## How to use your FlexPulse William Pawluk, MD, MSc Author of Power Tools for Health



## **POWER TOOLS** FOR HEALTH

How Pulsed Magnetic Fields (PEMFs) Help You



William Pawluk, MD, MSc & Caitlin J Layne



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POWER TOOLS FOR HEALTH

#### Parts I, II and III

#### Part I: programs and uses Part II: specific need recommendations Part III: general application directions



#### Part I

#### programs and uses



#### choosing a program



The key to using your FlexPulse is

- to understand the programs that are available,
- selecting the areas of the body you want treated
- how long to treat them,
- how often and
- at which intensity.



we have typically chosen the programs in the FlexPulse with a single frequency, using the concept of entrainment.



entrainment means that the body will tend to shift its resonance to match the frequency being presented to the body in a regular fashion.

so, if we present the body with 7.8 Hz, for example, a large area of the tissues of the body in the area of the frequency exposure will be vibrating or resonating at frequencies above and below 7.8 Hz.

but, a lot of the frequency responses that we want for treatment will be at the specific resonance used.



### single frequency entrainment is a more natural approach than trying to force the body to do our bidding at gunpoint so to speak.

Power versus Force.



#### I will discuss the programs in the FlexPulse here and they are also described on the website and in the handout enclosed in the package pocket



it's important to know that it's hard to be absolutely wrong in picking a program. all programs have general cellular and tissue benefit.

the biggest consideration is how the chosen frequency will stimulate the nervous system especially when used around the head.



#### Program 1 – 3 Hz [Delta band]



## this program is most often used to help with sleep. it can also be used effectively to treat anxiety.



#### for sleep, I recommend putting a coil directly under the top pillow rather than under a mattress or a second pillow.

the closer to the brain, the stronger the magnetic field will be to "entrain the brain."



this program can be used all night long, at maximum intensity, because, if it's under a pillow, the total intensity in the brain is going to be a lot less.



#### sleep patterns are controlled largely by an area of the brain called the reticular activating system or RAS.

the RAS is at the base of the brain at the upper part of the neck.



some people need to do their placement right there: the upper part of the back of the neck just below the skull, for best results.

it may not be a comfortable place to place a coil, but one can get used to it.

this is also a good place to put the coil when somebody needs to crash from being overstimulated or hyper.



#### Program 2 – 7.8 Hz [theta band]



- in addition to P1 this can be considered a general utility program.
- 7.8 Hz is called the Schumann resonance, the average electromagnetic resonance of the ionosphere of the planet.
- this is the planetary frequency by which the brain is most consistently stimulated.



#### Theta band is a great frequency for

- meditation
- relaxation
- light sleep
- for healers
- pre-performance jitters
- just generally mildly quieting down the brain.



# if one doesn't know which program to choose, this is my number two choice behind P3.



#### Program 3 – 10 Hz [alpha band]



## Alpha band is a neutral rhythm of the brain. helps to regulate over- and under-active brain frequencies



#### choose this program (frequency) for

- relaxing,
- to reset circadian rhythms,
- for healing any local tissue,
- increasing stem cells, and
- if you don't know what else to select.



#### the only caution with using p3 is you may not want to use it when you want to be alert and wide awake.

it's also probably not a good idea to use it when you want to be asleep.

however, it may help you to coast into sleep.



P3 may be especially helpful for problems stemming from the head or in the brain, such as:

concussion	seizures	brain tumors
headaches	anxiety	scalp injuries
TMJ	sinuses	dental issues

falling asleep eye or ear disorders muscle tension headaches

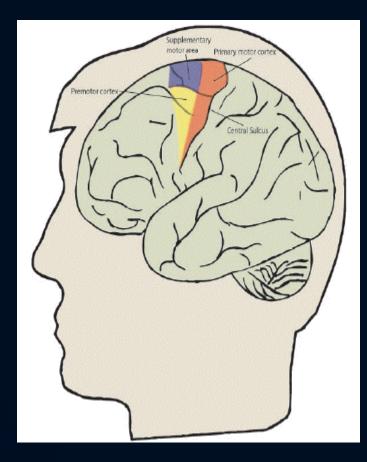
in other words, use it for anything having to do with the brain or tissues in the head.



#### Program 4 – 14 Hz [low beta band - SMR] Sensory Motor Rhythm



14 Hz - the sensorimotor rhythm (SMR), idling rhythm for brain area controlling activation of muscle or extremity movements of the body long thin area of the brain located from the top of the head to the top of the ear on each side of the head.





- SMR helps a body become more relaxed
- In brain areas outside of the motor strip, 12–15 Hz is considered to be low beta
- ie, relaxed attention such as reading or engaging in a relaxing hobby, eg, knitting.
- hyperactive (ADHD) children have very little SMR activity
- SMR can be used to improve reading speed and comprehension.



Use P4 SMR for:

- relaxed attention
- quieting down the body
- improve reading speed and comprehension
- insomnia when due to
  "chattery" mind but relaxed
  body.



- SMR stimulation enhances attention and may improve cognitive performance, for attention and improvement of memory
- SMR can enhance brain reserve in older people by enhancing working memory



- SMR also shown to reduce seizure activity
- SMR can lead to increases in arousal
   useful in some situations of ADHD



#### Program 5 – 23 Hz [mid-beta band]



# Beta band is the frequency of the brain in an alert state.

in this state we are wide-awake, learning, thinking, judging, memorizing, reacting quickly, integrating our thoughts, and many other functions.



# I do not recommend this program before bedtime.

P5 is like a cup of coffee without the caffeine – it makes you alert but not over-revved or over-stimulated.



# P5 great to use after waking up or during the day to generate alertness and for usual daily functions.

should also be very helpful for SAD (Seasonal Affective Disorder) or for someone who has mild to moderate depression, sadness or feeling mopey.



# especially useful for being alert for

- projects,
- attending meetings,
- driving long distances,
- for students studying or cramming or just before taking exams
- athletes during training and before competition.



# be careful using this program in somebody who already has anxiety, panic disorder, is hyperactive or has ADHD.

doesn't mean it can't be used, but just be careful and watch the effects on the person.



# Program 6 – 40 Hz [classic gamma band]



# the dominant gamma band brain wave frequency – range 25-100 Hz gamma oscillations are involved and needed for the simultaneous processing of information from different brain areas



# involved in higher brain tasks needed for cognitive functioning, learning, memory and information processing

improves mental clarity and efficiency improves processing



waves move rapidly from the front to the back of the brain in response to sensory inputs like sound, touch and visual stimuli

help the brain to integrate these inputs, consider their importance and then help the brain to react quickly as needed to potential threats or opportunities.



# Gamma P6 entrainment enhances

- neuroplasticity
- cognitive function
- attention and focus
- physical task learning
- eye hand coordination



# P6 helpful in various health conditions

- ADHD
- reducing or slowly aging
- recovery from alcohol
- preventing and treating Alzheimer's disease
- improving brain circulation
- problem-solving to produce "Eureka moments"
- facilitating lucid dreaming and meditation
- helping with memory
- neurofeedback
- improving standing balance
- brain injuries



# Gamma P6 should be avoided:

- anxiety/PTSD
- insomnia
- pain
- seizure disorders
- tinnitus



# Program 7 – 50 Hz [mid gamma band]



# primary powerline frequency in Europe



acute venous insufficiency amputation stumps Bartholin gland inflammation chronic endometritis Coagulation Dupuytren's contracture EEG fracture healing glaucoma larynx disorders Ménière's muscle fatigue neuro infection osteomyelitis peripheral nerve disorder retinal degeneration/dystrophy senile dementia/Alzheimer's syringomyelia

allergic rhinitis arrhythmias burns circulation corneal perforations/trauma eczema enuresis gastric disorders intestinal motility lumbar spondylitis meningitis/optic chiasm myoma optic atrophy periodontitis psoriasis salpingo-oophoritis stroke vascular reactivity



- any of the other programs can be used as well to treat these conditions
- not exclusive to 50 Hz only
- will depend on the user and experience to find which frequencies or programs would be best for any of these conditions
- multiple programs can be used in the same or separate treatment sessions to produce the best results



# 50 Hz P7 is also in the high gamma range and can be used for gamma applications as well.



# Program 8 – 60 Hz [high gamma band]



# primary powerline frequency in the USA and many other areas of the world.



- arthritis
- atherosclerosis
- bone healing
- chronic pancreatitis
- circulatory brain
- enuresis
- fibromyalgia
- inguinal nerve injury
- pain
- reflex sympathetic dystrophy (RSD) or complex regional pain syndrome (CRPS)
- whiplash



- any of the other programs can be used as well to treat these conditions
- not exclusive to 60 Hz only
- will depend on the user and experience to find which frequencies or programs would be best for any of these conditions
- multiple programs can be used in the same or separate treatment sessions to produce the best results



# 60 Hz P8 is also in the high gamma range and can be used for gamma applications as well.



# Program 9 – alternating every minute between 10 Hz and 100 Hz



be careful using this program in somebody who already has anxiety, panic disorder, is hyperactive or has ADHD.

doesn't mean it can't be used, but just be careful and watch the effects on the person.



# P9 recommended for any musculoskeletal problem: muscles, tendons, ligaments, joints, skin, bone.

most of the time treatment of these types of problems requires maximum intensity for as much time as you're willing to put in.



# Program 10 – 999 Hz [actually 1000 Hz]



P10 is reserved primarily for help with acute depression.

chosen because of a PEMF study done in the Harvard system showing benefit in people with sudden, low mood situations.

may be especially helpful with seasonal affective disorder [SAD], along with program 5.

probably a useful program for anybody with depression.



# PLEASE NOTE More serious depression needs to be under the care of an appropriate health professional before and/or while using PEMFs.



situations of mild low mood should respond well to this.

may be useful bridging treatment for somebody just going on antidepressant medication, until the medication kicks in.

"kicking in" process can take several weeks, so high intensity treatment with program six may help to bridge this time as the medication kicks in.



should be noted that this program chews up battery charge very quickly. will have to be recharged more frequently.



# Part II

# specific need recommendations



# deciding on which program to use is based on the reasons it was purchased in the first place.



the most common reasons are for: pain, anxiety, mood, sleep, tissue healing, memory and cognitive issues, alertness, and other issues.



#### Pain

The source of the pain is usually in some local physical part of the body.

often, the source is not where the pain is felt.

always, pain affects the brain.



P3 - 10 Hz - the general utility program for physical issues, to stimulate stem cells tissue repair and balance the nervous system P9 - 10 Hz/100 Hz - this program deals mostly with musculoskeletal causes of pain. either P3 or P9 or both can be tried to see which one works best.

for some conditions, P7 or P8 may be tried since there is research to support their use.



# when the biggest need in dealing with pain is:

- to relax, P3 may combine several needs
- healing of wounds and injuries, P9 may be better



### chronic pain:

that is significantly disruptive to life – treat not only the pain source, the injury, but also treat the brain.

changes brain function and amplifies even the smallest of pains.

brain cells are more excitable, amplifying any sensory signals, including pain.



chronic pain: "tune" down the brain. done best by programs 3, 2 or 1, in that order of likely usefulness.



#### Anxiety

2 types, general and situational - treatment same.

for general anxiety, treatment may be need to be for extended periods of time through the day, probably every day.

for situational anxiety, eg, performance anxiety, treatment may be needed only before the performance, and repeated as needed.



### Anxiety

best to start treatment before it gets too severe, because at that point it's very difficult to shift this with the level of intensity provided by the FlexPulse.

more severe may need very high intensity magnetic fields.



### Anxiety

- general background anxiety use P3, as often as needed.
- alternative P2.
- all intensity 10
- place one coil each side of head just above and slightly behind the ears.
- or, try single coil at the upper part of the neck just under the skull.



### Anxiety

combining physical treatments with anxiety treatments can be even more effective, physical problems may be a significant contributing factor to ongoing anxiety.



### Mood - overexcited or low.

- low mood more common P5-P8
- if anxiety too, target that first.
- depression issues add P10.
- may mingle programs for best benefits.
- higher intensity gives better results, faster.
- longer treatment time may be most important repeated as often as needed.



### Sleep

Sleep problems can be considered to have several stages: winding down, early light sleep, later very deep sleep, ongoing sleep and waking.



### winding down before going to bed – use P3 or P2 ongoing sleep –P1 once in bed under pillow P1 through the night usually decreases later wakenings and if wakened fall back to sleep faster



# sometimes best to use the physical programs P3/P9 for pain and discomfort before going to bed , then P1.

if pain issues rear up at night choose whether to use a physical pain program or continue P1 – or combine them.



tissue healing ultimate goal, not just symptom improvement most of the time P3, less often P9 P7, P8 may be tried less well studied for these purposes every body will determine its best programs



### healing takes time

symptoms and function improved before healing is completed

treatment may be needed for weeks after symptoms improve

if start using tissues, they will tell if healing completed



Memory and cognitive issues memory extraordinarily complicated not just about brain function, aging or dementia about the vitality of the brain, attention, focus several programs help memory/cognitive function P3, P4, P5 and gamma programs, P6, P7, P8 normally start with P5 or P6 several can even be combined in same session



### Chronic stress (anxiety) major issue with memory Reducing stress/anxiety critical to help memory and attention



significant memory issues - P6 significant anxiety, treat that too pre- and early Alzheimer's - P6 learning, attention, focus - P5 or P6 especially ADD/ADHD, extended studying or reading



PEMFs give brain fighting chance "exercising" brain critical to maintain <u>& recover memory</u>



Alertness coffee, other stimulants, increase alertness take time to be metabolized half-life of coffee is about 12 hours often interfere with sleep



### alertness needed for

- waking,
- driving and other physical activity
- brain fog
- studying and learning
- managing projects
- meetings
- driving long distance or at night
- guard or security duty



P5 most commonly used some may prefer P6 – P8 matter of trial and error don't have residual effects brain recovers rapidly



### Part III

### practical considerations



### Choosing the area to treat



### You can treat any area of the body. It is safe to use anywhere. This includes the brain, the heart, and the genitals.



The coils are small which means that you can only treat a small area at a time, such as, a shoulder, and neck, an elbow, a low back, a hip, etc.



#### Remember

the energy output from the unit is the same whether you use one or two coils.

if only one coil is used all the energy goes to that coil.

if two coils are used then the energy's divided in half for each coil.

less energy means longer treatment times may be needed, typically.



which area to treat first is up to you.

for most people it's the area that's causing you the most problems.

understand, that the bigger the area of the problem, the deeper the problem is and the longer that it's been there will determine how long you have to treat it before you get acceptable results.

because of these considerations, partial improvement of the problem may have to be accepted without complete resolution before moving to other areas needing treatment.



## so, you have to prioritize where you want to focus on your treatments.

if you have unlimited time in a day and you have multiple areas that need to be treated, then continuous treatment throughout the day may be necessary at the beginning until problems begin to get to where you want them to be.



### you didn't get here overnight, most likely. so, you won't resolve overnight either.



getting used to the clicking sound some complain when using the coils near their ears the nature of a magnetic field - can't be changed means that a magnetic field is being produced at night it can be bothersome when it's under the head or near the ears. But, think of it as a reliable friend, not a distraction. Lower intensity if needed.



## keeping the coils on the body constant challenge

get creative

variety of ways needed to keep coils on the body, since every part of the body can be treated and each area has its own shape and unique coil support needs.



### keeping the coils on the body

flexible bandages, wraps, tapes, straps, hats or headbands are the most typically used.

if you are using tape, strongly recommend paper or clear tape as much as possible because stronger surgical type tapes with better adhesion tend to be very hard on the skin.



keeping coils on the body

Get creative

- tape the coils over the frames of eye glasses to treat the eyes,
- tape a coil or coils over a t-shirt with duct tape, rather than to the skin, and then just taking the t-shirt on and off for retreatments.

I know it's inconvenient but the reward is worth it.



### **INTENSITY MATTERS**

as often as possible, recommend highest intensity.

highest intensities give much deeper, stronger penetration of the magnetic field into the tissues being treated.

eg, a shoulder, you want the magnetic field to be as strong as possible across the entire shoulder. same thing applies to a hip, knee, foot/ankle, the back, and so on.



FlexPulse G2 Intensities by Hz		
Program	Hz	Gauss
P1	3	226
P2	7.8	224
P3	10	220
P4	14	165
P5	23	161
P6	40	110
P7	50	110
P8	60	110
P9	100	110
P10	999	44



### Go Low and Slow

magnetic field therapy is like training.

aggressive training can result in more injuries. So, training typically will end up needing to gradually increase in both training time and intensity, to tolerance.

never know what the body will like or how it will react, especially in the beginning.

somebody is in tip top shape already, not likely to be a problem.



### Go Low and Slow

most people are not in top shape. even if they are overall, various tissues may not be. Listen to your body. "train/treat" appropriately and gradually increase the time and intensity as your body responds.



### Go Low and Slow

to be respectful to your body, you may want to start off with low intensities and a short treatment time.

where you start and how you scale up will depend on your own tolerance for discomfort as your body gets used to the "training."



ultimate goal is to get to the maximum treatment intensity and the maximum treatment time.

at that point you know that your body is basically in great shape from a cellular or tissue perspective.



know that any program you use at or above 23 Hz will chew up the battery charge faster. may mean shorter treatment times. normal but you will have to recharge it more often.



estimated times for how long the battery can be used at maximum intensity until it is fully discharged.

Jse times (hours)
12
5.2
4.3
2.7
2.7-3.2
3.3
3.4



### key points to remember about using the FlexPulse

- some people like to place a piece of cloth or tissue paper between the skin and the coil.
- coils are nonporous material, so can create increased perspiration under it.
- coil material is not very soft, so, some small amount of cushioning may be needed.
- thin cushioning does not change the magnetic field intensity the body receives.



### using 1 coil is preferred to 2

better results will happen when only one coil is used because the magnetic field intensity is double

keep the battery charged. Does not have a memory, so it can be topped off any time.

when it's not in use charge it



### can't charge the battery and run a program at the same time.

has to be in the off setting to be able to charge, better with the coils removed.



when intensity number is flashing it can't run yet press the dot or control button to turn it on E button runs a chosen program and press for 4 secs to pause a running program press the dot/control button 4 secs then release to turn it off



## normal for battery life indicator flashing back and forth

flashing between one and two bars, you know that it's nearing the time it needs to be recharged

when the battery is completely discharged, the whole battery indicator is blank or empty



### FlexPulse can be easily brought through security onto an airplane – carry-on or luggage. will pass through security without any problems.



lithium-ion batteries are completely safe.

battery pack has a lifespan and will need to be occasionally replaced with the right kind of battery pack.

contact us for battery replacement information, when the FlexPulse is down to almost no treatment times after charging or won't recharge.



### read or watch directions several times for answers before calling or emailing



### ENJOY YOUR FLEXPULSE

### WE ARE CONFIDENT IT WILL GIVE YOU A GREAT DEAL OF BENEFIT.

