

The Truth About
**ASPARTAME,
MSG AND
EXCITOTOXINS**

An interview with Dr. Russell Blaylock

WITH MIKE ADAMS

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Mike: I'm here with Dr. Russell Blaylock, and I'd like to explore some of the more advanced aspects of some of the things you are working on. Dr. Blaylock, I think readers know the basics of both MSG and aspartame, but can you review what you've already written about excitotoxins?

Dr. Russell Blaylock: I have three books. The first one is the excitotoxin book, "Excitotoxins: The Taste That Kills," and the latest one is an updated paperback reprint of "Health and Nutrition Secrets That Can Save Your Life." The third one is "Natural Strategies for Cancer Patients," which is directed at nutritional treatments for cancer. It contains some material about aspartame and MSG.

Excitotoxins have been found to dramatically promote cancer growth and metastasis. In fact, one excitotoxin researcher noticed that, when cancer cells were exposed to glutamate, they became more mobile, and you see the same effect with MSG. It also causes a cancer cell to become more mobile, and that enhances metastasis, or spread. These MSG-exposed cancer cells developed all of these pseudopodia and started moving through tissues, which is one of the earlier observations from cancer.

When you increase the glutamate level, cancer just grows like wildfire, and then when you block glutamate, it dramatically slows the growth of the cancer.

Researchers have done some experiments in which they looked at using glutamate blockers in combination with conventional drugs, like chemotherapy, and it worked very well. It significantly enhanced the effectiveness of these cancer drugs.

Mike: Wasn't there some research that came out recently that supports all this by establishing a correlation between leukemia and aspartame?

Dr. Blaylock: Yes. This Italian study was very well done. It was a lifetime study, which is very important with these toxins. They fed animals aspartame throughout their lives and let them die a natural death. They found a dramatic and statistically significant increase in the related cancers of lymphoma and leukemia, along with several histological types of lymphomas, which is of interest because H.J. Roberts had written an article saying that there was a significant increase in the primary lymphoma of the brain.

When you look it up in the neurosurgical literature, there is a rather significant rise in the incidence of what used to be a rare tumor. We're seeing a lot more of the primary lymphoma of the brain, which is a little different than lymphomas you see elsewhere. When you look back at the original studies done by the G.D. Searle company, they found lymphomas as well as primary brain tumors and tumors of multiple organs. All of this correlation shows that we've got a powerful carcinogenic substance here. It is either acting as a co-carcinogen or a primary carcinogen. Most likely, it's the formaldehyde breakdown product.

What the Italian study found is that if you take these same animals and expose them to formaldehyde in the same doses, they developed the same leukemias and lymphomas. If you look back at the Trocho Study conducted in Spain a couple of years ago, what they found was when they radiolabeled the aspartame, they could actually see formaldehyde binding to the DNA, and it produced both single and double strand DNA breakage.

We know that when formaldehyde binds to DNA, it's very difficult to remove it. It will stay there for long periods of time. What that means is if you just drink a single diet cola today, or sweeten something with NutraSweet, you're accumulating damage every day. Eventually, you're going to produce this necessary pattern of DNA damage to initiate the cancer, and once you develop the cancer, the aspartic acid component of aspartame will make the cancer grow very rapidly. You've got a double effect; it's causing the cancer, and it's making the cancer multiply very rapidly.

Mike: Given all this evidence, how has the industry managed to suppress this information and keep this chemical legal in the food supply?

Dr. Blaylock: Donald Rumsfeld was the one who pushed a lot of this through, when he was in the chairmanship of the G.D. Searle company, NutraSweet division. He got it approved through the regulatory process, but once it was approved, the government didn't want to admit that they had made a mistake. They just continued to cover it up, like the fluoride thing and the milk industry.

You're not going to criticize milk, or these other food-based problems in the media, because they are smart enough to advertise in newspapers, magazines, health magazines and journals. They have all the media outlets covered. The only place that they don't have covered is talk radio and the internet. The health blogs can tell the truth.

No matter how much a newspaper wants to tell the truth, they're not going to do it. This is the kind of pressure these people are under. Even if you have a good writer who wants to write the story, his editor is going to override him and prevent it or water it down considerably. You see this in journals like the *Journal of Clinical Nutrition* or *Journal of the American College of Nutrition*. Look at who funds them: The Monsanto Company, and they used to be sponsored by G.D. Searle. They're not going to want to put articles in their journal that will infuriate their primary source of income. Even medical and nutrition journals are controlled by these people.

Mike: It's the unholy alliance between the scientific community and big business.

Dr. Blaylock: Right. Another big scandal concerning the research is something new we found. We discovered that outside of the brain, there are numerous glutamate receptors in all organs and tissues. The entire GI tract, from the esophagus to the colon, has numerous glutamate receptors. The entire electrical conducting system of a heart is replete with all sorts of glutamate receptors. The lungs, the ovaries, all the reproductive systems and sperm itself, adrenal glands, bones and even the pancreas are all controlled by glutamate receptors. They act and operate exactly like the glutamate receptors in the brain.

So, when you're consuming MSG, the level of glutamate in the blood can rise as high as 20-fold. You get very high glutamate levels in the blood after eating a meal containing MSG. You're stimulating all of the glutamate receptors. That's why some people get explosive diarrhea and dyspepsia, because it stimulates the receptors in the esophagus and small bowel. Others may develop irritable bowel, or if they have irritable bowel, it makes it a lot worse. If they have reflux, it makes that a lot worse. The thing about the cardiac conduction system glutamate receptors is this may explain the rise in sudden cardiac death.

What you see in almost all these cases is low magnesium. When the magnesium level is low, the glutamate receptors become hypersensitive, and so people—athletes in particular, if they are not supplementing with magnesium—are prone to sudden cardiac death, because of the glutamate receptors. If they eat a meal or something that contains glutamate or drink a diet cola before practice, it will produce such intense cardiac irritability, they'll die of sudden cardiac death. We know the sudden cardiac death is due to two things: Most commonly arrhythmia and coronary artery spasm. Both of which can be produced by glutamate.

Mike: Of course, that death certificate doesn't say they died from MSG.

Dr. Blaylock: No, and it's not going to, because the admitting physician doesn't know the first thing about any of this research. They've never heard of it. In fact, most cardiologists I've spoken with have never heard of this. They didn't know there are glutamate receptors throughout the electrical conduction system and in the heart muscle itself. You have a million patients in this country with arrhythmias that are life-threatening, and no one's telling them to avoid MSG and aspartame, yet it's a major source of cardiac irritability.

Mike: It's absolutely astounding. Now, didn't baby food manufacturers voluntarily remove this ingredient in the '70s?

Dr. Blaylock: They said they would, but they didn't. What they did is take out pure MSG and substitute it with hydrolyzed protein and caseinate. If you look at a number of toddler foods, many have caseinate hydrolyzed protein, soy extracts, broth, all a significant source of glutamate.

Mike: We're destroying the nervous systems of these babies.

Dr. Blaylock: Exactly. Now, one of the things we're hearing a lot about is childhood obesity. One early observation with excitotoxicity is it makes animals grossly obese.

Mike: If they banned MSG, the drug companies would lose billions. Think about how much money they make treating all of these symptoms.

Dr. Blaylock: Here the government has all these big plans for controlling carbohydrate intake and controlling cereals and sugar and all that. Those things add to the problem, because what we find in MSG-exposed animals is that they prefer carbohydrates and sugars over protein-rich foods. That was one of the characteristics of this type of obesity. It's very difficult to exercise the weight off and almost impossible to diet it off. The appetite is out of control, but the metabolism is also out of control. They have metabolic syndrome on top of obesity, and so then you have a state of leptin insensitivity. In terms of obesity, they have a leptin insensitivity. It has been shown that you can produce leptin insensitivity very easily with MSG.

Mike: Is there any hope, in your view, that the world may wake up to this, and some day these ingredients may be banned?

Dr. Blaylock: It's possible, but you know, it's only going to be by public exposure, through the blogs and sites like yours. Once the public gets wind of it and is convinced that this is real, then there'll be an uproar over it. There's just a deception. The average consumer looks at it and goes, "Well, it says that it contains no MSG, so it must be okay."

Mike: I find a lot of the vegetarian foods, or so-called health foods, use yeast extracts.

Dr. Blaylock: The worst of the things they're doing are the soy extracts. Soybeans, naturally, have one of the highest glutamate levels of any of the plant products. When you hydrolyze it, you release the glutamate, such as with the soy protein isolates. The glutamate levels are higher than a lot of what you'll find in other MSG-containing products, yet the vegetarians are just eating it like it's the healthiest thing in the world. There was a 25-year study done, which looked at people who consumed the most soy products, and they followed them for 25 years and did serial CT scans of their brain. They found out that the people who consumed the most soybean products had the greatest incidence of dementia and brain atrophy.

These people are destroying their nervous system, and I talked to a lot of them who complained of severe migraine headaches. I said, "Get off the soy," and they do, and that migraine headache goes away. In addition, you have very high manganese levels, which is toxic to the very same part of the brain that produces Parkinson's. You've got a mixture of toxins with soy products, and the people think they are eating a healthy, nutritious product. It's destroying their nervous system, as well as other organs.

Mike: In this whole debate of soy versus cow's milk, we find misinformation in both camps.

Dr. Blaylock: I wouldn't recommend either one. If you're obsessed with milk, use goat's milk. It's closer to human milk, but I wouldn't recommend cow's milk or soy milk. I think people ought to avoid soy products as if they were poison.

Mike: Have you taken a lot of heat from NutraSweet or any of these other companies? I mean, have you been threatened with lawsuits or anything for going public with this information?

Dr. Blaylock: No, they leave me alone. I know too much. They've never bothered me. When I wrote the book, George Schwartz warned me, "Are you sure you want to write this book? If you do, they're just going to hound you to death." I said, "Yes, I want to write the book." So, I wrote it with one thing in mind: that they would not be able to refute it.

I researched the subject every kind of way you can research it and proved the toxicity of glutamate. They know I know that, because I had exchanged letters with some of their biggest defenders. They all realized that they couldn't answer my arguments. So they leave me alone. They're afraid that if it comes to a big standoff between me and them, they're going to lose.

Mike: They don't want this information going on the public record.

Dr. Blaylock: No, they don't want that. What they're doing is the old ploy of just ignoring and hoping it will go away. Of course, they put pressure on magazines, journals and newspapers not to interview me. They are trying to keep me in the shadows where they hope most people don't hear anything I have to say. It only works for so long.

Since I first wrote the book in 1995, proof supporting my viewpoint has increased enormously. The new material on peripheral glutamate receptors absolutely killed these people. They have no defense against that. The new information on the dramatic increase in cancer aggressiveness is something that they are terrified of.

Mike: Now you find these receptors outside the brain.

Dr. Blaylock: Right. Now, see, I proved it can enter the brain and that all that nonsense about the brain being protected from glutamate by the blood-brain barrier was a lie. What researchers have shown is that there are glutamate receptors on both sides of the blood brain barrier and that when you expose these receptors to glutamate, it opens up the blood brain barrier. So, the glutamate itself can open the barrier, and I list all the conditions under which the barrier is broken. For instance, as you get older, your barrier becomes less competent. Almost all Alzheimer's patients have incompetent barriers. Heat stroke, seizures, autoimmune disorders and multiple sclerosis are all associated with an incompetent blood brain barrier.

You're talking about tens of millions of people affected by barrier disruption, and they are out there gobbling up aspartame, MSG and other excitotoxins, and no one is telling them they are making their neurological conditions infinitely worse. I don't know how many seizure patients I've gotten off their medicines by just getting them off MSG and giving them magnesium. They quit having seizures. They were on maximum dosages of medications and still having seizures. Most neurologists and neurosurgeons that treat seizures are not aware of this.

Mike: It's not profitable to teach people how to avoid these ingredients.

Dr. Blaylock: If you look at the neuroscience literature, you can't pick up an article that's not about excitotoxicity. The hottest topic in neurosciences is glutamate receptors and excitotoxins.

Mike: Are they talking about it in the food or just as a chemical?

Dr. Blaylock: They won't mention food, but they talk about the glutamate receptor and what happens when you activate it.

Mike: What about the argument from food companies? I actually got into a debate with a veggie burger manufacturer, because I wrote an article that said their product had yeast extract in it, and yet the front label said, "100 percent all-natural ingredients." They said, "Well, glutamate appears naturally in other foods, like tomatoes and seaweed." What's your answer to that kind of defense?

Dr. Blaylock: Sure, but you see, all of these types of glutamate are bound. They're in oligopeptides, polypeptides. They are bound in amino acid groupings. They're not free amino acids. If you have it as a complex protein, you absorb it slowly in your GI tract. In the GI tract, there are almost no free amino acids if you eat foods such as tomatoes. The level of free amino acids is nil; it's almost all absorbed as combined amino acids, and then it's only broken down in the liver, where it's released in very low concentrations that the body can deal with. Our bodies were never intended to have free amino acids in such high concentrations.

Well, when you hydrolyze these proteins—or you use yeast extract or enzymes to break down these various proteins into their free, released amino acids—they're not natural any longer. What you've done is artificially release the amino acids in an unnatural way, and when they enter your GI tract, they are absorbed as free amino acids, then your blood level of that glutamic acid goes up significantly. As I said, it can go up as high as 20-fold, in some cases 40-fold. Your blood brain barrier is not constructed to handle such high levels of glutamate, because it doesn't naturally occur that way. It can handle the lower levels, but it can't handle these very high levels. So this argument, "Oh, it's natural," is just a lot of nonsense.

Mike: I do find that many manufacturers claim to be natural health companies, or health food companies, as a cover. They don't really follow that philosophy, because they'll use these ingredients.

Dr. Blaylock: Sure, and they use all kinds of backhanded ways.

Mike: Here's a practical question that's actually been burning in my head for about eight years: Is there anything that a person can take to block the absorption of MSG or glutamate as a defensive supplement?

Dr. Blaylock: Well, not necessarily to block it. You have other amino acids that can't compete for glutamic acid absorption. So that may be one way to help reduce the rate at which it would be absorbed.

Mike: Which aminos would those be?

Dr. Blaylock: Those would include leucine, isoleucine and lysine. They would compete for the same carrier system, so that would slow down absorption. There are a lot of things that act as glutamate receptor blockers. You know, like silymarin, curcumin and ginkgo biloba. These things are known to directly block glutamate receptors and reduce excitotoxicity. Curcumin is very potent. Most of your flavonoids reduce excitotoxicity.

Magnesium is particularly important, because magnesium can block the NMDA glutamate type receptor. That's its natural function, so it significantly reduces toxicity. Vitamin E succinate is powerful at inhibiting excitotoxicity, as are all of your antioxidants. They found combinations of B vitamins also block excitotoxicity.

Mike: Let's talk about restaurants. I can't even eat at restaurants anymore at all, even those natural restaurants. They don't know they have MSG, because it's in one of the sauces or something.

Dr. Blaylock: I talked to them, and they said, "We get our food in these big crates, so there's no ingredients listed." It's the same thing for hospitals. I talked to a hospital dietitian and she said, "We can't tell because it comes in a crate, and they won't put the ingredients on it. It just says Salisbury steak or whatever."

They don't know, so it's hard for them to come out and tell their customers, "It's free of MSG." What they mean when they do say that is, "We didn't put any in there ourselves." Their white sauces are particularly high, as are their salad dressings, especially the ones that are creamy, but not the ones that are pure oil.

Mike: Gravy mixes almost always have it, right?

Dr. Blaylock: Yes, they'll put hydrolyzed protein in it. They're selling taste. I mean, that's why a person prefers one restaurant to another. The food tastes better. Then they go home and feel sick and don't understand why.

One of the things that has been noticed about sudden cardiac death is that most that have it, other than athletes, die after eating a meal in a restaurant. I suspect it's because these people have low magnesium. They eat the meal, the glutamate stimulates the glutamate receptor in the cardiac conduction system as well as the hypothalamus, and they have a sudden cardiac death.

I was in a bookstore in Oxford, Miss. This young guy was there, and he just dropped and died. We took him to the hospital and tried to resuscitate him, and we couldn't. He was only 26 years old, and he had just eaten a big bowl of soup at one of the restaurants. Well, I talked to the person that was there, and he said they use a lot of hydrolyzed protein and MSG. People will eat a meal, have a soup before the meal, get this huge dose of MSG, and drop dead from the arrhythmia.

Mike: Could this explain some sudden infant deaths as well, you think?

Dr. Blaylock: Oh yeah. I mean, look at the popularity of these soy infant formulas. Mothers are crazy to give their kids soy formula. There is a lot of concern about it. There's concern about the fluoride level, the manganese level, and the glutamate levels in these soy infant formulas.

Mike: At Wal-Mart, I saw bottled water with added sodium fluoride. It's fluoride water.

Dr. Blaylock: Oh yes, it's for babies. They have a picture of a baby on it.

Mike: So, is there a website or a newsletter that people can visit or sign-up for?

Dr. Blaylock: My website is www.russellblaylockmd.com. I also have a newsletter. It's at www.BlaylockReport.com. It's by subscription, but you can buy individual newsletters as well. You don't have to get the whole year. It's issued monthly, for \$3.98 a piece. It covers everything to do with health, not just MSG.

I try to cover a lot of common subjects and bring people up to date on the new thinking and research. I go through all the medical research. Usually I'll go through everything that conventional medicine has to offer. A lot of times they have good physiology, a good pathophysiology, but then, they switch over and start talking about drugs. I'll go through all the good pathophysiology material they have, and then I'll look up all the nutritional research that's been done that can correct those problems.

Mike: I see. Here's an off-the-wall question: If MSG and all its different versions, as well as aspartame, were outlawed tomorrow, what changes would we see in the next five years in terms of public health?

Dr. Blaylock: I think you'd see a significant drop in obesity and metabolic syndrome. You'd see a tremendous drop in certain cancers. You would certainly see a tremendous drop in the neurodegenerative diseases, and all of these diseases that are increasing expeditiously.

The neurodegenerative diseases are just exploding. Things that used to be rare, we're seeing all the time now. It's just frightening. And when you look through the neurosciences literature, they have no explanation. They don't know why it's increasing so rapidly, but it's because we have such a large combination of toxins. For instance, we know that neurodegenerative diseases are connected to mercury, aluminum, pesticides and herbicides, and the way they produce brain damage is through an excitotoxic mechanism.

So, we are all exposed to those toxins, and then when you add MSG and excitotoxins to the food, you tremendously accelerate this toxicity. That's why we're seeing this explosion in neurodegenerative diseases; Alzheimer's and autism and ADD and Parkinson's—all these things are increasing so enormously because we are exposed to products that are excitotoxic..

This is what no one's been able to explain. You look at one person's research and they'll say, "Alzheimer's is related to mercury exposure," and then another one says, "No, it's related to pesticides," and yet another one says it something else, but they're all operating through the same mechanism. All of these things operate by increasing brain immune activity, and that activates excitotoxicity. So that's why all of them seem to be related, because they're all doing the same thing to the brain.

Mike: What about the American Diabetes Association? Given that aspartame actually promotes obesity, based a lot of the work you've uncovered, I find it curious that the ADA so strongly supports aspartame.

Dr. Blaylock: I don't, considering they receive huge amounts of money from the makers of aspartame. They fund their walk-a-thon and all that kind of stuff, so they get tremendous amounts of money from the makers of aspartame, and money talks.

Whether they're just deluding themselves and choosing not to believe it's toxic, refusing to look at the evidence, or they're just concerned about the money and could care less, I don't know, but when you look at the pathophysiology of diabetes and the effect of aspartame, it's absolute nonsense for anybody who has diabetes to be on aspartame. Particularly in a neurological aspect, it's going to make it a lot worse.

Mike: What about other popular chemical sweeteners like sucralose in Splenda?

Dr. Blaylock: There's really not a lot of research in those areas. They have some basic research, like with Splenda, showing thymus suppression. If that holds up in other research, it's a major concern. If you're suppressing the thymus gland in a child, that's affecting the future of their immune function. You can increase everything from autoimmunity to producing immune-related diseases, to infections and cancers. The implications of thymus gland suppression are enormous.

There have been reports of miscarriages associated with Splenda in experimental animals. The problem is, we don't have a lot of well-conducted studies on Splenda to ferret these things out, and they're not going to do them. The best way to protect your product is to never test it, or just to set up some phony tests and report it in a journal that's friendly to your point of view.

That's what they did with certain vaccines. They did thousands of phony studies and waved them around, claiming nothing was found. You can design any study to find whatever you want. Particularly, you can design it to have negative results. That's the easiest thing to do.

Mike: We've got government health officials telling us mercury is safe and we've got big business telling us both aspartame and MSG are safe. It sounds like every poison in the food supply or in organized medicine is perfectly safe.

Dr. Blaylock: We did that with lead. When they first started questioning the safety of lead, the levels they said were safe were just enormously high, and then a mere 10 years later, suddenly we're finding out that lead is toxic at 10 micrograms/L. In the '60s, they were fighting over the same thing. The defenders of gasoline-added lead were saying lead wasn't toxic, except in extremely high doses. Then neuroscience literature was contradicting them, but nobody would listen. Finally, the weight of the evidence was so overwhelming that they found extremely low concentrations of lead were toxic and accumulate in the brain.

It's the same thing with mercury. Mercury is even more poisonous than lead. An infant is getting 150 times the dose of mercury than the EPA safety limits. A hundred times higher than the FDA safety limits. Here's a little baby that's getting 150 times higher a dose than the EPA says is safe for an adult.

Mike: What are the big points readers to take away? What do you think they need to remember in order to protect themselves?

Dr. Blaylock: You need to abstain from all of these things. Aspartame is not a necessary nutrient, and neither is MSG. The weight of the evidence is overwhelming. If you want to avoid obesity, metabolic syndrome, neurodegenerative diseases and cancer, and if you don't want to make your cancer more aggressive, then you need to stay away from these products.

The damage affects pregnant women, unborn babies and newborns. It can produce changes in the brain that are irreversible, depending on when it is stopped. What we've found is that it reprograms

the wiring of the brain, particularly the hypothalamus, so it doesn't function normally. These children are abnormal for the rest of their lives in terms of their physiological function.

Mike: Well, hopefully the weight of this evidence will someday become overwhelming, and government regulators will listen to you.

Dr. Blaylock: The pressure on researchers is so enormous. Dr. Trocho came out with his research about the DNA damage by aspartame. Then his career was assaulted by the makers of aspartame. He said he would never do another research project concerning aspartame. Well, a number of researchers have said the same thing. Once they published their results, the full weight of these companies come down on their head. NutraSweet will contribute millions to a university and threaten to pull their donations if someone isn't quieted.

Mike: So there's blatant scientific censorship at work here.

Dr. Blaylock: There's blatant, and then there's just understood. You have NutraSweet manufacturers donating several million dollars to your university. The director of that laboratory, or the president of the university, will just quietly let them know that they'd really like to see such negative research come to a stop.

The *biochemical editor of the Chemical Abstracts Service*, Dr. John Yiamounuyiannis, went through that with fluoride. They fired him because he refused to be quiet about fluoride toxicity, and they had just received this huge grant from Colgate-Palmolive. His supervisor said, "We'll lose our grant if you don't get quiet about fluoride." He wouldn't, and they fired him. Researchers know this.

Mike: I want to commend you for being willing to stand up and tell the truth about all of this. I think you're doing a great, positive service to public-health.

Dr. Blaylock: You're the one doing the service, because you're putting the word out there. Without you, I would just be sitting in a room fussing at the walls. It's people like you that get this word out and let people know what's going on in the world.

Mike: I wouldn't be surprised if they tried to pass a bill to outlaw health talk on the internet.

Dr. Blaylock: They're trying to do it. You know, they passed a law at one time in several states that no one but dietitians could speak on the subject of nutrition. Several states had that law passed. This meant Ph.D. biochemists couldn't talk about health. It was ridiculous. I'm sure that one day they're going to have an internet bill saying there's just too much dangerous material is coming over the internet on health issues, and we need to regulate it.

Mike: Well, I want to thank you very much for all your time.

Dr. Blaylock: Thank you. I appreciate you giving me this opportunity.