

5G CRISIS

AWARENESS & ACCOUNTABILITY



Science on 5G and Wireless Radiation

Guest: Dr. Devra Davis

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Josh: Joining us on the summit today is Dr. Devra Davis. Debra, thank you so much for being with us.

Dr. Davis: Delighted to be with you.

Josh: Dr. Davis is president and founder of the Environmental Health Trust and is an award winning internationally renowned scientist and founding director of the board on environmental studies and toxicology of the National Academy of Sciences. She's also current Visiting Professor of Medicine in Israel and Turkey. Currently, Environmental Health Trust focuses on raising awareness of the established impacts of cell phone use on public health and performing cutting edge research on exposure to cell phone and other wireless radiation. Devra has authored the National Book Award finalist *When Smoke Ran Like Water* and *The Secret History of the War on Cancer*. And *Disconnect*, which is the truth about cell phone radiation, what industry has done to hide it and how to protect you and your family.

Deborah, you've been a pioneer and you've been leading the way not only in wireless, but other major problems on the planet. So thank you for all the work that you've done in your career. I really appreciate it.

Dr. Davis: And thank you for helping to get the word out.

Josh: So, how do we know that wireless radiation is unsafe?

Dr. Davis: Because we have studies in animals and we have studies in humans. And the reason we do studies in animals is to try to predict effects in humans and prevent them from happening. Unfortunately, with this technology as with many other situations including lead and asbestos, what we've done is we've introduced the technology and then we've asked the question of; well, does it have an effect on our health. We have never subjected wireless radiation to safety testing. Certainly not of the sorts that we get today from exposure to cell phones and tablets that are being held close to the body. Our testing for these devices is 22 years old has not been changed since the average user was thought to be a man, six feet with a 12 pound head, who spoke for six minutes in order to see whether or not his head got hot. That test standard is out of date and is not appropriate, given the billions of users of phones today who are young and small, and have no idea about the need to protect themselves from microwave radiation.

Josh: Thank you. Later on in this interview, we're going to get into the specific independent studies that have been done on millimeter wave radiation, which is the basis of the transition to 5G. Industry hasn't done the studies, but there have been independent studies and you're going to summarize some of those for us. So this is going to be very powerful for the summit and all viewers. But before we get into that, I want to just -- if you could provide an overview. The key materials are the key points that you discuss in your book; *Disconnect*.

Dr. Davis: Well, in my book; *Disconnect*, I talk about the fact that I was shocked to learn that in 2000, the British government had actually had a top committee of scientists advise the government then that no one should use a cell phone under the age of 16, because of concerns about exposing the young, the developing skull. And that was based on studies done then in the year 2000. The US ignored that research and in fact, decided in 1996 that no research was needed in this area. There was funded joint industry government study that produced very little results. And they presumed that because cell phone radiation is weak, which it is, therefore, it cannot have an effect, thinking that the only effect would be due to the power of the radiation. Well, they were wrong. It's not the power of the radiation, but the pulse.

You see a cell phone signal is complex. It has a certain frequency, which means how fast it's going, and then it has a certain power which means how much energy it has. And even though it can be very weak in power, if it's going like this, you're regularly abnormal pulse radiation over thousands of minutes over thousands of once in a lifetime. That irregular power has an effect. And we know that because studies have been done in cell cultures of humans and animals, showing that the brain cells of rats when exposed to very weak pulsed signals from cell phone radiation develop damage to their DNA. That was done in 1994. In response to those studies, the industry mounted war

games to try to suppress the science. They tried to defund the scientists. They tried to get their work unpublished after it was accepted. All of that is documented in my book; *Disconnect*.

Fast forward. And now we have the results of the national toxicology program in animals, where they studied not just DNA damage in the whole animal, but they also studied in the largest study of done. A \$30 million study that took almost a decade to finish although it should not have. They found clear evidence of rare tumors of the nerve inside the heart and some evidence of glioma, which is a brain cancer. Now, what makes this study especially important is that human studies have found the same rare cancers; that is malignant glioma of the brain, and a tumor of the nerve, the acoustic nerve, which is most exposed when you hold a phone next to it. And although that acoustic neuroma, that acoustic tumor is usually not fatal. It can result in devastating impacts on anyone who has one, including loss of hearing and loss of the nerves in the face so you get kind of paralysis.

And this study of the national toxicology program was subject to an unprecedented triple peer review, never been done before. This national toxicology program, which I sat on the board of scientific counselors, normally has blinded review where the pathologist and the statistician sit in a room and they look at ABC. And they don't know if A, B or C is the exposed, the control or something else.

And they look and they score these things, and they rate them and they rank them. And they were astonished when they got the results that showed clear evidence of cancer. And also multiple cancers in different organs in rats, and some damage to the heart in mice and rats. And the damage to the heart in both these animals is consistent also with the fact that the heart in the rodent is quite close to the surface of the skin. And the animals of course, it's hard to get them to make cell phone calls. So you expose their whole bodies to a level of radiation that did not create any heat whatsoever, but mimicked in the lifetime of the animals the same exposure that humans will get in our lifetimes, supposedly in 70 years. And those animals exposed to a lifetime of radiation in their two years, develop these malignancies and damage to DNA.

Now, that normally would be a slam dunk in the world of science, because the way the government is supposed to work. Is when the national toxicology program evaluates something, whether it's a drug or a chemical or radiation that's supposed to tell the FDA what to do about it.

Josh: So why do the government agencies the FDA, which commission this study, the CDC, other agencies. How come they're not reflecting of this massively important finding? I mean, when you look at it -- was in 1998, when this NTP study, this \$30 million study was commissioned on 2G and 3G. Now

we're at 5G. So that study was commissioned for the purpose of finding out is 2G and 3G safe, and it found out it wasn't safe. Now we're at 5G. But still, we have the agencies don't reflect this why not.

Dr. Davis: I have to ask that question of Dr. Jeffrey Sherman, who's the Director of the Center for Radiological Devices at the FDA. His wife happens to be Allison Sherman, who is the head of practice for Arnold & Porter involved in getting approval for radiological and other medical devices. So there may be a conflict of interest there, which under normal times, I think would have been subject to attention. Dr. Sherman issued extraordinary statement. I've never seen anything like it in my entire history of 40 years working with the government at senior levels, both inside and outside the government. Dr. Sherman said that the results of the MTP are not relevant to humans. Now what makes that especially strange is that we use animal tests to develop drugs, to evaluate chemicals, to evaluate pesticides. And he is saying that although we use these same tests with the same protocols that have been standard for 40 years, in this particular case, he personally doesn't think it's relevant because he says the exposures were all quite relevant humans.

Well, let me tell you something. Those exposure chambers were built by Swiss engineers who advise the Swiss government, who designed technologies for testing for industry around the world. To reject their system of testing is a mockery of the whole program. Why spend \$30 million on a test system, which by the way, the predecessors of Dr. Sherman approved the whole study design. So it was an approved study design, reviewed by government scientists, built by industry experts. And now that you don't like the results, you say they're not relevant. And by the way, you're married to somebody who makes a very, very healthy salary out of pushing related devices. I think this is egregious, and the CDC actually has been captured. They have brought in the subject matter expert to advise their website named Kenneth Foster. As a subject matter expert, he was asked to wipe their site on wireable wire devices.

We have in our files drafts of what the first advice was that the CDC wrote, which was to take precautions, avoid exposure to children, etc. Foster rewrote the original draft prepared by CDC scientists, so it now reads like an infomercial for wireless devices. That's a huge conflict of interest, because he has for years been supported by the industry. And yet he was brought into the government as a subject matter expert. And I don't know whether they realize the extent to which he was conflicted as an expert. So you have the CDC asking the industry to write their website. And then of course, you've got the same thing happening in other places in the government. And as a consequence, this government has a revolving door as you know very well with the FCC. Many members who are commissioners of the FCC now formerly

worked directly for horizon, for the Cell Phone Telecommunication Industry Association and others.

And they regularly, for the past two decades had moved back and forth between the industry that they regulate and the agency. So that at this point, the FCC sees itself as an industry enabler, not at all as a protector of public health and safety.

Josh: And the Harvard ethics department report identified that very clearly, and basically said FCC is probably the most captured agency.

Dr. Davis: That report by Norman Alster for the Safra Center for Ethics at Harvard University said exactly that; the FCC is a captured agency. It has not been able to operate independently for years because of this close tie that exists between the industry and the FCC.

Josh: Okay, really quickly. So the so called safety studies are based on thermal heating effects, which you mentioned and this count thousands of studies that all show biological harm and/or effect from wireless radiation. How many studies would you estimate? There are peer reviewed published scientific studies that conclude that there's a link between wireless radiation, non native EMF and biological effect.

Dr. Davis: Well, if you take into account that we have a growing literature on effects on plants, as well as birds, bees and bunnies, as well as us. There are many thousands of studies at this point. And unfortunately, many of them are conducted in literature that very few of us read very much. I'm not an expert on plant rhizomes, but I know that they are affected by electromagnetic fields. We have growing evidence now of damage to trees, we have evidence of damage to bees and insects. So the array of phenomena that had been affected by wireless radiation seems to be only limited to whether or not we've tried to study it. Every time one looks for an effect, it seems to be there and let me say something about that.

Living beings depend on electricity. We are all electromagnetic beings, our heart and our brains would not work without electromagnetic fields. That's how we send impulses back and forth. That's what keeps our heart beating. So we are electrical phenomena. And the fact that no change in the amount of exposure to exoticness, to foreign electricity would have no effect on our natural electrical properties makes no sense at all. It's true for plants. It's true for birds. We all have different electromagnetic properties take place. And putting additional exposures into our systems is something that we have to look at very carefully and recognize the potential for harm is quite great. And we have evidence of it from studies that have been done on bacteria and

viruses. We know that you can accelerate cells growth. And that's not a good thing.

Of course, if you're an older woman and you want to accelerate the growth in your face, you can get a so called laser RF, meaning microwave laser. And it will in fact accelerate tissue growth, whether it might also accelerate the growth of skin cancer, we don't know. But it's certainly reasons to think that it could. And we also know that this radiation at a high enough power can make your skin feel like it's on fire.

Josh: Right and we'll get into that later in the conversation. We have an epidemic of an increase, almost exponentially in some cases of -- one researcher told me more than three dozen. Journalists' chronic diseases in the last generation are all neurological, autoimmune. You know, conditions of various types are all increasing at a huge rate. What does the science tell us in terms of what role does wireless play in those increases of journalists' chronic diseases?

Dr. Davis: As a scientist, the short answer is I don't know. But here's what I can tell you. Chronic Illness has multiple causes, right? Nutrition is important. Our life is increasingly electrified. And for some benefit, after all, you get responses to emergencies more quickly, and in situations of dire emergency. That's a good thing. However, the role of electromagnetic fields for autism, for autoimmune disorders, for thyroid disease, for chronic pain cannot be fully evaluated at this time because nobody is asking the question.

And yet, if you look at the work of Dr. Martha Herbert and others at Harvard, she is convinced that if you reduce the toxic exposures in the environment to children. You get rid of the toxic chemicals and electromagnetic fields, then you are giving children a chance to grow and thrive and develop in a healthier manner. And if you continue to expose them, so that you give children who already have learning disabilities tablets and things because it does calm them down, then you are actually priming the pump to make it worse later on in life. And unfortunately, we are seeing examples of this throughout the world today.

Josh: Yeah. So really quickly before we get into the millimeter wave science. The first steps that anyone can do to reduce the radiation, you put the phone on airplane mode when it's not being used, especially at night and turn your Wi Fi off at night. Get rid of your wireless keyboards and mice, go online and buy wired devices, wired routers and so forth. I mean, that's just my current list. Get your smart meter removed and replaced by an analog meter. Go ahead.

Dr. Davis: Get a wired landline for your phone, and insist on one. And the lawsuit was settled between Horizon and the government saying they were committed to providing more landlines, you are entitled to one. So get a landline, go to your secondhand store, you'll find one of the corded phones there or you can buy it on a website. Put your phone -- get in the habit of turning your phone off, radical thought. You know, turn it off, put her on airplane when you don't need it. Never keep it on the body when it's on except for extremely short periods of time.

Don't ever give a phone to a child as a pacifier unless it's on airplane mode and you first downloaded whatever distraction you intend to give them, and everybody in desperation that might need to do that. But remember, the distance is your friend. And iPads belong on tables, they're called tablets. They belong on tables. They do not belong on the body. They are tested 20 centimeters away from an adult male body of a 220-pound diet. They never belong on the bodies of young children.

There are certain devices like the iPod and the iPod teething wrap case and the iPhone teething rattle case that really should not be allowed to be marketed because they're inherently so dangerous to children. So those simple precautions, remembering that if a signal is weak, your phone has to work extra hard to get radiation connection to the tower. And it will take -- half of all the radiation going out of that phone goes into you if it's on your body. So keep it off your body, only use phones when the signal is weak when it really is an emergency.

Josh: Thank you. Okay. So on your website, environmental health; *ehtrust.org*, you've compiled a list of independence studies on millimeter wave radiation, which is 5G radiation. And this is incredibly important especially because industries has mentioned in a Senate hearing in February of 2019, admitted that they're not doing any studies on 5G. They don't intend to and they're not putting any budget in the future to do this. So this is on us now because industry is no longer even allowing themselves to look. So I would like to request you to go through and give our audience a quick overview of the most important independent studies on 5G millimeter wave radiation and safety.

Dr. Davis: Well, Dr. Cindy Russell of Stanford has produced an excellent review in the journal on environmental research, which can be found on her website where she talks about the public health and environmental implications of 5G. And she notes there that, because 5G is a combination of very short high frequency wavelengths. It's going to be without precedents in what it will mean for humans. More importantly, let me tell you first what 5G is. 5G consists of a combination of 3G and 4G in order for it to work. So what

you have to have for to work is a series of antennas that are within a few hundred yards of each other, sometimes right close to your bedroom window. And under the current rules that have been passed in Washington, you cannot object to location of a tower on health concerns, you may only object on aesthetic grounds.

So there are some effects that have been known from 5G. And the modulation of the signal is what we're most worried about, because it's moving extremely fast. And it has the ability to alter the functioning of all of our healthy nerves and cells, and it's the membrane surrounding ourselves that may be perturbed the most because it interferes with the way calcium moves in and out of the cell wall. And what we know about the coil ducts from studies done in Israel is that the millimeter waves are mostly absorbed within the first say, the 164th of the skin. And you think at first that is of no consequence, but it turns out that your sweat ducts are located there. You've got hundreds of millions of them.

And they can be regarded as a helical antenna like double helix. And because of that, they can transmit the exposure from the surface of the skin internally. And this is something that's been covered in a number of the electronic technology blogs, that a growing number of publications show that 5G has the capacity to have serious biological effects, including that it can accelerate the growth of bacteria, mainly by depressing the growth of those things that are supposed to be bad for you and allowing good things to die. And as a consequence, the cells don't communicate as well with one another because they're both exposed to millimeter waves.

One study has been done in people who live within 80 meters of a cell antenna, that's a 3G antenna, and compared to people who were close to those who were further away. And found that in the blood of those who were closest, there were elevated indications of damage in their DNA, an indication of what's called a micro nucleus, which is not a good thing. You don't want to have that. And there's a significant difference there, in that you can get DNA damage, which we know is a precursor to cancer. So we need to be quite mindful of the fact that there's a number of studies here showing problems including I think, most problematic the effects on the environment, trees and insects. Because more than 1000 different pollinating insects, we focus on the honeybee because it's been glamorize. It's kind of the charismatic, stinging insect, if you will.

But studies have shown there that if you take a cell phone and you put it into a healthy hive, and you take another phone that's turned off and put it into another healthy hive, and then the third hive is not exposed at all, and you see what happens after two weeks of exposure of just two hours a day. The

hive that had the phone in it without it being turned on is fine. The hive that was the control is also fine. The Hive with the phone turned on, the bees stopped dancing as well. They stopped producing honey and some of them don't come back.

Josh: So that's a 2G or 3G study. That's not a 5G or millimeter wave studied, correct?

Dr. Davis: Correct. However, what we know from other studies is that the 5G wave interferes with the cryptochrome in the insect. And cryptochrome is like an inborn GPS. It's what allows animals to migrate. It's what allows them to navigate. It's been found in every migrating animal that has been evaluated so far, birds and bees, among others. And studies now published in major scientific journals have shown that the cryptochrome can be disrupted by millimeter wave exposures.

In fact, the title of one recent article is cryptochrome, the magneto sensor with a sinister side. Sinister because it can be disrupted. And there are studies finding that low intensity millimeter waves, that mean not very high power, can cause the cryptochrome to create free radicals and free radicals we know to be damaging and causing all kinds of degenerative diseases such as you asked me about before.

Josh: I just want to say you did such an amazing job in collating and disseminating verbally in this case, the research. And you're referring to your notes, you have studies you have your website on the screen. So I just appreciate you summarizing this hugely important information on millimeter waves and the science that has been done. Just referring back to your page here, I have it open as we're talking as well. What else in terms of millimeter wave related studies is a key important takeaway for our audience?

Dr. Davis: Well, there was another studies showing what happens to microbes in soil in a city in India. And again, microbes in soil we may not think are very important, but they are absolutely critical to agriculture just as bees are. And they showed that the microbes that were at the highest mobile tower exposure were more damaged as well. And Australian studies show that children in kindergartens with nearby antenna installations had many times more exposure than those much further away.

And other studies done in India have shown that people living closer to these antennas have again biochemical measures of damage in their blood that we know will further predict whether or not they're more likely to get cancer. That doesn't mean they will get cancer. It does mean that there's evidence of damage more so in those people than in others who live further away. And I think the Israeli study is particularly important, the study of the sweat duct.

What it is indicating is the ability of a very ubiquitous part of the human body to be affected by this and to create a reflectance of the skin so that -- the skin is, in fact, our largest organ. And what we know with what these millimeter waves do is to weaken membranes, and that means that any toxic chemical that you've been exposed to, whether from cosmetics or pesticides or cleaning agents, can be more deeply taken into the body as well. In fact, there are some applications in medicine, where millimeter and microwave radiation is being used to enhance the uptake chemotherapy drugs when people have cancer.

So it's not only that this has a bad effect, it can be used for medical treatments. But that's telling us something, if we can open membranes, if we can use this to enhance the delivery of chemotherapy, what are we doing to our children with this exposure over many, many months and many, many years. We know that insects continually exposed to this will also show some changes in their behavior in their morphology over time. They look different, they act different and that's also a signal. With my colleagues, Lloyd Morgan, Anthony Miller and Hugo Schooneveld, we've looked at studies in people exposed and have found not only an increase in brain cancer, but an increase as well in a rare cancer of the salivary gland, as well as elevated rates of testicular cancer, leukemia, thyroid cancer.

Josh: Can I just jump in there with the salivary gland tumor? That's exactly what LeBron James had, correct?

Dr. Davis: That is right.

Josh: And on the side that he used the cell phone, right?

Dr. Davis: That is right.

Josh: And then is it not also correct that he subsequently to that, got a huge contract from Samsung?

Dr. Davis: That I don't know. You'll have to ask him about what his understanding is of how he got that cancer and whether -- you know, a contract with Samsung is Samsung wants to do the right thing and start to produce devices with the right hardware and software. And do what the Israelis and the French and the Belgium do, which is to warn everybody, you must use a headset, you must use a speakerphone and don't keep the phone directly on the body. That would be a good thing. Maybe LeBron James is the person to make it happen.

Josh: Yeah, that would be a good thing if that were to happen. But I think there's -- you know, I can tell you he did get a big sponsorship deal with

Samsung and I haven't heard of anything about him admitting any problems with wireless radiation. Let's put it that way.

Dr. Davis: You know, Josh, maybe we ought to start to educate him about the fact that this is a great opportunity for him to help millions of people avoid the damaging effects of this. Because the other thing we know is that if you combine millimeter waves with other co-factors, you get worse responses. And there have been some very detailed technical studies that have shown you can enhance gene damage if you combine microwave radiation with that. There have been other studies that I have looked at, a very important issue here. We don't know how to measure 5G in the environment, and the reason is, it's never existed before. The European Parliament had a policy report recently that pointed out that Singapore is not going to introduce 5G for consumers at all. And you might wonder where are the 5G phones we've been hearing about?

They have bombed so far, they don't exist. And the reason is, in order to work well, they would need several dozen antennas on a single phone. They said they're going to be folding. And they completely fell apart in the first prototypes that were sent around to some of the people to test them. And the reality is, you don't need 5G for voice calls. You don't. The only reason for 5G is to promote the internet of things so that your refrigerator can talk to your coffee pot, and your child's diaper. You want to talk about the most foolish app I've ever heard of recently, is a device that will allow you to put on your baby's bottom so you can tell when the diaper needs to be changed.

Josh: Wow. Yeah, that's over the top.

Dr. Davis: Frankly, I think it's criminal. And I think we need to recognize that what we have here is a technological imperative, where the fact that technology can do something means that people want to try it. And we should not ever mistake the idea that because we can do something, we should do it.

There are some things we should not do. We should not be putting wireless devices on our baby's bottom or on their feet, unless they are in a medical emergency that requires some extreme ordinary levels of monitoring. You have to recognize that for years, the Russians did research on all of this. And they are well aware of these effects. And now we have the controversy of what on earth has happened to our diplomats in Cuba and China, where people have documented MRI confirms brain damage.

And the Times Magazine ran a preposterous story, quoting experts from the industry, by the way, saying that this damage was caused by a form of hysteria. That's insulting to everyone. And it's widely known in the diplomatic

community that Russians have been playing around with microwave weapons for years, and we also have been doing this. And to create the idea that this is all just hysteria -- of course is especially what you might like to have happen when you're about to, unveil even more exposure to this radiation throughout the country. In order for 5G to work, you will need antennas every few hundred yards and you will need to cut down trees because it doesn't go through trees very well. And you will have to allow them be placed sometimes right into your window.

And that system will be built with housing and in higher end neighborhoods, it will look like a fancy tree lamp. But it will be containing 3G and 4G in the beginning. So you're going to take the more powerful signals of 3G and 4G, bringing them from the mountaintop into your bedroom window waiting for the 5G to get turned on, which will not be turned on for a while. You have to build it first. And the European Parliament report says US is unique in the world in taking a build it first and then we'll figure it out approach.

Josh: Because it's a race.

Dr. Davis: It's a thorny race. The Chinese, the Koreans, the Japanese, they have dense urban configuration we have never in the United States. Is there any city as dense as Tokyo or Chengdu or Shanghai? None of them as dense as the Chinese cities. They are the most dense cities in the world and in the history of the world. You go to Chong ching, and you see huge apartment buildings that are 50 stories high by 40 apartments wide. And that density doesn't exist anywhere. And you know how those people get their signals? They're wired.

And also the priority for those countries is for military and medical and research purposes. That's where it belongs. Hospitals, the police, the military, those are the ones that need access, and they are in fact wired. They're even wired now, almost without exception. No hospital is going to rely on a wireless system for its most essential communications, nor is in a police station going to trust it. No bank is going to use wireless communication. So what is that telling us? Why should we put it on ourselves when the most secure forms of communication and the most technologies and the businesses that require security would never rely on wireless.

Josh: There's a quote from your article on medium.com in May of 2019 here that you said in the 1950s and 1960s, scientists who showed the harmful impacts of tobacco found themselves struggling for serious attention and financial support. The validity of their views was only accepted after the toll of sickness and death had become undeniable. Is that what's going to need to happen in order to solve this problem?

Dr. Davis: I hope not. That's why I'm talking to you. But that's my fear. Because you see, I was a young scientist in the 1980s. We were tasked at the National Academies of Sciences, with evaluating whether it was safe to smoke cigarettes on airplanes. You're too young to remember, but there was a time when you got on an airplane and it was full of smoke. And it took four years to get that report released, which did say that by the end of a six-hour flight, the non-smoking and smoking sections were identical in the level of pollution. Now, today wasn't shock anybody to hear that, but back then that was new science. Although, again, the other scientist born to this year's before because of course, it makes sense. You're smoking in a small space, it's going to spread everywhere.

Well, that report came out. And within short order, within a few years, they began to ban smoking in the environments of young children. Because we also showed, as another report at the National Academy of Sciences, that children who lived with parents who were smokers were more hospitalized often with pneumonia, bronchioles infections and asthma. And that was the most impressive thing. Now, do we need to show now that children and people who use cell phones more have delayed speech acquisition or autism or attention deficit disorder, more behavioral problems and less empathy? I think we're on the verge of showing it. Unfortunately, it's going to take the public waking up to what we're doing to our children to understand we need to take a step back. It's not that the technology is inherently evil. It's that it's not any more appropriate for a child to be playing with this technology than it is for them to drive a car or drink whiskey.

We need to teach them and we need to learn how to use the technology more safely, as we are doing now with wired connections here. And we need to make that standard that people have wired to and through their homes. So you bring a wire into your home and you run a wire through your home. And a wired internet connection is safer, it's faster, and it's more secure. That's what we need to understand. And if you want to have your coffee pot, talk to your toilet and your washing machine, you go ahead and put on the Wi Fi for that. I don't need it.

Josh: There's a quote by Robert C. Kane, who was a senior telecom engineer. And he subjected himself voluntarily to testing of wireless radiation. He said, "Never in human history has there been such a practice as we now encounter with the marketing and distributing of products hostile to the human biological system, by an industry with full knowledge of those effects." Tell us about Robert C. Kane, this quote and the significance of what he's exposing here.

Dr. Davis: In the 1980s, when phones were just being developed, he voluntarily submitted to being a test subject to test some of the early prototypes phones, which were higher power with the same frequency that we're talking about nowadays, about 900 million cycles a second, point nine gigahertz. And about 7 years later, he developed a glioblastoma multiforme, that's a malignant brain tumor. He became very interested in learning more about the biological effects and he discovered all the old Russian research that had been done and all the semi classified work that was coming out showing biological effects. And he wrote a book called *Cell Phone Russian Roulette*, he said that it's like Russian Roulette to put a cell phone to your head.

And I talked on Gandhi, who was another engineer who worked with Motorola at that time. And he said that Motorola actively discouraged any of the other engineers who even talking to Kane. They treated him like a pariah, because of course, they didn't want his concerns to become widely known. And sadly, he died shortly after publishing his book; account of what he knew and what happened to him. He developed several different tumors of the brain. And there was no question in his mind, nor today is there any question in mind that cell phone radiation causes brain cancer, this particular rare brain cancer. So he suffered the ultimate fate of having been exposed, basically he was a guinea pig. Now, the question we have to ask is, do we want to put our children in that place? Should they become the guinea pigs? We're going to wait and count the bodies again. I know that that's what we did for lead in air and gasoline. I know that's what we did for asbestos and vinyl chloride, and most recently for flame retardants.

And all of those cases, we introduced the technology widely. And then we waited and people said, "Well, maybe it's not a good idea. We better look at this." And the more we looked, the worse it appeared until finally, there were so many people with so much injury and death then we said, "Well, we better change what we're doing." And the reason environmental health trust exists, reason I've written my book; *Disconnect*, the truth about cell phone radiation, is because I believe that by talking to more and more people like you and others, people will wake up to the reality that we don't want everybody to be a guinea pig. We don't want our children and grandchildren to be guinea pigs, and simple precautions of using a headset and a speakerphone, and using phones less and using your phone as an answering machine. And talking on voice protocols as we're doing right now on a wired computer is a much safer and more practical thing to do. It reduces your radiation and radiation can be beneficial in medicine, and it can be harmful. And we know enough to know now that we need to reduce those exposures.

Josh: I just want to dip into the science here a little bit more -- a few more studies on millimeter wave radiation. I'm just looking at your website here, is

linked -- in 1977 there was a Russian study that was declassified and approved for release by the CIA in 2012. And it's entitled biological effect of millimeter radio waves. Forgive me to put you on the spot like this. But what can you tell us about that study, what it found and its significance?

Dr. Davis: Well, it was a Russian review of millimeter waves, reviewed by the CIA. And it showed that there were morphological, meaning that there were physical and biochemical damage in humans and animals from millimeter wave exposure as evidenced in the skin, in the organs, in the blood, in the bone marrow, in tissue, and in enzymes. So it went, if you will, from the level of the whole body, into the body, into the level of the bloodstream, into the level of tissue and nucleic acid metabolism, showing a wide array of biological impacts from millimeter waves.

And by the way, that research is one of many, many examples where there were -- I've got boxes in my home from Zori Glaser who worked for the Office of Naval Research, classified research showing the effects of low intensity millimeter wave exposures on cell growth, on the way that membranes work, on the way that tissues get repaired or not. And there are many examples of this. If you look at our website, there are many different studies showing biological effects and millimeter waves. Dr. Magda Havas has many others as well.

And with all of these effects, it's important to understand that biological effects from prolonged exposure at that time had never been investigated, never. And that safety limits had been set based on only short exposures to avoid heating. Why do we know that's wrong? Because the Mayo Clinic and the Cleveland Clinic tell men who want to have healthy children, get your phone out of your pocket. Keep your phone off your body. Now the Cleveland Clinic is a respected medical institution and the director of that program, Professor Ashok Agarwal, has an MD PhD with over 400 publications. And he has repeatedly said that there's clear evidence that cell phone radiation can damage the testes, can damage the part of the male reproductive organ that's responsible for manufacturing sperm, the quality of the sperm and affect the mitochondrial DNA, which is the engine of the sperm. And those studies have been published for more than 10 years, showing effects from cell phone radiation that existed 10 years ago.

And the Iranian researcher named Massoud Safrenash has recently migrated to this country and is doing pioneering research on the impact on the testicular proteome. We know that you can damage the testis from 2G, 3G and 4G.

Josh: Yeah, if that doesn't convince a skeptic, I honestly don't know what will. What we just need again, the awareness to reach a critical threshold for people to get involved in this conversation, right.

Dr. Davis: And I think the eyes are clearly, you know, we know that the eye is most at risk because the eye has no cooling mechanism. And even if you're only talking about going in a small amount of damage to the eye is irreversible. We don't get a second set of eyes. And same thing is true with damage to the hearing nerve, and there is clear evidence that you get effects into the cell membrane. And the Eastern European countries, they are using millimeter waves to treat various diseases. Now, what does that tell us? If you can use millimeter waves to treat things, anything we can use to treat something in medicine can also be a double-edged sword. Aspirin for example, is great under many applications, but under some circumstances it can kill you.

Josh: Well, let's dive into that because as we move towards closing our conversation here, I do still want to ask you about what can you tell us about the link between 5G and military crowd control technology or non lethal weapons?

Dr. Davis: Well, I'm sure you'll be able to find the video and your viewers will be able to see it as part of this summit. I would encourage you to insert it here now. It shows the Department of Defense demonstrating the 5G weapon that works at about 95 gigahertz but it's within the 5G range. And it's the same frequency as you're going to get from the 5G antenna that might be pasted on your building. And it shows that when at a high power, it makes people's skin feel like it's on fire. It's now a very effective means of crowd control, and the Pentagon has bragged about it. The question we have to ask ourselves is, so you're going to have these antennas on your building, and they're going to be at a lower power. What if someone decided to take it over and make it a higher power? It's also by the way, rather effective listening device, but only comes in. There are so many different double edged swords here. This is a wonderful technology for medical and military and industrial use. That's where it belongs. I don't want it in my grandchildren's bedrooms.

Josh: Right. And not only what you just said, but also the 5G infrastructure is been forming -- is directional they can point it at specific targets.

Dr. Davis: The weapon only works by being forming technology so that it takes the beam and concentrated into a small area to focus on those that you want to control. And when they get within that beam, they have the sensation of the skin being on fire. The 5G from the wireless radiation that's being proposed would have a similar beam forming component, because it has 1000

simultaneously operating antennas they can send and receive at the same time. That's what makes it able to go so much faster. It's like having a 50 lane highway that can go about a half a mile as opposed to what we have now, which is a 10 lane highway that can go three miles. So you're going to be able to go faster, but a shorter distance. Now, I don't think it's worth it. And I think we should do what others are doing and try to wire the 5G into the system if you want it, if you want to pay for it. And some people do, but that should be a choice.

Josh: Having, obviously wired technology. Timothy Schoechle in the summit speaks on it very powerfully. I also wanted to quickly ask, what's your take on the aspect of 5G that involves -- we've heard up to 20,000 or more potential satellites blanketing 5G frequencies around the Earth.

Dr. Davis: It's a nightmare. I just find it hard to imagine on so many levels, I really do. Just in terms of its impact on the stratosphere. Actually, there's a very important report that I wanted to bring to your attention that you may not have seen from scientists at NOAA who have written. And scientists in the Office of Naval reserves have written as well. Warning that the proposed 5G National Grid will interfere with the ability to predict weather because it operates at about the same frequency as what is used now by satellites to sense moisture in the air over the United States.

And if you use that same spectrum, which is close enough to it, you're going to interfere with the ability to predict weather. That's a warning that the National Oceanographic and Atmospheric Administration issued. And there's a memo that surfaced on that that I will get to you. It said, if we continue with this, we are going to be dangerous our ability to predict weather. And we will interfere with the ability of aviation to function because the signals will be blocking and close enough to the spectrum that we need for aviation and weather prediction as to make a mess of it. And those so far, the FCC has ignored that. Would anyone want to take the risk to get in an airplane that the pilot won't be able to navigate properly because there's too much 5G traffic interfering? Hell no.

I think where we are right now is where we were with cars in the 1960s. We know they have to be made more safely. No question about it. We know they need the equivalent of airbags and seatbelts. That's what we need to on our wireless devices. We need improvements in hardware that can be done in terms of being forming and directional signals. We need improvements in software so that the devices don't ping to the tower 900 times a minute, maybe five times a minute will be adequate for most uses. We need baby safe routers like they have in China that Huawei makes. A baby safe router is a router that turns itself off when it's not being used and wakes up when it

needs to be used. And yes, there'll be a point two five of a second, a quarter of a second delay. We have become so incredibly spoiled, and conditioned to having things like that. You know, we don't realize what the price is that we're paying for that instant connection.

Josh: And the insurance industry even knows it, like Lloyds of London, Swiss RE, Fortune 500 insurance company know and they don't insure wireless, and they put it in the highest long term, the highest risk category for things to insure. So it's almost like these mega corporations and who's behind them are just -- it's like a frenzy, like a free for all, like a bubble that they're just going to fall into. They're just betting everything and they're doing it as fast as they can. Because it's almost like they know that given enough time, given enough research and awareness and if they actually did a study, it's going to come to a point where they won't be able to continue to do this. Do you see this bubble bursting?

Dr. Davis: You know, they have children too. And I've already been -- people are reaching out to me from inside the industry now, asking me to do something more. I say, "Come on, guys. You know what to do." I met with people. Google has something called the fiber hood. They wired St. Louis. They wired Chattanooga, they have the fastest internet speeds of any cities in the United States because they're wired.

You can have mobile broadband in cities, the cities can provide broadband to all of her citizens. The digital divide will go away if you do it so long as it's wired to and through the home. Wired up to just the way we have now, then you're going to be setting a base for wireless and as Blake Levan has worn, it will be a disaster. We don't want to create a foundation for more wireless. We want to insist on broadband wired internet to and through homes and schools. And in schools we know from the backlash among teachers and parents, children do not learn well if they're on a computer all day long, they do not.

And more and more, just like the Silicon Valley guys send their kids to Waldorf schools, where computers are not allowed until age 12. More and more parents are understanding you want to limit children's use, you want them to be digital citizens. You want them to learn how to code. You wanted to learn how to be makers and do technology, but you don't want to do it to the exclusion of their ability to go outside and play and get their feet money. That's an important part of being a kid too. Now our children are losing that. We have all sorts of problems associated with the fact that kids aren't being more mobile including obesity. Now of course, that's related to processed foods and a whole bunch of other things.

But this is certainly one of the factors. And if we can understand, the school administrators could understand they've been snookered. They've been snookered frankly by Betsy DeVos and her compatriots, who, for years have looked at the public schools as nothing other than a market where they can push computers so that ultimately they will replace teachers with computers. And when the Los Angeles schools went on strike they said the children are going to learn because the computers are there. Children don't learn from computers, they learn with teachers, with computers. Parents should never allow children alone on computers for any length of time. They have to be there with them. If you're not with your kid when they're working on the computer, there's a problem for both of you.

Josh: Yeah, well said. Any final tips as we just wrap up here. Final tips for why do you see how we can enforce safe technology and shift to -- pace in the shift, I guess you could say, to a more positive future here.

Dr. Davis: We have developed safety cards that are available on our website so that you can share information. So whenever you see somebody with an infant or a toddler chewing on a phone, you can give them some information that will make them understand why this is not a good idea. In this harried world today, we don't want to make people feel guilty about what they're doing. We want to give them information so they can make smart choices and have healthy families and healthy choices in a safer world. In order to do that, we do have to become better informed about what this technology is, what it can do, and what it should not be allowed to do.

And we need to declare safe spaces and safe zones. Family dinner table, absolutely a place there should be no digital devices for anybody, unless Mom and Pop is on an emergency for the fire department or the hospital. That's really important to have times and spaces in your family life, where there are no devices. You can go out, hang out and do the things that families used to do together before we got so enmeshed in all of the technology.

I am encouraged by the fact that you exist, Josh. I'm encouraged by the success that you've had so far. And I think what you're doing here is really important because never forget what Margaret Mead said. The only thing that's ever changed the world is a small group of thoughtful citizens who work together. And that's what we're starting here. That's what's on the way already. There been many people who've been leaders of it, and I'm happy to be one of them.

Josh: Dr. Devra Davis, thank you so much for all of your work over the decades and specifically now at this time, at this key moment in time for

humanity. I really appreciate it. And thank you so much for joining us today on the summit.

Dr. Davis: Thank you.