Introduction to PEMF and Dr. Pawluk's Background

– Welcome to this episode of Environmental Toxicants, Auto Immunity and Chronic Disease Summit. My name is Dr. Ed Levitan on your host for today's episode. And I'm really privileged because we got to meet about a year ago and I am really excited for this conversation with Dr. William Pawluk. He has a holistic doctor near Baltimore.

Considering the considered the foremost authority on P E M F S pulsed electromagnetic fields therapy in North America interested especially in holistic pain management, regenerative health, stem stimulation, anti aging, sleep and anxiety.

He has authored two comprehensive books on healing with magnetic fields called Power Tools for Health and supercharger Health with P E M F therapy. Dr. Pawluk. It's been, it's pleasure looking forward to this conversation. So can you, can I start off by how did you get into this? How did this start?

Because this is not how we were trained in medicine, right? – It is absolutely not how we were trained in medicine because it didn't exist when I was trained in medicine. – Okay. Well, there we go.

Well, no, it didn't exist. It existed a little bit in eastern Europe but not, not in the US for sure. And it's still not taught in the medical schools in the US.

And there's a, there's a history behind that and one of the reasons that it's not embraced by medicine all that much. So I started basically because as a family physician, I was a medical director of a group of family physicians in New Jersey, we had 14 family doctors, the biggest family medicine group in the whole east coast of the us.

And we all shared patients, we all rounded on each other's patients on a regular basis. And in a very short period of time, I had two patients admitted for gastric bleeding.

So you don't get admitted for gastric bleeding, right? Unless it's big, unless it's a right. So this one of them almost died, didn't, fortunately go into sepsis, didn't shut down kidneys, but almost died. And the other one stayed for a couple of days and was discharged. And I had to ask myself, what are we doing? And the common factor, the common denominator for both of those was ibuprofen, non steroidal anti inflammatories.

They were on nonsteroidal anti inflammatories for pain management. Right. That makes sense. Right. – So that's normal. That's normally what we do it. Now we go to opioids. – Back then. We did go to opioids.

That was the last resort, right? In those days, in the like early eighties, last resort That changed about 10 years later became a first resort often, unfortunately.

But in any event I said, well, this is crazy medicine. This is insanity. It's a different definition of insanity is doing the same things over and over again, hoping for no bad results.

So we knew that there were complications associated with ibuprofen. And one of the ones that's not known, not talked about a lot is actually kidney disease.

So there are about 40,000 people a year that are dying from gi bleeding and also dying from kidney disease from the use of nonsteroidal anti inflammatory.

So that's more than more people dying from Ibuprofen that are dying from HIV. – Yeah. Yeah. I mean, isn't it, isn't it a fact that if Ibuprofen was new to the market right now, they would never get FDA clearance?

– Possibly true, possibly true because, you know, once you start doing the side effects studies, once you do the

mortality studies and so on, then, you know, they shut down very quickly. So when anybody said, oh, this is bad medicine. So how can I do pain management without using drugs? Like my consultants didn't have any solutions, the hospitals didn't have any solutions. My peers didn't have any other solutions either.

So I studied acupuncture. So we went back to the UCLA school, did Joseph Helms courses for physicians, got my certification in that. Um and then I started to try to practice acupuncture. So again, this is 1990 and acupuncture.

From NSAID Harm to Acupuncture and Magnets

What's that? What's that? Get away from me with those needles, it's a little bit better now. Unfortunately, not a lot better now because Madonna had acupuncture. Acupuncture needles all up and down her back. So, yeah, now it's acceptable.

– Okay. – So basically I said, I started acupuncture but people were not, were rejecting needles. So I said, how can I do acupuncture without using needles? So, discovered that basically, other than using pressure or using moxibustion, um I discovered that actually in the orient, they were using magnets on acupuncture points.

So I said, well, let me look into this and I started using magnets. And when I started using the magnets, I did discover with the MG and nerve conduction testing that they a magnet on acupuncture point changed that decreased the flow up to the point but increased beyond the point.

All right. So I said, what, what's going on here? What's, what's this really doing? And of course, I discovered that maggots were doing a lot of other things at the point at the point at which you put the magnet at the bigger the magnet, the bigger the bigger area of action there was.

So I said, okay, this is, this is legitimate. This is real. Why, why is this working? How's this working? I don't have an explanation. I never learned in medical school what magnet magnets would do on acupuncture points, never mind what they would do in tissue in general.

If in fact, I went to the bioengineering department at Johns Hopkins and I met with the chief of bioengineering and I said, tell me why static magnets work.

And he said, there's no science, there's a reason from a scientific perspective that they should work because it's all about pulsed magnetic fields, about dynamic magnetic fields. They work.

They science knows about that, but they can't explain why a magnet would work the same principle. It's just that you take the magnet out of the picture is the body that's doing the action.

So okay, I said, well, I he's not going to help me at all to try to understand what's going on here. Um And most of the science at that time was actually in Cyrillic. It was actually in the Russian language is the Eastern European languages or German. Uh And they were abstracts that were you get the abstract but you don't get the paper and they were an obscure journals and so on.

So along the way, I met a doctor from the Czech Republic, Dr. Jarvik. And he had got his PhD in magnets for rehab. And so he had reviewed all that literature and he became the go to person to consult for the for the for the government when people were applying for approvals by the government for magnetic therapies.

So my go to therapy became a big deal in the Czech Republic, but he had translated all that literature and he had a manuscript and he says, I'll give it to you. Whoa. It was in Czech English.

So you have to have some science and you have to have some check. Ish, I redid the manuscript and I published my first book, Magnetic Therapy in Eastern Europe, a review of 30 years of research at that point already in like 87, 88, 90 somewhere in there. 91. Uh, they've already been doing this for 30 years, 30 years. Right. – Well, they're mad Russian scientists.

Right. – Exactly. But they weren't that mad. They were smart. That's crazy. Like a Fox, right? Good science. They had developed enough clinical evidence, they had enough mechanistic evidence for PEMFS could work. Um And so I just moved on and started using pulsed magnetic fields instead of magnets, magnets are very limited because they, the intensity the magnet is very important and a magnet only works in the area that you apply the magnet.

But if you've got arthritis and five joints, what do you do? You have to put the magnet on each joint. So you're basically walking around, you know, having paper clips attached to you?

– Okay. So then what is P E M F? Because that, that's a, first of all, let's let's kind of, is there any association? A lot of people talk about E M F s and then now you're talking about P E M F. Is there anything of similarity except the abbreviations? Let's, let's start at the basic, basic level. – It's a very, very, very, very important distinction I consider E M F S even though it's, it is electromagnetic fields, that's what E M F stands for.

Um and pulsed magnetic fields are pulse P E M F. So there's, they still got the same last three letters in my perspective to make it simpler and easier E M F. In my perspective, our environmental magnetic fields as opposed to therapeutic magnetic fields.

– So I just wanted for our listeners just to make sure when people talk about E M F S, they usually talk about electromagnetic fields coming from wireless modems uh from uh bad if you're hooking, hooked up your electrical socket poorly and you're getting some electromagnetic field from that, but there's nothing healing or good about that kind of. – A cell phone is an E M F. – Correct.

Yeah. – A cellphone tower transmitting is an E M F, right? So those are essentially environmental. They're around us all, all around us all the time. And the big one of the distinctions is what's called an open loop and what's called a close.

– Okay. So let's talk about that. What's the difference? – So uh E M F basically is broadcast into the environment. It's got wavelengths, it's shooting out an environment, radars, television waves, radio waves, microwaves in the environment are all broadcast because they have wavelengths that's important because very, very short wavelengths, microwaves have extremely short wavelengths, they absorb, they're absorbed by the body. And that's the principle behind a microwave oven, right? You cause heating and hopefully the tissue is already dead. When the heating, I did have a story of one guy who put a hole in his microwave oven was trying to heal the rash his hand up, put his arm up against the microwave. Uh I was on the coast to coast interview.

This guy calls in and he asked that, sorry. So E M F basically are open loop.

How PEMF Differs from Environmental EMF

Their broadcast out PEMF pulse magnetic field is created by current flowing through a wire. You need a wire and need a source of the current. So you have an output machine and you have a wire then that wire, the current flowing through the wire. Let's say that's my thumb, that's the direction of the current and that creates a magnetic field that's perpendicular to the flow of the current in the wire. – And just to be clear again, for those people that technical, we have alternating current coming from our sockets.

You're not talking about that? – No, but the alternating current goes into a machine that's then rectified and turned into D C impulse as a DC current.

I'm not sure that might be just coming out. But people do ask us, does this machine produce CMF we'll know it filters it so it filters and rectifies it.

So that creates a D C field out of an A C field. We use the power source and then rectify it So the current flowing in the wires DC, but its cost every time it pulses, the magnetic field goes out and comes back. So because it goes out, it comes back, that's a closed loop, right, it doesn't go out into the environment.

It goes out to the extent of the strength of the magnetic field. And it goes out only with the pulse, every pulse it goes

out and comes right back, pulse come back. So it's not in the environment, not radiating in the environment like E M F R.

So P E M F are designed specifically for therapeutic uses. Primarily E M F are designed for communication. They're designed for other uses that sub intentionally may affect biology, right? But they're not designed for that purpose.

And so as a result, you have to do the environmental toxicity studies and you know and so on about what the effects of those E M F are on biology and they do have E M F.

They do have effects on biology, but it's a dose thing. So how much, how much, how big is the dose that you're getting a little itty bits of doses now and then probably not do, don't do a whole lot unless the organism is already compromised.

And this is where we get into detoxification, favorite subject, favorite subject. So we can get into that in a second. So magnetic field therapy PEMFS don't do that.

They're not creating disturbance in the body, they're creating basically a reaction by the body to then which then is translated into energy by the body and the body makes energy.

So the magnetic field is passed this magnetic field as it's passing into the body, advertising pulses, it passes into the body but comes right back, that pulse interacts with the ions in the body.

Virtually, every tissue has charge, every cell, every molecule has some amount of charge to it. Some are neutral. In which case, it doesn't matter. But if they have a charge to them, then what happens is the magnetic fields interact with that charge to produce more energy.

And that's called Faraday's law. Faraday's law of magnetic induction. Faraday discovered that if you pulse magnetic field past a loop of copper and you open that loop up or you close that loop, you can actually create cause a light bulb turn on.

Right. Well, the same thing is happening in the body. The body takes that current, that stimulation from the current and then turns it into energy and that energy that is used by the body for whatever it needs it for.

So you're so you're actually let me just make sure I got it clear. – So you're exciting, let's say electrons and positive like you're exciting all the different in the body and by giving and then you're giving them energy and this is the body produces the energy correctly.

Alright, I'm gonna go where I'm interested So I'm not sure. So hopefully this will be interesting for our viewers too. But so we think of from a basic science point of view, we think of energy that the body uses as a T P and the free radical when A T P becomes ADP puts out energy. So is that the same energy as what you're talking about or is it a different energy?

How do you measure it? I'm just like now I'm like, – Yes, – Okay. Tell me more. – Yes. ATP. Okay. – So does it create more ATP? – 200 to 400% increase in ATP during the time of the stimulation?

But whatever hp molecule in the body is recycled between 200 to 500 times per day. So you make the A T P but A TP by itself is useless. It doesn't do anything.

It has to be hydrolyzed. In other words, it has to strip off one of the phosphates to release energy. And that's where a teepee becomes the energy molecule of the body in the cell, in the mitochondria within the cell and so on.

So that those are the energy factories of the cell using oxygen and using other nutrients to make the A T P. A magnetic fields hydrolyzed. In other words, they increase the amount and production of enzymes that strip off that phosphate and then they stimulate other enzymes that cause another phosphate to be added back to that same

root molecule and so it recycles it many, many, many times, much faster, much faster. – So many questions. Alright, let's, let's start with. All right, I can see that.

Now. How long? So Let's say you, you pulsed, you give them energy for 10 minutes. How long does that last? Because you said 2.5 times it will build up ATP How long? – Okay.

That's, so that's an important question because it's not just about the hydraulics and the production of ATP it's what's what happens with the energy that's produced.

– Okay, tell me more. – The energy that's produced is then used by the cell for all its processes. It's used by the cell to maintain membrane integrity, To maintain the proper charges at the cell membrane. And once you maintain or stabilize the cell membrane charges the mili voltage of the membrane, then all of a sudden you open up self channels, membrane channels, there's about 200 membrane channels in the cell.

So all the cell membrane channels begin to open up and waste gets out and energy and food or nutrients get in. So what the cell needs to operate now gets in. So eight ep then is the stimulus, the catalyst. – So you're, you're not only detoxing because you're moving, removing waste, you're actually feeding the cell itself, you're increasing the nutrition to the cell itself exactly.

– That's pretty cool. – So magnetic fields also stimulate um identity and receptors. So it's not just the A T P, it's the identity and receptor itself and the identity and receptors. And there are some subtypes of energy identity receptors and they are responsible for inflammation, managing chronic inflammation.

ATP, Cell Energy, and Anti-Inflammatory Effects

– So does it turn it on or off? – So it amplifies the adenosine receptors by 20-2020 fold or more. – So, as it turns out that inflammation or off? – Then it, then it begins to turn off temporarily. It there's an increase in inflammation with that identity stimulation. But in the long run, what you're doing then is you're causing the a dentist seem to be recycled as well, which then goes and targets the chronic inflammation because chronic inflammation happens because acute inflammation didn't turn off.

You don't get chronic inflammation without going through acute information first, right? So then what the magnetic fields are doing is they're turning off the chronic inflammation through stimulation of these identity and receptors. – So it's almost like in my mind, I haven't pictured like it's almost like a scar, the chronic inflammation and then you have to work through the scar by increasing a little bit in terms of increasing the information.

Then the body can release the information. – Well, that's a, that's an important analogy. I think it's a beautiful analogy. When you have a cut. When you have a wound to sell injury, the body tries to fix it.

And what does the body do? It sends in leukocyte, it sends in nutrients it sends in circulation, it sends in oxygen. All sorts of processes begin to happen when you have that acute inflammatory process going on.

And what has been found is that PMF therapy increases the identity and receptor uh by having the right magnetic field intensity. So you can start off at a very low level and then gradually goes up and plateaus.

So about 15 Gauss, the there's a plateau of the amount of dentists and stimulation there is. So you need about 15 gauss at the dentist in receptor to turn off inflammation through the identity and process. But then there's also nitric oxide effects.

There are just so many different actions and components of PEMF therapy, gene effects circulation effect. You know the list is there's like 25 in the Power Tools for health book, I list 25 different actions of magnetic fields and provide references for how they happen.

So in PEMF therapy then stimulates anti inflammatory actions. – Cool. But I mean, yeah, there's still so many questions. All right. So it reduces how? Alright. So how do you know What you're saying?

15 gauss. But how do you know like there's there's, I'm sure there's a huge range. How do you and I'm sure there's different magnetic fields and how do you know what's good? How do you know what's not good?

Okay. – What's good and what's not good? So number one was the optimal magnetic field intensity at the target tissue at the at the white cell because the white cell that does that work.

So um so you need 15 optimally but the magnetic field is like radiation. It's not right. It's not deadly information, not killing cells like radiation or chemo for cancers.

What happens? Those magnetic fields are like they follow in the inverse square law. So when we do radiation on purpose to kill tissue ionizing radiation, to kill tissue, you have to calculate the dose, you have to calculate it based on how, how much energy you want to deliver and how deep you want to deliver that energy.

That calculation is based on the inverse square law Newton's inverse square law. So what you have to do then is you have to know here's what I need is an optimal magnetic field intensity and here's what the dose has to be in order to deliver it.

So for example, if you're trying to go across the skull, if you're trying to treat inflammation in the brain, and you're gonna put a magnetic field up against the head that you want to say, reach the other side of the head, Nor to deliver 15 gauss at the opposite side of the brain, you're gonna need to have about 4000 gauss. – And that's not dangerous.

There's no danger in that much gauss? – Well, they're doing an MRI to the brain, not, not currently reported yet. So basically, that's very safe and that's using 20,000 or 30,000 gauss, you know, 1,2,3 Tesla. Now we have something called R T M S that the FDA has approved Transcranial magnetic stimulation.

That's for treatment resistant depression. You put a coil to the front of the head here and you're talking about a 10,000 Gauss machine coil that's being put on top of the brain specifically to treat the brain. Interesting. I've had people go through TMS but I never thought this never, I never had the connections here.

– So you're helping me with the connections. I like it. – Well, TMS, it's just magnetic field energy. That's all it is. It's just a high intensity magnetic field energy and design and a coil is going to deliver in a very focused way in a certain spot in the brain because that's their target in their goal. But even that energy stimulated, stimulated there for treatment resistant depression is not staying there.

Magnetic field goes through the whole brain. – And hopefully it does some good for the whole brain, right? It just doesn't, you know, they don't, they don't want to talk about that because they focus just on where you know the depression part of it. But yes, when you talk about the general disorders, when you talk about neuro inflammation, when you're talking about encephalitis, allergic encephalitis or autoimmune encephalitis is then basically the high tech zpms across go across the brain, reduce chronic inflammation through, through the brain. But at the same time they're delivering circulation to the brain. They're increasing ATP production in the brain.

They're increasing stem cell production in the brain. All the different actions of pemfs that are in that power tools for health book all that's happening at the same time.

– So uh this, I think we might get granular and then come back. But my next thing is like is when I'm, my brain goes to okay. There's a lot of machines, PEMF machines that you just sit there and it's not delivering to any specific organ or you stand on it and it's not specific organ or tissue or whatever else. Does that do anybody any good or is that all bogus? – Yes, it is because it goes back to, let's say just use that example of the inflammation and the identity and receptor.

If you have a big magnet that a person is laying on, that's all going up radiating up into the body, it's all going up into the body. But your subjects still to the inverse square law.

So when you're laying on your back on a piece of equipment that's whole body, um it's gonna drop off

tremendously by the time it reaches the other side of your body.

So if you're laying on your back, what's coming out, the front of your chest is going to be extraordinarily small. You want to treat, say from the back, you want to treat the breasts, then you're gonna have to calculate the dose of intensity you need at that at the breast.

Fortunately, magnetic field therapy is ignored by healthy cells. So it's really only cells that are compromised, that need the energy, take that energy and make it and use it healthy cells say oh that was a nice little tickle.

And because because of what because of homeostasis, okay, tell me what is homeostasis. Alright. So homeostasis means that if I push you, I give you a little push, right? What does your body do?

It tries to bring you back to to where you were before? The push and biochemical processes in the body, energy processes in the body are all that way, the body automatically tries to compensate. So if I give edit energy into the brain, the brain tries to compensate by changing the oscillations of the brain waves in the brain to dampen it.

So it says I like it but I want to go back to neutral. In the meantime, you've given the brain a chance to do something that was stuck, not being able to do. So you can have homeostasis or basically home in stasis for normal conditions, but you can have homeostasis in abnormal conditions.

– Okay that makes sense. – Right. So if you got chronic inflammation, the body's going to find the best ability to function in the presence of that inflammation or in the presence of that compromise or disability, it's gonna find the best balance it can. And so magnetic field therapy pushes that balance back towards normality because the cell says I would rather be doing this, but I don't have the energy to do it. So, a good example of this is non union fractures. Okay. So one of the first applications that the FDA approved for PEMF therapy is for fractures that won't heal.

So six months after a fracture happens if it hasn't healed, it's called a non union, right? And you could have delayed unions as well. But if we have a non union, and what has been found is the magnetic field therapy at the right intensities stimulates the process of healing even in a fracture that's been stuck for seven years, automatically starts to produce energy and the body takes that energy and starts the healing process all over again.

So is there anybody that? – Well, let me, yeah, still menu too many questions in my brain. But let's start with what else is there in terms of besides inflammation doesn't do anything else or is really focusing on, you know, as I mentioned in circulation?

Yeah. – Stem cell stimulation D N A initiation uh uh inflammation reduction of edema, basically reduction of edema and swelling. So, edema is the first one of the first points of damage to a cell is edema and then D N A and porosity of cell membranes and so on.

All of that happens kind of like at the same time. Well, then there's another component to that, which is then um the oscillations of the brain.

Choosing the Right PEMF Intensity and Equipment

So you could basically do brain tuning. So our TMS does some brain tuning to some extent that, but that's not his primary action. So brain tuning is an important part of what we do. And of course, I discovered go back to the origins, it does acupuncture and I didn't know why back then.

But now we have much better science that says that the acupuncture system is a DC current system. It's a meridian system that current is flowing through that system continuously at a very low level.

And it has the acupuncture points which are basically capacitors, they bump up the energy at that point and drive it down to the next acupuncture point.

They do the same thing, the next one and so on. So that whole system is constantly keeping itself up in terms of the amount of energy. And because its electrical current Maxwell's equations against science, physics says that magnetic fields interact with those and then keep the energy flowing even better. So every time you're doing a magnetic therapy session, you're stimulating the acupuncture system as well.

– That makes sense because as we talked about, I studied some acupuncture also and one of my teachers was a big, speaking of scars, uh she did a lot of scar work and it makes sense that if it's a DC system and if there's a scar in that system, you're gonna block the flow. Right. And she did a lot of things to loosen up the scar so that the flow can continue. So it makes complete sense to me.

– Well, let's go back, let's go back to the scar for a second. If you don't mind, please will you have a cut, the body has to repair it. And one of the ways the body repairs, so energy is needed to repair it, molecules are needed, food is needed, nutrients are needed, energy is needed, electrical energy is needed. And so the body does that and it does it properly. You get a nice neat little scarf, but you're is left to chance. You're leaving it to the chance of whatever the body has in terms of resources and the capacity to heal the scar, whether it's dirty or not contaminated or not, all these different factors go into it.

But magnetic therapy then gives the body an extra push. So it's a normal scar will heal in half the time I wound will heal in half the time with magnetic stimulation as opposed to leaving it to the chance of the body doing the healing.

So you can take hypertrophic scars and reduce them. You can take keloid and reduce them to say it works on keloid's absolutely just so colloids are just ugly scars, I guess. Well, it's hypertrophic.

So it's hyper reactive, overreacted. And so that's also sort of an energy process that's gotten stuck in overdrive. – So how long, how many treatments for, how long would it take to reduce a keloid or just a bad scar?

Like what would you say? As a doctor, somebody told you I have a solution for you. What would you say? Well, first of all, there is no solution. So. Well, okay, I'm offering a solution. So the answer is, it depends.

– Well, that's always the case. – Yes, always the case, right? So I say I have a tool. Here's the energy that is going to deliver and I'm going to deliver it right.

You're gonna use it the right amount of time for the right intensities and in the right location. So then it's gonna whatever energy the cell needs to be able to repair itself, it's going to take the health.

So I got 20 year old with a keloid. It's gonna be a lot different than an 80 year old with a keloid. Is there a range is like 1 to 10 sessions? Is it a 10 to 100 sessions? What's kind of the also, it depends on the nutritional levels of that person.

So I know a plastic surgeon in Virginia Beach who will not do plastic surgery on somebody will have been on a nutritional program for three months. – That's smart. That makes sense.

– Right? Because the cells are already primed, cells are already set up. They've got the nutrients they need. So now you're gonna push that cell, you can make that cell work harder.

It's gotta have the tools and the resources to be able to do the work. – So, this is not magic. That's what you're saying. You still need to eat. Well, you need, still exercise.

You still need to do all your, you have to do all the other things. – Absolutely. Magnetic fields are simply stimulating the body to do better, but the body has to have the ability to do that.

– Is there any, any person that doesn't? It's not, it wouldn't be good for? – Maybe it's biology, first of all. Right. So it doesn't matter what the biology is now.

The only true contraindications. PMF therapy is people talk about implants, electronics, people talk about metals in

the body M R I kinds of concerns.

But I think nowadays most of the implant, electronics are em, are conditional because you can do an M R I. We don't worry about that so much anymore. But you have to find out if it's M are conditional.

It is metal doesn't matter that much. But metal is implanted in the body. And any metal that's implanted in the body is a foreign object. It's a foreign body. The body like foreign bodies, not at all, not at all. So, joint replacements have a lifespan, they have to be replaced after a period of time revised, right?

Because they fail. And one of the reasons they fail is because the body is reacting with that stem right, because it's metal, it's a foreign object. And so you get osteo license, you get bone breakdown and that could happen faster or slower, depending on, again, the general health of the person.

So, it can vary significantly. Um, but the only true indication that I have found so far and I don't have any signs to dispute it. It's transplants. So why?

– Yeah, tell me why. That's interesting. Ah, okay. – You don't want to, you don't want to stimulate the immune system. You don't want to cause a negative reaction with the medications that are being used for the immune suppression and immune suppression then causes unpredictable reactions and then you could end up with a failure. – Or is this something you've actually experienced or it's just a theoretical risk theoretical as a physician? I know, I understand how Magnetics works.

I understand how transplant works. And I said, well, at this point, you know, I just don't want to take that chance. Even a corneal transplant. – Has there been antidote?

It'll evidence about like, cancer and things like that that PEMFS are useful for, you know, there may not be full studies. – No, there are, there's actually a fair bit of research as much as you'd like, but there's a fair bit. So in the power tools for health book, I have a section on cancer, there's basic biological information.

There are clinical studies and a lot of those come from Eastern Europe. So, but I do I recommend chemotherapy for cancer on a routine basis. What we find very often is that people with cancer who are doing magnetic field therapy appropriately with the appropriate equipment and we can talk about appropriate equipment in a second. Right. So, um, if you've got the appropriate equipment, then um, you can suppress the cancer production, the growth of the cancer.

What you're doing is you're stimulating the immune system, you're creating a different environment for the cancer to be growing in. And when you're doing that, then the body has a better fighting chance.

And we, we found when people stop their magnetic field therapy, they've been doing it for their cancer and they stop it, the cancer grows because you've taken the brakes off the cancer.

The magnetic therapy was in some sense providing brakes on the, on the cancer process. – Yeah, I think I have a patient with a glioblastoma that I forgot, I forgot the name. But I'm sure you know it, of the machine that – Tumor treating fields. Neo.

– I think that's what it is. Yeah. Yeah. So, so tell, let's go into machines since we started machines. What, what actually, what would people want to look at?

What are good machines? What are not good machines? How do we know? Uh you're only one person, a lot of people are gonna be watching this. We're going to send a lot of people your way.

But how do we know or is it, or is it really just look at your website and see what is approved talk, talk to, what, what do we need to look for? – Okay. So first of all, you have to start off with the most important principle intensity matters, Faraday's law, the higher the magnetic field, the pulse of the magnetic field and the faster it reaches its peak, the more energy is produced in the body.

So it doesn't matter how fast, how many times you do that, right? Frequency is much less important than intensity. So if you're looking at a piece of PEMF equipment and a salesperson selling you something, ask them what the peak intensity is of that system.

Remember we talked about magnetic peak intensity needed, the alpha magnetic intensity needed for information 15 Gauss. – Right? – But you have to get through the tissues, but then that's just going to work at a superficial level, right? And you need to calculate the dose for the depth that you want to go to ideally throughout the whole body.

So if, if it's less than 15 gauss you're wasting your money. And there are a lot of lot of companies that are selling the whole body magnetic systems that are one gauss or less. Wow.

So what do they do? People say well, they feel better with it. Sure, but they're superficial. So they're acting on the acupuncture points and meridians, they're improving circulation superficially, there may be some secondary benefits beyond that to the rest of the body, but essentially essentially an acupuncture effect, but it's not going to do the physiologic things that we want.

So if you think about it from a physiologic perspective, it's all the different actions of a magnetic field, it's not you use this magnet for this problem is that magnet for that problem, it doesn't work that way. All we're doing is giving the body the ability to heal itself and it's gonna be smarter than me or you or anybody who says this is going to work for everything. Alright, so I have to know what's the upper limit of what? Why wouldn't anybody just everybody just by the most powerful machine they can afford?

Okay. So let's talk about it. – Intensity is cost, the higher the cost, primary limiting factor for most people, it's going to be cost. And so people come to me and they talk to me about a particular system they're looking at, I said for your problem, cancer or for kidney disease or liver disease or again, brain fog or brain problems. Alzheimer's uh well, you know, that's not going to do very much because it's not going to go into the brain except maybe this much so like tens for example, and micro current is all very superficial. It's acting through the nervous system and then relying on the nervous system to produce some systemic effects from it.

It does that it works, but it's not at the tissue level. And my, my goals primarily are to work at the tissue level, to heal because healing so I can help you with your pain.

And magnetic fields have a natural pain killing effect by codeine or Ivy or Ibuprofen or Tylenol. But I don't want, I don't want just that I want to heal the cause.

If you don't heal the cause, the pain just comes back and then you're going to be dependent for the rest of your life on that particular molecule, right? To help you with your pain.

So that's the benefit of chemotherapy can do what Tylenol does or Ibuprofen does. But at the same time, it's also doing all the healing stuff and that, that means you need to have the right magnetic field.

– So what is the, you said 15 Gauss is really still even, even 15 Gauss is still superficial. What, what's the, what should people be looking for? And let's just say, like you said, joint pain for joint pain, let's say elbow, knees risk, let's make it specific, what should people be looking for?

– Okay, let's let's talk about that because I wanted to spell one other concept. Please stop with the particular solution for a particular problem. So every problem has its own specific solution.

– But you just told me I'm saying, I said we got to get rid of that, right? So when I'm doing stimulation for your joints for your arthritis, do I just want to do that?

Nobody, Right? I want to help you you in general. So you're getting a device that can help you with that local problem. But really if you're going to spend $5,000 for a machine to treat your local problem, you also want the same machine to be able to work for you for health maintenance and general health uh maintenance again, over

longer for the rest of your life, essentially for the life of that machine.

So the I have on the supercharger health book as an appendix about the dentist and receptor and on DrPawluk.

Clinical Uses, Safety, and Treatment Expectations

com, there's a blog about a dentist seen inflammation and pain and that blog has tables. It shows you the magnetic field you need to start with to deliver the energy at the depth that you need.

Today, you got a problem with arthritis in your hands. You don't need a strong magnetic field to deal with that. It's got to be at least 15 is probably closer to 200 or so.

All right. But then tomorrow or next week you develop a disc problem or you have your fall, you break a bone or you have osteoporosis that you're trying to prevent from fracturing. So now you have to sort of think about what do I want for the rest of my life. – Right. Right. Especially if you're talking about those numbers. – Then you need you ideally, you need a stronger machine.

So I, DrPawluk.com, offers consultations. I have a medical team. And if you go to DrPawluk.com, there's a tab on the right side consultation, request the consultation, you fill out a form and you send it in and then we assess your need and you can get a free consultation. We're not gonna have a caveat.

If you don't want, you only want to spend $50 on the machine. Don't bother get a catalog or you can look on our website and we've got a, we've got a product comparison guide and you can buy cheaper machines, but, you know, buy cheap, get cheap. Yeah. Right.

Well, it's always the case in terms of, we can't just buy from the Russians. Come on. Yeah. Well, we do buy some from the Russians or buy them from the Germans and the Israelis and the South Africans and buy whatever the machine makes sense. – That makes sense.

So, on the stuff that you carry, do you have a way to actually measure that? What they say is true is actually coming in coming true. – Yes. That gets complicated because of the physics and the engineering aspect of that. Yes. But we, I've verified the intensities of most of our equipment.

The problem is that when you get to the very high end equipment that produces faraday's law gets the highest intensity at the fastest rate, it's very difficult to actually measure those peaks because the equipment has to be, uh, extremely expensive to do that.

Measurement and most manufacturers design the equipment to measure their fields uh specifically for their equipment. Um So most of the time, a lot of people are doing um formulas and, and estimates.

So for a lot of devices, I've been able to measure those fields. – And how high do they get? Like did they get, you said 200 for risk? But how high do they, can you purchase something? Just curiosity killed the cat.

– There are devices I have that range from 15 gauss 10 goes up to 10,000, – Okay. And you said the M R I was what again? – Pardon me? – And the M R I was what? – Varies depending on the M R I.

So an open M R I is typically around 1000 to 2000. – Okay. So this is very powerful stuff. – So it can be quite, quite powerful and create muscle contractions.

So it can be strong enough to initiate stimulate motor points and muscles that causes the muscle to contract. – Is that in any way harmful, potentially? No, not really.

Except for a concept with magnetic field therapy, that's very important as magnetic fields don't tend to cause problems, they reveal problems. So when you stimulate the muscle to contract, if it's a healthy muscles, it's just going to contract no big deal. But if you have tendonitis around that muscle right, then that must, that tendonitis is

gonna be aggravated.

So if you have an aggravation with the magnetic field. There's a problem there. I had, I'll tell you an example. Um I had a very buff guy who was doing a lot of physical workouts and so on. Uh very smart and he started using a very low intensity portable magnetic device, only about 200 gauss.

And his knee started hurting when he did the therapy. He said this is a piece of crap, it's causing me pain. He's very impatient guy. So he basically threw it aside, did a bunch of other stuff. Um and then came back and did it again.

Same thing happened and I said he needs to go see an orthopedist. There's something wrong with that knee turns out he had a septic knee. So the magnetic field therapy discovered a problem that he wasn't aware existed and because he had an earlier intervention, it saved his knee.

– That, that's pretty impressive. That is pretty impressive. Hopefully, there's not that many people out there with a sub technique. – No, but we do have, we do have hopefully not, we do have protocols that they're in the supercharger book as well about going low and slow.

So when you're getting treatment in a practice, when you're getting treatment in a professional setting, we go back to how many treatments do you need uh in a professional setting because you're paying by the minute, right? They're gonna crank it up because they need to know that it's working for you. You want to know that it's working for you, these very low intensity systems, you can barely tell that it's working.

So you almost don't feel anything. So people like to feel that it's working in order in order to have a sense that this is valuable and it's worth me paying my time, paying my money and my time they study on bone healing shows us that the magnetic field intensity that you need in the treatment time that you need depends on the problem, depends on the magnetic field and so on.

So for non union fractures, um they surveyed people who got these machines, they were very low intensity. There are only 18 gauss, but you're treating a wrist fracture that won't heal or a fibula that won't heal.

Those are relatively superficial. So that intensity may be good enough. But the company said that you've got to be treating nine hours a day. Alright. So then they went back and surveyed all the people who got these machines were prescribed the equipment and then they asked them how long, how many hours a day they were treating for? And then they found out when they, when they healed, when was the fracture? Determined to have been healed?

The people who did nine hours a day healed in three months even that not even though that non union had been there a lot longer, but on average, they healed in three months.

People who did three hours a day or less. Took six months to heal. – Okay. Makes sense. – Right. So, based, it's based on the problem and then you have to have the right piece of equipment. So if they had used higher intensity machines for those fractures, they probably would have healed faster with less treatment time.

– Very cool. So, it feels like we're approaching our time and I'm, I still have a lot of questions but is there anything that we any major concepts or thoughts that we've missed that we haven't talked about? – The time and the intensity. So going to going to get treatment somewhere else is often a good place to start. You can find out what you need and you see that it's working is actually doing something for you.

Then you have to think about investing in one of yourself. – Is there a lot of practices that have their own pemfs? – There are a lot now around the country. There are people who are horse people who are doing PEMFs and horses who are now doing them in humans.

They're not trained for human therapy, but they are anyway. Fortunately, very safe. Um, key thing really is intensity matters and getting the right piece of equipment and using it in the right way because if you don't use it the right way, it's not gonna help you that much and you're gonna get frustrated because not working fast. I think expectations is very very, very important. This equipment is a form of physical therapy.

Okay. It's not a magic bullet, it's not angels and so on. You can have all the fairy dust you want. I think that's a good thing for your healing process. Your skeptic going into your healing, then it may not be healing quite as well as if you really believe that it's working for you.

So combining your belief and the magnetic therapy will do results much better, faster but be realistic, the body, he has to heal itself. Magnetic therapy is not healing the body, it's providing the body of the opportunity to heal itself. So you have to respect the time that's gonna take for a body to heal whatever.

– I think that's such an important message because there's so many things out there and all of them work for some people and not others. But I think the majority of the time we don't give enough people time to like the therapy is enough time to actually work and see and to really patience is not a virtue in this culture. Patience is not a virtue.

– But also I think magnetic field therapy can be combined with most other therapies and one plus one doesn't equal to PEMF therapy added to whatever else you're doing.

It's gonna be a factor is gonna be one plus one equals 10 times or 100 times more. But if you can only afford one piece of equipment, I found over the years having tested and used all these other types of equipment and modalities and treatments.

I find the PEMF therapy is the best value because it's doing so many different things and you can do it at home alone.

Detoxification, Liver and Kidney Support, and Closing Remarks

You've got control over it. You don't have to go somewhere to get the treatment, but you got to get the right piece of equipment and that's why the consultation may become important.

– Tell us again where people can find you because I think this is so valuable. – Alright, DrPawluk.com. That's D R P A W L U K dot com. DrPawluk.com And that the two books are tremendous resources if you want to sort of my website dot com is just loaded with information. In fact, it's too much for a lot of people.

That's a good thing about know the information is important because everybody is finding something else. You know, everybody's got some some other reasons to have been there, they find different value, but the books that become important if you want more of the science, Less practicality, but more than science, there's some practically there but not as much. That's the supercharger health book.

That's the practical book you want the science. It's the power tools for health book, there's over 500 references. So the combination of the two actually is very useful.

– This is amazing. Truly, I'm inspired and um like literally thinking what what how we can use this in our practice. So what will I know we're getting together in a couple of weeks?

So we'll talk then. It's been a pleasure. Truly, it's been inspirational talk to. I think this could help a lot of people. And thank you again for this episode of Environmental Toxicants, Auto Immunity and Chronic Disease Summit. And it's been a pleasure.

– May I take us back to the topic and then we have to place and insert earlier. So how do PEMFS help with toxicity and uh and detoxing and so on? So we talked about opening the cell membrane but the most important aspect of chemotherapy in toxicity, whatever the source, whatever the kind is the healing aspect, you still have to get rid of the toxicants. You still have to get rid of the metals.

You still have to get rid of the insecticides and pesticides. So you still have to do a calculation and all the other things that do that, but then you have to heal the tissue. So getting rid of it is not necessarily solving the problem. – So it PEMFS doesn't help get rid of the all the different toxicants? – To some extent it does. But if you've got mercury locked into your brain cells, you have to get out of those brain cells, then you have to get out of the brain

that you have to get it out of the body. So you still need that process.

Of getting rid of all that stuff. Magnetic fields may facilitated by decreasing information by decreasing the locking in behind the blood brain barrier and so on.

So it can help with removing the detox, get it faster. Also, in terms of detox, it's stimulating the liver. So if you're just treating the brain, you're not going to get as far as if you're treating the brain and the liver, it's going to metabolize better faster, right? It's gonna have more energy to do the metabolic work. It has to do that.

You're gonna help to detox the liver as well. Same thing with the kidneys. If you're stimulating the kidneys, you can increase blood flow in the kidneys, you're going to filter better.

And obviously the third pathway or fourth pathway of detoxification is a skin. So with sweating, the PEMF therapy can be combined with sauna chemotherapy doesn't cause you to sweat. – So how does that work?

In terms of how do you combine that with sauna? – You just don't, you don't do it while you're in the sauna. What you can do is you can actually do it after your sauna because once you start releasing with the heat and the sweating that you could increase, accelerate that sweating process.

That's already started by the sauna. Interesting. – I'm getting all sorts of cool ideas. Alright, I like this. What else? Anything else? No, no, it's amazing again. Thank you again and thank you for this episode.

Of the environmental toxicants, auto immunity and chronic disease. We've been privileged to be with Dr. William Pawluk and my name is Dr. Ed Levitan. Thank you again.