David Stewart
Dr. Nicole, It's wonderful to have you on–before we begin: where are you today?

Dr. Nicole Bijlsma
I'm based in Melbourne, Australia.

David Stewart
Oh my gosh, what time of the day is it?

Dr. Nicole Bijlsma
It's currently just after eight in the morning.

David Stewart
Oh, wow. I'm in New York City and it's 4 p.m. and as you can see out the window, it's already dark, so. Well, I've never been to Melbourne. I'm very curious to talk about your work in terms of the health of the environment that we live in and its UN health, and how that may be affecting us, because I know you've done quite a bit of work on that.

David Stewart
Let's first start with this idea of the healthy home. Define healthy home for me.

Dr. Nicole Bijlsma
That's a really great question, because I spend so much time focusing on what an unhealthy home is. A healthy home is a dry home for a start. A significant proportion of the work we do as building biologists is testing water damaged buildings. So it's very important to keep them dry. And that means, you know, ideally trying to keep the humidity below, 65% if you can, and about 40%, you know, cleaning up any water spills in a timely manner within hours, preferably healthy home doesn't have high levels of allergens.

Dr. Nicole Bijlsma
So allergen reservoirs include things like carpets and fabric curtains and things like that can really increase that load. Of course, because we allow dust, which is primarily skin to skin cells and dander and dirt accumulates over it every year for the rest of the carpet's life. So it becomes the archeological dig site of the entire house. You've got, you know, your skin cells, you've got your pet dander, you've got your pollens, your fungal particulate like spores and hyphae.

Dr. Nicole Bijlsma
You've got all your chemicals, flame retardant solvents, all your fragrances and cleaning products. They're all attached to those particles in the dust, which is often sitting on the floor, where of course, most of the infants are crawling because it's so close to their breathing zone. So to me, there's a few things you definitely would do to maintain a healthy home.

Dr. Nicole Bijlsma
And probably the biggest one is maintenance. Lack of maintenance is a big issue that can result in significant, health problems associated with mold and other things like this and allergens. So maintaining your house, cleaning your gutters, taking your shoes off before you walk into the home is important to stop tracking those pesticides, which are ubiquitous in the environment.

Dr. Nicole Bijlsma
From coming into the home, really thinking about the products you bring into your home. Like we buy a lot of stuff that we don't need personal care products, cleaning products to create a home. I think there's been a lot of misinformation about what a healthy homes and that it needs, you know, in the last two decades that it's a sterile home.

Dr. Nicole Bijlsma
And that cannot be further from the truth. The healthiest homes we're seeing in places like the Amish communities in third world countries, for example, in African communities, some parts of Russia where the kids have virtually no allergies, very little older immune disorders, and they have a diversity of bacteria

in the house microbiome. So my biodiversity is the key to a healthy home, especially in the household dust, bringing a whole lot of chemicals to kill off bacteria.

Dr. Nicole Bijlsma
Citrus is actually the worst thing we can do. Because we know that having this biodiversity of fish, especially in the first two years of life, of a child's life with have know a high hand to mouth ratio, that ingesting a lot of that dirt might have a protective effect and a positive immune response to reduce the incidence of asthma and allergies are.

David Stewart
You've already confused me. So we want a range of biodiversity in our I guess, what we put in our mouth as we're young, but we also want to keep things very clean. I needed to square this. So in terms of like biodiversity, we're talking about, it's okay to have like dirt on your vegetables and things like that so that we we get that, but we don't want the things in the carpet that may be growing mold or things like that.

David Stewart
Is that right?

Dr. Nicole Bijlsma
Yes. So essentially we want to keep our dirt. You know, we don't want clutter. We don't want surface dirt that we can visually see. We want, you know, good vacuum cleaners to reduce the allergen load in our carpets. We really so cleaning is important. And probably one of the most important will definitely be vacuuming. If you've got asthma at least twice a week to reduce the allergen load.

Dr. Nicole Bijlsma
So the way you handle the dust in the house will often establish, you know, how healthy or not the house is. So we a lot of everything is sitting in the dust,

essentially. So that becomes important how you dust, how frequently dust, what vacuum cleaner you use, etc. is very, very important.

David Stewart
I was going to ask you, what's your feedback on like air filters? Some people have. I live in New York, which is not known for its, but actually the air is pretty clean. But you know, there's a lot of stuff around. So I have one of these Hepa air filters here. Is that useful?

Dr. Nicole Bijlsma
Yes, absolutely it is. And the reason is because there are many sources of ambient or outdoor pollutants that come into the home when you open a window or when open at all. The United Nations Environmental Program published a report that air pollution is one of the greatest risks in from an environmental perspective to human health. We know traffic related air pollution has multiple pollutants, particulates, noxious gases, etc. that, of course, can come into the home.

Dr. Nicole Bijlsma
If you live in a built up area or city region, you're already at risk. So it's important to have air purifiers. And the most important component is the Hepa filter high efficiency particulate air filter. And if you're living in more rural areas, bushfires are a very big risk, especially in the eastern states and in California where they're, you know, they're subjected to bushfires pretty much every season.

Dr. Nicole Bijlsma
And it's like, you know, when that happens, that smoke could be like smoking a packet of cigarets a day. So it's important that you house as well sealed that you have air purifiers to, you know, to take on those particulates and track that. Because if you don't get a filter, your body becomes that filter.

David Stewart
That I have put a Hepa filter here that I discussed, but so there's sort of a central AC system. So I have these one of these very my new particulate filters that I put

on it, I got to tell you Nicole, like I date the things and I take them out every three months and they're like chock full of stuff that, as you said, I would have been the filter and I would rather this thing have filtered that out.

Dr. Nicole Bijlsma
Yes, it's the best insurance is to have a good vacuum cleaner with a, you know, high grade Hepa filter and air purifiers. And to reduce the load, like I said, taking your shoes off, having really cleaning strategy is very, very important and not bringing something to the home. You know, like like I mentioned, consumer products that could increase the pollutant load.

Dr. Nicole Bijlsma
So chemicals, fragrances, harsh cleaning products, all of those things is in order to keep a healthy home, I would say really good microfiber cloths, warm water and a detergent that doesn't have fragrances in it will do most of the hard work. In terms of the cleaning.

David Stewart
Oh, good to know. And I notice whenever you bring something into the home, it's new. So you know, synthetic carpet or something and you unroll it it off gases and I can't imagine that's such a great thing.

Dr. Nicole Bijlsma
No, in fact, there's some interesting research in the Whitney world that cats with hypothyroidism. So overactive thyroid, illness, which is very common in cats, especially as they get older, is could be attributed to the flame retardants in carpets. So the vet I've had a couple of my students who came into my course in the building biology course because the vet identified that the cat was sick because of the house, the carpets and the flame retardants, and yet most doctors have no idea about this.

David Stewart

Yes. Oh my gosh. So let's talk about plastics. Microplastics seem to be having a moment in the culture. Talk to me about microplastics. Is this something? Should I really be afraid? Are these inert? Are there different versions of this? How attentive should I be?

Dr. Nicole Bijlsma
Yeah. So there's different types of plastics. I think plastics is definitely a big problem in terms of global pollution. We know it's going up the food chain into fish, for example, and to birds that eating the fish, it's a disaster. And it's that really came home to me when I went to Borneo recently with my son, and the amount of plastic bottles that are washing up onto those islands are horrific.

Dr. Nicole Bijlsma
And of course, as I said, they're building up by accumulating up the food chain. I think we urgently that need action to remove plastics from the environment or at least restrict them significantly. And you see this when you go into African countries like Tanzania, for example, they're banned. You know, these plastics like we do. They convenient. But it's come at a very big cost in terms of adverse health effects.

Dr. Nicole Bijlsma
And I saw it in Carlos Sonnenschein in the late 90s. We're looking at the impact of breast cancer. And what they were doing is this is one of the first research to show that plastics were going to be an issue, is they got a whole load of test tubes and put breast cancer cells in them. Then they added estrogen to half of them.

Dr. Nicole Bijlsma
And of course, they showed that estrogen, breast cancer is an independent cancer. What they didn't expect was that in the control test tubes where estrogen had not been added, the breast cancer cells multiplied. So they redid the study again and again in the same results occurred. And what they ended up finding was the manufacturer changed the configuration of the plastic test tube and the chemical in their normal phenol, which is a hormone disrupting chemical

typically found in things like polystyrene plastics that was causing the breast cancer cells to multiply.

Dr. Nicole Bijlsma
So we know there are plastics that of woman disrupt is polystyrene polyvinyl chloride for example. Bisphenol is also a big issue and are ubiquitous in those types of plastics, which are in our food packaging and our bottles and things like these. The fact that plastics take hundreds of years to break down, they might be recyclable, but when you look at the time frame, are they really?

Dr. Nicole Bijlsma
And so they're ending up in landfill, I think. Not that 91% of all recyclable plastics end up in landfills. And the horrific extent that we think we're doing the right thing, well, in reality, what's happening is quite different. So I think any way in which we can reduce our plastics is important. Another one is of course, our clothing, and these are the plastics that are coming off into the groundwater and into the stormwater system.

Dr. Nicole Bijlsma
Of course, then building up the food chain. So I think we the more we can go back to natural fibers and natural materials, the better it will be for all of us. Because this is a global problem that is affecting all of us and it's affecting our food. And of course, the whole issue of hormone disrupting chemicals, especially during critical windows of development, you know, during pregnancy, in the first two years of life, a switching on genes that could have massive implications for that child's fertility down the track and risk for things like breast cancers and other things like that.

David Stewart
Well, let's talk about how these plastics may get into us and the sort of lovely back to healthy. So, I mean, the most obvious one would be water. What are you thinking about? Water supplies and how people protect themselves from microplastics. And what can you is it what are your thoughts on that?

Dr. Nicole Bijlsma
Yes, water is an interesting one. I mean, people who are drinking bottled water are at risk, especially when there's contaminants. And they've been a huge history of contaminated water in the US from flame retardants and other things like this. You know, people, etc.. So it's important, but the most effective filter will be the reverse osmosis filter, and that will filter out most of your contaminants.

Dr. Nicole Bijlsma
But when it comes to hormone disrupting chemicals and pharmaceutical pharmaceutical drugs, that's a different kettle of fish. So it's very difficult for reverse osmosis to remove many of the drugs that are found in the wastewater supply. So if you're drinking water that's recycled from effluent, which I know part of Britain, there'll be, I don't know, in the US how much of your drinking water is recycled from wastewater, but that would be a big red flag for water is needs to be tested regularly.

Dr. Nicole Bijlsma
I would strongly suggest that you know you must filter if you are drinking from aquifers and boil water because you'll be at risk. But reverse osmosis really the only filter that will help to reduce those those plastics, ironically the lightest by monitoring studies in the US, the National Health and Nutritional Examination Survey indicated that they're finding styrene in elevated levels in women of reproductive age in their latest findings.

Dr. Nicole Bijlsma
Styrene is a type of plastic, and it's appears to be coming from a lot of the personal care products, some some sunscreen and and women's products that they're putting on their skin. So there's another source that it's coming through the skin is these products.

David Stewart
So you're saying in sunblock some manufacturers put polystyrene in the sunblock. Is that right?

Dr. Nicole Bijlsma
Is this styrene that's used deriving I'm just trying to think of the correct term acrylate polymer that they're using. Many personal care products believe it's a binder that they use. It's a very cheap ingredient that's used in many women's products. And if it's used in nano form, it can come through the skin. So there's a lot of issues about now nanoparticles in skincare that can, you know, come through the skin into the systemic circulation.

Dr. Nicole Bijlsma
And that seems to be reflected by the by monitoring studies that are being published in the US.

David Stewart
I'm wondering if this is a because it's used as a binder, if maybe it's not necessary to put it on the packaging. It's it's an ingredient.

Dr. Nicole Bijlsma
This is a lot. So yeah. Exactly. Right. So there's some things like trade secrecy laws for example with perfumes would be my number one. You know in terms of personal care products. Try and remove anything that has fragrance in it because they have trade secrecy laws. It could be hundreds of petrochemicals that make up that that particular perfume.

Dr. Nicole Bijlsma
So that's the first thing I would say to a woman. If you're going to use personal care products, try and avoid artificial fragrances. You do need to read the label and look. There's great organizations like the Environmental Working Group and Skin Deep that provide a list in the traffic light system for products that they will recommend in those that they don't.

David Stewart

Yeah. Environmental working group, really excellent organization. I'm going to stay on this tack here. Cooking it would seem to me and I might be wrong about this, but if you have a skillet and say it's got something like Teflon or something like that on it, and then you've also got this plastic spatula. Everybody loves plastic spatulas because they clean really easy.

David Stewart
But now you're applying heat to this and with your food. This sounds like a very bad idea. Am I wrong about that?

Dr. Nicole Bijlsma
Yes. So with nonstick, ideally go with a ceramic lining is best not, you know, a nonstick surface. Because of course if there's any tear or any scratches in that, that's when it can be released into the food. Personally, I would prefer to go with just stainless steel and having to scrub of any baked on materials. Really go back to basics if you can.

Dr. Nicole Bijlsma
I think is the best case scenario in terms of plastic spatulas among you stirring the food, the contact time is minimal. I haven't seen data on a plastic spatula. You know, moving food around. I tend to use to, you know, wood, wooden spoons, to be honest. But look, these plastics are incredible in terms of the convenience, but it seems to be coming at a cost, especially, you know, when it's building up our food chain and, and what's going on in terms of the, our waterways, etc..

Dr. Nicole Bijlsma
But yes, I think there are a bit of alternatives, like your wooden spoons, like your stainless steel pots is better because there's too much research to to question about. Is this a problem or not to get to causation takes a lot in the research to say yes, this causes that that takes decades. It took environment all tobacco smoke decades.

Dr. Nicole Bijlsma

It took decades. It took a specialist decades. So whilst there's contention, I think everyone is best to go back to basics and, you know, go with what we do know is safe, which is stainless steel pots, wooden spoons, you know, as much as possible. And in terms of personal care products, women really need to be reading those labels and saying, is this safe enough?

Dr. Nicole Bijlsma
I would say, is it safe enough to eat? And I say that, you know, not literally in terms of putting on your skin, knowing that a lot of it could get into the systemic circulation.

David Stewart
I have some stainless steel, but I also have some cast iron that are covered in the ceramic and the wooden spoons. My wife is like, why the wooden spoon with it? It just seems like that's a better idea.

Dr. Nicole Bijlsma
Yes, I agree.

David Stewart
I know you've done research on EMF. What is EMF?

Dr. Nicole Bijlsma
Right? So electromagnetic fields, a natural part of the, you know, environment. We have the sun, the sun, it's energy UVB. We have the Schumann resonance that exists between the Earth's surface and the ionosphere, which is created from all the thunderstorms that are happening at any given moment on the planet. And that happens to be at a frequency similar to our own brainwaves.

Dr. Nicole Bijlsma
So I don't think that's a coincidence. In this biosphere, we have the Earth's magnetic field, DC field. So we have natural electromagnetic fields that we've

evolved on. Very important part of having a biosphere that supports life. However, we've introduced manmade electromagnetic fields that, especially in the last four decades, that have increased 18 orders of magnitude compared to when our grandparents were children.

Dr. Nicole Bijlsma
And this was never really tested for its impact on human health. Essentially, what's become clear in the literature is that manmade electromagnetic fields are very different to natural electromagnetic fields, because you have this intense variability that doesn't enable the cell to recover. Essentially, we know what's happening at a biological effect. It suppresses melatonin. Blue light suppresses melatonin. For a start.

Dr. Nicole Bijlsma
And of course, melatonin is one of the most important anti-cancer hormones we have and has huge ramifications for almost every system of the body, not just the circadian system, but of course, our reproductive system and our immune system. We also know that electromagnetic fields that are manmade from all your Wi-Fi enabled devices act on specific cells and voltage gated calcium channels in the brain and in the heart, in the testes, and they cause calcium influx, which can go one of two ways when you have exposed to high levels of electromagnetic fields.

Dr. Nicole Bijlsma
Short term, like a lot with pimples, for example, therapies, these therapies coming out for electromagnetic fields, high levels, a short term result in high oxidative stress, and the body responds by creating lots of enzymes, catalase, epoxide. These mutations, which creates all these antioxidants to quell these free radicals. And if the antioxidants higher than the free radicals, it can result in bone healing effects, wound healing effects.

Dr. Nicole Bijlsma
So electromagnetic fields can actually have a positive response at high dose, but very, very short term minutes, for example, when you have low grades,

electromagnetic fields such as your Wi-Fi devices, your cell phones, your routers, extenders, boosters, cordless phones, mobile phone base stations, for example, when you're exposed to low levels, non thermal effects as in non heating effects over a long period of time.

Dr. Nicole Bijlsma
What it does is it gradually overwhelms the antioxidant pathway. So the cell starts to degrade. You get mitochondrial dysfunction. You can even kill the cell. You increase risk for cancers by causing DNA strand breaks over time. And this can take five, ten, 15 years to have this gradual decline. And of course, there's a lot more data now to suggest that using a cell phone on one side of your head for half an hour or more per day for ten years doubles your risk for certain types of brain tumors.

Dr. Nicole Bijlsma
So to me, so one of the studies I published recently was the impact of a baby monitor and healthy adult sleep. And I chose a baby monitor because it emits some of the highest level of radio frequencies than any other consumer device, believe it or not. And what we say is building biologists is when a lot of the time when their baby monitors in the nursery that these children are not sleeping very well.

Dr. Nicole Bijlsma
So I say to my supervisor, I'd like to do research on it, because anecdotally, we see a lot of kids who are not sleeping well that have Wi-Fi enabled devices and baby monitors in their room. So I developed a four week study. First week was checking, you know, baseline. So at the end of the seven days of measuring the EEG brainwaves, measuring the heart rate variability, movement in bed and also their sleep diary.

Dr. Nicole Bijlsma
In the second week, I put a baby monitor, which was double blind, so I didn't know if it was on or not. The digital display was was not working and it was coded, so it was in the second. In the fourth week, they would have had a baby

monitor for seven consecutive nights in their bedroom. And then I tested these adults to see at the end of the week what was going on with their brainwaves and all of those other issues I mentioned.

Dr. Nicole Bijlsma
And in the third week was washed out. So when they're exposed for a week to a baby monitor, that was in a week off because we have a histamine response with electromagnetic fields. So on the fourth week, the baby monitor went back into their bedroom for a whole week, and then we measured it. So essentially what we found was that it was statistically significant.

Dr. Nicole Bijlsma
One third of the participants ended up with clinical insomnia within seven nights of a baby monitor on their bedside table, which reflects real world scenarios, because that's how the way baby monitors work. Well done on the bedside type, one in the in the baby's nursery and it was, you know, I thought it was going to be an issue and that was validated with the study.

Dr. Nicole Bijlsma
The clinical sleep diary also indicated we used the Pittsburgh Insomnia Rating Scale, and that was also significant. So we had both objective and subjective findings to indicate that a wi-fi-enabled device, which in this case I used a baby monitor, impacted non-REM sleep after seven nights. So, yeah, it was interesting. I mean, as I said anecdotally, I say this a lot with my clients when we're assessing their homes, but to actually see the data and say that it was statistically significant is is very concerning.

David Stewart
So interesting. I don't sleep with the baby monitor, but do you.

Dr. Nicole Bijlsma
Have your cell phone in your bedroom?

David Stewart
Oh, that's the next question. So I know tonight I would just power it off. There's a like the power law right. So you have orders of magnitude depending on distance. So the further you have these things away from you that that seems better to me.

Dr. Nicole Bijlsma
Yes. It's the inverse square law. And it's the only thing science that actually is true. So I read a lot of misinformation on social media in relation to, you know, plug ins to reduce your electromagnetic fields, you know, bringing scale of technology, all that sort of stuff that we can't we can't prove or quantify when we're testing the home.

Dr. Nicole Bijlsma
So but what we do know is the inverse square law. As you double the distance away from the source, you reduce your exposure by 75%. So the computer is making sure these devices are not in the bedroom or in adjacent room. In relation to devices that emit high levels of power outputs like your extenders, your boosters, your routers and cordless phones, you want to keep them a well away from your bedrooms.

Dr. Nicole Bijlsma
For things like your smart meter and your rowdies, you want to power them down if you can, so they're only beaming electromagnetic fields in just parts of the house, not the entire house in the neighborhood.

David Stewart
So there are 800 units in the building that I live in, and if I go and I turn on my, you know, available Wi-Fi network, what do I do?

Dr. Nicole Bijlsma
That's a really great question. And it's it's a quandary living in multi-story apartments where you're at the mercy of your neighbors because they will all

have their own routers and they will. It's almost like, you know, this light effect. It's difficult. So you need to have hopefully a good genetic constitution to be able to cut back on all of that stress that you cannot see, cannot smell.

Dr. Nicole Bijlsma
And this is a question building biologists are asking all the time, living in areas you can't get away from this. We can develop a Faraday cage and bring in children. But, you know, I'm really reluctant to do that because your body is aligned to the terrestrial radiation. We need to be exposed to the natural terrestrial radiation. And I think a big part of mental health issues could be attributed to the fact that we don't have a sense of place, we have no connection to the ground.

Dr. Nicole Bijlsma
Grounding is becoming a big thing. And I think it's important, you know, to be granted, because as Aboriginals, we're very connected to our sense of place. We haven't, you know, we have this beautiful balance, but we've completely lost this by living in modern nuclear families in Multistrada or apartments. And I think that's coming at a cost to our mental health as well.

Dr. Nicole Bijlsma
And unfortunately, I don't have an answer to your question, David, in terms of your exposure to all the men, my electromagnetic fields immediately around you, short of creating a Faraday cage, which I don't sponsor either.

David Stewart
I think the military have those. They're tense and they can go in. They were electromagnetic, so they can't be surveilled. Yes, that seems a little extreme to me. But what I will do is I will just power my phone down because, as you said, the inverse square law, that's the closest thing. So just make some distance there. You mentioned the word grounding, which is another word that I hear quite a bit.

David Stewart

And I actually have a grounding pad next to my bed, and I plug it into the ground part of the electrical outlet. Is this at all useful or am I just not, you.

Dr. Nicole Bijlsma
Know, I mean, when I'm in grounding, I mean literally going outside in the icy ocean, talking because my focus is people with environmental sensitivities, chemical sensitivities, electromagnetic fields, allergens, all those sort of things. And what we find is when they go to the ocean, they're often a lot better because the ocean's high in salts. It's an incredibly good grounding, natural browning atmosphere.

Dr. Nicole Bijlsma
And of course, you know, soil, all that sort of stuff. When it comes to grounding mats, I do find some of my clients with electromagnetic sensitivities are worse. And it appears because when you when you've got something that's grounded through the electrical system, you're actually attracting more of the radiation towards you because it's got an easier path. If an antenna, it's.

Dr. Nicole Bijlsma
Yes. And that's what we're very reluctant to use that because we've found that you're actually more likely to attract it as it's grounded through your body and not in the electrical system. So on bit two months, things like having an absence go back if you're trying to reflect nature. And Epsom salt baths tends to be very helpful for people with sensitivities, especially to electromagnetic fields.

Dr. Nicole Bijlsma
But why is that?

David Stewart
Why does that work?

Dr. Nicole Bijlsma

I think it's the salt water in there, etc. I'm not sure, but I'd imagine it's reflected more of what you would see in the ocean. For example, I'm sure there's science behind it, but that's what we're getting from people who are electrically sensitive, is that salt bars are helpful for them, but especially going to the ocean and getting there, you know, swimming etc. can be quite profound in terms of them feeling normal again and forests and things like that.

Dr. Nicole Bijlsma
Connecting back to nature. This is the terrestrial radiation that we've evolved on, right?

David Stewart
My recollection from the ocean is I think there's a lot of negative ions.

Dr. Nicole Bijlsma
I think yes, negative ions as well, of course. Absolutely. With that, yeah. There's so much going on which, you know, we haven't really got an understanding of the true sense of the importance of the because it's so nuanced and there's so many synergistic effects that are going on. I think we've been so busy trying to control nature in the last hundred years with science, that we've completely got it wrong.

Dr. Nicole Bijlsma
Instead of going, wow, we're in this incredible biosphere, how do we how do we understand it? How do we reflect it? And how do we support it? You know what I mean?

David Stewart
Yeah. And I don't have to understand it. All I have to do is be in it, you know, and just remember to, like, go into the forest and go swimming in the ocean, like, like expose myself to it. And because I know I just feel better.

Dr. Nicole Bijlsma

Yes. Exactly. Right.

David Stewart
Wow. Okay. I want to loop back to Healthy Home. We know that we don't want to bring toxins into our home. We know that we don't want to be spreading them on our bodies. And if we don't know if we're doing that or not, we can go to places like Environmental working Group or and just obvious things like commercial detergents, the tide of the world.

David Stewart
I mean, not a great idea. Are there other things that we need to be thinking about? I'm going to turn my phone off tonight, and I will continue to do that. And I'll let you know because I were asleep. Monitor. Which probably also has some EMF component to it. Oh well, can't have everything. I'll measure my sleep and see if it's improved by moving the phone.

David Stewart
Are there other things?

Dr. Nicole Bijlsma
Yes, there are other things and I'm just trying to think in terms. Well, there's so many other things will mold. Is it massive mold? I mean that's a big part of the of the work that we do. And it is the that there's a significant proportion, certainly in Australia, of the housing stock that are impacted by water damage that would be contributing to people's illnesses.

Dr. Nicole Bijlsma
So when I'm looking at what's in the house that could be making people sick, I first look at I take an exposure history. So if they have asthma, allergies, hay fever, if they have recurrent colds and flu, that's persistent. So it's dragging on for weeks and months. Most people kids have colds and flu is maybe six times a year.

Dr. Nicole Bijlsma
That's pretty normal. They get over it pretty quick. It's when it drags on for weeks and months. Then I start thinking, is there actually water damage in their home? Things like upper respiratory tract infections, chronic sinusitis, chronic bronchitis, pharyngitis, laryngitis, all the odysseys which is inflammation, pneumonia. Worst case scenario. Then I start thinking is they mold in their car, in their workplace and or in their home.

Dr. Nicole Bijlsma
That could be contributing to the that the other one is with electromagnetic fields. I'm looking at insomnia, sleep disturbances, headaches, tinnitus, ringing in the ears, the common symptoms we're finding with people with electromagnetic sensitivity. So by taking a history, we're able to identify and pinpoint, you know, which has it could actually contribute to that particular problem. But the other one that's really big and it's not getting much attention is lid.

Dr. Nicole Bijlsma
Lid is still a very, very big problem in Western cultures because, you know, in Australia, for example, we we used, you know, 200,000 tonnes of leaded petrol. I believe in the US, it was about 6 million tonnes of petrol that was used over many decades. And of course lead does not break down. So it's sitting along the roadside.

Dr. Nicole Bijlsma
It's sitting in built up his last year we had an interesting study that was published in Sydney that people who lived in Sydney within 30km of Sydney, had elevated or detectable levels of lead in their soil. So having a vegetable patch or, you know, having it could be an issue unless they've replaced that soil, they actually tested the the, eggs of backyard chooks in Sydney and found they had lead levels, in some cases 40 times higher in the egg than the factory chook.

Dr. Nicole Bijlsma
And it was simply because they lived in a built up area where there was a lot of lead from previous years of leaded petrol. So to me, latest a very big issue for

neurodevelopmental disorders. I mean, we know autism has increased 4000 fold since 1930. Currently sitting at about 1 in 36 American children will be diagnosed with autistic spectrum disorder.

Dr. Nicole Bijlsma
It is dramatically increased, especially in the last four decades, and they're very, very serious about that. But certainly toxic metals, aluminum comes up a lot with ASD. You know, the latest systematic reviews is elevated levels of autism in these kids aluminum. And that can come from drinking water supply. It comes unfortunately from many of their vaccines is stabilized with aluminum used to be mercury.

Dr. Nicole Bijlsma
Now it's aluminum but and of course a cookware aluminum bakeware I mean aluminum is coming in a lot of different ways unfortunately. So and of course electromagnetic fields is some research. Is that contributing? I think it's a synergistic effect of multiple toxins that are impacting Western children in the last four decades, because our toxic load has just dramatically increased in four decades, as indicated by the by monitoring studies.

Dr. Nicole Bijlsma
So we desperately need to reduce our toxic load, especially in our food. A lot of it's coming from our food that's contaminated, that's processed. Look at your colors and flavors. And artificial salt is full of aluminum, like, you know, as a free flowing agent. So we need to look at our food. We need to go back to seasonal, local, organic and whole.

Dr. Nicole Bijlsma
We need to cook things from scratch, you know, and we try and reduce our processed food as much as possible, thinking about where your fish is sourced, because a lot of it can be contaminated with mercury. For example, our farmed fish feed you know, fish can also be a big problem because if we grind, etc. and then there's no longer any omega three, but there's other crap in there.

Dr. Nicole Bijlsma
So it's just a nightmare. It's completely overwhelming for many families trying to do the right thing. So for me, I would say go back to scratch, you know, go organic food is as a minimum, I think is important. Pesticides are frequently associated again with neurodevelopmental disorders, autism and ADHD, as well as Parkinson's and dementia. So with my PhD, I looked at the impact of environmental chemicals on human health and pretty much every chronic disease you can think of there.

Dr. Nicole Bijlsma
Environmental chemicals there are correlating or associated with them. So reduce that toxic load as much as possible. Stop with your food. I know it's very overwhelming for people to hear, but there you know, the good news is there's a lot of things you can do to reduce that.

David Stewart
Right. And you know, the way that I like to look at these things is deal with the worst stuff. First. Oh, wherever you are, whatever, stop with the processed food first is and worry about the EMF stuff later. You sort of work yourself down the chain of the the worst stuff first.

Dr. Nicole Bijlsma
So yeah. So let's let's leave with some good news, which is start with your food. Try to make everything from scratch where you can. I know it's difficult. I've got three kids, you know, and I've got a, you know, my I'm college that I run and etc. but start with your food. If you can know where your food comes from, know your butcher, know you're greengrocer, so you know where it's coming from.

Dr. Nicole Bijlsma
Fresh food is important. It gives you the resilience to deal with the environmental onslaught. Don't have pesticides in the home? That is my big one. Garden chemicals and pesticides are very, very toxic and often associated with many of the chronic diseases that we see in Western cultures. Take your shoes off before

you get into the house. Make sure if you've got people with asthma and allergies, it will.

Dr. Nicole Bijlsma
Chronic respiratory problems. I think carpets need to go and get, you know, natural hardwood surfaces would be better or tiled surfaces if you're in hot, humid environments would be a better option, easier to clean. Try and reduce the amount of chemicals. Cleaning the home. Don't use bleach. Don't use ammonia. Use a good detergent that's preferably fragrance free. Really good microfiber cloth a good vacuum cleaner that will do 90% of all of your cleaning.

Dr. Nicole Bijlsma
If you have a water vent, draw it as fast as possible, preferably within 24 hours so it doesn't become a problem. If you have a mold issue or, you know, chronic fatigue like symptoms, you probably need to get someone in to test the house to see if mold is actually an issue, or a building biologist to identify emfs and with electromagnetic field, just don't have it in the room anything.

Dr. Nicole Bijlsma
That's why for enabled printers mice in a mouse, computer, mouse, you know, your phone routers, extenders, boosters not in the bedroom and preferably not an adjacent room to the bedroom. Put it in the living space for two weeks and see how you go. Does it actually improve your sleep? That's what I would say to most people.

David Stewart
Yeah. Excellent. Thank you so much. Very useful tips and I appreciate the work that you're doing. I think that this is, you know, increasingly complex dealing with all this stuff that 100 years ago wasn't an issue. But as I said, I live in Manhattan, so I'm just in a vortex of this sort of thing.

Dr. Nicole Bijlsma

Yes. So this is why air purifiers become really important. And being informed knowledge is power. Critically, thinking is important because there is a lot of misinformation out there. So, you know, always get second and third opinions. I think natural person integrative doctors are a good, you know, people to go to to help you navigate a lot of these.

Dr. Nicole Bijlsma
As well. But, I'm looking forward to launching a healthy home course next year in the US to help people become healthy home advisors.

David Stewart
Very useful. It's complex. Nicole, thank you so much for joining us from Australia today from Melbourne. It's been lovely to chat and thank you for keeping the home healthy.

Dr. Nicole Bijlsma
Thank you so much David.

David Stewart
Take care now. Bye bye.