Dr. Ron Ehrlich: Hello, and welcome to Unstress. This is Dr. Ron Ehrlich. My guest today is Leah Hechtman. Leah has written one of the seminal textbooks on naturopathy. She has over 20 years of clinical experience. And like so many practitioners just keep learning, as you will hear.

So I thought she'd be well placed to share some insights. She also will also discuss the interplay of the immune system in the microbiome across our lifecycle. It's sobering to think that there are about 50 trillion cells in the human body, give or take. Difficult to get your head around, I know, but if you look at the person sitting next to you, or for that matter just look in the mirror, that's pretty much what those trillions of cells look like. But that's not all we are.

What's even more amazing is that there is 10 times that number of microbes we share our bodies with. Some 500 trillion microbes. Again, what does that look like? Well again, just look in the mirror.

So in terms of relationships in your life, I doubt whether you could argue there is a more important one than that. You hear lots of terms in podcasts and articles on health, so today, we give some definitions. The immune system, microbiome, autoimmune diseases, probiotics, prebiotics. Look there are some great insights in this episode. I hope you'll enjoy this conversation I had with Leah Hechtman.

Welcome to the show, Leah.

Leah Hechtman: Thank you so much, Ron.

Dr. Ron Ehrlich: Leah, we are both talking in an upcoming conference and you're presenting about the interplay of the immune system in the microbiome, across the lifestyle. And we're going to talk about that. But you've been in practice now for 20 years, and you've actually written a textbook on naturopathy. So I wonder if you could share with our listener, your journey to this point.

Leah Hechtman: Absolutely. Thanks, Ron.

I have always been connected to health. I was one of those kids, you know two, three years of age, and I'd put my hands on people to take their headaches away. And you know, I was always the person that was the nurse that ran around trying to help everyone. So I always knew that I wanted to be in some form of health, and as a young kid, my understanding is that meant that I wanted to study medicine. And I then was sick as a child, and then quite sick as an early teen. And had difficulty completing school, 'cause of my health, and went well...I know that complementary medicine helped me, so why don't I start my training complementary medicine. So at 17, I started my first subject of naturopathy. And so I took probably one to two years longer, to complete my naturopathy training, 'cause I couldn't do it full-time. But as I was training, I just got healthier and healthier. And thought, "Well I'll just go back and study medicine afterward." And then got sick again, in my training where I was

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unable to be as active, and then got well again. And then went full force with my naturopathy. And then did a Bachelor of Health Science, my Masters in Reproductive Medicine and Genetics, because my main critical passion is about fertility and reproductive medicine. And then I am completing my Ph.D. at the moment.

Medicine's still a passion, but in amongst all that I've had kids, and the idea of full-time training has been a bit tricky. But, you know, I'm sort of at that place now in life where it's, I'll consider when my kids are both at school, whether or not I'll go back and train in medicine. But I'm certainly very satisfied and feel like I can make an enormous difference in the training that I've got. So it really just comes down to choice now.

Dr. Ron Ehrlich: Wow. So you know, Ph.D. Go on tell us that you told me this last time we spoke, and we're not going to go into it, but share with us the topic.

Leah Hechtman: Well, the simplest way to describe it, 'cause always in Ph.D. you give the title and everyone's face kind of goes blank, 'cause it's so specialized. But basically, it's looking at women with some reproductive disorders and their fertility. And trying to understand and track how we can assess their fertility. So we're looking at things called ovarian biomarkers. And there's a number of new ones that are coming about. So we're looking specifically at women that have polycystic ovaries, as well as early menopause.

Dr. Ron Ehrlich: Yeah, and at that subject, the subject to reproductive health and pregnancy, in fact, is such an interesting one, 'cause it really is what lays the foundation. It gives us a sort of a snapshot of where we are health-wise as a community. And it also gives us a snapshot of where kids are heading. So it's a really, it's actually interesting and important to everybody, not just people who are interested in having kids.

Leah Hechtman: Absolutely. And I think, you know, we in an interesting time in life because we've got three generations of women trying to have babies at the same time, and we're 20-year-olds, 30-year-olds, and 40-year-olds. And as well, there are some women like in their 40s, early 50s that can use donor embryos and things as well. But it's a very amazing time, and I think that the information that we're connecting to any understanding of the importance of what we can do for our kids before we conceive them is so powerful. It's pretty profound what I see in practice, and certainly what I see in research as well.

Dr. Ron Ehrlich: Because there are some pretty significant problems going on out there, aren't there.

Leah Hechtman: Unfortunately. Unfortunately there are, and I think you know the conference that we're both speaking at, the Mindd conference, really is such a valuable resource for parents, as well as for clinicians, because it gives them the opportunity to connect to the latest research, and all the critical experience, to understand what they can do. I mean, the incidents of all the neurological disorders and the spectrum disorders, it's frightening. It's really frightening.

Dr. Ron Ehrlich: Yeah, yeah. Now, at that conference, you're talking about the interplay between the immune system and microbiome across the lifestyle. Now we kind of

assume people are familiar with all of these terms, immune system, microbiome. But I actually think it's quite helpful to go back to basics. And I wonder if we could just spend a little bit of time defining the immune system for our listener.

Leah Hechtman: Absolutely. Look the immune system, the simplest way to describe it is it's the part of the body that is the interface between the inner and the outer world. And helps our bodies defend itself against anything externally, that may come to us internally. And it's our defence mechanism. You know, how we can survive when essentially our body is covered with bacteria or different microbes so. And as well the environment around us it's just, there are bugs everywhere. And it's how our body defends itself against those things.

Dr. Ron Ehrlich: Yeah. And then, of course, the microbiome as well. And that's term people are just hearing all the time. Give us a bit of basic, what does it mean?

Leah Hechtman: The microbiome is basically, it's like the bugs that are in our body, the good bugs within any system in our body, we have them present. And the balance of the bugs. You know the more we research it, the more we're understanding that we don't know a lot yet. We know that probably five, ten percent of what we will discover over the next ten years, as science improves. But what we understand is that we have a balance in our body, of good bugs and bad bugs, and when that balance gets disrupted, then our immune system can't protect itself as efficiently as it can, and our various organs are more prone to having the immune system weakened in that area.

Dr. Ron Ehrlich: Yeah, and I mean I know that I was surprised to learn that there are 10 times more microbes in and on our body than there are human cells. So we've got 50 trillion, say, give or take, cells in the human body. And that means we've got 500 trillion microbes. So one could argue we are just a vehicle for microbes.

Leah Hechtman: I know. It's pretty scary when you look at it like that.

Dr. Ron Ehrlich: It is. It is. But then ... By the way, how do we know when we've got a healthy microbiome?

Leah Hechtman: A healthy microbiome I think is when our systems and our body are working well. Like if you focus on the digestive system, it's having normal bowel movements, normal bowel habits, not having any disruptions or associated symptoms. And just everything functions well. And you know, when your gut functions well, your mood functions well, your concentration is optimal, your sleep is really good. And then the ripple effect is that everything works properly.

Dr. Ron Ehrlich: And the corollary of that is that if any of those are out of balance, then hey, maybe your microbiome is too.

Leah Hechtman: Absolutely.

Dr. Ron Ehrlich: Now another term that I think ... I just want to get a few term terminology. This is the intro part of our talk, but another term that I think people hear a lot

about is autoimmune disease. And although we're not going to specifically go into it, I think this is probably a good opportunity for maybe you could just explain what that term means.

Leah Hechtman: An autoimmune condition is really where the immune system starts to attack itself. And so, you can have an autoimmune condition on any single cell on your body, in any system of your body. And so, if you, for example, look at an autoimmune digestive disorder, you know the immune system is attacking the repair of the digestive system or attacking the cells in the digestive system. And you know, all the new research is seeing that those autoimmune conditions, they're exacerbated by an unhealthy microbiome as well. And the microbiome is what protects us, and regulates and stabilizes that immune reactivity.

Dr. Ron Ehrlich: Yeah, it's kind of the way that ... I mean, we could give some examples. 'Cause it's the way your genetic predisposition really might determine how that manifests itself. Would that be fair common?

Leah Hechtman: Absolutely. Absolutely. It's a good point that you bring up. I mean, autoimmune conditions, there is the belief that they are genetically passed over. And then there is that concept of epigenetics. So whether or not that gene is switched on, will determine whether or not that genetic predisposition is activated. So you know, you could have a genetic disposition, your parents might have Crohn's or ulcerative colitis, for example. Two inflammatory bowel disorders. And then if you eat a rubbish diet and have an unhealthy microbiome, that switches that gene on and can set that autoimmune condition off in your body.

Dr. Ron Ehrlich: Yeah, because it's interesting. I mean this sort of reductionist typical, you know, I go and see my doctor, and I've rheumatoid arthritis. And you'll get an anti-inflammatory, and I've got a skin condition, so you might get a corticosteroid cream. You know, psoriasis. And they're both autoimmune conditions. But in a sort of traditional approach, they are treated as separate entities which require separate medications. But in fact, there's a common theme there. It's just manifesting itself genetically, isn't it really.

Leah Hechtman: Absolutely. Unfortunately, I see that regularly practiced. And I've got one patient that speaks to mind. And it started with ulcerative colitis, and then slowly all these other autoimmune conditions developed. And this a young woman, like 37 years of age. And she's got five autoimmune conditions.

There has to be some connection there. And often that connection does definitively correlate with the microbiome. You know, what has made the immune system so aggressive against itself. And healthy diet and healthy style cannot be underestimated here.

Dr. Ron Ehrlich: Okay, so let's talk about the lifecycle. 'Cause when does our relationship with the microbiome start?

Leah Hechtman: Even before your parents, or the sperm and the egg actually meet. So we all think that it's just in the babies, in the mum's tummy growing in the pregnancy. But

even before they actually conceive, their health has a direct impact as to the subsequent health of the child. Pretty fascinating research coming out at the moment.

Dr. Ron Ehrlich: Yeah, I think last time we spoke, you were mentioning to me that the sperm is affected by the father's microbiome.

Leah Hechtman: Yeah. There's some new research coming out at the moment, looking at the semen itself. So the sperm is swimming in the semen, and that's its travel mechanism essentially. And there's some research coming out that shows that the mum's immune system, and her reactivity to accepting the sperm, and accepting the ability to actually have conception, is directly related to the quality of the semen, because there are various immune regulating chemicals, so to speak, within that semen that normalizes both vaginal health and the vaginal ecology, as well as improve the transport of the sperm.

So you know the quality of the semen that is transporting it determines how the mother accepts it, essentially. So and then we're comparing it to IVF pregnancies where obviously they're taking the sperm out with most semen and finding that the women were having marked immune activity against it. And so they're missed in subsequent treatments, where they're trying to normalize the immune response, and the women taking some of the platelets from the father and then injecting it into the mother. And all this sort of immune modulating treatments, and things. It's quite alarming and fascinating, and exciting all at once.

Dr. Ron Ehrlich: Is there a microbiome within the semen?

Leah Hechtman: There is an ecology in there, yes.

Dr. Ron Ehrlich: Wow, and one can only well, the vagina obviously, must have its own microbiome and so that has got to play a pretty major role as to how things proceed.

Leah Hechtman: Yeah. I mean, even just the fundamental of the conception window. We know that the woman's vagina ecology is naturally very acidic. And we know that sperm hate acidic environments. So we know that the female body changes to become more alkaline, by producing fertile cervical fluid and things like that, to make the environment more hospitable to sperm. And similarly, we have an increase in pheromones in the woman and stuff it changes the semen pH for the male to actually make the two of them meet.

So we know that there are all these changes in pH, which is directly governed by all that microbiome aspect. And that's the harmonization of the two of them.

Dr. Ron Ehrlich: Wow, and so okay. Sperm, ovum, connection, where do we go from there? I mean I know where we go, but microbiome stuff, yeah.

Leah Hechtman: Well obviously we've got the fertilization, and then we've got the transport towards through the tubes, towards implantation. And the microbiome within the uterus and within that whole reproductive cavity determines the pH and determines ... You know has a direct influence on the immune receptivity of enabling implantation.

So whether or not that embryo can implant into the uterus embed itself and kind of glue itself there, you know the quality of the microbiome there influences that success. And then similarly, as that embryo grows, and embeds into the uterus and starts to develop and continue its growth as it progresses, it develops obviously into a fetus. The microbiome has a direct influence on that.

You know there's a lot of correlation with immune reactivity and miscarriage. Or immune reactivity and influence on the mother and then her health, and then the quality of the embryo. It's a phenomenal intricate balance, and the microbiome seems to be such a foundational component of enabling that to happen successfully.

Dr. Ron Ehrlich: So here we are with the embryo, and we've got the gestational sac, which we've always thought was sterile but is that still the case? I mean, what do we think? What's the latest on that?

Leah Hechtman: Well all the latest research we used to think that the mother and the baby were separate by the placenta, basically. You know, of course, don't go drinking two bottles of wine when you're pregnant. But we didn't understand that actually phenomenal research coming out showing the cross transfer of probiotic species through the placenta. So we know that, if there's a strong family history of skin disorders, eczema, something like that, the types of probiotics that the mother takes or has in her system that passes through the placenta, can influence the incidence of that, in the child.

So if she takes a probiotic in pregnancy with a strong family history of eczema, then she reduces the chance of eczema in her child. That sort of information to me is astounding in so many ways. And it tells us that all of that microbiota and just all of that amazing ecology, that transfer does a lot more than I think that we realise.

And I think that as science continues to unravel, we'll realize that perhaps part of how diseases manifest in utero, is related to that ecology.

Dr. Ron Ehrlich: 'Cause yeah, that's just ... It's fascinating. 'Cause we've got what's going on in the sac. We've got what's going on around the sac. And the mother's microbiome interrelating with the child already at that point, determining so many things. I mean, you're doing your Ph.D. on these biomarkers of health. So mind-boggling. Mind-boggling. I feel like I'm on *The Fantastic Voyage*. Do you remember that program? Well, that film was probably way before your time.

But anyway. We won't go into*The Fantastic Voyage*; we're on it right now. So we kind of, okay, well the baby's, the embryo's developing and then of course then it's time to give birth and there's a whole story there, isn't there? Because vaginal and increasingly cesarean. Talk us through what the pluses and minuses and challenges of that are.

Leah Hechtman: Look, in an optimal scenario, and I'll put a little caveat here that not only do I want to support women's birth choices, but I think that there are circumstances that a woman needs a cesarean. So there's no part of me that wants to make any woman feel bad here. But the ideal and optimal scenario is to have a vaginal delivery. And the reasons

behind that are multifold. However, what we do know is that as the baby passes through the birth canal, not only is all of its skin covered in all of the microbiomes from her vagina, we also know that it swallows it, and so it's born with a sterile digestive system. But the swallowing of all those secretions helps to set up the initial fingerprint or blueprint for their ecology for the rest of their life as well.

There was an amazing professor that did a study looking at a number of different women that birthed. And he assessed the probiotic species of the digestive systems of all of those babies by testing the stool, and he found that what was present in the room that the children birthed in, influenced the types of species that they had.

So someone had a plant in the room, so they had plantarum species of probiotics. Someone had a dog in the room. Like they had all sorts of different things in the room, and so not only is it the secretions, but it's also recognizing that as that baby comes out of the vagina, their skin is incredibly permeable for good reason, and they absorb everything around them.

It's phenomenally interesting. And that's also a reason why it's really helpful to leave that beautiful vernix that the babies come out of the canal in, and to leave it on them for a good five days and not wash them. Because they're absorbing that and that influences the start of all those good colonies as well.

Dr. Ron Ehrlich: Wow, now I haven't heard that before. That is fascinating.

Leah Hechtman: Yeah, it's amazing. I mean, there's that habit of we need to make them sterile, you know. If not then they're dirty. Well, they're not dirty. I mean obviously, wipe off things that might be inappropriate, like if there's blood or something. But that wonderful sticky sort of thick coating that's all over their body, that's really, really important. They absorb it through their skin. It's extremely permeable, their skin. And it sets off that ecology. Just I think really fascinating.

And I mean, if a woman has a cesarean delivery, it's not as ideal for many different reasons. You know, simple things like they don't get the massage as they're going through the vaginal canal, that helps to clean out their lungs. Or you know, they obviously don't get to swallow all those secretions, but you know, there's a lot of research coming out looking at the process of seeding. Where the woman puts a gauze into her vagina and then can put that around the baby's mouth and nose, and everything, once they've been delivered. And there are certainly a lot of midwives especially, but a lot of obstetricians that are pro that practice because they know that then that exposes the baby to things that they would have received from that vaginal delivery.

Dr. Ron Ehrlich: And that would seem to make very good sense to me.

Leah Hechtman: I think it does. I really think it does. I mean, there was a paper that came out in Nature, not too long ago, that showed that after six weeks, that babies born vaginally and babies born by a cesarean had an almost equal ecology. But there's not a lot of research in that area, so I still think at this point that if a woman does have a cesarean, I personally recommend that they do the seeding process. And that they also encourage

specific Bifidobacterium strains, like it's an infancy strain to give to their baby for the first six weeks of life, to give them that extra boost they would have missed out from a vaginal delivery.

Dr. Ron Ehrlich: So I mean, really, the vernix, this has got me fascinated. That you don't wash for the first five days. And 'cause really, when you think about it, throughout human history, we've become a little bit preoccupied. Well, a little bit is an understatement. But preoccupied with got to be clean, got to be good, right as soon they're born, my God, they've just come out of this ... What have they just come out of? It's not so dirty. You know, like ... You know, we kind of have this bazaar preoccupation.

Listen I know we're going to get on ... We're moving on. And now, I've got to ask you, okay. Breast, I'm getting ahead of myself here. So we've talked about that. Breastfeeding. And that is another opportunity, isn't it?

Leah Hechtman: Look breastfeeding is, you know, it's designed for that very purpose. I mean the colostrum that comes from it the first few days after the baby's been born, it's likened to liquid gold. There's nothing quite like colostrum from your mother, to set your immune system on the best footing. And once the milk actually comes in, yes breast is best. And there is, unfortunately, some women that have difficulty with it. It's a skill. You know the first child, everyone has to learn how to breastfeed. It is something that comes innately, but it's a skill, and some women struggle.

The only women that I've ever seen that can't really fully breastfeed are women that tend to have a deficiency in breast tissue development for certain reasons. But otherwise, I think that every woman can. But ultimately, of course, it's her choice. And if she chooses not to, that's absolutely up to her. Again, no judgment. But you can never re-create breast milk. There is no way that any company, Nestle with all their wisdom and science, they would never be able to replicate breast milk.

There are things in breast milk that we don't even understand how it's in there. I mean, the way that a woman can have let down, which is the process when she knows that her breast has filled with milk. And she can have a let-down when she's in another state. When her child is crying at home and needs to be fed. There are things that go on between the mother and baby that we do not understand. You know, the constituents within the milk, the ability for it to change its constituents depending on if a child is about to have a bug, to give it extra microbiomes or extra ecology to assist in its defence against that bug. Or to give it extra fat before it has a growth spurt. Or just that gentle trituration and adjustment of exactly what that child needs. There is no way that science can replicate it.

And it's phenomenal how it nourishes the child. You know, like I thankfully was able to and breastfed both of my boys. And to this day, I look at how their health has been so dramatically improved. And they're just robust kids.

Dr. Ron Ehrlich: Gee, I've got a chill down my spine when you said they could be in different states, and the child needs feeding, and the mother. This is quantum physics.

Leah Hechtman: Absolutely. Absolutely. I mean I was listening to quantum physics last night, so we won't go there. But it's just phenomenal. And you just know when your child needs you. And that, you know science has this thing called microchimerism where they've identified that you can have the chromosomes of your children left in your body. Particularly when you have boys, it's easier because you have a Y chromosome in a female.

And so we know that parts of our kids are left in our body. And that interface and that link between the mother and child and that bond is just, it's phenomenal. It's absolutely phenomenal. And-

Dr. Ron Ehrlich: Give me that word again. Microchimo-

Leah Hechtman: Chimerism. Chimerism.

Dr. Ron Ehrlich: Chimerism. Okay.

Leah Hechtman: C-H-I-M-E-R-I-S-M.

Dr. Ron Ehrlich: Oh God, got to look at that one.

Leah Hechtman: Yeah, microchimerism. And so they did all that research just a tiny caveat where they're identifying from previous male sexual partners. The evidence of Y chromosome, and then they extended it to see our children and everything.

So with girls, it's trickier, because everything is X chromosome. But boy, Y's a bit easier.

Dr. Ron Ehrlich: Yeah. Now you mentioned also probiotics. And again, I think this a term that people hear pro and prebiotics. Can we just go to a short definition for our listener so that we kind of are familiar with those two terms? 'Cause we're going to be talking a little bit about them, I'm sure.

Leah Hechtman: Yeah, of course. So a probiotic is something that promotes the growth of the good bacteria in the gut, the good species. And the prebiotic, well it promotes the growth of it as well, but it's the initial precursor of it. So the probiotic gives you the actual strain that you can take to increase the ecology of your system. And the pre-promotes the growth of the naturally occurring one. So anything that is present, it is just in its subsequent growth.

Dr. Ron Ehrlich: So a probiotic would actually be a species of bacteria. And a pre might be something like sauerkraut, or fiber or something to feed the bacteria.

Leah Hechtman: Much better definition of that. Yes.

Dr. Ron Ehrlich: Now, well just a collaborative definition there, Leah.

Leah Hechtman: Thank you.

Dr. Ron Ehrlich: Okay, what challenges our microbiome? What are some of the challenges as we, now were born with, whether with a cesarean, and vaginal, or breastfed or not? But then we move on, you know. What challenges it?

Leah Hechtman: Everything in our environment.

Dr. Ron Ehrlich: Okay. And now well ... Okay, the obvious one is antibiotics. And I mean .. And you know, like I had a patient ... And no, we interviewed somebody the other day who told me the story of this two-year-old patient she had, who had already had 10 courses of antibiotics and was on, get this, a protein pump inhibitor. At two, oh my God, I thought. Oh, my God.

But for those of us, and we've all been, everybody listening to this has been on at least one course of antibiotics, what do you recommend when somebody takes an antibiotic. How do we restore the ... 'Cause it affects the gut. How do we restore the gut? How do we use pro and prebiotics to do that?

Leah Hechtman: Okay, so antibiotics a medical necessity in certain situations, absolutely. But I think that they are overused. However, if you take an antibiotic, it's really important to take the probiotics to replenish what has been damaged. And to use the food sources of prebiotics to try to feed the good bacteria. And there's lots of research at the moment showing that the prebiotics have more long-lasting effect, in a sense that they repair the natural normal balance within the digestive system, or outer systems, more so than just adding a probiotic strain that may or may not actually be able to hang around for very long.

So you know, prebiotic foods, like you've mentioned, sauerkraut. Any of the fermented foods. You look at any traditional diet, they all have prebiotic foods that they ate regularly. It's the western diet that's forgotten the way. So you know, all the fermented foods are cultured to be able to culture bacteria from the air, and the actual substance that's being cultured, and feeding that helps to feed all of the good cultures in the digestive system.

And similarly, you can use all of the fiber-based products. You know, things like inulin and guar gum, and all of the psyllium husks and slippery elm, and all that sort of stuff, to assist in the growth as well.

And in the probiotic aspect, you can use it both as probiotics that are naturally occurring in food, be it, like yoghurts and cultured foods. Or be it from probiotic strains and supplements.

Dr. Ron Ehrlich: And what kind of a regime, like if I was just ... Let me give you an example, I needed to take Amoxil. You know, 500 milligrams, three times a day. Yes, I love the idea of the prebiotics because that makes so much more sense, and you should be on them all the time anyway. You probably wouldn't have gotten sick in the first place if you'd been on them but that is an alert to tell you to do it.

If I was taking probiotics with antibiotics, would I take them at the same time? Would I time it differently? How long would I have to keep going afterward? What do you say to patients who are on that?

Leah Hechtman: I think there are a few pieces here. So one is you can get some probiotics that are shown to be more antibiotic resistant than others. So some of the strains, ones that are better to take concurrently. But if someone took that type of Amoxil dose, I'd be getting them to take probiotics at the same time, but a couple of hours away from the antibiotic, just to give it the best chance. And then if it was myself or my patient, I'd be taking it for a good four to six weeks after, as well.

Dr. Ron Ehrlich: Yeah. Now if somebody does have a gut microbiome that they think, "Oh my God. I'm really ... This is dysbiosis." I think is the technical term. You know, and we're so used to quick fixes. Can you just share with our listener, how long it takes to rebuild a gut?

Leah Hechtman: Look it depends on the severity, you know. Like if someone has a gut that's a bit dysbiotic and it's been around for a couple of months since they had a tummy bug, that's one thing. But if they've been dysbiotic for five or ten years, it's probably going to take a lot longer. On average though, to repair the gut and to repair the flora, you're looking at a good intense treatment of two to three months as a minimum.

Most people will feel better within the first one to two weeks. But if you're really wanting to repair the gut, wait until all the linings been repaired, the liver's been regenerated, all that sort of stuff. Give it three months and that's your best bet.

Dr. Ron Ehrlich: So as we get older, now moving away from the child and the breast ... You know. We focused on that. And you mentioned also that now we're in this unique position where three generations of women and men are trying to have children. What are some of the challenges as we get older? I mean, is it just were exposed to a lot more crap for longer? And is that it? Or does the microbiome change as we get older?

Leah Hechtman: A bit of both. A bit of both. But I do think that the duration of exposure to, you know, for example, personal hygiene products. You know like if you look at a woman, and the amount of exposure that her vagina is exposed to, let's say. With sanitary products, and soaps, and creams, and synthetic underwear, and synthetic washing detergent, and all that sort of stuff. That does tend to affect things over time.

I think that we're all exposed to choices around toiletries that are disrupting all of the good bugs that are naturally on our skin. You know, we've got kids that don't really play in the dirt anymore. We've got kids that are using hand sterilizers every five seconds. And then adults that are continuing to do that. So everyone is very sterile, which means that all the naturally occurring bugs that should be present on their skin, are vanishing. And that's having an internal impact as well.

You know, our skin is our largest organ. We certainly absorb a lot through our skin. And that has an impact internally. So I just think that everyone is very sterile.

Dr. Ron Ehrlich: Actually raises an interesting issue. 'Cause you know, going back to the vernix, which clearly has got me fascinated. But to take that to another level, you know, we kind of get under the shower every day, and we scrub ourselves down. I mean, I

wonder whether we're doing ourselves a favour, apart from you know, the vital bits that make us socially acceptable. I wonder whether we should be scrubbing our arms, and our legs, and our torsos quite as vigorously. What do you think?

Leah Hechtman: I'm not sure anymore. I think it comes also to the quality of the water that they're showering in, you know. And then their skin absorbing all the chlorine from the water, and the soap that they're using with the phalates and then the perfumes, and all that. And they put the body cream on, which has more chemicals. And then the washing detergent on the clothes. Do you know what I mean? It's just this ripple effect. You know. I'm less against the showering every day if it's clean water, and natural products, than I am against all the synthetic stuff that they're putting on top. That I find has more harm in some ways, because you know, the phalates, which enable the smell and the perfume of that product to stick to your skin. What's that doing?

And that's actually taking a spot. Which should actually have a bacteria on it. Other bacteria's getting stupor. And they're overriding the phalates. It's just a question. I don't know. Or is it actually that this chemical and environmental pollutant is deranging what should naturally be there as a defence mechanism?

Dr. Ron Ehrlich: Yeah, so not to many mention the endocrine disruption the effect of those chemicals as well. Wow, what a ... Yes, it is. Well, it just highlights really how making informed decisions is the biggest thing you've got going for you.

Leah Hechtman: Absolutely.

Dr. Ron Ehrlich: Yeah. Now with that in mind, what if we ... Now our listeners kind of so motivated now. I mean we've got them really on-board here. What do you say ... What would be your two, three, four or many tips as you'd like, to get us going and say, "Yes, I want to get going." What are some of the major sort of principle tips, that you would give our listener?

Leah Hechtman: I think it's about being very conscious as you just mentioned, about everything that you're exposed to, and everything that you put into your body, for anyone at any stage in their life. So you know, Mark Hyman has that thing where he always says, "The most important thing that you can do, the most important decision is what you put on the end of your fork."

You know, so think about what you're putting in and around your body because that is going to be the most empowering thing that you can do. And if we go back to basics and remove all this extra stuff, and all these extra chemicals, we can make an enormous difference. Yes, I'm pro natural vaginal delivery. Yes, I'm pro preconception. I'm pro, you know probiotic support and prebiotics in cultures in food. And all that sort of stuff. But I think that if a person eats really well and doesn't put all those chemicals in their lifestyle, their body has a much better chance of actually being able to do what it's designed to do.

Dr. Ron Ehrlich: That's a big one isn't it. Okay. Go on, give us another one.

Leah Hechtman: Another one. I am a big advocate of women listening to their bodies. And I think that most women if they listen to their bodies in the context of conception, pregnancy, you know all of those aspects, they naturally make choices that are actually the most beneficial. So what I always say to women is your sense of smell and taste and just natural attunement. You know, when you're in that preconception pregnancy phase, is designed to protect you. So women always kind of go, "Oh my God. My sense of smell is ridiculous. I hate it." I'm like, "No, no, no. Love it. Because if you're smelling something that smells funny, it's there for a reason."

And they forget that yes, you now get a headache or feel queasy from your perfume. That's because your perfume's toxic. You know, like if your body feels like that food smells funny, it's because it will be harmful to you or the child. You know, and you won't be throwing up with gastro. It's an innate ability that is silenced, I think, in a lot of women. And it's not understood. So I think it's really, really helpful.

Leading from that is really connecting to the idea that breastfeeding is an incredibly natural process. And an incredibly bonding process, for mums and their kids. And reminding themselves that their body's designed to do it. It knows how to do it. And sometimes it's just about them connecting to what I call the prolactin hum. Where they just remove all the external stimuli and they sit there and their body goes into a hum meditative space. And that's where, there are some studies that have shown that the quality of the milk changes and the fat content increases, and the bond with their child improves, and there are all these natural innate relaxed aspects of health that I just, I love seeing women re-connect to it. It's really empowering for them.

Dr. Ron Ehrlich: Now and so finally, and I mean, you've said some things there which are applicable generally. But for people in general, on their health journey through life, what do you think the biggest challenges for us, in this modern world?

Leah Hechtman: The space and the quiet to hear. So that they can know exactly where they're at minute to minute. And where ... So that they can hear their body and know what their body is needing.

You know, like I think that we get very caught up in, "Okay, I'm O blood type. I need this diet." Or, "Paleo is the best diet for me." Or whatever it might be. But realizing that we flow, we grow, we change, we evolve, and similarly how we support our bodies needs to reflected in that regard.

You know you'll have periods of life where you'll need to protein load in your diet, and you'll have periods in life where you'll need to fast. You'll have periods where you'll need to be extroverted, and periods where you'll need to be introverted. And really just allowing yourself the freedom to go. We're constantly in process, we're shifting, we're changing, we're evolving and being respectful of that.

You know, I don't want anyone to ever feel like they have to be on a supplement for the rest of their life. I want them to be attuned to know that it feels like this supplement is right at this point. And then it can change.

Dr. Ron Ehrlich: Leah, thank you so much. I mean, it's been terrific. We've covered some great territory there. We're going to have links to your website. I'm really looking forward to hearing and seeing you at Mindd. So, thank you so much for joining us today.

Leah Hechtman: Thank you so much, Ron. Appreciate it.

Dr. Ron Ehrlich: Well, this is quite a story isn't it. The microbiome in and on our body. The gut microbiome. The gut is the home of 80% of our immune system. The gut is the second brain affecting your mood. And this story is just going to get bigger and bigger. The significance of our relationship with our microbiome is going to get more and more interesting. I mean, it already is. We're just going to be learning more and more about it. And I love Leah's "We need space and quiet to flow, grow, change and evolve." Fantastic.

Now whether you're trying to conceive a child or not, whether you want that child or for that matter, that adult to be that healthy. If you want a hopefully long and healthy life, the question we need to constantly be asking ourselves is, "Am I feeding my friends or my foes?" In microbiome terms.

We've taken a very adversarial approach to microbes in and around our bodies, in our homes, in our soils. And there's no doubt that hygiene's important. That's for sure. Clean water, sanitation, washing your hands, brushing and flossing your teeth are also really important. But there's a balance to be had, and a synergy. Learning to find a healthy balance is much healthier, more achievable and more sustainable. It's a better way to go.

By the way, we talked about breastfeeding, and I should add that one thing that is easy to overlook when a woman is having trouble breastfeeding, is that the child may have a tongue tie or lip tie. Now that means the ligament which attaches the tongue to the floor of the mouth is short and tight, and the infant can't latch onto the nipple. I had to throw that in because it's one that's very easy to overlook.

Now we also mentioned Mindd. And it's the Mindd Foundation, M-I-N-D-D. Now it's an acronym, and it stands for M-metabolic, I-immunological, N-neurological, D-digestive, and D-degenerative Foundation. It's a great organization which each May in Sydney, holds a forum. And this year is the 10th annual forum. It's going from the 11th to the 13th of May 2018, at the University of New South Wales in Sydney, exploring all those themes with a focus that I've just listed in the Mindd acronym with a focus on children's health. But of course, it's just as relevant to adults as well.

Now there's always two streams. One for health practitioners, and one for the public. And this year for the public is being live streamed. So you can watch it from your own home, and participate. And if you've missed it, and you're listening to this podcast afterward, you can watch the whole program again.

There are some great presentations. Leah gave us a preview of hers today. I'm going to be talking about the mouth as the gateway to good health. There are lots of others. It's fantastic

... Well, you can choose, one, two, or the whole three-day program. I'm actually MCing the whole, well a couple of the days of the public stream.

We'll have links to the Mindd foundation. Of course, we'll have links to Leah Hechtman's website, which includes some great health blogs which cover a very wide range of topics.

Hope you've enjoyed this episode. Go to the show notes on my website for all those links. Help me spread the word. Leave a review on iTunes. We have been getting some great feedback, which is great. So thank you.

So until next time, this is Dr. Ron Ehrlich. Be well.