

Anxiety: The Link Between Low Cholesterol and Low Oxytocin

- The functions of cholesterol and some of the many health consequences of low cholesterol
- Fat malabsorption, and other causes of low cholesterol
- Oxytocin: bonding, trust and social anxiety and why it can be low
- The relationship between oxytocin and cholesterol and anxiety/depression
- How to naturally raise low cholesterol and low oxytocin



Trudy Scott:

Welcome to *The Anxiety Summit* Season 4. This is your host Trudy Scott food mood expert, certified nutritionist, author of *The Antianxiety Food Solution*. And today our topic is “Anxiety: the link between low cholesterol and low oxytocin.” And we have Dr. Woeller on the call for us here today. Dr. Woeller it's a real pleasure to have you speak on The Anxiety Summit. I first learned of the wonderful work you do in the autism community from a good friend and mutual colleague Julie Matthews a number of years ago.

Dr. Kurt Woeller:

Yeah. Trudy, you're welcome, good to be here. It's great and very interesting information on the link between, not only the link between cholesterol and issues like anxiety/depression, but then bringing in the information about oxytocin and that link. But what's even really more interesting is the connection between the two. So I'm very excited about sharing this information with you.

Trudy Scott: Good. I am too. And I heard you first present on this topic at one of the IMMH conferences. I remember hearing you first speak at the conference in New Mexico if I'm not mistaken. That was the first conference. And for those who don't know, IHMH is Integrative Medicine for Mental Health. And since that conference I've heard you speak at every single one except one of them and I know you will be speaking at this conference again in September in DC and we'll make sure to share a link for folks who might want to come to this conference. It is one of the best conferences around and certainly the best one on mental health. And it's great to be able to hear you speak there in person. So if anyone is interested do come to this conference. I look forward to seeing you again there Dr. Kurt Woeller.

Dr. Kurt Woeller: Yeah. I appreciate that. Actually the conferences are growing. We just had the previous one in San Diego. I believe they had almost 500 health practitioners, mostly MDs and DO psychiatrists and other nurse practitioners working in the mental health field. And over the past number of years the conference has just gotten huge. So the one coming up in Washington DC in the fall most likely is going to even be bigger. So there's a tremendous amount of speakers and it's my pleasure to speak there.

Trudy Scott: Fantastic. And I will be presenting there this year too and I love the conference and I love the people in the community. It's just really great. Just they get this and it's so wonderful to see this information getting into the hands of practitioners who are working in the mental health field. It really is great. And you didn't mention nutritionists. A lot of nutritionists there as well.

Dr. Kurt Woeller: Oh yeah. That too. Certainly. Absolutely.

Trudy Scott: Okay. Let me go ahead and read your bio and then we'll get right into the talking points. Dr. Kurt Woeller DO has been an integrative medicine physician and biomedical autism specialist for over 18 years. He's an author of several health books including *Autism - The Road To Recovery*; *Methyl-B12 Therapy For Autism*; *Methyl-B12 for Alzheimer's Disease And Dementia*; and *5 Things You Must Do Right Now To Help Your Rheumatoid Arthritis*. He's a lecturer throughout the US and internationally, including Canada, China, England, Mexico and Poland. Educator and experienced clinician offering specialized treatment and testing for individuals with complex medical conditions such as Autism spectrum disorders, chronic fatigue syndrome, mental health disorders, multiple sclerosis and other chronic health conditions. His health

consulting practice for autism alone is multinational with families from various countries. Dr. Kurt Woeller's on the Scientific Advisory Panel for the Integrative Medicine for Mental Health, IMMH, the conference we just talked about and serves as a clinical adviser for both BioHealth Laboratory and Great Plains Laboratory providing patient and physician education through training programs and monthly webinars. He's also the Medical Director of Integrative Medicine Academy, an online training course website for health practitioners. And we'll talk a little bit more about that later on in our interview.

So Dr. Woeller we always hear about high cholesterol and low cholesterol is seldom discussed, but as we both know total cholesterol that is too low is actually not healthy and can impact mood. So I'd like to start talking about some of the functions of cholesterol and some of the many health consequences that we see when someone has low cholesterol.

Trudy Scott:

There's many functions with regards to cholesterol. And you're absolutely right, there's been a lot that has been written and spoken about over the years with regards to the high cholesterol. But a lot of people miss out on the story about low cholesterol. And I first learned about low cholesterol problems back in medical school in the fact that they were looking at it's link to increased risk for cancer and mental health disorders, but like a lot of things in medicine it kind of fell away by the wayside. And as I got into my medical training it was never thought of much, at least from many of the docs that I work with. Not until I actually got into private practice and started working in the field of nutrition and integrative medicine that I actually started looking at it again. And if you look at cholesterol it's critically important. It's what helps all of animal cell membranes maintain their fluidity and permeability, which means that it allows for cell membrane to be flexible and communicate with each other, and if that's happening in the brain that critically important for nerve cell to nerve cell communication to be happening appropriately. It's also the chemical that helps to create the base for all steroid hormones. So progesterone and testosterone and cortisol, et cetera, are all based off of cholesterol. So it's critically important with regards to adrenal support, and if we talk about let's say adrenal fatigue, for example, some people with adrenal fatigue actually have low cholesterol levels that can be improved as you bring those levels up. And it's also involved with things like vitamin D, the production of bile acids for vitamin absorption, vitamin A, vitamin D, vitamin K, so there's a whole host of these things that are involved with regards to the metabolism of cholesterol in the body.

Trudy Scott: And I'm so glad you mention steroid hormones because a lot of people think wow I've got hormonal imbalances and would never even consider the fact that maybe low cholesterol is a factor in making things bad. And then you mentioned bile acids. And this is so important for fat absorption. So if you don't have the cholesterol to produce the bile then you're going to have problems with fat absorption. So it becomes this vicious cycle doesn't it?

Dr. Kurt Woeller: Absolutely. And obviously we need to be able to get those vitamins into the body to maintain cellular metabolism. The other thing I want to mention about cholesterol, which we kind of did upfront, is its connection to oxytocin, which we can talk about it shortly. One of the things that happens with people when cholesterol is low, as I mentioned it's been known for a long time that there was an increased risk for cancer as well as mental health disorders. But specifically they've also looked at cholesterol - when the cholesterol is low for an increase in things like violent behavior, aggression, self injurious behavior, in susceptible individuals, increased risk for I shouldn't say drug addiction but the inability perhaps to overcome drug addiction. They've actually done studies and looked at individuals with cocaine addiction and heroin addiction and found it was much more difficult for them to overcome when their cholesterol levels were a lot lower. Increased risk for negative behavior in school age kids, so the lower the cholesterol many times the greater chance of adverse behavior or poor behavior in schools. So there's a lot of things that are related to the story that really cross many different areas of medicine. And my work in autism in looking at cholesterol started many, many years ago where I was actually doing blood testing on some kids, and as part of a general blood panel commonly when you send somebody for blood you do electrolytes and you look at liver function and kidney function. Often times they'll just do what's called a lipid panel. And I would notice these blood tests coming back where these special need kids tend to have total cholesterol levels that were usually low, anywhere between let's say 110 to 120. And I started accumulating this data many, many years ago, but at that time the only way to really bring those levels up was eggs. And as you know a lot of people either have egg sensitivity, maybe a true allergy or just don't like eggs. And that's the same thing that's happening with these autistic kids is sometimes they have egg sensitivities where they can't eat the eggs effectively to get adequate amounts of cholesterol. So it was very difficult to intervene until a cholesterol supplement was developed called Sonic Cholesterol that actually can help to raise cholesterol naturally in people who have low cholesterol but say have an egg

allergy, for example. So, a lot more to talk about there, but kind of interesting how some of the stuff just kind of came about many years ago and as other people then started catching on realizing it had tremendous value to try to bring the levels up in these kids.

Trudy Scott:

Wonderful and wonderful for you to be seeing it first hand and to be using this and seeing results. So when you've had some special needs child with the lower cholesterol and then you get them on the Sonic, does that bring it up so they can stop taking the Sonic Cholesterol or do they need to continue to take it?

Dr. Kurt Woeller:

Well, sometimes they need to continue to take it. And what's been discovered over the years is that there can be other contributing factors of what's causing low cholesterol. There's a number of things that can do it. You can be manganese deficient and that can affect cholesterol levels. They've now discovered that an excess of iron, and specifically ferritin, can be a factor that's related to low cholesterol. Certainly thyroid disorders, liver disorders, gut absorption problems as we've talked about before can also be part of that. The story with regards to cholesterol actually began where some researchers were looking at a disorder called SLOS. And SLOS is a genetic disorder where these kids don't produce adequate amounts of cholesterol. In some cases of this genetic problem is they've detected zero levels of cholesterol in the blood. Now many of these kids have severe behavior problems, socialization issues, sensory imbalances and so some of the kids with SLOS actually are autistic. And Great Plains Laboratory has actually done a lot of its own testing and looking at cholesterol levels in autism and found that the vast majority tended to be fairly low. As I mentioned in my practice, most of the kids that I test are anywhere between 110 to 120. Now to give you a reference point, the National Institutes of Health states that levels less than 160, with regards to cholesterol, increases the rate of cancer, increases the rate of mental health disorders and even early death in some studies. So that target zone we're typically using is to try to get those total cholesterol levels at least above 160. I usually shoot for around 170/175 if possible. So in some of the kids the cholesterol levels come up with the Sonic Cholesterol, but not all. What was interesting when I first started using the Sonic Cholesterol in practice sometimes within a week to two weeks I would get reports back by parents of autistic kids that their kids were calmer; they were more focused; they were happier; and what was most interesting to me was that they actually had improved eye contact and many of them were just appearing to be more social. Now as you know in autism the social component is a big problem. So I started thinking what's going on? This is having a really fast

effect. So as time went on I started coming back and doing blood testing. And it could be two and a half months down the road after being on Sonic Cholesterol for some of these kids and maybe I would have a child who had a total cholesterol let's say of 110. After they were on Sonic Cholesterol for a couple months their levels moved to 120. And like well okay clearly it's not causing a massive shift in their blood cholesterol but we're getting this positive response that's happening cognitively. And so I started doing some research and it was right around that time I was actually learning about oxytocin as well and so I started doing some research with regards to the link possibly between cholesterol and oxytocin and found out there was a link in the fact that cholesterol helps to augment the function of oxytocin at the oxytocin receptor sites. So I started thinking maybe what we're seeing with these kids who were taking the Sonic is that it's not really causing a shift in their blood levels but it's having an affect within the central nervous system on the oxytocin receptors. I've had some kids in my practice Trudy that have never normalized on their cholesterol even though they're taking four to six sometimes eight Sonic Cholesterols, but they've had tremendous improvement in their sensory imbalances, in their socialization and in their behavior. So some of it it's hard to know exactly what's going on because clearly it's not always a genetic factor, it's not always a mineral deficiency or an excess of iron, in some of these kids it's honestly it's hard to figure out exactly why it's low but we just know that the Sonic and improving cholesterol levels seems to help. So it's really fascinating information.

Trudy Scott:

It really is. And what wonderful results to see for parents and for you working with these parents, it's really great. I've got some follow on questions because this is fascinating and I just love the connection to oxytocin and the fact that you're talking about the social aspect. Most of my clients and a lot of people listening to this are familiar with and have got an interest in autism obviously, but a lot of people that are listening are more focused on the anxiety issues, and social anxiety is a big factor with the clients that I work with and it's a big topic that I talk about. And there's this condition called pyroluria where it's a genetic condition where you have a higher need for zinc and vitamin B6. And I've been seeing some research that is making me think about this possible connection to pyroluria and lower oxytocin levels and low cholesterol levels. And I just think it's very fascinating how we can put all of these things together and actually start to have people feel better. I did see one study that showed a connection between zinc and zinc being needed for oxytocin to be able to be produced

and zinc is one of the key nutrients for the social anxiety condition called pyroluria. Any comments on that?

Dr. Kurt Woeller: Well, I'd like to ask you maybe you can share a little more with me. Clearly the special need kids tend to be zinc deficient. Many of them need additional support with vitamin B6. Now, it's not just them because that can also crossover to other patients with mental health challenges. I mean the B6, a vitamin has so many different functions with regards to cell metabolism as well as brain chemistry, neurochemistry imbalances too. So I can see where that would fit in. I didn't know specifically about zinc triggering the oxytocin story so maybe you can share a little more about that. Let me mention one thing though, and I do a lot of speaking to different groups of people and I often talk about autism, not because I think people in the audience are autistic, but the reality about autism is that it encompasses so much of what we see from an integrated medicine standpoint. These kids have problems. They have gut problems. They have food sensitivity problems. They clearly have nervous system imbalances, biochemistry imbalances, methylation problems, you name it they have it at some point. And one of the things that is huge with autistic individuals, not all but most, is anxiety. In fact the thing I'm seeing more and more now as the kids get older is their level of anxiety goes up. So trying to deal with anxiety in the autistic population is a big part of what we do. And that's one of the things that the Sonic has helped with. I don't want to make it sound like it's a magic bullet, therapy, but it has been one of the things that has helped with anxiety in autism. And some of the kids respond really well to oxytocin as well. So people who are listening realize they're not autistic but the anxiety aspect is linked into these underlying biochemical and neurochemical imbalances regardless of what your diagnosis or what label you carry around it's the same underlying systems that are at play.

Trudy Scott: Absolutely. And we've got so much to learn from the autism community. As you say they're the canaries in the coal mine and they are the ones we've learned so much about these biochemical issues and we can apply them to many different conditions. I totally agree we need to be looking at all of these. Someone can have methylation issues and they can have mood problems, someone else may actually have methylation issue and be on the autism spectrum. So we have so much to learn and it's wonderful that we can apply all of this to so many different conditions and anxiety as well. It's very interesting that you say the anxiety is an issue as they grow older and it's very encouraging to hear about the fact that it's helping. I'm actually working with a woman at the

moment whose cholesterol was really low and I had sent her labs to you. I know you offered the service where you'll actually look at someone's labs and then prescribe the Sonic Cholesterol. And after three months her cholesterol had not gone up at all, but she is doing much better. She's doing much better from an anxiety point of view. So it's interesting that you share that you may not see a shift in the numbers but you are seeing a shift in the mood and how someone is feeling. So that's really great.

Dr. Kurt Woeller: One thing going forward with people that you work with, and this was some newer information that came out in the past number of months from Dr. Shaw at Great Plains is with people with cholesterol, if they're doing blood work clearly look at thyroid function. It makes sense. Look at liver enzyme. Typically though they got to have some sort of serious liver disease. But look at iron levels and ferritin levels and see if people have an excess. About 15 percent of the population of the U.S. carries the gene for hemochromatosis and that is an iron storage disorder. That has been linked to low cholesterol. So something that people could do just off of a simple blood test to see if that might be a possibility for them. One thing I want to mention about cholesterol, and if you think about cholesterol and depression there's a marker off the organic acids test from Great Plains Lab that is the metabolite of serotonin; it's called 5-HIAA. And they've actually found that that particular chemical is lower, this was a monkey study; this was a number of years ago I think it came out in the mid 90s, but when they looked at cerebral spinal fluid levels of that serotonin metabolite, it was lower in monkeys who had lower cholesterol. So if you think about the SLOS kids, the lower their cholesterol levels go the more they become anxious. And when a lot of these kids become anxious they become agitated. When they become agitated they become aggressive. The lowest I've ever seen in my practice, with regards to a cholesterol, was a child who had a 65 on a total cholesterol blood test, which is extremely low. In the vast majority of the kids on the spectrum when you do organic acid testing they tend to have the low serotonin metabolite. But I've seen that also in adults as well. And part of the course that I'm involved in, with regards to adrenal function called Adrenal Mastery, is one of the things we're talking about is the link between serotonin and adrenal imbalances. So there's all of these interconnecting parts that we can intervene with to help patients and help people who are suffering with these problems.

Trudy Scott: Great. So I've got a few follow on questions here. You answered one of them. I was going to ask about the hemochromatosis for iron overload. Would you still see issues with low cholesterol if

someone doesn't necessarily have the hemochromatosis but they have high ferritin levels possibly from too much iron in their diet like eating too much spinach?

Dr. Kurt Woeller: Maybe. That's possible. It's something worth looking at. I wouldn't say I'd been able to test that out where I can do testing. I mean those kind of things what you really need is a large pool of people to be able to work with and kind of test things out over a number of months. But I would say possible. Yes.

Trudy Scott: And then the ferritin number what sort of number are we talking about if it's elevated, do you have any idea?

Dr. Kurt Woeller: Oh gosh. I knew you were going to ask me that. I can't think of that right now.

Trudy Scott: Okay. Outside of the range. But need to consider. And then you'd mentioned manganese being deficient, do you have a way to test for manganese?

Dr. Kurt Woeller: Well, I do a hair test as the screening test for people. Any mineral test has its pros and cons. I think the hair testing it's a nice way to do it. It's inexpensive; easy to get; non-invasive; and it does a pretty good job at picking up on certain minerals, not all but manganese tends to be one of those minerals that a hair test does a pretty good job at detecting. So Great Plains has a hair analysis. We offer hair analysis through our labtestplus.com website that people can access so that's a good way to go.

Trudy Scott: Okay. Great. And you're mentioning a few things and I'll make sure that we include links to these on the speaker blog for anyone whose hearing this. I know you do the labtestplus, I'll share the link to the Sonic Cholesterol service that you offer and you mentioned your Adrenal Mastery Course, I'll make sure that we share links to all of those because it's a lot of information here that folks might want to follow up on. So I had one or two other questions. The question that I had about manganese, I mentioned pyroluria the social anxiety condition and what I forgot to mention is that it's very common in the autism community, certainly I know in Australia they look at it as one of the big factors when they're working with kids with autism. But interestingly enough manganese is a nutrient that is needed for pyroluria so there's definite overlap with all of this. I just think it's so fascinating. We all learn from all of each other. It's really great.

Dr. Kurt Woeller: Absolutely

Trudy Scott:

Okay. And then I just wanted to share one other story of a client that I worked with, it was a woman who had really bad PMS really bad anxiety and her total cholesterol was below 150, I think it was about 120. And at the time I didn't know about Sonic Cholesterol, this was a number of years ago. Her liver enzymes were a little bit off and it looked like she was having problems digesting her fat. She was eating a very healthy diet. She was eating good healthy fats. And all we did was provide some liver support with some herbs like milk fissile and I gave her enzymes to take. And within two months her total cholesterol had come up and her PMS and her bad period pain had gone away. So it's amazing how some small interventions can make a difference. And you'd mentioned liver being a factor and gut issues. And one of the gut issues could be a malabsorption issues or low enzyme production. So just doing something simple like that can make a big difference. So obviously for people with very serious conditions on the autism spectrum you may need bigger interventions, but for others just some simple changes can make a difference.

Dr. Kurt Woeller:

Yeah. And one thing about the Sonic is it's a supplement that's actually safe for people to take who have egg allergies because it doesn't come from eggs. So it's hypoallergenic. It actually comes from the wool of sheep. And one capsule is equivalent in cholesterol content to about one large egg. So the general rule on dosing, and it varies a little bit person to person, but the general rule is that you take one capsule for every 10 points less than 160. So if we're looking to let's say just minimally have 160 milligrams per deciliter as our target to sort of get beyond the warning zone so to speak from the National Institute's of Health data. And you had a cholesterol of a hundred, well you would take six Sonic Cholesterols a day and that's sort of a rough start because 160-100, so 60 and basically one capsule, in theory, should raise your cholesterol by about 10 points. It doesn't always pan out that way but that's a good rule of thumb. And the get Sonic Cholesterol site is for that so people can submit their test and say hey how deficient are you and get started on a supplement like this. I think what you're doing with regards to digestive enzyme support and improving digestion is really key because a lot of the autistic kids tend to have a lot of significant imbalances in the gut, but a lot of adult patients as well. So it's not all just about taking a supplement, as you know, it's about trying to improve overall health. And the health of really begins in the gut and digestion so I think that's great work.

Trudy Scott: Excellent. We need to approach it from all angles and the Sonic can give someone relief right away, some of these other things take a little bit longer to shift so I think approaching it from all angles is really great. Now you mentioned your Adrenal Mastery Course, and I know this is one of the many programs that you offer for practitioners, and you mentioned this connection between cholesterol and adrenal imbalance and I am assuming this has got to do with the fact that it's affecting steroid hormones. Anything else that you can add about the connection between cholesterol and adrenal function?

Dr. Kurt Woeller: Well, it's interesting because actually the connection is through oxytocin. So on one hand you've got the cholesterol link what they've observed with regards to serotonin, but there's actually a relationship between the serotonergic system and the oxytonergic system. There was a paper that came out in the European Neuropharmacology Journal back in 2012 talking about the fact that certain serotonin reuptake inhibitor's, like Celexa and Luvox, they feel that some of the antidepressant effect is mediated through oxytocin release. So that's a very interesting connection. So there's all of this interplay that's happening. So we can affect the oxytocin system, which then can certainly affect things from an anxiety and pro social standpoint. And if you start to decrease anxiety that's going to have a relationship to the hypothalamus pituitary adrenal axis, which is then linked to the adrenals and a stress on the adrenals because you're going to sort of cause a downshift in cortisol production. And at the same time as you decrease anxiety and stress you're also going to lower the fight or flight response in the body that's needed through the adrenals as well through the production of adrenaline. What's interesting with regards to the link between cholesterol and oxytocin as I had mentioned before, cholesterol does a number of things with regards to the oxytocin receptors. One, it increases the binding capacity of oxytocin at the receptor. And what that does is it creates stability. So the cholesterol creates stability in the oxytocin receptor at the cell surface, but also then increases the binding efficacy of oxytocin. Essentially what you can say is that cholesterol just overall improves the effect of whatever amount of oxytocin you're producing to have a greater effect at the receptor site. And remember the receptor sites on a cell is the doorway to allow you access to the inner workings of the cell. So the oxytocin would be the key and receptor site the lock and those two things have to interact. Well, cholesterol just improves that function. So I hope that makes sense in just trying to put the pieces together for people is that there's definitely a link of how all of these things work.

Trudy Scott: Fascinating. And then you mentioned the serotonergic system and we know how low serotonin can cause anxiety and depression so we've got that aspect as well. Very, very fascinating.

Dr. Kurt Woeller: Yeah. Absolutely.

Trudy Scott: Wonderful. So we've been talking about this connection between cholesterol and oxytocin, and for folks who may not be familiar with what oxytocin is, can you just talk a little bit about some of the general functions of oxytocin and why we care about it?

Dr. Kurt Woeller: Yeah. So general function: oxytocin is what most people think about to help with uterine contractions. So towards the end of pregnancy as a woman is starting to go into labor oxytocin is released to help to increase contractions in the uterus to give birth. And one of the things that's happening prior to that is the cervix starts to thin out as well and get more thin in response to oxytocin. And then there's an oxytocin relationship between the mother and the child. So breast-feeding they figure increases oxytocin production, not only in the mother but in the child, to increase bonding between the newborn and the mother. Also oxytocin helps with the letdown of milk. What they're also finding, and this goes back now to the autism situation, they're finding that if there is a break in oxytocin production in the newborn during that critical window of time about the first seven to ten days I believe it is, because the baby is also producing oxytocin and what the oxytocin is helping to do is it's helping to boost those areas in the brain that later become the areas involved in pro social engagement.

And there's a theory Trudy, I don't know if you've heard this that the Pitocin, which is synthetic oxytocin, which is given to women who are not naturally going into labor, it's meant to action speed labor up. Pitocin being synthetic oxytocin may short circuit in some susceptible kids the natural production of oxytocin, therefore slowing down or turning off those areas in the brain that are normally being developed at that time, with regards to socialization. So essentially those nerve cells don't reach their full potential in those areas of the brain. That's at least a theory, but it seems to hold true if you look at the biochemistry. So one of the other effects then of oxytocin in all of us is what they call the love hormone or the bonding hormone is that it increases feelings of trust and harmony and pleasure in that it's involved in our ability to make connections with people on a one-on-one basis, not only through touch but facial expression recognition, voice emotional recognition. So it's not just happening in the newborn or in the

mother who's giving birth, but that production is happening through our lives.

Trudy Scott: Wonderful. And I'm really glad you brought that up and that's Pitocin correct?

Dr. Kurt Woeller: Yes.

Trudy Scott: I just want to recap that just to make sure I've got it right and everyone's heard it the same way that you were saying it. So if a mother is given Pitocin during labor that can short-circuit the natural production of oxytocin and then it can actually affect the kid's production down the road and then it can affect possibly their social ability and some of these other things that we see. And you mentioned the facial recognition and the voice emotion recognition. So all of that could be effected by Pitocin, is that what you're saying?

Dr. Kurt Woeller: It could be. It's not that it's necessarily affected the production down the road. There's a critical window after a child is born that that first couple weeks is very important, I mean the brain is constantly developing, but it's that time where the various centers in the brain that are involved in social engagement, in eye contact are forming at a rapid rate. And its impact responding to the production of oxytocin that's occurring in the body of the newborn. So the feeling is is that what can happen is if you're inducing Pitocin, a synthetic oxytocin, that you may be overloading the system and that too much causes basically the nerve cells to say hey we've got enough; we're good; we don't need to develop anymore and you may short-circuit the process before it has gone through its full development.

Trudy Scott: Okay. Have you seen a correlation with your patients with autism and some of the social issues and the fact that their moms were given Pitocin during pregnancy or during labor?

Dr. Kurt Woeller: Very much so. Yes. That has been something that has been recognized. That's just not by me but by others as well. Now I can't say it's 100 percent. I don't want to sit there and say that just because a mother had Pitocin therefore that is the reason their child is autistic, there's so many other factors. It certainly I believe plays a role in some. Yes.

Trudy Scott: And it would be interesting to see for people with this social anxiety condition I mentioned earlier, pyroluria, if they went back and found out if their mother was given Pitocin - if there's a

connection there. So say, for example, someone was given Pitocin, the synthetic oxytocin, the question I've got, can these other interventions that you talk about help one recover from it?

Dr. Kurt Woeller: Maybe. I mean that's always the million dollar question. I mean there's certainly kids that can recover and have recovered and I've had kids in my practice who've recovered. I think a lot of it comes down to how severe the problem is. Are those connections still viable? Can they really reestablish those connections or not? And then we have to get into, and this is where you start getting into the aspect of genomics, with regards to different enzyme problems, receptor site problems, there is a subset of kids, there was a Japanese study that showed that a subsection of the kids tended to have dysfunctional oxytocin receptors. So it's almost like the receptor itself was broken so it didn't really matter. It can only respond so much to whatever oxytocin was there because the receptor site was dysfunctional, what do you do? So there is tremendous hope with regards to recovery I believe for a lot of these kids, but like anything in medicine it's not sort of a guarantee that everybody will. A lot of other moving parts really.

Trudy Scott: Absolutely. And then talking about this oxytocin receptor being dysfunctional, we've also got the oxytocin gene, OXTR gene and that can have an impact to I assume.

Dr. Kurt Woeller: Right. Yeah. So a lot of the story with regards to oxytocin, not all of it has been discovered and as time goes on I think more and more is known about it, it just takes people who are willing to look at it, research it and honestly when it comes to some of these therapies, whether you're talking about people who have depression or anxiety, adults or chronic fatigue or adrenal problems or parents with autistic kids, is the willingness to try some of these therapies to see what kind of clinical effect they can have. So I've been fortunate in my practice to work with parents who are willing to try things. Because these aren't dangerous things, but sometimes the only way to know whether somebody is going to respond to a therapy is to give it a go. And there's a lot to be said for doing a clinical trial of using a remedy to see what kind of effect you get because there's just unfortunately not a lab test that is available for all of these different factors.

Trudy Scott: Now you do use a urine test to measure oxytocin though, correct don't you?

Dr. Kurt Woeller: Yeah. There is a test for that. You can actually do a urine analysis to look for oxytocin production. I haven't done that particular test

much in some of the special needs kids, only because people are having to collect a lot of urine in a child and it's difficult to do, more practical for an adult. And so that can certainly show if people are underproducing or if they just have a low amount circulating that therefore they may be somebody who responds to it. But I've also had people where I've just prescribed it in various forms to see what kind of clinical effect they'll get. Whether they've got anxiety or generalized anxiety, social anxiety, et cetera. So I don't necessarily always run a test every single time I want to use something like the oxytocin. When it comes to the cholesterol, yeah I do want to have a test because I want to have a better gauge of how much Sonic do I need to use. Is it six capsules, eight capsules, four capsules? In that particular case it's worthwhile.

Trudy Scott: Excellent. Thanks for that clarification. So we talked about Pitocin and you mention the possible oxytocin receptor issue and talked about the oxytocin gene. Any other reason why oxytocin could be lower in some people? Or did we get them all?

Dr. Kurt Woeller: I'm wondering why I have not been able to really prove this out specifically. It may be low because of a link with regards to serotonin too. There is a relationship there. I'd have to look into that more. I mean that's a possibility. So I think there's an overlap in some of these systems that haven't fully been revealed at this point.

Trudy Scott: Got it. So I think zinc could be factor. And then we talked about the adrenals as well so it's probably a combination of things.

Dr. Kurt Woeller: Yeah. I think it's definitely a combination.

Trudy Scott: Excellent. This is so fascinating. I just love this topic. And I'd love you to just share an example of a child that you worked with and then what you actually used in terms of increasing oxytocin. You said you do trials with oxytocin so are you using the nasal oxytocin and what sort of result have you seen?

Dr. Kurt Woeller: Very positive. I'll give you an example where the oxytocin worked very well in just improving things. It was a young boy, he was about eight years old and kind of the typical anxiety, lack of real social engagement, he would be around other kids, it wasn't completely antisocial, but just couldn't make those connections. So we started with him - what we did was we actually implemented the nasal spray of oxytocin. And what I found was that it tended to boost his confidence. So he became more willing to move closer to kids who were playing, either in the classroom or

on the school grounds. It didn't really help his language. He had some language difficulties. But just tried to engage himself a little bit more. Also parents noticed that he had better sustained eye contact. The therapist he was working with also noticed that as well. But the effects would tend to wear off pretty quickly. He had also a lot of anxiety, particularly going to crowded places. So if the parents had to go to the shopping center or the mall or the classic thing is going to a birthday party or a family event he would tend to retreat or would get very anxious before going into a crowded place. And a lot of these kids tend to have sensory sound sensitivity problems. So what we did with the oxytocin nasal spray is I had him dose it a couple times a day and then give an extra dose before they would go into a situation that used to cause anxiety. And it definitely helped to lessen his stress. It wasn't 100 percent but it definitely if he was a ten out of ten it dropped it to about a four out of ten so to speak. But the effects would tend to wear off pretty quickly. It only last maybe a couple hours and then they would start to kind of notice that his social engagement or maybe the anxiety stress response. So I told him, I said look he gets a good hit on the nasal spray but how about we incorporate a sublingual? The sublingual will tend to have a slower absorption and we would hopefully look for a more sustain effect over time. And so that's what we did. We incorporated a sublingual oxytocin and it brought him to a new level of function. So he was just less anxious overall. He was more social overall. And then the parents would use the nasal spray as needed in certain situations where they would go out, again, go to the mall or go into a restaurant to just kind of help to take the edge off so to speak. And that worked very, very well for him. He also had a lot of decreased self stimulatory behavior. And anybody who knows these autistic kids, one of the things about self stimulatory behavior is that some of it can be driven by anxiety. So that was very much controlled.

I had another child a little bit older and this was a young girl where we tried to initiate the nasal spray and it really worked incredibly well. The thing that was interesting in that is it actually worked too well. And this child actually had language so they could talk, pretty high functioning. She became almost too social. In fact, there have been some cases where there has actually, because one of the things is know is that oxytocin can increase the desire for sexual relation. So in this child it wasn't that she was coming sexual, but she had over exuberance in her social engagement in the way that she would describe things were in her home or the parent told me a story where she was describing a cookie that she was eating and it was like my God this is the best cookie I've ever had. This is so good it was way over the top for what she normally

was. So they had to dial it back. What was tough in her situation was that one spray was sort of like it worked a little bit, and two sprays kind of sent her over and so it was hard to come up with how do you one and a half sprays so to speak of a nasal spray? It was kind of difficult from a dosing standpoint. So we incorporated the sublingual with her and that actually balanced things out. So we didn't get this real rapid fluctuation. And I think in her particular circumstance, because the nasal spray goes up through the plate in the top of the nose and it gets absorbed into the central nervous system it was having a real immediate effect and it was just too much for her, it was like the volume got turned up too quickly. So those were a couple of scenarios with regards to the oxytocin. I find that the sublinguals there is a nice, at least in these kids, a nice balancing and then you kind of use the nasal spray as needed. The older somebody is the nasal spray is a little bit more easier to do. So adults they can easily do a nasal spray. In little kids it's not really easy to do a nasal spray with them so the sublingual is a good fill in for that.

Trudy Scott:

Great. Thanks for sharing. And that's really good to hear both effects - the benefits with the young boy you described first and the fact that you needed both and then what to watch out for if you're getting too much. And what great results - that's just really wonderful to hear. Now are these compounded formulations?

Dr. Kurt Woeller:

Yeah they are. So most of the compounding pharmacies in the country can provide oxytocin in different varieties. You can get it as, like I mentioned, a sublingual tablet. And usually the doses are five units to ten units. Some of the pharmacies have a higher unit dosage like a 50 units. The nasal sprays vary anywhere between ten units per ML to 40 units per ML. So, again, you kind of have to work with people to figure out the optimal dose. You can do a tablet. I've not really used to that too much. Most of the kids I work with they can't swallow the tablets and honestly with adults it's just easier to do the nasal spray or the sublingual. You get a quicker effect. You can do it as a cream as well. I've not used to that too much. I talked to a doctor at a conference and he was having some good success with an oxytocin compounded cream, particularly for some of the kids who couldn't do the nasal spray. And I actually talked to another practitioner who was using an oxytocin compounded cream in some women who had vaginal atrophy and dryness but couldn't take estrogen because of some kind of estrogen dominant condition that they had. So I thought that was an interesting use. I've not used it in that capacity that oxytocin could actually be used to help lubricate the vaginal area in women who are having that kind of problem.

Trudy Scott: Interesting. Very interesting. Thank you for sharing all of that. Now I've got one follow on question with relation to using oxytocin spray or the sublingual, I've blogged about this a number of times and people have popped on the blog and commented and asked questions. And a number of people have just gone online and bought some of these over the counter so to speak from various different websites. Is that a dangerous thing to do? Should someone be working with a practitioner when they're doing this? You'd mentioned earlier that these are pretty safe interventions, but I'm assuming it would be good to be working with a practitioner before doing something like this?

Dr. Kurt Woeller: I'm not sure that they're actually getting oxytocin. They might be getting homeopathic oxytocin. You can find that. There are a number of websites that provide a homeopathic version of oxytocin. I don't know what the potency is and so if you know homeopathy it's a very, very low potency form of a specific supplements or medication or hormone. So I've had a few kids do fairly well with a homeopathic variety, unless I'm missing something I don't believe that they can get their hand on actually oxytocin as what would be prescribed from a physician.

Trudy Scott: Okay. Good to know. This has been so fantastic Dr. Woeller. I could just go on and on and on. This is really, really fascinating. I love this topic and I love your expertise and I really appreciate you sharing this. And I know we didn't mention earlier that you to have this professional training, I'd love you to just tell us a little bit about some of the professional training you do. I know you've got a digestion G.I. course coming up and then you're going to be doing an Adrenal Mastery Course later in the year. Tell us a little bit about some of the training that you offer.

Dr. Kurt Woeller: Sure. Integrative Medicine academy we launched it the summer of last year 2015 and what it is is it's a website with access to online courses for health practitioners. We first actually started with an Autism Mastery Course that was designed for healthcare practitioners and ran that last summer and then launched into what was called a G.I. Mastery, which was a nine module course on gastrointestinal problems. Right now we're currently in the middle of an Adrenal Mastery Course that, again, it's a nine module course that is going through all aspects of adrenal fatigue but also linking in this story about serotonin and cholesterol and some of the other types of integrative lab testing. We're going to be redoing the adrenal course coming up later in the year in the fall. And then over the summer we're going to be redoing the G.I. Mastery

Course, which was very in-depth. It goes through parasitic infections, clostridia on different types of clostridia bacteria, not only how it affects the gut but also the central nervous system, H. pylori, food sensitivities, et cetera. All of the courses for professionals once people take exams throughout they get a certification in that specific course. There is medical education credits available with the courses as well. All the courses are presented live so each module is presented live. And then the recording as well as scheduled question and answer sessions are all recorded and people can listen to it back later. A ton of support material from protocols to handouts to what we call brandable documents where a doctor can take a handout and use that for patient instruction. They can put their name or logo on it. A lot of data sheet information for internal use in the practice. The unique thing about these courses too is we have a forum that's attached. So it's not just the course material or the access to the documents but all throughout practitioners can go into the forum and post questions on a daily basis to us. And they also have the ability to upload lab testing. So if they have a lab, let's say the Adrenal Course we are doing right now, if they have an adrenal profile they want us to look at they can upload that into the website and we can take a look at it and give our feedback. So a lot of exciting information and it's actually a lot of really in depth and very practical and easy to implement information for practitioners.

Trudy Scott: Love it. And thank you for sharing it. And I love that you are sharing this and I love that you are educating more practitioners in these areas because I think it's so important. There's such a need and the more people who know this the better things are going to be and the more we can help people so I think it's really wonderful. And as anyone can tell from today's interview you are great at sharing information and explaining things. It's been a pleasure interviewing you. It really has.

Dr. Kurt Woeller: Well, I appreciate that Trudy very much.

Trudy Scott: And so what I'll do is I'll make sure that we share links to these course works and in case people are interested I'll also share a link to the IMMh conference that's coming up in September. And we will have a digital gift that pertains to something that Dr. Weller has talked about and we'll make sure that we've got a link to that on the speaker blog and we'll have some links to some of the research that we've talked about today as well. Any final words or anything that we didn't cover that you feel would be valuable for all us to know about Dr. Woeller?

Dr. Kurt Woeller: No. I think what people can do is they can take a look at the information from our websites the Integrated Medicine Academy certainly. Also there is other information they can access through webinars that I've done. Those are hosted through Greatplainslaboratory.com. So just go to Greatplainslaboratory.com and that's a free service that comes out from them every month. And I do a monthly webinar. And I've done some webinars in the past talking just exactly what we've been talking about here, so oxytocin issues and cholesterol issues. So a lot of information out there and certainly if I can help you with anything Trudy or articles or other talks that I've done or if you ever want to have me back for an interview just let me know.

Trudy Scott: I definitely will. This has been great. Maybe we can go deeper into some of these things we've talked about today. It's been fantastic. So any final words of wisdom before we end?

Dr. Kurt Woeller: The most important thing I think for people is just to be keep educating yourself and becoming empowered by information. The pursuit of health is just that it's a pursuit; you have to keep at it and keep up with the healthy lifestyle factors and all that, seeking out people who have the information you want and be willing to try different types of inventions to try to overcome some of these challenges. So there's always help out there and people willing to help out so just keep searching.

Trudy Scott: Wonderful. Brilliant final words of wisdom. Thanks very much Dr. Woeller it's been an absolute pleasure. And everyone thanks so much for joining us for another wonderful interview on The Anxiety Summit Season 4. This is Trudy Scott signing off. Thanks Dr. Woeller.

Dr. Kurt Woeller: Thank you.

Speaker Blog: <http://www.everywomanover29.com/blog/anxiety-low-cholesterols-oxytocin>

Dr. Kurt Woeller, DO, integrative medicine physician



Kurt N. Woeller, D.O., has been an integrative medicine physician and biomedical autism specialist for over 18+ years. He is an author of several health books including “*Autism – The Road To Recovery*”, “*Methyl-B12 Therapy For Autism*”, “*Methyl-B12 for Alzheimer’s Disease and Dementia*” and “*5 Things You MUST Do Right Now To Help With Your Rheumatoid Arthritis*.” He is a lecturer (throughout the United States and international including Canada, China, England, Mexico and Poland), educator and experienced clinician offering specialized treatment and testing for individuals with complex medical conditions such as Autism-Spectrum Disorders, Chronic Fatigue Syndrome, Mental Health Disorders, Multiple Sclerosis and other chronic health conditions. His health consulting practice for autism alone is multinational with families from various countries.

Dr. Woeller is on the Scientific Advisory Panel for the Integrative Medicine for Mental Health (IMMH) and serves as a clinical advisor for both BioHealth Laboratory and Great Plains Laboratory providing patient and physician education through training programs and monthly webinars. He is also Medical Director of Integrative Medicine Academy, an online training course website for health practitioners.

Trudy Scott, CN, host of The Anxiety Summit, Food Mood expert and author of *The Antianxiety Food Solution*



Food Mood Expert Trudy Scott is a certified nutritionist on a mission to educate and empower anxious individuals worldwide about natural solutions for anxiety, stress and emotional eating. Trudy serves as a catalyst in bringing about life enhancing transformations that start with the healing powers of eating real whole food, using individually targeted supplementation and making simple lifestyle changes. She works

primarily with women but the information she offers works equally well for men and children.

Trudy also presents nationally to nutrition and mental health professionals on food and mood, sharing all the recent research and how-to steps so they too can educate and empower their clients and patients.

Trudy is past president of the National Association of Nutrition Professionals. She was recipient of the 2012 Impact Award and currently serves as a Special Advisor to the Board of Directors. Trudy is a member of Alliance for Addiction Solutions and Anxiety and Depression Association of America. She was a nominee for the 2015 Scattergood Innovation Award and is a faculty advisor at Hawthorn University.

Trudy is the author of *The Antianxiety Food Solution: How the Foods You Eat Can Help You Calm Your Anxious Mind, Improve Your Mood and End Cravings* (New Harbinger 2011). She is also the host of the wildly popular *Anxiety Summit*, a virtual event where she interviews experts on nutritional solutions for anxiety.

Trudy is passionate about sharing the powerful food mood connection because she experienced the results first-hand, finding complete resolution of her anxiety and panic attacks.

The information provided in The Anxiety Summit via the interviews, the blog posts, the website, the audio files and transcripts, the comments and all other means is for informational and educational purposes only and is not intended as a substitute for advice from your physician or other health care professional. You should consult with a healthcare professional before starting any diet, exercise, or supplementation program, before taking or stopping any medication, or if you have or suspect you may have a health problem.