COMPLETE RESOLUTION OF FIBROMYALGIA AND CHRONIC FATIGUE SYNDROME LIES IN UNDERSTANDING THE CAUSE

Written by Glenn Rexroad L.M.T.

Plenty of information exists about fibromyalgia and CFS. One thing we read and hear consistently is that the cause remains unknown. No wonder fibromyalgia and CFS are such difficult conditions to treat. If the cause of an illness is unknown, then at best we can only treat the symptoms. And if only the symptoms are treated, the results of the treatment are unpredictable and the condition will continue its course. The key to resolving any condition lies in understanding what causes it. Therefore, by unveiling the mysterious causes of fibromyalgia and CFS a specific and successful treatment can be developed.

Many different scenarios can lead to the development of fibromyalgia (FMS) and CFS. Researchers continue to identify infectious agents, physical trauma, chemical exposure, and emotional trauma as possible precipitators to FMS and CFS. One study by Dan Buskila, M.D., points to physical trauma to the neck as a precipitating factor.[1] In Buskila's research, only soft tissue type injuries were studied, like those that result from the classic "whiplash" that occurs as a result of being rear-ended in a car accident. No participants in the study had pain prior to the injury, and those who sustained neck injuries that were visible by x-ray were excluded from the study. Buskila's results state that FMS is 13 times more likely to develop after a neck injury than after a lower extremity injury. Even mild physical trauma to the neck increases the risk factors associated with the development of FMS. Buskila's work is but one study that supports the theory that the cause of fibromyalgia and CFS comes from the neck or cervical region.

Other medical authorities on the subject believe that fibromyalgia and CFS are associated with problems in the central nervous system (the body's way of communicating messages). Fibromyalgia and CFS do exhibit all of the symptoms of an exhausted and depleted central nervous system (CNS). Therefore, it is important to understand a little bit about neurophysiology, the study of how the CNS works . The following neurological laws (uniform and constant fact or principle) are in well established research, fully explained in physiology texts, and aren't anything new. You may already be somewhat familiar with this information. However, it is necessary to understand these neurological laws and how they apply to the unusual symptoms that go along with fibromyalgia and CFS. By understanding these laws we can explain what perpetuates these unusual symptoms and leads to a diagnosis of fibromyalgia and/or CFS.

First, the law of **FACILITATION**[2] says that once a nerve impulse passes through a certain set of neurons, it will take the same path on future occasions; and each time it does so the resistance becomes less. Therefore, the pathway becomes facilitated, much

---

[1] Buskila, et al., Arthritis & Rheumatism 40(3):446-452, March 1997.

[2] Dorland, The American Illustrated Medical Dictionary, 21st edition, W.B. Sanders Co., Philadelphia. See under Law

like water taking the path of least resistance when it runs down a hill. Each time it rains, the water will choose this path and cut deeper into the earth, which makes it easier for the water to channel down the hill, thus facilitating the pathway. This is how we learn. If we repeat ideas or actions over and over again, the pathway becomes facilitated and we can remember them. Unfortunately, pathways also become facilitated with pain and injuries. If a person has been in pain a considerable amount of time, the neurological pathways of the pain patterns become facilitated, and the nervous system remembers them.

The importance of the facilitated pathways becomes relevant when we look at the **ARNDT-SCHULTZ law,**[3] which states that weak stimuli excite physiological activity, moderately strong ones favor it, strong ones retard it, and very strong ones arrest it. These stimuli may be emotional, chemical, or structural. Consuming alcohol is an example of a chemical stimulus. Drinking a single alcoholic beverage would excite the physiology and give the drinker a warm, perked-up feeling. which would tend to excite the physiology and give the person a warm perked-up feeling. Another drink would continue to favor physiological activity, and the person would still feel fairly well, and sharp. With a few more drinks, which would provide a stronger chemical stimulus, the physiology would start becoming retarded, and the individual would experience loss of coordination, slurred speech, blurred vision, and impaired thinking. Continuing to drink to the point of unconsciousness, a very strong chemical stimulus, would be an example of physiological activity becoming arrested, causing a shut down of functions.

The Arndt-Schultz law is applied and extended in Dr. Hans Selye's concept of the General Adaptation Syndrome, which helps explain the role of chronic stress in fibromyalgia and CFS. In his book, *The Stress of My Life*, Selye refers to the body's response to stimuli or stress as the General Adaptation Syndrome (GAS). The three stages of the GAS are the alarm reaction, resistance, and exhaustion. For example, if a lion jumps out of the bushes, we jump in response; this is the alarm reaction. The next stage is resistance, where the sympathetic nervous system kicks in with the fight or flight mechanism that activates the release of hormones like adrenaline. We either stand and fight the lion or run away. If the threat continues, we reach the exhaustion stage, because we cannot fight or run forever. Our systems are not made to run on sympathetic all of the time. We need to go into the parasympathetics, where we digest our food, restore and conserve body energy, in order to rest and recover.

What we're faced with today is not necessarily sudden life-threatening situations, such as a lion jumping out of the bushes, but rather continued, ongoing, chronic stress situations, on the emotional, chemical, and physical (structural) levels. Things like divorce, death of a loved one, financial problems, exposure to chemical fumes like paint, consumption of caffeine, poor posture, improper biomechanics (how we use our body), and physical injuries are a few examples of chronic stress on the emotional, chemical and

---

[3] Dorland, The American Illustrated Medical Dictionary, 21st edition, W.B. Saunders Co., Philadelphia. See under law.

structural levels. These chronic stressors lead to a sympathetic-dominant system causing the nervous system to go into the exhaustion phase, and people feel burned out.

Many people who suffer from fibromyalgia and CFS are somewhat aware that over stimulation will perpetuate their symptoms. They may know, for instance, that they are chemical sensitive, and that being exposed to fresh paint fumes will trigger their symptoms. Therefore, they go through life dancing around the things that trigger their symptoms, which they have figured out by trial and error. They can't eat certain foods, and need to stay away from chemical agents that give off fumes- like fresh paint and new carpet. Many are also aware that being emotionally geared up makes them feel worse. They may tend to talk very fast, and over-commit themselves. They're upset about their health, and that doctors say there is very little that can be done about their condition, advising them to learn to live with it.

Their families are also understandably upset. Then add emotionally stressful events like divorce, a death, or a stressful job situation, and the symptoms of their condition can worsen, because all of these situations are additional emotional stimulation. Some people have discovered, through trial and error, the chemical and emotional aspects of their condition. However, figuring out what is helpful structural stimulation and what is deleterious structural stimulation can be difficult. Whether things like exercise, stretching, and yoga are helpful or harmful depends on the individual. These things can be too much structural stimulation for most people with fibromyalgia and CFS, and could lead to a worsening of the condition in the long run.

The fibromyalgia sufferer's response to chronic stress has put him or her over the pain threshold, and being in constant pain is fatiguing. Furthermore, some people's response to chronic stress is fatigue. What they often don't know, until they are evaluated, is that their soft tissue (structure) is hypertonic (excess muscular tonus or tension). The hypertonis condition of their soft tissue is still under pain threshold, so they're not in any pain- that is, until pressure is applied to their soft tissue.

Every person with fibromyalgia and CFS has local ischemia (deficiency of blood supply) and trigger points in his or her soft tissues. The ischemia leads to a build up of metabolic byproducts (lactic acid, pyruvic acid, hyaluronic acid etc..) in the tissues. These byproducts are neuroirritants causing increased irritation to the nerves which leads to increased pain. The nervous system responds to pain by contracting and resisting. This contraction leads to increased build up of the metabolic byproducts and the circle continues. Learning what things interrupt this cycle and applying them daily can be the key to alleviating the symptoms and keeping them at bay. Therefore, people will often recognize the emotional and chemical stimuli, but need the help of a professional to spot the structural stimulation that is aggravating or causing their symptoms. This is why fibromyalgia and CFS tend to go hand in hand. Both groups are experiencing very strong stimuli, or chronic stress, on the emotional, chemical, and structural levels.

The work of Edward Pfluger, a German physiologist, can explain how emotional, chemical, and structural stressors contribute to the process of the nervous system becoming exhausted.

He introduced the following five laws. Known as **Pfluger's laws.**[4]

First is the **law of UNILATERALITY.** If a mild irritation is applied to one or more sensory nerves, the movement of a nerve impulse to a motor response will take place usually on one side only, on the side which is irritated. For instance, if someone injures his or her right hip, the nervous system activity is excited on the right side only, on the side that was injured.

The second law, the **law of SYMMETRY**, states that if the stimulation is sufficient and sustained, a motor reaction is manifested, not only by the irritated side, but also in similar muscles on the opposite side of the body. Back to our example, if the person's right hip pain continues, he or she will start to experience pain in the left hip. This is due to sensory nerves from both hips entering the spinal cord at the same level and the signal spilling over from one side to the other.

The third law is the **law of INTENSITY**. Reflex movements are usually more intense on the side of irritation; at times the movements of the opposite side equal them in intensity, but they are usually less pronounced. In our example, both of the person's hips are in pain, but the pain on the right side is more intense than that on the left. It is not a matter of reaching a certain level of negative or noxious stimulation, but rather if the noxious stimulation continues untreated. Strong noxious stimulation for a short time or mild noxious stimulation for a long time will result in the law of intensity.

Next is the **law of RADIATION**. If the noxious pain signals continue to increase, the excitation enters the internuncial pool of the nervous system, which shunts sensory impulses into proper motor (muscular) actions. The noxious pain signals are then propagated upward in the internuncial pool, and reactions take place through efferent (motor) nerves coming from the spinal cord segments higher up. Efferent nerves transmit signals exciting muscular contraction, influencing nutrition, growth, and secretions. Therefore, if the pain continues, the pain signals not only spill over to the left hip, they also start radiating up the spinal cord.

It is very important that we recognize the process of the law of radiation. This is because the internuncial pool has an excitatory nature[5]. If, for instance, strong sensory stimuli (pain) enters the cord for 2 milliseconds, the discharge through the motor root will last 20 milliseconds -- ten times longer.

An example is illustrated by the experience of burning your finger on the stove. Your hand jerks back very quickly, and for one second you think "why did my hand do that?" Then you get the message that your finger hurts. A comparatively small injury with a large motor response works great as a protective mechanism. The normal nervous system response to pain is to contract and resist. If we had to wait for the sensory stimuli to go all the way to the brain and tell us that we are burning ourselves and then decide to move our hand, we would sustain far greater damage. Our nervous system is smarter than that. The sensory stimuli from our burning finger only has to travel up our arm, and into the

---

[4] Edward Friederich Wilhelm Pfluger, German Physiologist, 1829-1910

[5] Bonica. J.J., The Management f Pain, Lea and Feibger, Philadelphia 1953

internuncial pool of the spinal cord, where it is magnified ten times and comes out in a ten fold motor response[6]. That's why with a relatively small injury like burning the tip of our finger, we jerked our arm back about two feet. The nervous system knows that we need to get the finger off of the stove and we need to do it ASAP. And it'll tell us about it later - about two seconds later!

As a protective mechanism this response works in our favor. It works against us, however, when we are in constant pain. Using the hip pain example again, pain signals go into the spinal cord, and the motor response is to contract and resist. The nervous system sends a signal constricting blood vessels in the area in order to control any localized bleeding, leading to local ischemia--or lack of blood to the tissues. Normal blood supply in that area is reduced, depriving body tissues of nutrients and oxygen, as well as causing the build up of metabolic by-products such as lactic acid and pyruvic acid. These acids, which are neuroirritants, make the area more painful, leading to more contraction. If this process continues, the pain stimulus going into the internuncial pool of the spinal cord starts to radiate up the cord. The internuncial pool is going to magnify that sensory input by ten and then look for the quickest and easiest pathway to shunt that ten-fold motor response. It will pick an old injury, which is a facilitated pathway, and reactivate it. This is the reason old injuries reoccur under stress. Now that hip pain is radiating up the cord; it finds an old shoulder injury and reactivates it. But maybe you don't remember injuring your shoulder, so why does it hurt? You may not remember falling and getting injured, but the nervous system keeps a record of the past history of the organism [7]. The nervous system is the memory system of the body. This why we don't forget how to ride a bike after years of not riding. It also works this way with injuries. The nervous system remembers old injuries. Furthermore, it is the memory capability of the nervous system that makes facilitation possible. The longer we have been in pain the more facilitated the pathways become, and the easier they are to reactivate. Since each individual's nervous system has its own individual record of past stress and pain, each nervous system has its own way of responding to future occasions of stress and pain.

This leads us to the last law, the **law of GENERALIZATION.** When the irritation becomes very intense, it is propagated in the medulla oblongata of the brain stem, the area of the brain that determines and sets muscle tonus throughout the body. So medulla oblongata becomes a focus from which stimuli radiate to all parts of the cord, causing a general contraction of all muscles of the body. This systemic muscular contraction leads to increased strong stimuli which leads to exhaustion and a loss of function. Therefore, those who suffer from fibromyalgia and CFS are experiencing the law of generalization.

Understanding how noxious signals affect the central nervous system is a key point to understanding fibromyalgia and CFS. But not all signals are noxious. Some signals in

---

[6] Hardy, James D., Wolf, Harold G., Goodell, Helen, Pain Sensations and Reactions, William and Wilkins Co., Baltimore, 1952, p. 177

[7] Speransky, op cit.,p.49.

the central nervous system are beneficial and essential. In fact, the CNS relies on them in order to function properly. The signals involved in hearing, taste, smell, touch, and proprioception (balance), for examples, are essential to the CNS. It is only when the noxious signals out number the good signals that conditions like fibromyalgia and CFS surface.

Dr. Kurt Vreeland[8] further explains how the CNS achieves and maintains the right balance of signals, which is the basis of the central integrative state of the CNS. The nervous system works on the basic principle of excitation and inhibition. The physiology of a neuron has excitatory postsynaptic potentials (EPSPs), and inhibitory postsynaptic potentials (IPSPs). If there is enough of a stimulus, the signal is excited at the synapse and is carried on to another neuron; but if the signal is weak, it does not go on to the next neuron. It is inhibited at the synapse. This process of excitation and inhibition is important because the central integrated state of the CNS is based on the right balance of EPSP's and IPSP's and it is dependent on afferent input – on the good signals going to the brain.

There are areas of the brain that can not function properly without receiving the right amount of afferent signals. One of the most important areas of the brain is the thalamus portion. As explained by Vreeland, the thalamus functions as the telephone operator of the brain, fielding all primary perceptual experiences, and it is the relay station for kinesthesis (movement), vision, and hearing. It sends signals to the cortex, basal ganglia, and the hypothalamus. The hypothalamus part of the brain controls the endocrine system (like the thyroid and adrenal glands). It also controls the autonomic nervous system, which is the automatic functions like heartbeat and breathing. The autonomic nervous system is divided into two parts, the sympathetic (fight and flight) and the parasympathetic (repair and regenerate). If the signals going to the thalamus are weak, they are inhibited, and the signal stops in the thalamus. Therefore, the hypothalamus doesn't get the signals, and all of the things under its control, such as the autonomic functions (repair and regenerate), are affected. The lack of these afferent signals is called deafferentation. The symptoms of deafferentation are so similar to the symptoms FMS and CFS that it is hard to tell them apart. Dr. Vreeland tells us that the symptoms of deafferentation are nausea, dizziness, diarrhea, constipation, decrease in proprioception, chronic pain syndromes, depression, hypothyroidism, headaches, vasospasm, retinal degeneration, macular degeneration, diabetic retinopathy, ulcers, skin rashes, and aging--just about anything that is a functional disorder. Similarly, the definition of fibromyalgia is a rheumatic disorder characterized by chronic achy muscular pain of the low back, neck, shoulders, back of the head, upper chest, and or the thighs,

---

[8] Dr. Vreeland is a chiropractor in Vermont, who is board certified in neurology and applied kinesiology and is board eligible in orthopedics. He is a Diplomat of the International College of Applied Kinesiology and a Diplomat in the American College of Chiropractic Neurology. He also serves as the team physician for the U.S. Olympic Ski team. Neuromuscular Therapy Update, Vol.V Issue

legs, feet, or any other areas of the body that may be involved, painful menstrual cycles, anxiety, palpitations, memory impairment, irritable bladder, skin irritations, dry eyes and mouth, a need for frequent eyeglass prescription changes, dizziness, impaired coordination, sleep disorders, malabsorption, restless leg syndrome, bruxism, and depression. The definition of chronic fatigue syndrome is achy muscles and joints, anxiety, difficulty concentrating, fever, headaches, intestinal problems, irritability, jaundice, loss of appetite, mood swings, muscle spasms, recurrent upper respiratory tract infections, sensitivity to light and heat, sleep disturbances, sore throat, swollen glands (lymph nodes) temporary memory loss, depression , and--most of all--extreme and often disabling fatigue.[9] Interestingly, these three definitions are very similar. The question arises, could the symptoms of fibromyalgia and CFS be perpetuated by the lack of afferent signals (deafferentation)? When we look at the similarities in the previous definitions of fibromyalgia, CFS and deafferentation the answer appears to be yes. FMS and CFS sufferers exhibit clear signs of deafferentation. That is, they exhibit symptoms of deafferentation. Furthermore, researchers have been studying the neurotransmitters (chemicals in the brain) and have determined that there is a disturbance in the messages sent between various parts of the CNS. This is deafferentation (the lack of the proper signals in the CNS).

The next question is how does the lack of afferent signals (deafferentation) happen? One way that deafferentation occurs is by nerve compression. It's like putting a kink in a garden hose; the water can't get through. If there is pressure on a nerve, the signal can't get through. So, if compression exists in the neck, and considering that 90% of the nerves in the body pass through the neck, a lot of nerves can be affected. In Dr. Buskila's research stated earlier; people are 13 times more likely to develop fibromyalgia after a whiplash accident.

Another way deafferentation occurs is by a lack of mechanoreception, which happens with a lack of proper movement. Mechanorecptors send afferent signals to the brain concerning touch, pressure, vibration, hearing, balance, blood pressure, and muscular contractions. All of these types of information (signals) are essential to maintaining the central integrated state of the central nervous system Without them deafferentation will occur, leading to systemic loss of function.

It seems like a paradox. Too much stimulation eventually leads to exhaustion, according to the Arndt-Schultz law, on the other hand, the central integrative state of the CNS depends on stimulation.

Don't get confused, we are talking about two different kinds of signals. The paradox can be solved, however, when we consider that we are talking about two different kinds of signals. Nerve receptors are specifically classified either by location or by the type of stimulus they detect. Some examples are Thermoreceptors, which detect changes in temperature; Nociceptors, which detect pain; Photoreceptors, which detect light; Chemoreceptors, which detect chemicals in the mouth (taste), nose (smell), and body

[9] Prescription for Nutritional Healing, Balch and Balch

fluids; and Mechanoreceptors, which detect mechanical pressure or stretching, and include stimuli related to touch, pressure, vibration, proprioception, hearing, equilibrium and blood pressure[10].

Therefore, pain is one kind of a signal and function is another. Pain is detected by Nociceptors © fibers) and mechanical function is detected Mechanoreception (A-1 afferents). They have an inverse relationship to each other. More of one decreases the other. Large diameter Mechanoreceptors, the 1A afferents, go through the thalamus; the small C fibers, the Nociceptors which carry pain signals, go to the brain stem.
So there's a separation in the anteriolateral system and the dorsal column of the spinal column. Essentially, pain is one area and function is another. Generally, with pain or any kind of pressure on the nerve, such as a vertebra out of alignment, the large diameter axons degenerate first. The C fibers, the ones that carry pain signals, don't undergo degeneration until the very end, after the large diameter axons have degenerated.

This is because we need pain as a protective mechanism, we will loose function, and still have pain. The nervous system uses pain signals to tell us when something is wrong. Because we need pain as a protective mechanism, and because the two types of signals have an inverse relationship, we will loose function, and still have pain.

Simply, if we have an increase in pain C fibers), we have a decrease in function (1-A afferents). The central integrative state of the central nervous system is dependent on the 1-A afferents, from Mechanoreceptors**.** Without them we start to lose function. However, the process can also work the other way. We know that pain C fibers) and function (A-1 afferents) have an inverse relationship in the nervous system. Therefore, if we can increase the 1-A afferents, then we can decrease the C fibers. This is important! If we get an increase of function (1-A afferents) we get a decrease in pain (C fibers)!

Everyone has experienced the phenomenon of this inverse relationship.
If a person hits his or her thumb with a hammer, the instinct is to shake it or rub it, because those two actions increase the 1-A afferent signals and decrease the pain. This principal can be applied to chronic pain and dysfunction as well. Increasing afferent signals daily to the point of reaching a net gain will lead to a decrease in the chronic pain and to a return of function. Therefore, the missing link in treating these conditions involves increasing afferent signals through Mechanoreception.

Furthermore some in the medical community have recognized the link between nerve compression, lack of Mechanoreception, and the symptoms of FMS and CFS. For example, Dr. Vreeland states that fibromyalgia is caused by nerve compression, lack of the proper cervical curve, postural distortions, lack of Mechanoreception, and weakened or faulty backup systems, like mitral valve prolapse.

The utilization of these principals is the key to success in treating these conditions. The missing link involves increasing afferent signals through Mechanoreception. A program that relieves cervical compression, facilitates the mobilization and restoration of

---

[10] Gerard J. Tortora and Sandra Reynolds Grabowski, Principles of Anatomy and Physiology,7th ed. (New York: HarperCollins College Publishers, 1993), 445.

the proper cervical curve and each individual cervical vertebrae, puts the body back into structural homeostasis (postural balance), and increases Mechanoreception (afferent signals) would yield excellent results. When we accomplish all of those things we can expect a reversal of the symptoms.

The approach is explained as follows:

First, decrease the soft tissue pain with neuromuscular therapy, thereby decreasing the activity of the C fibers.

Second, facilitate the restoration the cervical curve, and return the movement within the full range of motion of each individual cervical vertebrae, which takes the pressure off of the spinal column, and maximizes Mechanoreception. This is accomplished by an unprecedented therapy called CIM (Cervical Intersegmental Mobilization).

Third, balance the Central Nervous System with Dr. Vreeland's neurological techniques (a series of specific neck movements). They are taught to the client and done daily. These movements increases the 1-A afferent signals sent by the Mechanoreceptors, which further reduces the C fibers, thereby reducing pain and dysfunction even more. These unprecedented techniques are done each and every day, because regaining our health happens each and every day of our lives.

Fourth, teach people to use monitoring methods in order to recognize the body's signals. For example, monitoring the morning heart rate, axillary temperature, morning perception of pain and energy, number of hours of sleep, and perception of stress of the day. By keeping a journal of this nature, people will begin to understand when they are taking more from their bodies than they are putting back. Mastering these monitoring methods is a vital ingredient to resolving these conditions. Without them, full resolution can not be expected.

In summary, with fibromyalgia and CFS the proper neurological signals are not getting through to the brain. And noxious stimulation especially in the form of pain, originating from whatever reason, left untreated (rest is not a absolute treatment), will continue through all of the neurological laws; facilitation, Arndt-Schultz, Pfluger's laws (unilaterality, symmetry, intensity, radiation, and generalization). This overwhelms the CNS with noxious stimulation and leads to a decrease in function to all of the systems of the body.

By restoring the proper curvature of the neck, and alleviating the nerve compression in the neck, more of the good signals can get through to the brain. With this accomplished on a daily basis, the nervous system's memories of injuries (facilitated pathways) will become dim memories. Although these memories never go away entirely, the dysfunction will go away if the memories remain dim. With this and the utilization of the monitoring methods, designed to help people become more aware of the structural stimuli that are overwhelming the CNS and making the appropriate changes, people can expect to become pain and dysfunction free, to have an increase of energy, and to return to a normal lifestyle.

We need to recognize that the body is a self-maintaining, self-correcting mechanism. Health is lost when something is interfering with the body's ability to cope and adapt to

the different environmental stresses. When efforts are directed toward the cause of the dysfunction, and the correct therapy is applied, the body is able to regain and maintain health.

Glenn Rexroad L.M.T., is a medically licensed Massotherapist. He worked with the AMTA Ohio Sports Massage Team from 1992–1997 where he gained experience with the treatment of sports and personal injuries. Glenn has instructed classes on human anatomy, clinical massage therapy, orthopedic massage theory and technique, soft tissue manipulation, basic clinical massage, functional assessment in massage therapy and effective communications for health professionals, He served for many years as the massage chair and curriculum coordinator for the National Institute of Massotherapy. He has also taught seminars on meditation and the properties of sound vibrational healing.

Glenn is trained in Neuromuscular Therapy, Postural Analysis, Functional Assessment, Craniosacral therapy, Applied Kinesiology, Myofascial Release, Touch For Health, Shiatsu and Reiki.

His training has taught him that postural distortion, improper biomechanics, and muscle hypertonus go hand in hand and lead to myofascial pain and dysfunction.

Glenn's training and experience has led him to develop his own techniques and devote his practice of twenty years to the treatment of chronic soft tissue pain dysfunction.

He has a private practice in Akron, and can be reached at (330) 929-2819,
www.rexroadnmt.com e-mail - glenn@rexroadnmt.com