

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

<https://maisonsaine.ca/zone-video/caring-for-patients-electromagnetic-hypersensitivities-riina-bray-university-toronto-english.html>

- or -

<https://www.youtube.com/watch?v=GMuOguFBQ8E>

A: = Dr. Riina Bray
H: = host (André Fauteux)
Q: = question from audience
F: = female voice
M: = male voice
(??) = inaudible, or transcriber is unsure of correct spelling
[ct] = cross-talk, more than one person speaking
[] = transcriber's notes

H: [introduction in French, not transcribed, transcript begins at 3:59] So today I'm pleased to present to you Dr. Riina Bray, Medical Director of the Environmental Health Clinic of Ontario affiliated to the University of Toronto, where Dr. Bray is a teacher, and for over 10 years was responsible for the Ontario College of Physicians Environmental Health Committee. Dr. Bray?

(applause)

A: Thank you. Thank you (inaudible). Can you hear me? Okay. Thank you very much for having me today. I hope... if you can't hear me, let me know, put your hand up and wave. And I'm going to see if I can look at the screen over here. There we go; that's better.

So, a little bit about my 10 years of experience with patients who have been made ill from electromagnetic fields. I'm here to share with you my... my discoveries, my observations, my concerns. And working from the Environmental Health Clinic, what we do is we see a lot of patients with chronic multi-system illnesses. So, electromagnetic hypersensitivity is actually one of those that we've been seeing more and more come along our way.

At the Environmental Health Clinic we see mostly women. Why women? They seem to be more sensitive to chemicals and to electromagnetic fields. It might be a hormonal thing; I'm not exactly sure why. But the median age is about 50 years of age. And there's huge gaps in knowledge about... in the medical community about what is going on, why these folks are getting sick—especially in North America.

So, the definition of electromagnetic hypersensitivity from the W.H.O. definition in 2004 is basically the same as this one. It's the "awareness and/or adverse symptomatology in response

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

to electromagnetic fields of multiple types.” So in other words, a person doesn't feel well when they're exposed to electromagnetic fields.

And it's a spectrum of illness. It's you could feel a little bit sick or you could feel very unwell and not be able to work or function. The same criteria is used in multiple chemical sensitivities as well. When you remove the exposure the person feels better(??, 6:41); and when the person is close to that exposure they feel unwell. And we'll get into that a little bit more. Now, for multiple chemical sensitivities, genetic.... We're all made differently; we all have different genes; we all respond to food and chemicals differently. Some of us we can smoke and drink and be just fine, and other ones we just can't even smell it and we feel sick. So that's genetic; a lot of it's genetic. But then part of it is environmental as well: how much do we have in our bodies that make us vulnerable to other things in our environment. So we know that's true for multiple chemical sensitivities. For EHS there's ample evidence in the literature that all the cells and physiological systems are being affected. There's no question that electromagnetic fields from—well, we're going to get into detail—have a full-body effect on all our... in all our cells.

So, here is a little bit of Physics 101. I don't know if you understand much about physics, but there's the electromagnetic spectrum. And what we're looking at are here: radio and microwaves. Here. So, they're very long and they're very tall, and they travel at the speed of light. But they have a different kind of frequency than the more energetic waves.

And light is just a tiny little sliver of that in the whole spectrum. Okay? So there's a lot of stuff going around that we can't see. We don't know it's there. We just don't know it's there but there's a *lot* out there. So we just have a little tiny bit, which we see with our eyes, but the rest we can't see.

So, what are the sources of electromagnetic radiation and fields? And I'm going to define that for you because it's different. Well, all types of appliances, power lines, wi-fi of any sort, cordless phones with the DECT base station, cell phones, laptops, fluorescent lights—compact fluorescent lights are pretty nasty, that was a rollout from the government but it was not a good idea because they also emit and can give people rashes and make people feel unwell—etc. Microwave ovens are great; they leak like crazy. There's no microwave oven that doesn't leak. And if 4 feet is safe, it isn't safe at all; maybe 20 metres is safe, but 4 feet is not safe.

So what's the difference between these radiations I'm talking to you about on the spectrum? Well, the government has told us that ionizing radiation is dangerous—yes, yes, it is, it rips off electrons from the atoms, yes—but non-ionizing radiation is not too bad, you know, there are some problems but, hey, by and large we can suck it up, they don't... (laughs a little) they don't remove electrons from atoms. But it's very interesting to note that the radiofrequency radiations that our ancestors had were about 100 million million times *less* than what we are having now—100 million *million* times less than—what your grandparents grew up with

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

[transcriber's note: the double words "million" is not a typo, the fact is stated as 100 million million]. And if you can tell me that that's not going to have any effect on your body (pause), you can't. It's... it's insane to think that. Right?

So let's have a look. This is all non-ionizing radiation. And there are some problems but the problems can be quite worrisome. And they go all the way from Extremely-low frequency, Low, Radio, Microwave. So the frequency is getting a little bit higher as you go down.

And interestingly, the lower the frequency, the Extremely-low frequency waves, they use that for nuclear submarines because it can travel through water. But as the frequency gets a little bit higher, it doesn't... they don't travel through water as well. That's why if you have trees, right, it blocks some of that radiation. We should be planting trees everywhere to protect ourselves.

So what's an electric *field*. Okay? I'm not talking about radiation right now; I'm talking about a *field*. What *is* it? Well, you can't see it but it's around and it happens when a wire is plugged into an outlet. So any appliance, anything plugged in, we've got electric fields. Okay? Whether the appliance is turned on or off. And the greater the voltage required by that appliance, the greater the field. So if I'm standing over here, I'm getting an electric field on my body.

A *magnetic* field occurs when current is flowing. So now I turn the device on, I've got an electric *and* magnetic field. If the device is turned off, I still have an electric field. So you could be sitting or sleeping in a room with your lamp off, you know, all your appliances off around your bed, but you're still getting hit by an electric field. And when you turn stuff on during the day in your kitchen etc., you've got electric *and* magnetic fields hitting you.

So. That's what I mean. The electric and magnetic fields, they work together. They're perpendicular to one another; they keep each other going. Okay? That's how it works. That's as far as I'm going to with detail about this. If you're interested, there's lots of physics to discover.

So, the Extremely-low frequency fields can be problematic. The radiation is problematic because your cell phones they have High frequency and then they have pulsed Low frequency. So you get a kind of a *blend*. Then there's Very-low frequency. There's the Radiofrequency band. And then there's Electrosmog. And electrosmog, those fields are everywhere. They just... it's just all the stuff flying around from everything, that's the smog—it's not a point source.

So point sources are those things that I talked about: the wi-fi routers, smartphones, cordless phones, tablets, blah-blah-blah. Those are "point sources." But the *fields* are everywhere. Okay? I'm over here, there's something. Over there, there's something. Over... you know, I'm just... there are fields everywhere. It's not a point source. It's like "dirty electricity." Have you heard that term: dirty electricity? It could make you feel tired and unwell. And the International Commission on Non-ionizing Radiation Protection only addresses Extremely-low frequency

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

electromagnetic fields and the *thermal* effects of Radiofrequency radiation. That's all it addresses.

What *we* address at the Environmental Health Clinic... and I'm going to need some water I think... is the *non*-thermal stuff, the *non*-thermal effects. We know this stuff heats up the skin. We microwave our food, it gets warm. Okay, that's... we got that, we understand that. It's the *non*-thermal effects that the government says: Huh, not important, don't worry about it. They don't even look at it. And the literature really points to that being a *huge* problem.

Okay. So how are we being protected? How... is somebody making sure? Are they regulating everything so that, you know, we're not getting dinged when we go to work or school? Like, who is looking after us? Who? So, around the world different countries have more responsible governments—and someone is going to shoot me when I leave this tent, I know it (laughs a little)—that actually have their thresholds for safety are *way* lower than our thresholds in Canada. Okay? Like thousands of folds lower. I wish I had a slide to show you. I couldn't... anyway. But just to let you know, you know, in the U.S. it's different. In Russia in Italy it's lower. And if you look at the literature, you'll see that, you know, in Sweden, and Denmark, and Switzerland, they're kind of right on it. They've reduced their thresholds considerably.

So it's not a surprise that, no matter what we do in this world—because technology has just exploded—and, you know, as much as countries try to make it better, it really has gone out of control. By the year 2017, we're going to have about 50 per cent of the population suffering from electromagnetic hypersensitivity. Okay? Reported, recognized EHS: 50 per cent. And a small per cent—maybe 3 to 5 per cent—are severe. They can't work. They have to go live in a tent in the middle of the forest, you know, and survive for years before their bodies can recover in order to work again or do anything. Those people are... they're destitute almost. They are so financially strapped. It's the saddest thing. But about 35 per cent have moderate... are feeling moderate effects. And now we're going to have 50 per cent of the population by *next year*—that's the prediction—that are going to be suffering from this.

So, in Canada we have this thing called *Safety Code 6*. It's 10 million million microwatts per metre-squared. It's an energy density. And it, basically, describes the safety threshold of radiofrequencies on our bodies. So, it's based on a SAR, which is a Specific Absorption Rate, which is the amount of energy that a kilogram of body tissue will absorb. It's based on 6 minutes of exposure that elevates the skin by one degree. And that's it, they're done. That's it. That's it. And that's all they want to know: just does it make your skin go a little hot? Like one degree is a lot, let's face it. Okay? Like, we're in equilibrium at 37. Right? You know, if we go up one degree, we're having a temperature, we have a fever. So. But that's all they look at: just the thermal effects.

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

They don't consider multi-hour, multi-day at-school, at-work exposures. They just don't even think about children, the elderly, pregnant women, the fetus, you know, people who are sensitive or who are sick—no consideration whatsoever. In fact, they do the testing on a dummy that's supposed to sort of emulate our skin. So (laughs) it's not even... it's not even legit. So.

All right. So again, they just looked at thermal. They don't consider the changes in calcium ions flowing through the membranes. I'll show you some pictures there. The blood-brain barrier that protects us from getting exposed to chemicals in our brain—we have a blood-brain barrier. Did you know that? It plays a very important part. Well, that doesn't work as well when we have electromagnetic fields flying around. And the DNA is damaged. Okay? Electrons are not being ripped off, but the DNA isn't working properly and that's a problem.

You can look this up at home, but basically this is giving you sort of radiofrequency exposures here [slide 23]. Okay? And you can look it up. But you know, the cell phone is way... it's like 50 million, here, microwatts per metre-squared at your head. Okay? So you're frying your brain. Don't ever hold the cell phone close to your head. You know? Try to talk to it far away. Etc.

Here are some ideal value ranges, which are way, way, way lower than what our government suggests is safe. And here, radiofrequency radiation should be less than 10 microwatts per metre-squared—not like 10 million microwatts per metre-squared, but less than 10. So it's a bit extreme. Okay?

So, I love the way Magda Havas makes things simple and easy to digest. So I'm borrowing this from Magda. And she... you know, "Parameters of Exposure." So we look at people and we say, okay: how often are you being exposed; what's the intensity of the exposure; how close are you to the exposure; and how long are you next to that exposure during the day? How many hours a day do your kids play with their iPads? Right? Or their laptops with the wi-fi on? Or the iPad with the wi-fi on? You can play with those but you've got to turn off the wi-fi function.

Okay. As I said, multiple chemical sensitivities we use the same criteria. This is the definition that we use. Okay? You can look it up [slide 26].

There are no specific biomarkers for electromagnetic hypersensitivity. There *are* genetic polymorphisms. So we're all made differently but they have found that people who are missing certain genes are more predisposed to feeling unwell. It is, without a doubt, a genuine, somatic illness. And what I find very important is that it does cause cerebral problems with blood flow and inflammation. We see a lot of that at my Clinic. This hypoxia—"hypoxia" means low oxygen—inflammatory problem. And patients do come in and they can't bounce back. It's like they're fatigued. They're decompensated. They're depleted.

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

What are they depleted *of*? Well let's have a look. Radiofrequency radiation causes oxidative stress. So we get some skin problems from the radiation hitting our skin. Things are released. Pro-inflammatory mediators are released. We talked about the calcium—the voltage-gated calcium channels are thrown open and the cells get lots of calcium going in, and that can cause cardiac and nervous system disruption. And then the oxidative stress can also cause reduction in our scavengers—the things that clean up our body. And we can feel fatigue and pain. To name a few things.

That, on top of all the other exposures we have every day—with the food that we eat, the stuff that we breathe in, the water contaminants, the cosmetics, the hairsprays, the cleaning products, the paints, the smoke, you name it—from the air, soil, dust, water, food, breast milk, consumer products, and even *in utero*, through those routes of exposures of inhalation, the skin, ingestion, we're building up what's called a "total load." Every one of you has a total load. You have a certain amount of *junk* that you're storing in your body: in your fat, in your liver, in your brain, in your bones. You've got it. You've got it since you were *in utero*. So we gotta clean that up.

So when we see our patients, it's a big pot. Here's the big pot. And we don't know exactly what's going on. So we have to try to deal with *this* and then *that* and whatever, until we figure out what the whole picture looks like. And then the person starts getting better. There's no magic cookie-cutter recipe for cure.

So we have to get information. We need to use questionnaires. And they are sensitive and specific. Some of there are not validated. Their specificity and sensitivity are questionable. But we use an exposure history, which I hope that you can tell your family doctors to use. You can download this off the website. And we use it to get all the information we need to get from our patients. And it takes us around two hours. We spend.... We do a medical history, psycho-social, which is sort of a psycho-social background. And we do an exposure history.

So we look at: community, home and hobby, occupation and school, personal, diet and drugs. So we're looking at their exposures. And we're getting all that information. And it's called the "CHOPD" mnemonic. Okay?

And all of these... in all of these categories, we get information about their exposure to electromagnetic fields. Okay?

I find family members are fantastic. When the family member comes in, they're like the litmus paper. Do you understand litmus paper? You know, you dip it in and see, "Oh, is this really an acid, is this really a base?" They come in with the patient, and they sit with us. And they say, "Yes, she's not telling a lie. She's... for sure she is sensitive. I know. I see it." So they tell *me*. The family tells me that their loved ones are really not well—that they're not making up the story—

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

because they *see* how the poor person is reacting. So I love it when family members come in. Because there could be lots of fights among family members. Right? A spouse might not think that their spouse is telling the truth or maybe they're making it up, or, you know what I mean—it might be all in their head or something.

So here are the symptoms. I have a huge list. Why do I have a huge list? Because it's not just one thing. It's many different things. And for every different person it's a different bunch of things from this list. And this list has been taken from a bunch of literature as well. So: irritability; lack of appetite; headaches; weakness; pressure; racing heart—a whole bunch of things—fatigue; tiredness; concentration difficulties; digestive disturbances; sleep problems; ringing in your ears, tinnitus, that's very common, we see that a lot. So *all* these symptoms can occur in combination.

And I think I've talked to you about most of these, especially the cardiovascular and neurological we're going to get into more. And sleep problems are a huge problem for people with sensitivities, because at night when you sleep your body starts... it doesn't take any stimulations, turning off the rest of the world, so it starts to harmonize its own frequencies and starts to heal, and your hormones are being released, and it's.... Sleep is a very, very important time for healing. But if you have fields around that are dinging the body, those rhythms, those currents in your body are thrown off. And these people can't get a good night's sleep. And in fact, a lot of people probably are having poor sleep and don't even realize it's because of electromagnetic fields. Right? Maybe people are sleeping with their cell phones close to their head. You know? Maybe people have a router in their bedroom. Maybe they have a laptop that has the wi-fi function on in their bedroom. Maybe they have a cordless phone DECT phone base station right underneath their bedroom—it'll go right through the floor, right, right through the walls.

So you know: headaches; dizziness; sleep disturbances; palpitations; pain; fatigue; hyperactivity. Sort of a shaky, fatigue stress; subliminal stress is what they say. But if you remove that person from the sources, they get much better. They feel better.

Now, has everybody heard of the "nocebo effect"? You know the "placebo effect." Right? I give you a sugar pill, "Oh Doctor, I feel so well. Thank you very much." Hooray, problem solved! The "nocebo effect" is a phenomenon in which an inert substance—something that doesn't react with anything—or a *suggestion* that something is there is going to cause a negative effect to occur for that person. So the person will say, "Oh there's a cell phone tower, oh I've got to... I feel sick, I don't feel good." But this is what we screen for, as well, when we see patients.

So Category One of patients are they some phobias. I'm telling you, I've got about maybe 1 per cent to 2, tops, of my patients have some phobias. And they feel better with certain things. And

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

I say that's fine. I try to explain to them that certain types of interventions may not be working that well. But if they work well for them, that's good for me.

The other one is... another category are those people with toxic metal in their body. So they might have a lot of mercury amalgams in their mouths. They may eat a lot of fish. So the mercury is high in their bodies. They may have had the mercury amalgams taken *out* by a dentist and they didn't do a great job, and so mercury was kind of floating in and they were breathing it in and swallowing it. And those people present with headaches, and brain fog, fatigue, anxiety, etc. And they react to routers, wi-fi hubs, cell phones, etc. I've had folks with metallic implants and they can feel unwell in those areas. They feel kind of a pain or a lancinating pain. Or they can have neurological disturbances. So I don't know if they've done any studies on braces, but I have not seen anything. But when a person has braces, I worry. So that's something that we need to investigate and think about: the nickel braces that people and kids are using.

Another category are those people with infectious diseases, like Lyme disease or other co-infections, that affect the nervous system. So anything that affects the nervous system is going to leave a person more vulnerable to electromagnetic fields and radiation. So I have seen some incredible cases. And those people get better when you realize that the electromagnetic fields are around. We clear out their homes. They get a building biologist, they come in, they test their homes, and then everything is sorted out from there on, and then they have a safe place to rest and their body starts to heal and recover. They still have to treat the diseases but they can finally start to feel better, there's a chance of getting better.

Another one is just anything to do with neurodegenerative problems, like multiple sclerosis or inflammation of the brain from multiple chemical sensitivities or other things, maybe tumours, etc. And you wonder about aging and dementia... just simple aging and dementia, how that's being impacted by radio and microwaves. So these are questions that need to be answered. We don't have the answers to those. The research hasn't been done. You know, how is it when a person drinks alcohol or maybe a person who uses illicit drugs and they get exposed to this radiation, how do they feel? What's going on in their bodies? So SPECT scans, and PET scans, and functional MRIs, and those types of things are being looked at in terms of diagnostic tools.

This is a bit of a detailed diagram, but what I'm trying to explain here is that the ions—the potassium, and sodium, and calcium—they are always going back and forth across the membrane and so it's electro-chemistry. That's the way things run in our bodies, and in our hearts, and everywhere in our nervous system.

And so, you know, you have the saltatory effect, and things travel, and you have positive and negative charges.

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

And even in the brain, most importantly, all the neurotransmitters are depleted because they just go gangbusters. They just... all your serotonin, and dopamine, noradrenaline—all those wonderful neurotransmitters are thrown off, and that throws your whole body off, because of this voltage-gated channel that opens up and floods your cell with calcium when it shouldn't be doing that. And that's very important.

There's your channels. Here's your calcium channels. And it causes injury to the cell when it pours in like that.

Okay? So that's an important thing. Martin Pall has written a lot about voltage-gated calcium channels.

Category five: heart rhythm disturbances, anyone with any heart rhythm disturbances. Maybe from heavy metal exposure. Your heart can skip beats. It can sometimes go too fast. I've had people with flutter, where it's like a little butterfly like this. And it's triggered... it can be triggered by electromagnetic fields, a wi-fi router, the hub, cell phone tower, what have you. And so, you know, we get them to put the Holter monitor on to assess rhythm over 24 hours, blood pressure monitor. Magda has done work in this area with regards to blood pressure changes. And so it can be very, very alarming. It can really scare somebody when their heart does funny things. So those patients we have to *really* try to get them to calm down. We have to give them medication. We have to identify all their exposures. We have to really get on it, because it really can be quite dangerous. And sleep time can be particularly difficult for those people, can really go haywire at night.

Why? Because the heart is an electrical conducting organ. Very simple. Right? And we have a 100 million million times more stuff in our... right here—well, this tent is not too bad but we still have stuff around—than our grandparents did. It's no wonder.

Another category is adrenal fatigue and exhaustion. So people who are burnt out, they don't have a great diet, they've had a lot of stress in their lives. They may have food intolerances and allergies. They may have... they might be extreme sport people who have just hit a wall. They could be stock brokers who haven't slept properly for 10 years. But you know, people who have just gone to the very end and there's nothing to support them. And they can get definitely the brain fog and fatigue. They just can't function anymore. It makes... their fatigue makes everything worse with exposure. And if you look at their hormones, they will be depleted in cortisol and DHEA.

And then students and teachers are a separate category altogether. Those people are getting dinged day in and day out, unknowingly. And they have again increased frequency of exposure, duration, intensity. And it's really, really important to consider these people at high-risk for problems. Because of all the types of people I see in my Clinic, it's teachers. The teachers are

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

getting dinged in a major way—major way—and they have no support from the school system. The school system scares them: they might lose their job, they're not accommodated. And there's a lot of emotional nonsense and abuse going on. It's awful.

So, some commonalities that we've seen with EHS—electromagnetic hypersensitivity—is that everyone is sensitive to fluorescent lights. Nobody really likes them. And I think that goes for people who aren't sensitive, also. And sleep disturbances are a major problem.

So here's a torus. I don't know if you've ever seen this. But you know, when everything is working well, we actually have this beautiful field around us. And it's being sort of disturbed on a daily basis.

So diagnostic testing: what do we do for diagnostic testing? There are no gold standards. I think that biomarkers *in* combination that's the best way to go. We're looking for: biomarkers of inflammation, mitochondrial abnormalities—our little powerhouses in our cells are called “mitochondria”—oxidative stress markers. We're looking for antibodies to myelin, which protects our neurons. We're looking for nitric oxide production—the peroxinitrites—very, very damaging, it's produced with an oxidative stress reaction—and lowered melatonin. Melatonin helps us sleep. So if the melatonin starts going down then we don't get proper sleep at night.

And here's further... I've talked about these already but this is a bit more detailed. This is some of the work that Magda has done and some other scientists have done.

So management and treatment strategies.

Okay. Firstly, reduce exposure. How do you do that? Well, we need our building biologists. We need them in there all the time to go and figure out what's going on. Because even when you think you know what you're doing—and I've been doing this for over 10 years now—I still discover things I didn't know that I thought I understood. And it's like, “Oh my goodness, not *this!*” Or some other technology has come out and it has totally caught me off guard; I didn't realize it was emanating anything but it is emanating a lot. So everybody is different, so everyone needs to have an individualized approach. And diet, nutrition, exercise are all helpful. I'm going to talk a bit more about that in a minute. But psychotherapy is not helpful. Okay? You don't need to be told, or, thought of as, you know, being emotionally disturbed, that's why you're feeling the way you're feeling. No, that's not true. You're feeling the way you're feeling because there's something wrong with your environment! Right?

So again I'm borrowing off Magda, who I really appreciate her clarity. And that is, you know, so you R.I.D.E. it. You *Reduce* your exposure. You fix your *Immune* system—like the diseases we talked about, the infectious diseases, the gut, any, you know, parasites or what have you, or viruses or bacteria that are kicking around. You *Detoxify*—you decrease that body burden,

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

right? We talked about all the stuff we gathered since we have been *in utero*, right? A good gift—we've been accumulating the stuff. And then finally *Emotional* and psychological trauma. For those who have been wondering why they've been feeling so unwell for the past 20 years, and they thought they were going a little crazy at the time, you know, and they've been devalued or they've been treated so poorly—maybe by family, or friends, or their jobs—and they've had a lot of emotional stress in their lives around that.

So we like to look at a garden. And we say, "Let's weed"—take out all the stuff we don't want, "Let's seed it"—let's throw in good stuff to start developing health and resilience—and "Let's feed it"—let's maintain it, let's have the right supports to help these folks get better.

So we have to clean up the work and home environment. Hardwire everything where possible. Develop some "white zones"—places where there's absolutely nothing that you would worry about. Has anyone ever heard of Green Banks, Pennsylvania[sic]? Yes. So there's a good "white zone." I've got people going to Green Banks. They feel better. A lot better. That's where the radio telescopes are. And so you can't even have an electric toothbrush; you'll get arrested or something. You know, you just can't use any electronic equipment at all at Green Banks. So I figure, you know, if we send about 100,000 of us down there, you know, we'll make a statement (laughs). You turn off all the emitting devices at night. Maybe unplug things close to your bed to decrease the electric field. Consider Stetzer filters or Stefan(?), building biologist, was telling me about Green... what's it called? Greenwave—another type of filter that he's selling at the booth. I got some to take home. And then... and use corded phones only. Forget the cordless phones, guys—get rid of.... That's the DECT phone—you know, that little thing that you have and it has this little G(??) thing that's emitting at my brain right now (laughs a little). That's bad stuff, okay? That's all right; I'll go ground myself. I'll go running through the grass barefoot, and I'll ground myself and everything will be just fine. That's a good way to do it. You can join me if you like. Okay.

So, electromagnetic hypersensitivity is recognized as a disability under the Canadian Human Rights Commission. It's a *disability*. People need to be accommodated. They need to be compensated. They need to be listened to. They need to be treated with *respect*. I have a lot of people who are abused by their workplaces etc. So please, if you know anybody with this problem, tell them it's... you know, it's a human rights issue.

All right. So yes, we talked about all that already [slide: Reduce Exposure – Accommodation].

Shielding. It can be a bit costly. So protective gear is helpful. I've had people going back to work with protective gear. On their head, they wear some clothing. Again, Stefan(??) has a booth that sells that kind of stuff. And that clothing has copper and silver wiring in it. And then you can have panels... if you paint the panel with metallic paint. And you can... like I said, lots of trees are good. Etc. Etc. So there are ways to shield.

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

So we don't like non-ionizing radiation. We don't want it around.

The "Seeds of Health." Here's another thing to remember to get well: think of "S.E.E.D.S." So: Sleep, Exercise, Environment, Diet, and good Support—spiritual, family, and social. This is part of the "Weed, Seed, and Feed."

So after you get rid of all the stuff, you make sure that these issues... sorry, these areas of your life are well-balanced and that you're getting everything you need in that, because that's going to help you detoxify. Okay? Detoxification is not just a physical thing, it's an emotional thing. Okay? Laughter helps... helps your hormones and everything else. Relaxation, meditation, etc.

So we want to get a person who is exhausted, who is worn out, and we want to get them to be able to adapt to their environment through the "S.E.E.D.S." that I just told you: sleep, exercise, environment, diet, and supports.

We want to decrease input... decrease input, increase output through better metabolic conversion of toxins that we want to get rid of. And always exercise, fruits, vegetables. We have to be able to optimize bowel and kidney function; that has to be working really well. Okay? So we're trying to get rid of all the junk up here. And if I look out into the crowd, I can't see many people, you know, reaching down for cigarettes, but there are people who really need to, you know, clean up shop.

All right. So, natural detoxification.

Again, I think we've talked about most of this. Just one little comment about the liver. There's two phases of detoxification in your liver: phase one and phase two. And a lot of us genetically don't have everything it takes, enzymatically, to get rid of the stuff that our liver needs to deal with. So sometimes... a lot of times, actually most of the times with my patients, I have to supplement with vitamins and minerals. I have no choice; I have to. And guess what? It really, really makes a difference. So it's one thing to eat well and do everything I've told you, but sometimes we need a little bit of help. And that's why I like the naturopaths onboard—a good naturopath—and sort of an integrative medicine approach. I'm not a person to... I don't throw pharmaceuticals around like candy, *at all*. Anything I can do to avoid them, I will.

So the phase one transforms toxins into something that's super-nasty. So if I don't have enough of *this* stuff to transform the super-nasty into something that I can excrete, then I'm in big trouble. So that's why it's important to know if you're succeeding or not when it comes to cleaning up your total load. And that's where environmental health physicians can help, naturopaths can help, and, you know, just taking a supplement—we can talk more about that later—would be helpful. Okay?

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

So reducing body burden. We're trying to clean up the gut: infectious diseases; maybe a person has celiac or inflammatory bowel syndrome, or sorry, or IBS irritable bowel; etc. So that needs to be fixed up.

And then the mercury or lead—which are both neurotoxic—or solvent exposures as well, they all need to go. We have to get rid of those. And sometimes chelation is helpful, and also giving supplements that help with detoxification of heavy metals—alpha lipoic acid, n-acetyl cysteine, glutathione, etc., etc. I won't get into any details, but you can look it up. It's very interesting... interesting stuff. Okay?

And cornerstone to everything I do is mindfulness-based stress reduction. So: meditation, mindfulness, biofeedback. Those techniques to help a person relax. Because when a person learns those skills—that you should practice every day, you can do it through prayer, you can do it through your own just everyday meditation, yoga, or whatever it takes to get you to just relax your body and relax your systems—that's a way of controlling the way currents flow in your body too. So you actually have a lot of power to help control the way your body reacts to stress. And it's very good for the heart rhythms, but some people need medication when their heart is going a bit out of control. And once we get their heart in control and we remove the exposures, we can wean them off the medication—the propranolol or bisoprolol is used.

And then the sleep—you can... some magnesium, or melatonin, fish oil. Obviously you can't just go to a store and start taking this down; you have to see a naturopath, or an integrative medicine specialist, or even a family doctor who knows what the dosages should be to help you with that. Also grounding—just getting your bare feet on the grass, or in the lake, or in the tub—can be very helpful. I had... one of my colleagues had to be cardioverted. She had an arrhythmia, atrial fibrillation. And after they had cardioverted her—you know, with the paddles, you know, shock—she said she felt fantastic. And I thought, “Why?” And we were thinking; we were scratching our heads. “You felt fantastic.” “Oh, maybe it's because we're exposed to so much... so many fields that the electrons start getting depleted and everything sort of goes wonky, and those paddles probably got her back on track.” So I'm fascinated about that one. There's just another question. I'm not going to start paddling people, but you know... anyway, just hold still, pfft (laughs). Anyway. And you need supports. In Quebec there's the ElectrosensibiliteQuebec.wordpress.com. That's a support group, right, André? Oh, she has got pamphlets—excellent. A support group for people with electromagnetic hypersensitivity. Okay? And lifestyle changes: we've got to give up our cell phone for a bit, we've got to turn things off. We've got to just change the way we behave. We can make choices. We actually have the choice.

So lastly, recommendations. More research. More public health initiatives. More health provider guidance. Doctors, health providers, all types of people who deal with health need to

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

understand the science behind this, the health implications. There was a HESA Report made up for The House of Commons on “Radiofrequency Electromagnetic Radiation and the Health of Canadians.” The last one was last year, making recommendations for schools, for everyday life, etc., and how we need to have much better regulation and much lower threshold of safety. And I would like to see, in Ontario, the Medical Association and the Public Health body have mandatory physician surveys asking how often they see patients with electromagnetic hypersensitivities. And we should be getting data; we should be gathering numbers. Because otherwise, you know, we just keep talking about it.

There's a huge gap in the knowledge of understanding in the medical community. Although I know that there are a lot of doctors who are onboard now. So a lot of doctors are really getting it.

And this is a political and ethical challenge. It's in your hands. It's in our hands. It's in everyone's hands. We have to keep on pushing for better regulation and standards. And this World Social Forum is a fantastic platform to do that, to talk about it. And I thank André very much— wherever he has gone to—for even thinking of doing this. Because it's so critically important for us in this day and age.

So, I want to thank Karl Ayton for some of the slides. He's a medical student who was with us for a little bit.

And do we have any questions?

[applause]

[53:40]

H: Thank you very much, Riina. That was wonderful. [Continues in French.] Just a quick comment. You mentioned the cell phones: don't put them on your brain. [Continues in French.] You mentioned also the exposure history questionnaire. We'll put a link to your website—you'll send me that? Okay. [Continues in French.] And if you want to answer in this mike, I'll go around the room. [Continues in French.] Madame?

QF: Will this PowerPoint be available? Is it on your website?

H: English and French.

A: Yes. I'm going to have it translated into French as well, yes.

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

H: [in French]

QM: Good day, hi. Thanks very much for that. What do you think of the not so scientific ways of alleviating the waves? Like chips that you put on the phone. And they're not measurable. So what do you think of that?

A: You know, I don't understand the science very well. I have an engineering background, so I'm not totally out to lunch about them. But I would say that if it makes a person feel better, I'm not going to say don't use it. You know? If it makes a difference in their life and they'll be able to work and live better, fine. Who am I to say don't use it? You know what I mean? Yes. Thanks for that question.

QM: Thank you for your presence.

A: Oh, you're welcome.

QM: And my question is about the ionization system. Because there is some air filters that most of them have a button that we can activate ionization.

A: Right

QM: And sometimes in houses they have thermal(?) pump(?) system and all those. And they have those for filtering the dust.

A: Right

QM: Does that system can be applied and be affecting the biochemical equilibrium in hours when I breathe those particles?

A: Right, good question. So, what that is doing is it's ionizing particles in the air. It's giving them a charge so that they will stick to some bodies. And it'll be... it'll come off; it'll disappear from the air. So those will neutralize themselves. If you breathe them in, that's not a good idea. So there is... for our multiple chemical sensitivity patients, we do have a wearable filter necklace gadget that does ionize but it pushes the ions *away* with a magnet. Okay? So they're not breathing stuff in. In fact, they can... the chemically sensitive patients can go to the restaurant or to the theatre and be okay. If you have an ionizing filter at home, people tend to feel better with them. Their brain is less foggy etc. Because it's providing negative charges. So people actually feel better. And that's probably why my colleague who was defibrillated with the paddles felt so good, because her negative charges were depleted. And I think that's the way that's working too. So I don't think you need to worry too much, except that the ionizer

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

should be working in such a way that it's doing its job without your being exposed to the particulates that are being charged. It has to do its filtering as well; you can't just throw it out into the air. It has to have some way of sticking to whatever, you know, wherever it's supposed to go; and then you have to clean that off or whatever. It's a filtration process that needs to be implemented.

QM: I understand that the body is about all being filtering the blood and the liquid.

A: Yes

QM: And the electricity systems have to be into thermal what they call equilibrium.

A: Right

QM: But what you're saying is we can use a system so that we can reduce those charged particles in our environment. That's what I (inaudible, 59:00).

A: You mean...

QM: When we ionize...

A: The air?

QM: ... the air, we can actually decrease some of the negative (inaudible, 59:10) that would be produced by all sorts of environmental aspects(?).

A: Well, it's a.... I wish it was so easy. Because it's not as easy as that.

QM: I can understand that it is not easy, but it can be studied.

A: Yes, for sure.

QM: And then can be used in a certain therapy(?) (inaudible, 59:28) aspect(?) (inaudible).

A: Yes. You can... like I said, running across the grass barefoot will do the same thing. But you can... André has got a.... Yes, but thank you for your thoughts. Those are good thoughts. I appreciate that. Thank you very much. Thank you.

H: [in French] I guess I'll say it in English. Dr. Isaac Jamieson, [in French for a moment], if the air is too dry (inaudible, 59:58) [continues in French]. So ventilate. Reduce synthetic materials that generate static electricity.

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

A: Right

H: Maintain your relative humidity between 30 and 45 per cent in winter. And stay away from electric devices which generate electric fields. Because Isaac Jamieson found out that in hospitals there are more infections—nosocomial [continues in French].

A: So there you go. Okay, I got that too.

QF: [in French]

(inaudible)

QF: Okay. When you said 50 per cent of the population will suffer from EHS by next year? But how many will *know* that they're suffering from EHS?

A: That's an excellent question.

QF: Still 6 per cent or...?

A: Okay. "How many will know?" That's an excellent question. The only way we'll be able to find out is if we *ask*. We have a sort of public survey, or awareness in the newspapers and whatever, so that people are *aware* that they could be feeling unwell because of what's around them. So really, it's going to be self-identification. People are going to have to.... We... like... I don't know, the media, the government, the grassroots are going to have to do something so people can self-identify. That's a good question. Yes.

QF: I have potentially quite a few questions but I'll try to limit it to two rolled into one. Okay, so the first one is political. We're here at the World Social Forum and it's great. I'm really happy that you're presenting this talk today. But I am wondering about the policy aspect of it. I know currently in Ontario there's a task force that's looking into chronic health conditions. And so I'm wondering.... Including multiple chemical sensitivity. I'm wondering if EHS is also being looked at within that task force. And I know that it's happening in Ontario but, personally, I'm hopeful that that will have implications for the rest of Canada. And just on a...

A: I agree.

QF: So that's my first question. And the second one just bringing it to sort of a grounded level. If someone knows that they are hypersensitive and they're looking for accommodation in the workplace, where do they start and how would they start? Even though it's recognized

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

under the Canadian Human Rights Commission, here in Quebec it's not something that *is* recognized. And it puts an employee in a difficult situation.

A: That Human Rights Commission report is federal, so it does apply to Quebec. And there is an environmental health physician right here, from Quebec, that you could see. So he's going to be speaking after me. So he might be able to...

H: No, he's not speaking today.

A: Oh, he's not. Oh, I'm sorry. Well, maybe you can comment about how you could access doctors who have, you know....

H: Well, I think [continues in French].

A: And your first question. The task force, I'm intimately knowledgeable about that task force. And I keep bringing it up that they have to include EHS. And the person who is representing the doctors knows very much that that's very important. So I'm just going to keep on telling them it's part-and-parcel. But thank you for bringing it up again. Yes. Thank you.

QM: A somewhat provocative question. Bear with it just a...

A: That's okay. I can handle it.

QM: The position, I think—correct me if I'm wrong—of the electronics industry and the power industry, generally and publicly, is that certain non-thermal *in vitro* studies show certain effects but population studies on humans nothing, so these electrosensitives they're largely people with mental health problems. That might be a bit of an exaggeration but I think that's a pretty accurate description of industry's public position.

A: Sure. Yes.

QM: My question is: is there any evidence, or do you have any inklings, of a possible link between, let's say, this 1 or 5 per cent who are *acutely* electrosensitive—but I'm not talking about the population at large; I'm talking about the people you are seeing in your Clinic—that there might be a certain percentage who *also* have mental health problems *along* with their electrosensitivity and could this have a common environmental cause: prior exposure to a phenomenon?

A: Yes. That's good question. And I think we have to understand that people with any psychiatric problems can still be electromagnetically sensitive. I mean, just because they have a mental illness—and it's very common, 30 per cent of our population suffers from mental

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

illness—you can still have... can be environmentally sensitive. So absolutely. And I think it's important not to stigmatize people because of that. And certainly there is... there are a lot of studies, by the way just to let you know, there are a lot of studies showing effects on human health from electromagnetic fields—like enough. And it's not just *in vitro* studies, it's *in vivo* studies that they've done. Ample evidence. How much more evidence *do* we need? Well, there are other studies that need to be done to close the circle, but for sure the number of people that we have who are... just have, say, some mental illness problems is very, very, very tiny. But there are lots of studies funded by industry, paying off psychiatrists to do studies that basically label people as having just a mental illness and that everything is in their head. And there are lots of studies like that that are outrageous. And they... they really infuriate me. Because I've been doing this for 20 years. And over the last 10 years very concentrated on EHS and problems that way, and there is *no way* on God's green Earth, as a medical doctor, that this is just, you know, mental illness related.

H: As you said, only 1 per cent of your patients have phobias.

A: Yes, 1 per cent of the EHS, so that's really tiny.

H: And as well, there are many studies [continues in French]. So they create anxiety, depression, what have you.

A: Yes. It *causes* that.

H: Yes

A: And that's why we have people coming in, and we say, "Okay, you're not... you know, this is not what's causing the problem. You're feeling this way *because* of the problem." Go ahead?

QM: What I heard is that medical... what I see is medical profession doesn't at large recognize, you know, those effects. And am I right or wrong?

A: Well, you know, that's a really good question. That's the next study we have to do. Because I think there are way more doctors that care to admit that they actually... that they think there's a problem. I think there are a lot of doctors who know that there's a problem. They haven't been approached. That's what we need to do. We need to do a medical-wide survey. And I bet you we're going to have a good 70 per cent. And they're going to say, "Yes, there's a problem out there." So I think it's naïve at this point. It has been going on long enough that enough people are complaining to physicians of problems, that I don't think it's... I don't think it's like that anymore. I think people are covering for themselves. Do you know what I mean?

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

QM: What would it take so the medical profession could say (inaudible) it's a sickness like... like cancer, let's say, okay or whatever that's clear? Because it's not clear, we have a problem with Hydro Quebec.

A: Okay, yes. You have a wonderful question. And it's *my* job to educate the physicians in Ontario, since I'm the one that basically sees most of these people. And the physicians are waiting for me to step up to the platform. But I've had to take my time... the very reason that it's a very political hot-potato... and I've been waiting for that critical mass: the understanding, that awareness... public awareness. Because if I just come up to the soapbox and I go "blah" and nobody is really... it's not on their radar, it's a problem. But I think now it's sufficiently on people's radars—especially in the school system etc.—that people are now saying, "Okay. Doctors, get onboard. We're ready to move forward. Things have gotta change." So that's an excellent question, thank you. And it will be answered, hopefully in the next six months.

QM: (inaudible) as fast as that. Do you think that the industry, because of all the power they've got, are overwhelming what you're doing or what the doctor is doing?

A: They try. Who cares? We keep going. But thank you, that's a good question.

QF: Thank you for your presentation. I'm very highly sensitive to electromagnetic (inaudible, 70:42). And I have chronic(??) mononucleosis(??) (inaudible) Lyme(??) disease that(??) started(??) the whole, you know, trouble. But chronic mononucleosis(??) (inaudible). But as an engineer, (inaudible) who are we to say there is no health problem? Because I'm competent(??) to test airplanes, cars, whatever equipment, but I have no competence for the body, for the health issue. So who are they who are in charge of the Code 6 and (inaudible) that are engineers... (inaudible) electrical(??) engineers, who are they? They have no competence to... to say such a statement.

A: Well, that's a good question... or statement. The people who set the *Safety Code 6*—the Royal Commission on the federal level—they get their information from studies. But the problem is that the studies that they pick, it's a biased selection. So they're getting studies... medical studies with findings but they're cherry-picking all the ones that support continuing on with this ridiculous threshold. So that's why the doctors need to come forward and say, "Look. We're seeing people with problems every single day. We're really concerned about the children. Like enough is enough." So that's right. You know, we... the doctors have to step up to the podium.

QF: And I noticed since (inaudible) new meters for the smart meters and everything else, I have a lot of dirty electricity at my home. Before it was about 40 to 80 Graham-Stetzer; now it's about (inaudible hundreds) 350. So I haven't changed anything in my home, (inaudible), but

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

most of the time, day and night, I just left my Graham-Stetzer meter on, and the dirty electricity is really high. What can we do about that?

A: Well, a building biologist—there's one here today...

H: Stefan(??) [continues in French].

A: He's the one to call for an assessment. And he can help make your home a safe place.

H: [in French]

QM: Thank you for your excellent presentation. I read your testimony in Ottawa, and it's brilliant. I would like to have your comment on German research which shows that cancerous cells when they are put into contact with radiofrequency microwave that apparently the cells proliferate extremely fast. I'm thinking about the research of (inaudible name, 73:51).

A: Sorry, the research of...?

QM: Lerchl... Alexander Lerchl, in Germany.

A: Okay. Yes. I have read the same in the literature, that indeed cancers and also diseases—like viruses and mycoplasma bacteria, parasites—also take off. It's the immune system is suppressed, and therefore we can't fight off things that shouldn't be in our body properly. But yes, I've read... I've read that. And I would be in agreement with that, because our patients who come in, they do carry... the cancer stuff, we don't really deal with cancers at our unit. Mostly people who come and see us have, you know, candida overgrowth in their bowels. They may have some pathogens, some infections that need to be dealt with. But they're usually worse. So yes, I concur. Yes.

H: It's the topic of our next conference [continues in French].

QM: I'm sorry, maybe you answered this question before. But I just read the last report of the World Health Organization about this, so all the experts in the world that had a meeting. And I what I recall is there was a lot of doubt. A lot thought "maybe yes", "maybe no", "we don't know", and all experts in the world walked(??) in between. So that's what I recall of the report of those experts. And it's not so long ago that they made this report for the World Health Organization.

A: Who are the experts, is the question? What are they looking for? What parameters are they using? Again, we can't make global statements. And unfortunately the W.H.O. *does*. They don't consider children, or the fetus, or the elderly, or the people with neurocardiac issues.

Trials and Trends in Caring for Patients with Electromagnetic Hypersensitivity at Ontario's Environmental Health Clinic – WSF Montreal, August 13th, 2016

They don't consider any of that. So these sort of sweeping statements from the W.H.O. are very disturbing, and I think they're very unrealistic of what the population is experiencing given our diversity in age and illness and vulnerability. So I really disregard any of that. That to me isn't medicine. It's poor... it's poor public health. It's nonsense. I do believe that they're being paid off by industry to say that nonsense. It's nonsense.

H: I have the document that proved that (inaudible, 76:15) who is writing... doing these studies, who they're funded for. I've published it before [continues in French].

QF: I have just a little question. I have an adolescent... a teenager. And he complains that the router is too far away. He wants to have it in his room, on all the time, and a very strong one. And you know, I try to... I have... you know, I try to explain.

A: Okay, I understand.

QF: Do you have small, you know, something very clear?

A: Okay. It's called a drill. And it's called an ethernet cable. So it's called getting down and dirty with your home. You have to go drilling holes, you've got to connect the wires. And he can have a router in every room if he wants, but it has to be connected. Do you see what I'm saying?

QF: (inaudible)

H: (inaudible) internet.

QF: (inaudible)

H: [in French]

A: But he doesn't have to... if he just wants a router, just hardwire it. But it does require energy and time, and you're going to make a bit of a mess in your house. But who cares?! It's his *brain*. It's his *heart*. But anyway, thank you for that.

H: [in French] Merci beaucoup.

A: Thank you.

[applause]

A: Thank you very much. Thank you.

Trials and Trends in Caring for Patients with Electromagnetic
Hypersensitivity at Ontario's Environmental Health Clinic
– WSF Montreal, August 13th, 2016

[end of recording]

[end of transcript]