



Our Work with Veterans

D.F.

"I served two tours as a Squad Leader and combat infantryman in Afghanistan and was diagnosed with Post Traumatic Stress Disorder upon returning home. After two years of intensive group and individual counseling, I was still experiencing many symptoms of the disorder; mainly lack of sleep, irritability and a high level of anxiety. After training with Brainwave Optimization with RTB™ am now sleeping better than I ever have, and I am happy to say that my irritability/anger has decreased significantly. The anxiety I previously experienced is now in my control, meaning that I understand my own frustrations and can take effective measures to resolve issues, minimizing stress and anxiety. The best part of this technology is that I never had to mention a thing about my combat experiences as this is not a not a "talk therapy" solution. I am currently taking a full course load at Syracuse University and maintaining my family life with a great deal of enjoyment and ease. I am truly thankful to this project for all the relief this training has brought to me and my family. Thanks Again."

trained by **BST Staff**
Brain State Technologies
Scottsdale, AZ

Brain State Technologies® is working in collaboration with Veterans and Families (veteransandfamilies.org) in looking to help war veterans and soldiers.



Troops Get Help for PTSD

Brain State Technologies® along with its participating affiliate offices worldwide announced today free help for returning soldiers from Iraq and Afghanistan.

The VA has seen a tenfold increase in PTSD cases in the last year. According to the VA, more than 37,000 Vets of Iraq and Afghanistan are suffering from Mental Health disorders, and more than 16,000 have already been diagnosed with PTSD.

BST provides individual clients a structured, personalized approach to help create positive life change and overcome symptoms of PTSD, such as depression, flashbacks, difficulty sleeping, and chemical/alcohol dependency.

Over 4,000 people have found Brainwave Optimization with RTB™ helpful in eliminating or drastically reducing their physical and emotional difficulties. Clients have also reported positive results with sports performance, ADD, pain mitigation, sleep disorders, stress relief, and more.

Participation is completely confidential and participants will receive a free assessment and up to sixteen free training sessions. To be eligible participants must have returned from either Afghanistan or Iraq within the past 24 months and have served in a combat or in a rear echelon support unit.

The Warrior Transition – Brainwave Optimization with RTB™ project is a collaboration between the national nonprofit Veterans and Families Foundation (veteransandfamilies.org), Brain State Technologies LLC and its affiliate offices.

Brain State Technologies® administered the Beck Inventories to 5 combat veterans before and after 10 Brainwave Optimization with RTB™ sessions.

The average amount of improvement reported by each veteran was 77.5%.

The Beck Depression and Beck Anxiety Inventory

The Beck Inventories for Anxiety and Depression have become two of the most widely accepted assessment instruments in the psychological community over the last 30 years. Although they were developed based on DSM-IV criteria, and are used by mental health professionals as diagnostic tools, they were used by Brain State Technologies® only as a subjective measure in pre and post brain training.

Beck Depression Inventory		
0 to 13		Minimal
14 to 19		Mild
20 to 28		Moderate
29 to 63		Severe

Beck Anxiety Inventory		
0 to 7		Minimal
8 to 15		Mild
16 to 25		Moderate
26 to 63		Severe

Client	Date	BDI	BAI	BST Sessions
TM	3/24/08	22	22	
	3/28/08	1	11	10
Percent Change		95%	50%	
AA	3/24/08	20	15	
	4/2/08	5	5	10
Percent Change		75%	67%	
NB	5/5/08	14	21	
	5/7/08	8	2	10
Percent Change		43%	90%	
CN	4/7/08	18	7	
	4/11/08	2	1	10
Percent Change		89%	86%	
JR	6/2/08	10	2	
	6/7/08	2	0	10
Percent Change		80%	100%	

Veteran Testimonials

**J.L.
CPT, USAF, RET**

“From the initial assessment to the final session, your staff of trainers and administrative personnel showed a refreshing professionalism, punctuality, and positivism. All of this served to create a space where I felt safe letting go of some deeply held tension. The seizures in my hand reminded me of the tense moments of flying my A-10 attack jet during air refueling, weather formation flights, and sketchy surface attack and close air support missions throughout South Korea, Arizona, and Alaska. But, there was clearly a lot more stored tension than just that incurred through my military service. The feedback I received from the BST staff and the Brainwave Optimization equipment has given me clear benchmarks for opening and connecting with a space of rejuvenation, relaxation, and release. Your team at BST and this process of Brainwave Optimization put effective tools for “letting go” into my hands. You offered this experience to me as a veteran service-member, but I must thank you as a human being. I can’t express enough, my gratitude for your hospitality, encouragement, generosity, and attention to detail!”

trained by BST Staff
Brain State Technologies
Scottsdale, AZ

Veteran Testimonials

S.R. Retired Non-Commisioned Officer with 20 Years in the Army

“Upon arriving I was impressed with both the facility and the staff of BST. We were introduced to our trainers and began sessions almost immediately.

One of the first things I noticed was how willing my brain was to being trained. I have had practice in the area of self empowerment and stress reduction techniques before but this was the first time I could see the results by looking at the different brain wave patterns I was producing while setting my intention through visualization and breathing techniques. For the first time I was able to see my brain and my brain was able to see itself. This combination of visual and auditory cues helped me raise and lower different brain wave patterns in different regions of my brain.

For the first few days the only thing I noticed was that I was exhausted from the training. Almost as if I had run or lifted weights. I slept very deeply and felt more at peace with myself as the trainings progressed. I have always had a good sense of balance in my life but this training has taken me to a new level of feeling and understanding the connection between my brain and how my body reacts together. I am looking forward to going home and seeing results in the areas I selected to improve.

If you are a combat veteran who wants to regain mastery of your mind and body I encourage you to contact the nearest BST representative in your area. This training is non-invasive and is more like a performance enhancing application to optimize you're your brain and body.”

trained by BST Staff
Brain State Technologies
Scottsdale, AZ

Veteran Testimonials

M.D., 60 Hydrologist

"I am a Vietnam veteran with PTSD. I suffer from depression, substance abuse, and extreme clusters headaches. I had been asking the Veterans Administration for the last 2 to 3 years for other approaches to PTSD than the regular "Talk Group Therapy" and countless psychotropic pharmaceuticals, some of which had left me impotent for over 3 years. Unfortunately, to no avail. I had even over the years tried private counseling, at great personal expense. It was essentially no different, basically the same approach....My sleep patterns were about 12 hours per day, frequent nightmares, slovenly personal care and a lack of energy. No lust for life. And when my cluster headaches were in full swing my attitude would dramatically deteriorate.

After the third day of sessions I noticed a dramatic change in my sleep. I was only sleeping six to seven hours a night instead of twelve and as an added bonus my problems with impotency decreased dramatically!

My outlook on life has improved considerably and my energy level is phenomenal! I was on probation for substance abuse. After over 36 years of self-medication and inebriation I am hopeful that returning to a balanced state through BSC can help me avoid drugs and the negative consequences associated with them. My attitude is very positive and I have been drug free for quite some time. I guess I was lucky to be able to visualize peaceful conditions so well."

trained by Art & David McCullar
NeuroFitness Center
Farmington Hills, MI

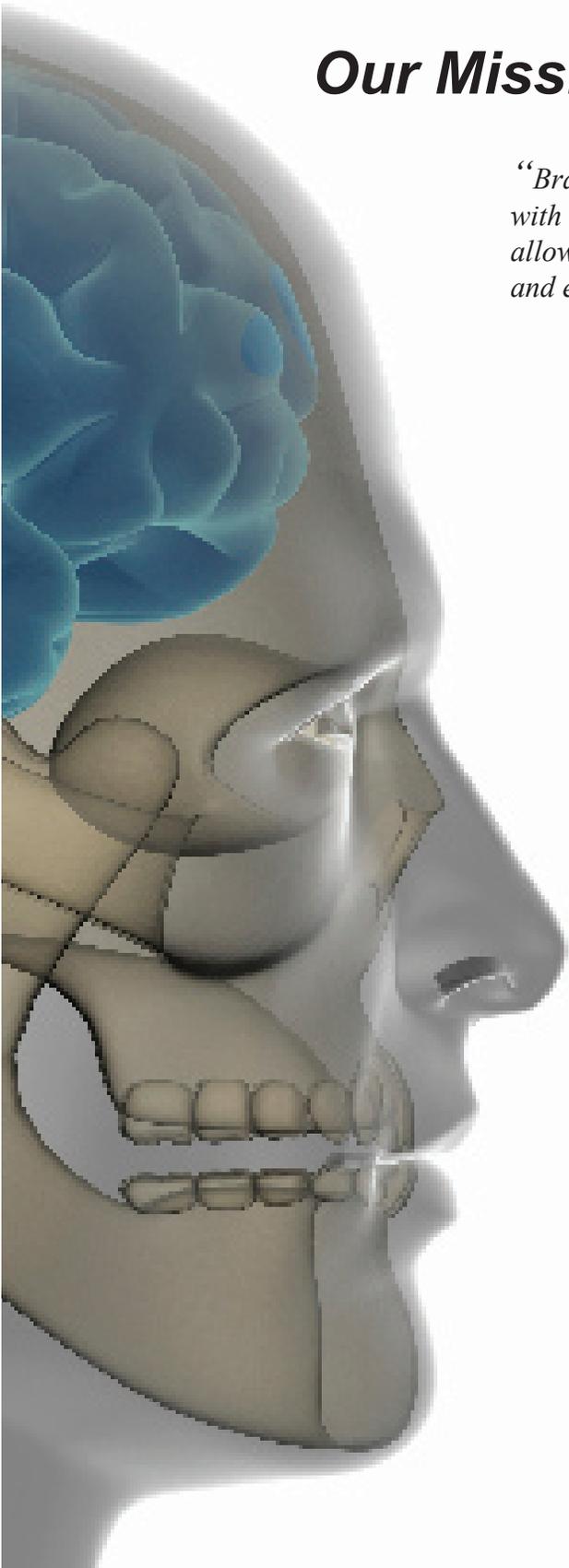
Veteran Testimonials

**J.H.
Marine**

“After just three days of sessions I am feeling a sense of well being that is becoming absent of worry. The frequency of intrusive thoughts are diminishing and I am feeling a sense of hope that I have finally discovered a release valve for my compressed way of being. Holding back a tsunami of pent up energy on a constant and regular basis has consumed a great deal of my energy for my entire life. The marines provided an avenue to channel this energy (much like the Incredible Hulk, you are able to get out of control but deep down, you kind of like it) but when you have to bottle it up upon returning to civilian life it just steals precious moments that you just can't get back.

I have invested over two decades in the personal development field and have learned many valuable coping skills of breathing and reforming my thoughts in order to be in the present moment. However, I have experienced great difficulty maintaining this way of being. I get relaxed and centered and then my driven thought process would distract me. That is up until the last few days of Brainwave Optimization sessions. Thank you for leading this exploration into our human potential.”

trained by BST Staff
Brain State Technologies
Scottsdale, AZ



Our Mission is to help people

“Brain State Technologies® provides its clients with a black-belt of mastery over their own brains - allowing them to create, accomplish, relax, prosper, and enjoy happiness.”

About Us

Brainwave Optimization with RTB™ was developed by Brain State Technologies® founder, Lee Gerdes, from a personal need to overcome depressive tendencies which surfaced during the creative process. He discovered that most masters: painters, musicians, composers, CEOs or athletes have some depressive tendencies that have been brought on by the need to be creative – as Beta waves decrease in one part of the brain, other wave patterns may increase in response in another part of the brain, which allow for the germination of creative ideas. He discovered that if Beta waves returned, and the creative idea is acted upon, then the sense of being unmotivated or slightly melancholy would not manifest.

Lee advanced this understanding of Brainwave Optimization with RTB™ with the additional research of the highly functional minds of two Tibetan Buddhist Monks. These monks are masters at meditative techniques, having practiced deep meditation for over 40 years each. The understanding of the mastery of creative process, and the mastery of the alert-but-relaxed process of the meditation master, has led to the basis for training brain wave patterns to produce the high performance, high awareness, and high connected mind of clients through the Brainwave Optimization with RTB™ process. Brainwave Optimization with RTB™ is based upon a state of “contentment”, and Buddhist Monks represented the most clear pattern for this state. It was discovered, that “contentment”, “balance and harmony”, and “homeostasis” are all basically the same brain state, and therefore algorithms can be uniquely applied to each individual which determine optimal brain wave patterns to attain this balanced and harmonized state.

What is Brainwave Optimization with RTB™?

Brainwave Optimization with RTB™ is an individually tailored method of balancing and harmonizing the brain. Brain State Technologies® methods involve collecting the brain waves of a person and producing individualized computer feedback based on the data collected. This process includes personalized exercises to balance and harmonize the brain.

Why Brainwave Optimization with RTB™?

Every system needs a control unit. The control unit for our bodies, for our consciousness and for our spiritual perspective lies within our brains.

Lee Gerdes, founder of Brain State Technologies® states: *“Most of us believe that there is nothing we can do about genetic propensity. I don’t agree. I believe we will find a way to alter that and will do so in only a few years. For now, it is what it is. However, consider this - if a number of people have similar environments and degrees of trauma in their life journey, then why don’t all of them respond with similar pathologies when the environment and trauma were similar? Because, I believe, there is a genetic propensity toward certain vulnerabilities for some of us. For instance, large numbers of people are subjected to similar mercury input and face a similar pattern of trauma, BUT a few of those people will develop mercury poisoning. Why not ALL of them? I believe the difference is genetic propensity. Yes, I know – for all of you analysts out there – we can’t be sure that the degree of trauma is the same in the above case or that the environments are exactly the same either, but for all practical purposes we can assume that genetic propensity certainly does sway the scales. This is seen even more profoundly in those soldiers returning from Iraq. Some have ridden in the same vehicle together and yet one comes home with dramatic PTSD and the other doesn’t. Why does this happen?”*

I think of it as one leg of a 3-legged stool. Genetic propensity is one element in the puzzle here. Pay attention to this: it does not mean that we can’t help those with PTSD (for example), due to their genetic propensity toward it – quite the contrary. Balance and harmonize the brain and PTSD may dramatically diminished or simply disappear altogether.

Our environment is the second leg of the stool. As humans we can alter our environment – especially if we have information that the environment we are in has consequences we did not previously understand. When I was a boy (uh-oh, now I date myself for sure) I didn’t have the information that smoking was creating an environment which had a lot of risk for diminished health of the smoker as well as those around him/her. When I had that information about the environment caused by smoking, I realized that I needed to stop – to change my environment – and I did. In the last few years I have also learned that the incredible amount of information my brain receives every day causes me undo stress. Now I take time to be quiet – especially to sit still for a time, eliminating most of the media for news, and limiting TV dramatically – this creates a more peaceful environment. And, to support myself in my environment, I also spend time listening to my body every day. If I don’t do these things, my environment will put me at risk for brain imbalance. If I don’t have regular waste elimination and/or if I don’t eat healthy food and exercise, again my environment will put me at risk. However, I can alter and control my environment. If I wish to be healthy and balanced, I will alter my environment based on the information I have.

Circumstance is the third leg of the stool, and is something we can do little about at times. If someone runs a red light and crashes into our car, BANG – we likely have just experienced trauma. There are lots of trauma possibilities, some of which seem to have little to do with our will. Any time the brain perceives (be it a correct or incorrect perception) that it’s life is being threatened, a trauma is the result. And, as traumas stack up during our life journey, one more small trauma may be the proverbial straw that breaks the camels back, and off we go into some kind of imbalance or chaos based on the neural-net which was created for the brain to protect itself. Did environment play a role in that? Possibly. Did genetic propensity play a role in that? Possibly. Certainly trauma created by circumstance was one leg of the stool which is now tipped over or leaning, but environment and/or genetic propensity can make that a lot worse.”

In the last 50 years, input (stimuli) to the brain has increased thousands of times per second. For example: if you are 50 years old, your brain is receiving thousands of pieces of information more than it did when you were born. The human will eventually evolve, building sufficient filters to deal with this amount of stimuli, but until then we will have to learn to rebalance our brains ourselves. Brainwave Optimization with RTB™ provides you with the tools to accomplish this.

How is it accomplished?

Our cutting-edge training sessions help clients achieve optimal results in real time. Clients of Brain State Technologies® are greeted in a warm, friendly environment then guided to a private, relaxing training room to begin their training sessions. Upon their first visit our BST trainer will conduct an introductory review where the client can discuss their goals and areas of life they would like to see improvement. An assessment is performed on the initial visit to gather brain wave data from different parts of the brain. Our proprietary software processes the assessment and goal data to produce an individualized training plan.

The training involves computer translation of brain waves into sounds that represent optimum patterns for the brain to function at a given location. These sounds vary by note and by volume based on how the brain is functioning. This allows the brain a means of observing itself. The client relaxes in a zero gravity chair and is led through detailed visualizations to assist the brain to find a more balanced state. A Brainwave Optimization with RTB™ session usually lasts about two hours. Sessions are often done every day, or multiple times per day.

What happens in my brain?

Brain activity creates electromagnetic energy - captured and observed as brain waves with EEG amplifiers and computers. That brain energy turns into sound energy when the brain energy exits in an optimized brain pattern. This optimized pattern is a signal to encourage the brain, using computer graphics and other sound encouragements. Brainwave Optimization with RTB™ encourages some brain waves and discourages others so the brain will begin to function differently - it will create a balanced condition. This balance and harmonizing of the brain waves, balances them into optimized patterns. Brain activity is based on cells called neurons which interact and connect with each other forming groups or neural-networks. These neural-networks are activated based on stimuli. Clients have often recognized benefits in the first one to three sessions, and require 5 to 30 sessions to make the benefits permanent with dominant neural-networks.

How do I change my pathways?

Brainwave Optimization with RTB™ activates neural-networks based on an optimum performing brain. When neurons in the brain connect, they do so with electric energy and this energy can be recorded by electrodes on the skull. The waves of energy from the brain are fed into a computer that then analyze them, based on a personalized protocol selected in the assessment process. This protocol is created to optimize for specific purposes of the individual.

The brain changes when it experiences a state, or new pathway created by its own neural-networks. Golfers can improve concentration and guide the club smoothly into the ball. Artists can tap into realms of creativity when they want to do so. CEO's can lead and manage by using consistently positive and creative leadership skills. All of these people do so based on the creation of new neural-networks and therefore new consciousness reached by the optimum brain sounds that represent optimum patterns for the brain to function at a given location. These sounds vary by note and by volume based on how the brain is functioning in order that the brain will have a means of observing itself. Additionally, intentions and visualizations can assist the process.



How is it accomplished?

The first step in doing any optimization is to assess where you are at the current time. It is impossible to get to anywhere unless you know where you are when you start your journey. In Brainwave Optimization with RTB™ an assessment is performed on the initial visit which provides brain wave data from many parts of the brain. At the same time, the client also confirms his/her intentions and desires about how they wish to optimize their brain. Brain waves are then compared between many different parts of the brain to determine the optimum brain wave configuration to achieve the personal and private objectives of the client.

And then....

Two tuning forks of the same frequency in a close proximity will both produce a sound if only one of them is struck. Resonance is the property that causes that. When the brain hears sounds when it generates or inhibits certain frequencies, other parts of the brain respond - resonate - to that balanced frequency. Soon, the brain balances itself and thereby cuts new pathways. It requires that this resonance balance training - or Brainwave Optimization with RTB™, as we call it - happen a number of times before it becomes permanent, but it does become permanent so training does not need to continue forever.

However, for enlightenment and meditation experience, the limit is infinite, and the person meditating may do so as frequently and as deeply as they wish.

How are we different?

A holistic foundation

Every brain, like every person, is unique. Still, the consciousness of all people includes many realms – physical, mental, emotional, spiritual. All of these realms have been considered together as the basis for Brainwave Optimization with RTB™. Brainwave Optimization with RTB™ does not treat a symptom or diagnosis; it deals with the entire person. The founder, Lee Gerdes, has a background in math, physics, psychology, and theology – and has brought all these disciplines together in providing Brain State Conditioning™.

The medical model

The allopathic medical community runs tests for physical functioning or tests for mental functioning. These tests enable the medical professional to diagnose a problem or disease of the individual patient. The diagnosis then allows the medical professional to prescribe a medication for alleviation of the diagnosed problem or disease. When a medication is prescribed to work on the brain, the entire brain is affected. This means that any medication to affect the brain, affects the entire brain even though only certain functioning of the brain needs the medication.

Additionally, allopathic medicine will often treat the symptom of a problem and not its source. Of course if that treatment is successful and the symptom disappears, there is relief for the patient. It doesn't mean, however, that the pathology won't reoccur since the source isn't always treated.

The psychological model

There are many psychological models practiced to deal with personal problems and needs. Some of the psychological models are based on in-depth questionnaires and interviews with the patient. The information collected in the questionnaires and interviews is compared to standardized results which are regarded as “normal” and a diagnosis is made. Talk therapy and/or behavioral models are established to assist the patient in changing their perspectives in order to alleviate the diagnosed problem(s).

Unfortunately, the psychological model doesn't include the possibility that the diagnoses and recommended therapy could be based on activating a stimulus which is actually the basis of the problem and not the solution. Talking about a traumatic event may be an example where remembering the event can actually strengthen the pathology it has caused. Also, the psychological model requires the brain to change from out-side-in based on talking and/or behavior therapy. Thus, change can happen but often requires a long time – months and years – and is as ultimately costly as it is time consuming.

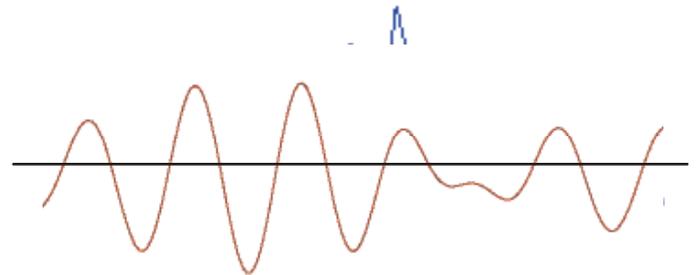
Standard neurofeedback models

Some neurofeedback methods are based on a Quantitative Electroencephalographic Analysis (QEEG). Using a QEEG, the neurofeedback provider compares the brain waves of the client to a normative data base of other brain waves and irregularities are noted for neurofeedback training. QEEG assessment can take many hours and cost \$250 to \$1200. The problem with a QEEG is the basic assumption that the data base of brain waves is helpful to establish a normal or healthy brain wave pattern for an individual. Some neuro-feedback providers will train for 30 to 40 minutes 2 to 3 times per week. This often requires 40 to 100 sessions to complete a training process. Benefits are sometimes not seen for 20 sessions or more and when seen may be subtle in nature.

Most neurofeedback works to get the conscious brain to learn to control certain frequencies by using rewards and entrainment. We are mostly trying to work with the unconscious part of the brain. We have sounds that may help to encourage frequencies in certain directions, but they are background to the brain hearing itself as musical notes.

Most neurofeedback works under principles of Newtonian physics. We work under principles of Quantum physics. Newtonian physics focuses on particles, while Quantum physics focuses on the information contained in the space between particles. This is one reason why we don't want clients to become analytical of the process and instead just be in the experience of the process. The analytical mind is focusing on particles and consciousness, while the experiential mind is in the being where it can utilize unconsciousness (including superconsciousness).

A basic law involved in Quantum physics is that anything observed is changed. We allow the brain to observe itself and thus affect change in the brain. This approach is unique in that it allows the brain itself to choose the change that happens. Sometimes the brain chooses to move in the desired direction and other times it does not. We believe that the brain is the most sophisticated thing on the planet and therefore defer to its authority. We have yet to fully understand why the brain after observing itself changes the way that it does, but we believe that the change the brain will produce is for its greater good and we have many case studies to support that. With our approach of allowing the brain to see itself, it can choose to not move in the direction that we are attempting to encourage it in and this is why it is extremely difficult to injure someone using this technology. This approach allows us to be guided by something greater than our knowledge.



Brain State Technologies® model

Brainwave Optimization with RTB™ is a technology based approach to assist an individual in self-optimization by balancing and harmonizing their brain wave patterns. Brainwave Optimization with RTB™ stresses total individuality in a holistic context whereby algorithms are applied to an individual brain wave pattern along with the subject analysis of the individual to assist in the determination of a brain training plan. Nothing from the outside is used as normative to compare to the individual to determine abnormalities.

Brain State Technologies® understands the brain to be like a finger print – totally unique. We also understand that interviews can be beneficial in helping to isolate areas of our brains where the brain wave ratios provide answers for training the brain. Brainwave Optimization with RTB™ is consistent in dealing with brain state, not brain content. Comparing brain wave frequency ratios at major points across the scalp allows us a standardized way to affirm basic brain balance. This means that we create a personalized training plan, tailored to the brain frequency ratios and desires of the individual. We then use client feedback to fine tune the training session exercises as the training progresses to more completely satisfy the desired changes of the client. Brainwave Optimization with RTB™ uses internal brain wave patterns, client self assessment, and client input to create a brain balanced and harmonized for physical, mental, emotional, and spiritual optimization.

The efficiency of Brainwave Optimization with RTB™ which incorporates visualization, deep relaxation, optimum performance, and targeted solution training has been helpful for over 4,000 people to eliminate or drastically reduce their pathologies. Brainwave Optimization with RTB™ training session usually lasts about 1 ½ to 2 hours. Sessions are often done every day, or even multiple times per day, for the first part of training. And, training is always geared toward brain balance and harmony with an emphasis toward achievement of client objectives. Usually clients recognize benefits in the first one to three sessions, and require 5 to 30 sessions to make the benefits permanent with dominant neural-networks.

