Can a PEMF Device Change your Gut Microbiome and Improve Your Mental Health? Transcript

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PMF Therapy and Preventing Chronic Injury

And this is where the prevention aspect of PMF therapy comes in. There's a huge, usually a very long lead time for the development of a lot of health, chronic health issues, right?

They don't become chronic usually overnight. And if they become chronically after an acute injury, it's because they didn't fully heal from the acute injuries.

At PML therapies, if you're dealing with an, an Acute injury PMR therapy can help that injury heal faster, be more stable and not become cronic. So it doesn't convert to chronicity.

Welcome to the PEMF Effect, where breakthrough science helps take control of your health. I'm Dr. William Pollack, and I am here to guide you in tapping into the power of PMS therapy for recovery, vitality and total body wellness.

From overcoming chronic pain, optimizing brain health, boosting energy and aging with strength, this podcast is your path to cutting-edge solutions for lifelong well-being.

If you're ready to move beyond symptom management and tap into your body's natural healing ability, you are in the right place.

Dr. Pollacku2019s Background and Entry Into Magnetic Therapy

Let's dive in. Today's episode is a previously recorded session from a summit where I was a guest speaker. Hello everyone and welcome to the microbes and mental health summit.

I'm your host, Dr. Myles Nichols here today with Dr William Pollock. And Dr. William sometimes goes by Bill. We're going to call him Bill here for the informality.

Bill is an integrative physician near Baltimore, and he is on authority in the space of looking at pulsed electromagnetic therapy. He has a nice mix of training in Western medicine and Eastern therapies.

He is also someone who's held academic positions at Johns Hopkins. Welcome Dr. Pollack. Thank you very much, Miles. How are you today? I'm doing wonderfully.

I think a long time ago in the background, I had an interest in acupuncture in pre-med. But I never came to fruition because that was like 19. I'm going to ruin my age, but you know, you're talking about the early 70s.

And as a result, there was no tutoring, no teaching, nobody to back up what I would do. So basically I put it aside. Years later, in the 80s, when I was a chief and founding medicine for a group in New Jersey and a medical director for our larger group, 30 doctors, we shared patients in hospital routinely.

And within a very short period of time, two patients almost died from gastric bleeding, GI bleeding. A common factor was ibuprofen. was non-steroidal anti-inflammatories.

So I started asking myself, this is stupid medicine. This is what's called insanity, right? This isn't sanity medicine, repeating the same thing over and over again, crossing your fingers and hoping for non negative results.

Because of that, I said, OK, now I have to find a different solution to deal with pain in the group as well as for my

own patients. And that resulted in me taking some training through UCLA in acupuncture.

But at the same time, right around that time it was 1990. Acupuncture, what's that? And so people would not do needles because there was no sort of emphasis behind it.

No knowledge, no confidence behind what this strange thing acupuncture is. And, so I started looking at magnets on acupunture points. So instead of talking about acu-puncture with needles, we're not talking but acipunctures using magnets.

I start to see all kinds of things happening with magnets that I never expected. It wasn't just acupuncture. There's a lot more going on than just Acupunctur.

And that led to more and more research, more investigation, and trial and error, use of PMF therapies, And I got hooked. Along the way, I met an MB PhD from the Czech Republic who had translated a lots of that Eastern European literature.

So basically we were flying blind, essentially using magnetic field therapies because there was no good science behind it, or at least it was hidden behind the Iron Curtain.

That was truly a curtain back then. So having met him, he translated a lot of this and now said, whoa, like the whole world opened up about magnetic therapies in Eastern Europe.

And they'd been doing that by the time I met them. They'd be doing it for over 30 years. Wow. Now we really surged forward with the use of pediatrics therapies, got devices from Eastern and Europe, and as they say, the rest is history.

So as a result of that, I've been now doing magnetic field therapies for about 30 years. And I focus on that because there was nobody else basically doing that.

Nobody else coordinated this.

What PEMF Is and How It Differs From EMF

nobody all supplied the scientists, science behind it. and since I had an academic background, some extent I have that kind of mindset, academic mindset.

Then I began to accumulate studies and literature and abstracts and papers and so on. So by the time I wrote the first book, my first, book other than magnetic therapy in Eastern Europe, that book was the result of my collaboration with Dr.

Jaromek, but it was very summarized, not very useful book quite frankly. So I then did another book called Power Tools for Health, where I took a lot of that literature that was all over the place.

It's not like there's one journal like Lancet or something like that that you can go plumb and find everything you need. So we need to have one place where a lot of that science would reside.

And I discovered that magnetic field therapy had like 25 to 27 different mechanisms of action, which is really very interesting to me as a family physician, because as physician I was trained in one disease, one treatment.

kind of paradigm, right? You got a drug, you got to disease or vice versa, just decide which way you want to go. But magnetic therapy did so many things.

You can't pigeonhole it into one condition. It's a physiologic treatment, basically. And as a result, it doesn't matter what the condition is, It is going to have certain physiologically actions in the body and based on that, its going elicit certain responses and benefits.

And once you start doing magnetic field therapy, you realize the value that it has across a whole range of health conditions. So that's the story till now.

Wonderful. Well, thank you for that. Backstory in our topic today is to talk about how pulsed electromagnetic fields or PEMFs can impact bacteria such as the gut microflora can help with restoring physical health, can also have an impact on mental health and as you brought up the lack of research and then the growing body of the research that actually was already there in Europe and had begun to become more available in the United States and in West in general.

It dawns on me that the transcranial magnetic therapy research is cutting edge right now at Stanford and people are looking at things like some of the most promising depression treatments, utilizing magnetic therapy.

So describe for the audience what is pulsed electromagnetic field or PEMF. All right. A lot of people are worried about 5G and 4G, and 6G or whatever is going to come down the pipe.

Those Those are basically wavelength fields. They're basically broadcast into the environment. And they do have a wavelength to them. So they're called EMFs.

and they can be absorbed by the body if the wavelengths are extremely tiny. When they get absorbed, they cause damage. That's the big distinction between PEMF, which are pulsed magnetic fields, as opposed to the electromagnetic fields that are more waveform based.

Pulsed Magnetic Fields are generated by current flowing through a wire. And we call that the right hand rule. So my thumb is the current flowing in a wire and perpendicular to that flow of current, you produce a pulsing magnetic field, which is my fingers.

And it goes right-hand perpendicular, to the flow, of the electric current. That pulses then and that current sweeps out and comes back, sweaps out, and it comes, back as a closed loop.

EMFs are broadcast in the environment. They're open loop, they go on to infinity essentially. So, magnetic fields are designed for body, for use of the body.

EMFs are design for communication. They happen to have effects on the bodies, if you happen get in the way of one of those fields, especially. So they're very different, and they are not therapeutic, they aren't designed to that purpose.

Whereas, PEMF are desgined for this purpose, so PMF's are much safer, extraordinarily safe. Now, you can have PemF that are deisgned to burn tissue. And we use them for ablation purposes in the body.

Killing nerves, burning warts, healing cancer, cutaneous cancer cells, and so on. So that's a whole different ballgame in terms of PEMFs. But what we're talking about then is basically very low rates, pulse rates.

They're pulsing very, very slowly, as opposed to extremely rapid rates which go along with the microbes, et cetera. So these are very safe magnetic fields and you can design them to penetrate the body at various depths.

You can have local treatment devices, you could have devices that treat a big section of the bottom like a chest or a belly, or you have a device that treats the whole body.

The legacy of PMF therapy is basically whole-body treatment using very low-intensity magnetic systems. So those are legacy devices. They've been around for 25 years.

But they've been superseded, as you say, now by recently, more recently by the very high intensity devices. So those very low intensity device, Gauss is a measure of magnetic field intensity.

It's a G-A-U-S-s. The Earth's magnetic fields is about one Gaus. These low-intensity magnetic systems are one

gaus, so the Earth is half a gauss, I'm sorry, and these are 1 gaust.

RTMS, or Transcranial Magnetic Stimulation, is 10,000 gauses. and even those devices to the brain are considered incredibly safe. So now we have a door open.

And even therapeutic in many cases. Well, no, and often therapeutic and they're used not only for depression, treatment resistant depression. They're not being studied for all sorts of things.

Parkinson's, MS, all kinds of brain lesions, neurological lesion, but even tissue healing in general. And with unheard of kinds of results from any other therapy known at this point, and it's pretty amazing.

Unheard. Right. Before we go too deep into the PMF side, I do want to just on the EMF and the health detriment aspect, because many people have heard about, well, should be careful about my cell phone too much use and sleeping with it right by the bed and Wi-Fi routers on at night and these kinds of things with EMFs.

Can you just speak to a little bit more on that piece in terms of what's happening there? There's some data on calcium channels and there's a look at potentially increasing certain growths of maybe mold or bacteria.

What's your perspective on problematic kinds EMS potentially for health and what is the mechanism there. They largely work through the same gate channels, the sodium and potassium pumps, calcium channels in the body.

EMF Exposure, Dose, and Health Risks

Calcium is a critical factor for PEMFs to be able to effective as you're driving calcium. You're restoring cell membrane potentials or balance of cell membranes, electrical charges of potential by the gates, by calcium channel.

So, PMS do the the thing except for their high frequency. And so, the key with EMFs compared to PEMF, although some of these are the same, is the dose.

So, if you're standing in front of a microwave tower that's broadcasting, you are getting cooked. That's the whole principle behind a Microwave Oven. You're cooking.

Your heating, right? It's supposed to do that. Now, obviously, If you stand in a front microwave that is for cell phone use, it's not that you aren't supposed Beam if you will right of radiation Because it'll cook you too So you shouldn't one of the things one always you find out if your microwave is leaking is to put your cell phone in a microwave and then call it The dials it's leaking.

So, you should throw that microwave out and get a new one So again, very different and because it is the same kinds of mechanisms, but in much higher dosing and concentration The key is really the amount of dose so having a cell phone by your bedside Cell phones by the bed side produce a stronger signal broadcasting than they do receiving But they still produce the signal they're on all the time So a Wi-Fi router is on All the Time although in Europe they now have demand routers that only turn on when something's coming in So the key is the dose.

If you have a microwave router in a sense next to your bedroom, that's what they call those four power lines. Those they broadcast all time how much electricity using right smart meters are me exactly correct so smart leaders are a problem because they're broadcasting frequently and they are pretty powerful that the broadcast at a distance and it is next to your bed on the outside of the house are you getting that radiation.

So that's the problem there's cumulative damage. And if you get your dosing is a remote and at a distance that's not as bad but holding a cell phone to your head you can clearly see where you have a cellphone to head.

Take it away from your ear and see what your air looks like. It's bright red you're actually cooking your here. And that's why people who have cell phones to their heads over long periods of time can develop acoustic neuromas.

In other words, you can get brain catchers on the side of the head to which you're holding a cell phone constantly. So as much as possible, remove the source, decrease the amount of radiation exposure, preferably do not live in the line of sight of a microwave tower.

But if you are far away from it, the dosing is not significant enough and often the body can sort of compensate for that. But if you're particularly vulnerable or if have a tumor growing, there's a possibility that that microwave could stimulate that cancer or that tumor.

So PEMFs can actually offset a lot of the damage caused by EMF because PMF enhance the bodies health. If you are using magnetic field therapy on a regular basis, therapeutic magnetic therapy, on regular bases, you can offset the damaged caused these low level chronic sort exposures that you get.

So try to avoid EMFs as much as you can. Decrease, minimize the exposure. Don't have a cell phone in your head. Do the speaker, use a remote connection.

Even the ear pods emit microwaves essentially. Bluetooth emits microwavs, as well. So decrease those. Use a speaker phone if you could. And then at night, do not have it in bed, next to your bed.

Or put it on airplane mode. There's really no reason to have a cell phone next to your bed, really, honestly, unless you're waiting for an emergency or something.

And if you were a crazy doctor that's got it on all the time because you are on call all of the times, well, God bless. A simple solution for Wi-Fi routers are even just a little timer, the plug timer that you can set it to go off between midnight and 6 a.m.

or when no one's going to be using it. If no ones using in any way, then no need to. keep it on. So some people do that and that's another low-hanging fruit of a simple way to set it and forget it with reducing at least the exposure during the sleeping window, which can be a rejuvenated time that can help people to have a reprieve from that ongoing output that is occurring.

and walk in your router as far away as you can from your sleeping area. Yeah. And you mentioned this sense that the dose makes the poison is another way to say it, that things that are good for you in too much quantity often aren't even water and things aren t good to you that some small low dose can be.

hormetic a lot of people don't know this but many of the things that are called antioxidants when it comes to things like green tea for example it's actually a mild pro-oxidant but it tells your mitochondria to make antioxidants in order to deal with that mild peroxidin and the net effect in the body is an antioxidative effect because of a hormotic stress from a low oxidation and this may be similar in this context.

From that perspective, yes, EMFs at a distance can be hermetic. And the PEMF, tell us about the mechanism there with PemF and is this, is PMF a hermatic stress or is different mechanism or how is it working?

It can't be in a sense hermitic at the low doses, a very low dose. So theoretically, again, those one Gauss whole body systems are not doing enough in the body to be able to do healing work.

They still have sort of indirect effects in their body. And one of the indirect facts in our body, this is how I started my journey, was like acupuncture, stimulating the acupunture system, which has been discovered now to instead of chi, it's charge.

So it is actually a current that is flowing through that whole meridian system. You can activate that with the one gauss magnetic field. But it doesn't work deep enough strong enough to often do healing work.

So, for example, PMF devices that have been FDA approved for healing fractures are about 16 to 18 gauss. But because they're so low in terms of intensity, they have to be used for hours a day in order to get the healing response in the body.

So in that sense as well, even at that level, it may be somewhat hermetic. But what we look at where I look, at the most is that you need to have at least about 15 gauss at this cell membrane, the adenosine receptor in a body to optimally handle inflammation.

So the adenosine receptor is used by the body for chronic inflammation, but research has shown that you need about 15 gals to have an optimal effect on that receptor.

And then you have to judge like radiation therapy. You have the judge of the dose, uh, based on where you're trying to deliver the does the intensity of starting dose in order to the right dose at the tissue.

And we have a table on drpawlik.com about the adenosine receptor. There's one in the Supercharger Health book as well. It says, here's the magnetic field intensity you need based on the depth that you're trying to treat in order to activate that adenosine receptors.

Are you tired of living with chronic pain? Medication only masks the symptoms, but real healing starts at the cellular level. I'm Dr. William Pawlik, the leading expert on PMF therapy.

Pulse Electromagnetic Field Therapy is a science-backed, drug-free solution that helps reduce pain, speed up recovery, and improve overall health, right from the comfort of your home.

Take advantage of an exclusive 10% discount on DrPolick.com PEMF systems. visit drpawuk.com, that's D-R-P-A-W-L-U-K dot com to register and claim your savings.

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Visit drpaulk. com today and let's get started on your healing journey together. When you're talking about activating the net scene receptor in these devices, so give people a picture for, are these device handheld devices?

Maths, I know there are so many different PMF devices.

How PEMF Works: Charge, Adenosine, and Healing

Some of which are more or less portable, some of them are intended for certain kinds of therapeutic interventions, Some are handled typically only in professional offices, and some are available to consumers.

So before we dive into how the PMF affects the microbiome and mental health and specific conditions, what are these devices? What do they look like? And what the options for people just to give them a framework to understand what we're talking about here?

So rather than spending a lot of time getting into that detail here, I'm going to recommend that people access resources. So one resource on drpawuk.com, that's D-R-P-A-W-I-U-K dot com, is a product comparison guide.

So on the home page on right side you click on product of person and you'll see a whole host of devices. around the range that you talked about. Very local, very low intensity, broader intensities, higher intensity shorter, smaller areas of treatment.

And in the Supercharger Health book, I have tables that show you the different conditions and even the difference actions of magnetic fields and which kinds of Magnetic fields are going to impact those to what extent.

That gives you a better sense of how to choose a system. So if you need to make it, figure out how the book becomes the best resource for that. And they all have different benefits and actions.

So you have to decide, am I treating a tennis elbow? Okay, or am i treating across a brain or my treating of gut, a whole belly? So if you treat a small dollar sized area of the gut, you're going to affect only a smaller area the

microbiome.

There are cascading effects as well, but they're way downstream. So they don't tend to be as potent as what you end up having very locally. My usual recommendation for most people, so most of people who are listening, we tend, as a society, tend be focused on a particular problem with a particularly solution.

That goes back to the medical paradigm. However, that may be the reason that you seek to get a PMF system, but on the other hand, PMS systems help the whole body.

So should you be looking only at a local system or should consider for yourself a whole-body system? Because who doesn't need help every day, right? The metaphor or the image that I use is we have a hundred trillion cells in our bodies, let's say, more or less.

And every single cell has thousands of biochemical processes per second. So how much treatment do you need? I don't know, right? We don' know. We try the treatment to see if it works, we back off, see that we lose benefit.

It's going to have to be a trial and error process, depending on the problem you're trying to treat and the mechanism of action that you are trying invoke, if you will, in the body.

so it can be challenging to try to get the right equipment for your problem. And as a result, what we do is, DrPollack.com, will offer consultations. So people who are serious, they don't want to spend $20 for a machine.

If you want spend 20 dollars, don´t bother calling me. You can go to the store on the website and figure out what you should have. On the other hand, if you have a serious problem like Alzheimer's or you a have serious problems like MS or schizophrenia or depression, major depression.

then yes maybe we need to have a discussion about what's best for you considering not only your local problem but also what your whole body needs are going to be especially over time because what you buy one of these machines you tend to buy for the rest of your life hopefully.

When you're talking about general health and the need for it, when we have the Centers for Disease Control, even as a conventional organization, very conservative in their statistical analysis, saying six in 10 Americans have at least one chronic disease and four in ten have two or more chronic diseases, That's a majority of people who conservatively have one known chronic disease.

How many have chronic diseases that are yet to be diagnosed or known? And we have to wonder how much support that's needed. And part of this boils to what are the exposures and what's the mismatch between how we're genetically predisposed and what the environment is today.

There's been a tremendous amount of environmental changes in terms of things like EMF exposures, toxin exposers, stress in term of indoor toxins like mold toxins in even things like lights and the frequency from lights at night and things that historically our genetics didn't evolve for.

And so when we're dealing with a mismatch between genetic predisposition and environmental exposures and what we're living in today, that there is some need for support and some of that support can be nutritional, some that can support supplementation, good sleep hygiene practices, stress management practices meditation practices breath work.

cold exposure and we've gone over in the talks in this summit many of those areas in great detail. So it is nice to also consider what are some devices, some things that can augment that, all those other things, that you're doing and help in a different way from different mechanistic perspective.

With relation to mechanism and relation in particular to gut microbiome and mental health, since we're really talking a lot about microbes and health.

What are some of the mechanisms for TAMF devices in relation to the gut microbiota and then also to mental-health concerns? Well, from my perspective, gut and microbiota is a bi-directional issue.

If you treat the brain, you're going to affect the microbiote. You treat your belly, It's going to affect the microbiome, which clearly is going benefit the brain or the rest of the body for that matter, right?

So either way, and one of aspects of microbiota as well is what's causing the problem with the micro biome. Is it because it's the antibiotics? Is because you're eating chicken loaded with antibiotics.

Is it the other food or other aspects of food that you have that basically contain molecules that are similar to antibiotics and are back to recital. Or at least modify the bacterial populations.

Magnetic fields don't do it. The kind that we use for our purposes, unlike the ones that burn tissue, are basically more of a field effect. then a direct cellular effect on a bacterium.

But there is research that shows that PMF therapies can impact individual bacteria. In fact, PME therapies have been used to clear water. So contaminated water with bacteria, you can do magnetic field therapy to help to clearer that water and we know that so you could do that in the environment.

What can you do in a body with that? That kind of thing has not been studied extensively in that body. But we do know that PFFs have an impact on microbiota.

But what I think probably more than what they do directly to the microbiome, what the do is to create a better environment. So if you create better an environment in the belly where the microbiota live, then that's not a contributing factor to imbalances that you get in a microbiote.

And so as a result, the body becomes healthier. One of the key mechanisms of action of magnetic field therapy is to produce charge in the body through a mechanism called Faraday's law.

So it's Farada's Law of Magnetic Induction. And magnetic fields passing into the tissues and passing it into body create charge. They create the production of charge and the bodies creates that charge, so what the magnetic filed is doing, it passes through completely.

It ignores the bodied. Body does not exist to a magnetic feel, but a magnet field exists to body. And so as the magnetic field is passing through, it causes the body to produce charge because of the interaction of ions and other charged carriers in the tissues.

And then you produce more energy and then that causes all the downstream consequences of that PMF therapy.

Choosing PEMF Devices and Whole-Body vs Targeted Use

So healing Crohn's disease, healing irritable bowel syndrome, a post-op wound, helping to create a healthier environment so that you don't build cancer cells.

So they don't grow. And this is where the prevention aspect of PMF therapy comes in. There's a huge, usually a very long lead time for the development of a lot of health, chronic health issues, right?

They don'become chronic usually overnight. If they become chronic after an acute injury, it's because they didn't fully heal from the acute injuries. At PML therapies, if you're dealing with an, an Acute Injury, PMR therapy can help that injury heal faster, be more stable and not become Chronic.

So it doesn't convert to chronicity. So again, it helps the microbiome both directly, but it also helps it indirectly. And then in terms of the brain, so basically you improve mood by changing the micro biota and that's an extra microbiota.

The microbiomes extraordinary complex, right? And you can't say you should only have one bacteria. You don't need to have 10 or you use 10 billion of this particular probiotic because that can be overkill as well.

So it imbalanced. But treating the. Feeding the vagus nerve. also changes the microbiome and studies have been done. So magnetic field therapy, as you were saying, affects the brain, improves brain function locally.

But then secondarily, the whatever secondary effects there are on the micro biome further help the primary effect that you have with the brand directly.

How does the charge, you're mentioning the charged and that charge being a mechanism by which the body is generating energy and regulating How does that charge impact the mitochondria?

Is it the aspect of inflammatory cytokines? How is that impacting and interfacing with the physiology? PMF therapies, as I said, affect at least 25 different actions of the body.

Number one, they reduce swelling, edema. Edema is a natural consequence of injury. Increased circulation, stimulate ATP between 100% to 400% increase in ATP production.

They still need to stem cells, they still might repair mechanisms in the body, their antioxidant as well in terms of their actions, anti-inflammatory we mentioned, and of course they do have this whole body acupuncture effect as what causes balancing or homeostasis in their body.

Some of those actions are very direct, some of these actions very indirect. But they're all there at the same time and they don't, I can't dial it. So I give the body of the energy and the buddy says, okay, i've got more energy.

Now I'm going to do what I need with this energy, so if the. Energy requirement that it has at that moment happens to be to decrease inflammation or happens.

To increase nitric oxide or have happens, to rebalance the immune system. It works through the NSE receptor. The body will take from that energy whatever it needs.

at its own rate, at it's own pace. And then you just have to dose often enough to keep that process moving until it culminated or completed. Now when we're talking about whole body versus targeted.

I know some of the studies on the brain are looking at stimulating certain areas of brain and others may be more general in their application as to looking how PMFs and magnetic fields of various kinds can impact brain function, maybe swelling, inflammation, ATP and other aspects that you're bringing up as well.

Where would you say the difference is in terms of the targeted versus more broad spectrum application in relation to mental health disorders such as depression, anxiety, or other mood dysregulations?

I have a problem with targeted because when you introduce even with the RTMS systems, what they do initially is they stimulate the motor cortex and to get a hand contraction.

They say that's the Motor Threshold. And then they move it over to the left frontal area, the brain, and then increase the intensity upwards of 120% of the motor threshold.

The goal there is basically to create, um, charge production, create current in the tissue. Cause what they're doing, The reason RTMS was developed was to replace ECT.

Electroconvulsive therapy, which is barbaric. It's electrocution, right? Yeah. But RTMs is not painful. But it can produce energy in that area. The hope or the thinking there is that by increasing the energy and the prefrontal cortex, you're going to reset a lot of the chemistry of brain.

There's a guy called Leuchter, L-E-U-C-H-T- E-R, wrote a paper called, basically, it's A Balancing Mechanism in

the Brain. And he says it is not about the receptors, the chemical receptors.

It's about electromagnetic. And the reason PMF, the reasons medications take up to two weeks or three weeks, or four weeks to kick in is because they're gradually cascading the amount of electromagnetic energy production in the body.

So it's called Rhythms and Blues is the name of the paper, Rhythm and blues. Now psychiatry is beginning to understand that that ECT treatment or that treatment to the brain here is more than just Synapse management with biochemistry is all electromagnetic and how do you separate one from the other?

And so when you treat here does the magnetic field stop where you're targeting? The answer is no because magnetic the Magnetic fields go right through the whole skull, right?

So you treated a magnetic feel here. It's going to go into your shoulder too at the same time It is not going be limited to where where do think you are putting it.

So targeting can increase the intensity and the density of the simulation But it's not limited to that. So there's a discussion, some discussion in the literature now about what's actually happening in treatment treating depression.

Is it really that, again, RTMS specifically that that area of the brain? And the answer clearly is no, it is not that specific. You can focus that areas, you can focused the hippocampus for short term memory.

You can focus frontal lobes for executive function and executive memory. You could focus for a calculea. Or if you have problems with mathematics, you can focused on that part of the brain.

But you're not just treating that parts of brain, your concentrating the energy in that of part the brains. So if do QEEG, You map the brainstorm with QEG and you could say, well, this area of a brain let's say back here, it doesn't have enough alpha.

It's got too much delta.

PEMF, Gut Microbiome, and Mental Health

So let's stimulate this area with alpha. In that case, you're going to use magnetic field therapy where you can induce alpha, where we can specifically target the alpha brain waves.

And you are going use frequencies or pulse rates that are in the Alpha range. If you want to say for sleep, I use Magnetic Field Therapy for Sleep all the time.

Sleep is very important for depression and mental health as well. So what do we use for sleeping? Delta. I will do Delta under the pillow and run it all night long.

So we bring the brain wave hyper function down, keep the more suppressed through the night, so you get much deeper, more prolonged sleep. But that has all kinds of secondary benefits as well, which is a good thing.

So when it comes to targeted, there's this sense of that we're targeting one area, but of course the magnetic field doesn't stop there. So we know it's having a broader effect than just one areas, maybe stronger in one are that's targeted but still a broad effect.

When it comes to the brain waves themselves, and looking at, for example, QEEG, the pulses, when it come to PMF, to pulse part, can be impacting those brainwaves at the rate, at wavelength.

And for people who aren't familiar with this delta, is that lower one that is sleep, that's zero to one hertz. That's the brains waves going into this deep sleep.

Then there's theta, which is in between sleep, maybe dreaming or deep meditation. And then there's alpha, which are relaxed states or in-between, often sleeping and waking or people who are going into very creative modes of work often are in alpha and some meditation and then beta being normal, waking awareness and gamma being a whole other thing where some healing is occurring.

So are these coming into play with post electromagnetic field therapy? Totally mostly therapeutic pms are not designed really for entrainment of the brain which is what you're talking about what we present the brand with a pulse and the rain is very dynamic and so if you presenting it like a metronome with the specific pulse rate continuously the break starts to listen.

And the bring does what's called frequency following which then leads to the entrenched. So audiovisual entrainment does the same thing audio or visual entraiment.

And what we're doing now with magnetics is we are doing something called audio-magnetic entrapment, which is a new term your audience is going to hear.

So with audio magnetic entramment we do the samething, we cause these oscillations moving back and forth in the brain, and then the brand begins to frequency follow into that pattern.

But then you're getting not only the entranment benefit, but at the time you are getting the magnetic therapy benefit. You're getting more going on there than you do just with audio or visual.

Your body was designed to heal, but illness, chronic disease, stress, injury and time can slow that process down. What if you could restore your body's natural ability to recover, recharge and feel its best?

The key to healing is giving your the energy to repair itself. PEMF therapy does exactly that. recharging your cells, improving circulation, reducing inflammation, and helping you function at your best.

For decades, I've studied this technology, worked with hundreds of medical professionals, helped thousands of people reduce pain, regain energy, take control of their health.

However, not all PMF devices are created equal. No one size fits all. We offer personalized consultations so you can find the right device for your needs, backed by real science and trusted results.

If you're ready for a real solution, let's talk. Schedule a consultation at drpauluk.com, that's P-R-P-A-W-L-U-K dot com, because real healing starts at the cellular level.

So with entrainment, are the pulses sometimes varied so that it won't entraine and follow, or are they usually constant and intended to drive the brain rhythms to follow?

That's an extraordinarily important and very observant observation. So that's one of the things that I struggle with as well, and I've done a lot of audiovisual entraining.

There are people who've designed PMF devices for brain entrapment. But they're changing the frequencies constantly. And so what happens is you don't know whether you've been trained enough or you haven't.

The machine is moving on regardless of what you're doing. So which is one of the reasons I like Delta Entrainment. One of our devices we have is the Flex Pulse.

Flex pulse has a Delta program and has an Alpha program, a Theta program. If you do Delta entrain then you are taking more of your brain to go into Delta.

You can't get the whole brain into delta or the brain is damaged. It's going to be damaged to an alpha base and, you know, all delta. You're going be in a coma.

It is all Delta. So you're getting more and more of the brain to it be encouraged to being in that brain range. If you were. Um, so it's not comprehensive and that's a good thing.

That's the safety mechanism. But you, but again, You try to encourage it as much as you can. you get multiple actions, multiple ways that it becomes entrained.

Fortunately, the brain is very dynamic and the good thing about it too is if you take it off, brain will go back to doing whatever it wants. I'll give you an example, I had to pick up my daughter at the airport at two o'clock in the morning.

Her flight was supposed to come in at eight o clock. And so I have to work the next day. So what I did is I took my flex pulse and put it on beta. 23 Hertz back of my neck over the RAS reticular activating system for consciousness levels, right?

And I drove to the airport picked her up. I was fully wide awake I Was not jazz. That was not hyped up, but so wasn't like coffee And then when I came home, I took it off and it's like almost instantly I went to sleep.

So there's very little residual effect to brain with depending where the brain wants to be if you're You know, brain wants to be in alpha, but you put it in delta.

Well, when you take off the delta, the, delta break, The brain is going to go back to alpha. I think some people do get concerned with controlling things that, that naturally might be different, But also people get stuck.

People get in patterns of depression, patterns, of anxiety, pattern of chronic illness. And this is a, almost a homeostasis that the body begins to habituate around that pattern.

You talked about reset, you also talked this ability for the body to be able to go to what's natural but then entrained to something specific and intentional.

For someone who they're trying to understand a little bit about, hey, my mood is off, I'm feeling depressed, what can this actually do for me?

Brain Waves, Entrainment, and Mood Regulation

Does it pull me right out of it? How's the experience of someone who's beginning to utilize pulse electromagnetic field therapy? Obviously everyone's a little different, but what's, what the general sense of.

Someone's starting to use this therapy and they're starting. See an effect. How does that tend to look? Is it gradual? It's quick. Is that a combination?

Yes. To your question. So the answer is the farther you are from where you want to be, the further you have to come. That may mean in order to do that fast, you're going to need a much higher dose.

Now, they're getting a lot more magnetic field intensity to drive the brain, or you are going need more time. So it's either time or intensity that's going cause it to go.

And the farther you go from the object, then the more work you have to have do. In some cases, if you in alpha already and you try to get the theta, that is easy.

If you were in beta, high beta. and you've just been doing quadratic equations and watching videos on all kinds of stuff that your brain is really working hard to do, well, you're overstimulated.

Then that is going to take longer to get you down. That's why we do sleep hygiene, right? You've got to set yourself, set the stage for this. You set a stage and that may still not be enough.

And it's just an easy push down to go down the next level where you want to be. So the answer is, it is situationally

dependent. If you've been taking speed, if you're on speed or coke and you try to fall asleep, you tried to go down at the delta, it's going to take a lot more work to get there.

Yeah, that's a good analogy. So pulse EMF or PMF devices, say a little more about the with or without the devices. What are some of the main core tenants or principles that you really encourage in yourself or patients or people you're working with to keep in mind beyond just PMF devices.

What other areas when it comes to mental health and gut microbiome health do you encourage for people? Well, one of the key things that I maintain always is you can't build a house without bricks and mortar.

You need nutrients. You have to have the proper nutrient support. It can't be pouring gasoline on a fire and throwing water on the fire, and see which one wins.

Ideally, you're working in concert with everything else you do in your life. So don't overstimulate yourself. Have a good, have a proper balanced diet.

Get a reasonable amount of exercise and activity. Magnetophil therapy will make anything else that you are doing work better. Whatever you doing with nutrition, whatever you did with counseling, or whatever you're doing with activity, running, for example.

Running can be very damaging to the body. Marathon running is probably not very balancing in general, right, or training for that. So if you do that, then you have to do a lot more, again, work to pull yourself back.

But balancing is critical. You can't heal a wound without having nutritional factors to support the healing of that wound. can't heal bone or reverse osteoporosis if you don't take minerals to support bone development.

Magnetic field therapy doesn't create the minerals. And so you have to, again, use balance. Then you'll have do enough treatment time. Probably the biggest mistake that people make is they don t do it enough.

There are, unfortunately, there are magnetic therapy salespeople out there that say all you need is eight minutes a day. Well, good luck eating one peanut a days.

Is that going to be adequate nutritionally? Eight minutes The bone healing machines that we talked about for fractures, they'd have to treat for nine hours a day.

And there's studies that show that if you don't treat what they recommend you treat with the science says this is what you need to heal, then it takes you two to three times longer to do the healing work.

So again, balancing and having all these factors together. The Supercharger book talks a lot about these kinds of factors and what we have put together to get the best effects.

Now, aside from the body effects of TEMF, magnetic field therapy, there are people who talk about magnetizing water, utilizing magnetic fields in contexts outside of just the bodies.

Can you speak to any of that? Is any that things that you feel are valuable and important for people to know about? I do recommend treating water. And if you own a magnetic system already and be golden by activated water if it wanted to, and you're going to pay money for that.

But if have a PMF system, all you have to do is to put your water right next to the magnetic coil. How long does it take to magnetize a paperclip? Not very long.

Almost instant. So you don't have to treat the water for very long. The Russians have discovered that you can melt gallstones. I haven't seen that yet, so I'll take…

I heard that. You might be able to melt kidney stones by using magnetic water on a regular basis. If you think about

it, water molecules themselves clustered.

And there are things called aquapores in our cells. So the Water channels in ourselves, which are extraordinarily tiny. You can make water slipperier.

They've done studies where they've shown water in pipettes, a column of water falling down a pipette, timed that. And you can't do distilled water with this.

The water has to have mineral content. But if the water is normal water, and you treat it with a magnetic field, it'll fall about two to three times faster than it would normally fall.

So there are definitely effects with water. Water tends to be more softened when you're treating the Water. We've definitely seen experiments where people are using water for their plants.

Lifestyle Foundations, Water, and Safety Considerations

And you can have a plant here and a plan here. One gets magnetically treated water and one doesn't. The magnetical treated plant grows faster and bigger.

So that is an important thing. We don't spend a lot of time talking about the use of water for that purpose, but that certainly could be a maintenance thing, you could treat the water once a day.

A Japanese researcher discovered that the relaxation effects of the Water molecules being closer or farther apart don t last all day long. So you can only make that water that day You can't use it for days and days, and ideally you treat it and you can use about six or eight hours and then you have to regenerate.

But yeah, if you own the machine already, you should do it. Adding water. Wonderful. And what does it do to the water in the body? Exactly. Yeah. Well, this has been wonderful.

I think this gives people a broad context for the difference between EMFs and PEMF, and how PMF devices can be targeted and or generally applicable for a wide range of purposes with many different mechanisms of action behind how they work, can you be utilized on the body and can utilized for water as well.

How would you like to summarize, review any other pieces that we haven't mentioned yet that you want to be sure to mention here before we wrap this conversation?

One thing we didn't really talk about a lot is safety. We already talked about TMS, RTMS when you're treating the brain with very high intensity magnetic heals for like 20 minutes or 30 minutes at a time and you do this daily for weeks.

So this safety studies in RTMs have shown that is extraordinarily safe even to the One of the reasons that FDA doesn't pay much attention to magnetic field therapies, and we don't have a whole lot of FDA approved devices, which is a good thing, I think, is because it's safe.

If it was not safe, then the FDA would be all over this technology. So safety, they're very, very safe it. It's very hard to overdo it, there is one caveat potentially, And I've mentioned this in a couple of other summits.

The caveat is that if you get the urge to put on a cape, don' try to jump over anything tall. So safety is an area, anything that people should avoid any conditions, any bodily, if they have joint replacements, If there's a pacemaker, these kinds of things, are these concerned with magnetic field therapy?

So if you have a very high intensity system, you'd have to be a little bit more concerned when you're have metal in the body. You should be doing magnetic therapy if have the joint replacement.

You should, because the joint replacement is a foreign body which creates inflammation in the body, which then

causes these joint replacements to have a lifespan.

If you're doing magnetic field therapy on a regular basis, it causes osteointegration, so it means it's actually better for the buy. Pacemakers are, pacemaker is implanted, defibrillators, cochlear implants, you know, all that electronic stuff that we're now seeing.

It can be a problem. if the devices are MR conditional, You're probably pretty safe. However, If the device has to be recalibrated, reprogrammed to go into an MRI, it has been turned off to going into a MRI and then turned back on again after you do your MRI.

Then you probably should be keeping magnetic fields away from that control unit by at least a foot to two feet. So there's an area where there is a lot of discussion about the role of PMFs and whether they could be safely used.

Beyond that, it's a matter of time. Using it, just using it the right amount of times, using the it right way, and using often enough for your problem.

Well, thank you, Dr. Pollack. This has been very informative and another addition that's very different than some of the other conversations that give people another tool because there are some people who are quite sensitive to supplements and food changes or who have already done a lot in those areas.

And this is another different area that people can utilize and it can complement, as you mentioned, all the others stuff. It doesn't replace it, but if you're doing all of other stuff and then you add this, it complement and be a helpful addition.

How can people find out more if they'd like to talk to you, learn more, or get investigation into a device? I know you've already mentioned your website and the book.

Are those the best resources, the places for people to go? Yes. Often when people want to do consultations, we give them a document that they have to fill out.

We recommend that the look at certain articles on DrPawlik.com. I don't want it to be educating somebody should have educated themselves, right? So in other words, if you spend the time and resources, your own time, and learn about Magnetic Therapy, then contact us and we can have a better dialogue.

It'll be much more efficient. So DrPauloff.com, you can get consultations. The two books I recommend, If you read the book, You don't need to read Supercharger Health.

You Don't Need to Read Power Tools for Health, because it's got more science. If people don't like to see the science, they say, OK, that's fine. I accept what he says.

But then go to Supercharger Health, which is much more practical. Or again, the combination of the two books. If you do that, read through what you can on the website.

The website has a huge amount of information. It's a big library all by itself. Um, but at least the basic things and then the the books and you're well on your way to understanding.

One of key things about magnetic field therapy again is that don' be fooled into thinking that a low intensity magnetic system is going to do the job when you need a high-intensity system.

And that's why the Supercharger Health Hub becomes important. Right? And you can spend $6,000 for a machine that does almost nothing for you. But the sales person had a great song, great story.

Yeah, that is important Well, thank you so much, Dr. Pollack, your wealth of information, especially as it relates to PMF. And thank everyone for watching.

This has been another episode of the Microbes and Mental Health Summit. Take care and have a wonderful day. Thanks for joining me on the PEMF Effect. I hope today's conversation gave you new tools, insights and inspiration to take control of your health.

If you enjoyed this episode, don't forget to subscribe, leave a review and share it with someone who could benefit from PMF therapy and holistic healing.

Your body has the power to repair, recover and thrive. Sometimes it just needs the right charge. Until next time, stay curious, safe, little active, and keep powering up to better health.