



## EMFs and their impact upon fatigue

**Guest: Lloyd Burrell**

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**Alex Howard - [00:00:15]**

Welcome everyone to this interview where I'm really happy to be talking with Lloyd Burrell. Firstly, Lloyd, welcome and thank you for joining me.

**Lloyd Burrell**

Thank you, Alex.

**Alex Howard**

So in this interview we're going to be talking about EMFs. We'll talk a bit about 5G. We'll talk about some of the science around this and some of the practical solutions that people can use to better protect themselves and have sort of a way I guess, of living somewhat in some level of harmony with these things, which really are just part of our lives at this point.

Just to give people a bit of Lloyd's background, Lloyd Burrell is founder of the website [electricsense.com](http://electricsense.com) and creator of the EMF Health Summit, which introduced electromagnetic fields to an audience of over two hundred thousand people. He is a regular speaker at international online events, podcasts, radio shows and hosts his own bimonthly EMF health podcast. He's the author of two ebooks on EMFs and health and his latest book, *EMF Practical Guide*, is available on Amazon and in all good bookshops.

So Lloyd, before we come into really some of the science around this, I'd love to start a little bit with some of your story, because I know that this wasn't the journey that you started on. This is a journey that you sort of found yourself being taken on. So tell us a bit about what happened for you.

**Lloyd Burrell**

Yeah, well, what happened was I very simply answered my phone one day and I had a reaction. This was back in 2002 and it was totally out of the blue. And I began to just initially kind of wonder what was going on. And then it went from wondering what was going on to just, you know, get this thing away from me because it was so painful.

And I've told this story many times, to many people and to many doctors and I laughingly say it got so bad, I actually went to see my doctor. And this was only after a few days and the doctor couldn't find anything wrong with me, basically. And I kind of tried to carry on with this all the time, going to see various doctors that my GP was referring me to, specialists and so on, and went for all kinds of tests and things and nobody could find anything wrong with me.

And I was telling myself there was nothing wrong with me, but all the time it was getting worse. So it was this initial reaction to my cell phone, which then grew to a reaction to pretty much everything electrical, including my TV, radio in the car and my computer, which was a major problem. Yeah, slightly inconvenient. And even my corded landline, I was reacting to that. And it was like nowhere to

run, nowhere to hide. And no solutions, it seemed.

### **Alex Howard - [00:03:01]**

When you say reacting to, what were the symptoms that you were experiencing?

### **Lloyd Burrell**

Well with a cell phone. You know, it was just this burning sensation which came over very quickly. So initially it was just, oh, what's going on? I'm feeling a bit bizarre, like not too coherent thinking and seeing stars and things like that. And then it went just to outright pain, like a laser beam being fired at the side of my head. All the side of my head heating up. What I now call hot head and I also call hot ear. And many people that are listening, I'm sure have experienced this if they're using a cell phone and you just kind of carry on and don't think anything more about it. With me it was extremely painful and prickly skin. And I began to, that was with the cell phone, and then I was having the same symptoms when I was using my computer and I would just be using the computer. And I actually never even had Wi-Fi because that hit me and Wi-Fi wasn't really around. And it was just, or if it was, not very widely spread. And just on a regular wired computer. And then I was getting these same symptoms, this hot head and I just wanted to get away from it. And that was, this lasted literally for over two years.

And there seemed to be no answers. And I seemed to be on my own because the medical community couldn't help me. And then I came across an article in the newspaper of a COO, actually a British guy, who had exactly like me, was reacting like me and wasn't using a cell phone. He was dictating everything to his secretary. He couldn't use a computer. He was running round in a clapped out old car. And he was actually having to switch the electricity off at night to get to sleep. And when I read that, it was like, eureka! I'm not the only person on the planet with this because that's how I thought I was, because the internet wasn't what it is today. We didn't have the information. And then it just kind of developed from there. And I developed a way of, I figured out my own way of dealing with this thing, which took me nearly ten years. And the happy ending is that today I am basically symptom free. I'm still sensitive, I can still feel them, but I don't get the debilitating symptoms and I can just kind of switch off the symptoms if I do start feeling that and I'm able to use a computer and everything. I've got two computers on here, all this weird lighting to make the room very bright and things. Which obviously would have been totally impossible as it was back in 2002 and the years subsequent to that.

### **Alex Howard**

Yeah, it's quite the story. And I think just before we come into some of the science around this, maybe we can just put some fundamentals in place, like when we talk about EMF, what do we actually mean? Just some of the kind of definitions of these kind of pieces?

### **Lloyd Burrell**

So when I say EMF what I mean is electromagnetic field. When some people say it, physicists and engineers and things, they mean electromagnetic frequencies. Others don't even use the term EMF, they use EMR electromagnetic radiation. But it seems as though EMF is sort of becoming to be the more accepted term. And we're meaning, when we say EMF, we're actually, what I'm referring to is these man-made forces, which all these devices which we use emit. All these electrical devices, things like, notably cell phones and Wi-Fi routers and anything smart, anything Bluetooth and really anything electrical actually is actually emitting in some shape or form an electric field, magnetic field. And when it goes into a higher frequency, then it all comes together into this thing which we call radio frequency microwave radiation, which is what cell phones and so on are using.

So it's all about frequency. Whenever we talk about EMFs the two main characteristics are frequency and wavelength, and those things are inversely proportional. So the higher the frequency, the shorter the wavelength and vice versa. And so we can see all this on the electromagnetic spectrum and all of life is actually on the electromagnetic spectrum because we are vibrational beings. And, you know,

there is this kind of misguided view, but the most widely accepted view is that health is actually, the scientific paradigm for health relies on this mechanical chemical model understanding. But actually above that, this mechanical chemical model is this energetic, this energy and this information. And there's a lot of research behind this. Research on what's now called the biofield, and I mean it's not a new thing, it's been around for like twenty years, but I mean it's been around and the ancient civilizations have been talking about this for thousands of years, calling it something else, calling the aura.

But what I'm saying is, we all have, we're all actually the building blocks of who we are, are more energetic than something mechanical and chemical. Although chemical is important. But it's only like one very small way of understanding who we are. So it's not difficult then to understand that these EMFs, these man-made EMFs that they impact our health so profoundly. And this is what the science is telling us. And there are thousands of studies on this and people thinking, a lot of people think, well, it's not clear and we don't really know and we need to do more studies. Well, yeah, we always need to do more studies. But actually, the science is pretty clear, but it is little known.

### Alex Howard - [00:08:53]

Yeah. And there are certain things that, OK, we might build upon understanding or find the elements of. But there are certain things that seem to be fairly clear at this point. So maybe you can say a bit about some of the actual science that's out there, because I think people can sometimes be quite surprised by that. I think you've got some slides.

### Lloyd Burrell

Let's have a look at that. Yeah. OK. So. Are EMFs causing an epidemic of fatigue? Because we're talking about fatigue and this is only obviously one fairly small aspect of how EMFs impact us, but it's nevertheless a big aspect because there is an epidemic of fatigue. And I'm sure that's your, one of your main motivations for putting on this event. So, today's focus, are EMFs causing or contributing to this epidemic of fatigue? And fatigue related conditions like CFS, fibromyalgia, lyme disease, etc, which I'm sure you're talking about in great detail.

So firstly, an important observation, a combination of frequent fatigue during the day and trouble sleeping is a key sign that you may have some cellular dysfunction. So it's not just, you know, I'm tired and that's normal because that's life or whatever. It's actually something that's going on at a cellular level. And the sighted common explanations for this are things like parasites, candida, toxic metals, viruses, bacteria, trauma and others. But we forget that also EMFs, these electromagnetic fields, these man-made electromagnetic fields from all these devices, which I just mentioned, impact us at a cellular level.

And so there's two main mechanisms. There's firstly this voltage gated calcium channel mechanism, which I'll talk about in a sec, and the way that the EMFs impact our blood brain barrier. And, so firstly, with regard to this VGCC, these voltage gated calcium channels, which relies on the work of Dr. Martin Pall, professor emeritus at Washington State University, has found that these wireless exposures from these devices, again which are commonly used like cell phones and smartphones and Wi-Fi and so on, that they create these free radicals, this category of free radicals called carbonyl free radicals.

And this creates this molecule called peroxynitrite, which is, let's just say, just very bad news, which causes this oxidative cascade, this oxidative stress, which, as you know many experts are saying is a root cause of a lot of illness, this oxidative stress. And so this mechanism of harm, it damages through this VGCC, these calcium channels in the cell membrane, which are dysregulated through these EMF exposures. This causes, at biological level all kinds of damage like, DNA damage, cell membrane damage, damage to the proteins, stem cells, disrupt cell division and it damages the mitochondria.

And I'm sure you've talked about that also in your summit, mitochondria. But here's a quick recap. These mitochondria are energy factories which are contained inside your cells, which create this ATP, this energy molecule. There's somewhere between 10 quadrillion and 100 quadrillion mitochondria inside your body. How many naughts is that exactly? I don't know, but it's a hell of a lot. And so what

that actually means is where more mitochondria in terms of quantity anyway than anything else. And it also means that you can only be as healthy as your mitochondria. So it's super important the health of your mitochondria, and EMFs are impacting your mitochondria, which is why it's so relevant, causing this mitochondrial dysfunction via an increase in this oxidative stress and generating ATP. An increased oxidative stress which can lead to this premature cell death, for instance, which can be linked to cancer. And so, yes, this mitochondrial dysfunction, which EMFs can cause, not just EMFs can cause this, but other things as well. But this mitochondrial dysfunction is the cause of many diseases. That's what a lot of research is showing us.

**[00:13:56]**

So Dr. Martin Pall has said on this that, quote, "among the more commonly reported changes are sleep disturbance, insomnia, headaches, depression, depressive symptoms, fatigue and tiredness" etc, etc, etc. So, you know, fatigue and tiredness, sleep disturbance, insomnia, that's all in there and super relevant to what we're talking about today. And I've put the study references at the bottom of the slide so anybody who wants to go through this a bit more slowly can actually go to those studies and read more about these particular studies.

So the second mechanism of harm. So when we say mechanism harm, it's like an understanding of, so we're observing, we've got so many studies now which have observed that EMFs do impact our health. But with this mechanism of harm, we're understanding how they do that. That's what's important. And so the second mechanism is this blood brain barrier penetration BBB. And there's over 20 studies on this now. The first was done by Dr. Allan Frey in the 1970s. And, so most of the research on RF radiation that's to say, radio frequency, microwave radiation, so all this wireless, is on that. Most of the research is on this radio frequency radiation. And your brain is about 75 percent water. It's very fragile. Everybody knows that your skull, it protects you from you from bangs and knocks and stuff like that. But your BBB, this blood brain barrier also is a very important form of protection.

And so, there's two roles, it's preventing toxins from getting in. Toxins, pathogens, the bad guys from getting in and it's allowing your brain to get the essential nutrients it needs. That's the two roles of the BBB. And what Dr. Frey found in his really rather brilliant studies nearly 50 years ago now, is that this damage from cell phone type radiation, it came on, its very short term, from very short term exposures, came on very quickly. And it suggests that these abnormal changes begin almost immediately. So almost immediately that you are putting the cell phone to your head, that you're in an environment with WI-FI, that you're surrounded by wireless, that these changes can be coming on almost immediately.

So this blood brain barrier is really vital in protecting the brain. And this research that Dr. Frey did, which by the way was kind of pushed under the rug at the time, and he was actually threatened. You know, if you don't stop researching this then we're going to take your funding away because he was doing it for the Navy. But others have actually confirmed his findings and there's around 20 studies which are confirming these findings.

So a number of studies are finding health problems associated with this blood brain damage, which also known as 'leaky brain', which includes depression, brain fog, neuro degenerative diseases and, of course, chronic fatigue. There you go. Surprise, surprise.

So, and then we've got these other studies which are finding a link between these exposures and fatigue. For instance, cell tower radiation kind of exposures. We've got a Spanish study which found that about 70 percent of people living within 10 meters of a cell tower, experience fatigue very often. OK, there's not many people living within 10 meters, I know, but in another study, in an apartment building where the people who lived on the top floor became sick just a few months after it was installed, the cell towers installed. They had to move out and at 300 meters, the study found that 27 percent of people were experiencing fatigue very often. So if you kind of extrapolate from that it's not difficult to understand what an impact... Because cell towers are everywhere and with 5G, which are going to be talking about in a moment, that's what the trend increasingly is going to be, is literally cell towers, these small cell antennas everywhere. And this could be one of the health outcomes of this is that more and more people are going to be experiencing this kind of fatigue from these exposures.

[00:18:54]

And then we've got these other studies which are showing that EMFs from electrical wiring are also causing fatigue. So we're talking on electrical wiring. So it's again, we're at different frequency. Remember what I was saying about frequency and wavelength to a lower frequency? So for people that are watching from the U.S. the electrical wiring operates at 60 hertz a second, that's 60 times back and forth a second. And in the U.K. and France they we're at 50 hertz a second. And at those frequencies, then we have studies indicating that these exposures can cause fatigue. And also dirty electricity exposure.

So what's dirty electricity? Very, very quickly, because it's a subject, it's a whole subject to itself. But dirty electricity, also known as intermediary frequencies, are these frequencies between these higher radio frequencies, which cell phones are using, radio frequency radiation, which is at the gigahertz level, which is a billion cycles, a second, one gigahertz, and these lower 50 to 60 hertz powerline frequency levels. So they're in between those two. And we call these intermediary frequencies or dirty electricity. And again, we've got signs notably linking these exposures to cancer that most of the studies I mean, the links with cancer are pretty strong generally. But we've got links between these dirty electricity exposures and fatigue also.

And then we've got this melatonin connection, I just want to, just cover this very briefly. So melatonin, so nighttime is when your pineal gland produces this hormone called melatonin, which is super important to regulate. Your sleep contributes to many vital bodily processes and is considered by many experts to be this master hormone. And studies show it has a role in bolstering your immune system. Super important at the moment, fighting cancer and anti-aging. And so this melatonin also has a role as a powerful antioxidant and can protect against this oxidative damage, remember I was talking about that at the beginning, caused by these EMFs. And multiple studies, stretching back over two decades, show that EMF exposures at night impede melatonin production. So here's the thing. How many people are sleeping in an environment where they've got their Wi-Fi router on at night kind of thing? And any kind of wireless, so any kind of EMF, this is what the studies are indicating, then it's going to impede your ability to create this master hormone melatonin, which is super important for your health.

And we've got other studies which show reduced melatonin production leads to poor quality sleep. Therefore, another way that that is contributing to fatigue. Obviously, if you can't get good sleep, then you're going to be fatigued. And so if you're looking for more studies on this. And it's important to say this because like I said people are under the impression and this is the impression that mainstream media is giving is that we don't have many studies and it's not clear. But it is all really, really rather clear. In fact, for me, it's crystal clear. And for independent researchers who have been working on this for any time, it's crystal clear how these EMFs, these man-made EMFs impact our health. And there's a bioinitiative report which is a great resource which came out in 2007 so go to bioinitiative.org for that. There's Powerwatch, which is a brilliant U.K. website. Had to get that in. Which has been on the go for about 30 years. Alasdair Philips, who's a colleague who's done some brilliant work on that and many other things as well.

And then we've got this new archive, which really is actually thanks to Professor Magda Havas out of Trent university in Canada, who has put this online. This research from Dr. Zory Glaser, who has been working on this subject, on these microwave radiation effects, for decades and is now retired. And she went through with a team and scanned all these documents. And there's over 4000 documents in there and it's all searchable. And just out of curiosity, I went in there and put in the word fatigue and there's a whole load of studies. And these are studies from Russia, Germany, Poland, etc, from all over the world, because a lot of these studies are actually non U.S. Studies. So there are big studies that have been done in the U.S., notably the National Toxicology Program study, 30 million dollar study, very recent study, came out 2015, 2016. So we do have some U.S. studies, but most of the science on this is non U.S. But there is science and those are some great resources. And of course, my website as well.

**Alex Howard - [00:24:28]**

Let's not forget that.

**Lloyd Burrell**

Yeah, and just a bit of anecdotal evidence as well. So a story that I picked up from Dr. Ross Anderson, who's an EMF consultant, over an 11 year old girl suffering from chronic fatigue. She wasn't responding to his treatment. He went in with his meters, EMF meters, discovered that there was this humongous magnetic field in her bedroom, and also that the dining room where she was doing her homework for two to three hours a day every evening was next to the electrical column that ran to the fuse box in the basement. So he moved her to another bedroom, suggested that she moved to another bedroom and she started doing her homework somewhere else. And already the next day, literally the next day, she was feeling better. And within three weeks, she was completely over her chronic fatigue with no treatment.

So that's really, and I've got, if you go to my website and do a little search on fatigue, I mean there's thousands of people who've commented on my website and I don't know how many because I've not counted, but fatigue is so common a complaint with regard to these EMFs. And it was one of the things that hit me the most also was I was like, you know, I was like a zombie, literally. I mean, I was so fatigued, Alex. And I could just go to bed and sleep and sleep and get up the next morning. And I was completely zonked out.

**Alex Howard**

And we're going to get into a bit more of the things people can do. But I think what's also interesting about this case study is it was relatively minor changes that led to such big results. Sometimes obviously people have to make bigger changes, we'll come to that. But just a few relatively subtle things made an enormous difference.

**Lloyd Burrell**

Exactly, exactly. And that is actually very often the case. Well sometimes, I'm not going to put myself out there too much, but surprisingly, by taking some really simple steps, which is what I'm going to be explaining just in a very short while, some really simple strategies, putting those strategies into place with oftentimes very little effort. You can get a big bang for your buck. You know, you can really you know, this stuff really works. And you've got practitioners like Dr. Klinghardt and that's like the first thing they do when they get somebody for whatever condition, X, Y, Z, look at the EMF exposure, get that EMF exposure down. And that there other practitioners that are also taking this on board. Not enough, sadly, but yeah. So it can be very, very effective. And so, yeah. So that's my little presentation on the science.

**Alex Howard**

So firstly, thank you Lloyd for taking us through that, I think it's helpful to bring what's actually quite a technical subject forward in a way which is accessible like this.

Let's touch briefly on 5G and then I want to cover some of the practical things and solutions people can do. 5G has become, I think controversial is the word, particularly in recent times with some of the early narratives that developed online, sort of conspiracy theories one might say, around sort of coronavirus and so on. But let's just come to a sort of, what we know to be true about 5G and some of the, kind of realities.

**Lloyd Burrell**

Yeah, well. I'm tempted to just to address the point where between this, the conspiracy theory and the coronavirus, I don't believe it is a conspiracy theory. There is research on that. I'm investigating that. The research, which I know is going into, they're trying to get published in a peer review journal. So I'm talking solid research on this. And there is a number of articles on my website on this link

between, there's the correlation between where the coronavirus, and I don't want to really dwell on this, but where the coronavirus broke out in Wuhan and these different countries, different parts of the U.S., for instance, where it's particularly prevalent and how that correlates with where this 5G has been introduced. And it's like a time lag of a few months, particularly for Wuhan. So there's that. And then there's other studies about the biological effects and this crossover and what EMFs do and how they suppress the immune system and all that, how that interplays with the coronavirus making it more prevalent and making it more severe. And so this is not a conspiracy theory. And, it really is important to have your eyes open to just how all pervasive these EMFs, man-made exposures are.

#### **Alex Howard - [00:29:33]**

And I think the thing that I would say and it may be where we're at slightly different sort of perspectives around some of this, and I always welcome that, I think that that's a healthy thing in these conversations. And I think perhaps what I would say is that there's probably a distinction between things playing factors in a more complex picture and things being direct causes. And I think exactly that, that's important.

#### **Lloyd Burrell**

And so, you know, we have to, even the CDC is talking about environmental factors being a cause of disease. And so why are we not talking about EMFs? Because EMFs are an environmental factor. Why are we not talking about that? Just I mean, just opening the door a little bit to it if you want. But I believe there's much more to it than that. But at the same time, I'm not saying that as some people maybe are, and I'm not sure they even are, maybe some people are, but I think it's been, the argument has been twisted. And I know that there was some early talk about the link between 5G and coronavirus and the vested interests have twisted that into people saying that somehow 5G caused the coronavirus. Well, frankly, nobody's saying that. Nobody in their right mind, nobody seriously can say that. But there is a link and there's this link. You know, there's some really good research behind, all the detail behind that link.

But yeah to talk about 5G more particularly. So, yeah, 5G, there is a lot of controversy around this. There is a certain amount of fear mongering also behind it. There is some science behind it. And we know this. So, you know, just firstly, what is 5G?

#### **Alex Howard**

I was just going to say we probably should define what it is.

#### **Lloyd Burrell**

Yeah. I mean, what the heck is it? What is this next generation of cellular technology. And some people have still got like the 3G phones and others are on the 4G and the 'G' is just G for generation. And now we're moving into 5G and plans are already underway for 6G and 7G. So there's no stopping this. But there is, I do believe that we can actually improve the way that this takes place. This technology is brought into our lives and how we interact with it, notably there's a lot of work that can be done on that.

But yeah, so 5G is being sold, as a superior way, offering greater speed, notably 10 to 100 times faster than existing technology, 4G. And behind this technology is this millimeter wave. So it's not so. When we say 5G, it's not always millimeter wave, so millimeter just very short, millimeter wavelengths of millimeters few millimeters, 10 millimeters typically. You know, we're talking about wavelengths before, so 10mm wavelength really, really small. And so remember what I was saying about the inverse relationship. So that means that 5G, if millimeter wave is used, is very high frequency. And when I say very high, for instance, cell phones at the moment are operating at 1 to 2 gigahertz. It depends sometimes on the gigahertz can be 900 megahertz. And with 5G in certain parts of the world, again, not everywhere. Just depends where you live. Then we could be going into 20 gigahertz, 50 gigahertz, up to 100 gigahertz. And we do have already some studies linking these exposures, these millimeter wave exposures. And that's where the controversy is principally with

regard to these millimeter wave exposures, which are new, not really, but just new in the way that we're using them like blanket, to blanket the earth in them. That's what's new. So they have been used for crowd control. Yeah. So to hurt people. So they can hurt people. So we've got studies which are showing effects on the skin, effects on the heart, effects on the immune system, on antibiotic resistance. So there is reason for concern.

[00:33:51]

But the real concern is that we are introducing another layer of electro smog above and beyond what we've got already. So it's like we're already at breaking point, even though you don't feel it, folks at home, we are. OK. And what I'm saying is that these EMFs are impacting us, because we've not really talked about disease particularly. But the links between these EMFs exposures and disease are strong. You know, cancer, Parkinson's, Alzheimer's. Yeah, chronic fatigue, all these neurodegenerative diseases, the links are there and impacting the reproductive system, notably sperm quality, brain tumours. In all these different disease categories, then there is some strong, strong signs in some areas stronger than others. And that is concerning already.

And then we're saying, OK, now we're going to bring in 5G guys. We're going to put 100,000 satellites up into space. We're going to blanket the earth in this 5G radiation. You just need to go buy 5G router and you can pick up high speed internet in the middle of the desert or out on your yacht or wherever you want to be. And that's what they're bringing to us. That's what they're wanting to bring it to us. And so the clear concern is that it's another layer of electro smog above and beyond this already very high level, which we have now, and we've got the satellites in space and we've got the small cell antennas. Why have we got the small cell antennas? Because 5G, very high frequency. Very high frequency. What does that mean? Low penetration. It doesn't go as far. The reason we use these lower frequencies initially is because it goes far, it goes through things. It goes through buildings, it goes through objects, it goes through humans. And that can be measured. It's not difficult to measure at all. And these higher frequencies, they don't go so far. Therefore, what we do? We put antennas like everywhere. Like every third to fourth house in urban areas. That's what we're talking about.

Now, the problem here. So we've got the antennas, the small cell antennas, which we don't exactly know what that is going to do for health. We have got reports of people already, places like Geneva, where literally they turned it on. Facebook group, just somebody chatting on Facebook saying, well, I don't know what happened but, you know, since last night, I'm getting these headaches and, you know, I can't sleep and all this kind of thing. And people put two and two together and realized it was 5G that had been turned on in Geneva. And they've now got a moratorium on that. And so we've got, so we have the studies, we've got anecdotal evidence. And I've seen quite a bit of it where people, because people write into me and stuff and, you know, there is something going on. That I can confirm. It does impact some people.

And so we've got these satellites, the small cell antennas, and it is impacting people, we've got the science. And the question is do we really need this? That's the question. And what exactly this is going to do? Nobody knows what it's going to do. But what I can tell you is one of the issues with this 5G rollout is that when they're introducing the small cell antennas, what they're also doing sometimes is they're introducing a 4G antenna in there at the same time. So normally the 4G we just put on the big cell towers.

The 4G antennas would only go on the big cell towers. And now they're introducing the 4G with these small cell antenna packs. And the 4G is on 24/7, whereas the 5G is basically an on-demand technology. That's to say if you've got a device which is a 5G device, then there's going to be an interaction between your 5G device and the small cell. Otherwise there won't be. And also it's been formed. So it's very directional, like a maximum 10 degree beam. So if you're not in the beam, you're OK. So the 5G compared to the 4G in that respect is a walk in the park because of 4G is 24/7. We've already got research, more research on the 4G. But, you know, the problem is all this technology is being rolled out and nobody's asking questions. Nobody's doing the studies and we're doing the studies like after the event. And we should know more about this. But already there is reason to be concerned from the research that has been done on the 5G and for this blanket rollout of 5G, which frankly I find just totally, you know, it's like straight out of Star Trek, frankly.

**Alex Howard - [00:39:26]**

I'm mindful of time, but I really want to come to some of the practical things that folks can do, because I think at this point, hopefully people have got some idea of some of what's going on, they've got some directions to go in terms of research to do. And I always think with these things, my recommendation is always that people do their own investigation, that they can go and read the studies that you're recommending. They can find their own sort of conclusion, conclusions and perspectives from doing that. But let's sort of back up to some of the sort of, let's back up to mobile phones, dirty electricity, Wi-Fi. What are some of the recommended day to day solutions that you find are easy to do, but also can make a real difference for people?

**Lloyd Burrell**

Well, you know, the top of the list has to be cell phones, because everybody's got a cell phone. So I'm not walking around with a cell phone, but most people are. And so it's about, people write in to me and say, well, what's the safest cell phone? There isn't a safest cell phone. Nobody knows what that is. Certainly, I don't. I don't have a laboratory where I can go test it. And it's so complex to tell, the testing that is used, this SAR is not reliable. So it boils down to using a cell phone safely. And that is what it's all about. And, well, the safest thing to do with a cell phone is actually switch it off, because as soon as you switch it on, then you've got this interaction, this constant interaction, usually most of the time between the cell phone and the cell tower.

So what I recommend to people is already most of the time have the thing on airplane mode. And when you put it on airplane mode, that means switching off the cellular connection with the cell tower, switching off the Bluetooth and switching off the Wi-Fi, switching off the GPS, if you can. And only switching all that on when you actually need to use it. And then you've got these apps which can actually direct your messages to your email, for instance. So you don't have to use your cell phone as your primary means of communication. And so that's easier for me because I'm working in an office and I've got a computer and I know it's harder for some people, but everybody can minimize how they're using it.

Second thing to understand is distance is your friend. So with pretty much all these exposures. So that means that just a small increase in distance brings you a significant reduction in EMF exposure.

**Alex Howard**

I just want to say, one of the things that I find very interesting is a friend of mine quite a few years ago now wrote an article which went viral on LinkedIn, which was called 'Smart Phones Are the New Cigarettes'. And the sort of essence of it was that it used to be back in the day that you didn't have anything to do or you felt a bit bored or you felt a bit nervous, you pulled out a cigarette. And that was sort of the way of settling one's nerves. And that's how people tend to use social media and mobile phones now. You know, in a lift, pull out the phone. On a bus, pull out the phone. Having dinner with family, pull out the phone. There's a sort of breaking of that habit, of that need to constantly be connected and constantly be stimulated. That just beyond EMF exposure, I just think psychologically it's a healthy thing to break those habits and those patterns.

**Lloyd Burrell**

It is. And it's an incredibly difficult thing for most people to do. And for me, it's just laughable because I walk round, I don't have a phone. And so I see all these people with phones and they're, you know, it seems people are almost hiding behind the screens sometimes. So they're avoiding. And it's so easy now, particularly with the coronavirus because we have to wear a mask if we're in a town, as many places do now. So you've got the phone, you've got the mask. You can't really see anybody.

**Alex Howard**

It's funny, you see these groups of teenagers all sat around in a park and they're all on their phones talking to each other on their phones.

**Lloyd Burrell - [00:43:24]**

Yes. Yes. Yes.

And then you've got, chemically you've got a dopamine hit from these EMF exposures. So it's very addictive. And so, yeah, it's about how you use a phone and distance is your friend, just a few millimeters can reduce your exposure levels thousands of times. I know it sounds insane, but this is true. Lloyd Morgan researcher has done work on this.

**Alex Howard**

One of the things that I started doing four or five years ago now is I only ever use my mobile phone on speaker phone. So I don't hold, I never hold. Because I noticed I got a hot ear every time I did it. I was like this doesn't sound very sensible. So just using the phone at a distance on speaker phone, you know, obviously, I suppose if you're in a shared office, that's not so easy. But most of the time one can do that. I think that makes a big difference.

**Lloyd Burrell**

It does. And then if you are in a shared office, then what you can use is an air tube headset. So it's like a regular headset, except part of the wire is replaced by an air tube. Because the problem with a regular headset is that this wire can act as an antenna, picking up all the ambient radiation in the room. In the environment you're in and beaming straight up to your brain.

And so, yeah, it's, all these things you can do. And looking at the bars, making sure you're not using it when you're just one bar, for instance, because these devices are amazing and literally they can ramp up power, ramp up the radiation level by over a million times from one bar to four bars or vice versa. You know, when there's four bars down to one and it's working really hard, if you've only got one bar, you want to avoid that. Don't be using it in underground carparks, underground or in buildings with thick walls or, in vehicles which act as a faraday cage, you know, like a microwave oven kind of effect with you caught in there and exciting your molecules just like a microwave oven excites the molecules which eats your food. It's the same thing. And that hot ear, that hot head which you were talking about, that is what it is. And it's exciting the molecules.

And the whole controversy overall around all of this is we've got the cell phone industry showing there's no thermal effects, there is no heating effect. And it's only these heating effects which is important, but it's these non thermal effects, all these things I've been talking about, how it impacts your cells and your DNA and so on. That's really the long term damage. And also really important is that this damage is cumulative. I say that again, it's cumulative over time. So the more you're using a phone, the increased, the greater the level of damage and it's adding up. So that's very quickly on cell phones and there is more to say.

**Alex Howard**

So just to summarize, a couple of really practical, simple things you said one, put on airplane mode or switch it off when you're not using it. And I have to say that these days they must have figured out that people want to do this because my wife and I have been doing this with our phones for I think it might actually be since I interviewed you last year. My wife was like "I've been telling you to put it on airplane mode", she's like it's so easy. Certainly on the iPhone, you just flick down and you don't have to even open the phone. You just flick down and the thing comes up and you pop it on airplane mode.

**Lloyd Burrell**

There is a caveat here. There is a caveat, is that sometimes airplane mode doesn't switch everything off. That's why I was very careful when I said before, to specify what is being turned off and you do need to check with an EMF meter. I could show you one it's just slightly out of my reach here, but I've got a whole bag full of them. Really, if you want to get serious about this without getting really obsessive about it, because that I don't advise either. I advise taking it all in stride and using this information sensibly without obsessing over EMFs or anything else, for that matter, or coronavirus

whilst we're talking about it. But yeah, it's only the EMF meter which will actually tell you if airplane mode is truly airplane mode, if all wireless connectivity is switched off and that's what you need for it to be truly airplane mode.

### **Alex Howard - [00:47:36]**

And you can also go into settings, I think, and you can change, I think, what it's doing in that mode as well. So there's putting it in airplane mode, there's not holding it against one's ear. I'd love to also talk a bit about Wi-Fi. What are some of the practical things that one can do here?

### **Lloyd Burrell**

So Wi-Fi so. Well, my top recommendation with Wi-Fi is to get rid of it. So if you're at home, you've got Wi-Fi. So obviously, if you're in the office, it's not your choice, but you can go to your boss, whatever, and, you know, print some things out from my website, for instance, or from some of those resources which I shared with you, explaining about the dangers here. But if you're at home, I honestly recommend to go wired. You know, look, that's how this little laptop is connected. I've got a wire and I've got my desktop here that's wired. I have got a lot of wires. I've got a microphone here that's wired. There is a lot of wires, but wires are safe.

### **Alex Howard**

I just want to say beyond the safety side, from a technical point of view, it just has to work better as well. I'm always, when doing stuff in the studio say we can get you a wireless mic. I don't want a wireless mic it's not going to work. You know, it's not going to be reliable in the same way beyond the fact that one wants to reduce the radiation.

### **Lloyd Burrell**

Yes. Yes. So that's the first recommendation is get an Ethernet connection. So, which is what's at the other end of this obviously I can't show you without unplugging it, which I'm not going to do, but it's called an Ethernet connection. And some people go, oh, what's that? Because they've never seen one because, you know, all they know is the Wi-Fi. But that's all I've ever had. I do know what Wi-Fi is, but I've never had one activated here in my office. So that's my first recommendation.

My second recommendation is if you don't want to go that far and maybe this is a more sensible recommendation, more reasonable one, is to switch the Wi-Fi off at night. And again, we're back to what we were talking about. You know what I presented to you as information in those slides about it's not just about the melatonin, but when you sleep, that's when your cells rejuvenate, regenerate, detoxify, and it's when your body heals.

And these EMFs throw a real spanner in the works. And if you're sleeping in this, what you think is really cool bedroom with all these gadgets and lights and stuff like that, that is really not conducive to quality sleep and not conducive to optimum health in any way. And long term, this is really it's a super important one. This whole bedroom topic in terms of EMFs is really the number one topic, and that is if you are going to obsess about anything, where you should obsess is about what your EMF exposures are in the bedroom. And I've got a whole protocol for that, which is really simple. I don't think we really got time to go into that now. And that's where you should be focusing your attention is to get your EMF exposures as low as possible in your bedroom for you and your kids.

And just let me just get this in before I forget it, OK? Because it's really important. OK, slightly off topic, but your kids, OK, and what the science is also telling us, and this is why I started my website back in 2009, because as a father, it was driving me crazy to see people giving their cell phones to their kids, to see kids walking around with cell phones. Even today breaks my heart when I see toddlers, when I know the dangers, when I know that kids, you know, the science in a nutshell, says that kids are way more vulnerable, OK? Kids are not little adults. They are not. Their bodies are not formed. They don't have the ability to protect themselves. Their skulls are thinner. Their immune systems aren't developed. Kids are very, very vulnerable to these exposures. And I've interviewed a number of

doctors and neurologists and so on. And this is, I mean, this is off the scale kind of problem with kids that have got these kind of behavioral issues, ADHD, etc.

#### **Alex Howard - [00:51:34]**

And I think it's also just worse. I want to add in here just as a father as well. We've got three young daughters and how easy it is to step up on this where, kid goes to bed listening to a story tape on the iPad and forgetting they're sleeping next to an iPad that's on all night. And, you know, just simple things again, like making sure that if they're going to sleep with an iPad, A, it's on airplane mode and B, you switch it off. Just those little things that one has to get in the habit of doing that I think are really important.

#### **Lloyd Burrell**

It is. It is little things. And that's why really this is all a process. And so I'm giving you a few tips here today. And another tip, by the way, for the Wi-Fi is to unplug the Wi-Fi at night if you do have the Wi-Fi and even better get one of those little mechanical timers, which switches it off between midnight and 6:00 a.m. whatever it is.

#### **Alex Howard**

You mentioned this last year, which we did and I thought it was really clever. What I remember when I was a kid. This was like you used to put the lights on when you went on holiday in case you got burglars, you set the lights to come on in the evening. And it's like it's really simple just little old school sort of thing.

#### **Lloyd Burrell**

Exactly. Really old school. And actually, I got this idea one Christmas with a Christmas tree because we had that on this timer and that went boom. Oh, yeah. Why not use that for the Wi-Fi? And that's where it came from. And why to use that, just by the way, because it's important that people understand the whys from what I'm saying, is that when you do that, it 100 percent works, OK? I mean the kids tablet could break down. But I've got one it's twenty years old. Those things, they work forever. Whereas if you go into the settings on the modem router, the problem is there, as soon as you get an update boom you go back to default usually. So that's why I recommend this little mechanical timer and that is the most reliable way of doing it.

And then the third recommendation I want to make is with regard to the bedroom. Again, because it's just so important what goes on in that bedroom, so it's not as if you can speak on your cell phone willy nilly all day long if you get your bedtime routine right. And your bedroom into a safe haven, a low EMF, create this low EMF space. But it's certainly, you know, it's just so important. It's just so important to do this for your long term health. And what I recommend is going to breaker panel, going to that little panel that we all have in our homes where you've got these, they're either fuses or they are flip switches.

#### **Alex Howard**

You normally find it when you have a power cut and the lights don't come back on at 3 o'clock in the morning.

#### **Lloyd Burrell**

There's these circuits and for a week switch off the bedroom circuit and then just see how you feel. This is my little seven day challenge to you, OK? So I'm not going to say, OK, you're going to feel better for sure, because there could be an imbalance in the circuit because electricity is a little bit weird and wonderful and even the best electricians sometimes don't understand what's going on. And there could be an imbalance, which means that the electric fields could be higher because you're switching that circuit off. So all I'm saying to you is listen to your body, OK? And some people

like, oh, but actually this is right. Perhaps the most fundamental piece of advice I can give you full stop, whether you're talking about EMFs or anything else, listen to your body rather than listen to what I'm saying or anybody else. Listen to your body. You switch that off. How do I feel? Do I feel any better? Do I feel any worse? Can I make a distinction? And if you do feel better, then I recommend you get an electrician to install a switch to automate that or a remote switch. And I have one, I actually have it on two circuits. So when I go to bed at night, no electric fields, no magnetic fields, no dirty electricity. I put the lights on in the night to go out for a pee, boom, I've got light just by switching on a switch because it's automated and that's gigahertz solutions who do that. And that works in the UK, works in France, but unfortunately not in the U.S. But there's a company called EMFs Sleep Switch which do a really simple way of automating this too. There's other companies too. But that's what I recommend.

### Alex Howard - [00:55:52]

And also just to say that I know there'll be people watching this or listening to this that know they're super sensitive to these things. And I sort of think about this in a bit, like the categories of there are people that are really sensitive to food and they have to eat a really restrictive diet. There are those that don't have any sensitivities, but they still need to be careful what they eat. Same with chemicals. It's like there are people which are super, super, super sensitive to chemicals, others less so. But A, if you're not sensitive to food, I still think it's a good idea to make sure you're not eating loads of wheat and sugar and everything else. Same as chemicals, still not wearing loads of chemical aftershave. I think there are fundamentals here that everyone should be doing and then one has to listen to their body. And the more sensitive, they are the more one has to address it.

### Lloyd Burrell

You're absolutely right, but I'll go further than that. And that's with regard to the science. What the science is telling us is that everybody is being impacted by these EMF exposures. Certain categories of the population more than others, the elderly, pregnant women and children. OK, but everybody's been impacted by these exposures. So it's not because you can feel it like me, feel it or can't feel it. So I feel on a conscious level, you can't feel it, but your cells can. And that's 24/7. And it's hammering away 24/7. And over time, over weeks, months, years, that's where the damage is caused. And again, it's not just EMFs. It's EMFs interacting with everything else, all these other toxins.

And you remember that list I showed you which is EMFs interacting with the virus. You know, I always spoke about the virus interaction there. Interacting with bacteria, bacteria in your gut, making the good bacteria into bad bacteria, making the bad bacteria more prevalent. EMFs interacting with heavy metals. How many people have got metal fillings? Interacting with the metals from the food we've eaten, OK, you know how all the fish are full of metals, heavy metals now. I'm laughing and it's not funny, but, you know, there are so many toxins in our environment and it's the EMFs interacting, these ubiquitous these EMFs, which are just everywhere, which are just taking over our world with 5G more and more. It's this interaction between this, what I call the mother of all toxins, electromagnetic fields and all these other toxins, which invariably, no matter how well you eat, no matter how you look after yourself, we're still, air pollution and so on, we're still being impacted by all these toxins and it's all this which creates a synergistic effect. That is the real problem.

### Alex Howard

I'm very mindful we're over on time. Many more questions I'd like to ask you but I think this is probably a good point to wrap up for now. But Lloyd people that want to find out more about you and your work, what's the best ways for them to do that?

### Lloyd Burrell

So go to [electricsense.com](http://electricsense.com). And I do bi monthly interviews.

We talk about pretty much is EMFs and EMFs and energy, really so EMFs and, that is sort of my broader passion is energy. And so these EMFs are kind of a non beneficial energy. But then there's all

these beneficial energies out there and that is more and more my focus is to how to, you know, protecting ourselves from the EMFs and at the same time working with these beneficial energies of nature and sources that mimic nature. So the website is [electricsense.com](http://electricsense.com). There's a free report on there. There's lots of hundreds, if not thousands of articles. And it's all free actually, everything on that website is free.

**Alex Howard**

Fantastic. Lloyd Burrell. Thank you so much for your time today. I really appreciate it. And maybe next time we interview, we'll do the positive side of the equation. What you just said sounds really interesting I look forward to that

**Lloyd Burrell**

Yes. My pleasure. My pleasure.