

Adopt VibroAcoustic Therapy
As An Integrative Wellness
Modality and as a Self - Help
Tool in Every Day Life

Reduce Pain, Stress, Insomnia
and Anxiety. Boost Vitality and
Life Quality with Inner body
Massage of Harmonic low
sound Frequencies.

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ABSTRACT

Harmonic low sound frequencies are streamed into mats and pillows and help reduce pain, stress, insomnia and anxiety, boost vitality and life quality. Learn how to adopt vibroacoustic therapy in your personal and business life.

Vibroacoustic therapy is a wellness, holistic and integrative bodymind balancing platform.

avigail berg panitz

Owner and CEO of TheSoundWell

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[Gunn Nilsen 64](#)

[Reidar Ulseth Nilsen , 45 years](#)

Disclaimer

This book is intended to provide you with information about **Vibroacoustic therapy** and how you can apply it as a customer for self-use or incorporate it as a therapist or wellness/spa business owner.

Vibroacoustic therapy is an integrative wellness platform that can be used as a preventive modality to recharge vitality by reducing stress, insomnia and anxiety. Therapists may also use it as an integrative tool to reduce acute and chronic pain.

Be aware of the following:

1. This book is not meant to replace online or face-to-face training needed to learn how to operate a Vibroacoustic system.

Much of the content in this book is meant for people who are going to invest in a Vibroacoustic therapy system, which includes: hardware equipment, frequency software, and operation training. However, even if you don't currently have such a system, you can still become informed about the mental, emotional, and physical advantages of using Vibroacoustic therapy daily.

2. Vibroacoustic therapy is a wellness integrative platform but it does not replace medical treatment. DO NOT stop taking medication prescribed by your physician even if you feel better after having a Vibroacoustic treatment until you consult your physician and he concurs.

3. This book assumes that you will be using low sound frequencies in the range of 30 Hz -120 Hz based on **Olav Skille's** algorithm and perception of **Pythagoras' Harmony** (See *chapter 25*). If you do not use these frequencies, you may not experience the benefits of Vibroacoustic therapy as described in this book.

4. By taking steps to learn more about Vibroacoustic therapy, you are a pioneer, explorer, self-learner and a social entrepreneur who is passionate and motivated to **increase life quality**. Whether you are using Vibroacoustic therapy for yourself as a preventative, personalized tool or to help others, such as clients or people with chronic diseases and disabilities, we commend your efforts to build vitality.

5. This book includes many articles that are classified as "pragmatic philosophy", and can be valuable as a reference for self-exploration. Yet, adopting Vibroacoustic therapy as part of your daily routine is necessary to make a quantum leap to a healthier, happier life.

You may view the book as an application guide to help you understand how to use Vibroacoustic therapy to dynamically balance body, mind, and spirit.

6. A call for research on Vibroacoustic therapy:

More research and collaboration is needed on the effectiveness of Vibroacoustic therapy to boost vitality and reduce pain, stress, insomnia and anxiety. A stronger effort must be made to study the

effect of Vibroacoustic therapy on homeostasis, cell metabolism, detoxification, and the immune system.

7. I, Avigail, am the owner of The SoundWell Corp., which specializes in Vibroacoustic therapy or harmonic low sound frequencies as a wellness integrative platform. Vibroacoustic therapy can be used for self-management and as a therapeutic tool to enhance life quality and reduce pain, stress, insomnia and anxiety. It can also be used to boost vitality, mind clarity, improve performance and replace bad habits with better habits.

8. I quote Olav Skille in various places in the book. Olav provided me with his written material as he was mentoring me by emails and skype for over three years almost, daily. Olav approved citing him and using his material as I choose.

9. This book is created as a modular introduction educational tool for regular people from all walks of life, and for variety of therapists and organizations. You may find repetition of content in some chapters and that is to enable different people focus only in their field of interest. You are welcome to skip chapters that are not relevant to you.

10. This book is an eBook and by its nature, changes, updates, and new versions may take place more often. You are most welcome to contact us - to keep you in the loop.



Preface

Dear Reader,

Before focusing on Vibroacoustic Therapy I would like to have your attention to our motivation, passion and inner drive of applying Low Sound Frequency - vibroacoustic therapy solutions as a generic therapeutic wellness modality and as a self -help tool.

I hope you had a chance to:

- Watch the CNN Documentary [“Escape Fire”](http://www.escapefiremovie.com) – www.escapefiremovie.com
- Watch CNN Documentary [“Deadly Dose”](#)(please google “Deadly Dose, CNN if you are reading a printed version)
- Read about statistics of chronic diseases in America:
<http://www.cdc.gov/chronicdisease/resources/publications/aag.htm>.
- Read about Over dose epidemic:
<http://www.cdc.gov/drugoverdose/epidemic/index.html>

Reading and watching the above items, (which in my humble view, they are only the top of the iceberg's examples of the complexities in healthcare challenges), make you want to contribute, to create a better healthcare & wellness culture in US and worldwide.

What is a better healthcare you may ask? There are so many experts, consultants, scientists' researchers, pharmaceutical companies' executives' opinions. There are so many perspectives and views ... and, on top of that, "Obamacare...."

While you observe the big picture of the health care as a macro national system, we, focus on a single human being's health and wellness at home, at work, in schools and in the community.

This is our perception:

- A healthy balanced human being is when biological systems (blood, nervous, muscle, skeletal, cells, organs, immune system) and mind systems (thoughts, emotions, imagination, memories) function harmoniously within each system, and among systems, to maintain dynamic homeostasis of preserving life, wellness, and wellbeing and to enable growth.
- Mental and physical subsystems interact and influence each other, nonstop. Each human being is a unique mix of genetic manifestation, interaction with social and physical environment, personal experience, and mental conditions.
- Healthcare and wellness should be preventive, proactive, personalized, and positive.
- Physicians and therapists should have the knowhow of applying a variety of integrative solutions to diagnose and treat people. The price/performance of using drugs or

diagnostic devices for a long time should always be in minds of physicians who make decisions about one's health treatment. They should be aware of the possibility of negative effects of radiation, chemicals, addiction, or accumulation of drugs and mix of drugs for a long time, and their side effects on various systems and organs, that may eventually, become a new medical challenge.

- With all the acknowledgment and respect to western advanced technology, research and medical devices, other worldwide health modalities may contribute to the health and wellness of an individual. Therefore, a physician who diagnoses and writes a drug prescription , including therapeutic treatment, should be open minded to learn, share and discuss with colleagues of other alternative therapeutic modalities. The benefits of incorporating integrative ways, is achieving rapid recovery and wellness to the individual s/he is treating.

- An individual should be pro-active in the process of healing. S/he should read and check, what is proposed as an answer to his/her case, and get a second or third opinion until s/he is satisfied, and trusts the process s/he is going through.
- An individual and therapists, medical institutions, homes, schools, businesses managers and professional teams, should be aware of the negative impact of stress in our life. Chronic stress is a gateway to many illnesses and therefore, be addressed, as a major issue to be resolved as preventive wellness at home, in the community, at work, in health institutions and in education centers.



Using Sound as Integrative Medicine

Are you “more or less” healthy? Are you “more or less” happy? **Are you “more or less” smiling by the end of your day, as you reflect and remember your activities and your behavior?**

What? You never do that?

You never play back in your mind your day/night activities, behavior and thoughts and observe what you went through?

Start with this simple exercise:

Tonight, before you let your **automatic physiological inner programming take dominance into falling asleep**, look into the events that happened today, and observe them as if you are watching a movie.

Do not be judgmental. Don't critique yourself or the other people you interacted with. Just observe from your memory and visualize what took place.

At the end of this process, (which may take few minutes), look inward. Are you smiling? Or do you feel stressful and unhappy?

Do this exercise for one week and write down your conclusions. Are you more or less happy and healthy?

Health, happiness and well-being are all connected. You can't be healthy for a long time when you are not happy for a long time. And you can't be happy if you have health issues that cause you pain, stress, insomnia and anxiety. Such issues will drain your vitality, leading to depression and even more health challenges.

So, what do you do if your conclusion is – "I'm not happy," "I'm not healthy" or both? What do you do when you realize that you often experience **"more or less" swings?**

We are conditioned to agree with our belief systems. Our decision-making algorithm is created by combining our experiences accumulated during life with our values, education, culture, and religion. Yet, it really all started long before the influence of the above elements, when we first felt the **harmonic vibrations in our mothers' womb.**

The experience in the womb represents humanity's first incubator conditions of security and growth. Vibroacoustic therapy simulates that same environment.

Later, the mother's breast and physical hugs make up the first intimate environment of life learning. After that, education from mentors and teachers extends the circles of influential people that shape our life. This process never stops. It continues even at this very moment as you are reading these sentences.

Adopting Vibroacoustic therapy as integrative wellness platform

Psychological marketing consultants are paid millions of dollars to provide hidden subliminal tools based on pictures, videos and music with goals to seduce us or convince us to buy this product and not the alternative.

In an intellectual conversation, or when we observe our behavior or other people's behavior, we admit that we know that we are brainwashed by advertising and social media communicators. Yet, on a daily pragmatic basis, we forget that we are manipulated and let these marketers continue to grab our attention and convince us to do what they want.

You may revolt at this moment and say: "Are you kidding me?!?" I'm not a marionette – I have a solid opinion based on facts and science.

Let me ask you this: When you go to your physician and he or she recommends that you take a certain drug, how often do you read about the side effects? How often do you get a second opinion? How often do you try a complementary or alternative treatment?

And another question: When you visit your family doctor, how long does the conversation or interaction take place? Does he or she ask you questions about your mood, job, love life, and eating habits?

You may be thinking, "It's not any of my physician's business to ask me these kinds of personal questions. Rather, my psychotherapist or life coach should be addressing my psychological attitudes and behaviors."

Here is the problem of today's western medicine: It has become so scientific and impersonal that even your family doctor may forget to ask how you are today and wait for an answer with full attentiveness. I don't blame the medical doctors. They are part of THE SYSTEM. If you have chances watch this movie: <http://www.escapefiremovie.com/>

Doctors shouldn't be blamed for providing pills, painkillers and drugs as their main "curing tools." Many of them never studied anything else. Even nutrition and the components of minerals and vitamins in the food we eat are unknown to them in many cases. That is because they are not familiar with alternative or complementary health paradigms. Often, their attitude is based on general negative prejudice. The systems in place, including the FDA and pharmaceutical companies, radically oppose such solutions because they compete with their products and solutions.

For example, when you watch pharmaceutical advertisements in the U.S., most of them go like this: "take _____ it will help you. Ask your doctor...."

Then, the intonation of the voice changes to a lower tone and very rapidly, the speaker in the ad says: "If you have this and this and this condition, the pill may cause complications, cancer, suicide, and sudden death." Then, the wrap-up of the message goes with a confident voice something like: "Take This.. ask your Doctor it will help you".

Later on, you may even see a new ad of a law firm who is suing the pharmaceutical industry for the side effects its drug caused to millions of people.

This book is not suggesting that you should neglect Western medicine. Rather, this is a call to *adopt* integrative medicine and wellness approaches.

What is Integrative health and wellness paradigm?

The philosophy behind integrative medicine is based on the perception that no single medical paradigm holds the whole medical solution "in its pockets" with regards to full recovery of an illness. The fact is that we are complex human beings with physical and mental/emotional interrelationships. So, whenever a health issue arises, the answer should involve a multidisciplinary approach, taking in mind the physical, mental/emotional and spiritual components of one's being.

There are various definitions for an integrative medicine paradigm. I decided to quote the following definition from Dr. Andrew Weil, a pioneer in this paradigm:

Integrative medicine is healing-oriented medicine that takes account of the whole person (body, mind, and spirit), including all aspects of lifestyle. It emphasizes the therapeutic relationship and makes use of all appropriate therapies, both conventional and alternative.

The principles of integrative medicine:

- A partnership between patient and practitioner in the healing process
- Appropriate use of conventional and alternative methods to facilitate the body's innate healing response
- Consideration of all factors that influence health, wellness and disease, including mind, spirit and community as well as body
- A philosophy that neither rejects conventional medicine nor accepts alternative therapies uncritically
- Recognition that good medicine should be based in good science, be inquiry driven, and be open to new paradigms
- Use of natural, effective, less-invasive interventions whenever possible
- Use of the broader concepts of promotion of health and the prevention of illness as well as the treatment of disease
- Training of practitioners to be models of health and healing, committed to the process of self-exploration and self-development

Source: <http://www.drweil.com/drw/u/ART02054/Andrew-Weil-Integrative-Medicine.html>.

[Our vision of integrative medicine and Vibroacoustic therapy](#)

This book's goal is to inform you about exploring and applying Vibroacoustic therapy as an integrative wellness paradigm to reduce pain, stress, insomnia, and anxiety; to boost vitality; and to increase body-mind balance and mind clarity with no chemicals involved.

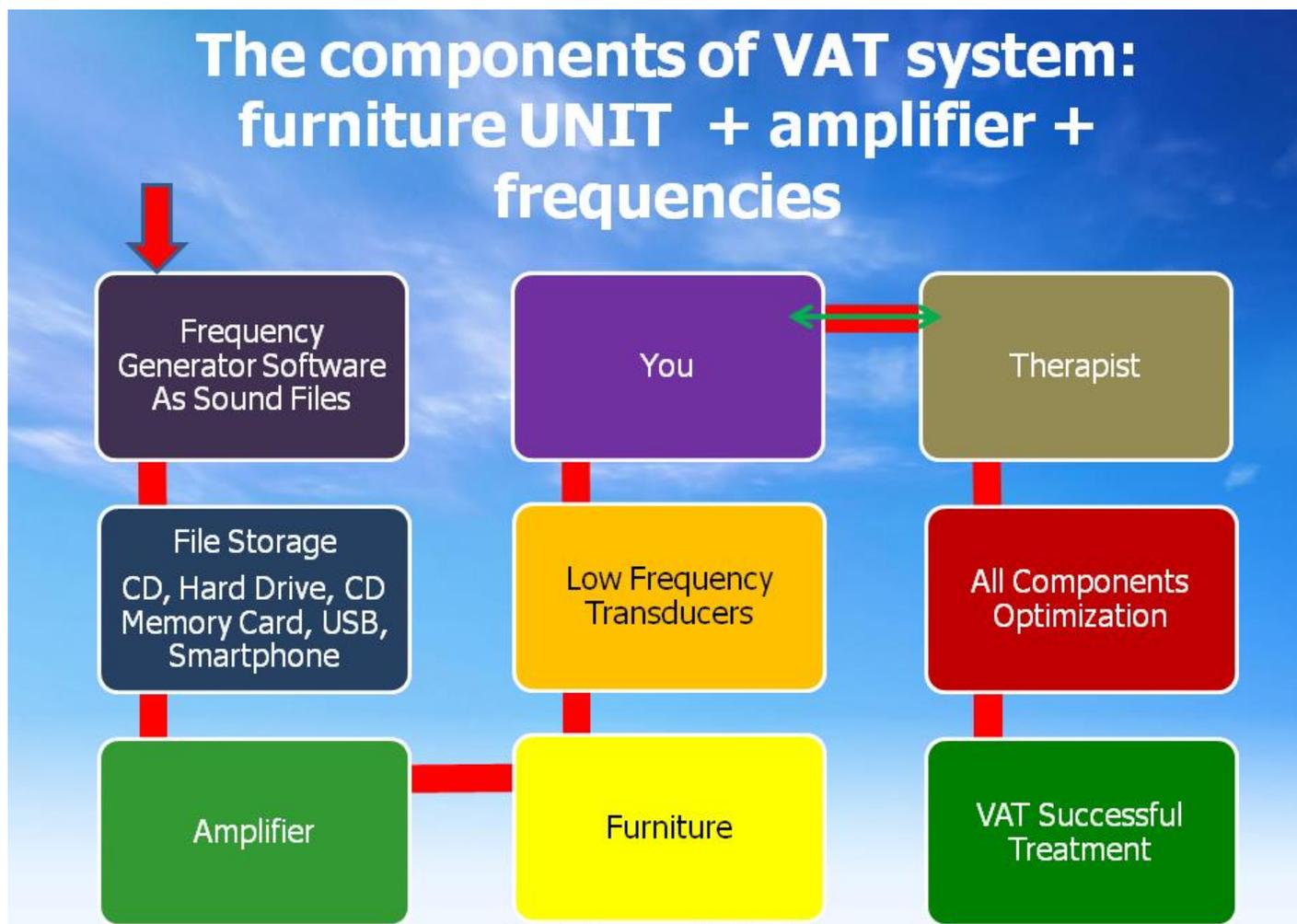
Vibroacoustic therapy should not replace treatment by a physician, and I do not claim that Vibroacoustic therapy cures the aforementioned ailments 100 percent of the time. Yet, this platform is essential as an added modality to every physician, chiropractor, physical therapist, and psychotherapist. Vibroacoustic therapy may enable their patients to take fewer painkillers and drugs for anxiety and insomnia. The side effects of such medication may bring about new medical challenges and complications.

Restoring balance and vitality

Stress, insomnia, anxiety and pain drain your vitality over time. When your energies are low, you function poorly, your perception of reality is delusional, and your decision-making is not operating from your optimized perception of reality to tap into your best health and wellness.

Vibroacoustic therapy is an attunement tool to create homeostasis, harmony, and vitality by enabling the immune system and natural healing processes to take place.

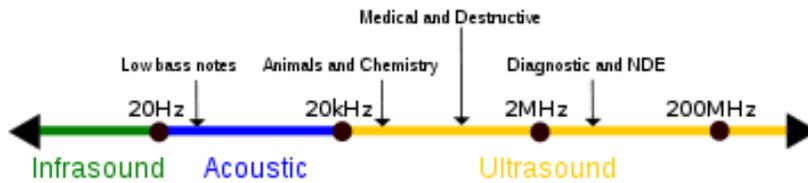
What are the components of Vibroacoustic Therapy



What is Vibroacoustic Therapy?

Vibroacoustic therapy is a process in which one lies on a special mat or hugs a special pillow. Embedded within these items are small transducers or bass speakers.

First, a therapist or trained user conducts an evaluation of symptoms. Second, a single harmonic low sound frequency in the range of 30-120 Hz is transmitted from a hardware device to the transducers in the Vibroacoustic equipment. Finally, the frequency is converted by the transducers into gentle vibration waves felt as an “inner body massage,” which typically lasts for 23 minutes.



During the treatment, most people experience deep serenity and relaxation. When the treatment is over, the user may feel that vitality and mind clarity are recharged and enhanced.

The outcome of Vibroacoustic therapy treatment is a reduction of pain, stress, insomnia and anxiety; a boost of vitality and body-mind balance; and increased ability to drive life in a positive way.

How can Vibroacoustic therapy be used?

~Vibroacoustic therapy is a drug-free treatment and can be used as a standalone therapy. It can also be incorporated with physical therapy, chiropractic care, physician’s treatment, psychotherapy, and/or alternative modalities.

~Vibroacoustic therapy can be used as a **preventive wellness platform** at home, work, or school for stress management.

~The therapy can be used to effectively reduce **acute/chronic** pain, stress, insomnia and anxiety.

~Vibroacoustic therapy can be used as a **self-management and/or an added therapeutic tool to replace bad habits with better habits** (such as obesity from binge eating or unhealthy eating and anger management).

~Vibroacoustic therapy, **together with mindfulness, self-imagery and visualization, can be an effective tool to improve performance, learning capabilities, innovation and creativity. It also can be used as self-application of psychoneuroimmunology.**

Where do the Vibroacoustic therapy frequencies come from?

Olav Skille, the inventor of Vibroacoustic therapy, found a correlation between specific frequencies and reduction or elimination of pain and stress in different parts of the body (for more on this subject, see Chapter 25).

For example:

Red 40 Hz – balances blood circulation and reduces insomnia. It is a powerful frequency to enter “the gateway of tranquility.”

Orange 50 Hz – eases breathing and helps people who suffer from lung disease.

Yellow 52 Hz – reduces lower back pain or menopause symptoms.

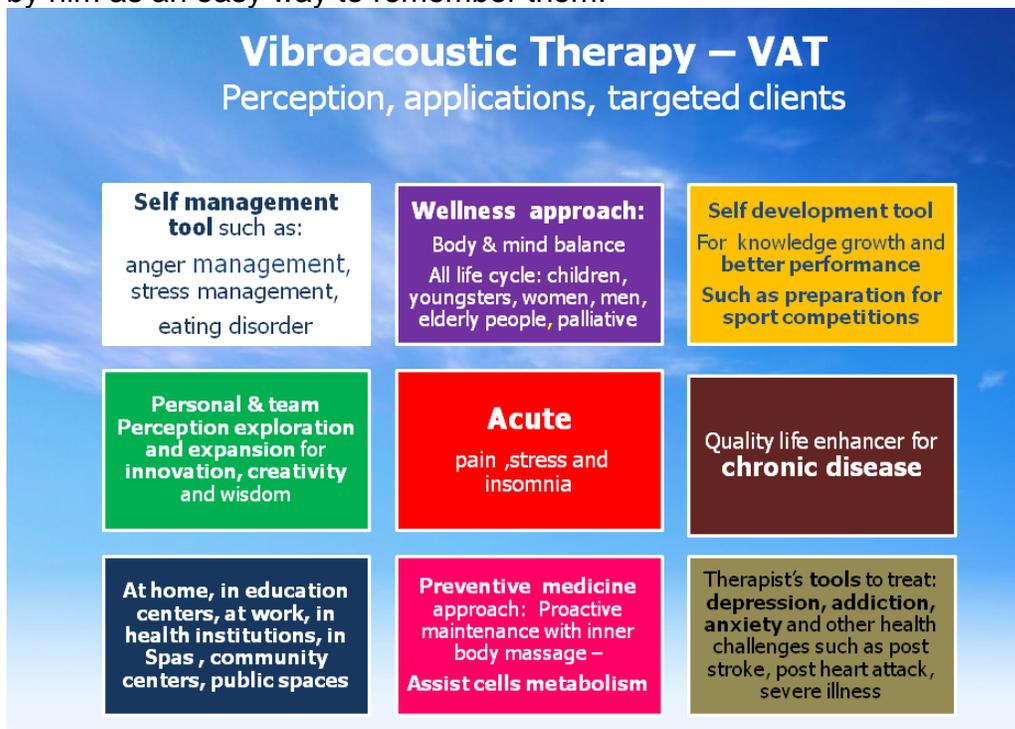
Brown 60 Hz – balances body-mind and recharges vitality.

Green 68 Hz – reduces stress and pain in upper back, neck, and shoulders.

Purple 80 Hz – reduces pain and stress in small body parts such feet and hands.

Blue 86 Hz – reduces neurological issues and migraines.

Though there is some similarity to chakras colors, Olav Skille kept saying that the colors were given by him as an easy way to remember them.



The Difference between Vibroacoustic Therapy and Music

Olav Skille, a Norwegian therapist, educator, musician and composer, is one of the pioneers and innovators of applying the frequencies of Vibroacoustic therapy for whole inner body massage. Over 30 years of applied research and feedback from patients and therapists have led him to discover a connection between certain frequencies and the reducing stress, insomnia, anxiety, and pain in different parts of the body.

Even though Skille's original patent mentioned therapeutic "music," he later decided to separate music from Vibroacoustic therapy treatments.

As per my request, I asked Skille to write an article that explains his view about music

The following excerpt from this article by Skille explains his reason for doing so.

"I invite mainstream therapists – physical, psychotherapists and complementary alternative therapists such as music therapies, sound medicine colleagues, acupuncture, massage, chiropractors and people from all walks of life to adopt pure low sound frequencies as a treatment to reduce pain, stress and many other illnesses symptoms.

Music is part of our life, a main art creativity in history of mankind, no doubt. No matter where you live, music is part of religion, culture and society. It penetrates our ears from infant period till elderly age.

I describe it as a form of behavior, a unique product of human activity, that is used for emotional communication.

Music is very dynamic and it influences our mind in multiple ways. Some are unconscious, other trigger deep memories and experiences. When sound is too loud, it is uncomfortable, and possibly dangerous, noise.

When it comes to using music as a therapy, there is an increasing success worldwide in integrating music therapy as part of therapy alternatives being adopted by mainstream rehabilitation centers and hospitals.

My call derives from accumulated knowhow of over 30 years of research and as result of direct feedback from patients and therapists about the positive effect of low acoustic frequencies on the physical and psychological well-being.

Let's explore sound:

Vibrations are the first basic cellular sensory memory experience of an organism.

Each species has receptors for perceiving vibrations and sound. Perception of vibrations may be the most important life-saving property in any living organism.

Vibrations can be perceived in gaseous substances, fluids and in solid matter. Mammals have several sensory organs that are used for perceiving vibrations. The organs that are most specialized for sound perceptions are our ears, and for perception of vibrations in solids there are senses of touch. All of them are important for the instinctive] decision one makes if an approaching object is threatening or safe. This inherent process, results [in] our actions and behavior – shall we react by fleeing, by fighting for our life, or alternatively, show trust and acceptance?

The new-born baby, lying in its mother's loving arms is already armed with the defense reflexes from the senses of touch and sound. The startle effect, is rooted in our instincts, [it is] memory inherited in our cells. This is memory of a totally different dimension than the learnt behavior changes we have assimilated during our growing up and aging processes. Many of the assimilated social behavior patterns hinder us from applying the life supporting reflexes that exist in our cellular memory.

The pregnant mothers' bodies are constantly producing sound vibrations of different character and intensity. [Whatever] the range of diversity, they can all be defined as low sound frequencies. Life in the womb is normally soft, warm and totally protected from external threats. The adult body has not forgotten the positive effect of the life-supporting sound vibrations in the uterus. The memories remain in us on a cellular level. Evoking these memories can contribute to re-establish the harmonic state of a human being in a positive developmental process.

VAT re-creates the inborn, built-in, well-being, protecting, and loving experience in us.

Our bodies consist mainly of water, and can – acoustically – be compared to a water-filled sack. Sound transferred to any single point of the sack will be transferred by the watery substances to any part of the body – and will give mechanical massage to virtually every cell of the body. Even the brain will receive vibrations when we apply sound along the spine.

Music has an even more complicated frequency spectrum than noise and speech. The variety of frequency elements is so great that it is impossible to define which musical elements are actually effective in a music therapy session. A therapist's acting in cooperation with a client or independently, may choose a piece of music that is supposed to have a therapeutic effect. Parts of the music frequencies may trigger conscious or unconscious effects that may not necessarily be an added value to the process of recovery.

Tony Wigram wrote his PhD thesis primarily based on a mixture of music and frequencies. He named this mixture "Vibroacoustic Music" (VAM) and most therapists around the world are now using VAM or pure musical stimuli in their work.

I refined the concept of VAT to the use of one, amplitude-modulated, and sinusoidal tone in order to have exact control over the stimulus that is transferred to the human organism. The body can, in fact, function as a loudspeaker membrane.

VAT is poison free and does not use foreign substances. The sound stimuli we use are changing the production of stress hormones (beta-endorphin, ACTH and cortisol) in the body in a positive way. The primary effect of VAT is that it adds subtle mechanical stress to our

organism, just as we add positive stress to our body when we are jogging. After jogging we experience relaxation and well-being. When we experience VAT stress, the brain starts producing stress hormones, and we reach the stress-hormone peak after about 15 minutes. During a VAT session the body feels the positive effect of the gentle, all-encompassing sound massage, which unconsciously is interpreted as calming and relaxing. The positive, “silent jogging” effect[s] of VAT substitute the “jogging-stress” for persons who are sitting in wheelchairs, lying in bed, or are under-stimulated physically or neurologically. It contributes to the cell metabolism process of anyone who uses it. It provides drugless positive hormonal substitute for physical exercise.

These hormones are analgesic and anti-inflammatory, spasm and metabolic stabilizing agents. VAT seems to be a catalyst for positive stress-hormone reactions. Contrary to music and VAM that are using the unspecific characteristics of music, a VAT situation is totally predictable after the introduction phase. Music is changing, moving, even surprising, and in constant development. It is like a living organism, accessing and influencing our emotions and intellect created by an artist’s own creativity and emotions.

VAT is soothing, predictable, drugless and safe instead of being dependent on binaural reactions to sound and music (VAM), I suggest to circumvent the audio processes and access the physical reactions directly, transmitting sound vibrations to other sensory stimuli of our organism, similar to the reactions of touch and massage, but from within.

VAT treatment imitates the soothing skin contact with a person and the intrauterine vibrations during 9 months of growth and cellular creation.

Music is emotional communication! However, VAT is not trying to transfer emotions to our stress-filled adult bodies. VAT is trying to recreate the cells’ self-repair processes that are embedded in our cellular memory. Instead of transferring emotions, VAT is making it possible to revive our own emotions’ process from within.

During a VAT therapy session, no startling effect is needed. You are wrapped in loving care. There is no external challenge threatening you. Just the soothing, undulating memories from a slow drift in the amniotic fluid are carrying you into a meditative state, where time and space are not relevant. YOU are the only reality of importance, and your cells recall total harmony created inside you. Music, on the other hand, is emotional communication between composer and listener.

VAT is your own communication with your inner self. You are your own totality – body and soul.

VAT brings back natural homeostasis.

When are you [most receptive of] unconditional love? Imagine being a newborn, lying in your mother’s arms wrapped in a soft angora wool blanket while the family cat purrs happily close to both of you.

Imagine this moment when words do not exist. When happiness is just a physical experience totally free from external stress, almost like being in the total uterine protection state, but you are grown up!

When you are in such harmonic internal environment, you recharge energies in your physical and physiological dimensions and you uplift your life quality.”

Vibroacoustic Therapy as Combined Yoga with Meditation

In recent years, meditation and yoga have become mainstream modalities and are less associated with “new age” or spirituality.

More and more research studies find that meditation and yoga can act as preventive wellness tools to reduce stress and are effective in combining physical exercise with awareness. Being aware is helpful to be attentive and focused.

Business executives are more aware of the need to reduce stress at work by providing wellness programs and meditation as preventive medicine.

Often, psychiatrists and psychologists advise their patients to meditate. When you Google “meditation” and “yoga,” you’ll find numerous websites and videos offering various meditative environments and methods including guided imagery and relaxing music.

The big question though, is, how many people really meditate and do yoga consistently, as part of their daily routine and not only do it once in awhile as “a relaxing experience?”

Why is it so hard to integrate these two tasks into our 24-hour day? After all, meditation and yoga usually take no more than an hour altogether.

The answer is - Many people have trouble with “the starting point of meditation,” which is the first gateway to a level of deeper calmness and serenity space within you. Unfortunately, many people are unable to find this body-mind inner gateway.

Try this website as a self-experiment: <http://www.donothingfor2minutes.com/>

We all experience the gap between “wanting” and “doing.” This challenge comes from the spaghetti-like chaos of our thoughts, emotions, sensations, memories, dreams and imagination.

We don’t exactly know the cause and effects of physical conditions and mental conditions. For instance, what is the direct influence of people’s energies on us? Or how can external triggers such as noise, crowd or traffic, raise anxiety and stress? We know that the answers to these questions differ from person to person based on their previous experience, conditioning of the mind and genetic tendencies.

It gets even more complex when we explore inner triggers such as how our moods and imagination affect our whole well-being. **We are often controlled and driven by our inner spaghetti mind.**

If we meditate occasionally, it may be a temporary relaxing experience for that time, but it will not create an inner environment of peace that will altogether positively affect our physical systems and mental systems.

The same goes with Yoga. How many people do yoga as part of their weekly routine? Most people don't. Vibroacoustic therapy mental and physical effects are as if you were doing yoga and meditation together. The beauty of it is that no real effort is required to reap the benefits of VAT on the body and mind.

For example, a VAT session after a stressful day can minimize the overwhelmed mind. The gentle vibrations also have a "gymnastic effect" on cells in the body.

Sometimes, you see people sitting in a park or on the seashore meditating. Yet, their minds continue the streams of thoughts, emotions, sensations, imagination, and memories. We cannot stop this streaming, which consumes a lot of energy — but we can minimize it.

Vibroacoustic therapy minimizes this stream of thoughts by tiring the chatting mind with swinging vibrations until it falls asleep. In the silence, when only your breath and harmonic low sound frequencies are heard, you will recharge your energies like a battery.

Vibroacoustic therapy does not replace physical exercises in the long run. However, if you are unable to do physical exercises for whatever reason (such as weather, health, injury, old age), VAT will massage the inner body and give your cells a workout.

When you adopt Vibroacoustic therapy into your weekly schedule, you will start feeling a positive change. You may experience less pain, stress, insomnia and anxiety; more vitality and mind clarity; and more tolerance and compassion in your communication with others.

I like to describe Vibroacoustic therapy as "imposed meditation and yoga to the cells." You need to experience it to sense and feel what it is all about and to have that "aha moment."

Preparation for the usage of VAT

stage	description	time
Preparations	drink water, use the toilet, sit down, loosen up your body, breathe deeply, observe your body state, pay attention to your attentiveness.	2 minutes
Before lay on the bed	Observe your bed, make sure it suits you. The sheets, the mattress, bed location, room atmosphere, room air temp. Adjust it to your needs	2 minutes
Lay your body with awareness.	Feel every part of your body. Scan your external body parts.	3 minutes
operate the frequency	Make sure the volume is tuned to your BodyMind essence	23 minutes
The journey	Use your attention to feel/sense/think of the connectivity between the mind /brain and your organs, muscles, tissues, nerves, cells	
Focus on the objective of your treatment	Feel how the waves of sound get you back to homeostasis of health and happiness	
Breathe deeply	Feel how oxygen and vibrations fills and recharge every cell in your being	

"Less is More"
Keep it as low as possible, yet you still sense vibrations

Be active in the healing process with imagery & visualization

"Listen to your body", don't use earphones or music

What Is Body-Mind Balance?

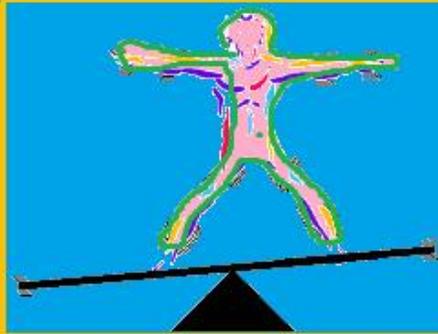
How Can You Achieve It with Vibroacoustic Therapy?

What is Body Mind Balance

Body Mind Balance is a dynamic process of harmonious, orderly group of interacting, interrelated, or interdependent elements forming a complex wholistic organism.

Mind Systemes: thoughts, emotions, sensations, memories, imagination and dreams.

Biological systems



There are phrases and concepts we often use as part of our common language in social interactions, but we do not really stop to look closely at what they really mean.

Let's do that now as part of our exploration of the added value of Vibroacoustic therapy as a therapeutic and self-management tool.

What is body-mind balance?

Let's break it down even further: What is body, mind, and the balance between the two?

There are many definitions of "body" when you focus on the physical, biological or chemical dimensions. Yet I hope you agree, that worldwide science and different health paradigms (including Chinese and Indian traditional medicine) are in consensus in defining **BODY as a SYSTEM**.

The body is a complex functional and structural system composed of a group of physiologically or anatomically complementary organs or parts such as: the nervous system, skeletal system, digestive system, reproductive system, blood system, gland systems, immune system, cell system, and the DNA system.

Consider this: Reality is complex and dynamic. No matter who you are and what you do, nobody “sees the whole picture” of reality because it’s so huge and in constant change. That is why science is in a constant process of new discoveries and new scientific paradigms and theories.

We pay attention to one thing and something happens somewhere else that may affect us, even if we are not aware of it – This is not a philosophy. This is life. Imagine taking a walk down the street and someone with the flu coughs in your general direction. You may not even be aware that the incident occurred, yet, the next day, you may find yourself sick with the flu.

Our minds are conditioned to constantly define things and events and give them significance. That is why defining a body as a system, which is composed of subsystems, is a good conceptual tool for better communication and understanding.

We can always relate to a **system within a system**, or observe parallel-level systems.

Let’s dissect this a little more: **A unit** of a system may be an organ. An organ can be defined as a system of cells and molecules tasked with a specific purpose. **A unit is a subsystem of a higher dimension system.** For instance, a lung is a subsystem or a unit of the respiratory system.

What about the mind?

The brain is defined as a physical system, just like the heart, lungs and so on. Yet, what is the mind?

Here is a good definition:

“The human consciousness that originates in the brain and is manifested especially in thought, perception, emotion, will, memory, and imagination.”

Source: <http://www.thefreedictionary.com/mind>

I would add sensation and dreams to this definition. I would also **define each of these components as subsystems or units of the mind.**

The mind is a system with the following units as subsystems:

Thought system, memory system, imagination system, dream system, emotion system, etc.

Now, let’s focus on the word “balance.” Words associated with this term are: equilibrium, harmony, homeostasis, calibration, attunement, regulation, and coherence.

So, body-mind balance is a dynamic process of harmonious, interactive, interrelated, and interdependent elements forming and maintaining vitality as the fuel of life for the whole organism.

Let us go further into the concept of harmony. Consider, for example, **harmony in an orchestra:**

The orchestra with all its different instruments is similar to the organism’s functional and structural body and mind systems. In an orchestra, each instrument needs to be harmonically attuned to its natural sound. Yet, all the instruments together need to be harmonically tuned with one another. Now, think about what happens: a few minutes before the conductor appears on the stage, one instrument

(usually an oboe) plays the “A” note and all the other instruments follow it and tune themselves. Then the conductors come to stage.

There is a dramatic moment of **silence** before the multiple instruments (or systems) start to play harmonically together. **That moment of silence** is the peak of the integrated subsystems’ attunement process. **It’s the climax of attention.** It’s what makes ALL become an integrated, ONE organism. This moment of silence and attentiveness comes from the audience as well. It is a moment of being ONE or WHOLE to enable dynamic harmony of music.

Body-mind balance means that we are actually seeking conditions to enable each subsystem to function in its own natural rhythm and operate in the optimized way to achieve vitality and health. Yet, we also wish to experience internal and external conditions to enable harmonic interrelation of body systems, mind systems and in between body and mind systems.

We don’t really know “what triggers what” in this complex inner connection between body and mind subsystems. But we do know that scientific evidence supports such connections.

For example, we know that laughing increases the strength of the immune system. On a negative side, we also know that sadness and agony can literally “break your heart.”

So, pause for a moment and observe your lifestyle:

What do you eat? Are you sleeping well? How are your love, security, home and family relationships? All these characteristics are indicators of health and wellness. Having good genes is a good starting point, but this is not enough to keep dynamic body-mind balance as your genes interact and are affected by the outside environment.

The 21st century is hectic and stressful. Smart phones and the media feed us information nonstop. There is no more separation between work and home.

In a world filled with violence, stress and uncertainty, how can people find their inner peace of body-mind?

Furthermore, people talk about yoga, meditation, and how they need help implementing a healthy lifestyle, which includes physical exercise and a balanced diet. This is so great!

But how many people meditate daily in a way that has a positive effect on their wellness, insomnia, stress reduction and overall attitude?

That being said, let’s be pragmatic in finding a **calibrating platform** that will attune our body-mind systems and harmonize them to “fuel vitality” in a natural way.

What attunement system will help bolster the immune system, help cells’ metabolism with inner “gymnastic” vibrations, and minimize chaotic running of thoughts, emotions, sensations, memories, imagination of the mind? **Vibroacoustic Therapy.**

Now...think for a moment: What is the very first experience of all people in this world? **We all experienced the warm, loving and secure internal conditions in our mother’s womb.** These internal conditions include nonstop, harmonic low sound vibrations.

Olav Skille revived the core experience of being in the womb by using low sound frequencies. Such conditions bring you back to the balanced, authentic state of who you are, before any conditioning of the mind took place via education, culture, religion or belief systems — and also before any ambiguity, conflicts and stress, affected your body and mind.

“VAT is trying to recreate the cell creating self-repair processes that still are remembered by our cells. Instead of transferring emotions, VAT is making it possible to create our own emotions from within -- from our internal cellular memory store. There is no surprising event during the therapy session. No startling effect is needed. You are wrapped in loving care. There is no external challenge threatening you. Just the soothing, undulating memories from a slow drift in the amniotic fluid carrying you into a meditative state, where time and space is just a dream. YOU are the only reality of importance, and your cells recall total harmony created inside you. No artistic influence,- just LIFE.

It is VAT!”

– Olav Skille

Reduce Stress with Vibroacoustic Therapy

We all feel stress in one way or another. Willingly or not, we accept it as a normal phenomenon, though our ways of coping with stress vary. Some people may cope better than others. It all depends on your personality, attitude, experience, habits, the situation you are in and genetic tendencies.

There are different types of stress and reactions to it. For instance, one person may simply call and apologize if he or she gets caught in traffic on the way to work. Then, he or she might listen to an audiobook or nice music for the rest of the drive. A different person in the same situation might get anxious and angry and start blowing the horn as if he or she has been threatened.

Stress may manifest as a result of doing many things at the same time with no planning or prioritizing: Your phone is ringing off the hook. At the same time, you get endless emails and your boss asks you to present your Excel project sheet – NOW! What do you do first? How do you handle all that multitasking?

Stress may rise while you walk across a parking lot to your car in the middle of the night and you hear steps behind you.

Stress may also be active when you lie in your bed and thoughts stream nonstop in your mind with negative, imaginative scenarios.

Health experts will explain that “fight or flight” (some add “freeze”) is the basic biological system mechanism which releases stress hormones and is activated automatically as a survival response to deal with threatening situations.

So...What do you do?

First, observe yourself and learn what internal and external conditions trigger stress in you.

Stressful environments take you out of balance and are harmful to your physical and mental well-being in the long run. Chronic stress is a gateway to many illnesses.

Stress may be activated as a result of external, objective conditions such as the weather, war, or other extreme situations. These conditions either directly influence your body-mind or occur as an imaginative scenario in your head. In any case, they generate a chain of mental, emotional and physical strain or tension that may lead to anxiety, insomnia, depression and serious illness.

You are the only one who can monitor the situation you are in and become the expert of your operating system. Be observant and not judgmental. Your goal is to track incidents of cause and effect. Such incidents can be physical, external, internal, emotional or mental.

Olav Skille’s explanation of the process of Vibroacoustic therapy in reducing stress:

“We are daily subject to stress which we cannot let loose in a natural way. Our body prepares for danger when it is subject to stress. This means that stress-hormones are pumped into the bloodstream, and the body prepares for physical activity: Fight or flee! The blood is filled with substances that make it possible to exert a powerful burst of energy. In

most situations this burst will be suppressed - it does not suit a civilized being to react in this way - and our body is left with unused and caged reserves of energy. These traces of stress will be stored as waste products in cells and blood vessels. This may, in time, lead to serious consequences for our health.

We know that the best way of loosening particles from a carpet is to shake it, or to beat it. It seems difficult to shake or "beat" the cells in our body or the arterial walls in the brain and coronary arteries. If we return to the image of the body being a skin sack receiving sound waves, we remember that each and every cell in the body receives massage by being exposed to low frequency sound vibrations from the Vibroacoustic equipment.

The cell can be looked upon as a closed vessel, filled with liquid. When we shake this vessel, the contents of the vessel will be re-positioned. The cell membrane is not completely tight, however, and the mild, internal massage which Vibroacoustic therapy is giving makes it possible for metabolic waste products to be expelled from the cell. The escape of these waste products from the cells would ordinarily take [a] very long time.

The metabolic waste products will mix with the liquid that surrounds every cell. This liquid carries the waste products onwards through the lymphatic system, the blood system or through the cerebro-spinal fluid (CSF) for normal excretion from the body (urine, feces, transpiration etc.).

Many of the metabolic waste products are results of physiological stress reactions, which cannot be exhausted by physical activity. We can here see how Vibroacoustic therapy can contribute to remove some of the physiological effects of stress from our body by substituting "normal" vibrations with sound vibrations having approximately the same effect as "normal" vibrations."

Once you observe and map main external and internal triggers that bring you stress, you can use Vibroacoustic therapy to reduce or eliminate it by selecting the best frequency from 30-120 Hz.

You will notice that letting go of stress will free your vitality that sustained the stress. You will be able to utilize it for better performance and optimism. You will feel as if a heavy burden was removed from your chest. You also will be able to breathe deeply and smoothly.



Reduce Anxiety with Vibroacoustic Therapy

We all feel anxiety at some point during our lives. In this section, we will focus on two examples: The first is when physiological symptoms of fight, flight, and freeze occur “out of the blue” and catch us by surprise. The symptoms then take control over our physical conditions. The second example is when we create an inner negative scenario in our minds and it causes us to be overcome with anxiety.

Fight, flight or freeze:

Imagine you are driving to work, and you get stuck in a huge traffic jam. You are listening to the radio, drinking water, and chatting on your Smartphone. All of a sudden, you feel like you can't breathe. Your heart is beating fast, and you feel as if you are trapped. All you want to do is find a way out as soon as possible, so you start blowing the horn obsessively. You feel anxiety taking over and the only thing that may help is driving with window open to get more oxygen. You flash the lights on and off to signal to the other drivers to let you pass.

Negative scenario in the mind:

Imagine you wake up at night to go to the bathroom. You try to go back to bed, but you can't fall asleep. Suddenly, a scenario pops into your head of a problem at work that needs to be solved.

You get up, go to the computer, and start sending emails to different people...

Have you noticed that at night, everything seems darker and more extreme?

Because you are in “anxiety mode” you see things in the worst-case scenario. What your mind creates is actually a combination of your memories and imagination. Your mind then acts and reacts as if this scenario were true.

HOW CAN VIBROACOUSTIC THERAPY HELP REDUCE OR STOP ANXIETY?

Vibroacoustic therapy minimizes chaotic streams of thoughts, emotions, sensations, memories, and imagination.

The spaghetti body-mind connection is always there. No matter who you are, where you live, or what your skills or profession are, you have a “SPAGHETTI BODY-MIND,” I call it **spaghetti** because just like one cannot distinguish one piece of spaghetti from another, or know where one strand begins and ends in the convoluted pile of similar noodles, nobody can really know “what triggers what” in the interconnection between thoughts, emotions, sensations, memories, imagination and dreams.

We say: “I want this” and “I want that” but we don't really know how our “operating system” guides our perceptions and behaviors and what the “backoffice algorithm” is for our decision-making and actions.

What we do know, is that when we are out of balance, weird things can happen to our perception and actions.

If you were to have a sudden anxiety attack such as the one described in the car, you would need a **first aid kit** to help you break the anxiety cycle. The kit should contain a bottle of water, a reminder to breathe easy, and a way to activate your inner space of calmness.

WHAT IS YOUR INNER SPACE OF CALMNESS?

Can you recall a fantastic situation in your life in which you felt amazingly good in your body and mind?

For instance, maybe you were on a vacation with the people you love, you felt great physically, and you liked the way you looked. You were very joyful, calm and appreciative of the people you were with. You also enjoyed the weather, the landscape, and the whole atmosphere.

I'm sure you felt such good feelings more than once. If you can't recall such a scenario at this moment, try to imagine it.

Write down what you are imagining to create the scenario of calmness, which includes:

- You feel deep calmness together with joy. Your senses are sharp and lively.
- Your physical body is in great shape. You are healthy and happy.
- You are tolerant, compassionate and attentive toward the people around you.
- You are comfortable with your body-mind and spirit (if you believe you have a spirit).
- You are filled with self-confidence, bundled with humbleness and an inner sense of luck that you want to share with your loved ones or even with people you don't really know.

Are you able to visualize, imagine and activate the pointers above?

Can you take yourself on a self-guided experience and visualize what it means to create a calmness space within you?

When you take a Vibroacoustic therapy session, you make it easy for your body and mind to minimize the chaotic spaghetti mind of thoughts, emotions, sensations, memories and imagination. This state of chaos not only drives you crazy from within in anxiety mode, but also takes up a lot of energy and vitality.

A Vibroacoustic therapy session will minimize the inner chaos of the mind and release or convert wasted energy (which would have been used to sustain this turmoil), into productive new usage of creating and embedding positive habits such as AN INNER CALMNESS SPACE.

Once you "save into your consciousness" the new scenario, you can activate it with a new ritual that you create. The new ritual can be anything that is accessible and meaningful to you. For

example, you may drink a few sips of water and breathe 3 times = 1,2,3 inward... hold 1,2,3 let go 1,2,3, hold 1,2,3...

You will get acclimated to THE NEW SPACE OF CALMNESS while you use Vibroacoustic therapy. And, just like in sports, theater, art, the workplace, or music, the more you practice, the better it gets.

Now, let us get back to the example of the anxiety attack in the car. You may be aware that the sudden burst of anxiety is coming. As soon as you feel the symptoms, use your first aid kit: Take your water out, breathe deeply, and ACTIVATE YOUR CALMNESS SPACE. Visualize the scenario you embedded as a positive habit. Also, touch yourself gently. Hug yourself.

You will be amazed at the change that takes place. Slowly but surely, the calmness in your mind will positively affect your body and create inner conditions to stop your anxiety.

Now let's go back to the second example at night time, where your mind suddenly creates a very negative scenario in which you are being "attacked or blamed" for something. You feel as if you are being bombed by emotions of guilt, which sink and drown you in fear and insecurity.

This is a nightmare in an awakened state. What do you do?

My advice: Simply lie down on to your Vibroacoustic therapy mat and set it to one of the lower frequencies (e.g., 40 or 52 Hz).

The beauty of Vibroacoustic therapy is that not only does it minimize the spaghetti streams of thoughts, emotions, sensations, memories, and imagination — it also changes the composition of the mind's inner content.

During the Vibroacoustic therapy session, you may fall asleep or find yourself out of the anxiety scenario you have created. Minimizing the thought streams will create a space in your mind for pure observation together with sensation of vitality and relief. These new inner conditions may enable creating a new scenario that is free of anxiety.

Reduce Pain with Vibroacoustic Therapy

What is pain? Everybody feels it once in awhile, but it's not easy to define. During life, for example, you may feel various types of pain in different parts of the body. You also may experience emotional pain that is so strong that it impacts your body or leads to a nervous breakdown.

Dictionary definition for pain:

[peyn]

noun

1. Physical suffering or distress, as due to injury, illness, etc.
2. A distressing sensation in a particular part of the body: *a back pain*.
3. Mental or emotional suffering or torment: *I am sorry my news causes you such pain*.

Source: <http://dictionary.reference.com/browse/pain?s=t>

Pain often serves as an alert that tells us or the doctor to pay close attention to certain organs or systems.

Body-mind intelligence language uses pain as a "screaming signal," telling us to focus on a special area or system in our body. In many cases, adopting a lifestyle of bad habits such as addiction may seem like the best way to deal with stress at the time. However, more often than not, this will eventually lead to pain.

If you are experiencing constant or recurring pain, you should consult a doctor. Yet, if you have already been diagnosed as suffering from chronic conditions, you may ask your physician or therapist to explore adding VAT as a wellness integrative solution. After you complete training and become familiar with the seven basic frequencies to address different symptoms, you will learn how to treat yourself and family at home.

For people who rely on pills or painkillers, the path is usually the same: the more you take, the less effective it is. As you take more to get the same effect, the side effects become an additional medical problem.

You are welcome to read this CNN article about "the deadly dose:"

http://www.cnn.com/2012/11/14/health/gupta-accidental-overdose/index.html?hpt=he_t2

Unlike certain prescription medications, low sound frequencies have no known side effects at low power. Typically, sessions are 23 minutes long, and no problems have been reported even when increasing session length to 69 minutes in low volume.

At this time, there is no scientific research that explains exactly how and why Vibroacoustic therapy works on the cell level.

I know that VAT is beneficial and safe from my own experience — for the past three years, I have been using VAT for one hour each day on average. When I wake up and my lower back is stiff, I use three frequencies to target my upper back, lower back, and whole body. After each session, the pain is gone!

My intuition tells me that the inner vibrations of Vibroacoustic therapy gently but effectively confuse the nerves that signal pain. Let me use an example to explain: Have you ever used an ice pack and then a hot cloth to treat an area of the body affected by physical pain? The rapid exchange between cold and hot stops the pain by confusing the nerves that signal it. VAT works in the same way.

Chronic and acute pain can be treated with Vibroacoustic therapy. VAT can be used as a standalone solution for physical pain. It can also be integrated with other forms of treatment such as physical therapy.

Our vision is that medical doctors, chiropractors, physical therapists, and alternative modality therapists (such as acupuncturists, and Alexander and Feldenkrais therapists) will adopt VAT as an effective way to reduce pain and apply it when their clients are still in pain. Different variations of solutions such as VAT enable more treatment flexibility. The focus should be on releasing pain — nobody should accept pain as inevitable.

The more healthcare experts use different ways to treat pain other than painkillers and drugs, the more they can focus on their clients' personalized treatment.



Reduce Insomnia with Vibroacoustic Therapy

Insomnia may happen for various reasons. If you don't sleep 7-8 hours a night for three nights in a row – your body-mind intelligence will likely tell you that something is wrong. Insomnia is a sign of unbalanced body-mind processes. Stress and anxiety are usually very dominant in causing insomnia. Your mind works nonstop to “find a solution,” yet it feeds itself with negative scenarios as if they were reality, and as those scenarios bring more fear and stress.

Other reasons for insomnia may be pain, breathing problems, obesity, physical injuries or other illness.

Address insomnia by being aware and observing yourself. Once you or you and your physician pinpoint the cause for insomnia, that is a good step forward. However, it doesn't solve the fact that you don't sleep.

The name of the game is being aware of body and mind. Ask yourself these questions: Are you balanced? Are you breathing deeply and smoothly? Are you sleeping 7-8 hours a night on average? Are you eating regularly? How is your diet? Are you happy at home? Do you have healthy relationships and a healthy sex life? Do you feel creative? Are you happy at work?

When left untreated, insomnia can lead to a lack of vitality that will negatively affect your mood and lead to unreliable decision-making.

Together with new bedtime habits, Vibroacoustic therapy may cure insomnia with no chemicals involved.

Follow these steps before bedtime:

1. Refresh the energies in your bed and bedroom with nice design, a high-quality mattress, and good room temperature and air circulation.
2. Take a shower in the early evening, not immediately before you go to sleep.
3. Before you lie on the mat for a VAT session, search for images and videos online using keywords such as: calmness, serenity, stillness, peace in nature, and tranquility. Print out the scenes that resonate with you. View them while lying on the mat and view them later in your imagination. Take the images with you to your bed. This exercise will create inner space of calmness inside you and help you fall asleep.
4. Before going to bed, have a 40 Hz red frequency Vibroacoustic therapy session.
5. During the VAT session, touch and massage your body with awareness. Did you know that we can massage up to 85 percent of our own bodies?

Gently massage your forehead, eye muscles, cheeks and neck. Massage both arms from the shoulder down. Hug yourself and massage your chest and belly.

6. Finally, massage your legs and feet. In the last few minutes of the VAT session, find your inner space of calmness in your imagination and visualization.

Improve Mind Clarity, Attentiveness, and Vitality with Vibroacoustic Therapy

Scientists say that memory loss can begin at age 45. So what can you do about it?

The answer is simply to engage in self-exploration and implement self-management tools. My perception is always: “drive your life” and manage it with awareness.

However, we all need advice occasionally because we never see the whole picture. We need help digesting all the information from an expert or professional person in fields we are challenged with. Most people, in extreme situations, manage to create intuitively inner environments of sanity by understanding that they need help and asking for it.

There is always a fine line between being going with your gut instinct and being open minded, listening to others, and experiencing different ideas.

Again, I bring to the table concepts such as inner balance or calibration.

Mind clarity, memory and vitality all have to do with optimal usage of inner resources. Inner resources are energies we invest in to **keep us alive**. These are energies that also drive our **intention** and **attention**.

Let's go over these three features in bold and understand how Vibroacoustic therapy can help to renew our mind clarity, memories, and vitality.

We may define ourselves as body, body-mind, or body-mind-spirit. Yet, at the end of the day, we need to consume energy in order to live. Ask yourself: Am I eating and breathing for survival? Or am I **eating food as medicine?**

It is imperative to understand and address your being's bio-psychological needs. Food, water, air, sleep, sex, physical exercises, maintenance, and order are all physical factors that impact our mental state.

For example, people in wars often survive in very poor physical conditions. Consequently, many of them are psychologically damaged and are often left mentally handicapped because of that extreme period in their lives.

In addition, order and maintenance are connected to habits. Open your closet, turn on your computer, and look into your personal bag. What is your impression? Go outside and step into your home as if you were a visitor. What do you see? People handle order and maintenance differently — but balance is the name of the game of sanity. If you are obsessive with order and maintenance, you pay the price when you are forced to stray from your routine. On the other hand, if you are in complete chaos and lack any organizational skills, how will you find things that you need? How much time and patience will it take? How much attention will you need to exert?

Attention is what you focus your full awareness on. Compare it to shining a flashlight on an object.

How attentive are you to your non-attentiveness?

Whenever you have a conversation with someone, at any given moment, your being is retrieving a memory and activating it in the desktop of your mind. At that point in time, you may miss the details and information that the other person delivered to you. Even if your facial expressions and responses appear as if you were listening, you were busy activating a memory of the past.

Observe attention. Are you fully focused? Or is your attention distributed amongst various stimuli simultaneously? For example, you may be talking with someone and looking at your phone. You may be driving and talking at the same time.

The more your attention is split, the less attention there is to each separate trigger.

Every moment in our life, we may miss data, information, knowledge and wisdom. We look one place and something happens somewhere else. When we zoom in to look at details, we can't simultaneously zoom out to see the whole picture.

Here, Vibroacoustic therapy can play a major role. Take yourself into a 23-minute journey. Reduce stress, pain, insomnia and anxiety. Boost vitality and create a SilentSoundSpace within you.

Consider using the following exercise together with Vibroacoustic therapy:

Imagine that your mind is a table with a white tablecloth on it. Nothing is on the table. Breathe in for 3 seconds, hold for another 3 seconds, and release for 3 seconds. Repeat this four times.

Put on the table the object or idea you want to give attention to.

You decide in what resolution you want to focus on this object or idea. You can “zoom out” and see the big things in life, or you can “zoom in” and focus on a specific idea, challenge or plan.

Ask yourself whether you are a “zoom in” or “zoom out” kind of person. Do you focus on the fine details in life or the bigger picture?

When you do this exercise, your mind becomes clear and your awareness is engaged to focus on what is important to you.

When you are attentive, you can zoom in and zoom out on anything in life. This enables you to record in your memory the details that are most significant to you.

Intention has to do with inner motivation. We are not always aware of our inner motivation. This is part of your life's journey. Who, if not you, can tell you what makes you joyful, passionate, and creative?

You can be driven by other people -- family, media, society, work -- and let the days go by, or you can pause and ask yourself: **what makes me passionate, creative and joyful?**

Intention is the willpower and focus of your senses when you are attentive.

If we go back to the analogy of the flashlight as your attention, **intention** is the energy of the battery that keeps the flashlight lit.

If you have full intention behind your attention, your mind will be clear and sharp and your memory will record every incident of the situation.

Vibroacoustic therapy can help you exercise attention with intention. This, in turn, can facilitate better focus, learning or sport performance.

We all have blind spots in perception when we are not attentive or act on autopilot with no intention. The more you use VAT and make it clear to yourself what goals you want to achieve, the more your attention will be able to guide your energies to stay in focus. In these conditions, your memories will be sharp and the things that are important to you can be retrieved with little to no effort.

It's all about "playing life with awareness." The more you combine visualization and imagination as an internal simulator, the more vital your mind can become in any given situation. And it doesn't matter how old you are.

If you are worried about losing your memory or the sharpness of your senses, simply be aware. Have a little notebook or use your Smartphone to remind yourself to be aware. Summarize a meeting, event or important information, which your inner drive signals is important for your health and happiness. Clean the desktop of your mind from unimportant things that may distract you.

Finish the session by envisioning a clean, clear table in your mind. This serves as an indication that you have minimized the spaghetti-like streams in your consciousness.

Tapping the imagination

Your imagination is a powerful inner resource, which acts as a simulator. You can use it negatively by creating scenarios that will feed anxiety. Or you can proactively reduce stress and tension and use imagination to build an inner environment of serenity and peace of mind. The more you activate your inner space with VAT, the more your mind will be positively conditioned. Over time, you will be able to naturally engage in the breathing exercise and visualizations of your inner SilentSoundSpace.

The beauty of this process is that you create virtual serenity within you. You can activate this SilentSoundSpace wherever you are and in any situation you are in. As part of your “activating ceremony,” you can include actions such as hugging yourself, holding your hand on your “inner home” (your **HEART**), or massaging your arms or patting your cheeks.

If you recall, with basic sound frequencies, Olav Skille imitated the inner incubator we all felt in our mother’s womb. By using VAT to create a physical SilentSoundSpace, we try to revive these sensations. Over time, you may take it a step further and create a SilentSoundSpace inside of you as you go about your daily life.

Use Vibroacoustic Therapy as a Self-Management Tool to Replace Bad Habits and Cope with Change

Observe yourself.

What type of person are you? Do you “drive your life” or do you like to sit in the back seat and let other people take responsibility and make decisions for you?

Are you a leader or a follower? When you make a decision, are you the investigator/explorer type, or do you go with conservative, risk-free trends?

When you have a health issue, do you learn about side effects, explore the Internet, and get a second or third opinion?

Are you a mainstream health believer or do you accept the paradigm of integrated medical care?

Most of us are a mix of the two extremes. Sometimes, we are more passive and rely on others for help. This happens especially when we don’t know about the field we are dealing with or when we are in a crisis and don’t feel confident in the situation we are in.

In addition, most of us are challenged by surprises during our lifetime, which we are not prepared to face such as: being fired from a job, death or illness in our family, and being left by our partner (in business or in romantic relationships).

Even in cases when we take proactive steps, such as going to college, traveling around the world, or relocating to a new country, the feedback we get from our loved ones may affect our life later or in a way we didn’t anticipate.

Managing change is the way we cope with alterations in our life – whether we initiate the alterations or they catch us by surprise.

Modifications and changes in our life are not necessarily negative or wrong. Yet, there is a period of surprise and acknowledging that we must adopt new habits or let go of a lifestyle that is not beneficial to us any longer.

When reality crashes down on us and the illusion of stability is broken, what should we do?

My advice for you – engage in multiple Vibroacoustic therapy sessions to discover that you're on a new journey in life.

Vibroacoustic therapy will attune your body and mind and calibrate your perceptions. What does that mean? Imagine you are driving down an unfamiliar road and your GPS stop working. You are in the middle of nowhere and there are no signs. Your self-confidence is challenged. You start to question reality checks that you took for granted in the past...

Vibroacoustic therapy calibrates your inner compass, so that when you face new, unfamiliar situations in life, you will at least feel confident that your perception is attuned and that you can rely on it for your decision-making.

Consider this example to better understand how Vibroacoustic therapy can help you:

Obesity as a bad habit of abusing your body and mind

Let's say you have a bad habit: You get home from work, drink a beer or two, and eat potato chips and a huge hamburger every evening. For dessert, you eat a huge bowl of vanilla ice cream as you watch TV to relax from a long working day.

You hardly do any exercise except for walking from the coach to the refrigerator.

Over the years, you repeat this routine, and the layers around your body grow thicker and wider. You are obsessed and obese.

Lately you had your yearly checkup (imposed on you by your workplace) and the cardiologist put it straight to your face: "Either change your eating habits and start doing exercises or expect to have a heart attack sooner than you think," he says. You are only 41 years old. This time, you can't ignore your health. You have a long history of heart attacks in your family.

You are stressed and anxious. You drink your two-three beers, and you don't know what to do. You touch your heart and you hear the beats. Your imagination runs wild and you feel you can't breathe.

Take a moment to read about preventive health condition statistics in America:

<http://www.cdc.gov/chronicdisease/overview/index.htm>

Self-development tools are important to realize and be aware of how bad habits (such as obesity, addiction, and anger) may harm you physically, emotionally, or both. That is relevant even in situations where the source of habits, May be so embedded in your subconscious that it takes huge effort and energy to make the change.

If you are a proactive kind of person, you may surf in the Internet for solutions. You may search using keywords such as obesity, heart attack, healthy lifestyle, and healthy diet. The sheer amount of

information might overwhelm you. In addition, you may find inconsistencies or contradictory information.

You become the driver who is lost while his GPS is not working. So, you need to attune your compass, or in this case, your inner compass.

If you don't have a VATMAT, take yourself on an inward journey. Focus on your body parts with love and care, as if you were hugging every organ from within. When you move from one organ to the next, breathe deeply (123... hold 123, release 123, hold 123).

If you have a VATMAT or you get treatments from a therapist that incorporate VAT, initiate 23 minutes of treatment with your preferred frequency. Usually, 40 Hz (red) is the best frequency for whole inner body relaxation and body-mind balance. 60 Hz (brown) has a relaxing effect together with recharging vitality and boosting optimism.

If you fall asleep – that's great.

Also, keep in mind that if you are a worried type, thoughts, imagination and emotions may take you to a dark place of negative scenarios before the positive sensation of physical mental and emotional sensations of inner peace are activated by the Vibroacoustic therapy treatment.

What happens during a Vibroacoustic therapy session?

During a VAT session, multiple processes take place on the physical, mental and spiritual levels that are equivalent to a balancing process or attunement.

As mentioned before, your mental and physical subsystems are like instruments in the orchestra. Each organ has its own natural rhythm and vibrations.

The subsystems communicate harmonically with each other. When you experience mental or physical pain, the components that compose your being may be in disharmony or out of homeostasis. Vibroacoustic therapy vibrations make up the harmonic platform to re-calibrate each organ and subsystem to its natural vibration. Once each component returns to its natural rhythm and attuned vibration, communication between the subsystems will be fully restored. The usage of energy is more efficient and vitality takes place in a healthy way.

***REMEMBER – the first step to replace bad habits with better habits is attunement, or calibration of your inner compass. The best way to validate whether you are on the path to healing is to check your breathing and sleeping patterns.

Next, have a Vibroacoustic therapy session for 23 minutes twice a day – once in the morning and once before you fall asleep.

After one week, your sleeping and breathing may improve, and you can take the next step: *To create a new habit in your mind that will replace the bad habit.*

Consider this example to learn how:

You are eating excessively and want to stop. You are making an effort to exercise but you just can't resist the urge to eat! VAT to the rescue...

During the VAT session, take yourself into a 10-minute journey inward, visualizing your forehead, eye muscles, cheeks, neck, shoulders, arms, chest, belly, hips, knees, and feet. Massage and touch these areas with love and care, starting from the legs and working your way up to the head.

Now...visualize a large screen in your mind and see yourself in the future as a thin, athletic person.

Visualize and imagine your walking patterns as light and easy. View in your mind the healthy food you eat. Look at yourself in the mirror and admire how great you look and how everybody is complimenting you for the changes you have made. Let the story develop in your mind intuitively. Immediately after the session, write the scene in your notebook and take actions that literally make the connection between your vision and real life.

- Take a walk in the park.
- Go buy fresh vegetables for lunch and dinner.
- Prepare a huge salad.
- Carry around a bottle of water instead of soda to quench your thirst.

The idea is to replace the bad habit in the subconscious with a new positive habit that will be fully implemented later on.

The beauty of Vibroacoustic therapy is that it's your self-therapeutic platform through all the processes of change:

- When you are stressed, in pain, or experiencing insomnia, balance your mental and physical systems and reduce symptoms that drain your vitality.
- Use visualization and self-imagery as you create a new positive scenario, which will serve as the basis for your new habit.
- After having a Vibroacoustic therapy session, you gain vitality, which enables you to have energy for change and implement new, positive habits.

WHAT IF YOU ARE CAUGHT BY SURPRISE? YOUR PARTNER WANTS A DIVORCE!

The previous example focused on the process of replacing a bad habit with a better one. Here, I would like to highlight a case in which you get shocked by sudden emotional turbulence.

You and your husband (or wife) have been married for over 20 years, and you have two beautiful daughters. One day, he comes home and wants to have a talk. Though your marriage is very ordinary and routine without much passion, your partner's presence helps you feel secure. But now, out of the blue, he tells you he is in love with another woman and wants to move out. WHAT???

No matter how strong you are, you feel broken inside.

Your mind, driven by its subconscious survival mode, starts multitasking to solve the problem. You may run to your best friends. You may think you need to contact a lawyer. Many things jump into your head all at once. Your heart beats rapidly, and you feel no self-confidence or trust toward anyone. You are emotionally hurt and there are so many things to do! One of the things that happen is that you blame yourself and you are hurt by the fact that you didn't anticipate the situation.

How can Vibroacoustic therapy help you in this case?

Now is the time to **STOP and calibrate your inner compass**. Don't panic. First, be confident in your ability to get through this. Next, balance your mental and physical systems with Vibroacoustic therapy. The sensation you get from low sound frequency waves is as if you are being hugged from within. Breathe deeply and take yourself into a journey inward. Three, 23-minute VAT treatments will help you harmonize your inner mental and physical systems.

Vibroacoustic therapy is not a magical treatment that will solve all your problems. Yet, it can help you gain control of your being, even in very chaotic situations.

After you feel the sense that you trust in your decision-making, and after you have adopted a regimen of healthy eating, sleeping at least 7 hours a night, and breathing correctly, you can take the next step of writing a journal of possibilities and taking action.

Self-visualization and imagination are great tools. They act as inner-simulators to observe different options for the future and sense how we feel about them. Such visualization and imagination can take place while receiving treatment on the VATMAT after the first stage of calibrating your body-mind systems.

When your body and mind components are synchronized, you no longer waste energy on negative illusionary and anxiety scenarios. This makes it much easier to tap into your vitality to find constructive, positive solutions.

Remember, we never see the whole picture of reality. That is why we all face surprises — positive and negative — in our lives. Some surprises may seem negative at first and turn out to be the best thing that ever happened to us. It all has to do with how we handle changes in our lives, our attitudes, and decision-making in periods of uncertainty.

The bottom line is that Vibroacoustic therapy is a great platform for all stages of managing change.

Speaking of management, you are the **manager of your life**. Even when you need help and are unbalanced, there is always a "sane part of your being" that is your "higher intelligence." You can connect with this source of wisdom through breathing exercises and creating an inner space of calmness.

DRIVE LIFE
ENJOY THE JOURNEY



Improve Performance and Personal Growth by Using Vibroacoustic Therapy as a Self-Development Tool

Self-development, self-help, and self-growth are concepts that emerge from individuals' passion and desire to expand themselves. But what does it mean to *expand yourself*?

It is very subjective and personal. If you are a spiritual person, you may have the urge to be more connected to GOD, gurus, or your higher self. Many people feel that there is much more to life than to explore and abide by the regular routine of culture and tradition.

Sometimes, spiritual growth evolves because of a mental breakdown or physical illness. Or, it may come as a result of a change imposed on the individual, causing him to question his existence.

However, self-development is not solely connected with spiritual growth. It also has to do with better performance, innovation, creativity, and entrepreneurship.

There are debates about whether creativity and innovation are talents you're born with, or skills that you can learn and apply.

I believe the answer lies somewhere in the middle. We are all born with a talent or tendency to be creative in one field (such as the arts, writing, entrepreneurship, cooking, or sports). Yet, learning can further improve our capabilities.

For instance, you can have natural artistic talent, which can be nurtured and improved by the act of learning in art school.

My view of self-development centers on exploring “the operating system of our being.”

We have guides and manuals for everything: our car, washing machine, phones...yet; we don't have any “official” guide for ourselves. Are you happy with who or what you are? Do you feel inner energy stirring within you like magma in a volcano, waiting for the opportunity to break through at any given moment?

Let us observe life from a point of view of energy use and attentiveness.

We consume water, food and oxygen for energy. We then use that energy for data collection and input. We also use it to survive, to maintain our body-mind, and to be inspired to grow.

Furthermore, many of us utilize energy for destructive behaviors such as bad habits, addiction, obesity, or anxiety. But we can also use our energies and vitality to make us happy, healthy, and joyful by **using our inner resources creatively**.

If I ask you, “Are you creative?” and you answer: “I don't know,” or “Not really,” then you need to look deeper.

This is where Vibroacoustic therapy comes in. Take yourself on an inner journey and begin a VAT session with a 40 Hz frequency. During the session, ask a question about your creativity or innovation. Or, ask yourself about a complex problem you would like to solve. Be patient. Let your mind envision an empty table on which you put the answer to your question. Write a journal. Do all of this every day for a week.

Over time, the information that will appear on the table will derive from the conditioning of your mind, or programmed knowledge that you have collected over the years.

Yet, some insights will pop out of nowhere. These are original ideas that you may not recognize. Record these insights in your journal after the VAT session. It may take days, weeks, or months to find the answer you are seeking. It all depends on your curiosity and motivation in the process.

Improve performance, learning capabilities, and problem solving with Vibroacoustic therapy:

What are your IQ (intellectual quotient), EQ (emotional quotient), and SEQ (spiritual-emotional quotient)?

We live in a society that teaches us to constantly compare, compete, and grade others and ourselves. This behavior starts at home when parents compare their children. Even if they say they don't, they do. Throughout life, we are evaluated in school, in our community, and in the workplace. We are measured by performance, grades, evaluations, diplomas, and (more recently) connections in our social networks on websites such as Facebook and LinkedIn.

Life is a continuous comparison between our potential and execution.

Right now, I suggest adopting a new, positive self-evaluation standard. It's called "CHACHAP" and it's all about self-evaluation of inner joy and fulfillment.

CHACHAP means: CREATIVITY, HEALTH, AWARENESS, COMPASSION, HAPPINESS, ATTITUDE, and PERFORMANCE.

Let's go through each of the parameters now:

CREATIVITY – if you haven't discovered your creative capabilities yet, check your belief system. Something from your past could be blocking you from achieving your potential. For example, maybe you received negative feedback from your family and teacher in the past for an art project. You may have recorded in your memory a feeling of: "I'm not talented" or "I'm not good enough." These connections between experience and negative feedback from the environment (or negative feedback from yourself) can create a subconscious conclusion of: "I better not try this again. I'm not good at it."

Well dear friend, maybe it's about time to reset your belief system. Throw away that negative statement and replace it with: "I play life" and "I am in a journey to find my personal creativity." Try dancing, painting, cooking, singing, gardening, and writing. *The only thing that counts is the joy from within.* It's nice to get compliments — but compliments shouldn't drive your creativity. The only importance is the joy and satisfaction *you* get from your own authentic inner expressions in whatever field that resonates with you.

- **How does Vibroacoustic therapy reveal your creativity?** — VAT reduces stress, creates a SilentSoundSpace in you, helps you explore creativity from within, and removes the old negative conditioning of the mind.

HEALTH - Maintaining a healthy lifestyle is your choice. The name of the game is balance. Anything that is an extreme is not good. Check minerals and vitamins in your blood, your blood pressure, and your heart rate. Eat healthy food, stay in good physical shape, sleep well, and take action to proactively reduce stress (by meditating, for example).

- **How does Vibroacoustic therapy keep health in balance?** — Daily Vibroacoustic therapy sessions will reduce pain, stress, insomnia and anxiety, boost vitality and mind clarity, and balance body-mind subsystems. Please note that VAT does not necessarily cure your ailments. If pain recurs, consult a physician. If you take painkillers and pills for sleeping and/or anxiety, you may be able to reduce the amount of drugs you take by using VAT together with the guidance of a physician.

AWARENESS – Awareness is the ability to develop a third eye like a special flashlight that lights and records at the same time. Only this special eye looks inward. Awareness involves viewing the

processes of life without judgment and to act according to high universal human values. You are simply observing and acting authentically.

When awareness becomes part of your inner toolkit, you develop a sense of humor. And, when you develop a sense of humor, you also develop a sense of detachment. You observe, find, and track the body-mind and subconscious connections among triggers, thoughts, emotions and behavior. You start to map out the subconscious rules of the game of life... You find you can change these rules and replace bad habits with better habits — you become compassionate toward yourself.

- Vibroacoustic therapy is the platform to observe what you went through during a typical day. Use VAT to clean and clear the desktop of your mind. Then, reflect on the activities and events you went through during your day. Don't forget to smile before you fall asleep!

COMPASSION - Compassion is the ability to be attentive and create space in your mind to let others “feel at home” as their authentic self in your presence. There is no judgment, no categorizing, or labeling from your end — there is only love and appreciation, gratitude, respect, and active listening. You can gain so much by being there for the other person and giving them time and attentiveness.

- When you use VAT to reduce pain, stress, insomnia and anxiety -- and to boost vitality and mind clarity -- you increase tolerance for active listening and acceptance of others. Your self-confidence allows you to be loving and compassionate to all around you. You don't need to be defensive. Just be you. You can become a **SUN** type – full of radiant light and love toward others.

HAPPINESS - Happiness is optimism. Happiness is feeling at home within yourself. Happiness is enjoying every life moment. Happiness is beaming good energies to your surroundings.

- When you use Vibroacoustic therapy on a daily basis, your perception of things change. You are no longer in a defensive, aggressive, and violent mode that comes with subjective feelings of threat and survival. Rather, you embrace life with confidence. When you smile at the world, the world smiles back at you. VAT enables you to calibrate your inner body-mind-spirit resources.

ATTITUDE – It's no surprise that people react differently to the same situation. You will notice this very clearly in extreme situations driven by stress, pain, uncertainty, war, or natural disasters. It's not only biology that determines our behavior — it's also our attitude. Attitude is the “glasses” we wear to interpret reality. We often experience the same thing, but perceive it differently. You can change your perception by changing your attitude. Attitude can be changed together with awareness. It is a matter of learning and adopting new habits when we realize that previous attitudes are harmful to us. You cannot change others; yet, you can change yourself in a way that may affect others (for better or for worse).

You can test yourself by imagining how your attitude would be in certain situations.

- Vibroacoustic therapy may sharpen our senses and cause us to be more attentive toward our attitude in real-time situations. VAT may also help us be more tolerant to others' reactions and avoid being in a “short fuse” mode. After reducing pain, stress, insomnia and anxiety -- and

learning to breathe deeply – we are able to simulate situations and explore how to react to them with a positive, harmonious attitude.

PERFORMANCE – What are the fields of interest you actively participate in? What do you value at work and out of work? For example, do you value your role as an employee, a parent, a lover, or a member of a club or community? How would you grade your performance and influence? Write your answers down and observe yourself. Are you pleased? Or can you improve?

You can set the rules of life; or, you can accept the rules others set for you and learn to improve.

- Vibroacoustic therapy can help you improve your performance by reducing “noise” and blind spots from your perception. It can also help you visualize improving your performance so that you are better prepared for real-life situations.

Remember: CHACHAP is a tool for self-exploration, self-observation, and self-reward. Life is a non-stop school of self-learning. Applying CHACHAP together with VAT will help you climb the ladder of becoming a HUMAN BEING who embraces wellness and well-being as part of his/herself and the environment.

Create a Vibroacoustic SilentSoundSpace in a Room and within You

A space
 A room, or a hall, with Silence.
 Only you
 on a Vibroacoustic Therapy mat.
 You stream a single low sound
 frequency to vibrate
 every organ, tissue and cell.

Waves of harmonic low sound,
 rinse you from within,
 hug you from within.
 They harmonize your mental and
 physical sub-systems.
 Reduce pain, stress, insomnia
 and anxiety,
 boost vitality & mind clarity.

Let go of negative stressful
 scenarios that drain your energies
 and block positive attitude.
 Boost your vivacity, sharp senses,
 and leverage positive life
 perception.

TheSoundWell Corp.

After a stressful day, you may decide to take a walk in the park, or sit on the seashore and watch the sunset; yet, the flow of non stop thoughts, emotions, sensations, imagination and memories have a life of their own. We may become slaves to these non stop streams.

Gurus talk about observing streams of thought or catching the space in between thoughts. But can you do that?

Instead, most of us distract our minds from focusing on our internal problems and challenges by watching TV, for example. Watching TV when we are tired is a great opportunity for advertising companies to brainwash our minds with no resistance.

Furthermore, when we go to sleep, we often take the tension and problems we didn't solve that day with us to bed. Most of us are not even aware that the position of our arms, legs and neck in bed can prevent this tension from being released.

By creating a **SilentSoundSpace** within ourselves, we minimize the chaos of our spaghetti mind and free up energy to address internal and physical problems.

What does this have to do with Vibroacoustic therapy?

Incorporating VAT into your home/office will allow you to create an optimal SilentSoundSpace environment.

Ideally, dedicate a room to VAT that is separated from any outside noise or distraction. In this SilentSoundSpace, set up the Vibroacoustic therapy system (this includes VAT equipment such as a mat or recliner, an amplifier, and a file storage device-such as a computer or your smartphone).

The room temperature should enable you to feel comfortable lying on the mat with a single sheet covering your body.

Treating physical pain with VAT can take place while watching TV in the living room, talking with a friend, or reading a book. Yet, if you want to use VAT daily as an attunement tool to balance body and mind, release tension and stress, or as a tool to replace bad habits with better habits, you need to create a **SilentSoundSpace**.

If you don't have access to a quiet room for the VAT system, you can still create a SilentSoundSpace by using noise-cancelling headphones and a cover over your eyes as you partake in a VAT session.

Creating a SilentSoundSpace for a group of people

If you own a business (high-tech, low-tech, factory, hospital, or wellness center), you may decide to dedicate a large room to Vibroacoustic therapy with multiple mats to accommodate more than one person simultaneously for a VAT session.

There are various parameters you need to take into consideration and I will be happy to consult you with the best solution to fulfill your needs and budget. For instance, Japanese room dividers can provide the sensation of a private space, even in a large hall with multiple VAT systems that serve many people.

All employees using Vibroacoustic therapy should participate in a one-day introductory training to learn how to use VAT equipment and the SilentSoundSpace. You can come up with your own name to describe the room, such as "calmness room," "attunement room," "harmony room," or whatever resonates with your company.

Nominate one person from HR to go through the full, comprehensive Vibroacoustic therapy training.

Creating a SilentSoundSpace in you

Have you ever noticed your state of mind the moment before you fall asleep? Try to catch your mind before falling into sleep tonight!

This is a tough mission because if your mind is alert to observe itself, it may take a while until you get to the delicate moment just before disappearing into "nowhere land."

The term "falling asleep" literally describes a situation of losing awareness of what's going on.

With Vibroacoustic therapy, however, you may notice this process in slow motion. When you do, you will realize that the spaghetti flow of thoughts, emotions, sensations, memories and imagination gets

weaker. You may actually feel it and be aware of it. Once you are conscious of this process, conjure a scene of serenity in your mind. This scene is a subjective experience that may be based on a memory of a peaceful place or environment that had a positive, tranquil psychological and physiological effect on you.

Try to recall this scene and activate it in your mind while having a VAT treatment. If you can't find such a scene in your memoir — don't worry! You can create it in your imagination. You can then write it down and visualize it.

Remember to start with a ritual of calm breathing before your Vibroacoustic therapy session. This ritual will be your gateway to serenity, which after few sessions will embed a **SilentSoundSpace** within you. Note: To activate a serenity response, the VAT treatment should be 40 and 60 Hz.

Create a SilentSoundSpace for Families and People with Special Needs

Take a look at this webpage: <http://www.cdc.gov/family/specialneeds/>. Here, you will find examples of families in which at least one member has special needs or suffers from a chronic physical and/or mental condition.

People with disabilities typically have the following characteristics:

1. They may depend on their families or physicians in everyday life. They may also depend on medical devices and drugs.
2. They have some kind of limitation in their performance when they are compared to non-disabled people their age.
3. They may be more susceptible to side effects caused by taking high doses of medication for long periods of time.

Now, imagine you are an adult in a wheelchair. Even if you're used to your situation by now, you may still struggle. You know better than anybody that your body moves less than someone who doesn't need a wheelchair. And the less you move, the more you are at risk for developing health problems. In addition, when you don't move certain body parts, you may throw off the vibrations of your cells. Vibroacoustic therapy may restore this cellular vibration and harmonization.

Vibroacoustic therapy can assist individuals with all different sorts of disabilities. Here are a few examples:

Autism: Behavior of individuals with autism may swing between two extremes. For example, a child with autism might seem quite introverted in one instance. But external or internal stimuli may cause him to suddenly become hyperactive, and he might start shouting or jumping in a chaotic way.

Rett syndrome: Physical, Behavior and communication skills of teenagers and adults with Rett syndrome are similar to those of an infant. People with these disabilities usually need constant care and supervision.

Cerebral Palsy: Brain damage that cause wide range of mental and physical challenges

Chronic diseases

Parkinson's disease: Characterized by shaking and tremors that lead to difficulty with moving and coordination.

Fibromyalgia: Symptoms include long-term pain experienced in all areas of the body as well as tenderness in joints and muscles.

Other Chronic diseases such MS

It is important to discuss with your family physician – integrating Vibroacoustic Therapy

Is Vibroacoustic therapy appropriate for my family if no one has a disability?

Even if no one in your family has a disability, you can still benefit from Vibroacoustic therapy. For example, VAT can benefit any family member with temporary physical, psychological, and/or psychiatric conditions.

In addition, the family should be thought of as an INCUBATOR that provides personalized physical and emotional conditions so that each member can be happy, healthy, and live up to his or her creative potential.

Focus on the word “personalized” — to enable happy and healthy growth, every human being needs to express him or herself and receive appreciation of love and attention.

Unconditional love means that **no matter what, someone is there for you, providing you love, support, and a secure, healthy environment so that you can grow in your authentic, creative way. Part of unconditioned love is providing a learning atmosphere of integrity and coherence.**

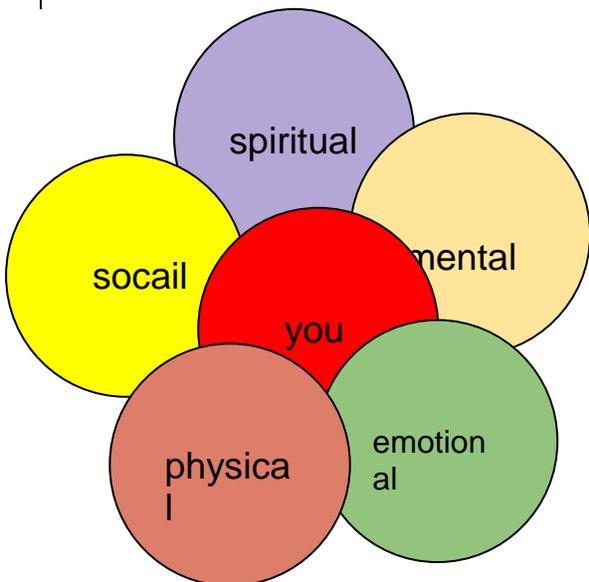
Have you heard about Maslow's hierarchy of needs?

http://en.wikipedia.org/wiki/Maslow's_hierarchy_of_needs

If I met him, I would have tried to convince him to change the pyramid structure into a flower, and having a more equal interrelation between the biological, mental, emotional and spiritual needs.

WHAT DOES THE ABOVE HAVE TO DO WITH VIBROACOUSTIC THERAPY?

When was the last time you were impatient with a family member or didn't give your full attention to his or her needs?



Using Vibroacoustic therapy daily enables attunement and creates an inner space of calmness, vitality, and awareness for each member of the family.

These conditions make up the atmosphere we all need at home. VAT is an integrative and preventative wellness tool.

Create a SilentSoundSpace in an Addiction Rehabilitation Center

Vibroacoustic therapy focuses on the deep state of being hidden in anyone with an addictive personality. It can become a vital tool for your rehab center, regardless of what major modalities you employ or which populations you serve.

People may become unbalanced due to a lack of self-confidence or an inability to cope with stress and failure. Unbalanced people tend to escape rather than confront challenges. For example, they may engage in negative activities such as drug or alcohol use, and excessive sex, gaming, or gambling. Overtime, this behavior becomes an addiction.

Addictions are usually accompanied by social side effects, such as neglecting family responsibilities, poor relationships, and low productivity at work. A life driven by addiction becomes a negative hurricane that spins you from within.

However, when Vibroacoustic therapy is incorporated with other therapies, Body-mind balance can be restored.

What is Body-mind balance?

Body-mind balance means getting back to dynamic, natural homeostasis in which all subsystems interact harmoniously to sustain good health, wellness and well-being -- not only for survival, but also for personal growth. Subsystems include the physical systems (blood, nervous, muscle, skeletal, cell, immune, endocrine) and mental systems (thoughts, emotions, sensations, memories, dreams, imagination).

Our Approach:

1. Reduce pain, stress, insomnia and anxiety, which consume and drain a lot of energy and vitality.
2. Take a journey inward and create an inner space of calmness in your mind.
3. Create a new habit or scenario based on your specific needs, characteristics, and personality.
4. Replace bad habits with better habits and embed the better habits in your subconscious.
5. Improve performance.
6. Use VAT daily as part of your wellness attunement.
7. Once you create a new positive habit, embed it into your subconscious, and apply it as part of your natural arsenal of behavior, **you are a new YOU.**

The beauty of Vibroacoustic therapy is that it reduces tension deep within cell tissue — it's a welcome addition to physical therapy, massage therapy, or chiropractic care.

It can also be integrated as a treatment to reduce pain, stress, insomnia and anxiety. This makes it a viable tool for physicians and psychiatrists, who may use VAT together with self-hypnosis to create new positive habits that replace addiction.

Finally, Vibroacoustic therapy can be used as a self-management tool — with the right guidance, it can help an individual continue the process of self-healing and maintenance of mental and physical balance at home.

You can create a SilentSoundSpace in an area with several VATMATs or you may decide to use a single VAT device in your clinic.

The addiction rehabilitation center management team should go through general training on how to incorporate Vibroacoustic therapy. Select staff should take a more advanced course of how to use it together with imagination, visualization, and hypnosis or self hypnosis and meditation.

Create a SilentSoundSpace in Hospitals and Rehabilitation Centers

Hospitals are facing more demand by the public to improve their image, functions, and design.

Baby boomers want more personalized care and integrative medicine. Vibroacoustic therapy can accomplish this by recharging vitality of staff members, patients and their family members.

I recommend that every department in a hospital or rehabilitation center create a SilentSoundSpace with a VAT device. Nurses, technicians, and administrative personnel would each use this space for 30 minutes once a day to improve stress management and recharge vitality.

Ideally, there should be a SilentSoundSpace for patients and additional one for their family members.

A **SilentSoundSpace** is an excellent solution for a stressful working environment (such as a hospital or rehabilitation center) where employees are expected to provide continuous, high-quality services.

Hospital staff, patients recovering from illness and surgery, and even family members that support patients can benefit from VAT treatment.

The beauty of Vibroacoustic therapy is that in a short period of half an hour, you can minimize the overwhelmed mind, clear it from a heavy load of mental and emotional scenarios, and recharge energy. The outcome can boost healing and recovery processes and create an inner environment of attentiveness, tolerance and empathy – characteristics that are essential for providing quality healthcare.

Having a SilentSoundSpace also can create a competitive advantage for hospitals and rehabilitation centers that want a new healing atmosphere.

Furthermore, children's hospitals and special needs schools can benefit from a SilentSoundSpace as a standalone therapy or in conjunction with physical therapy, massage, and psychotherapy. For example, Vibroacoustic therapy can be the central tool in a sensory room where children can develop their senses and attentiveness. Different frequencies of VAT can help stabilize moods and performance and can also help children tap into body-mind balance in extreme situations, such as instances of intense introversion or hyperactivity.

In Europe, there are cases and studies showing how Vibroacoustic therapy is effective to increase the life quality of children with cerebral palsy, autism and Rett Syndrome (see research studies at the end of the book).

Create SilentSoundSpace in hospice care setting

Hospices do an amazing job to help people cope in the last moments of their lives. Patients are treated with care, dignity and sensitivity, and hospice teams provide emotional support to family members. However, despite all this love and compassion, many people still feel sad or depressed. They may feel like their energy and vitality are being drained.

Thus, having a SilentSoundSpace in hospice care can be a powerful, beneficial addition. Hospice care team members can reduce stress and recharge vitality. The clients may also use VAT as an alternative to taking painkillers. Moreover, family members that are with the patient can use VAT to reduce their own stress and boost their own energy.

There is yet another reason to add Vibroacoustic therapy to the hospice care setting. With the right training, people may find comfort in experiencing part of their being that they ignored in the past: SPIRIT.

When you ask people to define their essence, some might say they are only physical beings. Others may consider themselves as body-mind, made up of physical, mental and emotional components. Or, some people might say they made up of body, mind, and spirit.

Hospice care patients are coming to the end of their life journey. Because of this, hospice is often a place of enlightenment and self-discovery for these people and their family members. Hospice care patients may find comfort in religion or in discovering their connection to spirit as a continuous, intelligent energy.

So, how does VAT promote exploration of spiritual energies?

VAT imitates the frequencies we all felt in our mother's womb – warmth, security, silence, love, and the ability to grow.

Spirit can be felt when the mind is quiet. Thoughts, emotions, memories, sensations, and imagination flow constantly as part of our consciousness. You cannot stop this stream. Yet, you can minimize it in order to explore a new kind of perception.

Vibroacoustic therapy helps minimize the overwhelmed mind and creates space for new experiences that are beyond thoughts. Becoming vital, alert and quiet will help you create an inner environment for insights to manifest.

SPIRIT is order, harmony and wisdom beyond the programming of the ego, experience, and emotions embedded in the subconscious.

When you are feeling down and your energy levels are low, you usually don't have the power and attentiveness to minimize negative thoughts and emotions. And any meditation requires attentiveness to enter deep serenity.

So, if you or your patient is feeling down, you need a tool to quiet the mind and energize it with vitality at the same time. Vibroacoustic therapy does exactly that.

Create a SilentSoundSpace in Educational Environments – from Elementary Schools to Colleges

Elementary schools can be a stressful place for children. Many of today's public and private schools are driven by competition and standardized tests. Classrooms often include more than 30 children, and teachers are sometimes unable to provide a personalized learning experience. In addition, bullying remains an ongoing challenge for school administrators.

But, what would happen if a SilentSoundSpace were installed in one room within every elementary school?

Think about a child who starts his day waiting for the bus in the rain. Throughout the day, he must complete worksheets, tests, and evaluations. During breaks (such as lunch), he must develop social skills with peers. Children with learning difficulties, test anxiety, or social skills deficits may face additional barriers.

All of this pressure on students results in stress, which can be relieved with VAT.

But students aren't the only ones who experience stress in an educational setting — teachers and administrators also must learn to cope in a high-pressure environment.

Teachers often have their own personal issues at home. A teacher's mind is full of tasks and even though he or she would like to give personal attention to each student, the system is not set up for that.

A VATMAT can be used as a tool to help teachers relax, recharge, and balance body-mind during a long teaching schedule. A VAT treatment can also provide the inner capacity to be attentive, tolerant, empathic and sensitive to students and staff in a personalized way.

The school wide VAT experience will allow better communication among students. Attunement with VAT not only reduces pain, stress, insomnia and anxiety — it also promotes positive attitudes and tolerance. The process enables students and school staff to gain listening skills and the ability to be attentive by observing their breathing and biological systems from within.

Together with a trained therapist or teacher, the children can learn to build an inner space of silence. They can find the way to clean the desktop of their minds in order to learn about inner resources, analyze situations, and become better problem solvers.

High schools are even more demanding for students than elementary schools. The stress, anxiety, competition, and evaluations are more frequent. However, the SilentSoundSpace environment can bring sanity and balance to students and teachers in the high school setting as well.

Last but not least, SilentSoundSpace should be considered for use in dormitories and college libraries.

College is an exciting time filled with various stimuli to absorb and digest. There are numerous academic challenges such as exams, projects, and research papers. There are also ample opportunities for social interaction through class work, student residencies, campus jobs, new relationships, and maintaining family connections.

Coping with all of these things in a positive, healthy way depends on the student's approach to life, personal habits, health, wellness, and well-being.

We all know that two individuals may handle the same situation differently. When faced with a challenge, one may feel stress, which may affect his or her physical or mental systems and eventually

lead to insomnia, anxiety, and some sort of illness. In the same situation, another may experience vitality due to his or her inner resilience and ability to overcome uncertainty in a chaotic environment.

Students in college should adopt and apply a preventive wellness lifestyle and positive habits to maintain a dynamic balance of body and mind.

Learning capabilities can increase when a student's body-mind conditions are balanced in school and at home. Vibroacoustic therapy is an attunement tool that balances body-mind and improves the inner conditions of attention. Furthermore, VAT allows the user to obtain and apply new knowledge to devise new solutions to problems.

Create a SilentSoundSpace in a Spa or Wellness Center

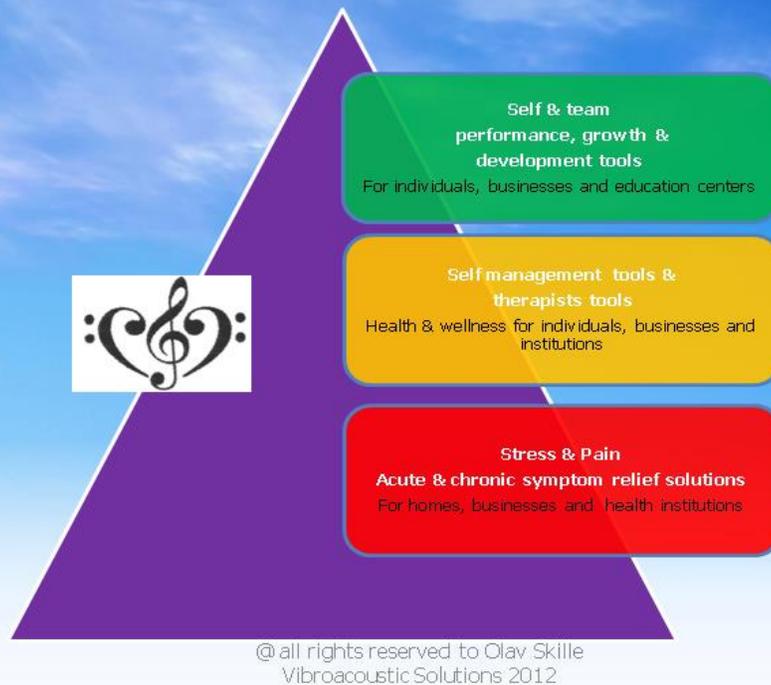
If you are an employee or an owner of any type of spa, picture it in your mind for a moment. It may be a gorgeous space with a calm atmosphere, complete with your own personal touch. Yet, you may still feel like something is missing.

Consider adding a SilentSoundSpace and Vibroacoustic therapy system to your spa.

What is Vibroacoustic therapy?

Vibroacoustic therapy is an inner body massage with low frequency sound waves, which vibrate organs, tissues and cells. VAT is a multilevel tool — it is a wellness and preventive medicine approach to treat acute/chronic pain and stress; reduce bad habits; and expand perception to inspire creativity and insightful motivation.

Vibroacoustic therapy – VAT New perception to achieve health & wellness pyramid solutions



Why should you add a SilentSoundSpace to your spa or wellness center?

A spa session is a great way for people to treat themselves, de-stress, and take a break from work, social, and family obligations. Yet, even after a relaxing spa treatment, the mind may still be overwhelmed by endless “to-do lists” and imaginary scenarios that produce anxiety.

After a 23-minute Vibroacoustic therapy session, one usually feels a deep, soothing sensation of calmness together with recharged energy and sharpened senses. The process converts energy that is wasted on bad habits and negative attitudes into tolerance, better communication, problem solving, love and creativity.

By implementing VAT in your spa or wellness center, spa-goers will be able to experience an additional treatment that targets the body, mind, and spirit.

VAT resets the mind from its inner spaghetti-like tangle of thoughts, emotions, sensations, and memories. It also harmonizes body subsystems such as the blood, nerve, muscle, hormonal, and skeletal systems.

What do you need to start using VAT to benefit customers?

To maximize the effects of Vibroacoustic therapy, one must create a physical space in which one can attune harmonically and balance his or her mental and physical systems. This space is called a SilentSoundSpace.

In a Vibroacoustic SilentSoundSpace, one experiences an inner body massage with low sound frequencies, which vibrate organs, tissues and cells.

A SilentSoundSpace includes:

- A small room or large space with dividers for privacy
- Vibroacoustic therapy furniture such as a VATMAT, massage table, or recliner.
- Frequency software
- Skype/web training

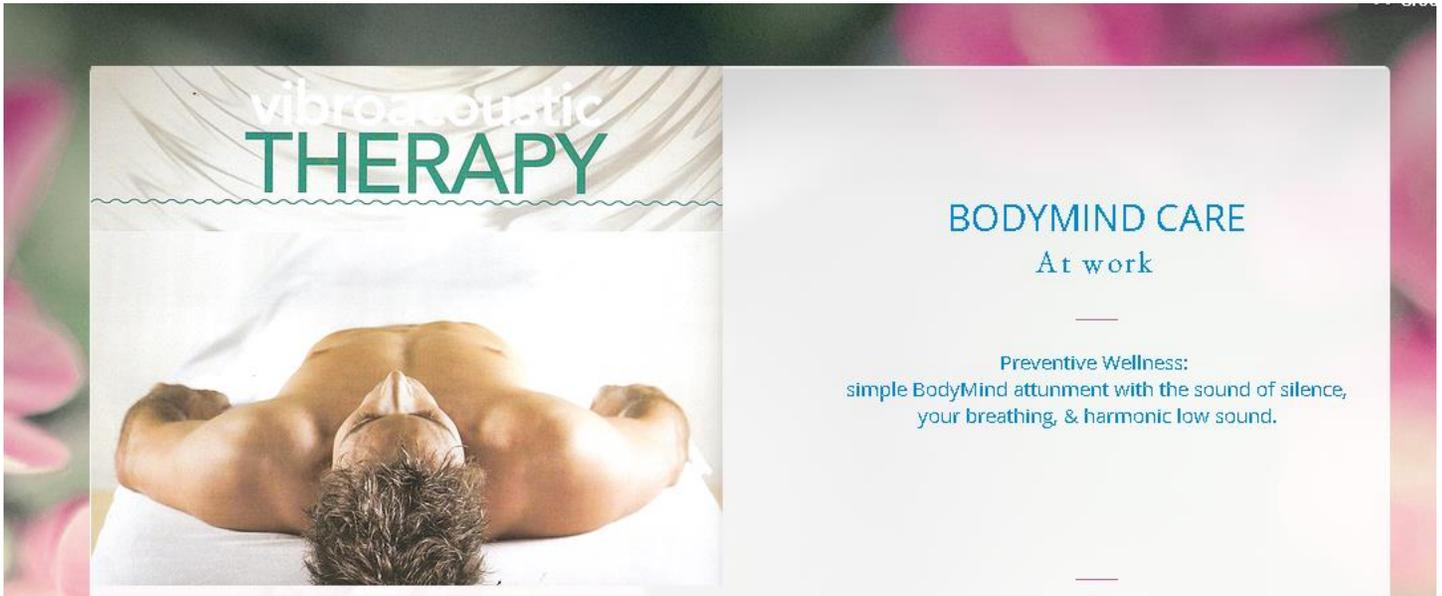
The SilentSoundSpace room should be neutral in color and design. The idea is to enable one to take a journey inward without being distracted by conscious or unconscious emotional triggers.

In addition, VAT is most effective in a quiet atmosphere with no noise. However, if a person feels anxious or uncomfortable in silence, neutral background music can be played at low volume.

Follow these steps to incorporate Vibroacoustic therapy in your wellness center or spa:

1. Purchase one or more VATMATs and dedicate a space for body-mind-spirit attunement and inner peace. Assign **one therapist** to take a training course in order to provide instruction to the customers while using VAT. This person should be responsible for setting the frequencies and easing customers into their VAT sessions.
2. Incorporate VAT into one-on-one treatment to make the customer's experience more meaningful and life changing.
3. Combine VAT with life coaching to further boost clients' vitality and mental clarity. Consider hiring a life coach or psychotherapist to help people replace bad habits (overeating, stress and addiction) with better habits (eating healthy, relaxation techniques, and moderation). This person could also help clients to improve performance with work, sports, hobbies and/or everyday life.

Create a SilentSoundSpace in a Business as a Preventive Wellness Platform



Economic recession and competition for resources bring anxiety, stress and uncertainty to workplaces everywhere. In addition, work-life balance is dwindling in many companies due to constant connection via smart phones and laptops ,and flexible or chaotic working hours

Yet, more connection doesn't necessarily translate to greater employee productivity — in fact, it can lead to greater amounts of stress.

Due to increased stressors, there has been resurgence in wellness at work over the past few years. Wellness in the workplace means recognizing employees' talents, respecting their creativity, and caring about their health.

To maximize employee productivity and satisfaction, *every company should invest in the wellness of its employees.*

Adopting a wellness approach in your business will result in...

1. Happier, healthier employees who miss fewer days due to illness.
2. Less stress in work environment.
3. Greater employee productivity.
4. Better communication and anger management among employees.
5. More employee creativity, innovation, involvement and motivation.

During a session in the SilentSoundSpace, one examines the inner connectivity between biological subsystems (blood, muscles, and nerves) and mind subsystems (thoughts, emotions, memories, dreams and imagination).

Please view the following presentation about [**BODY MIND BALANCE THROUGH VIBROACOUSTIC THERAPY.**](#)

A SilentSoundSpace can be created in a small room or in a large space with wall dividers to give the user privacy while undergoing VAT treatment. To get started, all you need is a VATMAT or some other Vibroacoustic therapy furniture (such as a chair or recliner) that emits low sound frequencies. Also, it is helpful to take a training course online.

How can I make wellness an integral part of my business?

Create a [Vibroacoustic SilentSoundSpace at work](#). (click the link to learn more)

Have every employee treat themselves to a Vibroacoustic therapy session at least three times a week to restore body-mind balance, reduce stress and insomnia, and boost vitality and mind clarity.

Here are some examples of how VAT can benefit particular workplaces:

- **The added value of VAT in physical therapy environment**
 - Reduces muscle tension, stress and pain.
 - Encourages patients to take an active role in recuperating from pain and stress caused by injury, illness and surgery.

- **The added value of VAT in psychotherapy environment**
 - Assists psychotherapy by reducing patient stress and pain.
 - Facilitates open communication between therapist and patient.
 - Fosters clarity of mind.
 - Acts as an antidepressant.

Create a SilentSoundSpace for Athletes

Whether you are a professional athlete or a person who exercises more than one hour a day, Vibroacoustic therapy can boost mental and physical performance to improve results.

Moreover, if you are a professional coach or trainer, VAT can be used to help clients and teams achieve and maintain good health and body-mind balance.

VAT (Vibroacoustic therapy) is a therapy in which low sound frequencies in the range of 30 Hz-120 Hz, are transmitted to the body's systems (nervous, skeleton muscular, blood) through transducers that are embedded in a furniture unit (such a chair or mattress). The transducers convert the frequencies into vibrations, creating an inner body massage for tissues, muscles and cells.

A typical VAT session is 23 minutes long. If necessary, the VAT user can partake in more than one treatment in a row.

Why athletes should use VAT:

- Diminish pain
- Reduce stress
- Relieve muscles
- Increase blood circulation
- Remove lactic acid buildup after exercise
- Increase calmness of the mind
- Increase clarity of the mind
- Reduce insomnia
- Inner peace, feeling of harmony
- Increase attentiveness
- Recharge energy
- Boost optimism
- Assist in recovery from injury

VAT is also a powerful tool that enables you (as a coach or athlete) to create winning scenarios in your mind prior to competition. Using guided meditation combined with VAT, the user can mentally embed these scenarios as natural behavior prior to the “real game.”

The VAT user can also use visualization and imagery to promote a calm body-mind. The more the user rehearses and visualizes potential blind spots, the better he or she will be able to prepare and increase his or her competitive advantage.

Ultimately, VAT serves multiple purposes for coaches and athletes. It can be used as a preventive tool to reduce stress and recharge energy. It can be as used as a therapy treatment to release muscle tension and speed up injury recovery. Finally, VAT together with imagery and visualization can help the user embed new scenarios of success in the subconscious.

When should athletes use VAT?

Conduct a VAT treatment session one day before competition or directly after competition or training. The effects of low sound frequencies are intended to relax muscles and the mind. VAT is not recommended for use immediately before intense muscle exercises.

Create a SilentSoundSpace in Veterinarian Clinics and at Home for Pets



When analyzing the cause and effect of Vibroacoustic therapy to reduce pain and stress, it's hard not to ignore the possibility of a placebo effect. Yet, VAT has been used on horses, dogs, and cats to reduce pain.

There are major physiological and biological impacts of VAT, though more research is needed to fully understand its effect on cells in the body.

Why use VAT on animals?

Using alternative medicine to treat animals is becoming widely accepted, especially in “green vets.” Veterinarians can use VAT on animals to treat injury, speed up recovery, and reduce pain and muscle tension.

Animal cases: provided by Olav Skille and colleagues in Nordic countries

How does VAT work on horses?

Vibroacoustic massage for horses relieves the following injuries/symptoms:

- Muscle tension
- Joint problems
- Pinned back
- Swelling after injury and kicking

VAT has multiple beneficial effects on horses:

- Promotes maintenance-intensive training
- Increases balance, improves posture
- Accelerates healing and reduces swelling after laceration and operations
- Increases peristalsis of stomach problems

A low-frequency sound is sent into the horse's body via specialized speakers, which are installed inside a mat. The speakers are connected to an amplifier, which is hooked up to a CD player. The CDs used during a VAT treatment contain various low frequency sound files to address different problems or needs.

VATMATs for horses are suitable for animal rehabilitation centers, racing stables, stud farms and riding schools. VAT can also be used by horse masseurs.

How does VAT work on dogs?

Vibroacoustic massage for dogs relieves the following injuries/symptoms:

- Lung problems
- Leg/ joint problems
- Spinal injuries/deformities

After initial skepticism, the dog approaches the VATMAT and lies down on it.
Low sound frequencies are selected based on the dog's size and type of problem or injury.

Do animals naturally use low frequency sounds to relieve pain, improve vitality?

Yes. For example, consider a cat's purr. Below is an article based on 2009 case studies that illustrates this point:

"Purring the Pain Away"

All the cats had purr frequencies between 20 Hz and 200 Hz. With the exception of the cheetah, which had frequencies ± 2 Hz from the rest, all the species had frequencies, notably 25 Hz, 50 Hz, 100 Hz, 125 Hz, and 150 Hz, that correspond exactly with the best frequencies determined by the most recent research for bone growth, fracture healing, pain relief, relief of breathlessness, and inflammation. All of the cats' purrs, including the cheetah, had frequencies ± 4 Hz from the entire repertoire of low frequencies known to be therapeutic for all of the ailments.

That fact that the cats in this study produced frequencies that have been proven to improve healing time, strength and mobility could explain the purr's natural selection. After a day or night of hunting, purring could be likened to an internal vibrational therapeutic system, a sort of "kitty massage" that would keep muscles and ligaments in prime condition and less prone to injury. Additionally, the purr could strengthen bone, and prevent osteo diseases. Following injury, the purr vibrations would help heal the wound or bone associated with the injury, reduce swelling, and provide a measure of pain relief during the healing process.

Taken from <http://www.showcatsonline.com/x/solving-the-cats-purr-mystery.shtml>

Authors: Elizabeth von Muggenthaler and Bill Wright

I used to have two cats. When they were ill, I gave them a vAT session that initiated their natural purring.

Create a SilentSoundSpace for Multidisciplinary Dialogues

Do you believe you hold the truth in your pocket? Do you think you perceive reality as it is?

On a pragmatic level, we assume that we all grasp "the same reality" with our senses. Otherwise, it would be hard to function. However, part of the reason why we have so many conflicts and miscommunication at home and at work is because we forget that we do not all have the same perception of reality.

What do I mean by that?

1. Our senses are attuned differently. For example, let's say that you are carrying on a conversation with a blind man. Many descriptions of experiences, basic concepts, and terms must occur between both parties because each of you perceives a very different sense of reality.
2. Past experiences and emotions are stored in memories, and these memories paint reality in real-time. Since each experience may trigger a particular memory, it's hard for two people to have the same perception of any situation, regardless of how intimate they may be.
3. Our belief system may direct the focus of our attention and passion. For instance, you may be at the same physical location with a loved one. You will focus on one thing and he or she will focus on something else. Or, you may observe the big picture while she or he may observe the details.
4. Reality is huge and dynamic. It changes every moment you close your eyes. Yet, what you perceive in any given moment is recorded in your mind and stored as part of your life story or sequence of events.

The next time you are having a discussion, and you're passionate about your opinion, count to 10 and say to yourself – "I don't hold the truth, I don't see the whole picture."

Reality is complex and emotional needs make it even more multifaceted.

In families, so many arguments and hurtful or envious emotions are the outcome of unsatisfied expectations of love and attention.

At work, there is an asymmetric relationship from the start. Many workplaces and business owners struggle to fit an informal, dynamic group of people into a formal, corporate culture. This creates "politics at work" and can taint the harmonic, healthy working environment.

In academia, there is a need for multidisciplinary teams to share their knowledge in order to grasp the big picture of reality. Each participant adds a unique contribution and perspective. But this is a very challenging concept. Team members must be able to openly communicate with one another and egos must be managed effectively. However, one might not even be aware or conscious of his or her own ego.

What does all this have to do with Vibroacoustic therapy?

Imagine that you are having a conversation with the most influential person in your world. Mutually, the other person feels the same toward you. There is great empathy between you, and you're both motivated to be attentive to what the other is saying. Yet, you have your own ideas, values and experiences. Your senses are attuned differently, and after few seconds, external triggers or triggers from within start interrupting the flow of your conversation. After a few seconds, the interaction becomes less meaningful, even though both of you continue to pretend as if you are focusing and practicing effective listening.

Vibroacoustic therapy can minimize the overwhelmed streams of thoughts, emotions and sensations. VAT can create an empty space in the desktop of both minds to be more attentive for a longer period of time.

Empty space enables effective interaction and communication. Imagine two computers with full memory. When exchanging data, neither computer will be able to do so effectively and efficiently. But what if there is a way for both computers to remove files that they no longer need to free up memory?

In a way, this is exactly what Vibroacoustic therapy does to your mind. What if all your family members were to have a daily VAT session? The communication amongst them would be much more effective.

Now, let's focus again on project management and teamwork amongst members of a multidisciplinary team. If each member of the team has a VAT session before meeting with one another, conversation and the flow of ideas would be more productive. VAT empties the mind and creates a space for fresh perceptions, more attentiveness and effective listening. Space in the mind also allows new insights to manifest.

Many minds + multiple insights = extraordinary solutions to complex problems.

Vibroacoustic Therapy



what if, a team take a VAT session before discussion?

Appreciation to Olav Skille, a Pioneer of Vibroacoustic Therapy

I started communicating with Olav Skille in 2006 when I was working on my master's degree in holistic health at Lesley University's branch in Israel. Olav and I were internet pals. When I moved to the United States, he asked me to represent him in America.

For many years, I was a meditation teacher, life coach and therapist. I've also held executive management positions in business development, international marketing, and executive training in high-tech companies.

I was curious about the physical, mental and spiritual sensations of *VATTING*.

I asked him to send me a VATMAT to feel and sense Vibroacoustic therapy and what it really means to experience an "inner body massage" of organs, tissues, and cells. From then on, I felt in my heart that helping to fulfill Olav's vision seemed like the right thing to do.

Since my first experience, I have been *VATTING* myself almost every day. I even took my VATMAT to my trip to Alaska.

I'm convinced that pragmatically, Vibroacoustic therapy is the most effective and easiest integrated wellness platform to reduce pain, stress, insomnia and anxiety, boost vitality and balance mental and physical systems.

Now, I ask that you use your intuition, inner visualization, and imagination to simulate a VAT experience. Gentle, low-frequency sound waves flow into you from the VAT device, hugging you from within. A delicate tickling sensation envelops your whole body and rinses you from within. After a few minutes, your mind and body systems stream harmonically and synchronize with the low-frequency sound waves.

You feel a combination of deep serenity together with recharged energies. After 23 minutes of self-treatment, your senses are sharp, yet your mind is calm. Your vitality, compassion, and tolerance toward yourself and others intensify. You feel less pain, stress, insomnia and anxiety. Your mental and physical components are attuned. You sense more peace and less chaos.

When I first started experiencing Vibroacoustic therapy, I listened to binaural music through headphones at the same time.

It felt as if I was "Lucy in the Sky with Diamonds." The experience was a body-mind, virtual trip. Olav insisted that I stop listening to music while using VAT. It was not easy. He told me to free myself from music and connect to the silence, in which only low-frequency sound and breathing are heard. Once I did that, a new perception unfolded.

Experiencing different results with VAT

Human beings are a mix of unique genes that partly and dynamically manifest, creative potential, and stored memories accumulated over time in previous experiences. As we grow up, the conditioning of

our minds “paints” reality in real-time. This conditioning creates our unique personalities and life paths.

One person’s body-mind experience with VAT may differ from another person’s experience. Furthermore, our senses may be attuned and perceived differently by low frequency sound waves. However, we are all “BEINGS of humanity’s factory.”

I say this because when you feel sound waves in the range of 30 Hz - 120 Hz, your biological systems are harmonically balanced. This reduces pain, stress, insomnia and anxiety and boosts vitality and mind clarity.

In my opinion, Olav Skille will be considered a pioneer contributor in making Vibroacoustic therapy a dominant integrative wellness platform, both for therapeutic/medical use and for self-management and self-development. Here is one of Olav Skille’s own beautiful expression:

“The body is just a skin sack filled mostly with watery substances. If we imagine such a sack being placed over one loudspeaker and send bass sound through it, we have no difficulty in understanding that the sound vibrations can be felt in any point of the surface of the sack. The sound waves move through the water and transfer movement energy to the surface of the sack. This means that also all water inside the sack has been vibrated. All cells and molecules inside the sack have been put in motion.

If we now put a human being in the place of the skin sack, the sound will move through the body -- as if it was water -- and we can feel the vibrations on the upper surface of the body. And all cells inside the body have been vibrated by the sound waves, which move through the body. We can look upon it this way: the body has been exposed to ‘internal massage.’ Thus organs in the body, which we cannot reach by traditional methods -- nerves, glands, lungs, heart, deep-lying blood vessels, and brain tissue -- will react when they are exposed to sound vibrations. This is the basic idea of all VAT.

The body is constantly exposed to sound massage. It is so common that we seldom give this fact a thought. When we speak or sing we produce sounds, and the vibrations from these sounds can be felt when we place our hands on the chest, back, larynx or the top of the skull of the person who is vocalizing. These vibrations are not dangerous for the human being. It even may be so that these vibrations are of vital importance for us, if we are to develop physically and mentally in a healthy way.

The same kinds of vibrations are transferred to the body during VAT sessions. The only difference is that the source of sound is external, and that the sound sources are spread over a larger physical area. All parts of the body are receiving the same amount of vibrations simultaneously. The technology behind VAT equipment makes it possible for us to have complete control over the communicative elements in all music and languages in the world. Olav Skille’s frequency CDs are totally free of cultural ‘contamination’ and communicate directly with the nervous system in living organisms. These communicative elements are:

1. Pitch: Is a function of frequency of vibrations, and stretches from low to high;

2. Volume/loudness/amplitude: Is the phenomenal dimension of pure tones and this dimension is a complex function of both frequency and the amplitude of the stimulus;
3. Rhythm;
4. Harmony;
5. Monotony. Here we refer to the use of a single tone during a treatment, and not the emotional experience of excessive repetition.

Olav Skille and Juliette Alvin base VAT on the three universal principles, which were defined, in 1968:

1. Low frequencies can relax;
2. Rhythmical music can invigorate;
3. Loud music can create aggression

Of course, the opposites of these universals may create the opposite effects. These universals are a good guide when the therapeutic strategy is to be chosen.

It is, however, important to note that all frequencies used for the sound pressure waves of VAT are low, in relation to [Pythagoras' theory of harmony].

It is important to remember that we are used to looking upon music as being something ... concerning the ear only. VAT is aimed mainly at the body. Although we hear the sound pressure waves, they primarily have direct effect on muscles, glands and nervous system."

....

"The components of a sound or a combination of sounds, in particular their pitch, volume and timbre will have a significant physiological and biochemical effect on the body. Muscular energy will increase or decrease depending on the rhythm, and breathing will accelerate or change its regularity. Fatigue can be reduced or induced and voluntary activity may be increased. In addition, a marked, but variable, effect on heart rate, blood pressure and endocrine functions is produced, and changes in metabolism and the biosynthesis of various enzymatic processes may be induced."

(Page 14, Olav's material)

....

"The bass vibrations on the special cassettes can both be heard and felt. The sound is transferred directly from the [transducers] to the body via air conduction, and is bodily perceived as profound vibration - like rhythmical pressure waves. This low frequency sound massage will penetrate the body - as sound is transferred through solid bodies and liquids. At the same time the sound is perceived acoustically by the ear, and the different receptors - both on the conscious and unconscious levels - are reacting in synchronized response to the regularity of the pressure waves.

This synchronization of responses on so many levels seems to be unique for Vibroacoustic therapy. One can imagine that this massive synchronization may lead to a harmonization of an organism in a state of disharmony."

From Asport.

Pragmatic Philosophy of harmony and silent space in the mind

Pythagoras, Krishnamurti J, David Bohm and the perception of Harmony

By now you probably understand that harmony is fundamental to Vibroacoustic therapy – but why?

Let's go back to the analogy of an orchestra. Each instrument is attuned to its natural range of tones; yet, the conductor coordinates all of the instruments together.

What would happen if the conductor stopped conducting? The answer is clear: The orchestra may sooner or later, slip into chaos or disharmony. The conductor is responsible for holding that space of attunement and harmony.

Now, let's observe body-mind-spirit essence. We can view it as an orchestra of mental and physical subsystems. Each cell is a subsystem of something bigger, such as an organ or system of organs, like the nervous system or muscle system. Each individual unit should be healthy and attuned to its functional and natural foundation. But at the same time, all subsystems need to work harmonically to create homeostasis and sustain and maintain the good health of the whole organism.

The concept of harmony in sound and music starts with the Greek philosopher Pythagoras:

“Pythagoras thereupon discovered that the first and fourth strings when sounded together produced the harmonic interval of the octave, for doubling the weight had the same effect as halving the string.

The tension of the first string being twice that of the fourth string, their ratio was said to be 2:1, or duple. By similar experimentation he ascertained that the first and third string produced the harmony of the diapente, or the interval of the fifth.

The tension of the first string being half again as much as that of the third string, their ratio was said to be 3:2, or sesquialter. Likewise the second and fourth strings, having the same ratio as the first and third strings, yielded a diapente harmony.

Continuing his investigation, Pythagoras discovered that the first and second strings produced the harmony of the diatessaron, or the interval of the third; and the tension of the first string being a third greater than that of the second string, their ratio was said to be 4:3. The third and fourth strings, having the same ratio as the first and second strings, produced another harmony of the diatessaron. According to Iamblichus, the second and third strings had the ratio of 8:9, “

...

"To Pythagoras music was one of the dependencies of the divine science of mathematics, and its harmonies were inflexibly controlled by mathematical proportions. The Pythagoreans averred that mathematics demonstrated the exact method by which the good established and maintained its universe.

Number therefore preceded harmony, since it was the immutable law that governs all harmonic proportions. After discovering these harmonic ratios, Pythagoras gradually initiated his disciples into this, the supreme arcanum of his Mysteries.

He divided the multitudinous parts of creation into a vast number of planes or spheres, to each of which he assigned a tone, a harmonic interval, a number, a name, a color, and a form. He then proceeded to prove the accuracy of his deductions by demonstrating them upon the different planes of intelligence and substance ranging from the most abstract logical premise to the most concrete geometrical solid. From the common agreement of these diversified methods of proof he established the indisputable existence of certain natural laws.

Having once established music as an exact science, Pythagoras applied his newly found law of harmonic intervals to all the phenomena of Nature, even going so far as to demonstrate the harmonic relationship of the planets, constellations, and elements to each other. A notable example of modern corroboration of ancient philosophical reaching is that of the progression of the elements according to harmonic ratios. While making a list of the elements in the ascending order of their atomic weights, John A. Newlands discovered at every eighth element a distinct repetition of properties. This discovery is known as the *law of octaves* in modern chemistry." Quote from <http://www.sacred-texts.com/eso/sta/sta19.htm>

As Dr Peter Critchley in his ebook: PYTHAGORAS AND THE HARMONY IN ALL THINGS, so nicely wrote:

" The principle of *harmonia* is at the centre of Pythagorean thought. The Universe is One but the world is a unity in multiplicity. The phenomenal realm is a differentiated image of the unity of the Universe. Although the whole consists of many parts, the unity of the whole is maintained by the hierarchical principle of harmony, the *logos* of relation, which gives every part its place in the fabric of the whole.

Pythagoras' integrated approach encompasses mathematics, psychology, ethics, and political philosophy into a single comprehensive whole. This approach rejects the dualism of subject and object, knower and known which has scarred the intellectual and socio-political fabric of Western civilisation since its inception. An integral part of this bifurcation is the separation of science, religion and philosophy which continues to this day. The integrated approach of Pythagoras puts the many-sidedness of life and experience. Humanity achieves happiness when able to relate to both the universal and the particular, bringing together both the eternal and the temporal levels of being so as to be at home in the universe." Critchley, P., 2011. *Pythagoras and the Harmony in all Things*. [e-book] Available through: Academia website <<http://mmu.academia.edu/PeterCritchley/Papers>

Olav Skille, the first person to patent Vibroacoustic therapy, based his mathematical calculation of low sound frequencies on Pythagorean harmony. His frequency formula applies the ideas of coherence, unity and universal harmony into attunement.

Thus, when you lie down on a VATMAT and stream 40 Hz, for example, the gentle vibrations harmonically calibrate your whole body.

Vibroacoustic therapy enables the user to minimize overwhelming thoughts, emotions, sensations, and memories that may push biological systems out of balance. It is most effective when used in a SilentSoundSpace, a room with no outside distractions where one attunes and calibrates his inner subsystems on a Vibroacoustic therapy platform. By combining Vibroacoustic therapy with a SilentSoundSpace, we can simulate the low sound frequencies we all felt in our mother's womb.

To understand the importance of creating a SilentSoundSpace, consider J Krishnamurti and Pro David Bohm's views of the limitation of thoughts and conditioning of the mind that lead to conflict and separation.

Though Pro Bohm was a physicist and the pioneer of string theory, and Krishnamurti was a spiritual teacher, their teachings were similar: They both talked about the "inner environment" needed for one to replace limitation of thoughts with expanded perception of mind. They were talking about creating inner conditions of a consciousness evolution, inner harmony, and an inner space of emptiness to enable flow of vital energy and insights of the universe to manifest.

When you use a SilentSoundSpace, you can create such a space in your mind for serenity, sanity, and vitality, which is the engine of life.

Using Vibroacoustic therapy in a SilentSoundSpace can help any individual calibrate and balance his or her inner systems to better cope with stress and create an inner space for love and mental clarity. That's why we encourage people to adopt Vibroacoustic therapy as a wellness integrative platform at home, at work, in schools, and in research centers.

If more people adopt balance and harmony as a way of life, humanity will in turn become more coherent, collaborative, compassionate, and creative.

As you read through the chapters so far, we have spoken about Vibroacoustic therapy as an integrative therapeutic modality and as a self-help tool, at home, at work, in schools and in health institutions. In the second part of the book, Christopher D. Krause, (Ph.D in Biotechnology) will take you into observing the scientific and medical aspects of Vibroacoustic therapy.

Physiological Underpinnings of Vibroacoustic Therapy

Christopher D. Krause

INTRODUCTION

Development of Vibroacoustic therapy

Vibroacoustic therapy originated in the 1880s as vibration therapy (1). Psychiatrists observed that those suffering from Parkinson's syndrome exhibited increased motion after disembarking from horse-drawn carriage rides over somewhat rugged roads. A vibrating chair was developed based on these observations as a therapeutic tool. Anecdotal stories indicate that motion in the afflicted was increased after vibration therapy with these chairs.

In the late 1970s, musician and educator Olav Skille observed that children with disabilities seated near bass instruments displayed increased physical and mental function after concerts (2). He evolved his observations by finding that children with autism placed near subwoofers through which low-frequency music was played showed a favorable response. Skille subsequently found that children were equally responsive to single bass-frequency tones, as long as the volume of the tone varies. Based on this, he created a series of sound files in which the volume variations were sinusoidal, each playing a distinct bass frequency based on the Pythagorean musical harmony scale. He chose to use a series of frequencies based on his observations that some disorders were best treated with distinct frequencies (e.g., migraines with 86 Hz, shoulder and joint aches with 60 Hz, and insomnia or hypertension with 40 Hz).

Notably, there is no published empirical evidence that a harmonic frequency chord is physiologically optimized, nor has it been demonstrated that a sinusoidal volume variation is the most effective volume variation algorithm for vibroacoustic therapy (i.e., chaotic or unanticipatable volume variations have not been tested empirically). One unpublished study showed no significant difference in effectiveness between a sinusoidal volume change and no volume change over a 15-minute treatment interval (3).

Skille also chose a treatment duration of 23 minutes, based on an integer round-up after a 50 percent increase in time after he observed the relaxation response in most patients (about 15 minutes). This time duration has not been verified as optimal under empirical conditions, and may vary from patient to patient depending on their underlying issues. Finally, the power level (i.e., maximum volume) chosen is based on whether the patient feels the vibration only lightly; there is no empirical evidence demonstrating that this level of power is most therapeutic, nor that the same level of power is therapeutic for each person. However, too much acoustic power felt through the body is discomforting and stressful, just as if it were heard through the ears; chronic exposure to excessive acoustic energy causes a disorder called Vibroacoustic disease (4;5).

RESULTS

Establishing a testable physiological mechanism by which Vibroacoustic therapy occurs

Recently, remarkable advancements in molecular endocrinology, neurobiology, immunology, and physiology have allowed detailed mechanisms for many physiological processes to be understood. Additionally, this information can be used to understand how Vibroacoustic therapy affects the human body, and whether a treatment improves body function or hinders it.

Detailed physiological mechanisms for explaining the beneficial effects of Vibroacoustic therapy can now be hypothesized. These mechanisms should account for (a) the detection of acoustic vibrations, (b) a signaling pathway to transmit the detection to a "decision-making complex," (c) an output is "chosen" at the decision making complex, based on the integration of various inputs, including the detected signal, (d) a signaling pathway for the output is initiated from the decision-making complex to

the effector site, and (e) the outcome occurs at the site, that for our concerns should be an improved physiological state.

How are waves of molecular collisions detected by our body?

On a molecular level, the energy of a force is transmitted throughout a volume of a mass by molecular collisions. Because individual molecules only travel short distances in most circumstances, energy is transmitted through longer distances of that mass by the propagation of a series of collisions between groups of molecules at increasing distances from the source of the energy. These propagations of energy but not of mass are called waves. Because Vibroacoustic therapy is felt by those separated from a tone-producing device, we concern ourselves with detecting acoustic waves.

On the microscopic level, acoustic waves generate physical distensions in our skin as the pressurized air molecules push against our skin, tissues, and ultimately, specific cells programmed to detect those distensions. These programmed cells in our bodies are part of the somatosensory system (acoustic waves are also detected by the auditory system, but we are not concerned with that pathway in this review). Three distinct types of distensions are perceived as touch by the somatosensory system: transient (tapping), prolonged with high-intensity (grabbing), and sliding (or moving or feeling) touch (6). Not only can waves generate distensions, but distensions can create acoustic waves: both the sliding touch and the transient touch can generate harmonic waves (imagine grinding chalk along a chalkboard, or tapping one's finger on a surface). Thus the somatosensory system can detect harmonics from either acoustic devices or from physical contact with the surroundings. Alternatively, the somatosensory system detects pressure waves coming from either acoustic energy or from physical contact.

Whole-body detection of and response to acoustic energy

The human body detects a large range of acoustic frequencies with two distinct sensory systems. Besides the well-known auditory system that detects acoustic energy from ~20 Hz to 20,000 Hz (although energy from ~20 to 100 Hz is poorly heard by most mammals including humans), three distinct mechanosensory receptors in the skin detect vibrations (0.5-800 Hz) generated by either pressing, feeling, or touching/tapping a directly adjacent surface. All three mechanosensory receptors transmit signals to the brain using rapidly conducting A β mechanosensory neurons (6). The particular ways in which the brain interprets and responds to mechanosensory nerve stimulation are complex, involving far more than activating particular motor neuron circuits that results in particular coordinated body motions (e.g., wrapping fingers around objects in which a firm grab is felt in only part of the palm).

Merkel's disks are neurolemmal cells found in the stratum basale of the epidermis. In hairless skin, they are clustered among the ridges of the fingerprints; in hairy skin, they surround the follicles of the long hairs near the dermal layer (6). Detecting prolonged pressure, they synapse directly with slowly adapting A β sensory nerve fibers and detect acoustics at 5-15 Hz.

Meissner's corpuscles are found in hairless skin within invaginations of the dermis into the epidermal layer (called papillae), especially within the lips. The corpuscles are physically tethered to the basal lamina of the epidermis by collagen fibers. Composed of rapidly adapting free A β nerve ends enveloped by Schwann cells, they detect tapping or changes in touch (e.g., texture and shape) that are likely

mediated by movement of the tethering collagen fibers. They respond to acoustic vibrations between 10-100 Hz.

Pacinian corpuscles are highly sensitive receptors found deep in the dermis near the fatty tissues of the hypodermis under both hairless and hairy skin throughout the body, as well as in musculo-skeletal joints and within the pancreas and intestines. Pacinian corpuscles are composed of rapidly adapting A free nerve endings surrounded by fluid that is contained within many layers of neurolemmal cells. Perturbations of the neurolemmal cells are transmitted to the free nerve ending. Pacinian corpuscles respond to sliding or changing touch, and also may respond to changes in atmospheric or water depth and pressure; they are sensitive to acoustics between 40 and 800 Hz.

The series of tones used in Vibroacoustic therapy range from 30 to 86 Hz (2). This range lies within the sensitivity domain of Meissner's corpuscles and Pacinian corpuscles. Because acoustic vibrations should not result in perceived changes in texture, while the waves of molecular collisions brought about by acoustic wave energy are a physical consequence of vibroacoustic therapy, we hypothesize that most mechanosensory stimulation from such therapy is initiated by the Pacinian corpuscles that are found throughout the skin, intestines, and joints. Because these neurons respond to sliding touch or changes in pressure, it is not surprising that one of the most commonly reported effects of a whole-body Vibroacoustic therapy is that one feels as if one had a full-body or deep-tissue massage (that also activates many mechanosensory neurons).

Although frequencies above 86 Hz will be more easily detected by Pacinian corpuscles, and may be therapeutic, they are also easily detected by our auditory system at power levels necessary to activate the corpuscles. In its purest form, Vibroacoustic therapy is performed without auditory stimulation. Use of Vibroacoustic therapy without additional auditory stimulation is done for two reasons: (1) hearing pure tones may inhibit our ability to achieve the relaxation state (although the use of headphones, earplugs, or playing a sound focused on the ears that is the inverse of the vibroacoustic therapy tone may offset the auditory response), and (2) use of music (that is polyphonic and of semi-random volume) introduces an element that is hard to control scientifically and therefore characterize empirically. That being said, there are many reports of the use of music alone or in conjunction with VAT to help patients achieve a relaxation response.

Signaling cascades initiated by detecting acoustic energy

Within mechanosensory tissues, free nerve endings of the primary somatosensory neurons respond to acoustic vibrations. Presumptively, a sodium ion channel that is sensitive to distension initiates a membrane depolarization in these sensory nerve beginnings. Although little biomedical research has been performed to understand the molecular mechanism about how harmonic energy is converted into neuronal electrical conduction, especially in vertebrates (7), several hypotheses have been advanced: (i) physical or conformational changes in membrane lipids brought about by waves of molecular collisions, (ii) physical motions on the membrane by distension, (iii) distension of the ion channel protein itself, or (iv) distension of the ion channel by a mechanosensitive protein or by a signaling cascade initiated from a mechanosensitive protein. Irrespectively, the activated sodium ion channel allows an influx of sodium ions into the cell; this influx initiates the action potential that converts the physical distension into the activation of a neural pathway. The tactile somatosensory nerve pathways that eventually lead to the somatosensory cortex is somewhat complex, and is covered in detail elsewhere (6).

It has been shown that cultured pre-neuronal cell lines initiate a mitogen-activated protein kinase (MAPK) biochemical signaling pathway in the presence of acoustic waves of 40-200 Hz (8). MAPK pathways generally stimulate cellular activity. At longer time periods, increased neurite outgrowth has been observed, inferring enhanced biological activity and possibly new neural connections. The receptor detecting acoustic vibrations in nonsensory neurons is not known, although proteins within the family of transient receptor potential (TRP) transmembrane channels have been implicated (7).

DISCUSSION

The relaxation response and its achievement by Vibroacoustic therapy

In its simplest interpretation, the relaxation response is simply the inhibition of the stress response — while the stress response is activated by the sympathetic arm of the autonomic nervous system, the relaxation response is initiated by the parasympathetic arm of the autonomic nervous system. In most people, the stress response is easily triggered not only by perceiving discomforting or dangerous situations, but also to a lesser but more constitutive extent by daily activity (9). In contrast, considerable practice and training is needed to trigger the relaxation response effectively. As a consequence, a lot of techniques have been developed to trigger the relaxation response. Among these techniques are meditation, yoga, tai chi, qigong, transient muscle tensing and relaxing, deep breathing exercises, guided visualization exercises, and deep tissue massages.

The hallmarks of attaining the relaxation response resemble those seen after the activation of the parasympathetic nervous system, whose effects are well-established. Activity in the cardiovascular system decreases (decreased diastolic and systolic blood pressure, decreased pulse rate, decreased breathing rate, constricted airway passages) as does activity in the metabolic system (inhibited stress-increased metabolic rate and lowered levels of glucose and fat in the blood). There is a decrease in central nervous system activity, as seen with decreased muscle tension, decreased perspiration, constricted pupils and decreased mental activity and anxiety. Finally, gastrointestinal activity increases (increased peristalsis and enteric muscular contraction).

Among the most prevalent effects of whole-body Vibroacoustic therapy are mental relaxation, falling asleep, muscle relaxation, lowered heart rate, respiratory rate, and blood pressure. Many of these activities resemble those initiated by activation of the parasympathetic nervous system. One can hypothesize that the parasympathetic nervous system transmits some if not most of the beneficial signals imparted by Vibroacoustic therapy.

Vibroacoustic therapy transiently decreased systolic and diastolic blood pressure immediately after each session; both were chronically reduced after repeated and frequent use of Vibroacoustic therapy (10). Blood pressure is the force of blood pushing on blood vessels by the heart. Blood pressure changes on instantaneous, daily, and chronic time scales. Blood pressure varies with the phase of the heartbeat — expelling blood from the left ventricle into the arteries transiently increases blood pressure. Blood pressure changes with daily activity — it is lowest while sleeping, increasing during physical motion or when one reacts to mental or physical situations; this alludes to the importance of autonomic nervous system activity in its daily regulation and dynamics (10;11). Finally, blood pressure can become abnormally high or low (known as chronic hypertension or hypotension) based on one's genetics, on alterations in one's health or pharmacology, or chronic sympathetic nervous system

activation. As we discussed above, Vibroacoustic therapy likely acts by inhibiting sympathetic nervous system activity. Sympathetic nervous activity generally increases blood pressure by constricting smooth muscles surrounding the arteries and arterioles to decrease their diameter; this is done to redirect blood flow) as well as retention of sodium and water by the kidney (10). We hypothesize that Vibroacoustic therapy lowers blood pressure by inducing parasympathetic nervous system activity that dilates arteries and arterioles.

In many pharmaceutical experiments, a “placebo effect” can be observed in which people believing they are receiving a medication showed an improved condition when treated with a formulation that contains no relevant pharmaceutical agent (called the placebo). The placebo effect is usually interpreted as a belief by the patient that he is being treated, and an optimism that the treatment will improve his condition. As the stress response is known to inhibit the body’s response to heal wounds, fight infections and fight disease (12-15), offsetting this stress-induced inhibition by a belief in a healthier condition may improve their state. Many of the physiological studies of the placebo effect are consistent with parasympathetic influence on respiration (reduction), gastrointestinal function (increased motility), and cardiovascular function (16), and the activation of the parasympathetic nervous system has been seen in patients with a demonstrable placebo effect (9).

In summary, the activation of Pacinian corpuscles throughout the body, leading to a somatosensory activation of large portions of the somatosensory cortex within the brain, followed by parasympathetic nerve-mediated induction of the relaxation response, is thought to underlie a large number of effects by Vibroacoustic therapy on the body. Diseases aggravated or caused by chronic stress (such as chronic pain, anxiety, post-traumatic neurology) may be amenable to treatment by Vibroacoustic therapy in conjunction with other practices by triggering the relaxation response.

Less established effects of Vibroacoustic therapy – opportunities for further research

Fluid agitation

Anyone who sits near a subwoofer when a strong level of bass is played during a movie has experienced a shaking sensation. We are talking about this shaking sensation when we say that low-frequency music is not only heard but also felt. This physical vibration induced by bass frequencies can be visualized in any fluid system by placing a cup of water near a subwoofer: acoustic energy results in rippling of the surface of the water. The rippling is due to a series of molecular collisions caused by the acoustic energy that is transformed into movements of fluid.

This “mobilizing” effect of acoustic energy to disrupt fluids or unstructured solids may underlie improvements in several other conditions by users of Vibroacoustic therapy. For example, there is anecdotal evidence that Vibroacoustic therapy relieves symptoms of cystic fibrosis. In addition to improved blood flow caused by the relaxation response that allows better blood oxygenation, disruption of the viscous alveolar mucus by Vibroacoustic therapy may provide extra relief. Analogously, nasal, aural, and sinus congestion may also be alleviated by Vibroacoustic therapy. It may also loosen cells trapped in areas with a lot of fluid flow. Prior to their antigen-dependent activation, T cells and B cells tend to reside in the lymph nodes and the spleen (17;18). Their dislodging and entry into the circulatory system may help accelerate immune processes, many of which require migration of immune cells through the circulatory system in order to home in to immune lesions and then pass into the tissues.

Structural agitation

When frequencies of 20-100 Hz are played through a powerful amplifier, not only liquids but also solid structures that are not firmly rigid will shake from the vibrational harmonic energy. The shaking of semi solid structures may also underlie some benefits of Vibroacoustic therapy.

Vibroacoustic therapy has been used (also anecdotally) to offset bowel obstruction, incontinence, or other motility disorders of the intestines. Vibrations of feces or other lodged objects may shake them loose from a physical trapping; increased intestinal smooth muscular activity as a consequence of the relaxation response likely contributes to alleviating intestinal immobility.

Muscle tissue is organized into hierarchical bundles of muscle fibers; some of these bundles are interconnected by collagen fibers or other connective tissue within the perimysium or endomysium. These interconnections are designed to strengthen and coordinate the overall muscle, but can also lead to reduced contractile function or range of motion, especially after extended periods without movement (e.g., hospital stays, sedentary lifestyles, sports injury) when excessive collagen deposition occurs in a scarring response to a muscle injury or atrophy (19-23). Anecdotally, many people have felt improved flexibility and muscular activity after Vibroacoustic therapy, especially when used chronically. Disarray of hyper-fibrotic skeletal muscle tissues by Vibroacoustic therapy may lead to improved muscle contraction and range of motion. Improved blood flow to the muscles as a consequence of the relaxation response (24) likely contributes to the restored muscular strength and flexibility.

Neural synchronicity

During episodes of mental focus, relaxation, deep relaxation, or very deep unconsciousness, overall brain neural activity tends to exhibit sinusoidal activity of varying frequencies (beta: 14-30 Hz, alpha: 9-13 Hz, theta: 4-8 Hz, and delta: less than 3 Hz, respectively). Inducing the relaxation response, one may predict that Vibroacoustic therapy may promote the prominence of alpha waves in neuronal activity. If acoustic energy triggers neural activity in the brain in much the same way in that it triggers neural activity in mechanoreceptors (6;7), or if acoustic energy triggers increased neuronal signaling, growth, and interconnections in the brain in the same way that it does in PC12 neuronal cell culture (8), then it is possible that Vibroacoustic therapy may promote brain-wide synchronous neuronal firing; this may offset diseases with lowered mental activity such as depression, especially among the elderly (25). It is also possible that Vibroacoustic therapy may dissuade the firing of unusual pathways whose firing is aberrantly increased in various psychological diseases such as fibromyalgia (26), attention-deficit/hyperactivity disorder (ADHD), obsessive-compulsive disorder (OCD), eating disorders, and posttraumatic stress disorder (PTSD). Vibroacoustic therapy may also help more pervasive mental or neuronal disorders such as cerebral injury (27), autism, Rett Syndrome, Parkinson's disease (28), Alzheimer's and other age-related degenerative disorders like dementia.

Although Vibroacoustic therapy has been used anecdotally to help those suffering from each of these diseases, rigorous mechanistic evidence demonstrating the benefit of such therapy in these diseases is lacking. What seems more mechanistically feasible at the current level of peer-reviewed knowledge is that mental or psychological diseases aggravated by or resulting in the onset of the stress response may be improved by inducing the relaxation response, especially because attaining the relaxation response in these people may be more difficult. One can hypothesize that if stress contributes to the

severity of a disorder, then offsetting the stress may attenuate the severity of the disorder. Alternatively, if a stress response is induced as a consequence of the disorder (i.e., people are upset because they are overweight, or life seems overwhelming, or their collection of prescribed medications are not helping them feel better), then induction of the relaxation response may help the afflicted feel more capable of coping with the situation. Cognitive and behavioral psychotherapy (CBT) relies on behavior modification, and modifying behaviors is most efficient when the mind is relaxed but conscious; attainment of the relaxation response may help the efficiency of CBT, especially in more recalcitrant individuals.

CONCLUSIONS

There is much anecdotal data on the benefit of Vibroacoustic therapy in many different types of diseases. In several situations, mechanistic information is already known or can be collected to explain many of these effects. The ability of Vibroacoustic therapy to induce a beneficial relaxation response, especially in people unable to achieve it on their own, by itself would provide enough of a benefit to be an additive component in therapies for many diseases. Other less-investigated activities of Vibroacoustic therapy can be experimentally investigated, and may allow such therapy to be a viable method to treat other classes of disease or complement existing methods in a multi-faceted treatment of complicated mental or physiological disorders.

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Preliminary and Structured Clinical Research and Therapeutic Case Studies of Vibroacoustic Therapy (VAT)

Outline:

Preface

Introduction

Common pathways to alleviate disease symptoms

DISEASES WHERE VAT WAS ATTEMPTED

(1) Neurological Maladies

Rett Syndrome

Autism Spectrum Disorders

Parkinson's Disease

Spastic Cerebral Palsy

Mental depression

Dementia

Addiction and Dependence

Metabolic Syndrome

Anxiety and Fear-Based Disorders

Chronic Pain

Stress, Including Chronic Stress and Stress Disorders

Insomnia and Sleeping Disorders

Acute and Chronic Fatigue: A Disorder of Vitality?

Fibromyalgia

Migraine Headaches

Epilepsy

(2) Disorders of the Circulatory System

Hypertension

Edema

(3) Degenerative Disorders

Cystic Fibrosis-Associated Diseases

Scarring after Strokes or Spinal Damage

Liver Damage and Cirrhosis

Osteopenia and Osteoporosis

(4) Physical Movement Disorders

Muscle Cramps

Sports Injuries

Reduced Joint Flexibility

Gastrointestinal Motility Disorders

(5) Immunological Disorders

DISEASES WHERE VAT HAS NOT YET BEEN ATTEMPTED, BUT SHOULD WORK

Tourette's Syndrome

Asperger Syndrome

Attention Deficit-Hyperactivity Disorder (ADHD)

Obsessive-Compulsive Disorder

Intermittent Explosive Disorder

Post-Traumatic Stress Disorder

Cardiac Tissue Scarring after Heart Attacks

Nephropathy

Concluding remarks

PREFACE

Before reading this chapter, there are several themes one must keep in mind as they read the information presented inside:

(1) The progress or avenues of research done or the amount of information known in these various disease or disorder states varies considerably. In some diseases (i.e. atherosclerosis), a lot is known about the disease and how it develops. In several mental diseases (e.g., autism and attention deficit hyperactivity disorder), there is a lot of published research that unfortunately contributed little to our current understanding of the disease or disorder. In some disease states, new technologies have given incredible insight on one disease but have not yet been applied or failed to give useful information in other disease states. Unfortunately, a lot of well-constructed research that gives negative results is not published because preventing it is not deemed as important for enhancing widespread knowledge in a positive manner.

(2) With some disorders or diseases, pharmacological intervention has been very successful (e.g., hypertension, diabetes). In many cases, pharmacology is less effective, and with some diseases, the use of drugs has been ineffective. In many situations, the use of some pharmaceutical drugs (e.g., anticancer chemotherapeutics or immunosuppressants) induces many side effects (e.g., anticancer chemotherapy or immunosuppressants), some of which cause problems that can be worse than the disease itself.

(3) In diseases with poor pharmacological effectiveness, or whose research is not well funded and is thus largely immature, there is a wide array of research quality that exists. Much of this array is populated with low-budget (often non-funded) exploratory studies to evaluate non-pharmacological technologies on historically drug-resistant diseases. A significant amount of these studies are done by individuals not trained or interested in running properly controlled research. Also, because these disorders are not properly understood, the experimental system may not be designed properly, or the critical data may not be measured correctly or at all, making the results even more questionable.

To distinguish the quality and reliability of these results, these terms are often applied to particular findings:

(a) the terms “scientific” or “clinical” are often applied to research that is done in a controlled format, has been reviewed by professional peers, and is deemed worthy of dissemination to the scientific, clinical, or therapeutic community.

(b) the term “anecdotal” tends to refer to preliminary or exploratory results, with few or no experimental controls. Yet, it is well described and its results are understood by professionals. Standing alone, anecdotal results are not considered rigorously reliable by the professional community, because the observation could be explained by an unrelated phenomenon. However, because results are presented and can be reviewed, repeated, or criticized, anecdotal results can be a good jumping-off point for further research.

(c) “testimonials” are subjective observations about specific experimental, therapeutic, or clinical situations. There is often no explanation about how a study was done, no measurements or ability to evaluate or reproduce the result, and no knowledge if an

ailment was properly diagnosed or understood. Almost uniformly, these are nonscientific studies and are not relied upon by professional therapists or clinicians.

One needs to appreciate the level of research done with VAT on a particular disease or disorder to ensure that a claim that is made by individual therapists will most likely be seen by any other therapist. **Especially with less researched diseases, claims made by some therapists may not turn out to be seen by others.** However, to shine a positive light on this critical evaluation, it should be noted that even the best and most useful and applicable research begins with non scientific observations that evolve into fully rigorous strongly-relied-upon knowledge. Immature fields can show great promise.

(4) Easily understood or briefly summarized research is often repeated either by citation or (worse and more commonly) by being blindly copied word-for-word on many websites, often without citing the source of the research. For example, a passage on the website for the United States Center for Disease Control and Prevention (CDC) described a list of the most commonly prescribed drugs involved in subsequent overdose (<http://www.cdc.gov/drugoverdose/epidemic/index.html>). This list was repeated almost verbatim on several other websites (see <https://teenchallenge.cc/prescription-painkiller-overdose-epidemic-in-us/>; <http://faith-seeking-understanding.org/tag/opioids-and-benzodiazepines/>; <http://www.healthunits.com/understanding-the-epidemic-of-drug-overdose/>; <http://www.proactivepartners.us/monthly-tips/>; <http://www.colorado.gov/cs/Satellite?blobcol=urldata&blobheadername1=Content-Disposition&blobheadername2=Content-Type&blobheadervalue1=inline%3B+filename%3D%222015+Prescription+Drugs+and+Driving.pdf%22&blobheadervalue2=application%2Fpdf&blobkey=id&blobtable=MungoBlobs&blobwhere=1252060079857&ssbinary=true>), many of which are operated by public health groups. Another passage from the CDC defining and briefly describing diabetes (<http://www.cdc.gov/diabetes/basics/diabetes.html>) is copied word-for-word in an even larger number of health-oriented websites (e.g., <http://www.globalhealth.gov/global-health-topics/non-communicable-diseases/diabetes.html>; <http://www.achd.net/factsheet/diabetes.html>; <http://www.hispanichealth.info/diabetes>; <http://www.chhs.com/diabetes-are-you-at-risk/>; <http://livewellsiouxfalls.org/feel-well/physical-health/diabetes>; <http://www.awarenessmatters.net/newsandevents.html>; <http://northeastinternalmedicine.com/index.php?page=diabetic-teaching>). Copying passages blindly (known as plagiarism in research and educational circles) is often done to convey an appearance of being informed, or to alleviate a fear of restating facts incorrectly using one's own words. In some cases the copying is done by third parties (those preparing websites, for example) who do not know or care about performing this action. Just because a result is repeated by a large number of websites does not mean it is a well-studied or well-agreed-upon phenomenon.

(5) Easily understood or briefly summarized research is over-represented in non-professional Internet searches. This over-representation is amplified by the ease of disseminating and obtaining information through the Internet. Because it is time-consuming and expensive to publish research in trade journals (and because most studies of alternative medicine are not looked at favorably by

professional scientists and clinicians that review for most biomedical journals), many researchers default to disseminating their work on their own websites. There is little copyright protection enforcement on the Internet, allowing these results to get duplicated easily elsewhere. Also, individual websites can appear and disappear, sometimes taking important information with them. This is an increasing problem even with many recent “open-access” online journals, whose stated purposes are rapid dissemination of information.

(6) We generally assume that VAT is optimally applied by the therapists or researchers on their patients when results are presented or published. Significant training in VAT is **required** to enable its optimized therapeutic potential, **especially** when one wants to use it privately as a self-help tool in the absence of a therapist. Particular frequencies from 30-120 Hz are optimal for various diseases, and a frequency that is optimal for one disease may not be optimal for another disease or disorder. The duration of treatment and the power of acoustic energy used can also vary from one person to another. For most published studies, the treatment regimen is usually uniform for all patients for scientific control purposes. However, for individuals undergoing private therapy, the conditions used may differ considerably from scientific conditions, and need to be determined **in conjunction with a trained professional vibroacoustic therapist**.

INTRODUCTION

Many disorders (e.g., attention deficit hyperactivity disorder, addiction and dependence, multiple sclerosis, hypertension, cystic fibrosis, chronic pain, and fibromyalgia) are not effectively treated with pharmaceutical agents. As a consequence, there are a large number of patients whose quality of life is worsened due to secondary side effects from medications, or who are frustrated and feel powerless with the absence of better pharmacological avenues for treatment. An over-prescription and/or mis-prescription of ineffective drugs to offset common conditions like chronic pain, stress and anxiety has led to an increase in preventable death high enough to worry the Center for Diseases Control and Prevention (see <http://www.cdc.gov/drugoverdose/epidemic/>). Non-pharmacological interventions should be pursued in these cases to reduce the usage of ineffective and potentially dangerous drugs.

One of these interventions can be imagined by Reflecting on life and society, one can and appreciate appreciating that low-frequency acoustic energy is beneficial. For example, people who speak in lower-frequency tones are generally more pleasant to listen to, and their voice carries better in most environments. Also, many meditation mantras involved in mental and physical relaxation employ low-frequency vocalizations. Third, some animals such as smaller felines (domestic cats, cougars, and leopards) and guinea pigs make low-frequency purring noises when they are relaxed or content; these purrs may help to spread a friendly mood. It has been noted that cats also make purring noises when injured, traumatized or when under duress or pain (such as when birthing kittens); perhaps purring in this instance is a mental and instinctive attempt to alleviate physical or mental trauma.

To the outsider, Internet searches suggest lead one to believe that VAT has been used for a large number of diseases, as stated in the websites of many companies and therapists that offer VAT generally state. However, we found that **for many of the diseases mentioned by these websites, no clinical, or peer-reviewed research data have been published on the Internet or in trade journals.** Some of the missing data is from non-Internet sources or was disseminated only locally. Only when the results were digitally duplicated and posted on the Internet did they become widely available. In many cases where developed and properly structured research is absent, a clinician, therapist, or end-user states their observations or preliminary studies on the web, and these observations are copied and repeated by many other websites, especially those selling Vibroacoustic devices, often mixed together as if they were equally well studied. To differentiate diseases rigorously studied with VAT from those that were only preliminarily explored, we subdivide this chapter into two sections: 1) diseases for which **published research is open access and easy to find, critique or repeat**, and 2) diseases for which **no objective data is available for review.** When opposing data is available, the opposing data are mentioned and discussed, if enough physiological information is available to explain both sides of the data.

Before we continue we must distinguish Vibroacoustic therapy from vibration therapy, as these terms are confused or used interchangeably even by some practitioners in their fields. In more precise terms, we must differentiate the use of acoustic wave energy from the use of rhythmic physical distensions (where the generation of acoustic waves is not accounted). This is important because whole-body vibration (also known as vibration therapy) is also used as a modality to accelerate healing; , improve bone density and musculo-skeletal stability, and promote fitness. Vibrations, like acoustics, are defined in terms of cycles of sinusoidal activity per second. However, vibrations result in physical distentions due to direct contact with an oscillating object (whose force of acceleration is often quantified as a multiple of the force of gravity). However, vibro-acoustics result in vibrations due to sound energy transmitted at a distance from the generating source (usually quantified as the power of sound, in decibels, although this is rarely reported). Although we restrict our discussion to those therapies that use only VAT, some of the benefits of vibration therapy may be due to acoustic energy because many vibrating devices (such as massage chairs, sonic agitators, and mechanical toothbrushes) generate acoustic energy.

We must also differentiate music therapy (that can employ VAT) from VAT. In its purest form, VAT uses only select frequencies between 30 and 120 Hz (often, a single tone) that is detected primarily throughout the body (the ear poorly detects those frequencies) and may relax the body in a more subconscious fashion. On the other hand, music therapy relies on music (more technically, pseudo-stochastic polyphonic sounds) detected by the cochlea within the inner ear, and transmitted to the conscious brain for interpretation. To further complicate matters, music can be transmitted directly to the ears and/or be transmitted through subwoofer speakers called transducers embedded within a mattress to be felt by the whole body, including the ears. Results obtained using music therapy are more complicated to interpret than results obtained with VAT. First, music is interpreted by the brain in different ways by different people, For example, what is relaxing to some may be neutral, motivational, or distressful to others. Also, what may be perceived as relaxing or invigorating

music (often described as the emotional response) may actually activate the sympathetic instead of the parasympathetic nervous system (often described as the physiological response). This can cause music to antagonize the effectiveness of VAT in some patients. The mis-correlation between the emotional and physiological response is even more commonly observed in the mentally handicapped, in which the emotional response may not be interpreted correctly due to the inability of the handicapped to elicit an appropriate emotional response. Nevertheless, in most patients who are “in tune with their bodies” (in which music has similar physiological and emotional effects), combining music therapy and VAT often improves relaxation as well as stress-induced conditions more than using either method in isolation.

As we summarize the various preliminary or completed studies done on the effects of VAT on various diseases, one will notice several observations that repeat themselves frequently in various disease states.

(1) One of the most universally observed effects of whole-body VAT is the initiation of the relaxation state in patients. Mental relaxation, accompanied by propensity to sleep, muscle relaxation, lowered heart rate, respiratory rate, and blood pressure are frequently observed as a consequence of attaining the relaxation state. The elimination of stress may underlie many of the positive effects of VAT on other diseases.

(2) Like a properly functioning computer, the human brain has neuronal circuits that fire at appropriate times to accomplish various basic and complicated mental functions. Many mental diseases are characterized by inappropriate neuronal firing. In contrast, during mental relaxation, neuronal firing tends to be synchronous and cycles with lower frequency than when one’s mind is active. The rhythmic acoustics of VAT may help synchronize locally discordant processes as well as overall brain activity. In many mental disorders (addiction, OCD, ADHD, pain tolerance, insomnia), there is an abundance of improper and excessive firing of specific cerebral neuronal pathways; employing VAT may reduce the severity of these diseases. Currently, cognitive behavioral therapy (CBT) is equally or even more effective than pharmacological intervention for many of these diseases. VAT could be used to make CBT more effective, as behavioral therapy would be more effective if one’s mind is at ease, more motivated, or more attentive. Additionally, biofeedback (self-induced relaxation to counter stress) may be more effectively induced after a VAT session.

(3) Wounds are physical injuries to tissues caused either by microbial infection (e.g., bed sores, strep throat, or dysentery), by a malfunctioning physiological process (autoimmune disease, cystic fibrosis) or by excessive physical processes (broken bones, pulled muscles, strains, and sprains). Wound repair goes through a three-phase process: (1) catabolic activity (e.g., recruitment of macrophages, granulocytes and lymphocytes, immune system identification and destruction of known infective agents, breakdown of compromised tissue, autophagy and/or necrosis), (2) cessation of catabolic activity and initiation of debris removal (phagocytosis, lymphatic processing) and identification (antigen presentation at a downstream lymph node), and (3) tissue reconstruction (recruitment of tissue-specific stem cells, endothelial cells, monocytes, mesenchymal stem cells, and fibroblasts).

If the cells being recruited to the site of injury are not immediately present, they must arrive there through the cardiovascular system. Increased cellular circulation is of utmost importance in the resolution of injuries, and technologies that promote the circulation of cells should accelerate the healing of tissues. This is especially important in specialized tissues, where scar tissue often takes the place of functional tissue if the rebuilding process takes too long. This can result in reduced strength and flexibility (in muscle tissue), hindered eyesight, decreased lung capacity, or reduced functional output (of the kidneys, endocrine glands, or nerve transmission and interconnections).

However, the timing of treatment of injuries with VAT is important. If VAT is used during the first phase of wound repair (during active immunity and tissue destruction), tissue damage could be worsened by the immune system because the circulation of damaging cells would be improved. VAT should not to be used if there is an active immune condition happening (such as an infection, an inflammatory attack or a very recent decrease in function caused by rheumatoid arthritis or multiple sclerosis). On the other hand, use of VAT during the tissue-rebuilding phase could improve or accelerate tissue rebuilding; this could reduce the amount of scarring that accompanies degenerative conditions resulting from incomplete or improper regeneration of the tissue.

Thus, VAT when used at the right time may help a variety of diseases in which wound resolution is inhibited, for example: (a) chronic bed sores, diabetes, psoriasis, (b) GI tract healing after chronic bowel disorder, Crohn's disease, or gastric ulcers, (c) joint healing during rheumatoid arthritis, (d) nerve healing during multiple sclerosis or myasthenia gravis, and (e) improved organ function after scarring caused by ischemia from a heart attack, a stroke, or cardiovascular shock.

(4) Degenerative and autoimmune diseases are chronic disorders in which tissues are irreversibly destroyed as increasingly incomplete healing occurs with chronically repeated tissue damage. Initially, the body appears to fully recover, but with successive attacks, it becomes obvious that a degenerative state progressively develops with each attack. Within the context of the three-phase model for tissue attack and recovery, the degenerative state could arise from:

- an inability for properly specialized tissue to be integrated incorporated during tissue rebuilding, forcing rebuilding using an improper "default" formula
- increasing time to heal and/or increased fibrosis after repeated attacks in the same area, and
- the prevention of immune inhibition after repeated attacks in the same location.

The use of VAT to accelerate wound healing after an attack could reduce the amount of fibrosis that would otherwise occur and decrease the onset of degenerative disease.

(5) Many of the maladies mentioned in this chapter often co-present, most especially a depressed or anxious mental state with a chronic or degenerative syndrome (e.g., hypertension and chronic stress, or depression with advanced multiple sclerosis). Often, the physical disease will precipitate a mental disease (induced by the stress over the situation). It is entirely conceivable that an improvement in one malady will result in an improved overall wellness that may benefit the other condition.

Common pathways to alleviate disease symptoms

Many diseases have superficially similar properties or pathologies, even if the details among diseases are distinct. For the purposes of this chapter, we will subdivide the diseases helped by VAT into several categories. Note that some diseases could fall under more than one category (e.g., scarring of heart tissue after an ischemic event, a heart attack that leads to reduced heart function and decreased cardiovascular function, or a metabolic disorder precipitating high blood pressure and insulin resistance).

The categories are as follows:

- (1) neurological maladies
- (2) circulatory disorders, such as hypertension and edema
- (3) degenerative disorders
- (4) physical movement disorders
- (5) immunological disorders

DISEASES WHERE VAT WAS ATTEMPTED

(1) Neurological Maladies

Rett Syndrome

Rett syndrome is a dominant X-linked genetic mental disorder initiated by a spontaneous germline mutation of a gene encoding a protein called methyl CpG binding protein 2 (MECP2) [1]. It predominantly affects females, with an incidence of 1:10000. Males afflicted with Rett syndrome rarely survive beyond the first few months of life. Females (that are almost always heterozygous) survive because half the cells in their body express only the mutant protein, while the other half express only the fully functional protein.

The protein binds regions of DNA designed to silence large portions of the genome as well as control the activation of other parts of the genome [1]. Its malfunction results in the improper expression of many genes (or repression of other genes); this leads to neuronal malfunction and the appearance of mental deficiencies within the first few years of life, such as inability to speak, problems controlling one's arms and legs, seizures, incontinence, aberrant breathing patterns, among others [2].

It has been observed that there is considerable stress associated with Rett syndrome, consistent with significant activation of the sympathetic nervous system [3]. In addition, music has been observed to calm those afflicted from Rett syndrome and suffering a bout of stress or anxiety [4]. A combination of music and low-frequency tones has been utilized in several studies to see if this combination would alleviate symptoms of Rett syndrome. Most studies use both music therapy and VAT, and found that VAT further reduced breathing abnormalities and anxious emotions that already were lowered by the use of relaxing music. However, because facial expressions and emotional outputs do not consistently correspond with sympathetic or parasympathetic activation in Rett syndrome patients [5], a more thorough study followed, which that examined both unconscious outputs of sympathetic and parasympathetic activation and emotional outputs in response to VAT, music therapy, or a combination of the two [4]. VAT induced parasympathetic activation in more patients than did music alone or in combination with VAT. However, a significant fraction of Rett patients did not respond to VAT, and a larger fraction reacted counterintuitively to music therapy. It is thought that disrupted mental function in those affected by Rett syndrome prevents music or VAT from achieving a stable or consistent effect.

Autism Spectrum Disorders (ASDs)

ASDs include not only autism, but also Asperger syndrome and pervasive developmental disorder, not otherwise specified (PDD-NOS) [6]. The differences among the diagnoses for each disorder lie in which psychological or psychosocial deficiencies are observed. Autism (the most commonly diagnosed of the ASDs) displays defects in social development and interaction, defects in verbal and nonverbal communication, restricted interests and repeated behaviors. People afflicted with Asperger syndrome differ from those suffering from autism in that verbal communication and general cognitive development is normal. Symptoms of PDD-NOS are similar to those of autism except that all of autism's symptoms are not observed in PDD-NOS.

The causes of ASDs are not established, although the 4:1 male-female ratio of autistic children, and strong inheritance of autism in some cases, suggests that there is likely to be a genetic component [6]. Activation of the immune system within the fetal brain (due to a maternal infection that crosses the placenta) is hypothesized, and immune activation within the brain has been seen in many autistic patients [7]. Other environmental factors have been linked as well.

In a significant number of autistic patients, anxiety and sleeplessness have been noticed, and hyper-activation of the sympathetic nervous system has been noted [8]. This suggests that VAT, known to alleviate symptoms of insomnia and anxiety, may help alleviate some symptoms of autism, even if only temporarily.

In one study studying autistic adults exhibiting a wide variety of autistic behaviors, low-frequency music transmitted through a specialized chair reduced tendencies to exhibit self-injurious behaviors, and increased interpreted expressions of security and safety [9]. Two earlier studies was comprised case-history style reports of 4-6 autistic children who had all been previously treated with low-frequency music VAT. Generally, a more relaxed mental state was observed, with the children

enjoying the treatment. In some children, improved mental concentration, cooperation, eye contact, and response to skin contact was observed

(<http://stepone.jimdo.com/app/download/170725403/VAT+Autism+Research+Summary+Presentation.pdf?t=1209744820>; <https://sites.google.com/site/olavskillefrequencylibrary/a-study-of-vibroacoustic-and-autism>). In both these studies, the use of pure tones alone was discouraged due to the unsettling nature of pure tones and combined with a lack of music on the autistic patients' mental states.

Parkinson's Disease

Also known as parkinsonism, it is characterized by the death of dopamine-secreting neurons in the substantia nigra, found within the midbrain [10]. This results in specific failures in motor function, such as shaking, muscle rigidity, and difficulty with walking; eventually, dementia, sleep disorders, and emotional problems occur in many Parkinson's patients. The precise cause of Parkinsonism is not known; however, genetic susceptibility is demonstrated in a small number of cases, and is suspected in a larger number of patients.

It was a search for non-pharmacological treatments for Parkinson's in the late nineteenth century that led to the first use of vibration therapy and the eventual development of VAT [11]. There is much anecdotal evidence that vibration therapy temporarily alleviates some of the aberrant or hindered muscular movements. However, recently, a thorough study was done in which a 40 Hz sound pulse was used on several Parkinson's patients [12]. There was marked improvement in several parameters in which Parkinson's patients give hindered responses. These included decreased rigidity, decreased tremors, increased peg-in-board insertion and removal speed, and increased walking step length. Part of this effect is undoubtedly due to a known effect of VAT in decreasing muscle spasms.

Spastic Cerebral Palsy

Cerebral palsy is characterized by the appearance of movement disorders in early childhood, and that remain for life, usually due to damage of the brain during prenatal or perinatal development [13]. It affects between 0.25% and 0.4% of children worldwide. The most common type of cerebral palsy is spastic in nature, meaning that there is prolonged contraction of muscles (also known as high muscle tone). This leads to hindrances with coordinated muscle movements such as balance and walking. A significant number of those suffering from cerebral palsy also have problems with sensory perception, cognitive ability, or may suffer from seizures.

The causes of cerebral palsy are not yet firmly established, but seem to occur during pregnancy or during or just after childbirth [13;14]. Environmental factors appear to be most common, such as premature or underweight birth, metal poisoning, infection with cytomegalovirus or

Rubella (members of the TORCH infections that can devastate fetal health in pregnancies) either during pregnancy or just after birth, or head trauma. Maternal vaccinations before pregnancy (especially against rubella) can reduce the incidence of cerebral palsy. A small percentage of cerebral palsy cases appears to have a genetic component [15].

Olav Skille himself observed that during VAT treatment (using 40 Hz or 60 Hz tones), muscle spasms are reduced in children and adults suffering from cerebral palsy [16;17]. This effect is one of the most well-established results of VAT treatment. The reduction in muscle tone led to increases in the joint flexibility and range of movement (especially when coupled with physical therapy). Skille posted a report on the Internet about one highly functioning patient who was treated over 100 times over a five-year period, and showed dramatic improvement in his condition (bowel control, posture, mental attitude, reading skill, facial recognition) when coupled with other therapeutic modalities (http://www.academia.edu/9619588/Single_case_study_of_Longitudinal_effect_of_Vibro_Acoustic_therapy_on_one_adult_patient_with_Cerebral_Palsy). In another study, VAT combined with music-acoustic therapy improved muscle relaxation and flexibility more than music-acoustic therapy alone [18]; VAT also decreased systolic blood pressure in most patients slightly [19]. Another published report shows that a group of children treated once a week for 12 weeks at 40 Hz for 20 minutes exhibited improved overall and coordinated motor functions, especially when their starting debilitation levels was severe [20].

Mental Depression

Depression (more specifically called major depressive disorder) is classified as a neurological disorder characterized by a persistent downtrodden mood, a lack of motivation, and an inability to gain pleasure from pleasurable situations. Children may act irritably instead of acting depressed. Most cases are diagnosed by a psychiatrist. There is a genetic susceptibility to develop depression, although a number of environmental factors can also precipitate depression in a person. Half of those suffering from depression are also suffering from chronic anxiety attacks or chronic pain; in these cases, it is possible that the anxiety or pain precipitated the mental depression. About 4-5% of the world's population suffers from clinical depression; incidences tend to be higher in more developed countries, possibly, but this may be due to improved societal observation and diagnosis of individuals (https://en.wikipedia.org/wiki/Major_depressive_disorder).

Treatment involves CBT or interpersonal therapy and the use of antidepressant drugs. Notably, the use of drugs is not effective in most cases, or needs a long trial-and-error period to obtain the right concoction or dosage, which may lose effectiveness in the future.

The fact that VAT reduces stress-induced symptoms (that are the result of or that cause depression in some cases), and that VAT can cause feelings of mental relaxation and comfort, suggested that VAT may help alleviate the symptoms of clinical depression. In one study, the use of 40 Hz sinusoidal tones (30 minutes a day for the five weekdays of two weeks) resulted in a decrease in excessive sleep, and a decrease in many depression and sadness symptoms in a geriatric population [21]. Given this, it is not surprising that VAT in combination with other psychiatric

procedures (electrotherapy and visual aides) greatly improved symptoms of clinical depression in most patients [22]. Vibroacoustic music improved depression symptoms in about half of the 19 patients of an NIH-sanctioned study (<http://www.theisonmethod.com/pdf/NIHstudytranscript.pdf>), although the influence of the placebo effect was not accounted.

Dementia

Dementia is broadly defined as the noticeable loss of cognitive function (<http://www.alz.org/dementia/types-of-dementia.asp>). Like many other mental diseases mentioned in this chapter, genetic susceptibility as well as environmental factors are thought to precipitate dementia. The most common and famous type of dementia, Alzheimer's disease, has a strong heritability, and generally has a very uniform set of deficiencies (short-term memory loss, language problems, social withdrawal) and neuropathologies (amyloid plaques and fiber tangles) from patient to patient. Other types of dementia include vascular (ischemia and stroke-related), Lewy body, and frontotemporal dementia. Some cases of dementia are caused by cerebral infections (third-stage syphilis, Creutzfeldt-Jakob disease, subacute sclerosing panencephalitis, or chronic Lyme's disease) or cancer (glioma, lymphoma). A few are caused by nutritional or hormonal deficiency (notably hypothyroidism or vitamin B₁₂ deficiency); dementia in these few are usually fully reversed with proper hormone treatment or vitamin supplementation.

The pathophysiology of dementia is not well understood, but the loss of neurons, their associated protective cells, or their interconnections are uniformly involved. About 5% of the worldwide population is expected to develop some form of dementia by age 65; the percentage increases with increasing age. Except for dementia caused by thyroid or vitamin deficiency, or by bacterial infection, dementia is incurable, and most treatments are geared toward either slowing the degeneration, or easing the discomfort of the patient or the stress felt by his/her caretaker.

VAT has been used to relieve the symptoms of dementia, and helps to improve the standard of life of the afflicted. Most Vibroacoustic therapists state similar claims but post very few scientific or objective results. One report has been published in which VAT was used eight times over the course of two weeks on elderly in nursing homes (most of which are presumably suffering from dementia). In this report, improvements in symptoms of depression were observed, and patients were awake for longer periods of daytime [21]; however, no improvement in cognitive function was observed and there was no reduction in other symptoms of dementia during the two-week treatment session. Although there is no evidence that VAT reverses neurodegeneration or improves neuron interconnectivity (of importance in storing and retrieving memories), there is an initial research study where VAT (in the presence of a neuro-hormone called nerve growth factor) stimulates neuron division and interconnection in tissue culture [23].

Addiction and Dependence

Addiction is defined as a compulsion to partake in a particular behavior that leads to a rewarding, pleasurable feeling. Dependence, on the other hand, is the exhibition of a compulsive behavior to prevent one from experiencing unpleasant or punishing feelings (such as psychological drug withdrawal, chronic stress, anxiety, or pain). Dependence thus fundamentally differs from addiction in that addiction involves receiving a reward, while dependency involves avoiding a punishment (<https://en.wikipedia.org/wiki/Addiction>). There are situations (especially with the chronic abuse of addictive substances) that addiction evolves into dependence, especially once physiological adaptations take hold, and experiencing symptoms of withdrawal becomes the negative reinforcement for the repeated behavior.

The symptoms and properties of addiction and dependence resemble those of Tourette's syndrome or OCD; however, there are some important differences. Unlike those who suffer from OCD and display addictive tendencies, a traumatic event usually does not precipitate addiction in those susceptible to addiction and dependence. The exhibited compulsive behavior or tic in OCD and Tourette's syndrome does not produce a reward response or pleasurable feeling, aside from relieving the stress of resisting the urge to perform the compulsion or tic. Although addiction or dependence results in someone performing chronically repeated behavior, addictions frequently adapt such that the reward or pleasure is lessened after performing a current behavior, compelling the person to perform the behavior more frequently or perform more extreme versions of the behavior; this differs from Tourette's and OCD in that the stimulus causing the tic or the compulsive behavior generally does not evolve.

The behavior exhibited in addiction or dependence can range from drug, alcohol and caffeine use (in which the personality change in response to taking the drug is the reward), eating, sexual activity, gambling, shopping, and video games, to socially positive behaviors such as work or exercise. For some people, the need to receive the reward is so compelling that psychological or social problems develop as a result of the errant behavior. The rates of addiction vary depending on the nature of the addiction. The rates may be dependent on the fraction of the population that normally practice and enjoy the behavior without succumbing to addiction: exercise [24], sex, and gambling addiction rates range from 2-4% of the U.S. population (http://www.aamft.org/iMIS15/AAMFT/Content/consumer_updates/sexual_addiction.aspx; <http://www.livestrong.com/article/119442-gambling-addiction-stats/>); addiction rates for substance abuse range from 6-8% (<https://www.drugabuse.gov/publications/drugfacts/nationwide-trends>); video game addiction rates were 9-10% (<http://www.addictions.com/video-games/alarming-video-game-addiction-statistics/>), and food addiction rates vary by diagnosis criteria, but may be as high as 20% [25].

Because of the reward or punishment/withdrawal aspect of addiction or dependence, it was not a surprise that a distinct set of genes that are not normally implicated in neural control were involved in the control of addiction. A splice variant of the FosB gene called Δ FosB (that is co-expressed with the short-lived FosB transcription factor) produces low levels of a long-lived transcription factor that, when induced multiple times (especially areas of the brain involved in motivation, reinforcement and

reward, such as the nucleus accumbens) changes the firing patterns of the cortical reward pathways [25]. However, mutations of the FosB gene are not frequently seen (mutations that would favor the expression of Δ FosB were expected). Although disposition to addictive or dependent behavior is an inherited trait in at about half of diagnosed situations, no single gene or groups of genes have yet been identified. Social situations like peer pressure, psychological situations like trauma, or physical situations like chronic pain are thought to initiate addictions or dependencies in the other half of people.

Because of the persistent competition between feeling pleasure and avoiding mental discomfort, treatment of addiction and dependency has always been problematic. Treatment of substance abuse generally involves pharmacological agents that alleviate the negative withdrawal symptoms, combined with behavioral therapy designed to combat the urge to succumb to addiction or dependency to feel a reward or avoid discomfort (<https://www.drugabuse.gov/publications/drugfacts/treatment-approaches-drug-addiction>). Some successes have been noted with electrostimulation of the reward pathway zones in the brain (https://en.wikipedia.org/wiki/Cranial_electrotherapy_stimulation).

Many therapists report that they used VAT to alleviate the compulsions and cravings that lead to addiction. In these attestments, VAT has been used by itself, or in combination with music. Very few of these involve more than a subjective assessment of the subject or present any sort of objective data. There is a report published in 2005 about the use of VAT (with music) to improve psychotherapy to combat addictive urges in four young Finnish adults [26].

Metabolic Syndrome

Metabolic syndrome is classified primarily but not exclusively by excessive obesity, especially around the lower torso (<http://www.mayoclinic.org/diseases-conditions/metabolic-syndrome/basics/definition/con-20027243>), most often in the absence of any overt eating disorder such as bulimia nervosa or binge eating disorder. It is currently the most prevalent medical issue facing the world, with an incidence of 34%. However, recent research into obesity, feeding disorders, and nutrition and dietetics are revealing that the causes of metabolic syndrome is farare more complicated than simply being sedentary, having poor diet, or eating too much, though these remain major factors.

The surge in the incidence of metabolic syndrome in the world's developed countries (especially among youth) within the last hundred years is associated with the development of inexpensively manufactured food, improvements in mass distribution, the development of food preservatives that increase the shelf life of specific foods, and the mass production of inexpensive food designed to trigger pleasure responses (snack food or junk food). All of these factors caused shifts in diet, especially among those in developed countries whose budgets are too tight to afford food prepared by older, more "organic" or "green" technologies, which are economically more

expensive to bring to market. Another factor is a shift in labor practices – as industrialization spreads through a culture, manually-intensive jobs are replaced with less intensive jobs, so that the average person expends less energy each day in the workplace

(https://www.idf.org/sites/default/files/attachments/article_410_en.pdf). However, metabolic syndrome existed long before food technologies developed and manual labor decreased (rate estimates vary from 4-10% at that time, but were not explicitly measured). So other causes need to be considered, such as: hereditary and genetic, autoimmune or autoinflammatory, food addiction/dependency, stress, endocrine function, and biochemistry.

Metabolic syndrome, by definition, is diagnosed by a series of clinical observations that are mostly but not completely interrelated

(http://www.heart.org/HEARTORG/Conditions/More/MetabolicSyndrome/About-Metabolic-Syndrome_UCM_301920_Article.jsp). Interestingly, many medical associations have their own standards for defining those afflicted with metabolic syndrome

(https://en.wikipedia.org/wiki/Metabolic_syndrome); this is due to that fact that obesity is a major risk factor for insulin resistance/diabetes, cardiovascular disease or failure, hypertension, and atherosclerosis -- the latter three of which tend to be present together in people whether they are overweight or not. The clinical observations are: blood pressure levels greater than (130-140)/(80-90) mm Hg, raised triglyceride levels (1.6-2.0 mM), reduced high density lipoprotein-associated cholesterol (< 1 mM), waist circumference greater than 38-41” in males and 31-35” in females, and fasting glucose levels of > 100-110 mg/dL (or 5.6-6.1 mM). Not all need to be seen for metabolic disorder to be diagnosed; in fact a fraction of people who suffer from metabolic syndrome are not overweight!

As alluded to above, the metabolic syndrome may develop in people by mechanisms other than improper eating habits. Note that for nearly all of these, a correlation but not a cause-and-effect relationship has been observed. The presence of large levels of inflammatory proteins such as interleukin-6 or C-reactive protein in those suffering from metabolic syndrome suggest that there may be an autoinflammatory or systemic inflammatory component [27]. Chronic stress (and chronic activation of the hypothalamic-pituitary-adrenal cortex axis) is thought to promote metabolic syndrome [28], especially when the stress leads to changes in eating behaviors. People with bipolar disorders or schizoaffective disorders are at increased risk to develop metabolic disorder [29]. Also, people suffering from metabolic disorder have excess levels of organic metabolic acids and intermediary lipid oxidation products, indicating a poor oxidative metabolic activity [30]; these also could be indicators of a metabolism that is simply trying to get rid of excessive amounts of sugar in the bloodstream.

There is also evidence that over-activation of the endocannabinoid pathway (either by ingestion of tetrahydrocannabinols or endocannabinoids, or by excessive production of endocannabinoids) predisposes one to metabolic syndrome [31]. Speaking colloquially, if one succumbs too frequently to the “munchies” after getting high, it can lead to poor dieting habits. In a number of cases, a dependence on or an addiction to food or to eating makes one highly susceptible to developing metabolic syndrome.

Many different modalities have been attempted to reverse metabolic syndrome. Nearly all of them are focused on combating obesity, while reversing hypercholesterolemia, hyperglycemia and hypertension are subordinate goals (<http://www.nhlbi.nih.gov/health/health-topics/topics/ms/treatment>). To combat obesity and prediabetes, a change in diet and the introduction of a regular daily exercise program are most commonly prescribed, while pharmaceutical intervention is used to combat hypertension, hypercholesterolemia, and hyperglycemia. In some cases, the combination of pharmaceutical, exercise, and dietetic intervention can have synergistic effects. Nevertheless, these treatments fail to permanently reverse weight gain in a large fraction of cases, especially once exercise, pharmaceutical, or dietetic changes are discontinued. In these cases, treatments based on psychological triggers for the development of metabolic disorder are pursued and combined with encouragement to continue the dietetic and exercise regimens [32]. These triggers can include eating disorders, stress- or trauma-induced eating, depression, boredom, or ignorance about proper diet. Success has been seen with CBT and incorporation of new positive habits that help one achieve the relaxation response.

Many therapists have indicated (without scientific evidence) that VAT helps fight obesity. The most likely mechanism is the VAT helps to manage stressful reactions to situations that would ordinarily lead one to eat improperly. If someone is eating improperly because of a food addiction or dependency, then VAT may be additively beneficial due to its ability to lower addictive urges to succumb to food addiction or dependence impulses. One study used VAT with overweight people [33], but the purpose was not to directly control eating habits; rather, it was used to reduce social anxiety and stress from peer pressure .

Anxiety and Fear-Based Disorders

Here we cover frequent or chronic anxiety, anxiety disorder, fears and phobias, anxiety attacks or panic attacks. The overlapping theme common to all these psychological problems is the development of a highly stressed mindset with a negative outlook (the emotion) in response to an external environmental event, and the initiation of socially unproductive or even negative behaviors to escape the stressing event (https://en.wikipedia.org/wiki/Anxiety_disorder). Anxiety and fear are differentiated based on whether the environmental event is current or present (fear) or if the threatening event is expected to happen (anxiety). Most people feel anxious or become afraid from time to time, but are able to manage and resolve their own emotional response to the situation, reacting with an appropriately measured response. An inability to manage the anxiety or fear or to control the response to the stressor, especially on a frequent basis, indicates the development of an anxiety disorder. In many anxiety disorders, one observes compensatory behaviors to avoid the stressors, such as staying home to avoid social situations, or opening a window to overcome agoraphobia. Sometimes, a physiological response accompanies the anxiety or phobia. If this response becomes debilitating (e.g., shortness of breath, rapid heartbeat, muscle tension or cramping, and fainting), then medical intervention can become necessary.

The causes of developing anxiety disorders are still largely unproven, although it is clear that one must experience certain situations negatively to develop the disorder. Between 15-20% of people in developed nations suffer from anxiety disorders (https://en.wikipedia.org/wiki/Anxiety_disorder). There may be a hereditary component, but so far the only gene implicated in the predisposition to anxiety disorders is a gene called plexin-A2, that is involved in axon deflection from a zone during its migration. A stressful childhood during brain development is also a risk factor for anxiety disorders. Those with a tendency to not react properly to situations (bipolar, depressive, or personality disorders) are also at increased risk of developing an anxiety disorder.

Current widely-available treatments for anxiety are CBT, psychotherapy, and pharmaceutical intervention (http://www.nimh.nih.gov/health/topics/anxiety-disorders/index.shtml#part_145337). Currently used anxiolytics are neurotransmitter reuptake inhibitors, antidepressants and benzodiazepines such as Xanax. A combination of pharmaceutical intervention and psychological therapy is most effective and treats most cases in which no other disorders are not also present.

Because of the stress associated with experiencing the situations that leads to “flight responses”, VAT has been tested as a modality to alleviate the stress and help reduce the overreaction to the stressor (http://www.invenzone.com/research_papers/the-physioacoustic-method-in-the-treatment-of-the-psychic-anxiety-427136855; http://www.vibroacoustictherapy.com/documents/Nurses_Ease_Pain_in_Cancer_Center_with_Music.pdf). Several therapists have claimed in published studies that subjecting those suffering anxiety or panic attacks to VAT or VAT with music therapy (known as physioacoustic therapy) relieves the severity of the anxious feelings, the tendencies to overreact, and the frequency of anxiety attacks [22;33]. An increased communication between the patient and the therapist after VAT indicated that social or therapy anxiety may be effectively combated with VAT. Note that there are no studies of those afflicted with anxiety disorders being treated while they are undergoing the anxiety attack; treatment is geared toward psychological maintenance and for mental strengthening to fight the next attack. Selected numbers of patients not diagnosed with anxiety disorders were also tested for lowered feeling of anxiety after treatment; about half showed reduced symptoms of anxiety after VAT treatment in an NIH-sanctioned study (<http://www.theisonmethod.com/pdf/NIHstudytranscript.pdf>).

Chronic Pain

Pain is generally defined as an unpleasant sensation that elicits a stressful emotion (https://en.wikipedia.org/wiki/Chronic_pain). These sensations and emotions usually are realized after some sort of injury (physical, immunological, chemical, or thermal) occurs to the body tissues. All people feel acute (less than a month) or subacute (lasting from one to three months) pain several times in their lives. However, when a specific pain lasts far longer than the situation that brought about the pain has resolved itself, or if the situation causing the pain fails to be resolved (the time frame for this threshold is three to six months), then chronic pain is diagnosed. Several types of

chronic pain are defined. In nociceptive pain, nerve endings found in any tissues are stimulated in any tissue due to thermal, physical, or chemical means. Nociceptive pain can be subdivided into visceral pain (affecting organs within the trunk), deep somatic pain (affecting the musculoskeletal system or blood vessels), or superficial somatic pain (affecting the skin). In neuropathic pain, the somatosensory nervous system itself is damaged to some extent (e.g., pinched nerve, virus reactivation, limb amputation). Psychogenic pain is initiated or aggravated by mental activity (behavioral, emotional or psychological). Breakthrough pain is a sporadic but acute surge in intensity of the same type of chronic pain a patient is suffering from. It is common in those who have cancer, especially if cancer is the cause of the chronic pain.

The incidence of chronic pain varies considerably by research reports, but averages about 20-30% of the adult population (http://iasp.files.cms-plus.com/Content/ContentFolders/Publications2/PainClinicalUpdates/Archives/PCU03-2_1390265045864_38.pdf). Treatment of chronic pain has traditionally and initially involved pharmaceutical intervention. Pharmaceutical agents include anesthetics (that reversibly dull the sensations that cause pain) and analgesics (that inhibit the pain but do not remove the pain-causing sensation). Importantly, very few cases of chronic pain are permanently managed with drugs alone. When primary pharmaceutical management fails, different pharmaceutical avenues can be taken (e.g., the use of antidepressants or anticonvulsants with neuropathic pain); however, it is becoming accepted that some pain is resistant to long-term pharmacological intervention, and alternate therapies are needed to manage the pain and improve the quality of life. Thankfully, some alternative methods can be highly effective (<https://www.nlm.nih.gov/medlineplus/magazine/issues/spring11/articles/spring11pg5-6.html>). These include psychological avenues, like CBT, to help build up a cognitive resistance to pain. Based on observations that some people are insensitive to pain due to central nervous system damage or congenital somatosensory neuropathies, deep brain stimulation has been attempted to relieve pain sensitivity, but is generally considered an esoteric therapy with too few people sufficiently experienced to perform the technique safely to make it commonplace.

Because chronic pain is almost always associated with considerable stress caused by the persistent unpleasant feelings, VAT has been used by many therapists as a tool (possibly by relieving the stress associated with chronic pain) to more effectively manage the pain. Pain relief (whether by reducing pain or by more effective pain management) is an important first step in lowering the number of often-ineffective pharmaceutical medicines being used, especially because the side effects often remain when the analgesic or anesthetic effects are neutralized by the body's adaptive mechanisms. Countless anecdotal reports exist in the literature (including one performed at the NIH; <http://www.theisonmethod.com/pdf/NIHstudytranscript.pdf>) and on the Internet that support these claims. Several circumstances that caused pain that were more easily managed with VAT (with or without music) include: post-operative therapy, lower back pain, shoulder and neck pain, fibromyalgia-associated pain, musculo-skeletal pain, menstrual pain, intestinal-based pain, and polyarthritis, among others. In limited cases (probably those in which nerves are physically pinched), VAT may help directly relieve the pain due to its ability to agitate liquids and semi-solid structures.

The physioacoustic method and devices emanating low-frequency sound are FDA-approved methods and devices to relieve pain (<http://www.botanicamedicines.com.au/node/196>).

Stress, Including Chronic Stress and Stress Disorders

Stress is the mental state and associated physiological responses that accompany the recognition of a situation called a stressor that is challenging, threatening, or dangerous (https://en.wikipedia.org/wiki/Chronic_stress). Thus the initiation of a stress response requires cerebral activity. A person or animal responds to this situation by eliciting a psychological response, a neurological response, and a hormonal response. This three-pronged stress response is absolutely vital to physiological function, as it is crucial to have additional sources and proper channeling of energy when encountered with situations that we may not necessarily be able to smoothly manage so that we have the energy to escape and divert energy from non-vital functions. While the mechanisms underlying the psychological response are still being researched, the biochemical signals of the stress response underlying the neurological and endocrinological responses are well understood.

Biochemical and physiological distinctions allow us to distinguish acute stress and frequent or chronic stress. In these cases, combating the stress response is the primary concern. Also, researchers have identified conditions where stress is not being properly managed by an individual; instead of the stress being managed within a few minutes or a few hours, it is still being felt for days or weeks (from an acute event) or even months (from a chronic or frequent event) afterward. The cause of failed stress management is most often psychological; however, the failure to deal with stress usually results in the development of secondary psychological problems (e.g., anxiety over re-experiencing the stressor, fear of the stressor, social avoidance or dissociation, clinical depression, feeding disorder, and loss of attention or memory formation). Thus, the disease is instead classified based on the secondary psychoses. Examples of these are: generalized anxiety disorders and trauma-induced stress disorders, phobias, avoidance and dissociation disorders, stimulus or arousal disorders, and stress-associated amnesia.

The psychological response to stress involves the classic “fight or flight” decision and any associated behaviors, especially those that alleviate the stressor. The parts of the brain involved in generating the psychological stress response are the hypothalamus (mind-body interface), the amygdala (emotional response and management), the hippocampus (memory formation and comparison), and the prefrontal cortex (decision making and memory storage) [34]. These behaviors generally encompass fear and anxiety, and eventually offset the psychological stress. Because the stress response involves not only the mind but the body as well, the psychological response also involves the activation of the sympathetic nervous system (the neurological pathways mentioned above and the activation of the endocrinological response).

The neurological response involves the subconscious activation of the sympathetic nervous system (https://en.wikipedia.org/wiki/Sympathetic_nervous_system). This response controls many organ functions, including: (1) increased heart rate and respiratory rate, (2) dilation of the pupils (3) suppression of immune cell functions, (4) reduced gastrointestinal activity, (5) increased blood pressure via arterial and arteriolar smooth muscle constriction, and (6) direct release of norepinephrine or epinephrine into the circulatory system by stimulation of the medullary adrenal glands. Note that only the last effect specifically results in hormone release into the general circulation. It Hormone release and the blood vessel constriction are not reversed by parasympathetic nervous system activation.

The endocrinological response involves a three-organ system and its associated hormones, altogether called the hypothalamic-pituitary-adrenal (HPA) axis (https://en.wikipedia.org/wiki/Hypothalamic%E2%80%93pituitary%E2%80%93adrenal_axis). The hypothalamus is the principal point in the central nervous system where the central nervous system strongly interfaces with the endocrine system. Once the hypothalamus is activated by endocrinological stress signals and/or psychological stress signals, two distinct signals (a hormone called corticotropin releasing hormone, CRH, and neurons releasing antidiuretic hormone, ADH) are initiated that target the anterior pituitary gland; both signals are necessary to activate the stress functions of the pituitary gland. When stimulated by both signals, adrenocorticotropic hormone (ACTH) is released into the pituitary capillary bed that drains into the general blood stream. The cortex of the adrenal gland is the major target for ACTH, while the kidneys are the primary targets of ADH. By promoting water reabsorption within the kidneys, ADH prevents blood pressure from decreasing. In response to ACTH stimulation, cholesterol retention and intracellular transport within the adrenal cortex are accelerated, and enzymes responsible for glucocorticoid synthesis from cholesterol are produced. Once synthesized, glucocorticoids travel throughout the body by way of the bloodstream bound to carrier proteins; they are released from the binding proteins to exert their effects throughout the body. Glucocorticoids exhibit several activities as part of the systemic stress response: (1) glucose and glycogen synthesis from fatty acids and amino acids in the liver, (2) triglyceride hydrolysis from adipocytes to generate fatty acids, (3) reduced glucose intake by all tissues except for the heart and brain, (4) inhibit immune function, (5) feedback inhibition of the HPA axis by inhibiting CRH and ACTH synthesis and release, and (6) inhibition of the gonadal steroid production. Under chronic conditions, unregulated cortisol levels can lead to impaired concentration and memory retention due to ongoing brain remodeling being influenced by persistent cortisol activity.

Each pathway is distinct and is regulated in different ways. The psychological and neurological pathways are rapidly triggered (effects within minutes), while the endocrinological pathway becomes active only after a significant delay (effects within an hour). Thus, the biochemistry and therefore the most effective treatment of a short stress episode (primarily neurological) will be distinct from that of a long-term stress episode (hormonal as well as neurological). Inhibition of the psychological pathway is quite complicated (relying not only on environmental changes but also on cognitive function), but is essential to turn off the entire stress response, because inhibition of the neurological and endocrinological stress responses is never complete. The changes in most target

organ functions by the neurological pathway (mediated by the activation of the sympathetic nervous system) can be reversed by the activation of the parasympathetic nervous system; notably, parasympathetic activity cannot turn off the adrenaline or noradrenaline release initiated by sympathetic nervous activity at the adrenal glands, nor can parasympathetic activity reverse arterial constriction. Cortisol is an effective inhibitor of CRH and ACTH release by the hypothalamus and the pituitary gland, but this inhibition takes some time to take effect, and there is no single inhibitor of corticosteroid activity. One can imagine that repeated stressing situations could result in abnormally high cortisol levels even if sympathetic activity was repeatedly normalized. In addition, the HPA axis and the sympathetic nervous system can each be activated independently by other stimuli. For example, rapid changes in posture activate the sympathetic nervous system (<http://www.ndrf.org/ans.html>). This is part of the reason why VAT, which inhibits sympathetic nervous system activity, can promote dizzy spells after rapid changes in posture. Some inflammatory hormones (most notably IL-1) and hypoglycemic conditions can activate the HPA axis (https://en.wikipedia.org/wiki/Hypothalamic%E2%80%93pituitary%E2%80%93adrenal_axis). Furthermore, both the sympathetic nervous system and the HPA axis have variable activity during the day or night, and exhibit diurnal cycles. To maintain homeostasis and normal health, both pathways exhibit at least some activity at every instant. Because the central nervous system is the primary activator of all three stress responses, reduction of the stressor itself is the most effective way to silence the pathways; this is part of the reason why combinations of CBT to help cope with chronic stress and initiation of relaxation therapies are combined to help treat those suffering from chronic stress.

There are many published studies and subjective observations indicating that VAT helps to offset the effects of acute or chronic stress on an individual. Because VAT has both parasympathetic anti-sympathetic nerve-activating effects, and cognitive relaxation activities, it is reasonable to see how VAT, by inhibiting the activation of the sympathetic nervous system and by calming one's mind, can help to lower the intensity of the psychological and neurological stress responses, especially in those suffering from an acutely stressful situation or stress disorders. Note that long-term stress or frequent stress, due to cortisol levels arising from persistent endocrinological response activity, will not be quickly treated with VAT; however a prolonged treatment regimen (especially combined with CBT or exposure therapy to help one manage the frequency of stress events) may help manage high cortisol levels and reduce the effects of chronic stress on someone.

Insomnia and Sleeping Disorders

For most adults, six to seven hours of uninterrupted sleep (of which a part is deep sleep or REM sleep) are sufficient to refresh the brain and mind, rest the body, and feel sufficiently recharged with full mental capacity. Moreover, our circadian rhythms are set up to want to sleep after dark falls, and to want to wake as the sun rises. In fact, decreases and increases in cortisol levels at about dusk and dawn respectively promote the beginning and end of the sleep cycle. The levels of other

pituitary hormones (such as growth hormone) change at dawn and dusk to help promote timely sleep and waking cycles. However, over half adults in the U.S. fail to sleep for a sufficient time for a number of reasons. The failure to sleep properly is called insomnia

(<http://www.mayoclinic.org/diseases-conditions/insomnia/basics/definition/con-20024293>).

Chronically, insomnia promotes a number of symptoms reminiscent of chronic stress (e.g., irritability, increased blood pressure, decreased cognitive function, and weight gain).

Insomnia is usually diagnosed by questioning the patient, but diagnosis is best confirmed by electroencephalogram by the lack of whole-brain wave patterns consistent with sleep cycles and deep sleep progression as the patient sleeps (<http://www.webmd.com/sleep-disorders/guide/insomnia-symptoms-and-causes>). If no overlaying condition can be ascribed to the insomnia, it is classified as primary insomnia. Primary insomnia can precipitate other chronic stress-related physiological issues. If a dominant problem -- such as anxiety and stress disorders, chronic pain, or restless limb syndrome -- precipitated insomnia, the insomnia is classified as secondary. If insomnia and another disorder develop together, the insomnia is classified as comorbid.

There are a number of reasons why one suffers primary insomnia, either acutely or chronically (defined as nightly for more than a month). Excess tissues in the pharyngeal or laryngeal regions (e.g., adipose tissue in the obese that obstructs breathing while reclined, swollen tonsils from an infection, or an improperly positioned tongue) can promote breathing problems that force the brain to interrupt the brain's restoration cycle in order to restore proper oxygen levels in the blood; this situation is called apnea. Frequent nighttime urination also interrupts the sleep cycle.

Treatment of insomnia varies depending on the cause of the insomnia (<https://sleepfoundation.org/insomnia/content/treatment>). CBT is effective when a psychological issue is precipitating the insomnia, as relieving the primary physiological cause often consequently relieves the insomnia. Pharmacological agents can help with acute insomnia, but generally fail with chronic insomnia due to their dependency-promoting tendencies. Use of pharmacological agents that treat primary psychological or physiological agents can improve secondary insomnia if they are effective at lowering the primary medical problem.

One of the most universally observed effects of VAT is falling asleep during the treatment. Many therapists have mentioned that insomnia is lessened after treatment. How VAT improves insomnia can vary though from person to person. Relief of stress can help reverse symptoms of insomnia, improving overall physiological function; the insomnia itself can be reversed if it is stress-induced. A very recent study found that insomnia caused by fibromyalgia is greatly ameliorated after several weeks of VAT [35]. On the other hand, insomnia induced by physical factors (like sleep apnea caused by swollen tonsils or by excessive fatty tissue obstructing the trachea) is not likely to be helped by VAT.

Acute and Chronic Fatigue: A Disorder of Vitality?

Fatigue is defined as a subjective feeling of exhaustion that is often caused by a loss of energy, strength, or perceived vitality (e.g., after strenuous exercise or a long work day). Although it can be felt physically (as abnormally low muscle function), it is often described as a mental state (e.g., “I do not have the energy for that.” or “I am too tired to go shopping now.”). Wellness therapists often interpret fatigue as a lack of vitality (where vitality is the sensation of feeling a lot of physical energy and positive mental energy in oneself). In the absence of overriding medical issues (such as an infection, starvation, or generalized mental depression), fatigue will reverse itself quickly (e.g., recovery after exercise, or refreshment after a nap or quality sleep). If the fatigue does not resolve itself, or occurs frequently for a long period of time, the person is suffering from chronic fatigue (<http://www.mayoclinic.org/diseases-conditions/chronic-fatigue-syndrome/basics/definition/con-20022009>).

In standard Western medical practice, fatigue is classified as a symptom rather than an endpoint of a disease. This is because standard medicine cannot quantitatively ascertain vitality and by extension cannot measure fatigue. Although psychological questionnaires can gauge vitality and fatigue, no standard exists by which universal measurements for fatigue and vitality can be established. As a consequence, recurring or chronic fatigue is usually treated by identifying a physiological cause of the fatigue and treating the cause (autoimmune disease, cancer, anemia, fibromyalgia, endocrine disease, or chronic disease). However, in up to 3% of the population, an obvious cause of chronic fatigue cannot be definitively identified (https://en.wikipedia.org/wiki/Chronic_fatigue_syndrome). In this case, a “diagnosis” of chronic fatigue syndrome (CFS) is assigned by exclusion and by default.

There are published accounts of VAT lowering the symptoms of fatigue. However, because fatigue and vitality cannot be measured, these results are subjective at best. Many other therapists state subjectively that VAT results in their patients feeling less fatigued. Avigail Berg-Panitz believes that VAT optimizes the redistribution of energies for various mental and physical needs. Chronic stress and insomnia can cause feelings of fatigue in people; VAT may act by lowering stress and promoting refreshing sleep. It is commonly stated on the Internet that VAT is used to increase vitality. If fatigue is simply a lack of vitality, the reduction of fatigue by restoration of energy could be interpreted as an increase in vitality, and the mechanisms of restoring vitality and reducing fatigue by VAT will be highly similar if not identical.

Fibromyalgia

Fibromyalgia is a neuropsychiatric condition that affects 2-8% of the population (<http://www.mayoclinic.org/diseases-conditions/fibromyalgia/basics/definition/con-20019243>; <https://en.wikipedia.org/wiki/Fibromyalgia>). It is generally characterized by widespread perception of pain and an unusual sensitivity to pain in response to deep touch. In conjunction with an altered sensory response, many feel numbness and tingling in their extremities, muscle spasms, and stiffness in some joints. In some people, difficulties swallowing, urinating, or defecating are observed.

Due to the stressful nature of this disorder, those suffering fibromyalgia often present with depression or anxiety disorders. Many of the cognitive dysfunctions seen in fibromyalgia (e.g., memory formation problems, slower performance, inability to multi-task, and lowered attention span) are consistent with chronic stress-induced -- and especially corticosteroid-induced -- mental dysfunction. Interestingly, sympathetic nervous system activity tends to be hyperactive in those suffering from fibromyalgia compared to normal people.

How fibromyalgia develops in someone is unknown. There is a 7:1 female-to-male gender bias in developing fibromyalgia, implying a potential genetic role [35]. Environmental, neurological, and psychological factors may also play a role. Increased levels of inflammatory hormones are seen in the cerebral-spinal fluid in those suffering from fibromyalgia, suggesting that a neuroimmune imbalance may influence the disease. The chronic pain of fibromyalgia may occur as a result of discordant neurological cross-connections between the thalamus and the orbito-frontal cerebral cortex.

Based on the known effect of VAT to counteract sympathetic nervous system activity, relieve muscle spasms, and relieve stress and anxiety disorders, one would expect that VAT would be effective in reducing the symptoms of fibromyalgia. Indeed, a recent research report [35] shows that VAT treatment at 40 Hz effectively reduced the sensations of pain (some people were even able to reduce or stop using pain medications). VAT also reportedly improved sleep cycles, joint mobility, and cognitive function in a large number of patients. If the treatment is discontinued, however, the chronic pain returns in most of the patients.

Migraine Headaches

Migraines are a neurovascular disorder in which a particular series of events generally occurs that surrounds a long-lasting headache (<https://en.wikipedia.org/wiki/Migraine>):

- some sort of chronic stress, anxiety, depression, irritability lasting for 4-48 hours before the headache begins
- a visual, sensory or (uncommonly) auditory aura (a false sensation) occurs anywhere from 2 hours before the migraine begins to starting as the migraine happens
- the migraine itself, which usually occurs in only one hemisphere, presents itself with throbbing pain, and can precipitate nausea, vomiting, hypersensitivity to light, sound, or smells (migraines may last from 3 to 72 hours in most people), and
- the recovery phase in which afflicted people may feel a combination of fatigue, soreness around the site of the migraine, cognitive difficulties, and gastrointestinal issues.

The causes are not well known, but autonomic nervous signaling may play a role (<http://www.mayoclinic.org/diseases-conditions/migraine-headache/basics/causes/con-20026358>), and an inflammatory component suggests that blood-borne factors or the blood vessels themselves

may play a role [36]. Migraines affect almost 15% of the worldwide population, and show a 2:1 gender bias toward females.

Several Vibroacoustic therapists indicate that VAT may help lower the intensity of migraines; no research has been published. The most likely explanation of how VAT benefits is by promoting neuro-relaxing effects that may lower the first phase of the migraine.

Epilepsy

Epilepsy is a neurological disorder in which unregulated neural activity spreads from an initial area to encompass an entire hemisphere of the brain or sometimes the entire brain (<https://en.wikipedia.org/wiki/Epilepsy>). Electrical activity is synchronous throughout areas undergoing an epileptic attack. During this attack, the epileptic experiences anything from a minor motor or sensory aberration that is not self-realized and lasts only a few seconds to several minutes of uncontrolled movements of most muscles in the body (known as seizures) during which the epileptic is unconscious, and does not regain consciousness for a long time afterward. Although the causes for epilepsy are diverse (ranging from lack of oxygen during childbirth, head trauma, infections of the central nervous system like meningitis or encephalitis, stroke, drug or alcohol abuse, and even chronic vibroacoustic disease), no specific trigger can be definitively identified in two thirds of cases. There is evidence of a genetic susceptibility, however, defects in many genes can predispose one to epilepsy. Epilepsy affects about 1% of people worldwide, with higher incidences in developing countries.

Because, like earthquakes, the timing of the next attack cannot be predicted, treatment for epilepsy is long-term and frequent. Also for this reason, research on the use of VAT to treat epilepsy is scant. Tony Wigram states that VAT treatment does not promote the development of epilepsy in those who have previously suffered seizures (<http://www.soundbeam.co.uk/vibroacoustic/downloads/vat-procedure-booklet.pdf>). However, no mention is made that VAT helped those patients. Marco Karkkainen and Joji Mitsui stated that VAT alleviated epileptic symptoms as well as reduced EEG brainwave amplitudes, but provided no supporting data. Because of the tendency for VAT to promote overall cerebral synchronization, its use in epileptic patients is dissuaded by many. However, the fact that VAT also lowers EEG activity as part of the relaxation response supports the observation made by Wigram. VAT may be most useful when the neuro-electrical attack begins. At that stage, VAT may be able, through its ability to neuro-synchronize or normalize brain activity, to prevent the spread of the epileptic attack. However, independent reliable detection of this early stage of epilepsy is not currently possible, except with “seizure alert” dogs and cats that may detect the change in aura or body chemistry that precedes many half-brain or full-brain seizures. Even with these special animals, early detection may not be possible with all people.

(2) Disorders of the Circulatory System

Here we include diseases that are defects in liquid transport throughout the body. This includes not only the blood but also the interstitial fluids. Fluid moves throughout the body by two organ systems: the circulatory system is (aside from intentionally leaky capillaries) a closed system designed to move fluid rapidly throughout the body, while the lymphatic system returns fluid from the tissues through filters back into the general circulation. The circulatory system moves not only red blood cells but also immune system cells, hormones, food molecules and cellular waste throughout the body. The lymphatic system moves not only interstitial fluid but also large proteins, debris, fats for energy mobilization, and immune cells from areas where damage has occurred or where it has been cleaned up. Some of these immune cells travel to lymph nodes specifically to look for other immune cells that recognize foreign particles identical to the ones cleaned up by the immune cells at the damage site. We cover here two disorders of the cardiovascular system, one involving the arterial system, and one involving the lymphatic system.

Hypertension

Hypertension is defined as a chronically high blood pressure (<https://en.wikipedia.org/wiki/Hypertension>). Blood pressure is the force exerted by the blood on blood vessels along a particular part of the body (medically, it is exerted by the blood on the part of the arm constricted by a blood pressure cuff). Blood pressure varies on a second-by-second basis, but can also vary with longer durations (minute-to-minute from stressors, hourly with circadian rhythms, and daily, weekly, or longer with hormonal controls).

Every 0.7-1.2 seconds, the heart pushes an additional volume of blood into the arteries. This additional volume increases the blood pressure from the diastolic pressure to the systolic pressure. Between one heart output and the next, the blood exits the arteries by passing through the capillaries, and ; this relieves the pressure back to the diastolic pressure. (This is why blood pressure is measured as two numbers, based on blood passing through constriction at all moments and on blood passing through the constriction only with extra assistance from the heart).

Cerebral and nervous system control of blood pressure influences blood pressure on a minute-to-hourly basis, and occurs at two tissue systems: at blood vessels and at the kidney [37]. Most of the arterioles and arteries controlling blood flow through particular organ systems are sympathetically innervated; sparse innervation of most veins and lymphatic vessels are noticed as well. Upon activation of the sympathetic nervous system, smooth muscles lining arterioles and arteries feeding

the GI tract, the skin, liver, spleen, and kidneys are constricted, raising blood pressure in the process. In contrast, sympathetic nervous signaling dilates arterioles within skeletal muscle, the heart, lungs, and the head. Together, this channels excessive blood flow from organs not needed for rapid movement or consciousness toward organ systems that need increased energy and oxygenation to mount an effective fight-or-flight response. This response also helps redistribute blood quickly during posture changes or rapid movement and prevents a lack of blood flow or oxygenation changes to the brain that would cause dizzy spells. Noradrenaline release from the adrenal glands into the bloodstream not only prolongs the duration of the arterial vasoconstriction, but importantly initiates the constriction of venules and veins, neither of which are strongly innervated. Because veins and lymph vessels have valves to prevent backflow, this constriction helps return blood to the heart. Because 75% of total blood volume resides in the veins (only a low pressure system indirectly aided by muscular contractions pushes blood back to the heart), sympathetic-induced veno-constriction increases blood return to the heart by aiding the push of blood back to the heart. The kidneys are also influenced by sympathetic innervation and by noradrenaline in the bloodstream – both promote renin release and sodium reabsorption; renin begins the activation of a protein in the blood called angiotensin that is fully activated as it passes through the blood vessels of the lungs. The fully activated angiotensin (called All) promotes aldosterone release from the adrenal gland and promotes additional vasoconstriction throughout the body.

A second medium-term regulation of blood pressure occurs through the activation of the hormonal stress response through the HPA axis. Concerning blood pressure, the hypothalamus releases antidiuretic hormone (ADH) into the bloodstream. In addition to a minor effect on vasoconstriction, the major effect of ADH is water retention at the kidney. These changes usually last only while sympathetic activation is occurring, and end gradually after sympathetic activation ends; thus, nervous control of blood pressure only lasts for minutes to hours at most, usually lasting as long as the sympathetic stimulus is present. Retained water and sodium help to maintain elevated blood pressure.

Long-term regulations arise from the effects of aldosterone, a mineralocorticoid. Aldosterone, synthesized at the adrenal gland in response to All, acts at the kidney to reabsorb sodium. Unlike sympathetic activation and deactivation, induction of steroid hormone levels is slower, and removal of the steroid from the bloodstream is equally slow.

Nearly 30% of the U.S. adult population suffers from hypertension (<https://en.wikipedia.org/wiki/Hypertension>). There are many reasons why blood pressure would be chronically high. One could have naturally strong sympathetic nervous system activity or persistently activated hormonal stress activation. Arteriole tone is controlled by many factors, especially within the arteriole microenvironment. This tone can differ from person to person because of genetic factors. One could ingest a high salt diet. Irrespective of the cause, the treatment for hypertension generally involves diuretics (e.g., thiazides, calcium channel blockers, All inhibitors, adrenalin inhibitors, and inhibitors of All activation). These medications inhibit the inducers of increased blood pressure. Non-pharmacological avenues include diet modification, an exercise regimen, and limiting

exposure to stressful situations. If the hypertension is secondary (i.e., due to diabetes, hypothyroidism, or anxiety disorder), then treatment is often targeted to the primary disorder. Especially when the primary cause is neurological, CBT may be an important component.

VAT is known to decrease systolic and diastolic blood pressure and increase blood flow through the skin, in accordance with its anti-sympathetic or parasympathetic vasodilation effects [19;21;38;39]. These effects after a single treatment lasts for less than an hour or so. Only with prolonged treatment will additional and apparently sustained decreases be seen. These secondary decreases may be due to improvements in other conditions, such as hormonal stress-related responses. However, because many signaling pathways outside of stress and sympathetic activity control blood pressure, VAT will not strongly reverse blood pressure, and in some people, may not change blood pressure at all. Indeed, some people have seen no effect of VAT on blood pressure when treating a large number of people.

Edema

Edema is defined as a retention of interstitial fluid in tissues but not in the blood vessels themselves (<https://en.wikipedia.org/wiki/Edema>). Fluid enters the tissues from the bloodstream, but only at the arteriolar end of the capillary bed; fluid leaves the tissues at two places: the venular end of the capillary bed, and at the beginnings of the lymphatic capillary beds. Unlike capillary flow, which is pressure-fed, the lymphatic vessels, like veins, are drained by low pressure, with backflow prevented by the use of check valves. Either an increase in leakiness of the capillaries or an inhibition of lymphatic vessel flow can cause a fluid build-up in tissues. Edema is a proper physiological response when tissue damage occurs, and other cells need extra fluid volume in the tissues to move in the area to fight an infection, clean up debris, or rebuild tissues. However, unregulated edema can also occur under specific circumstances (<http://www.mayoclinic.org/diseases-conditions/edema/basics/causes/con-20033037>). Under sedentary and upright conditions (e.g., long vehicle rides or long office hours without breaks away from the desk) the lack of muscular movement prevents blood and fluid from returning to the heart when cardiovascular activity is not optimal or in those with low cardiac output. These fluids collect in the tissues, especially those located under the heart and close to the ground. Edema is frequent in those with low cardiac output, and can occur during a spreading infection when lymphadenitis or lymphedema occurs. In these cases, lymph nodes that normally collect and process the interstitial fluids swell up, forcing them to stop accepting drainage from the tissues. The backed-up lymph fluid then accumulates in infected tissues.

Edema caused by surgical procedures can be lessened after VAT [40]; it is possible (but not published) that other types of naturally-induced edema can be lessened by VAT. However, if the immune system is trying to cause localized edema in order to enter a site to fight an infection or tissue damage, reducing edema by VAT could slow the healing of the tissue in this instance.

(3) Degenerative Disorders

Degenerative disorders are characterized by a progressive loss in a given physiological function, and are usually associated with progressive pathology. Some of these progressive destructions could be due to:

- senescence (some cells within tissues can exhibit properties of “old age”, in which certain activities are intentionally slowed to prolong cellular survival, as cellular division is no longer possible in most cases);
- chronic autoimmune, autoinflammatory, or autoallergic conditions (repeated attacks of a tissue by the immune system followed by repeatedly incomplete tissue repair);
- genetic abnormalities (that affect the ability for a tissue to survive or be efficiently repaired); or
- improper response to tissue trauma (a response that can permanently alter tissue that was damaged by an indirect factor).

Cystic Fibrosis-Associated Diseases

Cystic fibrosis (CF) is a genetic disease that affects 1:3000 Caucasian children. In CF, a chloride transporter protein (called the cystic fibrosis transmembrane regulator protein or CFTR) is improperly constructed by cells (https://en.wikipedia.org/wiki/Cystic_fibrosis). CFTR, when functioning properly, allows chloride ions to pass in and out of cells. If CFTR is defective, chloride ions are retained within cells, and water that is normally co-secreted from exocrine gland ducts is instead retained. Consequently, the secreted sweat, sebae, lacrimal glands, or breast milk will be salty, dehydrated, and viscous (when glycogen is present).

This altered secretory medium is responsible for all of the disease associated with this genetic disorder (<https://www.cff.org/What-is-CF/About-Cystic-Fibrosis/>). Similar to skin secretions, internal secretions (e.g., salivary glands, pancreatic digestive, pancreatic hormonal, liver emulsifying, gall bladder emulsifying, tonsillar, upper respiratory mucosal, sinus mucosal, and gastrointestinal mucosal) are also excessively salty and viscous. This hyper-viscosity inhibits the secretory functions of these glands and ultimately inhibits nutrient absorption, mucosal immunity, and glucose homeostasis. The hyperviscosity also disrupts the lubricating nature of reproductive fluids, causing male sterility and promoting uterine infections in women. Of greatest pathological consequence, the secretion of excessively salty and viscous fluids in the lung alveoli disrupts lung surfactant and prevents proper oxygen exchange at the alveoli. This exudate is not cleared efficiently (even after profuse coughing), and promotes bacterial growth and chronic pneumonia in alveolar tissue. Countless cycles of infection and incomplete repair causes fibrotic tissues to build up in the lungs that inhibit lung function. A combination of chronic pneumonia and lung degeneration eventually leads to

an early death of those afflicted with most forms for CF (from 20 to over 50 years old depending on the severity of the disease).

Olav Skille himself observed that tri-weekly administration of VAT in those afflicted with CF resulted in less labored breathing and a reduced frequency of infections [16]. Two potential activities of VAT on helping CF-associated diseases come from promoting the migration of immune cells throughout the circulation to accelerate alveolar and secretory gland wound healing after infections, and from the agitation of viscous fluids in the alveoli.

Scarring after Strokes or Spinal Damage

Damage to the brain obviously can dramatically alter the quality of life. It is essential that a continuous and regular supply of nutrients and oxygen gas be available to cerebral tissue to sustain life. And it is equally essential that if damage were to occur to the brain or spinal cord, that repairs to these organs happen quickly and completely. Loss of brain tissue can lead to temporary or permanent loss of anything from coordinated motions (e.g., walking, speech, and eating with utensils), sensory perception, memory recollection, storage, or formation, to critical components or functions like personality, consciousness, and even control of organ function, without which death can occur [41]. Loss of spinal cord function can result in paralysis and loss of tactile perception.

The causes of many strokes surprisingly resemble the causes of heart attacks, in that a lack of blood flow to the organs occurs, causing a critical oxygen deprivation (<http://www.medicalnewstoday.com/articles/7624.php>). Stroke is defined as a loss of cerebral function caused by a lack of oxygen and nutrients to the brain. Most commonly, a blood clot or atherosclerotic plaque in carotid arteries that feed the brain precipitates a secondary clot in a smaller cerebral artery, resulting in blood loss in part of the brain. Nerve cell loss because of oxygen loss is not overtly destructive, but the oxidative burst that occurs after oxygen and nutrients rush back into the deprived tissues can permanently ruin the neural architecture, especially if the tissues supporting the neuronal circuits are not properly rebuilt. The proper repair of neuronal tissue after a stroke is an actively researched field, but most people end up with permanent cerebral damage to at least some degree. Fibrous scar tissue can be seen in regions of the brain affected by a stroke (https://en.wikipedia.org/wiki/Glial_scar), indicating that poor tissue repair underlies some of the long-term cerebral loss from a stroke.

VAT, by virtue of its ability to influence blood cell migration and accelerate wound repair, may play a role in improving the restoration of cerebral function. In one published manuscript, VAT improved the range of movement of a patient's shoulders after a period of recovery from a stroke [42]. However, the known effect of VAT on improving muscle motion and reducing muscle spasms may obscure its effect on restoring cerebral motor functionality after a stroke, and no studies have been done on whether non-motor restoration or ultra-fine motor control – which drive speech -- after a

stroke can be improved by VAT. The effects of VAT on restoring motor function after spinal cord injury have not yet been tested.

Liver Damage and Cirrhosis

The liver filters more blood measured by volume per amount of time than any other organ in the body. The liver filters components from the blood after blood passes through the digestive system. This blood enters the liver through the portal vein; particulates filtered out are either chemically destroyed or are retained within the liver. The filtering capacity of the liver depends on the proper functioning and sufficient numbers of liver macrophage cells called Kupffer cells.

Damage to the liver often occurs through the ingestion of too many poisons or toxins through the diet, or through exotoxins released by microbes that enter the intestines or the portal blood system (<http://www.webmd.com/digestive-disorders/understanding-cirrhosis-basic-information>). Alternatively, immune complexes can deposit in the liver and impede its function, especially if the complexes bind microbes that invaded the portal system. Normally the liver is efficient at restoring its structure due to the high concentration and activity of Kupffer cells, and the innate regenerative capacity of the liver. However, repeated or chronic damage can result in the formation of scar tissue by stellate cells. This scar tissue prevents optimal liver function and can lead to cirrhosis if enough of the liver is rendered nonfunctional through excessive widespread scar tissue formation.

Some therapists believe that VAT improves the repair of the liver and prolongs the onset of cirrhosis. This may occur through improved immune cell circulation that may allow monocytes to enter the liver and become Kupffer cells, or allow other stem cells to enter the liver and rebuild hepatic tissues faster or more effectively. One must ensure, however, that there is no chronic viral infection of the liver (e.g., CMV or hepatitis virus) that could be aggravated by VAT's ability to promote circulation of immune cells, either into or out of the injury site through the circulatory system.

Osteopenia and osteoporosis

Osteopenia is an underdiagnosed condition in which decreased bone anabolism (or increased bone catabolism) results in lowered bone mineral density (<http://www.webmd.com/osteoporosis/guide/what-is-osteoporosis-osteopenia>). Osteopenia is generally thought to be an intermediate condition leading toward osteoporosis, when bone breakage is observed; as such, osteopenic bone strength is sufficient for most activities. Robust bone strength and density (especially within load-bearing bones such as the femur, where most osteopenia research is focused) require frequent low-grade compression stresses (such as jogging and walking)

throughout the bone; conversely, a sedentary lifestyle or a lack of ground-contact exercises correlates with the onset of osteopenia.

Osteoporosis is diagnosed by a critical loss in bone mass, but is usually discovered after a bone breakage occurs under conditions that should not have been sufficient to break bones. The causes of osteoporosis are not established, but several factors can play a role, including:

- dietary factors (i.e., a chronic lack of calcium or phosphate in the diet)
- immune factors (i.e., macrophage-like cells are involved in breaking down and rebuilding bone tissue)
- a lack of physical activity, and
- menopause (i.e., estrogen helps to maintain bone density in women)

The vast majority of published research utilizes vibration therapy, in which physical motions from vibrating plates or surfaces are directly transferred to patients. Vibration therapy seems to result in improved bone density and consequentially improved ability to perform ground-contact exercises [43;44]. The use of VAT for 6 months did not affect bone density, but did result in lower levels of osteocalcin (an indicator of bone anabolism) and tartrate-resistant acid phosphatase 5b (thought to be a marker for bone catabolism at the time) [39].

(4) Physical Movement Disorders

Here we describe a group of disorders that are not caused by genetic, psychological, or social abnormalities. Anyone can suffer the following physiological problems.

Muscle Cramps

Almost everyone feels muscle cramps several times in their life. Normally muscle contraction is under the control of the somatic nervous system. When muscles contract, the two bones to which the opposite ends of the muscle are attached move toward each other. Under most normal circumstances, the contracted muscle tissue relaxes (this step requires energy), but the bones move back to their starting position when opposing muscles contract. When the muscle tissue cannot relax, and remains constricted, a cramp occurs, and pain is felt throughout that muscle (<https://en.wikipedia.org/wiki/Cramp>). Charlie horses, muscle spasms and muscle cramps all refer to the same muscle failure and concomitant pain.

For a muscle to work properly, there must be sufficient blood flow to the muscles, sufficient oxygenation, adequate glucose levels in the blood, a proper electrolyte balance, and enough ATP in the muscle cells. Therefore, it is not surprising that the following circumstances can trigger muscle cramps: low levels in the blood of potassium, calcium, magnesium or sodium, low blood osmolarity, dehydration, muscle overuse, pinched nerves, overheating of the muscle, insufficient stretching of the

muscle beforehand, or poor blood circulation (<http://www.webmd.com/pain-management/muscle-spasms-cramps-charley-horse>).

It has been demonstrated both clinically and by individual Vibroacoustic therapists that VAT reduces the duration and intensity of muscle spasms not only in those suffering from cerebral palsy and fibromyalgia [9;20;35], but also in those who are not suffering any overriding illness. Note that salt deficiency or ATP deficiency are not cured with VAT, and restoration of nutrients will still be needed. How VAT relieves muscle cramps is not obvious; however, one two theories can be advanced. Improved blood flow to a muscle group can provide sorely needed (pun not intended) nutrients or electrolytes. Alternatively, When when a muscle is constricted, myosin fibers are stuck to actin fibers within muscle cells. Normally, ATP allows the myosin to crawl back along the actin fibers to the starting position in which potential energy is stored in the muscle cell. Perhaps the introduction of acoustic energy agitates the structure and allows myosin to move along the actin fibers more easily when ATP is used to restore the constricted muscle.

Sports Injuries

It is common among athletes and manual laborers to overwork muscles and accidentally overflex a muscle due to an unusual circumstance. Tears to the muscular structure, to the tendon structure (that connects muscle tissue to bone tissue), or to the ligament structure (that interconnects bones) occur when overworking or overflexing a joint or overusing a particular movement. Soft tissue sports injuries are either sprains (that occur to ligaments; <https://en.wikipedia.org/wiki/Sprain>) or strains (that occur to tendons or muscles; https://en.wikipedia.org/wiki/Strain_%28injury%29), and can range in severity from mild (in which an over-stretch occurs and minor fiber tear may occur), moderate (where part of the tendon or ligament has ripped, or significant numbers of muscle fibers have torn), or severe (in which the tendon or ligament is badly separated or ripped from the bone or muscle, or the muscle fibers have separated from the muscle itself). Repairs from these injuries depend on the severity and can range from simple ice, heat, and mild compression to joint braces and invasive surgery, followed by extensive physical therapy. Especially when damage to the physical structure occurs, an inflammatory response is generally also observed. The response includes edema, increased bloodflow into the region, and pain. Sometimes our bodies initiate a spasm response occurs intentionally to prevent excessive joint movement. An inflammatory response within tendons is called tendonitis.

Direct impact onto muscles, tendons, or ligaments can cause injury as well. Most often, muscle tissue can be injured by multiple direct impacts or a single severe impact. In this case, the injury results in inflammation, redness of the impacted area, and edema within the local neighborhood. This sort of injury and immune response is called a contusion, commonly known as a bruise (<https://en.wikipedia.org/wiki/Bruise>). Most bruises are healed in the same way as a mild strain: ice or heat, and mild compression if necessary.

Because of the purported ability of VAT to accelerate the repair of tissue injuries by promoting blood flow in the area, to promote immune cell circulation, and to improve muscular range of motion, VAT is uniformly touted as a treatment to improve healing of sprains, strains, and bruises. However, only subjective supportive statements are found — no research is published to indicate that VAT is effective. Nevertheless, VAT should be researched for its ability to accelerate sprain, strain, or bruise repair, and to prevent scar tissue formation and allow for a more complete recovery from injury.

Reduced Joint Flexibility

Reduced joint flexibility is common among older adults and among those who have had repeated injury to a particular joint. From this point of view, it could be considered as a degenerative disorder caused by a failure to properly repair the repeatedly injured musculo-skeletal tissues. This degeneration is distinctive from other joint degenerative diseases like osteoarthritis or rheumatic arthritis, in which the inflammation is localized to the joints and synovial fluid respectively.

There are limited anecdotal cases of joint flexibility and mobility improving after many VAT sessions. The potential reasons for this are multiple, ranging from either more effective repair of an ongoing injury to improved muscle contractility, to improved bloodflow to the tissues, allowing that allows recruitment of more muscle groups to improve the strength behind the range of motion. Alternatively, improved repair of bone joints or joint cartilage may occur.

Gastrointestinal Motility Disorders

The muscles lining the stomach, small, and large intestines are not skeletal muscles but rather are smooth muscles (https://en.wikipedia.org/wiki/Gastrointestinal_physiology). Like skeletal muscles, smooth muscles are “loaded springs” that contract upon receiving a specific signal, and require energy in the form of ATP to relax back to its resting size. However, unlike skeletal muscles, there are no opposing muscles. Two different muscular motions commonly occur during intestinal digestion, and both are coordinated by the enteric nervous system. Directional movement coordinates a firing pattern to compress the intestines, thereby forcing its contents through the body (Imagine squeezing cookie dough out of a cookie dough container by moving a closed fist or few fingers down the length of the tube). Churning movements coordinates a firing pattern to convolute the intestines and force local pockets of chyme (held at bay by contracted smooth muscle on either side) to have their contents mixed about; this muscular motion is called segmentation. This circulates the contents throughout the local volume and optimizes nutrient contact with the intestinal walls for absorption (Imagine massaging marinade into a piece of meat sealed within a zip-lock bag).

Muscular movement in the stomach is more complicated (<http://www.vivo.colostate.edu/hbooks/pathphys/digestion/stomach/motility.html>), as allowances need to be made to accomplish the following:

- allow new food to enter the stomach without pushing acidic contents up into the esophagus
- allow acidified and digested food to enter the intestines without allowing undigested food to pass
- churning of food to ensure that stomach acids and enzymes thoroughly mix with food contents, and
- passing of food contents that cannot be digested within 1-3 hours

Nevertheless, smooth muscles coordinate all these activities using particular patterns of contractions.

Defects in any of these muscular behaviors result in a group of disorders called intestinal motility disorders or gastric motility disorders. Common anomalies that occur with intestinal motility disorders are constipation, excess intestinal gas formation or retention, localized intestinal bloating, gastric reflux or recurrent vomiting (the stomach will not empty its acidic contents into the intestines if the jejunum is full), or localized intestinal pain. The most common anomalies that occur during gastric motility disorders are premature or delayed dumping of digested food into the intestines (the first prevents us from getting all of our nutrients from our food; the second may destroy sensitive vitamins or essential biochemicals, promote vomiting, acid reflux, or ulcers).

Nearly everyone experiences some sort of gastrointestinal motility disorder at some point in their life. Constipation is more common as one gets older, especially if one is on diuretic medications. These are treated usually through dietary changes, such as eating more liquid foods, broths, eating less fibers or fibrous foods, or using laxatives to soften processed food as it passes through the intestines. Surgical intervention is done with more severe cases, although endoscopic procedures are becoming more common.

Therapists practicing VAT often recommend to patients that they go to the bathroom before treatment, because VAT -- through both its relaxing effect that promotes intestinal muscle movement and its ability to agitate fluids or semi-fluids (intestinal chyme can be considered to be a colloid or semi-fluid in the small intestines) -- can promote an urge to defecate. There are many subjective accounts of VAT being able to alleviate constipation in some cases. VAT has been used and to alleviate some of the pains associated with colic immobility. However, this only alleviates the symptoms, and does not reduce the causes of intestinal motility disorders, unless chronic stress or anxiety is causing intestinal disorders; in these cases, VAT may help lower stress-induced motility by reducing stress in individuals.

(5) Immunological Disorders

Due to advances in biotechnology and molecular immunology and pathology, it is becoming apparent that a large number of diseases are aggravated or caused by the immune system that is inappropriately reacting within the human body. Altogether, more than 10-15% of the population will end up suffering a disease or disorder aggravated by the immune system.

The immune system can be subdivided into two arms. The innate immune system recognizes chemical patterns seen in many types of infections (e.g., bacterial or fungal surface structures, viral nucleic acids or protein coats, and cell membrane lipids uniquely found in protozoa or mycobacteria). The innate immune system also attacks cells that do not identify as being part of our body. Protein complexes called major histocompatibility complexes, or MHC, display parts of all proteins found in our cells to the immune system, whether those proteins are our own proteins or come from infectious organisms. Both the MHC and the “self” proteins comprise our “identification system” to the immune system. The adaptive immune system, on the other hand, looks for specific chemical signatures via iterative “education” (i.e., ignoring cells expressing MHC and “self” proteins and attacking cells expressing MHC and “nonself” proteins). The adaptive immune system, through antibodies, can also recognize “nonself” proteins that are not within individual cells but are instead found in our tissues or in the blood. Defects in the adaptive immune system underlie most immunological disorders.

Immunological disorders can be classified into autoimmune or allergic disorders (<https://www.nlm.nih.gov/medlineplus/ency/article/000816.htm>; http://www.asthmaallergywhat.com/Allergic_Immunologic_Disorders.htm). The distinction lies in how the immune system destroys tissues or hinders physiological function. In the first, cells that recognize “nonself” and are selected and expanded, somehow begin to recognize a closely related “self” protein. This often occurs because the closely-related “self” protein is only sparsely found in the body and was not included in the self/nonself education of the adaptive immune system. The immune system then attacks the tissues either by attacking the “self” cells themselves, or by depositing antibodies onto the “self” tissues. In both cases, the targeted tissues are destroyed by the immune system. This can repeatedly occur and explains why a lot of historically degenerative disorders -- like chronic obstructive pulmonary disease (COPD), Type I diabetes, multiple sclerosis, myasthenia gravis, Crohn’s disease, and inflammatory bowel syndrome (IBS), among many others -- are now also known as autoimmune diseases. Allergic disorders (e.g., asthma, eczema, contact dermatitis, and anaphylactic shock, among others) are most often initiated when particular “nonself” antigens bind to cells called mast cells. This binding triggers a very rapid response in which, through various chemicals and protein hormones (histamine, prostaglandins, leukotrienes, and cytokines, among others) vasoconstriction, edema and hypotension rapidly occur. Normally this occurs in a small region (non venomous bite, contact dermatitis, exotoxins from pathogens) and is not fatal. However, if the allergen contact occurs through a large area (e.g., swallowing food allergens, intravenous antibiotics, or venom allergens entering the bloodstream), then the rapid allergic response can be fatal, especially when shock from prolonged low blood pressure or asphyxiation from throat constriction occurs.

Another group of immune diseases includes those in which microbes interfere with proper wound repair. The immune system may function properly (bed sores; <http://www.mayoclinic.org/diseases-conditions/bedsores/basics/symptoms/con-20030848>) or may not function properly (psoriasis; <https://en.wikipedia.org/wiki/Psoriasis>), but a perpetual infection is preventing a helpful degree of tissue healing and rebuilding. In psoriasis, the antimicrobial immune system within the skin is frequently activated (due to microbial flora perpetually present in the skin), and an autoimmune component may also exist. In bedsores, an ongoing infection is not effectively combated with the immune system. As a consequence, the immune system is always fighting an infection and preventing tissue healing from occurring. The chronic open sore can become necrotic, or spread to deeper tissue and precipitate a systemic infection.

Many therapists state that VAT can be used to alleviate the symptoms of COPD, asthma, IBS, or multiple sclerosis; no detailed data are available on the Internet. Some effects may be through the alleviation of symptoms (e.g., improved breathing, sputum clearance, or better gas exchange with pulmonary disorders). However, the treatment of immune disorders by VAT can be tricky. In cases when the immune system is frequently activated, VAT may actually accelerate the immune response due to the improved cellular circulation through the blood by VAT, causing new immune cells to enter sites of infection. Therefore, if the body is actively fighting an infection, or if an immune response is known to be actively occurring, the use of VAT is highly discouraged. If the immune system is known to be deactivated, or is suppressed with immunosuppressants (like steroids), then VAT could actually be helpful by helping to recruit tissue-building cells to the injury site.

DISEASES WHERE VAT HAS NOT YET BEEN ATTEMPTED, BUT SHOULD WORK

Several diseases have not yet been researched with VAT to see if VAT improves the condition of the afflicted. Here we list several diseases, and indicate our rationale for why VAT should help.

Tourette's Syndrome

Tourette's syndrome is a mental disorder characterized by compulsions to exhibit acute, repeated, rapid, brief muscle movements called tics (http://www.ninds.nih.gov/disorders/tourette/detail_tourette.htm). Most tics involve muscles of movement but a small fraction exhibit the long-known stereotypical outbursts of vocal utterances. Fortunately, most of those afflicted with Tourette's exhibit only minor tics (throat clearing, eye blinking) that are not easily noticed by others in society. These ticks are most commonly observed in youth, and are generally not observed or are effectively self-managed in adults. Most of those afflicted with Tourette's (currently estimated at 0.4-4%) can resist these compulsions, but at the cost of increased stress and anxiety. Many "decompress" by secluding themselves to exhibit the tics in privacy, and consequently are undiagnosed. Tourette's has also been underdiagnosed due to its

misdiagnosis as obsessive-compulsive disorder (OCD) due to the compulsion to exhibit these motor behaviors.

There appears to be a strong genetic predisposition to pass Tourette's syndrome through families; however, the genetics of inheritance are complicated and no gene or family of genes has yet been implicated. Thus, a "nurture" environmental susceptibility component has been inferred to contribute to the genetic "nature" component. There is no medication that has proven effective in stopping the tics. However, because most people appear to self-manage the tics, there is little urgency in developing medications for a disease whose molecular physiological targets are unknown, especially because many broadly-acting neuro medications often exhibit side effects that may be more debilitating than Tourette's itself.

There are no studies of the use of VAT or even music or vibration therapy to treat Tourette's syndrome. This is a surprise and a shame as two components of this disease may be amenable to VAT: (1) a stress component that develops with prolonged suppression of the tics and (2) the errant neurological loop that underlies the tics could be normalized by pace-making activity. Based on VAT's effects on combating stress and normalizing overall cerebral brain patterns, VAT (when used regularly, especially when the afflicted are feeling stressed) should be able to lower the frequency of tics and the severity of tic expression.

Asperger Syndrome

Now considered to be a highly-functional form of autism (https://en.wikipedia.org/wiki/Asperger_syndrome), those suffering from Asperger syndrome show hyper-attention to specific topics (often exhibiting behaviors reminiscent of obsessive-compulsive disorder/OCD), and defects in social development and interaction due to their unwillingness to expand or change their focus. Asperger syndrome is likely to be underdiagnosed as many technical experts in their professional careers show similar hyper-focus and improper social skills, but are not actively assessed for mental deficiencies due to their success in their respective cognitive specializations.

Because cognitive development is more normal in those afflicted with Asperger's syndrome than with other ASDs, it is expected that VAT should be effective in alleviating symptoms of Asperger syndrome. The effectiveness of biofeedback training to treat Asperger syndrome, and the suspected ability of VAT to improve the effectiveness of biofeedback therapies, allow one to hypothesize that VAT will be an effective modality to treat Asperger syndrome. However, there are no studies reported yet of the use of VAT to ameliorate symptoms of Asperger syndrome. It is expected that the stress or anxiety of social interactions or being placed in uncomfortable situations will be lessened by long-term VAT, especially in combination with behavioral therapy and other promising treatments such as biofeedback.

Attention Deficit-Hyperactivity Disorder (ADHD)

ADHD is a neuropsychiatric developmental disorder in which there is insufficient ability to focus on performing a given task, or there is no inhibition to keep from changing to and performing an unrelated task (https://en.wikipedia.org/wiki/Attention_deficit_hyperactivity_disorder). Generally, it is diagnosed when children begin to be able to focus on tasks (at about age 6); those afflicted with ADHD continue to fail to maintain focus while their peers develop this ability. Although the cause is unknown, twin studies suggests a genetic component due to strong tendencies to inherit the disorder. Environmental and societal components may also influence its presentation in children. It is thought to affect between 1-7% of children (depending on the testing protocol). Although 1-5% of adults are diagnosed with ADHD, adults may be underdiagnosed due to their being able to compensate for this deficiency sufficiently to function normally in society and their career.

The most effective treatment utilizes a combination of counseling, medication, and behavioral therapy, although each of these greatly benefits only a small fraction of the afflicted. This may be due to an incomplete understanding of the factors causing ADHD. Complicating the issue, ADHD may co-present with other psychiatric issues like learning disabilities, anxiety disorders, sleep disorders, and mood or mal-conduct disorders.

The interface between ADHD and stress-related disorders suggests that VAT may be able to improve or overcome mental blockades imposed by ADHD. In addition, the ability for people to display improved attention after a VAT session provides a second line of support for VAT's potential. Interestingly, no published studies have yet been done with VAT (there are limited passages where VAT reduces symptoms of profound childhood ADHD, though no data is published), although successes have been noticed using music therapy.

Obsessive-Compulsive Disorder (OCD)

First, we must distinguish OCD from obsessive-compulsive personality disorder (OCPD) in which the affected focuses excessively on a task, often to the exclusion of noticing anything else in the environment (<http://www.nimh.nih.gov/health/topics/obsessive-compulsive-disorder-ocd/index.shtml>; https://en.wikipedia.org/wiki/Obsessive%20%93compulsive_personality_disorder). Unlike OCD, there is no specific stress or trauma that triggers the ultra-focused behavior. Because four times more people suffer from OCPD than from OCD, and because those who suffer from OCPD better integrate within society and are observed more frequently by society, the term "obsessive-compulsive" is confusedly applied to both mental states by the general public.

OCD is a chronic psychiatric disorder characterized by an overwhelming urge to perform specific behaviors in order to remove stressful or traumatic fears or images from one's thoughts. The most common obsessive thoughts are fear of contamination by dirt or germs, fear of making mistakes or being embarrassed, attaining order and perfection, or fear or trauma of a loss. This results in

common compulsive behaviors such as excessive hand washing or bathing, repeating checking locks or the completion of simple tasks, trivial arrangements of minutia, or collecting or hoarding, usually of invaluable or unnecessary items. In about half of those suffering OCD, an avoidance of particular social situations is done instead of performing an easily observed behavior.

OCD affects 1-2% of adults and children in the United States, and appear in most people before adulthood is reached. The causes are not known, but psycho-social triggers that can exacerbate a propensity to develop OCD include: abuse, illness, death or emotional loss, relationship problems, or changes at the home, work, or school. Biologically, defects in serotonin neurotransmission have been observed in patients of OCD, and a tendency to develop OCD appears to run in some families. Usually, OCD is treated with CBT and the use of antidepressants or antipsychotic drugs.

Those suffering from OCD generally understand that the thoughts or paranoia driving their compulsive behaviors are irrational or should not affect them so drastically. However, similar to those who suffer from Tourette's syndrome, they cannot help but perform these behaviors to alleviate the mental stress of the obsessive trigger, even knowing that the obsessive thoughts will return soon afterward. Alleviation of this stress with VAT could help lower the frequency of OCD attacks or the severity of the compulsive behaviors. Interestingly, no studies have been done in which VAT alone was used to alleviate the severity of frequency of OCD episodes. This is interesting given that VAT is effective in reducing the symptoms of anxiety in patients without OCD. However, VAT in combination with visualizations and electrotherapy results in significant improvements in anxiety and OCD.

Intermittent Explosive Disorder (IED)

IED is characterized as a behavioral disorder, in which a controlled and measured response to a stressful situation does not occur (https://en.wikipedia.org/wiki/Intermittent_explosive_disorder). It is classified as an excessive and inappropriate overreaction to a stressful or threatening situation, in which a tirade of violent feelings, thoughts, words, and actions are exhibited by those afflicted with IED. The over-response lasts for less than an hour, and the afflicted usually remembers the entire episode to the extent that anyone would remember behaving aggressively. Reminiscent of addiction and dependence, the patient initially feels relief (sometimes even pleasure) after the stressful situation passes that triggered the IED episode, though feelings of remorse occur afterward in most people. About 4-6% of the world's population is susceptible to IED, with males tending to experience IED more frequently than females.

It is not known what makes one susceptible to IED. Two major psychological factors are childhood familial abuse and repeated exposures to violent and traumatic situations. There is increased risk of IED when one also suffers from PTSD or addiction/dependence. Biochemically, a deficiency of serotonin production (possibly by a genetic defect in the tryptophan hydroxylase gene)

and release in the brain is associated with a greater risk of developing IED. A susceptibility to insulin or blood glucose dysregulation is also a risk factor for IED.

Because psychotropic medications (antidepressants, anti-anxiety medications, or mood stabilizers) have not been very successful in treating IED, the most effective treatment for IED has been CBT. The treatments revolve around developing focused self-analysis of the triggering situations and proper control of the outbursts from the situation. Because the first stage of the treatment is assisting the patient in developing an effective relaxation response, the use of VAT by itself or as part of a successful CBT regimen should be successful, especially in patients who are susceptible to IED due to an inability to mentally counter a stress response.

Post-Traumatic Stress Disorder (PTSD)

Post-traumatic stress disorder is a chronic anxiety disorder in which a traumatic memory or series of events triggers mental malaise, initiated by flashbacks, nightmares or uncontrollable thoughts, and accompanied by bouts of anxiety, paranoia, mental stress, social exclusion or avoidance, memory loss, insomnia, and depression (<http://www.nimh.nih.gov/health/topics/post-traumatic-stress-disorder-ptsd/index.shtml>). It is especially common among soldiers that experienced battle conditions, but can be observed among those affected by the loss of a home, a sexual or physical assault, childhood neglect or abuse, a terrorist attack, or kidnapping. PTSD also leaves one more susceptible to depression and suicide, drug or alcohol abuse, and eating disorders.

Distinctively, among mental stress-related diseases, there are rather low levels of cortisol in those afflicted with PTSD (https://en.wikipedia.org/wiki/Posttraumatic_stress_disorder). Further research revealed that there appears to be considerable deficiency in the HPA axis in those suffering from PTSD, such that stress hormones are not observed in high levels even though catecholamine (epinephrine and norepinephrine) activity that activates this axis is normal. A poor stress hormone response to a stressful situation may be an indication that the body is not properly responding to a stressful situation; this dysregulation may predispose someone to PTSD.

Treatment of PTSD has generally involved CBT, as no medications are effective enough or have been tested sufficiently to be proven safe for use. There is no published account of the use of VAT to treat PTSD, even though a number of sites advocate VAT to treat it, undoubtedly because the offsetting of stress and anxiety as well as the induction of mental calmness by VAT should help alleviate symptoms of PTSD.

Cardiac Tissue Scarring after Heart Attacks

Similar to damage to the brain after stroke, damage to the heart can certainly alter the quality of life. It is essential that a regular supply of nutrients and oxygen gas be available to cardiac tissue

to sustain life. And it is equally essential that if damage were to occur, that repairs to cardiac tissue happen quickly and completely. Loss of heart tissue can reduce cardiac function and initiate secondary cardiovascular problems (e.g., edema, poor venous return, or poor oxygenation of the blood).

The pathology of a heart attack starts with a lack of blood flow to cardiac tissue, causing a critical oxygen deprivation (<http://www.webmd.com/heart-disease/guide/heart-disease-heart-attacks>). Most heart attacks are caused by a blockage of blood flow (either by a blood clot or by atherosclerosis) in coronary arteries that feed the atria and the ventricles. Without blood flow and oxygenation, the heart stops pumping, and the rest of the body can no longer receive nutrients or oxygen. If heart function should be returned (by CPR or corrective surgery), the rush of blood (and by consequence, oxygen and nutrients) into the tissues can cause what is known as an oxidative burst. This burst will injure the tissues, and must be repaired for full function to be restored. Proper repair of heart tissue is difficult but is being actively researched. Most people end up with permanent damage to the cardiac muscular tissue to at least some degree. Improperly repaired heart tissue tends to be filled with noncontracting scar tissue that impedes overall cardiac contractility (https://en.wikipedia.org/wiki/Myocardial_scarring).

VAT, by virtue of its ability to influence blood cell migration and accelerate wound repair, may play a role in improving the restoration of cardiac function. Given the success of VAT with improving the restoration of motor functions after suffering a stroke, one would expect that contractile function of the heart should be better restored if those suffering a heart attack were to undergo VAT afterward. However, although several websites say that VAT should help the restorative phase after stroke, there are not yet any clinical or scientific data supporting this notion.

Nephropathy

The kidney filters electrolytes and small molecules from the blood; particulates filtered from the kidney are released from the body through the urinary tract. The filtering capacity of the kidney depends on the glomerular apparatus and a sodium ion gradient that is actively maintained by the kidney. The glomerular apparatus is composed of a blood capillary network surrounded by a capsule; inside this capsule, the capillaries are surrounded by podocytes. The glomerular podocytes are critically involved in performing the filtering function of the glomerulus.

Damage to the kidneys most often occurs through deposits of immune complexes onto the glomerular podocytes (https://en.wikipedia.org/wiki/Kidney_disease). Unfortunately, these podocytes have a very limited regenerative capacity. Kidney damage often occurs as scar tissue replaces podocytes that were injured and unable to be replaced with new podocytes [45;46]. If enough of the podocytes within each glomerulus are replaced with scar tissue, the glomerulus and the downstream nephron become nonfunctional. When filtration capacity of the blood drops below a threshold level

due to loss of too many nephrons, kidney disease is diagnosed, and when enough nephrons are lost that the sodium ion gradient cannot be maintained, kidney failure has occurred.

Although it is known that vibroacoustic disease can induce kidney disease due to chronic stress effects from chronic exposure to excessively high acoustic energy, the use of VAT to try to preserve kidney function has not been assessed. Because kidney disease is degenerative, agents that accelerate glomerular repair may help offset glomerular fibrosis. VAT -- thought to accelerate wound repair in several scenarios that lead to degenerative disease -- could in principle help preserve kidney function after kidney injury.

Concluding Remarks

It should be obvious reading through this chapter that a lot of detailed information is now known about how various diseases occur, how they can be aggravated by other circumstances, and how they are effectively, inconsistently, or poorly treated. VAT may work for some patients with some disorders and fail for others with the same disorders. We hope that, by demonstrating some of the intricacies of well-researched diseases, one may be ready for VAT to be fully effective, variably successful, or ineffective, or begin to correlate why it works in some cases better than in others.

As shown above, many diseases in which it is claimed that VAT can help are not supported by data that can be critiqued professionally or openly. In the absence of publically disseminated scientific research, one must exercise caution in stating or expecting that VAT will treat diseases or alleviate symptoms from diseases, unless one has a good knowledge of the disease and how the disease may have developed in a given patient. We hope that, by explaining the level of research done with VAT on various pathological states, the reader may appreciate the difference or make the distinction for themselves. We hope that the reader may understand why VAT may or may not work, or to deduce if VAT may be helpful in an unusual therapeutic case in the absence of any reliable data or information.

However, it is known that stress inhibition or reduction can help a lot of diseases, whether they are neurological, immunological, or cardiovascular in nature. It should be clear from this chapter that chronic stress or chronic anxiety may play a principal role in aggravating a large number of diseases, while increasing vitality may help a large number of other mental and physical disorders. Because many of these disease states accumulate pain, stress, anxiety and fatigue as they progress, the use of VAT may help break this chronic cycle of accumulation. Breaking this negative cycle will also help increase vitality and immune function, both of which appear to be hurt by chronic pain, stress, and anxiety.

It is now clear that research with VAT can be increasingly informative, now that molecular, physiological, or neurological mechanisms to a large number of diseases are being discovered or are now known. Research collaborations are encouraged, as VAT is inexpensive to set up -- being noninvasive and highly configurable -- and is easy to integrate within almost any experimental or

clinical setting. Many Vibroacoustic therapists have noted that VAT does not inhibit the effect of most useful medications, and (especially where chronic pain is involved) that VAT may actually lower the need of a particular medication.

Important observations have been made by scientists, clinicians, and therapists throughout the world about how VAT improves the state of wellness in individuals suffering a wide variety of diseases. VAT, by reducing pain, stress, insomnia, fatigue, and anxiety, can be used to treat a large number of diseases, and may help other diseases through other uncharacterized mechanisms.

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Vibroacoustic therapy – A New Integrative Wellness Paradigm

This book is an introduction to VAT. Vibroacoustic therapy can be used by therapists, physicians, psychotherapists, wellness coaches and people including caregivers who proactively take part in their personal wellness processes and those of family members to achieve better health and well-being.

Many of us cope with stress, anxiety, insomnia, acute pain and other chronic health conditions. We are not experts in dealing with such hindrances, so we consult physicians, coaches, mentors, and therapists to assist us.

But at the end of the day, it is *your* personal responsibility to maintain a healthy, balanced, and preventive lifestyle.

Life is a dynamic process. We need to be alert and make sure we generate a positive inner environment that supports harmonic and healthy self-development, vitality and growth.

There are many therapies that may be effective to treat the above conditions, yet we find Vibroacoustic Therapy as very soothing and gentle process. We find it as an effective generic therapeutic modality and as a self help tool. You can use it as a stand alone device or incorporated with other health and wellness means.

VAT CAN HELP YOU CREATE A HEALTHY ENVIRONMENT FOR YOU AND YOUR FAMILY.

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We invite therapists, educators and researchers to collaborate with us in applying vibroacoustic therapy as a wellness integrative therapeutic modality and as a self-help tool in all life circles: at home, at work, in schools, in the community and in health institutions.

Chris Krause and Avigail Berg-Panitz

Colleagues Health Practitioners / Therapists and Their Experience with Vibroacoustic Therapy

Dr Riina Raudsik

[Dr Riina Raudsik](#) is the head of Jyri Health Centre in Estonia and has been using VAT as one part of alternative medicine since 1991. She has written five books about stress, metabolism, and the body's energy.

A person fights to keep his interior environment in balance with every possible opportunity, and the more effective the body is at producing energy, the better the result.

When metabolic processes do not occur normally because of chronic tension (including emotional), then a person's body has no opportunities for cell renewal.

Together, the fear and memory centers are called **THE EMOTIONAL BRAIN**.

And since one part of the emotional brain is the memory center, then the emotional brain has **its own memory**, which preserves intense emotions. These intense memories, including rape, surviving a fire, the loss of parents, physical or mental abuse, but also, beautiful memories from earlier times, can set off alarms in the body, even after many years have passed. Research from the last few decades has shown that the membrane of each body cell is linked to the memory center, and these membranes are covered with tens of thousands of receptors. (Candace Pert, Bruce Lipton).

Humans are differentiated from animals because they have a well-developed frontal brain area called **the prefrontal lobe, which has the power to inhibit the fear center**.

The prefrontal lobe is also associated with planning and decision-making. It has access to the memory center, allowing us to plan for the future by taking into account previous life experiences. A

person's free will is based on the ability of the conscious mind to change the pre-programmed behaviors of the subconscious mind (Bruce Lipton).

Why then do psychosomatic illnesses develop into diseases after many years of chronic stress? This is because the "emotional brain" controls all of the body's functions: Respiration, heart activity, blood pressure, digestion, immune system, hormone secretion, sleep, sexuality, fertility, glandular function and the metabolism of every organ and tissue cell (bones, muscles, mucous membranes, skin, blood, etc.)

In this way, the emotional brain controls organ function. Widespread tension in the "emotional brain" causes functional changes in the body and, after many years, irreversible organic changes in the body – through to **the development of disease**.

THE AUTONOMIC NERVOUS SYSTEM

The "emotional brain" has its origins in the nervous system that regulates metabolism and organ functioning – **the autonomic nervous system**. The name autonomic is given to this system because it is not possible to substantially bend this part of the nervous system to one's will. Our everyday behavior is based primarily on the subconscious or, in other words, what we have previously internalized. Every new situation requires our attention and energy, and so, a stressor may simply be a new life experience or upsetting thought. The older a person gets, the more difficult it is for them to adjust to new situations and even a simple life change may set off a hormonal uproar in the body - stress.

The autonomic nervous system has two sides:

1. **The Sympathetic nervous system** is associated with quick action. It is always focused on maintaining life activity and is ready to quickly fight. If something unexpected happens, the organism reacts automatically within a few milliseconds and only after that can we start to think about what we have done. This occurs due to the quick mobilization of the sympathetic nervous system.
2. **The Parasympathetic nervous system** is the counterbalance to the sympathetic nervous system; it has a regulative and restorative function in the organism. All restorative functions in our organism are under the control of this system.

The activation of the sympathetic nervous system increases the levels of blood sugar, constricts arteries, raises blood pressure, speeds up heartbeat and respiration and expands the bronchi and bronchioles to increase blood flow to the muscles. The body is ready for battle.

When such a state lasts for a long time, the body's defense system becomes exhausted and in this way, arrives at a state where the following ailments may occur:

- Unexplained fatigue
- Hot flashes
- Increased sweating
- High blood pressure
- Heart palpitations
- Tension headaches
- Muscle and tendon pain

- Dizziness
- Tinnitus (ringing in the ears)
- Nausea and ulcers
- Pain in the upper stomach, especially when the stomach is empty
- Gas
- Reflux disease
- Dry mouth
- Dry eye syndrome
- Dry cough
- Difficulty swallowing
- Feelings of suffocation at night
- Frequent colds, viruses and other contagious illnesses
- A heavy feeling around the heart
- Constipation, which over the years turns into chronic diarrhea
- Hair loss (caused by stress in women)
- Lack of sex drive
- Infertility
- Osteoporosis (thinning of the bones)

Of course, the above listed ailments do not all occur at the same time. Symptoms do not necessarily appear in everyone, but it is clear that these ailments are caused more or less from a constant oxygen debt in the body. This means that the demand for tissue metabolism is greater than the body's capacity to supply oxygen and produce energy. As a result, a state of **“souring” of tissues or a drop in pH** occurs.

A person fights to keep his interior environment in balance with every possible opportunity, and the more effective the body is at producing energy, the better the result.

As previously noted, a psychosomatic disorder directly affects a person's energy state. In this situation, the body requires significantly more energy than the process of cell metabolism is able to produce, **and the reproduction of our body cells requires nearly 90 percent of the body's energy!** Long-term stress increases the imbalance of energy in the tissues and symptoms of energy crisis begin to appear. In the presence of energy debt in tissue metabolism, a person eventually becomes aware of physical complaints. One main cause is the change to an acidic environment (metabolic acidosis) and the resulting disorders of organ function.

THE TREATMENT OF PSYCHOSOMATIC DISEASE SYMPTOMS WITH VAT

The easiest way to understand the effects of vibroacoustic therapy on physical disorders is with the help of short descriptive case studies.

1. Tics
2. Stuttering
3. Tension headaches
4. Sleep disorders

5. Anxiety and panic disorders
6. Enuresis or nocturnal bedwetting
7. Encopresis or involuntary defecation
8. General state of tension, ligament pain
9. Physical complaints following narcotic use

The above listed disease symptoms are more common in children or have their beginnings in childhood. Children are very sensitive to stress. The activity of their emotional brain noticeably exceeds their ability for rational thought. But at the same time, children live out their emotions in a simple fashion and, therefore, day-to-day tensions do not usually stay around to haunt them.

Humans are energetic beings. They are able to tolerate prolonged tension when they are given time for regular self-renewal and rest. However, when this is neglected, the body will eventually turn against itself. Responses to chronic stress can damage both a person's psychological and metabolic state. **These impairments, meaning, the inability of the cells to produce enough energy and the shifting of our body's interior environment towards an acidic state is the link to the energy crisis in the whole body.** The ability to recognize a psychosomatic disorder and a common interpretation between doctor and patient is the first sign of healing.

Vibroacoustic therapy has become one of the most popular forms of treatment worldwide for a variety of psychosomatic illnesses. In the course of our clinical work, it became evident that vibroacoustic therapy was particularly effective for the treatment of children's and adult's functional nervous system disorders. Most people fully recovered their health over a relatively short period of time.

The case histories presented in this book where vibroacoustic therapy was implemented, are taken from real life, during our medical work experience lasting nearly 25 years. As it turned out, in most cases the procedure was able to help the patient, but there were also setbacks. This applied to patients who were frightened by the painful after-effects following the first days of treatment, which was actually an indication that the body had begun its corrective changes and was on the road to recovery.

The fact that vibroacoustic therapy plays a positive role in the reduction of numerous illnesses has become clear for many who need help. However, this effective and pleasant procedure is also intriguing because, as in the case of any new form of treatment, it is contingent upon the desire to heal quickly. And so, sometimes there occurs the phenomenon where, from the patient's perspective, the treatment has outright supernatural powers. However, when a speedy recovery does not occur, it is followed by disappointment and treatment is neglected.

In this book we tried to emphasize that when there is a decline in body energy due to stress or psychosomatic disorders, a person's self-activation is of primary importance and that, along with treatment procedures, one deals with fixing his or her body energetics. It is important to teach people to pay more attention to the first signs of disease, to search for solutions and exert oneself in the name of good health because, after all, change depends on our attitude and us. For complete recovery, we recommend that in addition to treatment, a person change his or her lifestyle, diet, and

increase physical activity. Evidence shows that opportunities for this are numerous, as long as the person himself has the desire, belief and good advisors.

MD Riina Raudsik

Case Studies Presented by Our Colleagues from Nordic Countries:

1. MULTIVIB CASE

Male age 72

Cold legs, sometimes pain / cramps in the calves, both legs. The client has worked in the forest for many years and has had unpleasant cold feeling in his legs for over 30 years.

He thinks that is related to the job and work in extreme cold wintertime with the bad footwear. He is otherwise in good shape.

TREATMENT 2 TIMES Per WEEK

1. Treatment: I choose Yellow cd, with volume 19, 23 min, then Red volume 18, 23 min.

The client feels the treatment is relaxing and comfortable, he falls asleep almost.

2. Treatment: The client thinks that he's a little warmer in the legs, but is unsure whether it makes sense. I choose the same treatment as before and in addition ear acupuncture.

I've found that it seems like Multivib and acupuncture enhances the effect of each other, so I often use this combination.

This time the client falls asleep during treatment.

3. Treatment: Now the man is sure his legs start to get warmer.

I choose the same treatment as before since it seems to work fine.

4. Treatment: The client is still warm on the legs, and has less leg cramps.

The treatment is the same. He falls asleep this time, too, find it very pleasant.

5. Treatment: The client cannot believe it's true. He is warm and good on the legs - have not been cold since last time. I also think that it is absolutely amazing, as he has had these symptoms for so many years. I continue with the same treatment, no reason to change anything when progress is so good.

6. Treatment: The client comes smiling and happy, is still warm on the legs. Treatment is the same, and he wonders if he needs to come so often. We agree that he can wait a week for the next time.

7. Treatment: He has still been warm since last time. We will continue with the same treatment. Now he wants to try without further treatment, and will come back when he feels that his legs start to get cold again.

He does not contact me, but after three years I meet him in the city. He's still warm on his legs.

2. MULTIVIB CASE

Female 22 years.

The client has had a lot of headaches, growing past two months. She is a nursing student, has exams, and has also taken shifts at the hospital. I feel the muscles in her shoulders / neck, and they are very hard.

1. Treatment: I choose to combine Multivib with ear acupuncture in this case, to try to get rid of headaches as fast as possible. Green cd volume 18 first for shoulder / neck, then red cd to get out some stress and get her body to relax. She falls asleep during treatment, and feels that she is tired. She feels that there is something happening in the neck area after treatment, and is excited to find out what happens. I agree that she will come 2 days per week, 10 treatments.

2 Treatment: The client has had fewer headaches last 2 days. She is still tired and has a lot of stress in the body. I give the same treatment as before. She falls asleep this time.

3. Treatment: Now she had headache only once since last time. I give the same treatment as before. She falls asleep quickly, and feels that this treatment is lovely and feels relaxed.

4. Treatment: The client has not had a headache since last time, just been a bit heavy in the head a few days. Same treatment.

5. Treatment: Now she feels much better. Have not had a headache since last time, and she seems less tired. But she has still pretty stiff muscles in the shoulders and neck, so we continue the same treatment 10 times.

After 10 treatments, she has more energy and headaches are mostly gone, and the muscles are considerably softer.

We agree that she takes contact when she feels it starts to tighten up again.

3. MULTIVIB CASE

Female 81 years.

Fibromyalgia. Much pain in muscles and joints throughout the body. This peaks in stressful situations. She sleeps poorly. She also has an old fracture in her back that makes her get extra amount of pain in the lower back and hips as she stands long, or carries something in her hands. She cannot clean floors or vacuum so she gets help. Otherwise she is positive and healthy and driving so she gets out.

1. Treatment: As the client has the most problems in the lower back / hips and shoulders / neck, I choose to start with yellow cd, a little careful with the volume the first time, 14. Then I give her red volume 16. This is also beneficial for the muscles in the lower back / hips, as well as to provide good relaxation for the whole body. She manages to gradually relax, and finds it comfortable to lie on the mattress. She would like to try several times, and I give her an offer of 10 treatments, 2 times a week.

2. Treatment: The client feels no difference since the last time, but is determined to try 10 times. I give the same treatment as last time, but increases volume by 1 at each frequency. This because she had no discomfort after the last time.

3. Treatment: No change. The same treatment as before.

4. Treatment: Now she has slept better a few nights. The client feels that she relaxed better during treatment, falling asleep almost at the last minute.

5. Treatment: The client feels there has been less pain in the body, but is a little unsure, it varies little bit else too. This time I try cd green volume 16 first instead of yellow. Then she gets the red, volume 18.

6. Treatment: She thinks there are still less pain in the body, both hips and neck. She also has several nights of better sleep.

7. Treatment: The client feels it is progressing now. She has a little less tension and pain in the body and several nights of good sleep.

8. 9. 10. Treatment. She has received the same treatment in recent sessions, and she has experienced gradually less pain. In particular, in the neck and shoulders. And she sleeps better overall. She wants to continue to come once every other week for a while, to keep some tension in check. She knows that she cannot get rid of her illness, but thinks it's good to know that there is something that can dampen it a bit at times.

4. MULTIVIB CASE

Female 52 years

Menopause problems. Frequent hot flashes, sweating at night, does not sleep well.

She is otherwise in good shape.

- 1. Treatment:** We agree to combine treatment with ear acupuncture. I give her female power cd volume 22. She thinks the treatment is pleasant and interesting and has a colleague who has tried the same thing with good results. She wants to try 10 treatments, twice a week.
- 2. Treatment:** The client had more hot flashes first 2 days after treatment. Recent days have been like before. I told her that it's a good sign that there was a change and gave the same treatment as before.
- 3. Treatment:** This was the same as the last, with more sweating first 2 days. I say that it can often be so the first 3-4 times, but then it often starts to get better. It is the body itself that must correct, and it may take some time. I continue with the same treatment, increases the volume to 23
- 4. Treatment:** Still increasing heat flushes the first 2 days, but a little less during daytime the last 2 days.
- 5. Treatment:** Now it has not been particularly worse after treatment. She also thinks it might have been a little less sweating at night. I give the same treatment, female cd, but additional cd red volume 20 she falls asleep.
- 6. Treatment:** Now she is sure that there is less sweating at night, and she sleeps better. She is looking forward to coming for treatment and feels it is very good. She gets the same as last time.
- 7. 8. 9. 10. Treatment:** Night sweating is almost gone and she feels much better. Sleeping well and has more peace in her body. She also feels that she has more energy, but is unsure if it is due to treatment, or if it's because she sleeps better.

We agree that she can come back when she feels that hot flushes begin to rise. She does, and it works well for her.

5. MULTIVIB CASE

Female 55 years

The client had a cold with a cough for 2.5 weeks. The last few days she has experienced severe breathlessness, and can hardly walk across the living room floor. She has been to the doctor today and been told that she may have pertussis, and should expect 4-5 weeks with cough. This she did not quite believe in, and asked if I have something that can help her. I recommend that she try Multivib orange, lung frequency. I will also stimulate the respiratory and immune systems with ear acupuncture. I suggest that she should come every day this week.

1. Treatment: Orange cd, volume 23. She could breathe easier during treatment. She decided that this is going to work.

2. Treatment: The client has been better after one treatment, and breathes a little easier. I give the same treatment as before.

3. Treatment: Now she feels significantly better, breathes easier, coughs less and has more energy. We're both pleasantly surprised to have such fast improvement. She receives the same treatment as before.

4. Treatment: The client comes for treatment later this day. She says with a smile that she has been walking in the woods, about 30 min. It was a little heavy, but she did it. It is absolutely amazing! She gets the same treatment, and lies half an hour extra today, with volume 19 for the last half. She did not get to come the next day, but we agree that she can call over the weekend if she wants more treatment.

I heard no more from her, and thought that she was doing well. I met her one month later, and learned that she had just gotten better and better week after, and coughed a bit next week, but then it was okay.

6. MULTIVIB CASE

Female 56 years

Hot flashes, several times per hour of the day and the night likewise. She is very tired, sleeps poorly and is pretty desperate. She will try Multivib before starting with hormone tablets. The client has a very demanding job with lots of travel and responsibility. She has a lot of stress in the body. She gets an offer of 10 treatments, trying to come 2 times a week.

1. Treatment: I suggest that we combine Multivib and ear acupuncture. I choose to give her the female cd, volume 24. Then she gets red cd, volume 20 to calm down the stress in the body. She has difficulty to relax properly during treatment, and thinks it is a bit long.

2. Treatment: She has hot flashes like before. We continue with the same treatment. She still has trouble calming down, having too much stress in the body.

3. Treatment: The client feels no difference. She sees no way to bring down her stress levels at work. The treatment is the same. Now we wait one week until next time because of her job.

4. Treatment: There is still no difference in heat flushes. I suggest we put down the volume of the female cd to 16. She tried it for a while, but feels that she is more stressed when there is little vibration. I turn up to 23 for last 10 min.

5. Treatment: Still no change, but she will not give up. She receives the same treatment as before, female volume 23 and red, volume 20. She feels that it starts to get a little more comfortable to lie on the mattress; she is able to relax a bit more when she is there.

6. Treatment: The client still has many hot flushes, stresses at work and sleep problems. We continue with the same treatment and hope that it will change.

7. Treatment: Still no good news about treatment results. But we continue as before.

8.9.10. Treatment: There is no difference when it comes to hot flushes and sleep problems. I have nothing more to offer. I assume that her stress level is too high, and this is the body's way of telling her. It is very difficult to do anything as long as she cannot change her lifestyle. She understands, and thinks maybe she should contact her doctor again to talk about the hormonal tablets.

Most people who have received this treatment have got hot flushes down to an acceptable level after 10 treatments, so I would not ask her to spend more money as there had been no improvement.

(I think she could change strategy after 6-7 treatments. I would concentrate on the stress. Japanese music- VAM, and green cd could be a good choice. Toril)

7. MULTIVIB CASE

He had gouty arthritis for several years. He has gout in the right big toe. It is very painful and inflamed, and it is painful to wear shoes and walk.

He also has an injury to a nerve in the neck after surgery. It gives a lot of irritation and coughing. He does not have much faith that it is something that helps, but his wife sent him to me....

1. Treatment: We agreed to try a combination of ear acupuncture and Multivib, 2 treatments per week. I choose yellow cd volume 19 first, then red cd volume 20. The client thinks it is a pleasant and relaxing treatment and is willing to try a few times.

2. Treatment: There has not been any noticeable change in the three days since he was at the clinic. I choose the same treatment, but increase red cd to volume 21

3. Treatment: Client feels that there is some minor pain in the big toe. But he's a little unsure.... I give the same treatment, and he says it is good to lie on the mattress. Today he falls asleep eventually.

4. Treatment: Now the man is sure, big toe is less swollen and painful. He almost does not believe it is possible, but is impressed with the effect of treatment. We continue with the same treatment, but increases red cd to volume 22 - he thinks it's good to feel that it shakes.

5. Treatment: The client has not had pain in the toe since last time, and is very glad that he was persuaded to try an alternative treatment. Cough and irritation in the throat is unchanged, but it's an injury and difficult to get rid of it. He gets the same treatment.

6. Treatment: The client is still painless, and the big toe is not swollen anymore. He is very happy and will terminate after treatment today. He gets the same treatment as before, and falls asleep pretty quickly.

8. MULTIVIB CASE

Male 76 years

The client has had a virus on the balance nerve for 2 months. He is nauseated and dizzy, and has poor balance. Otherwise he is vigorous and youthful for his age.

1. Treatment: I suggest Multivib blue cd that can be beneficial for ailments related to the head, and then red in terms of nausea and to calm the body. I will also combine with ear acupuncture. The client takes some time to lie down. He gets dizzy then. He gets a pillow under his head so he does not have to be flat. I start with blue cd volume 14. Then the red cd volume 19.

After the treatment, I help him and he will come up gradually. He gets a little extra dizzy, but settles down quite quickly at that level it tends to be. We set up 10 treatments with 2 times a week.

2. Treatment: There is no change yet, but that was not expected either. He gets the same treatment.

3. Treatment: Still no change. He gets perm needles in ear for nausea, and an increase in the volume of the blue to 15. The red is still volume 20.

4. Treatment: The nausea has been gone since the last time, and he feels a little less dizzy. It is better to lie down on the bench today, and he is relaxed. The treatment is like last time.

5. Treatment: The nausea is still gone, and he feels in better shape. I give the same treatment, but increase the blue cd to volume 16.

6.7.8.9.10. Treatment: We continue with the same treatment. The nausea has been gone since the third treatment, and he feels that the dizziness is slightly getting better. But it is still quite troublesome and the balance is still poor. But he manages to drive again, and is happy with that. He will wait and see how it goes. He knows he can get in touch if he wants more treatments.

I met the man 1.5 years later. And he was still a bit dizzy and had trouble balancing. But otherwise he was in good shape and functioned fine in everyday life.

9. MULTIVIB CASE

Baby 3 weeks

The little girl is very upset, crying a lot especially at night, and has a lot of rumbling in her stomach. She is also slow in the stomach, and has pain in that area.

Parents are getting very tired and dismayed that the small one has so much pain. They have heard that reflexology can help.

1. Treatment: The baby is very upset and I feel that she has a lot of stress in the body. I choose to put her on the Multivib mattress while I give her reflexology, to see if she can be quieter there. I put on yellow cd volume 8. She is quiet for a while, and I see that she is listening and feeling the VAT. But she does not like me holding the legs to give reflexology...

I recommend that they come back after 3 days.

2. Treatment: The girl had slept well the day she got treatment, and she had proper bowel movement that day, but otherwise she was not better. I give the same treatment, and she is calmer today. I increase the volume of the yellow cd to 10, and sometimes, she gets quiet and seems to feel the vibrations. We agree that they shall come two times per week.

3. Treatment: She had a bowel movement the last two days, and sometimes she brings up air after breastfeeding. She cries a little less, but other times, she is unstoppable and gives clear expression of pain. She receives the same treatment. I only use about 10-15 min with young babies, as they respond quickly to treatment.

4. Treatment: Today, the baby's mood has improved. She smiles several times when I put the vibration on, and indicates that she recognizes this and enjoys it. No crying during therapy, and she has much less stress in the body. She had a bowel movement every day, and long periods without crying. She sleeps better, and so do the parents. We agree that they come back after a week to see how it goes.

5. Treatment: The girl has been like a normal baby now. Cries when she is hungry, but is otherwise happy and satisfied. She's approaching 7 weeks now and smiles and make noises, even when she is getting treatment today. It is very clear that she recognizes and likes the vibrations.

We stopped after this treatment.

10. MULTIVIB CASE

Male 69 years

The client is mentally handicapped. He has difficulty expressing himself and is quite headstrong. He has a lot of spasms in the body, and pain/wear in the knees and hips. He also has some headaches.

1. Treatment: The client comes with an assistant. After some persuasion, we get him to lie down on the mattress. I choose red cd and try gently with volume 17, which is enough for him. He manages to lie 15 min with his assistant sitting in the same room. It is decided that he shall try some more times at a later date, so we agree to come back in a week.

2. Treatment: Client needed little persuasion today too, but less than last time. He will have his assistant in the room, and he manages the entire program today.

3. Treatment: Today, he joined voluntarily and laid smoothly on the mattress. I try to raise a little volume, and 18 is okay. I ask him halfway through if he thinks it is good, and he answers yes. Assistant has agreed that they shall come back once a week. It seems that it is good for the client.

4. Treatment: We have no problem getting him to lie down again today. The assistant asks if she can go shopping while he relaxes and he says yes. There are no problems while she is out; I've got good contact with the client as he seems confident. I ask if he'll stay a little longer when finished. He agrees, and I put on yellow cd for his hips and knees. I'm careful with volume, 12. He manages a few minutes.

5. Treatment: Today he goes alone into the treatment room. The assistant can sit in the waiting room. He lies without protest and seems to relax. Both programs are going well, he rests about 40 min. He is tired today.

6. Treatment: There is no problem for him to be alone on Multivib-treatment. The assistant can sit in the waiting room, or go to the store. He enjoys himself; it's good to see. It is difficult to determine if there is improvement in pain, because he has trouble expressing differences in pain. But there is no doubt that it is working well and relaxing him.

7.8.9.10 Treatment: He has been to therapy once a week now, and he seems to like it and get good relaxation. It may seem like he has a little less spasms, but it varies widely. It is decided that he should come three times a week for a period, because he has good relaxation and enjoys himself.

Gunn Nilsen 64

Stroke 2004

Polymyalgia Reumatica

Perniøs Anemia

Started 16/3-11: The treatment was painful because of inflammation in the body, but she wanted to continue. The first treatment was a reminder that the left side was "gone." She had deceived herself by taking control.

After 6 treatments, 4/4-11: Can recognize both sides of the scalp as she washes her hair. During the first 6 treatments there have been more urine and feces (other consistency). She has less water in the body, is less tired and feels more in touch with her left body half (pain). She has spent an hour in the woods without foot fails. Her voice changed, she feels that she loses control. More pain during treatment, but will continue because of everything that happens in the body.

After 16 treatments, 9/5-11: better balance, able to stand on one foot and has been on the stepladder and washed windows. Less water in the body. The body feels more whole. She feels she will be less controlling, automatic features work better. Still a lot of pain during treatment, but discovers that the pain will disappear if she sits on the mattress.

After 22 treatments, 17/6-11: Can run the wheelbarrow again. Does not have to worry about keeping balance anymore. The toes have become more relaxed for longer periods of time.

After 26 treatments, 26/7-11: Finding a position that enables her to lie on the mattress without pain. Turning the foot to the point that "opens up". But unable to find or keep the point all the time, or every time. Feels more balanced and handles problems better than before.

After 37 treatments, 12/10-11: For the first time, client experiences a completely painless treatment. Does not need to find the correct position. She has been for a walk in the woods without pain. About 5 km.

After 45 treatments, 7/12-11: The treatment counteracts the side effects of prednisolone (water in body); The treatment is painful this time, because of shoveling snow before treatment and overworked muscles. Notice that more muscles come alive.

After 48 treatments, 4/1-12: 2 weeks Christmas holiday with mental stress. The entire left side of the body is hopeless. The face on the left side hangs. Just a little hint of pain during treatment. Ellipses in the legs.

After 50 treatments, 17/1-11: Still painless treatment. Intense tingling in legs and arms. Has climbed the ladder with one leg in each step + shovel in hand. Up on the roof and shoveled down 1 m high snow 35kv.m.

Comments from Gunn after 50 treatments in 10 months:

The treatment reduces the side effects of medications: Less mucus production (side effect of blood thinning medicine) and has fallen about 15 kg in weight due to less water in the body (side effect of prednisolone).

Has regained feeling in the skin, body parts, and legs. Ellipses in the skin and muscles of the neck.

Has been for a walk every day about 1 to 1.5 hours since before the treatment started. Previously, it went about 1 hour before the pain stopped. Now it takes 15 min. Do the polymyalgia burn out faster? Am in better mental balance and have more initiative to take care of myself. Less emotional because of lost skills. Have better coping. Feeling that the head is more in place and is no longer controlling. More spontaneous.

The most unique feature of this treatment has been balancing the mind and emotions. I need this stimulation particularly due to:

- It provides circulation in the body without physical exertion.
- It stimulates impulsivity and automatic. Do not have to think about and control all movement.

Reidar Ulseth Nilsen , 45 years

Well-functioning Cerebral Palsy., Dyslexia

Start: 13/10-08: Pains and tensions in the body during session, but felt that something unusual was happening in the body. He felt increased energy after treatment. Afterwards had strange / unusual dreams and been more often to the WC.

After 6 treatments, 24/10: Walking better, more pronation, modified propulsion. Has better bladder control and is more seldom up during night. Improved bladder control.

After 10 treatments, 5/11: Standing steadily on both legs. Walking is noticeably better. Bladder control and rectal sphincter function improved.

After 22 treatments, 5/1-09: Is not so flushed / breathless during physical exercise. Reducing VAT from 3 to 1 sessions a week. He cannot take any more because of increasing changes in the body.

After 30 treatments, 4/3: Podiatrist satisfied. Feels that his feet are more accessible. Chiropractor also pleased with the development.

After 32 treatments, 16/3: Better / more relaxed sleep. Better balance, no longer difficult to walk on slippery ice.

After 35 treatments, 27/4: Mental change - feels more accessible. Better functions at home and at the gym. More relaxed. Easier to perform tasks.

After 41 treatments, 8/6: Now a lot happened in the back, sway (Lourdosis) reduced. He has better balance. Feels as if his legs are longer.

After 43 treatments, 17/6: Reduced resting heart rate. Can now bend down to put socks on the both legs. Feels more symmetrical.

After 50 treatments, 12/8: Reading speed has increased, better distinction of letters. It is easier to recognize different faces. It seems as if the brain has a clearer and more specific understanding of the body. This makes it easier for him to interpret visual and auditory impulses. Can do things more efficiently and has therefore more energy. Can now use short pants; have always had to wear long pants in order to know/feel that his legs are present.

After 64 treatments, 12/11: Feels improved visual impressions and body image. He has felt unstable in the lower back for a while. He thinks this is due to changes in the communication between large and small muscles. Small muscles activated and the large more relaxed.

After 75 treatments, 24/2-10: Something is happening in the upper back, neck, shoulders, breath.

After 95 treatments, 18/8: Wants to walk more and can go longer trips than before. He is sleeping less during day, is less tired and breathing is better. Bowel problems.

After 102 treatments, 13/1-11: Has recently fallen asleep during treatment, but sleep has better quality.

After 112 treatments, 1/6: Something is happening to respiration and lung volume. Less flat footed.

After 115 treatments, 30/5: Changes in gait. The feet are now used differently. Propulsion stronger. He has a notch in the leg which is significantly reduced.

Reidar's own comments about Multivib:

The brain and the body have a constant ongoing conversation. The conversation has several topics and themes. This is because they both need to know the other.

One topic is the musculoskeletal system. The conversation is characterized by brain asking and the body responding. The answers provide the basis for new, more detailed questions. The brain builds an increasingly accurate view, an objective map. The map of the body is used when the brain initiates and controls the motion.

Another theme is new body-image. Conversation starts with a spontaneous report from the body. The brain tries to understand whether it is a new wound, broken bones, fatigue, refreshed, bodily pleasure. Based on the spontaneous messages, the brain answers/informs.

A third theme is the mental functions. Conversation characterized by brain seeking assurance that the body exists. When the body confirms that the body exists, the brain is soothed. The more detailed body describes itself, the more the brain feels calmed.

You can stimulate conversation in several ways. Exercise is a common and easy way to stimulate conversation. The challenge is to make the conversation more varied and exact - not just louder. Increased accuracy in conversation simplifies life in terms of movement, pain and reassurance.

When you move, the conversation becomes louder. If the movement pattern is familiar to you, you will learn little, the conversation is not more diverse and accurate. As long as you try to learn new and difficult movement combinations, conversation will evolve.

I have spent many years learning new and difficult exercises. My goal has been to develop the conversation to change every day. The process – changing the conversation - began with strange exercises 15 years ago. 3 years ago I started with something new and incomprehensible again. (VAT)

Toril at the Klinik1 asked if I wanted to try the Multivib mattress. I was shocked. The body is stimulated directly. It is completely different from physical exercises. The mattress is controlling the conversation with the body. For a long time I was confused - did I experience pain or pleasure?

The frames of the conversation burst. Pain and confusion say that my brain is overwhelmed. The brain does not control the conversation, and this reminds the brain of the conversations reported

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spontaneously from the body. The brain's interpretation is pain. Only gradually an update of the body map becomes the brain's primary focus.

More changes are stimulated by Multivib. I got better vision - reading and recognizing faces. Better balance and coordination - altered movement patterns. Resolutions of fibroids - improved blood circulation, lower blood pressure. Reduced physical stress. Reduced weight because of water loss. Improved organ function and bladder control.

Provided by **Toril Værnes Trøen, Olav Skille Vibroacoustic Therapy in Nordic and Europe**