Frequency Specific Microcurrent

What is it and how does it work?

A clear and simple explanation (A deep, detailed explanation follows this simpler explanation)

The roots of Frequency Specific Microcurrent (FSM) date back to the early 1900's from Dr. Albert Abrams, who was the first physician to use calibrated instruments capable of detecting the radiations of living tissue. Dr. Abrams concluded that: all matter radiates electromagnetic energy; the characteristics of the radiations from any type of matter depend upon the molecular constituents of the material examined; and the radiations emitted by the different organs of living tissues can be detected, selectively differentiated, and the amplitudes measured. Dr. Abrams became convinced that the frequencies involved were radio waves and that electronic equipment could be developed to neutralize and eliminate disease radiations.

Modern FSM utilizes hundreds of frequencies within the range of .01 to 999 Hz, with varying intensities of 20 to 600 micro amps (sub sensory to nerve firing), and has been shown to be of value to many health concerns.
Modern FSM training has been available to physicians of Chiropractic, Naturopathic, and Allopathic since late 1997. I have been specializing in FSM since early 1998 and am one of the few doctors who has progressed to become a "Certified Frequency Specific Microcurrent Practitioner." FSM is highly specialized and can be used alone, or with additional therapies as determined on a case-per-case basis. There are no other therapies in medicine that are comparable to FSM.

Since no tissue biopsy studies have been performed in FSM, it is not known exactly how FSM works; however, well over 12,000 patient cases have been studied. The following is the theory of how FSM works.
Remember your high school chemistry class. Think about the explanation of the atom. At the center of the atom are the protons and neutrons. This is called the nucleus. The old theory, in the 1960s, was the electrons were spinning in orbits around the nucleus. Modern research has shown that the electrons actually vibrate back and forth in orbits around the nucleus, instead of spinning in continuous, mono-directional circles. This new understanding is the basis of our FSM theory.

Each tissue in the body has individualized frequencies. The individualized and specific vibrational characteristic of each atom, of each tissue type, varies even more specifically for varying conditions, such as: trauma, inflammation, stress, environmental influences, etc. To put the theory of vibrations in a better overall perspective: different vibrations / frequencies of sound, light, radio waves, etc., are responsible for notes of music, colors of light, and radio stations. Vibrations are specific and unique for all matter, inorganic and organic.

When an injury occurs to a tissue, the electrons in the affected tissue take on a different vibrational characteristic, unique to that injury or other abnormal condition. As the vibrations of the electrons change, it is believed the electrons concurrently may also change to a different "orbit" from what was normal for that tissue type.
FSM is "frequency specific" because we match the frequencies of the tissue disruptions with the frequencies we choose for our therapy. The new vibrational characteristics that occur from damage to a tissue are countered with specific microcurrent frequencies that match the exact abnormal frequencies that are present in the damaged tissue. The desired effect is to neutralize those frequencies that are incorrect for the damaged / affected tissues.

As the wrong electron frequencies are neutralized, and the electrons return to their normal orbital vibrations, the physiological condition of the tissues will begin to normalize. The speed at which these changes occur varies with each individual. Some patients may experience a notable change immediately after treatment, or in some cases the greatest changes will not be noticed for up to 24 hours. Changes occur in steps of progression. It is unreasonable to expect a tissue that was harshly affected by trauma or other outside / environmental influences, to change drastically in one day. Most chronic conditions of long standing will usually demonstrate significant changes after the first six

treatments. However this is very individualized and can vary dramatically for any patient and / or condition. Some conditions may respond with rapid changes, while other conditions may take longer for notable changes to occur. To better explain, if the electrons have been at the "wrong" frequencies for an extended period of time, after treatment the electrons may try to go back to those wrong frequencies (IE rebound) perhaps within four to seven days. Thus the net result is usually an average of six treatments for the notable changes to become long lasting. Microcurrent treatment should be repeated at appropriate intervals until the cause and effect principle becomes permanent.

Our bodies produce an electrical charge that can be scientifically measured. The amount of current or electrical charge used in FSM is approximately the same level as what the cells in our body normally produce. This amount of electrical current is far below are ability to perceive any stimulus via our "sensory nerves." Our sensory nerves are those nerves that allow us to feel anything that touches our skin, allows us to sense heat, etc. If our sensory nerves were able to react at those extremely low levels of electrical charge, we would be feeling nerve sensations all the time, instead of at the appropriate times. This difference accounts for the reason why microcurrent is "sub sensory." The electrical charge produced by microcurrent is below the level at which our sensory nerves can perceive.
A benefit of causing healthy electrical changes at the cellular level is an increase in cellular activity. This enhanced cellular activity causes a 500% increase in ATP production from the cells treated with FSM. (ATP is the "fuel" your body manufactures for use and / or storage of energy.) In addition to the dramatic increase in ATP production, enhanced cellular activity also causes an excitement by your cells to dump old stored toxins into your bloodstream; toxins that may have been accumulating over years. As the released toxins enter your bloodstream, they will eventually reach and be processed by your liver in a detoxification pathway, then dumped out of your body. Your liver has enzymes that can normally process all toxins, however such a dramatic increase in toxins all at once is like rush hour traffic on the freeway. As the toxins become backed up, some side effects can be experienced. These include: nausea, fatigue, drowsiness, a temporary increase in pain, and a flu-like feeling. These side effects, if experienced, may occur during treatment, or may not be noticed until perhaps 90 minutes after treatment, and could last from 4 to 24 hours. Taking antioxidants and / or liver support supplementations immediately prior to treatment will help neutralize / process those toxins faster. Drinking two quarts of water in the two hours immediately following treatment will greatly help facilitate / accelerate your liver detoxification pathways.
As an example of how effective FSM is in causing cells to release deeply stored toxins, deep tissue massage, which also allows cells to release toxins, is used for comparison: 20 minutes of FSM releases as many toxins as four hours of deep tissue massage.

Another positive benefit of FSM is a re-establishment of the normal communication between the brain and the affected tissue. When a tissue has been injured or otherwise negatively affected, over a period of time the active role the brain plays in either trying to heal the tissue, or acknowledging a continual cycle of pain, may be reduced, or totally eliminated. This is a similar brain-to-injured tissue mechanism that would be experienced in the following two examples. In the event of endless pain: In a person who has experienced a traumatic emotional event, a state of amnesia may set in so the person may no longer remember that event. This is a form of physiological / psychological protection the body uses to protect the person from any further emotional trauma. On a purely physiological example of how the brain will send signals to heal an injured tissue, but fall short of total healing: When a race horse pulls a tendon, that tendon will only heal to 80% of normal. Veterinary science will use a process called "pin firing" where pins are inserted into the 80% healed tendons to cause an aggravation. This aggravation sends signals to the horse's brain, causing the tendon to heal the remaining 20%, allowing the horse to re-enter racing. This technique to heal tendons in racehorses has been used for many years. With FSM, the same type of re-establishment of brain-to-damaged tissue ensues. The brain may become "re-awakened" to the pain in that tissue, and will once again participate in sending signals to the rest of the body to heal those old injuries. What the patient may experience in these cases is a mild increase in pain for a few days, to a few weeks. This is a positive sign that the brain is taking a more active role in the recovery process.

I decided in early 1998 to specialize in FSM due to its remarkable speed of healing injured tissues in sports, worker's, and auto accidents. When working with these patients, I have witnessed a three-fold increase in healing times, with a more complete / long-term healing, when compared to the other usual modalities used in medicine to treat similar injuries.

I've had patients receiving chelation, and other therapies for heavy metal toxicity report, that of all available therapies for heavy metal toxicity, a single session of FSM released more heavy metal toxins than any other treatments. The net result being FSM was very cost effective. I've had patients who suffered from chronic parasitic infections, who had received all possible conventional treatments for their infections, with concurrent lab tests revealing the infection was "no longer present", complained it felt like the infection was still present, somewhere deep. FSM was the therapy that finally allowed those individuals to feel free at last, of their infections. This could be due to deeply buried and latent parasites hidden in the tissues, and / or that the negative influential energies of those infections that were never neutralized. One of the many great benefits of FSM is its ability to neutralize negative influential energies. In a very clear example of how energies can remain intact, long after something has already physically been removed, is the following example. This was a scientifically based demonstration viewed on a PBS educational series a few years ago. Special research photography had shown a very clear, blue in color energy field, outlining the exact anatomical size and location of a man's finger that had been completely severed in an industrial accident many years earlier. Yet this man could still "feel" his finger, even though his finger was totally missing.

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 sore 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 as 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.

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 configures 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 Vithoulkas.

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 Vithoulkas 1979)