

THIS IS THE DEEP DETAILED EXPLANATION

A Proposed Explanation of the Energetic Nature of Biological Systems

The explanation of the effects of specific frequencies on specific tissues and conditions must start with a quantum view of physical tissue instead of a Newtonian or mechanical view. Physical tissue is a collection of biochemicals which are formed, folded and aligned in particular configurations to create a biological / biochemical / bioelectric system. However, if you look deeper, down to the molecular level, then even deeper into the subatomic level, you will discover bits of energy that is vibrating at great speeds. Electromagnetic bonds hold this energy together in an energetic relationship. If you were magically able to make yourself small enough to view molecules at the subatomic level, you would likely discover that there is far greater space being occupied by energy, than by the matter of the actual atoms. This energy may "behave" as particles, or it may behave as waves. "In the quantum world classical particles such as electrons are at the same time waves, and waves can do things that particles cannot do." (Oschman, 1996)

Now allow your imagination to go deeper. Question: "What could be present deep within the spaces inside those pieces of energy?" If there is an electromagnetic field deep within those bits of energy, could that electromagnetic field hold patterns that would be characteristic of specific events that had occurred which could have been either traumatically physical or emotional? If this were true, then this would explain many things. It would explain how the effects of physical injury remain in the tissue long after the tissue should have healed.

The study of cells in a conventional biological and organic chemistry approach, usually views cells as a membrane filled with little organs (called organelles), which process reactions through simple diffusion. Again, as we go deeper we find a more detailed explanation. "The cell is filled with a microtrabecular lattice that forms the ground substance within the cell. All of the organelles are suspended and interconnected by the microtrabeculae. Glycoproteins extend across the cell surface from the cell interior to the exterior. These proteins connect with the filamentous network within the cell. The filamentous network is a crystalline gel lined by water molecules and conveys and stores current, charge and vibrational information." (Oschman 1997) Now if we were to introduce a concept that there is a "continuum," between the brain and the rest of the body through the perineurium. Then add the idea that the electromagnetic field within the bits of energy can store energetic vibrational or frequency patterns of past traumatic events. This could explain how emotional trauma and memory is "stored" in physical tissue and then affects physical function.

Dr. James Oschman, a Ph.D. biophysicist has published extensively on the scientific basis of energy medicine. He wrote an article in 1996 on the scientific basis of energy medicine. Here he describes Szent-Gyorgyi's suggestion that the proteins in the body are semiconductors. While this idea was vigorously opposed, it was eventually shown to be entirely correct. Virtually all of the molecules forming the living matrix are semiconductors. Dr Oschman quoted Szent-Gyorgyi: "Molecules do not have to touch each other to interact. Energy can flow through the electromagnetic field...the electromagnetic field, along with water, forms the matrix of life. Water can form structures that transmit energy." (Szent-Gyorgyi 1988)

The hydrogen ions aligned along the crystalline gel that forms the intracellular matrix form tetrahedral structures with space for four electrons. The semiconductor function includes electrons and spaces where electrons are absent in an outer shell. The spaces where electrons are missing are relatively positive in charge. The relative positive charges serve to pull the negatively charged electrons along and move current through the tissue quickly, almost instantly. The electromagnetic field created by the crystalline gel and the water molecules forms the matrix that can convey and store charge, current and vibrational information.

Dr. Oschman goes on to say, "Every part of the body, including all of the molecules so thoroughly studied by modern science...form a continuously interconnected semiconductor electronic network. Each component of the organism, even the smallest part, is immersed in and generates a constant stream of vibratory information...Complete health corresponds to total interconnection. Accumulated physical and/or emotional trauma impairs the interconnections. When this happens, the body's defense and repair systems become impaired and disease has a chance to take hold. Acupuncture and other energy therapies restore and balance the vibratory circuitry, with obvious and profound benefits."

Now let's tie a proposed mechanism of how Frequency Specific Microcurrent may be working...

Let's begin with some basics. A wave length is a continuous wave of energy and goes side to side or up and down, much like if you were to take a pencil on a piece of paper and draw a wavy line going up and down, up and down in an EQUAL pattern. Radio waves broadcasted from a radio or TV station, or a Ham radio or CB radio, all use electronic waves. Some Ham Radio waves have wavelengths that can be as tall as 80 meters (about the height of four large or six shorter telephone poles). Other Ham Radio waves can move up and down in much smaller heights, like 70 centimeters (about 27 inches). While biological wavelengths in the human body are extremely small in comparison, the principle is the same.

Now let's hold on to any specific wavelength (or height of a wave) for an example. (IE Let's use a wave height of about 70 Cm, but vary the frequency of how often that wave goes up and down in a given distance.) "Hertz" is a measurement

of frequency or electronic vibration of a wave length, and is abbreviated "Hz." Does the wavelength go up and down several times in a short space (higher frequency / higher Hz), or less often (lower frequency / lower Hz)? We measure the frequency of how often the wave goes up and down by measuring the distance between the highest points of each up-stroke of that wavelength. AM radio waves involve a specific wavelength / wave height, FM radio involves a different wavelength, TV another, and so on. Within each wavelength area, AM, FM, etc, we can dial in a specific frequency to obtain a specific AM or FM radio station, TV station, etc. Thus the frequency becomes extremely "specific" to locate your favorite radio station, etc.

This is much the same with "Frequency Specific Microcurrent." The actual wave height is extremely small on the subatomic level. We use a constant wavelength but we vary the frequency. Frequencies available with our current electronic Microcurrent units allow us to dial in frequencies as low as 0.01 Hz, and as high as 999.0 Hz. Through literature from the early 1900's and again in the 1930's, and again in the 1970's - 1990's up to this day, clinical trials have been performed on literally several thousand patients that prove on a clinical level that certain specific frequencies can and do effect specific biological, emotional, and energetic levels in the human body.

We believe Homeopathy works much in the same manner, involving specific frequencies of a specific homeopathic remedy, which we try to match to a specific defect within the patient. We hope by introducing the correct homeopathic remedy, or frequency, that we can obtain the desired biological or emotional change within that patient. Microcurrent allows us to continually change the frequencies when needed to allow the practitioner to "follow" the patient's needs at the moment while we try to remove "layers" of conditions we hope to affect. Medicine is not just one item, but is usually composed of several sub layers. Removing layers of a particular complaint is much like peeling an onion; one layer at a time, or one frequency at a time, but able to change frequencies as we progress in that treatment period. We can liken Frequency Specific Microcurrent on to a form of "electronic homeopathy."

A "micro" current (microamp = uA) is a measurement of electricity that is so small that it is below the ability of our nerves to feel the current. It is at a magnitude of current that is very close to the current that our bodies produce. There is an electrical charge within each of our bodies. This is simple to understand when you consider that the electrons that vibrate around a nucleus of an atom, are charged particles. Electrical current is measurable within the human body or any other biological system. With our current Frequency Specific Microcurrent units we are able to dial in microamp settings from as low as 20 microamps to as high as 600 microamps. This variation allows us to tailor each treatment to the energetic nature of the patient being treated, the amount of body tissue the current must pass through, the energetic nature of the condition we are attempting to correct, and the energetic nature of the tissue itself.

Microcurrent is an electrical treatment modality providing current in millionths of an ampere that has the ability to relieve pain, increase the rate of wound healing, increase protein synthesis, stimulate the regeneration of injured tissue, stimulate lymphatic flow, relieve myofascial trigger points, and change scar tissue.

An ampere (amp) is the measure of electron movement or current flow past a fixed point over time. Microcurrent is current delivered at a rate of 1 microampere (uA) which equals 1/1000 of a milliamp, that is, one one-thousandth of one one-thousandth of an amp or 1 millionth of an ampere. 1000 Microamps =1 Milliamp. The current flows at a physiologic rate. It is delivered on the same scale as the current your body produces on its own in each cell. Traditional electrotherapy units such as TENS, interferential, high volt, and sine deliver milliamps. They can cause muscle contraction and Microcurrent cannot. Microcurrent is sub sensory and cannot be felt while it is being delivered because there is not enough current to stimulate the sensory receptors.

Frequency Specific Microcurrent uses specific frequencies at a level of electrical current that closely match the current of the human body. Given this explanation, and the theory of electromagnetic fields within our cells, and backing this all up with the science of homeopathy which has been around since the early 1840's, then back this up with all the past and current clinical trials, gives us some very solid evidence of the value and understanding of Frequency Specific Microcurrent.

What does Frequency Specific Microcurrent do?

Frequency Specific Microcurrent increases ATP production by 500%. In a study done by Ngok Cheng, M.D. entitled "The effects of Electric Current on STP generation, Protein Syntheses and Membrane transport in Rat Skin." ATP production increased five times with currents from 50uA to 1000uA. With currents exceeding 1000uA ATP production leveled and with 5000uA ATP production was reduced slightly. Microcurrent was also shown to increase protein synthesis and amino acid transport.

Microcurrent applied to injured tissue supports the natural current flow in the tissue, allowing cells in the traumatized area to regain their capacitance. Trauma affects the electrical potential of the damaged tissue. This injured area has a higher electrical resistance than the surrounding tissue. This decreases electrical conductance through the injured area, and decreases cellular capacitance, leading to impairment of the healing process and inflammation. When Microcurrent is

applied, resistance is reduced, allowing bioelectricity to flow through and reestablish normal function. This process helps to initiate and perpetuate the many biochemical reactions that occur in healing.

Principles of Biologic Resonance

How can specific frequencies create immediate changes in specific tissues to neutralize specific conditions? To answer this question we have to look at the principles of biologic resonance. Think about a singer, Julie Andrews in Victor Victoria, singing a prolonged note towards a crystal champagne glass. The note resonates with the binding energy that holds the crystal together, causing the crystal to come apart and the glass to shatter. That is the essence of biologic resonance. It is more complicated than that in biologic tissue but the basic concept applies. Conditions that have affected the tissue over time form patterns that are held in the crystalline structure of the gel substance that forms the cell matrix and the interconnections between all of the cells and membranes in the body.

In his book Vibrational Medicine, Richard Gerber, M.D. describes the process in this way:

"Resonance is a phenomenon which occurs throughout nature. At the level of the atom, we know that electrons whirl about the nucleus in certain energetically defined orbits. In order to move an electron from a lower to a higher orbit, a quantum of energy with very special frequency characteristics is required. An electron will only accept energy of the appropriate frequency to move from one energy level to another. If the electron falls from the higher to the lower orbit, it will radiate energy of that very same frequency. This required atomic frequency is referred to as the "resonant frequency." The phenomenon of resonance is the principle behind the imaging systems of MRI and EMR scanning. Atoms and molecules have special resonant frequencies that will only be excited by energies of very precise vibratory characteristics. For instance, the singer who is able to shatter a wineglass by delivering a high amplitude note does so by singing in the precise resonant frequency of the glass."

"Another definition of resonance has to do with the phenomenon of energy exchanged between tuned oscillators. If two perfectly tuned Stradivarius violins are placed at opposite ends of a small room and we pluck the E string of one violin, the sister violin will begin to vibrate and "sing" in harmony. The reason that this occurs is because the E strings of the violins are carefully tuned and responsive to a particular frequency. The E strings can accept energy in the E frequency because that is their resonant frequency."

"The human mind / body / spirit complex is the holistic expression and sum total of a wide spectrum of interactive energy systems. These energetic factors include the bioenergetic currents of cellular semiconductors, and also the subtle magnetic currents of primary meridian flow." (Gerber; 1988)

James Oschman, Ph.D. describes Herbert Frolich's work in his 1996 article in the Journal of Bodywork and Movement Therapies. Frolich worked in the Department of Physics at Liverpool. In the late 1960's Frolich predicted, on the basis of quantum physics that the living matrix must produce coherent or laser-like oscillations. This prediction was confirmed in a number of laboratories. From the work of Frolich and others, we know that all parts of the living matrix set up vibration that move about within the organism, and that are radiated into the environment. These vibrations or oscillations occur at many different frequencies, including visible and near-visible light frequencies. These are not subtle phenomena; they are large or even gigantic, in scale. Moreover their effects are not trivial because living matter is highly organized and exceedingly sensitive to the information conveyed by coherent signals. Each cell, tissue and organ has an ideal resonant frequency that coordinates its activities. By manipulation and balancing the vibratory circuits, complementary therapists are able to directly influence the body's systemic defense and repair mechanisms. The molecular web is more that structure. It is a continuous vibratory network. As such, it presents possibilities of profound biological and clinical significance. (Oschman, 1996)

Principles of Energy Wells and Stable States

When the patient's condition is stable and the body metabolism and mechanics will support the change in condition, the effects created by the frequencies are quite long lasting. When multiple treatments are done, each visit produces some results that are lasting and each subsequent treatment focuses on unresolved problems. In order to explain how such effects can be immediate and then become permanent we have to look at the principles of energy wells and stable states of biochemical structures.

Think of substances that can exist in more than one state such as water. When you apply energy to water that is in the form of ice at 0 degrees centigrade, it becomes liquid water. But the surrounding temperature has to be above 0 degrees for water to remain as liquid water. If you heat the water and turn it into vapor as steam it will remain steam as long as the temperature of the system stays above 100 degrees centigrade. The surrounding system has to be supportive of the change in energy state. In biological tissue we have the concept of energy wells from thermodynamics. In biochemistry we have the basic six-hydrocarbon-chain that was stable in a "chair" or in a "boat" configuration. The exact same atoms

are configured in a different form; both forms are stable depending on the energetic milieu in which they exist. When you apply energy to the system, the configuration changes and the form becomes stable in its new configuration as long as the system is supportive of the new state.

It is much the same in our observed cases. The changes in tissue are lasting to various degrees. We have found that if the patient is basically healthy with a simple chronic myofascial pain problem, regardless of chronicity the improvement will persist without any nutritional intervention after minimal treatment. If the patient has nutritional deficiencies of functional or emotion stresses on the system, the improvement will last between one and fourteen days. In order to make the improvement lasting, more than Microcurrent must be performed. Conditions such as oxidative stress, dysbiosis, leaky gut, mineral deficiencies, biochemical instability, deconditioned muscles and emotional and constitutional stress must be addressed. The application of Microcurrent creates a rapid recovery; the application of the principles of functional medicine, nutrition support and exercise allow the recovery to persist.

The model for how and why frequencies relate to specific tissues and conditions was well stated by George Vitoulkas.

Electromagnetic fields are characterized by the phenomenon of vibration. As electrons race around atomic nuclei, they first move in one direction then another, as viewed by an external observer. This oscillation back and forth occurs at a specific frequency, which is determined by the type of sub-atomic particle and its level of energy. For our purposes however the significant point is that everything exists in a state of vibration, and every electromagnetic field is characterized by vibration, and every electromagnetic field is characterized by vibrational rates (or frequencies), which can be measured. The human organism is no exception. To grossly over simplify a highly complex situation one can visualize an individual human being as existing at a particular vibrational frequency which may change dynamically every second depending on the mental state of the person, internal or external stresses, illness, etc. The electromagnetic field is very likely the "vital force" that Hahnemann (the father of homeopathy) referred to.

Once a morbidic stimulus has affected the electromagnetic field of a person, things may progress in two ways. If the person's constitutional state is quite strong and the harmful stimulus weak, the electromagnetic field changes vibration rate only slightly and only for a short periods of time. The individual is not aware that anything has happened at all.

But if the stimulus is powerful enough to overwhelm the vital force, the electromagnetic field undergoes a greater change in vibrational rate, and effects are eventually felt by the individual. The symptoms of a disease are nothing but reactions trying to rid the organism of earlier disturbances on a dynamic electromagnetic level. (George Vitoulkas 1979)

(Source-- David G. Young, N.D. Certified Microcurrent Specialist)