's what happened with them.

Her new scores. She was on a special with me ABC did a special on natural approaches to depression last February. They photographed her running with her dog and making jewelry. It was great. To review this business about the antidepressants, it's the same few serotonin molecules in the brain so what are the antidepressants doing to our serotonin levels? Look at it this way: The serotonin molecules make use feel good when they're in a particular position in the cell, in the synapse they call it, but just think of it as the stage. Their performing a happy dance on the stage but when they get tired they're suppose to be able to go backstage and rest.

There are always a lot of serotonin molecules backstage in what they call the reuptake position as well as those dancing on stage. What the antidepressants do is keep them all on stage. No resting for you guys. If you happen to have just one or two molecules antidepressants aren't very effective because you still don't have much of a performance. If you have, you know, a few more molecules and you jam it all together and keep it all activated then you get the impression that you have more serotonin than you really do.

I'd like to tell you one more thing that happens with these drugs that I think accounts for the fact that they're now certainly associated with homicidal and suicidal impulses and actions in children and adults. Serotonin doesn't just sit around being serotonin in the wings, or dancing, going back and forth. It has other important functions. It's the substrate for a couple of other really important brain chemicals. One of them is melatonin. You can't get to sleep if you don't have enough serotonin. If you're already depressed, and negative, and irritable, and fearful you're probably going to be sleepless too because you don't have enough serotonin for the day time let alone at night to give some away to convert into melatonin.

That's why tryptophan is such a great sleep aid, and so is 5-HTP, because it not only increases our serotonin but then that allows us to create a lot more melatonin. That's one of the things that doesn't get done very efficiently if you trap all of the serotonin in a certain part of the cell. That's why a lot of people on antidepressants feel less depressed but they sleep more poorly. That's why they get on a second medication like Trazodone, our most popular, but also the benzos. Then they can become addicted to benzodiazepines, one of the most horrible fates possible.

The name of this chemical that serotonin is suppose to convert into, to prevent suicidal and homicidal thoughts, it's called 5-HIAA. 5-hydroxyindoleacetic it's called. It's a breakdown product of serotonin but it has it's own mood affecting, powerfully mood affecting properties. When we trap the serotonin in the cell and it can't turn into this breakdown product and somebody's already low in that 5-HIAA ... Which violent people typically are, suicidal people typically are low in 5-HIAA. People with very severe addict are also found to be very low in this.

If you cut off the supply of this very marginally present chemical by putting an antidepressant into action you will get a sudden drop in 5-HIAA and a sudden suicidal, homicidal reaction. That's why people get this way after they've only been on the drugs a day or two. They were borderline and they dropped off. This can happen to children, adults and it is happening. On the other hand both tryptophan and 5-HTP have been researched to increase both melatonin and 5-HIAA as well as serotonin.

In some countries, like England, where they insist on using antidepressants they also bring in tryptophan on a regular basis; "Oh, the drug cocktail isn't working? Let's try some tryptophan." My, my. What a lovely effect. It never occurs to them to try the tryptophan first. Do you all feel confident that you and yours can raise your serotonin levels? One? One or the other or both of these two amino acids that the brain uses to make serotonin. You also need to get those three meals in each containing plenty of protein. The reason this is important is there's only about a third of the amount of tryptophan in even high protein foods as there is in the other amino acids. It's hard to get enough tryptophan from food. That's why we have to resort to supplements so often in raising serotonin levels.

Speaker 8: Is it safe to take the tryptophan supplements now? Is it safe?

Julia: Is it safe to take the tryptophan supplements now? Yes. They're coming in by the boatload now. There are lots of companies selling them in the stores like vitamin express as well as online. As you can imagine, they're being very, very carefully scrutinized including by the the FDA, whatever that means. The FDA is all involved in the importation of the tryptophan and not making any trouble except they seem to be interested in whether it's pure or not. We're going to have the questions at the end. Please remember.

I'm very happy to say that, yes, it is available. How many of you didn't know that tryptophan was available again? Great! Okay, now what are you doing? We're moving on to the part of our brains that is probably leaking out at this time of night. The part of our brain that creates our natural caffeine, alertness, enthusiasm, sparkle. If we don't have enough of the catecholamines, these are our natural stimulants, we have all of these symptoms, or at least most of them, or at least to some degree. It's the reason that we are having an epidemic of Starbucks. How many of you identify with any or all of these symptoms?

Speaker 7: Use to.

Julia: Use to. Okay. This is a separate part of the brain and it causes a different kind of depression. This is the kind of depression where you want to stay in bed all day. With the low serotonin depression you can't stay in bed all day, you're too anxious and worried, and you can't sleep anyway. This is another, I think, fascinating picture. Young man, twenty-six years old, who was very depleted in his catecholamines. That's why he was drawn to stimulant drugs even though he was getting into all kinds of trouble.

The red here in his brain ... These are some of the catecholamine producing areas. You can see that without his methamphetamine his own brain was not producing enough of this natural energizer and he was just a bored kid who had no motivation, no dreams, just nothing was happening for him unless he was on meth. Then he had the illusion of getting all kinds of stuff done and you can see that his brain looks a lot more normal, right?

For a temporary period, activating what little catecholamine he has the medication made him feel more normal, very short term. What do we do with somebody like that? We get crack addicts all the time. I love crack addicts. The reason I love them is that they're so easy to fix because typically they just have this one part of the brain that's fallen off. We can use the amino acid tyrosine, which is the only food the brain can use really to make the catecholamines out of.

I was at a treatment program. I was consulting and I was sitting in on a group. We had a break and we all came back and I noticed there was somebody who hadn't been there earlier. I said, "Who are you? I didn't see you earlier." He said, "Oh, I was here but I was so tired my head was down the whole time." This is the way people feel who are trying to recover from caffeine addiction, or cocaine addiction, or methamphetamine addiction.

This was a treatment program near Washington D. C. where they use amino acids. I said, "Haven't you been using your tyrosine?" He said, "Yeah, yeah." He said, "I took my morning dose." Three capsules, three five hundred milligram capsules. I said, "Crack addicts have to take four." We've just learned this. Three isn't enough. He said, "Okay. It's time to take my second dose. I'll take four instead of three for my big morning dose." Lights came on. He said, "It's me again! I'm myself!" None of the other people in the program have ever seen him being himself. They've just seen this catecholamine-less person creeping around without his drug. That's why I love this drug. It's so easy to fix people who've gotten addicted to it.

Speaker 4: It's not a drug.

Julia: Crack.

Speaker 4: You said drug.

Julia: Yeah. I love crack because it's so easy to fix. We're zooming onto the third part of the brain that's so massive deficient among people in the United States although serotonin deficiency is number one. Gaba is our natural tranquilizer and its primary job is to turn off adrenaline. If you don't have enough of it, and if you've had a lot of stress, and you haven't been eating much or well, you're pretty much guaranteed to lose your gaba levels so you're going to feel these symptoms. Anybody here with these symptoms?

Speaker 5: Of what?

Julia: Anybody here with the symptoms of low gaba? I was here four years ago at the East West bookstore, maybe it was five, whenever the dot comers were still going strong. I asked them this question. It was sixty-five people in this workshop, every hand was up. Everybody was experiencing stress like mad. There's nobody stressed in this room, that's remarkable. I've never seen such a thing. If you know of anyone.

Speaker 7: Who wants to tell the truth.

Julia: Then you want to talk to them about the fact that gaba is probably the easiest thing for ... Not everybody, but a lot low gaba people to raise because the amino acid that we use is called gaba. You swallow it, it goes right to the brain, it goes right to work. It doesn't have to be fiddled with or transmuted. Not enzymes have to get on board. It's just used as is.

Speaker 7: What are these images? Are they just pretty pictures?

Julia: These are molecular photographs.

Speaker 7: Okay.

Speaker 4: Crystals.

Julia: Crystals. Aren't they wonderful?

Speaker 6: [inaudible 00:50:15]. I've tried it. It doesn't seem to have any effect.

Julia: We always start with the lowest dose which is a hundred milligrams and our favorite version of it is a Source Naturals product. The only gaba that Source Naturals makes that's reliable is called Gaba Calm. It's a sublingual, peppermint or orange flavored lozenge. We find that people quite often have a marvelous effect and sometimes they have to take it out of their mouth because they're getting too relaxed. That's with a hundred milligrams of gaba.

Speaker 6: Is there like a powder?

Julia: What?

Speaker 6: Is there like a powdered form? To buy it as powder?

Julia: As powder it's probably fine. I just don't like the seven hundred and fifty milligram tablets that they make. The next step would be up to two hundred and fifty or five hundred milligrams. I would say seventy-five percent of the time we have wonderful results from gaba by itself. Sometimes people get absolutely nothing and they really do need it. In that case we give them some of the inhibitory neurotransmitters that also are amino acids like taurine and glycine. Sometimes threonine makes a difference for those people. The first thing we do is try a low dose of gaba and go up as needed.

Speaker 9: [inaudible 00:51:50]?

Julia: You mean the drug?

Speaker 9: Yeah.

Julia: I would hope that you wouldn't have to resort to a drug. I would certainly go up on the gaba dose and try some of the other inhibitory neurotransmitters. But when somebody is experiencing a great deal of stress and tension we ... Especially if gaba alone isn't enough to turn it off, we always test their adrenal function, find out how much of the stress chemicals they're making Sorry, the stress coping chemicals.

Some people have excessively elevated cortisol and they have a kind of agitated constant vigilance that gaba doesn't turn off. We've had much better luck with those people with a phosphorylated, not phosphatidyl, but phosphorylated serine which sensitizes receptors in the brain to cortisol that the message is sent, "Okay, we have enough cortisol. Stop sending this." Levels drop and people can relax.

There are a number of things to be done if stress is a problem but the first thing you want to try is gaba. If you're eating over stress, or smoking tobacco or pot, drinking alcohol because of stress, gaba is very likely to be helpful. If you're still having sleep problems in spite of your tryptophan, 5-HTP, or melatonin then gaba may be the missing piece in slowing down your system and allowing you to rest deeply.

This is the final piece in our project of normalizing our moods and appetites. This is another genetically programmed neurotransmitter. Women have about a third less than men do. When you look at the symptoms it's almost a joke. Women are much more sensitive typically to pain, emotional pain; their own and other people's, than men's are. Knowing this has helped a number of couples that we work with so that the women stop complaining that their husbands are insensitive. They can't help it and the husbands stop complaining that their wives are too sensitive. They can't help it, however, they really want their wives to try the aminos.

Endorphin release is part of the stress response so every time we're stressed we're overusing endorphins and we can get depleted. If we're in a lot of pain of any kind, emotional and or physical, we can use them up and become so depleted that we just can't tolerate pain in the same way we would like to and we resort to the number one drug sold in America? Oxycontin. Pain killers are the number one drug sold in America now. It's largely because our endorphin supply is so depleted.

What does it take to make endorphin? We know that serotonin is made out of tryptophan or 5-HTP. We know that gaba's made out of gaba. We know that the catecholamines are made out of tyrosine. It's all very simple. One amino acid and you get this wonderful response. But when it comes to endorphin ... There are only twenty-two amino acids, basically, in foods. It takes nineteen of them to make an endorphin molecule. It's a very difficult molecule to make. We really have to eat a lot

of high quality protein three times a day at least if we're going to sustain our production of endorphin.

I want you to take a look at what we get for our pains. There is an amino acid that assists us and it can do so very quickly in ten, say, in ten or fifteen minutes to raise our endorphin levels. How would we know if our endorphin levels suddenly got higher? They way we check it out is we do our little questionnaire, see if people are sensitive, if they talk about the painful things in their lives and they cried. If they tend to be addicted to comfort food. The number one comfort food being?

Speaker 5: Chocolate.

Julia: That was an easy one.

Speaker 7: Chocolate.

Julia: Made a very potent pain killer and endorphin booster especially providing sugar, another endorphin booster. Particularly since chocolate and sugar are often combined with dough and gluten containing grains; wheat, rye, oats, and barley are another food that raises endorphin levels reliably and that's why they're so addictive. We don't eat them, we don't feel good. For some people dairy products are highly addictive and, of course, the combination chocolate chip ice cream, chocolate cheesecake gets it all.

If we're going to get control of our own appetites we have to get an adequate endorphin production so that we're not dependent on chocolate. What we do to check this out is we say, "If you could have anything you wanted right now and you wouldn't gain weight, you wouldn't become unhealthy, you wouldn't feel bad in anyway. What would it be?" They usually answer the same thing that the chorus over here gave us. Even in ... it's not more affluent in Marin than it is here but the number one chocolate choice in Marin is Snickers bars. Forget about Godiva.

We say fine. We want to give you the following amino acid and then we'll come back to you and we'll talk about Snickers bars again. We give them an amino acid blend. It's called DL-Phenylalanine. This is combination of two forms of the amino acid phenylalanine. We don't really need the L form but apparently it's cheaper not to cut this molecule out so they leave it in. L phenylalanine's a little bit stimulating so if you're a tired person that craves chocolate it's pretty good. It's the D form that we really want because the D form slows down the activity of the enzymes that destroy endorphin, so in five or ten minutes you can feel your endorphin levels rising because there's nothing to destroy them.

Speaker 10: It tastes pretty good.

Julia: DL-Phenylalanine, yeah, it's pretty tasty. If you're a very hyper person and you don't want anything stimulating you can get D-Phenylalanine by itself. It's more expensive

and you can't usually find it in stores except vitamin express which carries everything in my book.

As long as you are free of your cravings for junk foods you'll be eating plenty of protein. You'll be building up your own storehouse of amino acids and raising your neurotransmitter levels so that you won't need the supplements for a while. It takes a different amount of time for different people; some people it's a month, some people it's two months, some people it's six months. Addicts, typically it takes a year using the amino acids to get the levels of the neurotransmitters up so that they can take the amino acid supplements out and just live on the amino acids that they're getting from their food which should be sufficient long term.

We have a fairly cheap, short-term strategy to regain our mental health and to be restored to a normal appetite.

Speaker 11: How much?

Julia: What?

Speaker 11: How much?

Julia: How much does it cost?

Speaker 11: How much do you take?

Julia: Of the DL-PA? It comes in five hundred milligram capsules and my recommendation to you all is that you always start with the lowest dose available. 5-HTP comes in fifty milligram capsules. Start with fifty. If you don't see anything in a half an hour take a second one. The reason I say that is because some people are very sensitive all they need is fifty milligrams and if they take two they get too much. What you're looking for is results but you don't want to overdose. It's expensive stuff and you don't want to get an adverse so start with the lowest and just go up. Start with one at a time.

If low endorphin is your problem start with five hundred milligrams of DL-PA and see how you feel. If you don't notice anything, the Snickers bar still looks good in a half an hour, take a second one. You can take a third one. Typically the amino acids tend to stay in the body for about four hours initially. You need to take them between meals. They're more effective away from food, there's not as much to compete with them to get into the brain.

Speaker 10: I use about a hundred milligrams of DL-Phenylalanine sublingually and get effects in about five to ten minutes.

Julia: Where do you get the powder?

Speaker 10: I just open the capsule.

Julia: You open the capsule.

Speaker 10: Just dump some on the palm of my hand and lick it off.

Julia: Okay. He say it's so tasty that ...

Speaker 10: The L-Phenylalanine tastes really bad and DL doesn't taste bad that same way.

Julia: Okay. Whether you open a capsule and be daring and try a whole capsule. You might need five hundred, a thousand, fifteen hundred two or three times a day for a while and then you can stop taking and see if you miss it. There will be time when you won't miss it a bit but if you stop before your brain is saturated with that particular neurotransmitter your symptoms will come back. Don't feel like the project didn't work. Some people say, "Well, that did work! I feel bad again!" It's just you quit too soon. Your brain is fully capable of filling up with neurotransmitters. You just have to keep feeding it until it's ready to go.

There are other things that impact the American epidemic of carbohydrate addiction. Neurotransmitter deficiency is by far the number one issue. You get the neurotransmitters fixed and typically your carbohydrate cravings are shot in the head and mostly dead. There are some other things that may need to be attended to. Obviously you need to eat enough and you need to eat three times a day. Low blood sugar from eating too many carbs, skipping meals, too much caffeine. That will absolutely, religiously stimulate major cravings for sure when the blood sugar jacks up from sugar or caffeine and then it drops down again. When it drops down again what do we want? More of the same.

To eliminate that kind of craving and the nasty roller-coaster of blood sugar that's going to eventually result in you being one of the statistics in the epidemic of diabetes, we have found another amino acid to be absolutely swell. Glutamine is an alternative fuel. If your blood sugar goes down and your brain starts to go into a trauma state because it doesn't have the glucose supplies, it can burn glutamine as an alternative fuel instantly. If your cravings, and headaches, and whatever symptoms you're having low blood sugar disappear you shouldn't be surprised. Within just a few minutes.

Again, it's another thing that tastes sort of sweet. You can open a capsule under your tongue. It's sort of powdery but that works very, very well to stop low blood sugar. The mineral chromium is another blood sugar regulator that we rely on and we use a couple of multivitamins that are high in chromium: GlucoBalance or True Balance. True Balance is by NOW Foods.

Really the last thing I have to say is get the books. Because there are some precautions. Not everyone can take every amino acid within impunity. If you or anyone you know even suspect that they're bipolar, glutamine which is otherwise the most leveling and solidifying of amino acids can throw you into a manic state. If you tend to get migraines, tyrosine can trigger one. We've had several migraines who

have really needed the tyrosine and one of them just emailed us and said, "You know what I decided to just go for it and I got one migraine but I've never had another one. I've been taking it and I got through it." We don't recommend it but she decided to do it anyway.

Gaba. The only thing I know about gaba is that it will lower your blood pressure and for some people that's not a good thing. Melatonin apparently can be a problem for asthmatics and with people who are very severely depressed it can make them more depressed. I'm not sure why so we have to watch that. With tyrosine you can get elevated blood pressure. It also is not a good idea if you have melanoma because tyrosine is very active in the skin and allows us to produce melanin. If you have melanoma it's not good to activate your skin any further with tyrosine.

You can see that's a fairly short list. If you have serious liver or kidney disease you might not be able to utilize the aminos. If you have an ulcer they may be a little too acid. If you're pregnant or nursing you need to be very careful because the fetus needs to have amino acids in balance and you don't want to throw the balance off. But it's a pretty short list. I just want you know that there is a list and I want you to get the book and look in the supplement chapter at this list before you go out and buy your supplements and to have the guidance of the book; The Mood Cure if mood is the main issue. The Diet Cure if carbohydrate addiction is a major problem for you. I am now ready to take questions about how to get this normal brain.

Speaker 12: We're filling up our prisons with drug people. How would it impact the actual problem?

Julia: We're filling up our prisons with addicts, drug and alcohol addicts, very true.

Speaker 8: Could you repeat the question?

Julia: He's wondering if this information would have any impact on the fact that our prisons are full of drug and alcohol addicts. [crosstalk 01:09:30] I'm consulting to the drug court in Sacramento County. We've got the amino acids along with acupuncture and food, healthy food, and the people in this drug court program are doing ever so much better in terms of not returning to the system. It's saving the county a lot of money so it's becoming a model for the country. A lot of drug courts in the country are looking at this model.

I think that, actually, the criminal justice system may be the means of forcing addiction treatment professionals to look at this tool. They have been totally intransigent. They've been using techniques that are twenty years old and completely unsuccessful. But it's now becoming obvious that they don't work and so I'm hoping it will have an impact on the current system.

Speaker 10: If we experiment with some of these amino acids on our own can you take too much of any one thing and get some sort adverse consequence?

Julia: Can you take too much of an amino acid? Absolutely. You can take too much of anything that's why I say start with the lowest dose and just go up til you get a positive effect. You don't need to go any higher. Then drop it when you don't need it anymore or you get a negative.

Speaker 10: I'm not trying to say take a whole bottle at once but by going a little bit beyond what you feel good taking, a thousand milligrams instead of five hundred, you can't keel over and die in five minutes.

Julia: No. If you take a little bit more than you need typically you wouldn't even know. But you might get a little bit of a headache. You might feel a little bit jittery if you took too much tyrosine, for example, or a little too sedated if you took too much gaba. You might be sleepy if you took too much tryptophan but for most people nothing radical.

Speaker 10: Thank you.

Speaker 13: Yeah. The woman that [inaudible 01:11:34]. She had tens and twenties and you just gave her the serotonin and they all went down to zero, all the worry and anxiety. You didn't do any psychological ...

Julia: She'd already been in psychotherapy. The woman that had all tens on her low serotonin, we had the picture of her brain. He's saying, "Gee, how could all those terrible emotional problems go away just with some tryptophan?" I pointed out to him that she had already been in therapy for many years. She had a history of sexual abuse, there were a lot of problems in her early childhood. She had worked very hard on them and was still suffering all those symptoms until she took care of the biochemical problem.

Speaker 13: You're saying that anyone who has these symptoms, they don't necessarily have to have an therapy to correct their way of thinking.

Julia: No, I'm not saying that. I just told you she already had therapy.

Speaker 13: Yeah.

Julia: I would definitely have recommended it to her with her background along with this if she hasn't already done so much therapy. Most of the people who come to us have already done therapy. The only reason they come to us for this is because it hasn't worked.

Speaker 13: What if someone hasn't had the therapy and just takes the serotonin, tryptophan ...

Julia: We recommend that-

Speaker 13: Would it cure them?

Julia: Many of the people that have these symptoms don't need therapy. They have a biochemical deficiency. If they take these supplements and their problems don't go away? You'll know in five minutes. A week later you start therapy. If somebody comes to me and is suicidal and has never had therapy I would saying, "You get into therapy now. Then we'll do the amino acids."

Speaker 14: What, in your opinion, is the best source of good protein?

Julia: It's pretty tough these days. Wild salmon, even farmed salmon doesn't have too much mercury but it's very dangerous in other ways. The cleanest protein that you can find ... Animal protein is the only high density, high volume protein source. If you're trying to recuperate from a depleted brain I have not seen it be possible with a vegetarian diet unless there are plenty of eggs and the person can tolerate a lot of dairy products too. Any kind of flesh as ghastly as that is to say; range fed, organic, the cleanest thing you can find. It's tough.

Speaker 15: A teenager with OCD, and depression, and smoking pot. The idea is to get them off the pot. Is there anyway to supplement, some way to take the cravings off the pot?

Julia: Absolutely. You want to go through the questionnaire. The Mood Cure starts with the questionnaire, "Which part of your brain is deficient?" There's a chapter on addiction and it tells you how to ask the questions so that you can figure out which amino acids he need. With pot ... Pot can affect all four of the neurotransmitters, so can alcohol. They're very popular for a reason. They can turn on all the lights at the same time. You need to find out for this particular person, is he smoking pot to go to sleep, to relax, or is he smoking pot to get energy. Half of the pot addicts we deal with are doing their laundry on it.

Speaker 15: I think it's mostly to get down.

Julia: Okay. He's somebody who would want either gaba, or 5-HTP, or both.

Speaker 15: But the serotonin is at the bottom. It's zero.

Julia: Okay. You think his serotonin-

Speaker 15: I know it is. I had a urine analysis.

Julia: You'll find out very quickly because if you give him 5-HTP or tryptophan he'll feel a lot better very quickly.

Speaker 15: Do you have to try 5-HTP then try tryptophan see which one ...

Julia: Yeah. Yeah.

Speaker 15: For OCD though you said the tryptophan is better.

Julia: Yes. For OCD the tryptophan seems to be better but I have to tell you we have a lot of success with mild OCD. We have a couple of hand washers who go back and check the door ten times. We have not had that level of OCD at our clinic before so I can't be sure. I can just tell you that they research says that tryptophan is more effective.

Speaker 5: What do you do when people are allergic to the amino acids?

Julia: Grieve. We have this happen so seldom that I don't even know what to say.

Speaker 10: I would suggest trying another brand.

Julia: Definitely.

Speaker 5: Yeah. That's an obvious one. I actually read your book several years ago, it really helped me, but nine grams of tyrosine I was taking a day, and the huge amounts of DL-PA, after a while I can't touch them. Any company so I was just curious.

Julia: Yeah. That sounds like a complicated situation.

Speaker 5: It's not for a group discussion but that's basically my question.

Julia: Okay. Ordinarily we would hope that you wouldn't need that much because it does sound kind of sound like a recipe for eventual disaster.

Speaker 16: I just want to say I'm a big fan. Your books helped me a lot.

Julia: Thank you. I'm glad.

Speaker 16: I came into it pretty skeptically. I've recommended it to several friends and they've had dramatic results with your book, so thank you. There were two things that I thought were very interesting in your book that you didn't have time to get into was one, that all four of the lackings can be evident and can conspire against each other. You might address lacking in serotonin, and you might fix that and still feel like crap, and it turns out the other three are still conspiring. The other aspect that I found very interesting, that I found very convincing that you were for real, was that this stuff only needs to be taken temporarily. It's not something you need to be ingesting for the rest of your life here on out like so many other drugs that are recommended.

Julia: I did say that but I think bears repeating because a lot of people, you'll try to talk them into it and they'll say, "I don't want to take drugs, I mean supplements, for the rest of my life." You'll be able to say, "You won't have to." I think it is very important, and I'm sure I didn't make this point, that it's more than likely if you're really deficient in one neurotransmitter that you're probably deficient in more than one neurotransmitter. Please don't feel discouraged or freakish if you seem to be deficient in all four.

I would recommend that you treat them one at a time. Pick one and start with that one. When you've got that under control then move onto the next. It will only take you a few days with each one but that way you'll get acquainted with the amino acid and if you get an adverse reaction you'll know what it's too. If you take four amino acids and one of them isn't good for you, you won't know if you're taking all at the same time.

Speaker 17: What about [inaudible 01:18:45] neurotransmitter levels?

Julia: The blood platelet levels, as far as I know, are available for serotonin and the catecholamines. Apparently gaba will be next. I don't know anybody who does a reliable test for endorphin levels. The blood platelet tests are about sixty dollars for serotonin and sixty dollars for the catecholamines each. The catecholamines are adrenaline, noradrenaline, and dopamine. If you want a test I recommend Vitamin Diagnostics. It's actually a lab that's owned by a Dutch company. They have a lot of interesting tests and this is one of them.

Speaker 5: How do those tests ... If somebody has a cyclical gluc thing during that time before [inaudible 01:19:46]. Will they get different results from those types of tests or is it more long term?

Julia: It's long term with the platelets. It's one of the richest storage sites in the body is the blood platelet. Good question?

Speaker 18: Question. I rarely here any medical person ever discuss amino acids other than people such as Steve. Number one, how did you get onto amino acids? I've been looking for books. There's one book. It's not bad but it's not great. How did you get onto it? How did you ... Where did you hear about it? Where did you pick up ...

Julia: I told you that in nineteen eighty I started directing this program and I starting hiring nutritionist-

Speaker 18: I'm sorry. I was in the bathroom.

Julia: Okay. Anyway. Without the amino acids we had all of the nutritionists and we were working really hard. We didn't get anywhere because nobody could change their diet or change their mood by willpower alone. Then in eighty-six I ran across some research by an interesting man. A biochemist researcher at the University of North Texas named Kenneth Blum who has two areas of interest: genetics and neurotransmitters. He had decided, because he was the only honest neurotransmitter researcher as far as I can tell on the face of the Earth ...

All of them know that the neurotransmitters are fed by these amino acids. They all know that. But it's a big secret. They're not telling anybody because the drug companies are paying their salaries. This guy said, "You know what? I'm going to be the exception here. I'm going to tell everybody and I'm going to hope that I make a million bucks on amino acids." Well he did, one way or another. But in the meantime

he did a lot of research with addiction showing that giving a modest amount of this ... Actually he had little collections of all four of these amino acids to addicts and they did so much better; cocaine addicts, alcoholics, mixed addicts.

They were very, very interesting to me. I was running an addiction treatment program. I had, at that time, a PhD level nutritionist and I said, "Can you research these amino acids?" she said, "Sure." I said, "How soon?" Two weeks later we started using them. I tell the story in the book. The very first case was just an unbelievable crack addict. He'd been in treatment about seventeen times. They were about to throw away the key and he was fine in a week. That got my attention and since I was also starting a program for eating disorders, I started using aminos with them. There had never been any research for them and found that it was even more effective with food addicts than it had been with alcohol and drug addicts and that was really saying something.

Speaker 11: What did you find the aminos did for food addicts?

Julia: Food addicts the amino acids?

Speaker 10: Glutamine.

Julia: It's an individual manner. We identify what their symptoms are and The Diet Cure is a book about recovery from food addiction and it starts out with an eight part questionnaire to identify what part of the brain needs fixing; is blood sugar a problem? Is under eating a problem? Is yeast overgrowth a problem? Is low thyroid? We identify what the over eater is really suffer from in terms of underlying imbalances and just go for it. The amino acids make everything else possible because they typically stop the cravings over night.

Speaker 6: Do you know what the percentage of psychiatrists are actually using amino acids? Is it still less than fifty percent?

Julia: Less than fifty? How about, yeah, less than one percent unfortunately. I was Acam last year. Acam is the holistic physicians. Very few of them knew. Maybe one percent of them knew about amino acids. They were wonderfully receptive but they didn't know anything yet. The fact that they don't know it, as we know, means nothing. A lot of people come to our clinic and say, "If it's do great why don't the doctors know about it?"

Speaker 6: They're the last.

Julia: They're the last to know. Right. It's because it's so great that they don't know about it.

Speaker 19: Is treatment for addiction the same as chemical exposure? Because ... No?

Julia: Chemical exposure is different than addiction to chemicals. I don't know much about chemical exposure.

Speaker 20: Why would somebody be low on serotonin and where do you get 5-HTP?

Julia: 5-HTP is available in every health foods store and most drug stores in America. It comes from this African bean that's refined in Germany and then sent over here. In terms of why are we so deficient? Because we're not eating anymore. We're not eating protein in adequate amounts which is the only food that can be used to create serotonin in the brain because it's the source of tryptophan and because we're terribly stressed. It's a combination of malnutrition and stress.

Speaker 20: In Grassland beef you can find they seal in omega threes-

Julia: Grassland beef is an example of a good protein source.

Speaker 21: I just want to let everybody know that I've been drinking raw, unprocessed whey protein. It's not the regular stuff you get at Trader Joe's. It's by a company that only produces living food supplements. It's really helped me a lot in terms of cravings, moods. It provides all the essential amino acids.

Julia: It's got a pretty good ratio of tryptophan to the others too. It's more like the ratio in mother's milk which is quite good.

Speaker 21: I just wanted to let everyone know that that's a good protein.

Julia: Thank you.

Speaker 8: Where do you get it from?

Speaker 7: What's the brand name of it?

Speaker 21: It's a company called NutriHarmony.

Speaker 7: NutriHarmony.

Speaker 16: You mentioned in your book, in terms of diet, omega three fatty acids. I went to a health foods store and the guy mentioned about flax seed and that it's got short chain. I don't know what the difference is between short chain and long chain. I was wondering if you could talk-

Julia: The vegetable sources of omega three, like flax, happens to be relatively I omega three fats but they're the primitive variety. In order for the brain to use them, or the retina of the eye, or the lining of the arteries which hunger for omega three fats. In order for them to be utilized by these tissues they have to be converted into the fancy omega threes which are found in fish called DHA EPA. That's the difference.

In order to get enough flax oil to get enough of the primitive kind of omega three to then covert it you have to have a lot of flax oil. Flax is very fragile, easily rancid, and

contains a lot of other things that I don't think we want that much of. There are a number of articles that associate flax oil intake with prostate cancer. I don't know but it doesn't seem worth it to me. There's a lot of salmon still in Alaska. There's a whole raging controversy about whether it should be molecularly distilled, omega three fat, most from sardines. I like to be as safe as possible so I go for molecular distillation but I'm not an expert on the various kinds

Speaker 18: [inaudible 01:27:59]

Julia: Nordic Naturals? Cod liver oil is now available in the most delectable lemon and oregano flavored stuff. You get not only the omega threes but you get vitamin d, and vitamin a, and it's quite lovely. I thank you very much. Thank you for giving me [inaudible 01:28:22].