

# Paleo Solution - 211

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Robb Wolf: Howdy folks, Robb Wolf here. I think this is going to be episode 210 of the Paleo Solution podcast. In the house, we have your friend and mine, Chris Kresser, author of the soon to be released Personal Paleo Code. Dude, what's going on?

Chris Kresser: Episode 210, I've got a lot of catching up to do.

Robb Wolf: There's really nothing of interest in there other than maybe a few of the interviews that we -- other than that it's just spitballs tossed against the wall. So—

Chris Kresser: Wow. That's impressive.

Robb Wolf: Yeah.

Chris Kresser: I'm super impressed.

Robb Wolf: Oh, well thank you. Thank you. So dude, what's going on? Actually, Chris and I were chatting a ton before this because there was a time when we actually talked quite frequently like two or three times a week but we haven't really talked in about three months so.

Chris Kresser: That time has passed. I don't even like know if the world outside my room, my office exists currently. I'm trying to remember—yeah, it's been crazy, crazy busy. All good stuff but I'm looking forward to the book being published and be finished with all the reworkings of the website and blah, blah, blah so I can get a little more back in my normal routine. You know, I remember Dianne Sanfilippo tweeting out something like, writing a health book is the least healthy thing I've ever done.

Robb Wolf: Yeah. I will take ownership of that one though. I said that even before you know, talking to Loren Cordaine. I was like, you know Loren, doing a book is equal parts like getting ready for high school graduation and also being sent to jail and he was kind of like yeah that really works. There's an equal part to that so.

Chris Kresser: Right, right. No, I knew that came from you originally. I will say my treadmill desk has really saved me in a lot of ways like I think my physical

body hasn't degenerated to the point that it would have if I was sitting on my butt writing the whole time but there's just a certain amount of stress and discombobulation that's completely unavoidable you know.

Robb Wolf: Well it's exiting. Big things ahead for Chris Kresser.

Chris Kresser: Yes.

Robb Wolf: So I'm very excited, super stoked to have you on the podcast. So, you know, Chris and I prepped extensively before the podcast.

[Laughter]

We have a long list of detailed questions that I'm going to run by Chris. But you know, something that —you know, I feel like I'm somewhat of an expert on poop, but really when we get right down to it I am but a padawan of poop and Chris is the Jedi knight of poop as far as I'm concerned. But you know, so I want to talk a bunch of gut health and this is largely a completely self-interested kind of story because out of a—you know me on my own health quest and trying to figure stuff out, I would say blood sugar regulation and sound digestion are still two of the things I struggle with. Like I've had have some challenges with that and it's where I kind of cycle back into high carb-low carb. You know, I do some Brazilian jujitsu so I need more carbs to fuel that. But then when I've ramp up the carbs, I have some blood sugar deregulation and I'll get some kind of wacky digestion.

But you know, I started following some of Richard Nicolai stuff over for the animal talking about resistant starch and basically taking a whack of either tapioca starch or potato starch cold. You know this really nice source of resistant starch and I'll be goddamned if my digestion is a lot better.

Chris Kresser: Wow.

Robb Wolf: And I have tinkered with everything you can imagine trying to affect things. I eat lots of sweet potatoes. I eat lots of plain potatoes. I eat them a room temperature but I haven't gotten the same type of results with that. But Chris, you know, I feel like I've had some small intestinal bacterial overgrowth that will get better with some low carb. But then I can't really fuel the activity level I have with low carb.

Chris Kresser: Right.

Robb Wolf: I mean clinically, what do you see clinically along that or am just like completely a weak sister and like I should be put out to pasture so—

Chris Kresser: This is totally common actually. It's a really common clinical scenario where you got somebody with small intestinal bacterial overgrowth or leaky gut or a gut infection H. pylori and they really feel better when they eat a low carb diet. But the trouble is with that as a long term approach like first of all if they're an athlete like you are and they're doing some pretty intense physical activity they're going to in many cases feel the lack off those carbohydrates so that's one problem. Another problem is that you're not necessarily addressing the root problem. When you do the low carb approach, you feel better because you're not feeding some of the bugs that are in the small intestine but on the other hand, one of the main causes of SIBO and of intestinal permeability and gut infections in the first place is a lack of beneficial bacteria. And so—

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Robb Wolf: Further south even like more in the colon.

Chris Kresser: Further in the colon.

Robb Wolf: Okay. Yeah.

Chris Kresser: Yeah. Most likely in the colon but it influences the entire digestive tract so even though the majority of the bacteria is supposed to be in the colon and, you know, if you have a low amount of beneficial bacteria, we're talking about the colon, that influences the entire gastrointestinal tract. So you have this scenario where people, you know, a low carb diet is what helps and even a low fodmap diet. So fodmaps, certain types of carbohydrates that are poorly absorbed and digested and their study show that it's the single most effective treatment for irritable bowel syndrome is a low fodmap diet. It helps over 80% of people, which is way, way more effective than any other treatment for IBS by far.

So you get people removing fodmaps, their removing starch and fruit and they're doing, you know really low carb diets. And they do feel better from a digestive perspective but then their energy flags or, you know, maybe their energy's fine but they're kind of spinning their wheels over a longer period of time and not really able to add those foods back in.

So it was a struggle for me as a clinician early on. It's still one of the more difficult patterns to treat. But what I found is that you kind of have to add a little bit off fermentable fiber into the diet and then build up very, very slowly overtime because you have to proceed on parallel tracks. One is

like the lower carb approach helps with symptom alleviation and helps people feel better but adding the fermentable fiber is going to transform the gut flora in a way that will make you less predisposed to having these problems in the future so. But it usually has to be done slowly. I'm curious how that went for you. Did you just like go right up to two to four tablespoons or did you start off slowly and build up?

Robb Wolf: Yeah. You know I'm super busy as you are and so I intend to be a skimmer at this point. So I just skimmed and I was like four tablespoons check. That's where I jumped in, you know, but I had done something and this is something that maybe you can help me understand also. I had removed a lot of high fodmap foods like onions, I'd really cut down on the cruciferous veggies other than maybe some homemade kimchee or sauerkraut. That seemed to generally help me then I threw in this potato starch and immediately like stool volume was better, you know, I wasn't gassy.

Then when I did have a relatively large carb meal, I really didn't have that like kind of rebound hypoglycemia. It didn't have some of the symptoms that I've associating with really not micro managing my carbs. So I really kind of jumped into it kind of on the deep end of the pool but with the caveat that I had removed some of these other high fodmap foods.

Chris Kresser: Right. Right.

Robb Wolf: But now I've reintroduced onions, I've reintroduced like even some raw broccoli and cabbage and stuff like that and I'm doing great with it. But that's one of the confusing things for me too is that a lot of these high fodmap foods are in fact some of the great fermentable substrate –

Chris Kresser: Right. Right.

Robb Wolf: That we would theoretically do well with if our guts are healthy.

Chris Kresser: Exactly.

Robb Wolf: Like what's the story with that? Like where does that all go haywire?

Chris Kresser: So it's the same thing that I was just mentioning. It's like those the – they're feeding. So the bacteria in the small intestine like those foods just as much as the bacteria in the large intestine. So that's the problem. The bacteria in the small intestine shouldn't be there in the quantities that they are and so if you eat these fermentable substrates like onions, all the fodmap foods, you're feeding those bacteria in the small intestine

that shouldn't be there and that makes the symptoms worse. That's why reducing fodmaps tends to help because it starves those bacteria of their food source and maybe can knockback their numbers ta little bit.

But resistant starch in my experience especially if you start slowly and you know maybe with more like a teaspoon or even a half teaspoon for really sensitive people a day and then you build up slowly over time, you're doing this dance again between potentially feeding the bacteria that are in the small intestine, which you don't want to do but definitely selectively stimulating the growth of bifido bacteria in the large intestine.

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Resistant starch has something it does really well. It really stimulates the growth of beneficial species in the colon and as I said that then has a reverberating beneficial effect all the way through the digestive tract. So that ironically even though resistant starch might cause problems for people who have fodmap intolerance and digestive issues initially and if they use a lot of it, down the line I think it can really help reverse some of those problems and that seems to be exactly what happened for you.

I will say that in my work with quite a few patients on this now, a substantial percentage of people have to start slowly and in fact if they start with four tablespoons right away, they could end up doubled over in pain on the floor in a ball.

Robb Wolf: Sweet.

Chris Kresser: Yeah. I mean it could be really intense. I heard some reports from patients who did the DIY approach, just looking at those posts and they're like yeah, two to four tablespoons sounds good and next thing you know they're like in the emergency room thinking they're dying. I mean anyone who's experienced really intense gas pains can attest to the fact that it can feel like you're dying.

Robb Wolf: I will admit to this. I will forever be hazed after this but I was actually doing a Spanish final in high school and you had to standup and do this interaction with folks. It was like doing a play basically and as I stood up, I like went white, doubled over, collapsed on the ground and they thought that I was having appendicitis attack. So they rushed me to the hospital, you know, I was like diaphoretic and in massive pain. I mean like pain, like I cannot even describe and then the doctor started palpating around he was like hmm, he's all hmmm and he's kept palpating around, palpating around and I was like—

Chris Kresser: Am I going to live?

Robb Wolf: I need to fart really bad and he was like why don't you do that? And so did and I was fine after that so—

Chris Kresser: Yeah. And you're like uh-oh, hmm.

Robb Wolf: Yeah, much to do about nothing.

Chris Kresser: Maybe I don't have a tumor in my stomach. Yeah.

Robb Wolf: [Laughs] It's not a tumor.

Chris Kresser: Yeah. So that's just a word to the wise, probably smart to start, especially if you're fodmap intolerant and you have a history in digestive issues probably best to start with a smaller dose like a half teaspoon or a teaspoon a day. Then another strategy is to spread the doses out thought the day. So instead of doing like four tablespoons all at once, you might want to do one tablespoon three times a day or something like that.

Robb Wolf: Got you.

Chris Kresser: So that's one thing and then you mentioned the other really fascinating thing about resistant starch is its effects on blood glucose. So just like you Robb, I've seen not in myself per se because that's not my particular issue but in my patients drops of like 10 or 15 milligrams per deciliter of passing blood sugar in the morning just from two to four tablespoons of resistant starch for a week, which is pretty significant.

Robb Wolf: Oh, it's huge.

Chris Kresser: I mean we're talking about going from pre-diabetic to normal blood sugar.

Robb Wolf: And you can probably pull you're A1C from like a 5.2 or something down to like a 4.8 - 4.7 with that.

Chris Kresser: Yeah. Yeah. So these are really big improvements and to be honest I don't know that we fully understand exactly what's happening other than there are lot of studies showing that soluble fiber intake can reduce blood sugar and add cholesterol for that matter. In that sense, it reduces the absorption of cholesterol in the gut and that's probably what will happen with resistant starch too. I'm curious because I haven't really seen any direct studies on the effects of resistant starch and lipids but my

guess is that if they're having this impact on blood sugar they're probably going to have a beneficial impact on lipids as well.

Robb Wolf: Right.

Chris Kresser: At the end of the day who cares how it's working.

Robb Wolf: Right.

Chris Kresser: You know. I mean we can speculate that it's—that the—we know now of course there's not a day that passes where you don't see a study about how they got microbiota effects, metabolism, and immune system. So we can speculate that it's increasing the beneficial bacteria and that in turn is improving glucose regulation and insulin sensitivity. It's also probably decreasing inflammation and in any decrease in chronic inflammation will have a beneficial impact on metabolic function. But really like I said at the end of the day who cares because we're talking about like what? Two-dollar bag of potato starch which is about—I mean that's the beauty of this. It's a real like kind of grassroots treatment. You don't need a prescription for this. It's not some whiz, bang fancy thing that you have to spend hundreds of dollars a month on. It's I mean potato starch.

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If you don't like that way there's other ways to do it. If you have a food dehydrator you can pick up some green plantains and you can slice them really thinly and make green plantain chips and eat those. Those will have a fair amount of resistant starch in them. Robb mentioned earlier in the show, cooking white potatoes and then cooling them for 24 hours, they'll have some resistant starch. If this is your thing, you can eat green bananas. I personally don't like green bananas but if you can tolerate them, you can eat them and they have some resistant starch. But I found that potato starch is the easiest way to do it because you can really easily modulate the dosage, you know ramp it up and down by fine increments where it's harder to do that with the foods.

Robb Wolf: Interesting. Interesting. Gosh. So you know if people—let's maybe walk through a little bit for a way that a clinician who maybe isn't as smart, have the background that you have. Maybe they're somewhat new at looking at this stuff. Could you walk us through what clinicians should be looking for at folks and also if somebody is outside an area? You kind of touched on this already, you know, start small and kind of ramp up. But you know, like if people want to do some meta metrics testing or you know, what are some things that, you know, a clinician should be looking at to help people motor through this.

Chris Kresser: Sure.

Robb Wolf: And then if somebody's kind of do it yourself, what's a way to take people through that?

Chris Kresser: Yeah. Yeah. Well I'll kind of give you a rough idea of how I would address a patient if they come in with gut stuff. Next year actually I'm going to be starting this new kind of thing where I do—it's like a health mastery series. So it will be webinar series where I go really in depth on a particular topic like gut health and it's kind of like a group treatment idea, you know, where people who can't see me in my private practice want to be able to get, you know, figure out some of the strategies that I use in my clinic. So what I would do, so someone comes in, they fill out a questionnaire, they tell me they have gut issues, or I see that they have gut issues on their questionnaire. Generally the first two tests I'm going to run would be a stool profile from either doctor's data, comprehensive stool analysis and parasitology profile, the CSAP they call it or I'll do the Geneva metametrics. Geneva bought metametrics recently by the way I'm not sure if you knew that.

Robb Wolf: Okay.

Chris Kresser: So the metametrics test, you know, still sometimes referred to as metametrics but they're technically now part of Geneva and the testing has changed actually just to confuse everybody. It's not the same test that it was before. It's largely the same with some differences. So the 2200 is the comprehensive stool analysis or the 2105 is the one that just looks at pathogens like parasites and yeast and bacteria so. Or another good one is the Biohealth 401H and that is just a stool pathogen test, it's not like a comprehensive that looks like lactoferrin and lysozyme and some other inflammatory markers. The reason I like the comprehensive test like the doctors data and the metametrics is they do look at these other markers. For example on doctor's data and metametrics that they look at short chain fatty acid production and that is a really good way of seeing what the status of your beneficial bacteria in the colon is because—

Robb Wolf: If you're not manufacturing any butyrate for example.

Chris Kresser: That's right.

Robb Wolf: Then we've got a problem.



Chris Kresser:

That's right. Exactly. So they're actually measuring propionate and butyrate and not the other SCFAs or short chain fatty acids. So I can just look right there if they have low percentages of butyrate and propionate then they definitely need more fermentable fiber and bifido bacteria. So that's something right off the bat and then they're looking at things like commensal flora. So the good bacteria that should be there and I'll frequently see people with—it says NG which means no growth next to lactobacilli or bifido bacteria. That means they weren't able to culture any lactobacilli or bifido bacteria from their sample which means, you know, they're really deregulated because between lactobacilli and bifido bacteria there should be 20 trillion of those guys in the gut and that's a very large number of bacteria. So if you have no growth of lactobacilli or bifido bacteria, you're in a really severely dysbiotic state.

Then they measure commensal bacteria that are normal resident of the gut but they can become problematic if they get overgrown and they become over represented and that tends to happen in dysbiosis, which is like an imbalance between good and bad bacteria. So that will show up and then they will of course measure for pathogenic species of bacteria like C diff and others. They look for parasites. They do three separate samples for parasites and then they look like fungal overgrowth as well. They do a microscopic yeast profile and then a culture for yeast and then they have some really kind of interesting markers like lactoferrin, which has been used as a marker for inflammatory bowel disease in the research literature and lysozyme, which is another marker that's used to detect inflammation and inflammatory bowel disease in the gut. So you got a really good sense of what's going on in your gut from these kinds of tests and the information can really help direct the treatment if you're a clinician or if you're doing a DIY approach as a patient.

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Robb Wolf:

Very cool.

Chris Kresser:

The second test that ill often order at the same time is the metametrics urine organic acids profile and Geneva also has one and there are a few other labs that have organic acids profile. So organic acids are byproducts of cellular metabolism, so normal cellular metabolism in the body but they're also byproducts of bacterial and fungal metabolism. So if a high level of a certain organic acid is detected in the urine that tells you that either (a) there's a normal process in the body that's not functioning well so most of these processes are cyclical and each step in the cycle requires a certain enzyme to move to the next step. Those enzymes require nutrients and if there are nutrient deficiencies then that enzyme won't be produced adequately and the cycle will get blocked up and then the

organic acid that's produced at that step in the cycle become, you know, will overflow and spill out into the urine.

Or (b) the other possibility is you've got a lot of more bacteria or fungi producing organic acids in your gut than should be there and those spill over into the urine. So then you can see high levels of these organic acids on this test and it can tell you that you have fungal overgrowth. There's an organic acid called D-xylose, which is one of the most sensitive markers for fungal overgrowth and then there are organic acids like heparin and indican and others that are indicators of intestinal bacterial overgrowth. So that's my favorite test right now for SIBO.

SIBO is not easy to test for. There are problems with all the tests so typically the test that's done is a breath test of lactulose where you swallow a sugary solution and wait then you blow it. You swallow a sugary solution, you blow into a tube that's connected to a balloon or bag and then they measure the gasses in that bag. If you have a high production of hydrogen or methane in the bag then that tells you that there's too much bacteria in the small intestine and you have bacterial overgrowth. But that test is problematic. There are potentials for false positive and there is potential for false negative. So if you get the results of that test back, you can't be absolutely sure that if it's negative then you really are negative and you can't be absolutely sure if it's positive that you are positive.

It is one piece of the puzzle that can be useful. So if I do an organic acids profile and it comes up clear and I really suspect that if a patient has SIBO, I might go on to do a breath test through Geneva. There are a bunch of labs that do them and see what that says. But to be honest if I really suspect that someone has SIBO, I'll just treat them as if they do. Because at the end of the day that's doing like a therapeutic probe or I put someone on a low FODMAP diet and then I get in there with some antimicrobials which I'll come back to in a second and they really respond positively to that. That's really all the indication that I need.

Robb Wolf:

Right.

Chris Kresser:

So I do still think the testing is valuable especially as a way of getting a baseline and then tracking the progress of the treatment but even if the testing is negative and the person is exhibiting all the signs and symptoms of SIBO, I'm still probably going to do a therapeutic trial and see how they go.

So I mentioned antimicrobials. In the conventional world, the way SIBO is treated is with non-absorbable antibiotics. So these are special kinds of antibiotics that aren't absorbed systemically, which most antibiotics are and they're also a narrower spectrum. So you know we talk about broad-spectrum antibiotics that are used to treat acne like tetracyclines that just kind of carpet-bomb the gut floor. You know, they just wipe everything out and that's why they often use because they have a broad spectrum of activity. They kill a lot of organisms and earlier on when antibiotics were being used those were powerful because we didn't have the techniques to identify and in many cases still don't have the techniques to properly identify what the bacteria is that we're trying to treat. Instead of trying to identify it, they just choose an antibiotic that, you know, can wipe everything out and so they would get it.

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The problem with that of course as we know now is that when you wipe everything out, you're not just wiping out the harmful bacteria, you're wiping out the beneficial stuff too. So these nonabsorbable antibiotics, one is rifaximin and another one is neomycin, they're narrower spectrum. They don't have as broad of an impact on the gut floor. I think less than 1% of them gets absorbed in the blood stream so they don't have a systemic affect as well. So they are typically safer than normal antibiotics. But I will say that although they can be really effective for some people, I've had many patients who come to me that have been on several courses of these antibiotics. They always do better while they're on them but then as soon as they stop they get worse again. Sometimes they get worse than they were before they took them in the first place.

So I prefer to use a natural approach where I use some botanicals. One of the formulas I like to use is called HPLR from Apex Energetics. All you get in there with some lauricidin which is an extract of lauric acid and monolaurin and that's antibacterial, has some activity against gram-negative bacteria. It's also anti-fungal which I like because sometimes when you're doing an anti-bacterial treatment, there is a possibility of fungal overgrowth. So I like that lauricidin can keep that in check.

I'll typically use a biofilm disruptor. Biofilm is this thin goeey extracellular matrix that bacteria can live in that protect them from our own innate immune defenses and from many antimicrobials that we might take. So if you disrupt the biofilm, it improves the success of the treatment. One that I like is InterFace Plus from Claire Labs and another is Biofilm Defense from Kirkman. Natokinase is another biofilm disruptor and apo-lactoferrin is biofilm disruptor. Those all need to be taken on an empty stomach.

Then the last thing is like a therapeutic strength probiotic and these days I'm really using mostly soil-based organisms like bacillus species because I find that first of all in the literature, they have stronger antimicrobial effects and a lot of lactic acid kinds of probiotics. They're endospore formers. So what that means is they can survive the harsh acidic environment of the stomach and make it through to the colon where they're supposed to get to completely intact. That's because bacillus species bacteria are wild type adopted for the human gut. They've been surviving that passage for a very long time. We've been exposed to them through soil and untreated water for a long, long time, you know, hundreds and hundreds of thousands of years so we have this kind of symbiotic relationship with that.

The last reason is that in order to really significantly change the levels of gut bacteria and have a really significant impact, you have to take more than what exists in the gut already. So as I said before, lactobacilli and bifido bacteria if you supplement with them, there are a few problems. One is that they're not wild type adopted for the gut so they're very susceptible to the stomach acid. They're killed by the stomach acid. Number two, because they exist in concentrations of twenty trillion in the gut, you have to take an enormous amount of them to influence the population because otherwise it's kind of like just emptying a cup of water in the ocean. Right?

The bacillus species are only present in concentrations of hundreds of millions. So if you take capsules with two to four billion, you're really dramatically affecting the population. So the one that's available to the public, I actually sell it in my store at [ChrisKresser.com](http://ChrisKresser.com) is Prescripto Cyst. That's really great and really affective and the good news about these, both of these that I'm going to mention are that they're safe to take when you have SIBO.

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The other problem with bifido bacteria and lactobacillus is that when you have small intestinal bacterial overgrowth, it usually involves an overgrowth of lactic acid forming species like *Lactobacillus acidophilus*, and of course guess what is in most probiotics.

Robb Wolf:

Exactly. That's right.

Chris Kresser:

Yeah. So those can actually make people worse that have SIBO and I'm sure you've come across this Robb or I've come across it a lot where patients are like oh, I don't do well with probiotics. You know, they make my symptoms worse. I get really constipated when I take them and that's exactly what's happening. So that kind of patient who doesn't do well

with probiotics or fermented foods they typically do really well with Prescripto Cyst or the other soil-based organisms and I will always use those in those situations.

Robb Wolf: Very cool.

Chris Kresser: So the other one which is more of like a clinical strength product that's only available to practitioners right now is called MegaSpore Biotic. So that's a really great thing to be aware of if you're a clinician and it's really potent. So if you do start to use it on your own, if you manage to obtain it somehow you want to probably start with like a quarter of a capsule and you can... Bacillus species another benefit of soil-based organisms is they're not heat-sensitive so you don't have to refrigerate them and you can also put them on top of like room temperature food and not worry about. So you could empty like a third of a capsule into any kind of you know, a smoothie or even just some water and take that and then just build that really slowly over time.

Robb Wolf: Wow. So with that it would be a small as a quarter capsule where some of these other approaches you're doing multiple capsules that's the difference.

Chris Kresser: Multiple capsules or packets.

Robb Wolf: Right.

Chris Kresser: And you know, just like the resistant starch thing if you take like one or two capsules like it says on the package you could be doubled over on the floor in pain just because it's such a profound shift so quickly. You know, it just is too much.

Robb Wolf: Interesting. Wow, wow. Very cool. Well I'm kind of stoked that I didn't end up going to the hospital for my potato starch so.

Chris Kresser: [Laughs] Yeah.

Robb Wolf: Good.

Chris Kresser: Yeah. You averted catastrophe.

Robb Wolf: But it's going to happen occasionally. I usually create catastrophe otherwise.

Chris Kresser: [Laughs]

Robb Wolf: Awesome. Well you know, Chris, you know, this is really a great maybe segue into talking a little bit about your book because the book is really in my opinion having watched the development of this stuff, it's really an extension of both your blog and your clinical practice and the relationship you've had with thousands and thousands of people and what you've learned in that situation is that everybody is quite unique. You know, we have some basic templates that we can overlay and maybe address like 80% of issues but then people really need personalization and customization. Like could you talk a little bit about in the formation --

Chris Kresser: Sure.

Robb Wolf: -- of the personal paleo code and how this thing was born.

Chris Kresser: Sure.

Robb Wolf: Yeah.

Chris Kresser: Yeah. So I'd say it started with my own experience as it often does right? You know, as some of your listeners might know I struggled with a decade long debilitating, chronic mysterious complex illness and it was a long road back to health for me. At some point along the way I discovered what I now know as the paleo diet. I didn't know it was then. It was kind of a different name at that point. I started doing and I felt great in a lot of ways but there are certain ways that it didn't work for me and so I started to tweak it.

I didn't have any ideas about how it should be at that point so I just naturally started to tweak it and add things back and take things away and just kind of go through this process on my own out of necessity just because of my own symptoms and my own needs. I'm a pretty lean guy and I'm pretty active and I've always felt like I've had a higher need for carbohydrates than a lot of other people around me. So that was one thing.

I figured out that I actually thrive on full-fat dairy like ghee and butter and fermented dairy that's where most of the lactose has been removed like homemade kefir or yogurt that's been fermented for 24 hours. It really helps me to kind of feel solid and rounded out. So I brought that back into my diet. I've found that I could tolerate -- I didn't do well with most grains but I could tolerate some white rice which is mostly starch and that helped increase my carbohydrate intake. You know, so I kind of ended up with my own approach.

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Then sure enough in my work patients I learned that I wasn't the only person who had some --

Robb Wolf: Unique snowflake tendencies?

Chris Kresser: Yeah. Exactly. I wasn't special and so there were a lot of folks who were coming to see me that had been doing the strict paleo diet and you know, almost without exception they have improved in a lot of ways like you said. You know, it took care of a lot of issues for them or maybe it took care of everything for a while and then they started to slide backwards after you know, a year or two on that approach or maybe it took care of most of their symptoms but not some of them.

I just found what everybody needed is some customization of the diet for their particular needs. So we share a lot in common of course. We know that genetically but we also have some pretty key differences, different genes, different gene expression in particular different lifestyles, activity levels, goals. So you know, you take someone who's like 60 pounds overweight and is mostly sedentary and their main goal is fat loss, that person quite obviously in my opinion is going to require a different approach than someone who's really lean and wants to put on muscle at the gym and is training for like a competition. You know, to me that just kind of goes without saying but a lot of times people would come to me and they would be on the -- those two people would come into my office and they'd be on the exact same approach and they'd be struggling with it for different reasons so.

I basically came up with this three-step process that I take people through in my clinic in my work with patients where step 1 is the 30-day paleo challenge which everybody knows about. I look at strict paleo really as an elimination diet I think at this point and so that 30-day period is like the elimination diet. Step 2 is where you reintroduce what I call gray area foods which are foods that the modern research suggests are healthy only when they're well tolerated by the individual. So that dairy is a perfect example of that. The evidence on full fat dairy shows that it is really beneficial to health but of course that's only the case when you're able to digest lactose and casein and the proteins in dairy. Or they'll also include foods that are beneficial in moderation or at least not harmful in moderation. So like dark chocolate for example, really a lot of the health benefits and a lot of interesting research. Coffee, same thing, alcohol, some interesting research about mortality benefits and heart disease benefits but if you take --you know, that's in moderation. If you extend

those out to the extreme, then of course you're going in the other direction. So that's step 2.

Step 2 we also talk a lot about lifestyle stuff and I'm a really big believer in the importance of lifestyle modification and I know you are too Robb, sleep and stress management and physical activity and getting --

Robb Wolf: [Indiscernible]

Chris Kresser: Yeah.

Robb Wolf: Yeah.

Chris Kresser: Yeah. Getting outdoors, spending time in nature, connecting with other people, having fun. These are all things that are absolutely crucial to health and I think one of the biggest mistakes a lot of people make when they're doing a special diet like paleo is they get really obsessed with the food stuff and they completely forget about the importance of other stuff. I can tell you that if -- you could be doing an absolutely perfect diet and if you're not sleeping well, you're going to buckle. I'm sure many people have experienced that.

So step 3 is when you get in the real heavy-duty customization stuff. So that's when we start talking about meal frequency and timing, do you do better with three meals and snacks in between or do you do better with intermittent fasting, compressing your food intake into an 8-hour window, things like carb back loading, talk about macronutrient ratios, you know, protein fat and carbohydrate. Talk about the importance of paleo super foods like sea vegetables, bone broth, organ meats, etc. and we talk about customizing your approach for different activity levels and goals. Then I have ten bonus chapters on how to tweak paleo and not just diet but also lifestyle and how to supplement for ten of the most common health conditions we face from digestive conditions to autoimmune disease, hypothyroidism to blood sugar disorders.

In fact, when I finished the book, it was 700 pages long and I mean with those bonus chapters because I'm a long-winded fellow as I'm sure you've noticed. So what we did is we just cut those ten chapters on specific health conditions and put them on the website. So that's 200 pages of extra material that you're going to get. When you buy the book, you get free access to that. When you buy the book we figured it would be better to have those on the website since they didn't necessarily apply to everyone and we didn't want people to be like throwing their back out when they buy this book.



**[0:40:17]**

Robb Wolf: Look at the book, right.

Chris Kresser: Yeah. So that's it in a nutshell.

Robb Wolf: That's a rather large nutshell. It's an enormous nutshell.

Chris Kresser: I'm not very capable of summarizing things succinctly.

Robb Wolf: I was fortunate to see the very beginnings of this project and I remember pinging Chris a text, so I'm like so how are you doing and he's like I've got 28,000 words and I've only started on the cardiovascular part. I'm like sweet Jesus.

Chris Kresser: [Laughs]

Robb Wolf: Do you remember that?

Chris Kresser: Yeah I do actually. That bonus chapter is 50 pages long actually and that was after some significant editing so.

Robb Wolf: Editing.

Chris Kresser: My publisher was like shouldn't we just publish this as a book and I'm like no, no, we have to include it because it's so important and so many people have the wrong idea about it that we just have to get it. You know, even if we have to cut it down to 50 pages we got to put it up there.

Robb Wolf: That is awesome. Well you know, I'll go out on a limb here and say that this is probably going to be the most scientifically accurate credible and clinically sound book to date. You know, mine I feel like was a good depth charge to see what we could drum up out of the depths of paleo land and everything but --

Chris Kresser: You blazed the trail my friend.

Robb Wolf: Oh man and luckily I didn't have two ramparts of SIBO at that time otherwise everybody would have been blown away. Couldn't smoke otherwise they'd lose their eyebrows or something.

Chris Kresser: Right. Yeah there's 800, over 800 citations in there so. Quite a lot of science if you like to geek out on that stuff.

Robb Wolf: Well you know, it's going to be fantastic because again like we need some really scientifically accurate stuff clearly so that we dot our I's and cross our T's and make sure that the crack end doesn't come hunting for us.

Chris Kresser: Exactly.

Robb Wolf: After this podcast, I always live a little bit in fear because I'll get a call from Matt and I'm always like oh what did I fuck up on the podcast, damn it you know, or --

Chris Kresser: Right.

Robb Wolf: And --

Chris Kresser: Or an email quoting all the things that you said wrong.

Robb Wolf: Like usually he just does a phone call now because it's like yeah--

Chris Kresser: Yeah.

Robb Wolf: -- I'm too busy to --

Chris Kresser: Right.

Robb Wolf: --chew your ass via email.

Chris Kresser: Right.

Robb Wolf: But I think that you're going to be fantastic on that but again like this clinical relevance, you know, it's not like you just look at some studies and just okay this looks good, that looks good. You know, this is actually the stuff that you've been doing in the clinical practice for years and getting some shocking results with people you know, when they actually comply with the protocols so.

Chris Kresser: Uh-hum.

Robb Wolf: So that's fantastic. Okay, Chris, so clearly you've covered a ton of material. We have 50 pages of bonus material just on cardiovascular disease as a standalone but there are some other really important stuff and for myself being a gym owner, you actually have some phenomenal opportunities for people who own gyms, yoga, Pilates, martial arts,

crossfit, you know, what have you. Could you tell folks a little bit about those bundles?

Chris Kresser: Sure.

Robb Wolf: There's certainly a limited number of them.

Chris Kresser: That's right.

Robb Wolf: Really there's always a limited number on the shelf.

Chris Kresser: There's a limited number and I mean at this part, we're recording this earlier in December and this is coming live on publication day which is New Year's eve. So I can't even agree there will be any available by publication date. But yeah so we basically want to put together a system where we can make it really easy for gym owners to attract new clients or retain the clients that they have to generate some revenue and to really kind of differentiate themselves for their competition. So we created these packages or bundles where if you buy a certain number of books, we have a hundred-book bundle, 250 and 500, you get some really cool benefits that you can again translate in increased revenue and better relationships with your clients.

So one of the things you get is called the 30-day Reset in a Box and this is basically everything you need as a gym owner or a clinic owner or a healthcare practitioner, a small business owner whatever to run people through 30-day challenges successful. Both Robb and I have a lot of experience with this of course and we both contributed materials all this stuff that we found in all of our trial and error with my patients and Robb's gym clients that is just kind of the one-stop shop for a gym owner who's just getting into this or even someone who's been into it for a while who wants to see, you know, just have a step-by-step process that they can follow to write a successful 30-day challenge. Of course I don't think there's anyone out there who's done more of this than Robb, so he was just awesome to have his help on this.

**[0:45:00]**

The second part is you get a certain number of licenses through the paleoletics total transformation program so whereas the 30-day challenge in a box is everything that a gym owner, a clinic owner needs to run a challenge, the PT2 program is everything that your client will need to be successful with the 30-day challenge. So both Robb and I have seen plenty of people go through challenges and fail miserably and we know what the things are that typically cause that to happen. So we've put

together this resource where it's got cheat sheets and worksheets on you know, how to travel and eat out and snacks and how to clean out your pantry and get ready, the guides to fats and oils substitutions for common ingredients. Paleo version's guides to making salad dressings at home and fermented foods and just kind of end-to-end resource for somebody who's going through a paleo challenge and who's new to it so that they can be as successful as possible.

That it also includes access to these two online tools I've created. One is a paleo recipe generator where you can enter in your particular preferences like low carb or gaps or low fodmap or what have you and it will spit back a meal plan based on those preferences. Then the other is a progress-tracking tool where you just fill out a questionnaire each week and it shows you how you're doing. That's from a gym or a clinic owner perspective I can tell you that if you can show people their progress visually you're really going to have better compliance and then better compliance means better results and you look better as a clinic owner or a gym owner.

Then the last part depending on the size of the bundle is either a webinar with Robb and I for the \$100 book bundle on how to run successful challenges and then you get to pick our brains on just how to run a successful clinic or gym in general or the \$250 and \$500 bundle. The \$250 bundle includes me coming out and doing a half-day event at your gym and you know, do a seminar and a Q&A session and a book signing and then the \$500 bundle includes a full day event with both Robb and me and we'll do a workshop and you know, work with you to make it suitable for your audience. There are only four of those available. Robb and I have never done this. We may never do it again who knows.

Robb Wolf: [Laughs]

Chris Kresser: So it's pretty hard to get – I mean it's pretty hard to get our schedules these days so that's what's happening. I'm excited about it. We've had already a lot of strong interests so again I'm not sure if they'll be available. But if you're interested definitely you can go to [PersonalPaleoCode.com](http://PersonalPaleoCode.com) and scroll down to the bottom of the page. There's a description of the bundles and you can click there for more info.

Robb Wolf: We'll make sure to get all that stuff in the show notes for this to make it easy for folks to track that down so.

Chris Kresser: Great.

Robb Wolf: Well I am super excited for you man. It's been –you know, you're a dear friend and it's been awesome seeing you do all this stuff and I'm really excited to see where this goes and I am 100% confidence in the number one New York Times bestseller. You're better looking than Dr. Perlmutter and William Davies combined so you deserve this just off of your dashing good looks so.

Chris Kresser: Oh, Robb, it's been a pleasure also to get to know you over the years and I really appreciate your support and the opportunity again and I'm looking forward to more collaboration.

Robb Wolf: Me too, me too. I'm jazzed and I'm very excited for you. Anything else in parting that we should tell folks?

Chris Kresser: I don't think so other than I'm looking forward to meeting you all in the book tour. I'm doing a 13-city book tour so east coast, Midwest, west coast and the schedule is probably already up on my blog now so hopefully I'll get a chance to meet you in person at one of these shindigs.

Robb Wolf: And we will get that out via the Robb Wolf newsletter so that you know, save you the time of actually navigating around and finding that stuff. We'll stick it right in your inbox and make it easy so.

Chris Kresser: Right.

Robb Wolf: Awesome, Chris. Well thank you so much and congrats on wrapping up this project. Super excited to see this thing launched into the paleo sphere.

Chris Kresser: Thanks again Robb and looking forward to doing some of these full-day events with you next year.

Robb Wolf: You know, maybe we'll make a drinking game where every time I have to do a shot of tequila or something.

Chris Kresser: [Laughs]

Robb Wolf: So that will make it guaranteed fun by the end of the day.

Chris Kresser: Sounds good. Sounds good.

Robb Wolf: All right, Chris, take care man. Talk to you soon.

Chris Kresser: You too. Bye-bye.

Robb Wolf: Bye-bye.

**[0:49:30] End of Audio**