

Growing Healthy Kids from the Ground up with The Dirt Cure
author Dr. Maya Shetreat-Klein - PMR #126

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Tony: Hey, Paleo nation. I'm Tony Federico and you're listening to Paleo Magazine Radio, the official podcast of the original Paleo lifestyle publication. Kids today are expected to sit still, pay attention, and behave like little adults and when they don't they're diagnosed with ADD and medicated with stimulant drugs. Can you really blame them when most of their calories come from chemically-laden, processed foods and most of their fun comes from a computer or smartphone screen. Just as adults get sick when their modern lifestyles run counter to their ancient DNA kids, too, suffer.

What makes it all worse is the sad fact that most of the medical and educational establishment hasn't made this connection. Thankfully, however, some doctors are breaking rank and trading in their prescription pads for cooking classes. One practitioner who exemplifies this is Dr. Maya Shetreat-Klein, a board certified adult and child neurologist, lifelong foodie, and environmental activist who from her practice in New York City has successfully treated hundreds of children with neurological issues with an integrative approach that includes functional medicine, herbs, mind-body techniques, and homeopathy.

On today's show I'm joined by Dr. Maya and she and I discuss how she first became interested in the field of psychoneuroimmunology, why she's concerned about the over-prescription of stimulant drugs in the treatment of pediatric behavior and attention disorders, how she's started to use things like food, outdoor time, and even dirt to treat her patients, the life changing transformations she's seen firsthand with her approach and the childcare revolution she hopes to start with her new book, *The Dirt Cure: Growing Healthy Kids With Foods Straight From the Soil*.

All right, folks, it's time to plant the seeds of change, Paleo Magazine Radio starts now. Before we get into the dirt here I'm sure people are definitely wondering what that entails. Let's talk a little bit about your specific background and how a neurologist got involved in this whole dirty business of paleo and ancestral health.

Dr. Maya: I started out way back when when I went to medical school actually, being interested in a field that I learned about on a Bill Moyers special ...

Tony: Oh, cool.

Dr. Maya: ... called psychoneuroimmunology and I thought there was this fascinating field. He interviewed people at some academic center who said they were doing research in this and I thought great, that's what I want to do. I'm going to go to medical school and I did and went through pediatrics, went through neurology training, graduated, and realized there is no such field as psychoneuroimmunology.

Tony: Shoot.

Dr. Maya: Yeah, so I decided that I was going to create it and practice it for myself. What ended up happening for me was ... There was two things. One was I was going into private practice after I finished my training and I was having three and four and five-year-old kids sent to me for stimulants for diagnose of ADHD. I was like this is not cool. We need to figure out some other options for the toolbox besides what I consider to be drugs of abuse, you know what I mean. In other words, I'm not saying stimulants don't have their place, but we don't know what it's going to do to long-term brain

development. What we do know is alarming really.

Tony: Right, and I think to put it very bluntly we would probably have an issue if kids were being given cocaine prior to school, but we already are giving them amphetamines which are very similar to methamphetamine in the form of Adderall and things of that nature. These are pretty serious drugs that are being prescribed to very young children.

Dr. Maya: That's right and then very often these are being used in a long-term way. In other words, it's not like they use it for six months and then they're off. They get into this holding pattern where they are taking these medications and it could be through high school, it could be through college, or I've definitely seen people who have taken it into professional life. Again I'm not saying that there aren't people who are helped by that and there may not be some people who that has a role, but I think we need to have more tools in the toolbox and try a lot of other options before we resort to pharmaceuticals in many cases and particularly in this case.

Tony: It certainly seems like those are the first choice in most cases and the lifestyle factors that I'm sure you're about to address they don't really get a lot of attention if any attention whatsoever. Could you maybe describe a couple of those aspects that might prove an alternate treatment whether it's with diet or exercise or something else?

Dr. Maya: Sure, and so I would just say also that the problem to some degree is that physicians really are trained in a very pharmaceutical model and so they just don't really have the kinds of options. They're not even trained in things like nutrition or really very much in terms of lifestyle medicine. The kind of things that I researched ... First of all just began with food and looking at things like synthetic food additives which have been studied in children and whether children have a diagnosis of ADHD or they don't. When a combination of preservatives and food dyes were given to them in a double-blind, placebo-controlled trial they found that children two and three years of age and eight years of age were more hyperactive when they were given those combinations of synthetic food dyes and preservatives than if they weren't. Certain kinds of food additives seem to definitely impact children's attention and focus and so on, levels of activity.

Also, being outdoors is a huge factor and we've really lost that to a great extent. Over the last 20 years children have gone indoors basically and most kids don't spend more than 30 minutes outside a day maximum which is very different than before. We're learning that children who are outside exposed to soil, forests, being in nature, and just being active outside get a huge number of benefits including they're more focused, they're more creative, they score better on standardized tests, they're more relaxed, they're happier. [Inaudible 00:07:58] I think about each thing I'm saying is something that we medicate children for on a regular basis. Again I'm not saying every child is going to get better simply by spending a few hours a day outside, but imagine how many could.

Tony: Certainly we know that kids are spending more and more time indoors like you mentioned, maybe 30 minutes outside a day. Physical education is not emphasized like it was in previous years. Many "kids' foods" are full of the very preservatives and artificial colors that you described as having a detrimental effect when it comes to attention and focus.

Dr. Maya: Absolutely, and one of the things that I really feel strongly about is that what are kids really spending all their time doing? They're sitting in classrooms, they're not moving around, they're not outdoors and they're learning to the test quite a bit because we have these standardized tests and the teachers are judged on this. Their pay scale and their jobs depend on the performance of these kids who are very young and shouldn't really be in this position. This is deciding the teacher's professional future.

It's a really bad situation because I think children would be a lot better off having outdoor curriculums which involve learning how to grow food and learning about being custodians of soil and what soil does and learning about biodiversity and how about how to prepare food and how to cook food. I think there are so many ways that having a more integrated curriculum that includes a lot more nature education and a lot more really about just survival and about what indigenous people did and learning in a much more hands on way would be incredibly beneficial. Instead we have accepted this all day sitting in classrooms looking at Smartboards, coming home and spending all evening doing homework and then screen time.

Tony: Who wouldn't be a little agitated and unfocused after a day like that?

Dr. Maya: Exactly.

Tony: It actually and I'm just going to say it seems it would be a normal response for

somebody in those conditions to have trouble with attention and have trouble with feeling restless, et cetera, the very things that's medicated out of them. Rather than changing the dynamics of the environment and changing the situation we're medicating children. How do you get that message across in your practice because what you're talking about I'm all onboard for, but there's some pretty strong forces pushing against that type of revolution in early childhood education and pediatrics.

Dr. Maya: I think it's going to take a real revolutionary movement and that's really why I wrote the book actually is because I work with parents in a one-to-one way and I work with families and I work with children. We see transformation in children, changing their food, changing how they spend their time, getting them less scheduled for another thing because there are a lot of kids who are running from this activity to that activity. They have just no unstructured time to just be kids and to play and to explore and to be curious. I think parents are very plugged into their kids very often and they are intuitively not happy with the situation, but they don't feel supported in listening to their intuition. A big part of my job besides making recommendations and trying to problem solve and be a detective sometimes is just to support these parents in listening to their own intuition and help them unplug from this crazy system that makes no sense.

Tony: For somebody walking into your practice and maybe they have a child who's suffering from ADHD and maybe has a diagnosis, how do you start unpacking maybe previous modes of treatment and getting them on the road towards a different path and maybe a more natural and holistic treatment plan?

Dr. Maya: Every child's different, but let's say what would a blueprint look like. They walk in here, I hear their story. Sometimes I think these kids are checking out

because they're just so overwhelmed and so that could be a spacey ADD kid. Sometimes they're agitated and they're anxious and that can be another reason why they're more hyperactive and acting out. We look at those things to try to understand what their child is experiencing. Being a kid is a pretty disempowering experience sometimes, so we want to understand how they feel.

Then we'll move forward though with what times a day are good, what times of day are rough. Sometimes the kids are having a really high-sugar breakfast. I am very much opposed to breakfast cereal which is what many, many kids have or the prepackaged types of breakfasts. I love getting kids into a nice, high-protein, high-fat breakfast, pastured eggs ...

Tony: Nice.

Dr. Maya: ... pastured butter, some good veggies in the morning, maybe a little bit of fermented vegetables or sauerkrauts, stuff like that. That can make a huge difference just from these dips in blood sugar which can be part of it. We definitely clean up the diet looking for things like the additives, the dyes, things like MSG or artificial sweeteners or high-fructose corn syrup. Reducing sugar in general and using only natural sweeteners like maybe a touch of maple syrup or some raw honey because there's some great data about how those could be beneficial and even stabilize blood sugar which I do talk about in the book. Honey's actually being looked at now as a treatment for diabetes because it seems to stabilize blood sugar and insulin levels.

Again always in moderation, but that's part of what we're looking at. We're looking at a lot of whole foods, unprocessed. If kids are eating grains I want them to be sprouted and cooked and as fresh as possible. Making sure they're getting a lot of again high-fat, high-protein. I think kids are really deprived of fat and actually cholesterol which I think they need to have good, healthy brain development and immune development. Then just getting them outdoors, helping them get a lot more unstructured time when that benefits them. Some kids really do better with more structure and a lot of time in nature.

That's actually a huge piece. I'm not sure how much you know about things like forest bathing and earthing, but there's great science that I talk about in The Dirt Cure that talks about how it reduces cortisol levels, how it improves sleep. We increase production of anti-cancer proteins when we spend time in the forest. It's not just like you're feeling good because ooh, it's nice and it's pretty, but there's a physiologic and chemical change that happens just the same way as when you're with certain people it makes you feel a certain way and there's certain chemistry. That chemistry happens when you're in a forest with the trees and the soil and the mushrooms and all that great stuff. I try to get kids to use ... If they are really into technology and not so much into going outdoors I might try to get them to start geocaching.

Tony: Ah.

Dr. Maya: Using a navigation and you do have your technology and your screen, but you're using it to explore outside and have this cool, digital treasure hunt. That's fun and it gets you outdoors into beautiful places, but you also still feel it's cool and digital at the same time.

Tony: Now you mentioned some of the transformations and, of course, there's privacy involved in working with the client, but could you maybe describe some of the changes that you've seen without divulging any personal information, just perhaps results that you've experienced with this type of protocol.

Dr. Maya: Sure. Yeah, when I first started doing this I didn't even know what I would see and what to expect and the transformations were incredible. I saw children who ... One thing I didn't talk about when I said about this blueprint is sometimes we find out kids are reacting to things like processed dairy. I really try to find if kids are having dairy, using only raw and pastured forms of dairy, otherwise really avoiding it. A lot of kids do react to the processed dairy that we are getting in supermarkets, gluten as well. I've had kids that we've just taken off of food additives and let's say something like dairy or gluten where that's all we really had to do. Suddenly they went from having ants in their pants and disrupting the classroom all day long to just being relaxed and coming home doing their homework, good behavior, where parents literally have said I have a different child.

Tony: Wow.

Dr. Maya: It's unbelievable and I've also had kids who had chronic ear infections. There's a pulmonologist in the area who refers a bunch of kids to me when they do badly on their pulmonary asthma meds and says why don't you go see this doctor, she might be able to get you off of meds altogether. We've gotten so many kids off of all asthma meds and basically reversed their asthma, so a lot of different chronic and allergic conditions as well as ... I had two little boys, twins, who came to see me who had seizures. They both had abscon seizures, little staring spells and they were having 50 a day. It turned out they had a lot of food allergies and some nutritional deficiencies and when we got them ... They were eating a very restricted, a very processed diet.

When we really cleaned up their diet, got them off of the things that were bothering their body and got them on really great, nutrient-densed food and got them eating some vegetables their seizures completely stopped with no medication. There's a lot to mine in just these dietary changes and we can really transform children. A lot of this, of course, is happening through the gut-immune-brain connection that now is getting so much attention. It's a fantastic amount of research and it really does play out in the clinical setting. We're seeing a lot of kids doing very well.

Tony: Now one question that I have is in regards to adherence because there's a reason why "kids' foods" are so popular. They're convenient, they're portable, they're stable. You can throw them in a bag or in your car and they'll stay "good" for an indefinite period of time. When somebody's transitioning to whole foods whether they're an adult or a child it can be difficult because these foods spoil and there's a degree of preparation. How do you help people through that transition? Do you have any strategies or tips for parents who might be listening to this and who might be interested, but are having a hard time visualizing how they're going to adjust their routine to a different food plan, to a different lifestyle basically?

Dr. Maya: I'll say this, a lot of the parents who come to see me are coming because their kids are pretty sick and so they're motivated. I do think a lot of parents are motivated to make these changes when their kids are sick because the

really big piece of this is and why I wrote this book is because I wanted to empower parents and educators and even healthcare providers with science. The book has over 700 scientific references, but also with a lot of practical tips for how to incorporate healthy foods into the diet, how to look at fish or meat or eggs or greens for that matter or sweeteners. How do you transition children from the convenience foods that you're talking about and getting them eating whole foods?

I include recipes, I include a lot of just tips, how to bring the family with you. Especially sometimes one parent is into it and maybe the other parent isn't or grandma and grandpa are not into it and they're a big part of the family, so there's a lot of tips around how to get everybody onboard and how to make it easy. I think the biggest thing is sometimes I have parents who come and they're like listen, we want to do everything you're saying, but we don't even know how to cook. We have no idea how to prepare food. I literally sit with them and give them ideas and give them some direction to go in. I've given parents tons of recipes and their whole life changes when they start to cook together.

One of the things that I talked about in the book is actually eating family dinners and preparing food together. There are studies about that and it shows as kids go through their teens they have fewer ... They get into trouble less, they're happier, they have less depression, they achieve better in school when they have family meals. There's a lot to be said for making these changes and I think it feels a lot harder before you start doing it, but once you're in it it's actually not that difficult.

I actually think that processed food is like an addiction. Once you recognize that it's an addiction, that it's really not nourishing us and it may actually be seriously detracting from our health and from children's health and the alternative is to go on medication, so that we can maintain this addiction, it's a lot more motivating to say hey, let's try other stuff. One of the big tips I give is take your kids to farmers markets. Don't take them to the grocery store. Children do not belong in grocery stores. They have marketing ...

Tony: Totally.

Dr. Maya: The food is literally ... The food that you do not want your kids to have is literally placed at eyelevel for children and that is premium real estate space in supermarkets that the food industry pays a lot of money for. Kids should not be allowed in supermarkets as far as I'm concerned and if it's possible at all to go without them I recommend that. I say bring your kids to a farmers market or find a little patch to grow some food or join a CSA or drive to a farm. There's a lot of options. Join a community garden, but try to get your kids into the places where fresh food is because fresh food is delicious. If you get a string bean or something like that at the grocery store it tastes like rubber, but if you pick it right off of the plant it's a whole different experience. Most food is like that, it's meant to be eaten fresh.

Tony: Yeah, I love everything that you're saying. I think it's really great that you've integrated all these different components; the family meals, the exposure to fresh food, empowering families through cooking. Are there any other ... One thing that I did notice in the press release for your book that I thought was interesting and not something that I had seen really talked about a whole lot in other books, paleo or otherwise, is the microbiome. We're getting much more attention placed on the microbiome that have got

bacteria, but the role of viruses and potentially a positive role of viruses isn't really discussed much. Could you talk about that a little bit?

Dr. Maya: Absolutely. There was a really fantastic, groundbreaking article in Nature this past year that looked at how in an animal model when the gut was sterilized basically, it became germ-free as they call it because of antibiotics, when certain viruses were introduced into the gut they basically took over for the bacteria. Without a pause there were none of the problems that we normally see in a post-antibiotic or an antibiotic treated gut. The viruses actually functioned and preserved the environment and the function of the gut just as bacteria would.

Tony: Wow, that's pretty amazing. Is there any indication what mechanism that might be taking place through because we know that gut bacteria they produce certain compounds. For example, they might take resistant starch and metabolize that into a short chained fatty acid like butyrate or they might release some anti-inflammatory compound of some sort. Viruses, we tend to think of them as just invading cells, replicating, and then destroying cells and just serving their own purposes. Do we have any idea what mechanism a virus might exert a positive effect through?

Dr. Maya: I think we don't have good data about it yet because this is pretty cutting edge science. I would say this, we're finding also that beyond the microbiome that viruses are actually doing very important things in the rest of the body. For instance, we have seen now a couple of studies looking at mumps virus. People who have mumps virus in childhood have half the risk of developing ovarian cancer compared to people who did not have mumps in childhood. At first that was just an association study, okay, that's interesting, but it turns out that mumps virus helps our body, our immune system to produce certain proteins which help ... Or identify certain proteins that are associated with ovarian cancer.

Basically, there's this idea that maybe some of these viruses actually are ... We thought before that bacteria were nasty, were bad and we were like sterile is better, pasteurized is better. We want to have nothing to do with bacteria. Geez, now we've completely learned we were way off, way off and probably the more bacteria we're exposed to the healthier we are. Between what we're learning about the microbiome and what we're learning about these studies with mumps, measles virus is now being used as an oncolytic for very difficult to treat cancers. Certain brain cancer like glioblastoma multiforming which is very, very difficult to treat in some cases when injected with measles virus it actually goes away.

Tony: Wow.

Dr. Maya: Treats it effectively, pancreatic cancer and certain other kinds as well. This is a literature that's really growing in the research now. I think what we need to do is take a step back. I think it's going to be really interesting to understand more about the mechanism of how this is helpful and just to say maybe it's not about the germ, but it's about our terrain. Basically, when we are healthy and well-nourished and exposed to a lot of biodiverse organisms different viruses and bacteria don't necessarily bother us in the same way as when we're nutritionally depleted and have fewer diverse organisms in our body then certain things grow out of control and really cause us problems.

Tony: Right, it tends to be a vicious cycle I guess you could say where we're

oversterilizing, we're keeping kids indoors. They're not getting the exposure to a variety of bacteria and so they're in a more fragile state or their microbiome or microviomes are in a more fragile state and more susceptible to some of the pathogenic organisms or viruses. Really all it seems to come down to is us being more integrated with nature and viewing ourselves in a much more connected paradigm than this idea that we're separate from nature.

A lot of the things that you're talking about in terms of kids apply directly to adults as well and I think that as you said the whole family can get involved. If everybody's cooking, everybody's eating more whole foods, everyone's eating less refined, processed foods, going outside more, spending more time together without a screen in the middle of them, the whole family's going to be better. That's how we build a healthier society and this is necessary work.

I appreciate what you're doing. I do also want to give you a moment to talk about I guess you could say the way that you structured your practice because I thought that was an interesting thing that I saw in your website. How you're charting a different path even in the sense that you don't accept insurance necessarily or you're not going by the insurance system as currently it's configured. Can you talk a little bit about your decision to operate as a business differently as well?

Dr. Maya: Yeah, when I first went into practice I joined a big practice, a big, multi-specialty practice and they gave us an intro to how do you get reimbursed. There were four ways that you could what they call up bill meaning you get paid more money for your visit. One of the ways was you write a prescription for a pharmaceutical. The second way was you change a person's prescription, so they're getting a certain prescription. You change them to a new drug. That was another way. Another way was to send them for a diagnostic test like an MRI or a CAT scan or some kind of thing like that. The fourth was you do a procedure on them.

Those were the four ways if you want to spend time with your patients and get paid for it that you basically were able to get money for that. I need to spend a good hour to an hour and a half to really understand what's going on with the children that I'm seeing because we have to talk about food, we have to talk about their sleep. We talk about their bowel habits and we talk about their lifestyle. We talk about a lot of different things that are not just a 7-minute or a 12-minute visit like most of my friends who went to medical school have to spend with a patient. I'm spending usually many times that in terms of how much time I need to give them. I didn't want to prescribe pharmaceuticals as my first option and I didn't want to send them for diagnostic tests that they didn't need and I didn't want to do procedures on them.

Basically, I decided that I was going to have to step outside of that system in order to do the work that I wanted to do without the chains that bind because, unfortunately, to spend time with people you need to ... Or for me to help people you need to spend time with them. In order to spend time with them, dealing with insurance companies trying to tell me you should just be giving them a pharmaceutical was not an option. In a way it was a difficult choice, but ultimately it made sense so that I could help people. When people need to talk about different ways of either changing payment or reducing payment or things like that we always try to work with people.

I also want to start a training program in terrain medicine which is what I call this view of incorporating nature as basically the healer, connecting the body's healing to the healing of nature, so that we can get more doctors doing this kind of work. Ultimately, either changing the insurance system or stepping outside of it, but making it something that could be more affordable to people because I think our current system is pretty broken in a lot of ways unfortunately.

Tony: Yeah, and, unfortunately, the vast majority of people they don't have access to ... People such as yourself, but perhaps through interested physicians and training programs that start to put these tools in the toolbox of a practitioner we can start to see that dynamic change. I thank you so much for your time talking to us today and, hopefully, somebody out there listening to this has been inspired to grow healthy kids perhaps in a different way. We'll certainly link to your website and your new book, *The Dirt Cure*, and the show notes for our episode. Is there anything else you want to mention before we wrap up?

Dr. Maya: No, that's great.

Tony: Awesome, thank you again for coming on.

Dr. Maya: Thank you so much, Tony. Great to talk to you.

Tony: That was Dr. Maya Shetreat-Klein. You can find out more about Dr. Maya by going to her website, DirtCure.com. Next week on the show I'm joined by another doctor, Dr. Mike T. Nelson, but instead of digging up dirt we're bashing Bro Science. Here's a preview.

Dr. Mike: If you think about a soup can, so if you're facing the label in front, the muscles in front would be the rectus abdominis and the ones on the side of the can primarily are going to be the obliques. Then you've got your muscles that run up the back. Then the top part of the can is the diaphragm and the bottom part of the can is the pelvic floor. It's a little bit of an oversimplification, we skipped some muscles, but it's a pretty good working analogy in that all of those have to be working in concert in order for you to have the best performance. Stuff even as simple as diaphragm movement, pelvic floor movement, the right timing of contraction, all those things matter to get the best core strength.

Tony: To learn more about the true science of fitness you'll have to tune into next week's show. Until then you can check out our full archive of Paleo Magazine Radio episodes on PaleoMagOnline.com. While you're on the site you can also do things like subscribe to Paleo Magazine, get access to back issues and shop for shwag in our online store. One of my favorite things in our store is the official Paleo Magazine hoodie. It's super soft, looks cool, and is tough enough to survive hiking, biking, cooking, and whatever else you do while living your paleo lifestyle. Paleo Magazine Radio is brought to you by the Paleo media group. Our show music features the song *Light it Up* by Morgan Heritage and Jo Mersa Marley. Paleo Magazine Radio is produced by me and on behalf of everyone at Paleo Magazine thank you for listening.

