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Healthy Moms Podcast

BY **Wellness Mama**[®]
simple answers for healthier families

Episode 15: Hormones & How to Have a Healthy Baby

Katie: All right, we're live. Welcome today. My name is Katie from wellnessmama.com. And I'm so excited to be able to be here today to talk with Chris Kresser, who writes at chriskresser.com. And I've been a huge fan of his work and his website for a really long time and especially recently his Healthy Baby Code, because there's so much research about how important a mom's diet before and during and after pregnancy are. And Chris is such an expert in this area. So welcome, Chris. And I would love for you to tell us a little bit about your background.

Chris: Yeah, it's great to be here. Thanks Katie. Well, I got into this whole world of health and wellness the same way a lot of people get into it, which is with my own struggles. And in a general sense, I dealt with a pretty serious chronic illness for about 10 years that I eventually recovered from through a combination of nutrient-dense diet and healthy lifestyle, some smart supplementation. But more specifically, as it relates to fertility and nutrition for fertility and pregnancy, my wife and I started trying to conceive a few years back. I guess about five years ago. And after about a year and a half of trying, we hadn't been successful. And I'm sure a lot of people listening to this or watching this can relate to that. It's really frustrating, especially for someone like me who is so interested in health, you know, as a health care practitioner and helping other people with the same problem.

So I took a pretty deep dive into the scientific literature at that point to try to figure out what was going on and pieced together a strategy that would work for us to enable us to conceive naturally. I mean, we were open to assisted reproductive technology if necessary, but we wanted to really try to optimize our health so that our bodies could naturally conceive. That was our first goal. And fortunately, we were able to do that. We have now a very healthy daughter, Sylvie, who just turned three last week. And she's been the blessing of our lives and has brought us so much joy. So after we conceived, I realized that the knowledge that I had gained during that process would be helpful to other people, and I wanted to share it.

So I did a local workshop here in Berkeley where I taught the information and it sold out within a few hours. So I figured that might be on to something and then decided to make that workshop available, you know, globally via my website, now became a Healthy Baby Code. Since then, I've had the pleasure of hearing from lots and lots of women and men, actually, who followed the Healthy Baby Code and who've conceived even after, in some cases, years of being diagnosed with "infertility" and being told that there was no way that they'd be able to conceive naturally and that they should, you know, just consider adoption or maybe only IVF or something like that.

I still get pictures from parents who've conceived, you know, with their Healthy Baby Code baby, which is really fantastic. And probably, of all of the different things that I do, I'm more passionate about this, because... And I don't have to tell you this, Katie, because this is what you do every day. But there's really nothing more important than the health of our children and our families. They are the future generation. If our children aren't healthy, then we don't really have anything. I know, firsthand, the frustration that comes with not being able to conceive and then the joy that comes from making that happen. So I'm excited about this.

Katie: That's awesome, and your daughter is gorgeous. I've seen the pictures you posted online. She's beautiful.

Chris: Thank you.

Katie: Yeah, she's gorgeous. And I know that a topic both of us are really interested in researching and that we

write about a lot is the importance of that pre-pregnancy diet, and pregnant nutrition, and environment, and stress, and all those factors during pregnancy, before pregnancy, during breastfeeding, that whole phase. I know you've done a lot of research on this. So could you explain that and talk about the connection between those factors in a child's lifelong health.

Chris: Sure. It's a really important topic. And the strange thing about it, to me, is that so few people really understand that. It's not something that we're taught in school. It's not even part of the dominant health message that we get. A lot of doctors, in fact, up until pretty recently told women that nutrition didn't really influence fertility or even pregnancy, which just blows my mind. But traditional cultures have known this for millennia. In most hunter-gatherer cultures, they have special preconception diets that they gave to...you know, special foods that mothers and fathers to be will eat in order to increase their chances of having a healthy baby. And they didn't have any science, of course, to figure that out. They just figured that out over hundreds of, you know, thousands of generations, hundreds of thousands of years. And we're only now beginning to catch up in terms of our understanding with modern science.

And, in fact, there is a whole theory on this called the Developmental Origins of Health and Disease theory, which they refer to as DOHaD, which is I think kind of a funny acronym. It was first proposed by a British researcher named David Barker, back in the '80s, to explain a contradiction that nobody could really figure out at that point, which was that as British prosperity increased, so did rates of heart disease. And so Barker went around at all these different parts of Britain, and he found that the highest rates of heart disease were in the poorest places in Britain. But rather than smoking or dietary fat or some other lifestyle cause being the issue, the fact that it was most predictive of whether someone would develop premature heart disease like before the age of 65 was actually their weight at birth.

So he found that infants that were carried to full-term with birth weights between 8.5 and 9.5 pounds had a 45% lower risk of heart disease later in life than infants that were born at 5.5 pounds, you know, which would be premature low birth weight. They also had a lower risk of stroke, a 70% lower risk of insulin resistance, and a slightly lower risk of blood pressure later on in life. And when you look at the chart and the data, you just see that the risk decline...the risk increases for all of those conditions in a linear way as birth weight either goes above 9.5 pounds or drops below, you know, 6 pounds. So this was a big revelation. You know, up until that time, people didn't really make the connection between birth weight and risk of future disease later on, and they didn't make the connection between prenatal nutrition leading up to conception to birth weight. So this was kind of a big dramatic shift in our understanding of these things. And then a whole bunch of research came later that really corroborated Barker's initial findings.

So, for example, in a 2011 paper, researchers showed that the onset of metabolic syndrome is increasingly likely to occur with kids who have been inadequately nourished during pregnancy. So, in other words, if mom isn't eating a healthy diet during pregnancy, there's a greater chance of her offspring, her children developing diabetes or other blood sugar disorders later in life. There's also been similar studies that point to higher risk of breast cancer later in life, higher risk of obesity, higher risk of autism spectrum disorders, and conditions like ADHD. It seems like almost every day, there's a new study published in this area. There are several reasons for this, but one of the theories is that poor nutrition both before pregnancy and during pregnancy causes changes, epigenetic changes. So what that means is it leads to changes in gene expression. Now, we inherit genes from our parents, but it's the expression of those genes that determines our lifelong health or lack of health as the case may be.

And it's been shown that not eating the right foods before conception and then all through pregnancy can alter that epigenetic environment and then lead to all kinds of problems later in life. So this is crucial information to know. Unfortunately, it's not really being disseminated the way that we would hope. A lot of doctors and even OBGYNs still aren't aware of this, and they're not having these conversations with their patients. So one of my goals is to really get the word out on this important topic because... You know, we all do the best that we can, and sometimes we already have kids. You know, we didn't eat the way we wanted to during pregnancy and before pregnancy, but it's never too late to start. So, wherever you are right now, it's not too late to start to benefit from it yourself and for it to have your kids or future children benefit from it.

Katie: Yeah. And to me, that makes so much sense that what the mom eats when the baby is literally being formed would have such an impact, but you're right. Doctors don't. Having been through this now five times myself, I know that their advices... You know, lots of healthy whole grains and like low-fat yogurt, and keep your calories low, so you don't gain too much weight. It's really scary when you think of all the early inductions and C-sections that happen that create low birth weight, maybe you could've otherwise been healthy.

Chris: Yeah. I'm not sure if you saw this, Katie. But there was a study that recently came out. I think about a couple weeks ago. There's a lot of reasons why C-section is not desirable in terms of future health of the baby. One of the biggest is the changes that it causes in the gut microbiome. We know that babies that are born vaginally, that's their first exposure to the mother's natural microbiota, you know, flora through the birth canal and exposure to the bodily fluids through the vaginal birth. And that sets the stage for a healthy develop...you know, the development of a healthy gut microbiome, which we now know is really crucial for overall health. But this study looked at it from a different angle. They found that babies that are born by a C-section have, again, changes in the epigenetic expression of genes. And, in fact, that babies born to C-section, there's a difference in how the stem cells are methylated. And this gets kind of complicated, but the simple explanation for methylation is that it determines which genes get turned on and which genes get turned off.

And since genes control all proteins and enzymes in the body, basically, the turning on and turning off of genes regulates everything. And this study showed that C-section causes changes in the way genes are methylated and then in turn can... This is what explains why C-section is associated with higher risk of so many different issues later on in life. And again, this isn't to make anyone who's had a C-section feel guilty. Nobody goes into...well, not nobody, but most women don't go into pregnancy saying, "I'm gonna have a C-section." You know, most choose to have a natural birth and something goes wrong. But it does highlight the importance of nutrition, because good nutrition is one of the best ways that you can protect yourself from that kind of event happening.

Katie: Absolutely, and I'll reiterate that. I'm the last one to judge. I had a C-section for placenta previa. It saved my life. Obviously, it wasn't ideal. But medicine definitely has its place when it's needed and it's very...

Chris: Absolutely.

Katie: ...every single time.

Chris: Yeah. I mean, the trend that's disturbing to me is the increase in planned C-sections, especially around the world. I mean, in some countries like Brazil, I think, it's 80% or 90%, which is just horrifying. It's on the rise in China. And I can't remember the most recent statistic in the US. Maybe you know, Katie, but it's higher than it should be. And I think that's largely in part because women haven't been educated about this stuff. They

don't understand what the risks are with C-section. And I've never been through birth, but we had Sylvie at...my wife delivered Sylvie at home. So I was there watching, and I can understand the fear that women have to go through that process. It looks painful, but it also would look beautiful and joyous. I think, if more women understood that C-section is not just a harmless procedure that makes birth more convenient and less painful, there wouldn't be so many planned C-sections.

Katie: Exactly. I'm yet to hear a doctor explain anything about methylation or gut bacteria transfer, any of that. But I hope..... But one thing that's encouraging, and I'm sure you've seen a lot of this research, too, is that when you talk about epigenetics, that even though these things may be influenced by the birth process and by the mother's pregnancy diet, they're still not set in stone. And even the child's diet in the rest of their life can turn on and turn off genes. So I'd love for you to talk about...from a practical standpoint, what are some of the foods that traditional cultures ate and that mom should be eating when they're pregnant and even kids who maybe didn't have the optimal pregnancy experience but that their moms are trying to improve their kids health now?

Chris: Sure. So when you look at the preconception and pregnancy diets in these traditional cultures, you see a number of common themes. You know, of course, it varies from culture to culture, the specifics of it. But you see a lot of traditional fats like butter, ghee, coconut oil, palm oil, you know, avocados, things like that. In the cultures that eat dairy, you'll see consumption of dairy fat, which is high in fat soluble vitamins. I'm gonna tell you what they ate and then I'm gonna tell you actually what modern science has told us about what's in that, which they never knew, of course. They just knew it intuitively. Then you have meat and poultry and fish, and, of course, those are high and really bioavailable, which means easy to absorb protein and many other micronutrients, vitamins, minerals, etc. You had egg yolks, in particular were prized in many of these cultures. The yolks are rich in choline, and biotin, and several other nutrients, which play an important role in pregnancy.

Organ meats like liver, for example, were also highly prized in these cultures, because they're really nature's super food. When you look at the nutrient profile of liver and you compare it to all kinds of different foods, plant foods, and even other muscle meats, it's much higher in things like vitamin A, which are somewhat difficult to get from food and really important for pregnancy. Cold water oily fish like salmon are prize. We know now that they're rich in the long-chain omega-3 fats like EPA and DHA, which DHA is especially important for brain development and the growth of the neural tissue in developing babies. Dark leafy greens like kale, collards, etc., a very nutrient rich, good sources of folate, which protects against neural tube defects and is important for both conception, and a healthy pregnancy, and carrying a baby through to full term.

Bone broths and fattier cuts of meat that are rich in glycine, which helps balance out methionine and plays an important role in pregnancy, and then all kinds of fermented foods, of course, which are beneficial for the gut. So it's really a lot of the foods that you've been recommending, Katie and I recommend to my readers, very nutrient-dense, low in toxicity, anti-inflammatory. These are the foods that should be emphasized, not only for general health but also for fertility and pregnancy. And that should be a surprise, right? The same foods that we eat that are good for us, at other times, are good for us during this crucial period. But I would say that it's even more important to maximize your nutrient density when you're trying to conceive, or when you're pregnant, or for that matter, when you're breastfeeding.

Katie: Yeah, definitely. I would agree 100%. And I love if you could talk about some of the nutrients especially. We see a lot in mainstream medical literature about DHA. Thankfully, that's getting some press. One that I

heard about recently and that you talked a lot about really well is folic acid versus folate and, especially we're struggling with problems methylating that. Could you explain that?

Chris: Sure. So folic acid is the form that you typically see in vitamins of the... And folate is the natural form that is typically found in food. And this is vitamin B. It's also referred to as vitamin B9. As I mentioned before, it's really important for protecting against neural cranial tube defects, which is one of the more common things that can go wrong during pregnancy. It's also important for carrying the baby through to full term and for conception in the first place. But there's been a misconception in terms of equating the effects of folic acid, which is the synthetic form that you get in many supplements with natural folates that you find in foods like dark leafy greens or chicken liver. Some people have a reduced ability to metabolize the synthetic folic acid. And that unmetabolized synthetic folic acid has been shown to potentially cause problems.

So while folic acid does seem to protect against some of the potential effects of folate deficiency during pregnancy, it can cause problems in people who are susceptible to that. And so I am a big believer in...if you are gonna supplement with folate, as I recommend that some women do in the Healthy Baby Code that you choose, an active form of folate like 5-methyltetrahydrofolate, which thankfully is more available now in some of the better supplement lines like Thorne, and Parent Capsulation, and Solgar, and companies like that, because you'll get the same benefit that you would get by taking folic acid in terms of the pregnancy, but you minimize the chance of any unmetabolized folic acid floating around in your blood and the problems that that can cause.

Katie: Yeah, I can vouch for that because I didn't find out till my last pregnancy that I have that MTHFR gene mutation. And so all the folic acid and all those supplements, I wasn't even being able to use. And it was probably putting me at risk for a lot of other problems. And so I'm so glad to hear that it seems to be getting much more mainstream than before.

Chris: I think it is. Yeah, I'm seeing a change in that. And a lot of people, patients who work with me on fertility stuff are already aware of that. And so I think the word is starting to get out. And then, of course, you can always increase your intake of folate rich food, chicken liver, I mentioned before. Organ meats are fantastic nutrient-dense food. Chicken liver, in particular, is one of the richest sources of folate. And I know a lot of people don't...you know, may not enjoy eating straight-up chicken liver, but you can make chicken liver pate, for example, a lot of people like pate, and that's an easy way to get it in. And then dark leafy greens like kale, collards, etc., are a good source of folate. And lentils, if you tolerate them, are a good source of folate as well.

Katie: Awesome. Well, I'd love to switch gears a little bit. Can we talk about stress, because I think a lot of people still have the idea that stress is just a mental thing? It doesn't really have a physical component, you know, stressing you out, you feel stressed. And I would love for you to talk about that. I know you've written about it but especially in pregnancy or pre-pregnancy, what effect does stress have on the body and even the baby?

Chris: Yeah, that's a great question. There was actually a new study, relatively new study published in March of 2014 "The New York Times" covered. They took 400 women who were trying to have a baby and they tested their saliva for stress hormones both alpha-amylase and cortisol. When analyzed the saliva samples, they found that the women who had the higher levels of stress hormones had the lower chances of conceiving. When they further analyzed the results, the women who had the kind of the longest standing chronic stress were at the greatest risk for infertility. In fact, they had double the risk of infertility than women

who experience less stress. You know, if you think about it from an evolutionary perspective, it makes a lot of sense.

When we're under a lot of stress, the body perceives that as a threat. And in its wisdom, it's not going to conceive readily in an environment where we're under threat. You know, that's just a protective mechanism, evolutionary mechanism that's, you know, aimed at helping the species to survive. So that's one risk of not managing stress is just not conceiving at all. Another risk of stress is when it's excessive during pregnancy, because what can happen there is a similar thing from an evolutionary perspective, is if the woman is under a lot of stress during pregnancy, then that can cause at the epigenetic changes in the baby that will lead to health problems down the line. So, of course, stress is part of life. I'm not suggesting that you need to be stress free. That's not what it's about. It's impossible. And there's even, you know, good forms of stress that help us to adopt and grow both personally and as a species.

So it's not about eliminating stress. It's about managing the stress that we do have in our lives with things like yoga, or meditation, or mindfulness practice, or exercise, or spending time in nature, or taking hot baths, or getting massage. I frequently remind my patients that all of those things, though, as you said, Katie, people tend to kind of discount them and only get to them when there's time, which there never is with your stress, right? These are as important, if not more important, I think to conceiving. And in the Healthy Baby Code, we actually provide some guided stress management audio programs for women to listen to and men, because I know both firsthand in my own experience and just from all the research I've done that that's really crucial.

Katie: Yeah, absolutely. So managing stress is obviously huge, but what are some other things either food or lifestyle things that should pretty much universally be avoided while a woman's pregnant?

Chris: I mean, that's a good question. I'm hesitant to speak in absolutes. I mean, you obviously want to minimize your exposure to toxins. So I think using personal care products that don't have a lot of chemicals is another important thing that's rarely discussed. We actually, in some cases, absorb more chemicals through our skin than we do through things that we put in our mouths, because the skin as a barrier system isn't as effective at filtering some of that stuff out. So I think using good, you know, greener homecare and personal care products is important. You wanna really avoid processed refined inflammatory foods as much as possible, you know, highly refined flour, sugar, industrial seed oils like the refined vegetable oils you see in most processed and refined foods.

Those foods are really low in terms of nutrient density. Some of them are almost completely devoid of any beneficial nutrients, but they've got a lot of substances in them that can cause problems particularly for people who are susceptible like gluten. You know, we know that up to 1 in 10 people are gluten intolerant. And if you eat gluten while you're gluten intolerant, that causes a whole autoimmune inflammatory or immune inflammatory reaction that can have repercussions, not only for you but for the developing baby. So making sure you're eating real food and not eating junk is, you know, on the most basic level really important. Yeah, I think those are the main ones that come to mind that we haven't already talked about.

Katie: One question I know a lot of pregnant women have is there are obviously so many good nutrients in seafood and fish, but also there's a concern with mercury. So what's your take?

Chris: It's a great question. It's another one that there's a lot of misunderstanding about in the mainstream. The EPA and some other regulatory agencies have recently come out revising their guidelines on fish

consumption for pregnant women and for women who are trying to conceive. They raised them actually and said that women should make sure that they're eating at least eight ounces of cold-water fatty fish. You know, eat EPA and DHA rich fish a week, because of the huge amount of research that points to the benefit of the nutrients in fish for the developing baby, you know, high-quality absorbable protein, as I mentioned, selenium one of the best sources of selenium, EPA and DHA in particular. I mean, seafood is really the only dietary source of EPA and DHA. There are plant foods like flax and walnuts that have shorter chain omega-3 fats that can, in theory, be converted into those long-chain fats like EPA and DHA, which really provide the benefit of omega-3s.

But when you look at the research, you see that less than one-half of 1% of those plant-based omega-3 gets converted into those beneficial long-chain omega-3 fats like EPA and DHA. So for all intents and purposes, you know, those plant foods are not going to give you the EPA and DHA that you need. And so that's where eating fish comes in. Now, the two main concerns with fish consumption have been mercury and then more recently radiation from Fukushima. Those are the questions that I get at least. Mercury is a neurotoxin and we wanna minimize our exposure to it as much as possible. And it makes sense from that perspective to choose varieties of fish that are naturally low in mercury. These tend to be lower on the food chain like anchovies and sardines but also salmon. Many forms of salmon tend to be relatively low in mercury and even mackerel and herring, which conveniently are all the best fish to eat in terms of their EPA and DHA levels. But there's another factor in this equation that a lot of people don't realize, and that's selenium, the protective role of selenium. And it turns out that the reason that mercury is harmful is that it deactivates these enzymes in our body called selenoenzymes that protect us from oxidative damage.

So if you eat a lot of mercury and there's not enough selenium in your body to produce those selenoenzymes, then you start to get oxidative damage and brain issues and all kinds of problems. And that's why high levels of mercury is associated with those kinds of issues in kids. But if you eat enough selenium, the selenium protects you against those effects. And the good news is that ocean fish as, I think, I just mentioned are 16 of the 25 highest sources of selenium in the diet are ocean fish. So the vast majority of ocean fish with the exception of swordfish, shark, palate whale, which are species that not too many people I know are eating, are higher in selenium than they are in mercury. And therefore, you can eat those relatively safely without any of the harmful effects that mercury might cause. So the takeaway there is yes, fish consumption is very important for the developing baby's brain. It is probably smart just to stick with the lower mercury versions. And since those are mostly the fish that you wanna eat because they have the highest levels of EPA and DHA, it works out pretty well.

Now, as for the radiation issue, again, of course, we wanna minimize our exposure to radiation as much as possible. But it's really important to put this in the perspective. There's a saying in toxicology that the dose makes the poison. And as it turns out, we're exposed to low levels of radiation all the time. If you've been on an airplane recently, for example, you've been exposed to a noticeable amount of radiation. When I say noticeable, I mean measurable. I don't mean that it has any proven effects on human health. You can fly across the country a few times a year and that amount of radiation has never been shown to have any harmful effects on human health.

So, likewise with the Fukushima issue, people have wondered about fish caught on the Pacific Coast and whether it's still safe to eat. And while there has been an increase, a measurable increase in radiation levels in some of those fish, it's still at levels that are far below the threshold that international regulatory agencies have determined this is, you know, problematic for human health. So even if you were eating pretty huge

amounts of fish, like over a pound a day that are caught on the Pacific coast, you still wouldn't exceed those thresholds. So for most people who are eating more like a pound of fish a week, I don't see any cause for concern.

Katie: That's really good to know. What about things like probiotic-rich foods, and even do you suggest supplements for that? I know there's so much emerging research about gut bacteria and how it's passed on during the birthing process, and now they're even saying maybe during pregnancy as well.

Chris: Yeah, yeah. Yeah, I think it's super important. You know, in an ideal world, we wouldn't need to take any supplements. You know, perhaps in this world, if you have a healthy gut, you have no digestive symptoms, you don't have any chronic illnesses that have been linked to gut health, which is pretty much all chronic illness at this point, you're healthy overall, you can probably get by with just eating a healthy diet and eating some fermented foods and some fermentable fiber. And that would be fine. If you are dealing with any kind of chronic illness, if you have a history of digestive issues, like small intestinal bacterial overgrowth, or IBS, or inflammatory bowel disease, or diverticulosis, or anything like that, I think probably supplementing with some probiotics and maybe prebiotics more importantly, which I'll come back to in a second, would be a wise precaution to take. So I don't think there's one...as single factor, I think the gut health of the mother may be the most important that determines, you know, the health of the baby.

That may sound like a bold claim, but the more research we see in this area, the more clear it becomes that the gut health of the mother is the main determining factor of the gut health of the baby, because the baby is, as I said earlier, initially exposed to the first bacteria that will colonize its gut in the birth canal. So mom's flora is what the baby is gonna form the kind of imprint of baby's flora. So that makes it really important for the mother to pay attention to that during preconception and pregnancy period. So what I recommend in Healthy Baby Code is eating a lot of fermented foods. So this could be things like sauerkraut, beet kvass, kimchi, dairy ferments, if you tolerate dairy like kefir or yogurt. Water kefir is another option for kefir if you don't tolerate dairy products. Kombucha is on the list, too, although, I don't find that it's generally as therapeutic as some of these other ferments that I just mentioned. So that's one important thing. And then both foods and supplements for the prebiotic effect are important.

So the difference between a probiotic and a prebiotic is that probiotic is the actual bacteria itself, the beneficial bacteria. Prebiotic is food for that beneficial bacteria. So when we eat foods with prebiotic effect, it increases the numbers of beneficial bacteria that are already in our gut. And it provides a food source for any probiotics that we're taking in via fermented foods or capsules. So studies have shown recently, in the last few years that prebiotics have an even more important effect on the long-term increase of beneficial bacteria, that probiotics are really important. They kind of tune and regulate our immune system. They play a lot of important roles for gut health, but they don't quantitatively increase the levels of beneficial bacteria over time. That's what prebiotics do.

So there are a lot of foods that have fibers in them that are fermentable by the bacteria in our gut and they thus provide a substrate that those bacteria can use. So we're talking about things like soluble fiber found in all kinds of different fruits and vegetables and starchy tubers like sweet potatoes and potatoes. There's resistant starch that can be found in potatoes, white potatoes that have been cooked and cooled or lentils and legumes, green plantains, perhaps. There is non-starch polysaccharides like inulin and FOS and things that are found in onions, and garlic, and Jerusalem artichokes, so eating a really broad diversity of plants.

You know, fruits, and vegetables, and starchy tubers is a great start in terms of the fermentable fiber. But then you can also consider supplementing with prebiotic fibers, as I just mentioned, resistant starch. Potato starch is one way you can do that. You can supplement with a prebiotic, which is a blend of the non-starch polysaccharides. Prebiogen, which I have in my store is a good choice. You can supplement with soluble fibers. A couple examples would be glucomannan or psyllium fiber. So there are a lot of different things that you can do to kind of all together to improve your gut health as you're trying to conceive or during pregnancy.

Katie: I'm so glad you touched on resistant starch because that's something I've been researching a lot lately. It's fascinating. But it brings up another good point, which is there's so much debate in the health community on sugars and starches in general. So especially for preconception and pregnancy, what would you say is good guidelines for starches and sugars and is there any place for them at all in the diet when you're pregnant?

Chris: Yeah, good question. Just a clarification for some of your readers and listeners, resistant starch is actually not absorbable by humans. So it doesn't affect blood sugar at all. If anything, actually, it lowers blood sugar. Some really interesting research has shown that, and also my clinical experience using it with patients. I've seen drops of 10 to 15 milligrams per deciliter of fasting blood sugar in some people who are using resistant starch. So, unlike other starches, it's not gonna have a harm...you know, it's not gonna affect your blood sugar if you have type 2 diabetes or if you're, you know, on that blood sugar spectrum. But in terms of starches in general, my recommendation in the Healthy Baby Code is that most women will do well on a moderate carbohydrate diet during pregnancy rather than a very low carb diet.

And, of course, there are exceptions. You know, if a woman has, again, like I said, diabetes or glucose intolerance, you know, high blood sugar, blood sugar fluctuations, reactive hypoglycemia, anywhere on that blood sugar spectrum, they'll probably do better with a lower carbohydrate diet if you're at risk for gestational diabetes 2. But if you're not, if your blood sugar is normal, then I think a moderate carbohydrate diet works best for most women. Pregnancy is a really energy intensive process, right? There's a great demand for energy in the body for this developing baby to thrive. And glucose is one really usable form of energy. It's readily found in starches and can really help women to just feel more balanced and more energetic during pregnancy. Whereas a really low carb diet, I've seen, it lead to mood swings, and irritability, and fatigue, and insomnia and things like that.

So, that's my general recommendation. I think minimizing sugar always makes sense, especially in pregnancy because it's not nutrient dense. It's, in fact, nutrient poor, almost completely nutrient depleted. And it's relatively high in calories. So you're getting a lot of caloric density and very little nutrient density. And then there's the potential effect of sugar in terms of how it feeds pathogenic, got bacteria. And that's another concern because of what we just talked about. So I think for most people, moderate carbohydrate intake is best. People with blood sugar issues, you know, really cutting back on the carbs is probably gonna help. And for everybody, lay off the sugar as much as possible.

Katie: Awesome. Well, and one question I get a lot that you're probably more qualified to speak on from everyone that you've worked with and I have no personal experience is what about women who have been on hormonal contraceptives and are having infertility issues. I mean, there's so much research on how those can affect hormones obviously but also the gut and just many reactions in the body. So what if a woman has been on contraceptives and is now trying to conceive or just trying to get off contraceptives. What are some steps she can take to balance the hormones again?

Chris: Yeah, that's a great question. And I do see a fair amount of that in my practice. There's actually a term called post birth control syndrome, which refers to this collection of signs and symptoms that women can experience when they're getting off of contraception. And one of the issues with long-term contraception and hormone replacement for that matter is that it really causes...it can wreak havoc on the natural production of hormones in a woman's body. And those hormones have to be eliminated and detoxified. Any excess hormone in the body has to be eliminated and detoxified by the liver and kidneys, the typical detoxification system. But when you've been taking hormones for really long time, that detox system can get backed up and you get an accumulation of hormones and then that can lead to things like infertility or, you know, any number of other symptoms that are related to hormone imbalance.

So one of the best things to do, of course, the first thing to do is always to clean up the diet. You know, assuming that's been taken care of, another thing to focus on is liver detoxification and improving liver function. So there are a number of ways you can do that. A number of substances that are important in there glutathione is one of them, N-acetylcysteine and alpha lipoic acid. Milk thistle is a botanical that I'm sure a lot of people have heard of that has a good effect on liver. There are a number...so detox supporting products, the supplement line that I created with Robb Wolfe. We created a product that would...for this exact purpose called Adopt to Clear, because there weren't a lot of products that I really liked on the market that did exactly what I wanted them to do. And this is one of the biggest problems that Robb and I both saw in women who were coming off of...who were struggling.

You know, when they first switched to a nutrient-dense diet, they weren't getting the experience that other women were getting. And one of the main reasons for that is this impair of detox capacity. So it's definitely possible to deal with this. You may be able to deal with it on your own. In some cases, it may be necessary to find a good functional medicine practitioner and work with them, do some testing on your hormone levels and your detox capacity. Another thing to look at is your adrenals. Oftentimes, women who are experiencing hormone issues are also experiencing like the HPA axis adrenal fatigue kind of constellation of signs and symptoms. And so there, the important things would be making sure you're managing your stress, you're getting enough sleep, you're not overtraining or overdoing it physically. That's really important as well. You know, nurturing yourself as much as possible.

Katie: Awesome. Well, kind of to tie it back to where we started. I would love you to just tie this back into epigenetics and give some hope to people who maybe are past their childbearing years or who have kids who now maybe have health problems or even as adults have health problems and talk about how epigenetics, we can still turn genes on and off even as adults and how diet and lifestyle are able to really make a difference in those areas even if you're not pregnant.

Chris: Absolutely. Yeah. As I said in the beginning, it's never too late to start. I have some patients who are in their '80s who have recently started, you know, done a 30-day reset from my book and are feeling, you know, better than they have in decades according to them and their mental clarity is increased, their memory is increased. They're able to interact with people around them in a way that they, you know, didn't think was gonna be possible, you know, in the rest of their lifetime. And they're just enjoying themselves in a way that they hadn't been for years. So it's really heartening to see that. And that's a great example of how it isn't ever too late for us to change and to experience the benefits of dietary changes both because of the epigenetic factors that you mentioned, Katie, and also because of the effects, just the effects of nutrients on our cells and the effects of food on our gut microbiome.

There was a study that came out recently that found that changing the way we eat can, in as little as three days, have a pretty profound effect on the gut microbiome. And those bacteria produce all kinds of chemicals and substances that directly affect our health. You know, within a few days, you can see changes when you switch to a more nutrient-dense diet. For me, I just I think there's not very much that's more important in life. You know, if we don't have our health, it's very unlikely that we're gonna be able to live the life that we wanna live. And, in fact, one of my favorite definitions of health, which I've often used is the ability to live your dreams. And I really like that because it makes us draw the connection between good health, you know, feeling, energetic, and calm, and centered, and all the things that are nutrient-dense anti-inflammatory diet can do for us with being able to go out in the world and do the things that we wanna do and make and contribution, serve other people, and live a happy and successful life. At the end of the day, that's what it's all about.

Katie: Awesome. I love that quote about health. I also would really make a mention to my readers that I bought your Healthy Baby Code when it first came out because I happened to be pregnant at the time.

Chris: Oh, great.

Katie: And it is just...I mean, so much information and so practical because I know so many products it's like you get all the information and you're like, "What do I do?" And yours is very informational and everything. And I'd love for you to touch on it a little bit more but also to tell everyone that if they go to wellnessmama.com/go/healthybabycode, all one word, that that will take them directly to the Healthy Baby Code site so they can read about it. And I think you've even offered a discount for the next two weeks. So can you talk about the Healthy Baby Code specifically?

Chris: Sure, sure, yeah. So, as I said before, this really came out of my own experience, my wife, our struggle conceiving and then my desire to find a natural solution. And hundreds of women have used it now, use the information, have successfully conceived even despite being told that they were infertile and they would never conceive naturally by their doctors. It's so amazing to hear reports from women like that. Every time I hear one, it completely makes my day. And as you said, it's really a practical program. I do touch on the research quite a bit, because that's important to me and I like everyone to know that the recommendations that I'm making in the program come from, you know, scientific evidence from peer-reviewed journals. But that's not the focus of the program.

The focus of the program is exactly what you should eat and do in order to optimize your chances of conceiving, having a healthy pregnancy, carrying the baby through to full term. But we don't stop there. We also talk about how to...you know, the importance of breastfeeding, how long you should breastfeed, how to eat while you're breastfeeding, and then how to introduce first foods when your baby starts to eat, which is, of course, an important topic that is often overlooked. So we have six modules. You've got a video. I think over six hours of video content. We've got cheat sheets and worksheets, things like a one-page guide to all of the nutrients that you need to make sure you're getting and what the top food sources of those nutrients are, nutrition quick references. As I said, we've got some guided stress management resources, the meal plan for first foods and then a sequence of how to reintroduce those foods after your baby is born.

And I've just tried to put everything in there that I could think of that would make it easier for you to find a natural solution just like my wife and I did. And I'm really happy, Katie, to offer this to your community, because it's obviously close to my heart. I really, as I said before, feel like it's the thing...you know, all the work

that I do, it's one of the things that I'm most passionate about. And I know that your people are as well, and this is the work that you're committed to. So we're happy to offer a 25% discount if you use the code Wellness Mama and go to the link that you just said, Katie, for the next two weeks. You can, you know, take a huge big leap toward increasing your chances of conceiving a healthy baby. And not just conceiving a healthy baby but setting your baby up for lifelong health. That's really the shift in our thinking here. It's not even just about conceiving naturally or having a healthy pregnancy. It's about giving your baby the best possible start for a lifelong of health. I think as a parent, that's really the best gift that we can give our kids.

Katie: Yeah, absolutely. You see so many things that say, "You know, do not take this if you are pregnant or may become pregnant" or X-rays. "Don't get an X-ray if you're pregnant or may become pregnant." And your course is one thing that you absolutely should take if you are pregnant.

Chris: Yeah, I appreciate that. They tell you what not to do, but they don't tell you what to do, right?

Katie: Exactly. And, yeah, I would really encourage anyone who's in that stage of life to go check it out and read your information on that page, which, again, is wellnessmama.com/go/healthybabycode, all one word. And anyone who's not in that stage of life should still definitely go to your blog, which is chriskresser.com, is that correct?

Chris: That's right.

Katie: And read all your posts as you, do excellent with the research, and making sure everything is backed by science but also very practical. And I've been a big fan of yours for years. So I would really hope that my readers and listeners would go there. And for anybody listening, the link will be in the show notes, and for anybody watching, it'll be right below this video. So you can check it out. And Chris, I'm so honored that you were here. Thank you so much.

Chris: Yeah. Thank you so much for having me on, Katie. It's been a pleasure. I really enjoy getting to meet you in person recently. I love the work that you're doing. I think it's so important, and I look forward to connecting with you again in the future.

Katie: Awesome, Chris. And, yes, ditto, everything. I love your work, and it was great to meet you as well. And thank you again for being here.

Chris: Great. Take care everyone. Bye-bye.

Katie: Thank you so much for listening to this episode of the Wellness Mama podcast where I provide simple answers for healthier families. If you would like to get my Seven Simple Steps for Healthier Families Guide for free, head on over to wellnessmama.com and enter your email and I'll send it over to you right away. You can also stay in touch on social media: facebook.com/endlesswellness or on Twitter and Instagram @ Wellness Mama. I would also really appreciate it if you would take a second and subscribe to this podcast so that you will be notified of future episodes and if you've ever benefited from something I've talked about on this podcast, I would be really appreciative if you would leave a rating or review since that's how others are able to find this podcast and so we can help spread the message. Thanks as always for listening and for reading and for being onboard with creating a future for our children that's healthier and happier. And until next time, have a healthy week.