

Interview with Megan Barnett, MS, CNS

Interview by Sheldon Baker

Integrative Medicine: A Clinician's Journal (IMCJ): Who is Megan Barnett?

Megan Barnett, MS, CNS: That's a big question. I'm a very curious clinician is what I would say if we're only limiting this to my career, not the rest of my life. I own a functional medicine clinic in Portland, Oregon with a nurse practitioner. We have seven providers, and we have the best time. We love what we do. We love our patients and new research. We text each other on the weekends about new papers we're reading. It's a very stimulating environment, and I've been fortunate enough to land in a career that keeps me intrigued every day. It's just very exciting.

IMCJ: How many years have you been in private practice?

Ms. Barnett: Six years. I went back to school when my kids were little. I was a general contractor and in 2008 ended that career. I went back to school and did an undergrad in dietetics and that was a great foundation, but it wasn't the way that I wanted to practice. I did a master's degree in functional medicine and human nutrition and quickly moved out of the country. At the end of my master's degree, I had a little tiny burnout and my husband agreed to go to Italy for a year, so we moved our family to Tuscany, and I had an opportunity to ghost write books while there for doctors in the functional medicine field. It gave me a chance to be current in research around some (health) topics. I loved it, but I realized that I had moved to Italy when I had just finished a degree that would've allowed me to be in clinical practice. So, as soon as I got back, I reconnected with a colleague and jumped right in.

IMCJ: Thank you for sharing that story. Let's talk a little bit about BioLounge.

Ms. Barnett: BioLounge was a concept that was constructed by my business partner. He had been in the functional medicine and longevity space for about 10 years and was billing insurance throughout that time. He felt shackled by the limitations of what insurance would let him do for patients when he believed he needed to provide more comprehensive care. I met him when I was doing my rotations at the end of my graduate program. He created BioLounge with the concept that we needed to be able to

provide unencumbered care for patients. They needed what they deserved to get, regardless of anybody else's ideas about what they should have as optimal health care. BioLounge has a range of objectives with patients. We work with the most complex chronically ill people that haven't received answers elsewhere all the way through to people who are very well looking to find those last little details of how to optimize and extend the health span and everything in between.

IMCJ: Let's say a first-time patient comes in who is not well. Where do you start?

Ms. Barnett: Typically, with me. Our clinical nutritionists start with the most complex people, not our medical providers. There's so much foundational work to do from a nutrition and lifestyle perspective that often we find that's 80% of the care they need to get better, and then we're dealing with the last little bits, and we move them to a medical professional, if needed. We have a collaborative environment, which is just very fun. It's also exciting, and I think it's rare. I train other clinical nutritionists and have a whole supervision program, so I watch them try to go out into the world and find this environment that I'm lucky enough to have. I get to do a lot of screening, lab ordering, and work with the medical providers and say which part of this is mine, and what part is yours. How much can we resolve with lifestyle and nutrition?" We then rerun labs, see how far we came, and then move the patient to medical care if we need to.

IMCJ: Another area of development is Florasophy.

Ms. Barnett: Florasophy was the brainchild that happened during the pandemic. Interestingly, I never learned about fiber in my undergrad or my graduate program. I was like yes, fiber, it's non-nutritive, and I didn't understand what it was as a tool for health. My youngest sister was vegan for a long time. She sent me a message one day saying, "You have to read *The Bean Queen*. It's all about eating beans." I said, I'm not going to read one more trendy diet book. I have a master's degree. I was very snotty by the way.

My mom called and said, "I think you should read that book. This is a very intelligent woman who's very well-educated." So, I read it, and it was the first time I learned about soluble fiber. All of a sudden I realized, I

could be using this for people not only with GI issues, but hormone and brain issues as well. I started tinkering with different fibers in my kitchen. Then I gave little baggies to patients saying, try this mix because it's based on research. I feel this is going to help you with what your symptoms are. They'd take it home and try it.

I have a very good friend who I'd known for a long time who was a business strategist. She owns a personal training gym. Because it was the pandemic, they were shut down. We weren't allowed to see anybody. But my business stayed very busy during the pandemic, because we were virtual. I was under the impression I had time on my hands, and I thought let's just start a new business. Let's bring soluble fiber to the masses in a different way. I was having really good outcomes, clinically. One of my patients was having hormone issues and they were resolved largely with the blends I was giving her. Florasophy was born out of that. That is a three-and-a-half-year-old project, it's been extremely fun, and a lot of work. I often think this is not a good idea to have two businesses and two kids, but my business partner runs the ship, and we see incredible improvements especially in women's health, which has been a little surprising.

IMCJ: Obviously, you were successful and generating revenue at the same time.

Ms. Barnett: Yes. generating revenue. Woo hoo.

IMCJ: A trendy subject and something that you speak about is oral microbiome.

Mr. Barnett: That came to be in a funny way. Like many things in clinical work, you have ah-ha moments because you learn from your patients. I always consider BioLounge to be a living laboratory because I'm constantly trying things and patients come back and give me information. In my undergraduate degree, I had a research writing class, and I don't know why, but I chose to write a paper, 30 pages, on Weston Price who was a dentist who was connecting nutrition with oral health. I had this general idea that maybe nutrition has something to do with your mouth, which doesn't seem bizarre, but actually we don't connect that. We do put food into that area. I had a patient who came in and she had experienced elevations in cholesterol that didn't make sense. I did serial labs on her. I'd known her for a long time, and we saw her cholesterol had shot up quite significantly. She had other cardiovascular risk factors, genetically. We were worried, but nothing in her diet or lifestyle had changed. I just didn't know, but felt there had to be something going on, perhaps a shift in her life, in inflammation or diet. I asked if she was not sleeping or stressed. She said she felt great. About 15 minutes after the appointment, she called me from her from the car and said she just found out from her dentist that she needed five root canals. She's in almost in her seventies and had no

symptoms. He took an image of her face and found all of those teeth had infections at the root. She asked if I thought it could be causing a problem. I told I had no idea but wanted to call her dentist. With permission, I contacted the integrative dentist in Portland, Kelly Blodgett, who I now work very closely with.

He said he didn't know if her teeth were causing the problem but wanted to see if she'd be up for an experiment. So, here's what he did – remove all those teeth, clean them out, shoot some ozone into them, and test for microbes. He asked if I wanted to do some lab testing after that to see if anything changed. She agreed because she's a really good sport.

In the meantime, I put her on an anti-inflammatory diet, to bring her cholesterol down. We checked before the procedure, and then after the procedure a few weeks after, she'd gone through some healing and the anti-inflammatory diet brought her cholesterol down. Total cholesterol was down about 20 points which was significant. What was mind-blowing is that two weeks after she had all of those teeth removed her cholesterol came down another 32 points. She was in not only normal range, she was in healthy range.

I didn't understand why but I was excited. It was a really fun outcome. I went into the literature and that's where I started having a better understanding about these micro infections in our body and under a root canal that is encapsulated. It's called a periapical lesion. There's bacterial activity and inflammation. The immune system's responding, but it is encapsulated. It's not necessarily moving everywhere else so we think, but there is interaction with the capillaries. Now, the research is starting to connect movement of these bacteria, and movement of these infections to other parts of the body through those capillaries. What was interesting to me is that I didn't know, and I never learned that your liver would make more cholesterol in an effort to make more white blood cells, and more lymphocytes to deal with infection. So when I practice now, I always screen for oral health issues.

I screen the background of what's happened in your mouth over your entire life. When I see elevated cholesterol, especially when it's new, I am thinking about potential infection somewhere. Where is there tissue damage? Where's there activity? It was a game-changer in my practice and my life. The integrative dentist and I now share multiple patients all the time. We always do labs before and after, always getting to see really incredible outcomes. There's a lot of connection between their micronutrient status, zinc, vitamin D, and vitamin C, and what we're seeing in the mouth with the gum tissue, and health of the teeth. With these larger inflammatory disease risks, we're seeing microbial interactions. It's just been fascinating.

IMCJ: So, after having the root canal, you may still have an issue, if I understand you correctly?

Ms. Barnett: Yes, you can. It depends on what's happened with that bacteria. It's not just bacteria with the microbes and where they've gone. One of the things we see that I think we have a lot of power to resolve is there's an endotoxin that is released by certain bacteria in our body. It's called lipopolysaccharide, LPS. It's okay if it's in the gastrointestinal tract. It's just not okay if it moves into the system, and the bloodstream. For a long time, we thought when we saw this endotoxin in the bloodstream it had to be coming from the gut because there was intestinal permeability. But that's not true. When we test, we find it's coming from the mouth. It's coming from these potential root canals and from infections under a crown, even encapsulations or what we call cavitations under wisdom teeth that have been pulled and not properly cleaned or dealt with. There are implications. That lipopolysaccharide we inject into lab rats and into mice when we're trying to induce toxicity, we know is a concern, and it can increase risk of many diseases.

IMCJ: Normally, someone's not going to come into your practice saying, "I'm having problems with my oral microbiome." It's something they're going to learn about and what their health issue may be.

Ms. Barnett: Exactly. Having a bunch of teeth removed is not the simplest intervention, nor is it the least expensive intervention. It's not where we start. I don't screen for this and say, we better go have your five teeth removed before we do anything with the rest of your health. It's a consideration. It's part of the screening process, and it's something that if I think about having a cork board and pinning up little cards of all the things going on with every patient, it goes up there and we're discussing it. There's an education that the patient deserves that may be a factor and we need to be looking at. Not every root canal is bad but many of them are. It's in high proportion. With the right type of imaging, you can typically see it with something called a cone beam scan. It's something we're going to talk about. We're going to ask at the beginning about that history in functional medicine. It's just part of the conversation.

IMCJ: It's really a whole-body situation linked to various other types of diseases, including cardiovascular and maybe cancer.

Ms. Barnett: Absolutely. It is linked to cancer and cardiovascular disease, as well as Alzheimer's, and virtually a number of things. I think one of the things that blew my mind a few years ago was the research that was coming out now showing that they were finding these oral microbes on other organs. There's studies from Japan linking microbes from the mouth and from the GI tract to endometriosis and the tissue that was building up in women's female organs. It made me think we have for a

very long time, and I think we continue to do so, have separated the care for the mouth for the dentistry world and the care for the body with the rest of the medical world without a lot of crossover, and communication, as well as without a lot of respect for the fact that no, we're just one organism.

This is the beginning of the entire digestive tract. To disconnect it from thinking about how the rest of this organism works, it just not logical. I have many friends who are physicians and many friends that are dentists and are still not really willing to have this conversation. I think that's become a little bit of my mission to continue to educate people that we should be combining forces. Collaborative care is where it's at.

IMCJ: In other words, doctors don't look your mouth and the dentists don't consider health issues for your mouth. Are you seeing that as something which is evolving and changing? How can you get people to see their dentists twice a year for cleaning and if the dentist sees something that doesn't look right, suggest seeing their doctor because of it?

Ms. Barnett: I speak regularly at dental conferences because dentists and hygienists, specifically hygienists, have so much patient interface that they have opportunities to learn what's going on in the mouth. My aim is to educate them about screenings because a patient may go to their doctor, and they may never say a thing about their oral health or their dental history. But a hygienist has that opportunity, and they should ask about major health issues because it's a concern if you're going to have to give them antibiotics before they do a procedure. I try to educate them on how we would effectively screen then educate because you realize they have a platform where it's only one direction. You are there with your mouth open and you can't speak, but they speak at you for 30 or 45 minutes while they're in your mouth cleaning your teeth.

So, how do we motivate patients to start making these connections when you have this stage and can tell them, I see you have elevated blood sugar in your health history. Maybe they've had cardiovascular risks or whatever may be going on. Let's start making those connections. I think that is probably our best opportunity to start getting the patient engaged in making those connections to speak with their doctor.

IMCJ: Oral microbiome and vagus nerve are two hot topics at the top of the list these days. There are no actual tests test to determine a health issue. You can't say you're having a specific problem so let's do this test, or let's do a blood test.

Ms. Barnett: There are some tests that can provide clues. There are swabs of the oral cavity that I sometimes use, and we can send off to a lab for PCR testing. That's a

topical test about something going on within the mouth, not necessarily within the endodontic tissue. If a patient does proceed with dental care where they're having the tooth removed, the dentist that I work with will swab that area and send it off for DNA testing so they can determine what microorganisms are within that endodontic lesion. That could be helpful. We find Lyme disease, which is fascinating, in those periapical lesions.

We're trying to connect those microbes with what we're seeing in the rest of the body. We have blood testing to look for lipopolysaccharide to see if we're making antibodies against that endotoxin. We have clues, and there's things we can look at. It doesn't necessarily say specifically, this is what we need to do, and these are the microbes we have to kill. We're looking at how it's interacting with the gut. We want to look at inflammatory markers or immune markers. It's like fitting puzzle pieces together.

IMCJ: Are there probiotics and prebiotics that can help maintain that healthy balance?

Ms. Barnett: Yes. Within the mouth there are new probiotics that are coming out from a handful of supplement companies. That is great to see. We have other companies who are providing things like toothpastes and mouth rinses to keep, I wouldn't say pathogenic, but maybe the opportunistic microbes at bay. I see we're placing an emphasis on shifting focus. We're starting to pay attention to this for sure.

IMCJ: Biocidin is one of those companies offering probiotics products and there are others.

Ms. Barnett: I recently spoke with Biotics and they mentioned they have an oral probiotic that was recently introduced. We can use that for maintenance. And we have a lot of patients that enjoy those products.

IMCJ: How long might it take to adjust or correct that oral balance?

Ms. Barnett: I honestly don't have an answer because I think it has to do with factors including what is going on with a person's teeth and what the patient is willing to do with their oral care. It changes daily with what you put in your mouth. Your nutrition is huge. If you're eating a highly-processed food diet, or even a high sugar diet, it's changing the microbes in your mouth every single time you eat. Maybe it's oral probiotics. It's how we're taking care of our mouth just in our typical oral hygiene routine. Then again, if there's these bigger issues, without addressing those, we've lost a little time to fully resolve the issue.

IMCJ: It's actually a rebalance.

Ms. Barnett: Yes. Absolutely.

IMCJ: From a generational standpoint, both fillings with silver fillings can cause issues, and root canals can also be problematic. Most dentists just do the root canal cleaning procedure and work around the damaged body organ. Perhaps the tooth should be extracted, but a great amount of people have probably lived a perfectly healthy life after having a root canal. What are your thoughts?

Ms. Barnett: Absolutely. It can be a root canal or just pulling a wisdom tooth. I think we have to look at the body as a whole. Our body can handle a certain amount of damage, inflammation, as well as wear and tear, but it's an overall load issue. For me, it comes back to screenings. If you are suffering and all of the foundational things do not solve the problem, then we may need to be looking at what's going on inside the mouth. We have the opportunity to do these cone beam scans. They provide a better visual. You're not going to see a problem with every person who has had a root canal. When you do that and things aren't resolving, I believe that's the time to really dig deep.

IMCJ: So, you're not an advocate for it just because you've had a root canal, you can have it reversed.

Ms. Barnett: It doesn't seem to be necessary. As I indicated, people fly in from all over the country to see the integrative dentist I work with. They're people who are ill and are looking for an answer because everything else hasn't worked. Those are the patients I see from him. Even in that situation, he'll look at an image and honestly say, it is not the issue. He can see what looks good, but maybe there is another issue. He often sends people to me before he ever touches them because he's so concerned about their nutritional status. He feels if there is a problem in the mouth, they won't successfully recover because it's not the only thing.

IMCJ: The body responds differently for everyone.

Ms. Barnett: Yes. It can affect the nerves and the bacterial load. It depends on how it was done. For me, that's something to just track. You'll be able to see in a period of time on a cone beam scan if there's something going on there. As I'm not a dentist, I do know in the practice of the integrative dentist, when they do these procedures, they give the person IV vitamin C before they clean it out with ozone, and before they put an implant in or a bridge or whatever else they're doing. Before they let the tissue heal they can bring them back and do IV vitamin C again. It's important to be looking at how our body responds to this intervention. I have two kids, and one by C-section. I remember it being like, oh great. I had a C-section, and I went back to work three days later because it's just not a big deal. I think there's certain procedures that we have

normalized so much, and root canals is one of them. It's not easy on the body. Anything that requires tissue healing and potential bacterial load, we should be supporting that healing process as well as we can.

IMCJ: It seems like the only healthcare practitioners who understand it are cardiologists.

Ms. Barnett: Yes. They have been trained to pay attention to what's going on in the mouth. I think it would be so great if they were advocating for this because they have plenty of research showing that there's this connection between the oral microbiome and risk. We see that in literally every tissue now. Their research could really pave the path for greater understanding and education within the rest of the medical community.

IMCJ: If you tried to talk to cardiologists at their events are they above the fray?

Ms. Barnett: I haven't been there yet, but I ran into a nurse practitioner I know from my kid's elementary school, and she is in the brain health space in Portland doing Alzheimer's, and stroke work. She asked if I speak at doctor's conferences. I told her I love doing that and asked when she would like me to come and speak just to light a match and start the conversation. Those are the ah ha moments. We all need to get better at what we do.

IMCJ: Just using the word microbiome, how confusing can it be for people because they may think of the gut on the microbiome?

Ms. Barnett: There's microbiome everywhere, including skin microbiome. We continue to learn. I think this will be something we continue to educate the population at large about as more and more providers are paying attention to it. Years ago, we weren't talking about leaky gut. Even today, I have to explain to my patients from a tissue perspective, what are we talking about Think about it as a paper cut in your intestines. I feel as providers, we'll continue to learn more in the early days of microbiomes and will continue to pass that knowledge along. I'm sure plenty of people on Instagram and TikTok will continue to talk about it too.

IMCJ: When you do a presentation, have you ever had people say, "I thought this was going to be a gut presentation, not on the mouth."

Ms. Barnett: I think my audience is well-primed for it. I've never had anybody say that, but I definitely have that response from patients.

IMCJ: You already have a distinguished career at your young age. Is there a golden rule by which you live by?

Ms. Barnett: This has been a topic of conversation in my house recently and it's funny. I think I have two things I say a lot in my life, and I use them in a work setting, as well as in a personal setting. One is just because it's common doesn't mean it's normal. I think this is what functional medicine is. We have a lot of people that think just because we say, I have aches and pains because I'm getting older or I'm fatigued because I'm a mom, or I'm in my 40s or whatever, younger people walk in and say, their doctor said it's because they're in their 30. I say there is no symptom that goes with 30. Sorry to tell you.

I think I am passionate about the re-education of what we can harness to feel well and be well. I think the other thing, the other golden rule I live by is stay in curiosity and not judgment. That's for providers, my children, and for myself. It's a reminder and not always the way that I live, but it's helpful, especially in this career.

IMCJ: Can you share a funny story about a patient maybe that really made you laugh?

Ms. Barnett: Oh, that's a good one. This is a one that just sticks with me. Years ago, a woman came to see me and said she was about 40 years old and accomplished a lot in her career. She was a big runner but was maybe slightly overweight. Just not anything significant. Her hemoglobin A1C had gone up into the diabetic range at 6.7. I went full steam ahead and said we're going to change your diet and will keep track of it.

One of the things that stood out in her labs was her vitamin D was around 11. I told her this is important, and we need to get this number up. I said we're going to put you on vitamin D and a beautiful diet and in six weeks we'll recheck the markers. Also of importance, I told her not to worry. She left my office and basically just disappeared. About a year later I saw her on my schedule, and she had uploaded labs she'd had from another provider. Her hemoglobin A_{1C} was 5. I thought she really took this to heart and did everything. She came in, sat down and I said it's been a year and you've done so much work. She replied, "I didn't do anything you said except take the vitamin D. Her vitamin D was up in the 60s.

IMCJ: Had she lost weight?

Ms. Barnett: She hadn't lost weight. She kept doing everything she was doing and still eating the same diet. It was earlier in my career I remember thinking I need to learn more about vitamin D and glucose management. It's not always the case for people and not always one and done, but it really was humbling.