Conversations That Matter

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Thank you.

You have probably heard the false adage that you only use 10% of your brain.

Advances in neuroscience have swept that concept aside, but that doesn't mean your brain is functioning at its peak.

In fact, there is a good chance it is underperforming because you are not feeding it the nutrients it needs.

Your brain is the most metabolically active organ in your body. The brain needs 10 times the fuel of any other organ, and failure to supply it with the elements it needs means your brain gets tired, it falters, and it will let you down.

It comes down to diet, exercise, and a full complement of vitamins. Vitamins need to interact with one another.

For example, D3 without magnesium is far less effective. Eggs without the yolk rob you of choline, which becomes a neurotransmitter. Tumeric without fat is less effective.

In other words, cook with it rather than take a supplement. So remember, your brain needs you to provide it with a healthy diet. One rich in nutrients, vitamins, and minerals.

A properly fed brain is then equipped to be used to its full potential. And after all, Aristotle told us that failure to reach our full potential is a tragedy for all of humanity. So you owe it to yourself and to all of us to be your best. Luckily, you can improve the health of your brain and along the way, enjoy better sleep, increase vitality, better moods. You'll be more focused and creative.

Your work will improve. You'll enjoy life and you'll find coping with stress easier. Then, as you age, the health of your brain will play a vital role in warding off dementia.

That means you'll enjoy and remember your grandchildren and the people you love and care about.

We invited Aileen Burford-Mason to join us for a Conversation That Matters on how to optimize your brain at any age.

Conversations That Matter is a partner program for the Center for Dialogue at Simon Fraser University. The production of this program is made possible thanks to the support of the following, and viewers like you.
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Stu - Welcome.

Aileen - Thanks, Stuart, good to be here.

- So we've got this muscle between our ears here that is a pretty hungry little beast. Like, how voracious of an appetite does our brain have, and are we giving it what it needs to perform at its peak?

- I think absolutely not, is the answer to your question. The brain uses nutrients, all of them, and maybe we should define what we mean by nutrients.

- Yes.

- We're talking about vitamins, minerals, essential fats, and some amino acids break down products of protein.

- And glucose as well, right?

- But absolutely, glucose and oxygen are all used by the brain at 10 times the rate of any other organ or tissue in the body.

- Wow, 10 times.

- 10 times. The brain's a busy beast, as you said. I mean, it never sleeps, 24/7, it's there operating systems for us, and it requires nutrition to do that.

- Because it doesn't operate in a vacuum.

- Because that's what metabolism is. It's the biochemical machinery that keeps hormones working, neurotransmitters being manufactured, waste being removed, et cetera. And that doesn't happen, it's nutrition. Biochemistry is driven by nutrition.

- So when I was reading the foreword to your book you talk about under-performance.

- Right.

- And I thought about, you know, you go back to, I think it was from Dr. Norman Vincent Peale's book, he talked about the fact that we only use 10% of our brain. Now, I know that has been discounted as being inaccurate science. But what you're saying, though, is yes, we have this capacity but we're still not using it all and a big problem is that we're not giving it what it needs to be able to function at its peak.

- Part of the fascinating research background that we've got now has really happened because we could image the brain in real time and we could see what was going on.

- What's the main culprit? Why are we in this position where we're seeing people under-performing? Because, as you point out, there is a lack of performance that we're seeing in unhealthy brains.

- We only just discovered, we're discovering this now. I mean, it's not that, you know, we just didn't know this in the past. That the brain could work more efficiently and effectively if it had the right food. We talk about training the brain and speeding up processing that way. But all those processes require extra vitamins and minerals, extra glucose, extra oxygen. And so basically, if you speed things up that way, try speeding things up with nutrition. It certainly works.

- What are the types of nutrients in particular that we need and why do we need them?

- Let's talk about the word deficiency. It's really, you cannot use the word deficiency in terms of the essential nutrients. All the vitamins, all the minerals, two types of essential fats, omega-3's and omega-6's, and nine essential amino acids. Essential's a key word here. It means we can't dream them up. We can't make them out of anything else. We have to get them into us. And basically we can't talk about deficiency because we die if we're deficient. It's not compatible with being alive to be completely deficient in vitamin C.

- So you can't give me a top five list and say you taper off from there?

- No, I can tell you some of the ones that we can say without a shadow of doubt that we are deficient in, like vitamin D.

- Yes.

- Because of this far north, we are short of sunshine which our ancestors used to generate vitamin D.

- So we don't get vitamin D after the, we trip over into the fall, it doesn't reappear until the spring.

- That's right. So we go through a trough and we go through our vitamin D winter and then we start to climb from fairly low starting place in the summer. So we probably never get anywhere near where people do who live all year round where they can make vitamin D.

- I gotta get you to hang on for a second while we take a quick commercial break.

- Okay.

- We'll be right back.

- So what do we do about that because vitamin D, you know, what is the quality of that vitamin D supplement that we're getting? So where do we, you know, how much do we need and where do we get it from? That we're gonna get a quality product.

- Well, vitamin D's not difficult to get a quality product. The problem is vitamin D doesn't work by itself. So going back to this group of essential nutrients that we need, think of it more like your car. It doesn't really

matter to you whether there's no gas in the tank, the spark plugs are missing or there's no wheels. You're going nowhere. In fact, you know, if you set off on your journey and there's some wheel nuts missing, you may come to a sticky end. So basically, that's the same with nutrients. You see, they all are interdependent. Take vitamin D for example. You know, you're right to bring up the idea of this how do we know about it and what are we testing, what are we taking. Because vitamin D doesn't work without magnesium. Now magnesium is a huge deficiency across North America.

- Why, I understand the why we're deficient in vitamin D but why are we deficient in magnesium?

- Because diets have changed. Our intake has dropped dramatically. Over 200, over 100 year period, magnesium intake has gone down through the processing of food and the processing of water. Water was a contributor of, well, is a contributor of minerals, but not if we're running it through processing plants.

- And chlorinating it and--

- That's right. So now most people don't, 95%, probably, of North Americans don't meet the recommended daily intake for magnesium. However, you can't metabolize vitamin D without magnesium.

- Oh my God. So you can be taking vitamin D supplements, but if you're magnesium deficient--

- They're not effective. And more to the point, we take D3. D3 is exactly the same as our skin makes if it's exposed to UV light.

- Okay, somebody who's watching this is gonna go, okay, vitamin D, magnesium. What else?

- Everything.

- What else, okay, but is there this sort of magic combination where you go vitamin D, magnesium, do I need vitamin C? What about B3's or niacin?

- Okay, so that's really what I'm work about, write about and what I practice, is how to bring together all of the key supplements so that you have, everything interacts with everything. So a multivitamin would be basic. But some of the studies we're seeing in the multivitamin area are showing that the levels which some multivitamins contain are really ineffective and inadequate. And that's led to a lot of confusion, as well. There's multivitamins don't work. Well, of course they don't work if, you know, the levels are so low that they're ineffective. So you need a fairly potent multivitamin and that will contain B vitamins, for example, at about 10 times the recommended daily intake. So that's a good starting place. Magnesium is, it's difficult to, to take effectively because one of the reasons for that is that stress is constantly depleting magnesium and really, when we're concerned about how our body is functioning and how our brain is functioning, it's magnesium tissues we're interested in, but only 1% of magnesium's in the blood. Now, the interesting thing about magnesium is it's needed for muscles to relax. So that 1% is critical because the heart is muscle. And so the body is topping up the blood all the time from other tissues. So when you go and measure magnesium in blood, looks as if everybody's normal. Even though we know 95% of people are not even meeting the recommended daily intake.

- I was fascinated reading your book. You devote a fair little bit of space to B3's and niacin. What is about the B3? Because so often you'll go places

and people hardly even touch upon that. But why is it essential as a component in having a healthy brain?

- Well, first, in the first instance, all the B's work together. The B complex contains all the B's. And they work synergistically together.

- So you don't suggest taking like, say B3, as something on its own.

- No, unless, there are circumstances when you'd use extra, but you'd use it on a base of all the other B vitamins as well. And the reason B3 or niacin is a problem is that if we're short of B3, and the body uses B3 in so many metabolic processes, it's very easy to imagine being deficient. We can actually make it. It is very critical. But we make it out of tryptophan. Now tryptophan is an amino acid that is not that plentiful in protein foods. The least plentiful amino acid in protein food. Tryptophan is the building block for serotonin. And serotonin is such a critical neurotransmitter in the brain that if we're short of niacin, we'll be using up our tryptophan to make it. And it's a very wasteful process. I mean, basically you need about a wheelbarrow full of tryptophan to make an egg cup full of niacin. So you're using it all up. Now the brain doesn't have any tryptophan to make serotonin and you know that serotonin is extremely important calming neurotransmitter. And critical for sleep. It becomes melatonin.

- So as I'm listening to you right now I'm thinking, okay, hang on a second. So do I need to move to increasing the amount of multivitamins that I'm taking so I'm hitting all those essential vitamins, or do I need to focus on my diet?

- Well, you know, they're not called supplements for nothing. They're supplemental. They're not called instead-ofs. So basically what they're doing is enhancing the nutritional content of the diet. So basically you can have the most beautifully designed supplementary team, and you can really ruin it all with poor diet.

- What are the essential elements in a good diet as far as your brain is concerned?

- Well, you know, what's good for the brain is good for the heart is good for the immune system. If you think about it this way, this is the assumption I make. If I can get people's brain working properly, and by that I mean, you know, focused, concentrating easily, upbeat mood, sleeping well, good memory. So I know there's enough nutrition probably left over for the rest of the body. So basically I think we do have very clear evidence now for the ideal diet. And it does hark back a lot to ancestral diets. How we evolved.

- In other words, natural foods?

- Absolutely. And processing the food over the last hundred years and speed it up, I would think, in the last 30 or so years, processing food has changed it out of all recognition.

- So I also understand, though, that we have gone and taken, like, collagen, out of the food because we've trimmed away a lot of those ligaments and tendons and all that part that used to be consumed, and then we're robbing ourselves of those elements and other parts of our body are being deprived of nutrients they need. How important, and this sort of gets me to fat, because everybody's going to the lean, lean, lean, lean. How important is fat as far as my brain is concerned?

- Your brain is almost entirely fat. It's critical.

- Yeah.

- And to deprive your brain of fat is, it's a big mistake. Now, of course, it's what sort of fat? You don't want to be making it out of trans fats. Saturated fat, it does, like butter and lard and everything, they last longer and don't go off so easily. But the ones our brain really wanted, the omega-3 fats and the omega-6's, they go off very easily. And they give an off flavor. So we found chemical ways of neutralizing them, basically.

- This is the kind of topic that could go on forever. When it comes to foods, I have a question that I've been wanting to have verified. Eggs. People go oh, I only want the egg white. My sense is that you're missing out on one of those essential ingredients in the egg yolk, choline, which is vital to your brain health.

- It's critical. And in fact, there's a group of researchers at MIT who actually think we've, we have, choline is the building block for the memory chemical acetol choline, the neurotransmitter most involved in memory. And some researchers at MIT actually have felt that we might have increased the incidence of memory problems because we've told people not to eat egg yolks.

- Well I look at it and I think, aren't you robbing yourself of the most essential nutrients?

- I mean they're the most--

- In that egg when you're doing that.

- The most critical time for those egg yolks and the choline that's in egg yolks, 'cause there was another rich source that we also demonized and a lot of people don't like anyway and that was liver. And so I grew up in Ireland where we had liver once a week. And I still crave it, actually. There was a reason for saying liver might not be the best food, because if we feed junk to animals, we get junk food. And if there's a lot of chemicals in an animal, it'll concentrate in the liver. So, but with egg yolks, in pregnancy, the brain, it's structures are being built and the, some of the major researchers have shown, in animal's brains, at least, that if you feed extra choline to an animal when they're pregnant, those offspring have better memories for their entire life.

- Let me ask you this, I had that egg and I sprinkle a little bit of turmeric on it and I actually cook it into the food. Is this another good element to add and why?

- Well, I've become very interested in turmeric recently, actually, because people have been taking these in supplements for some time and they're researched and you know, often the researchers, they have a particular focus in their lab and so they hear they may be antioxidants so you know, I'm studying antioxidants, I'll say turmeric is an antioxidant. But if you look at the breath of research in turmeric, you find a number of interesting things. So let's go back to talk about vitamin D. Vitamin D, you know, we think we've captured sunshine and put it in a bottle when you take our supplements, but in fact it's not quite like being in the sun and getting your vitamin D from the sun, because the sun will also induce enzymes and turn on genes that will, you need to express the vitamin D receptor, for example. So one of the things that I've been looking at recently that's interesting is that, curcumin will enhance the vitamin D receptor so it will work--

- [Stuart] Which we find in turmeric, right?

- That's right. So people are finding that they are having aches and pains and rheumatism, sort of relieved, in the winter months, with adding a good quality turmeric. Now, there's only one problem with that. You're doing it the right way. You have to, it has to have fat. And by the way--

- 'Cause then it absorbs into your system.

- That's right, yeah. It's hard to absorb it without the fat. And you know, traditionally, you know, in Indian cultures where they have a lot of turmeric, they are protected against certain things like dementia, like diabetes, but they have a huge amount of it. But it's always cooked. But there's another essential thing that you might be missing.

- Which is?

- Pepper.

- Pepper?

- Yeah. So you should have pepper with the turmeric for optimal absorption.

- Same like vitamin D with magnesium. It's the vitamin D3, it's complex. So I'm already over time here. If you had to say to somebody, here's the three most important things you need to take away from this for you to start to improve the optimization of your brain, what's steps one, two and three?

- I think step one would be definitely to clean up your diet. Then a very good multivitamin. And think about some of the things that we know our diet doesn't provide. Safely, anymore. We didn't talk about omega-3 fats from fish because fish has now got a lot of methylmercury in it. And to eat the amount of fish that our brain would really like us to have, we'd not be safe.

- So can we get away with taking in blue-green algae or so? Because, if we look at omega-3's, they really are the fish compacting that algae.

- Yes, that's right. So we can get them from algae. You don't get them so much for the brain from things like flax seed. So you get the short chain omega-3's and those short chain have to be elongated in the body into the long chain, EPA-MDA chain which are used by the brain. And we're not very good at doing that. Now chickens are brilliant at doing it. Feed them flax seed and their eggs have got the long chain omega-3's which we tend to be pretty inefficient.

- Huh, and what about exercise? The actual, physical exercise?

- Well, you know diet and exercise is just one compounded word now. There's no way. What are you doing when you're exercising? You're moving oxygen around, you're moving glucose, you're moving nutrients. You're allowing all sorts of processes to happen where extra nutrients in your blood may go and be stored in bone for later on. Or maybe drawn from bone to top up the blood. So I think there's no doubt about it that exercise is critical.

- And the benefits?

- The benefits are huge. I mean, there's, at every stage, all of the situations where we tell people to rest and take it easy. Like, after a big surgery, after a heart attack. Now we say, in the middle of chemotherapy, you're gonna do better. You may feel exhausted and nauseous, but if you exercise you are going to do better.

- Well, I was encouraged when I read your book. And I would recommend that anybody read it if you want to sleep better, handle stress better, be more creative, be more focused, more enjoyment in life.

- Exactly.

- Thank you very much for coming in and doing this.

- [Aileen] Thanks for having me.