

# INTRODUCTION TO THE MCLOUGHLIN SCAR RELEASE TECHNIQUE

**Dr. Mitchell R. Mosher**

I think that Alastair Mcloughlin from the U.K. has hit the tip of the ice berg with his scar enhancement technique. From what I have read, photos I've seen on Facebook, and my patient's feedback so far after taking his tutorial – his technique really works, and works really fast. It also provides some interesting questions for us to answer?

## Introduction

A few years ago, a Naturopath told me about an orthopedic surgeon who teaches / taught classes on scar treatments with a low- level laser light and colored cellophane. This doesn't sound like your run-of-the-mill orthopedic surgeon! But, the story piqued my interest about scars. I will tell you a little more about this in a minute.

He had an interesting discovery by accident on a patient who had a bothersome scar on her knee after he did surgery. Patient had problems with a frozen shoulder at the same time as she was recovering from her knee surgery. She was going to physical therapy and he was waiting for the knee to get better before doing the shoulder surgery.

After he injected a local anesthetic into the right knee scar prior to a cortisone injection, her left shoulder itched and tingled and then her shoulder issue cleared up within minutes. Thus, he injected scars in other locations on other patients and observed that remote non-related anatomical symptoms would disappear.

He concluded after many cases that scars block the flow of micro-currents which affect symptoms in other non-related anatomical areas. After further experiments with many patients he found that he could alter the scar's influence on the micro-currents by applying a cold laser light through a colored piece of cellophane. The color was determined by some sort of test- still doesn't sound like your typical orthopedic surgeon?

I had a patient who had low chronic back pain. I performed a Bowen acupressure massage session on her and after I did the Part B of the Lower Respiratory Procedure, aka Asthma (under the rib cage), she had an immediate emotional release while she was on the table. After the release her back pain was gone. She told me afterward that she was angry following an unwanted C-Section that the docs and her mother pretty much forced her to have two years prior and that is what started her back pain. She felt like her body had been invaded by aliens.

I did not treat her C-section scar, but the emotional stuff from the abdominal scar area was causing her posterior back pain. Probably, if I had treated her C – Section scar ala the McLoughlin Technique instead of the doing the respiratory procedure the outcome likely would have been the same.

A few years ago I attended a class that taught how to stretch a scar in different directions. After two days of a labor intense practicing in class, I took this to my patients and it didn't work a lick.

### Prerequisite to scar Treatment

In order to effectively treat a scar one should be fully aware of how a scar is formed, what constitutes a scar, and how the scar is remodeled during the months following its development.

The formation of a scar and scar tissue truly begins about 4 to 5 days after the epidermis and dermis are penetrated by a scalpel, knife, bullet, broken glass, or other sharp object. When the penetration is deepened scarring will occur all along the planes of tissue division until the point that the penetrant (scalpel, hemostat, scissors, arthroscope, laser, bullet, saw blade, or knife blade) stops. Surgical dissection often takes place in many directions away and beyond from the skin incision. In other words a scar could extend inches beyond the length and width of the scar which is visible on the skin surface. Scarring also occurs with burns, dislocations, sprains, tendon ruptures, muscle tears, contusions, fractures, and other non-invasive traumas. Maybe even piercings and tattoos.

During the first few days after an injury there is the inflammatory stage of wound repair. Positive cations from the micro-current system aggregate at the wound sites. These positive currents are generally speaking catabolic. They are; hemostatic and decrease blood flow, bacteriostatic (inhibit microbial proliferation), and attract macrophages. Histamines contribute to the inflammation as well. PS: Adrenalin = sympathetic overdrive suppresses histamines which are an important component in the initial

inflammatory phase of wound repair. Many patient / clients do not heal their wounds properly because of this.

After four to five days the micro-currents shift from positive cations to negative anions. These negative currents are generally speaking anabolic. They cause vasodilation and increase the blood flow, stimulate the release of peptide growth factor hormones, and promote fibroplasia. The anions attract the fibroblasts to the wound site and stimulate them to replicate. The fibroblasts and peptide growth factors begin the cascade of biochemical events for the formation of the collagen which is going to heal the wound sites, never again to be normal tissue. The concentration of negative anions at the wound site continues to increase from day five (the beginning of the rebuilding or repair phase and the end of the inflammatory phase) until the epidermis, dermis, superficial fascia, deep fascia, myofascial, serosal fascia, bone and periosteum, tendon and tendon sheath, ligaments, joint capsules, myelin sheaths, and other injured tissues are repaired. This is about 2 weeks for skin, 4 weeks for fascia, and 8 weeks for bone. The increasing tissue micro-currents are why wounds start to itch around two weeks after the trauma.

You might wonder, "Where do these cations and anions come from?" Research has shown they are; generated from the cell membranes, by piezoelectric effects of the crystalline structures of the hydroxyapatite in bone, collagen in the fascia, and collagen in scars. In Greek, piezo = push / electric = electricity. Once released, these micro-currents flow along the meridians. The meridian points which are along the meridian pathways are like transformers / boosters which push the micro-currents currents along the meridian channels. Studies show that the micro-current amperage drops as the meter follows the meridian channel from one point to another. When the next point is encountered the amperage rises and then diminishes as it is followed along the meridian to the next point.

Other studies of micro-currents show that positive cations also soften scars and reduce keloids by way of denaturing proteins. Collagen is formed by three protein strands, one

of which is crystalline (piezoelectric). After a scar is formed it goes through a 6 to 12 month "Remodeling Phase." During this time it loses its redness, firmness, lumps, and bumps most of the time. But, the collagen that remains will always be present to some degree or another (until it meets up with the Mcloughlin technique)!

Now that the tissues are scarred from the visible skin all the way down to the tail end of the trauma a number of issues result. When a tractor-trailer flips on the Interstate and blocks the lanes traffic gets obstructed and diverted to adjacent highways and by-ways, boulevards and thoroughfares, avenues and streets and they all have to absorb the diverted traffic.

This in turn slows the normal flow of these pathways. The scar is like an overturned tractor-trailer on the interstate freeway. The obstruction from the scar / scars diverts the flow of the capillary blood (5 microns), venous drainage, lymphatic flow, and meridian flow (.5 to 1.5 microns) of biochemical, bio-energies, and waste metabolites. The scar also restricts ranges of motion in the adjacent and remote tissues-because they are interconnected with one another. Restricted range of motion in certain areas cause altered posture and altered gait in other areas of the body and can contribute to other seemingly non-related signs-symptoms- disabilities. Tight-taut-shortened scars and fascial fibers in the front of the body can exert stress on the back as well as the back affecting the front. When a scar is released on the abdomen quite often low back pains will go away.

So, "Change a Scar-Change a Life."

## **THE FASCIAL SYSTEM**

Fascia is a loose connective tissue compared with bone which is dense connective tissue. There is a ditty that goes, "The foot bone's connected to the leg bone - the leg bone's connected to the thigh bone - the thigh bone's connected to the hip bone - ya dee ya ya ya. The hip bone's connected to the back bone-the back bone's connected to

the shoulder bone - the shoulder bone's connected to the neck bone - the neck bone's connected to the head bone - ya dee ya ya ya."

Besides a chain of connections between the skeletal parts of the musculoskeletal system, there is an even larger network of connective tissue which is interconnected amongst it called the fascial system. This system covers all structures, organs, and cells from head to toe, front to back, side to side and inside to outside. Think about piling thousands of full-body thermal suits on top of one another and connecting them together. That's about how the fascia system is. There is a superficial fascia from the base of the skull to the tips of the fingers and toes. Fat, more connective tissue, is attached to the outer layer, *Panniculus Adiposus* which is adjacent to an inner elastic layer both of which makes up the superficial fascia. There is fascial surrounding the muscle compartments, muscle fascicles, muscle fibers, and myofibrils collectively called the myofascia, *Paramysium*, *Epimysium*, *Endomysium*. It has been estimated that the average human body contains approximately 65,000 linear miles of striated muscle fibers. Each fiber contains hundreds to thousands of myofibrils and myofilaments. Take an average of 1,000 and multiply X 65,000 = 65 million linear miles of myofascia in the average human body.

Fascia surrounds the brain, the brainstem, and spinal cord called the *Dural fascia*. As the spinal nerves pass through the vertebral foramen the dural fascia is re-named the *myelin sheath* of nerve. The lungs are coated with *pleural fascia*, the heart with *pericardial fascia*, the abdominal organs *peritoneal fascia*, the uro-genital organs with *perineal fascia*, the bone with *periosteal fascia*. Then, there are transverse bands of fascia from front to back and side to side; 1. In the floor of the pelvis, 2. The respiratory diaphragm, 3. Under the collarbone- the thoracic inlet, 4. Under the chin with hyoid fascia, 5. At the base of the cranium with cranial base fascia, and 6. Joint capsules. In addition there is a thin veil of fascia adjacent to the cytoskeleton of every non-circulating cell in the body as well as para tendons, and retinaculums. That's a whole lot of tissue all connected to one another. These connective tissues allow the body to maintain shape, protect the structures from outside forces, and some scholars feel it aids in cellular functions such as respiration, digestion, reproduction, and excretion. I believe

that the fascia is a component of the 3<sup>rd</sup> dimension of the nervous system which is described in the section on the direct currents.

## HISTOLOGY & PHYSIOLOGY OF FASCIA

The fascia is made up of three significant structures; collagen, elastin, and a ground substance consisting of a colloid gel matrix which contains hyaluronic acid and mucopolysaccharides. The collagen part provides the protective-supportive function. The colloid gel acts as a shock absorber. And, the elastin allows for stretch.

There are two other properties of the fascia which are of vital importance, neither of which is discussed in the medical and physiology books at my last search. First, the collagen has three protein strands, one of which is a crystalline band. All crystalline structures can generate piezoelectricity. "Piezo" means push in Greek. When the fascia is stretched, direct currents *positive cations* are pushed out of the crystalline strand, and when the fascia is compressed *negative anions* are pushed out of the crystalline strands. Secondly, the colloid gel is "thixotropic". This means that the gel can convert to a liquid when heated or stretched, and then returns to a gel when cooled. Therefore, we have within us a liquid - crystal system, which can generate and conduct D.C.'s, *direct currents*. These are discussed in the next chapter.

Orthodontia is based on this piezoelectric effect. When the bands are applied to the teeth and stress is transmitted through the tooth down into the boney socket, piezoelectricity is generated from two structures. One is the *periosteum*, connective tissue / fascia, which has a crystalline strand in the protein part of the collagen. The second is the *hydroxy apatite* crystalline part of the bone, also connective tissue. Dr. Robert O. Becker applied stress to dead bones and found that they were capable of generating direct currents. Thus, the production of positive and negative electromagnetic charges stimulates the cellular activities which are instrumental in the remodeling of the bone. See section on Direct Currents for these effects.

## MYOFASCIAL UNWINDING

Which comes first, the chicken or the egg? In the myofascial system, which comes first? The myo or the fascia? It matters not which is which, but that they both unwind as a result of the *Reflex Arcs* caused during the Bowen Therapy. This can be witnessed frequently on the Rhomboid Muscles after the "Boomerang Moves" in the upper back procedure. While doing the first movements to the muscles, nodules can often be palpated. When the movements are repeated a few minutes later, the nodules are usually gone completely, or at least significantly reduced in size.

I've also witnessed the unwinding to continue for many years after the patient's last session. I believe that two important things occur during and after the unwinding; 1. The muscles elongate and develop improved function, 2. The fascia becomes anatomically aligned. Multiple other changes follow these first two; A. there can be a release of lactic acid build-up, B. the meridians that pass through the fascia can flow more freely, C. emotional memories can be released from the fascia, D. piezoelectric and thixotropic function is restored, E. endorphins are released and communication between the immune-central-endocrine systems are improved, and F. entrapped energies, energy cysts, are freed up.

For a visual of the fascia connective tissue, watch, STROLLING UNDER THE SKIN on You Tube. While you're there, watch John F. Barnes, MYOFASCIAL UNWINDING.

## **MICRO-CURRENTS**

My interest in this chapter began when I started using TENS *transcutaneous, electrical, neural stimulation* units on my patients to control post-operative pain following foot surgery. Later in my career, MENS - *micro-current, electrical neural stimulation* units were used to help patient's foot problems. My interest in how these trickles of electricity could have such amazing effects on patient's foot problems and healings led me to a lot of information in the archives.

Two experiences follow that led me down this trail. When performing bunion surgery we placed sterile TENS electrodes on both sides the skin incision. The wires came through the gauze dressing for attachment to the TENS unit. Inside the units were dials to adjust the currents. Two modulations were used, one for pain control as needed, and the other setting for healing. These were used at least three times a day for 20 minutes each. In most all cases, post-surgery X-Rays three to four weeks later revealed that the line which shows where the bone was transected was non-apparent. Meaning, the bone had healed back together. In cases when we didn't use the TENS units, at this point in time post-surgery, the radiolucent line was quite visible on radiographs.

My second experience was when the physiatrist came to my office to set up my new MENS machine. He opened the back of the machine and placed six "C" cell batteries in the unit much to my surprise. I asked, "Is that what powers this machine?" He said, "Yep. That's all it takes." I then questioned him on how often did they have to be replaced? He replied, "They'll last a year or two." This amazed me, especially in light of how much my patients benefited from the use of the loaner machine I used during a two week trial period. Pain was often relieved by the end of a 20 minute session. Foot problems that usually took a month to resolve got better in a week or two.

This was pre internet, so I asked the hospital librarian to do a "Med-Line" search of the available literature on electrical current and wound healing. She called me later that day and asked, "How far back in time do you want me to search?" After a moment's thought I told her, "How about 20 years." The next day, my mail box at the hospital was crammed with a rolled up sheet of computer paper. There were summaries of over two hundred studies on electrical current and wound repair, most of which were favorable.

In the mix were a number of studies done on laboratory animals which researchers implanted melanoma and sarcoma cancer cells. When the lesions grew to a certain size, electrical currents were placed over the tumors. In all cases where positive polarity was applied, the lesions either reduced in size, or were eliminated. Whereas, in the negative polarity groups the tumors continued to grow. The last study was in 1977.

This was the date when chemotherapy was introduced to the medical profession by Dr. Robert Bender.

The 1<sup>st</sup> dimension is the central nervous system. The 2<sup>nd</sup> dimension is the peripheral nervous system. The 3<sup>rd</sup> dimension is the Direct Current *D.C.* system = micro-currents. Dr. Robert O. Becker has done extensive research in this field. This led to the development of the *electronic bone growth stimulators* for fracture healing. The D.C system is probably conducted via the meridian-ductule system, the nerve sheaths *myelin sheath*, intra-cellular and extra-cellular water, and the colloid gel matrix of the fascia. This colloid gel turns to a liquid form when heated and stretched, called "thixotropic". Some data has been gathered by Dr. Robert O. Becker and Bruce Lipton, PhD, which supports this probability.

The collagen within the fascia is made up from proteins which contain crystalline strands. These crystalline structures generate micro-currents called "piezoelectricity". This is one of the systems that create micro-currents. Another generator is the cell membrane system. The cell membrane has a *liquid crystal* component. The micro-currents are instrumental in modulating wound and tissue repair, healing of fractures, bone and scar remodeling, and cellular regeneration by way of influencing cellular activities.

Our body electric has been measured and has shown a positive polarity through the central nervous system and the central part of the physical body. The extremities and peripheral tissues consist of negative polarity. An unfertile egg also is positive in the middle and negative on the perimeter.

The effects of positive and negative polarity on cellular and tissue activities have been studied extensively around the world during the past 50 years, or more.

POSITIVE / CATIONS = MOSTLY ANTIBIOLOGICAL / CATABOLIC

1. Anticarcinogenic.

2. Attracts macrophages – release endorphins.
3. Bacteriostatic.
4. Bactericidal if combined with silver ions.
5. Causes bone to reabsorb from increased osteoclastic activity = Wolf's Law of Bone.
6. Denatures protein.
7. Prevents post ischemic lipid peroxidation.
8. Promotes epithelial growth and organization.
9. Reduces keloids and scars.
10. Reduces fibrosis.
11. Reduces tensile strength of wounds.
12. Repels mast cells.
13. Retards biological growth.
14. Vasoconstrictive.

NEGATIVE / ANIONS = MOSTLY BIOLOGICAL / ANABOLIC

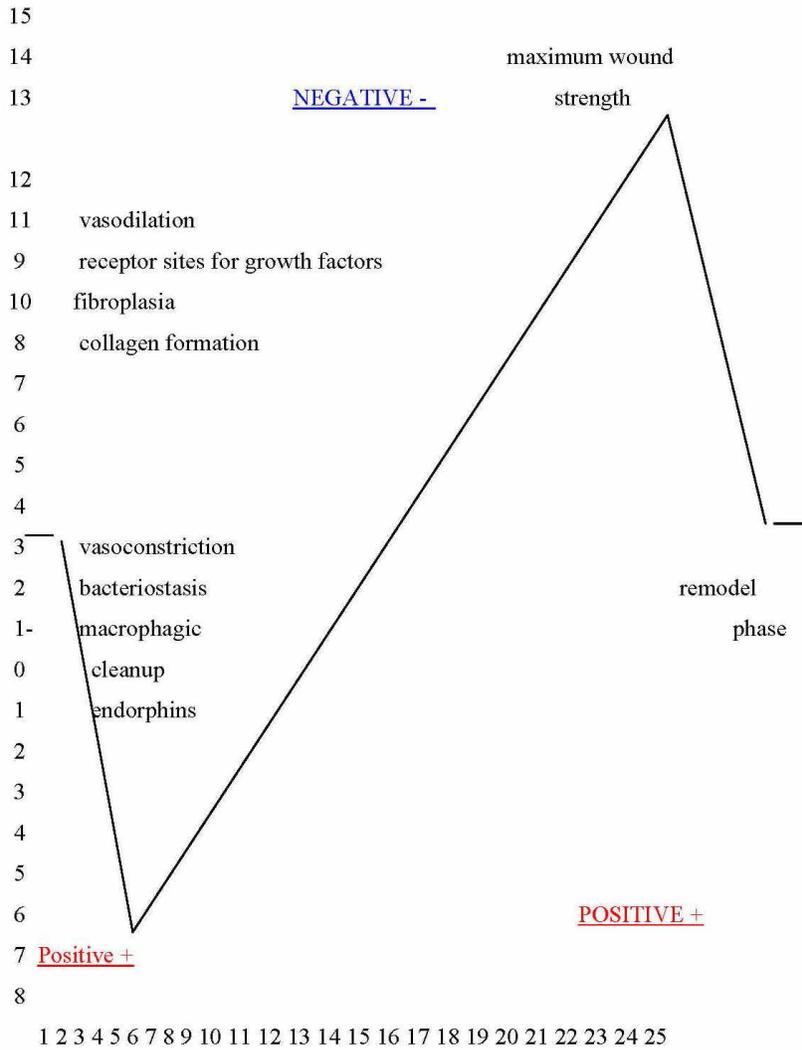
1. Attracts neutrophils.
2. Decreases edema.

3. Increases fibroblastic activity..
4. Increases fibroblastic proliferation and collagen formation.
5. Increases growth factor receptor sites on fibroblasts.
6. Increases repair and regeneration.
7. Induces epidermal cell migration.
8. Lyses necrotic tissue.
9. Stimulates granulation tissue.
10. Stimulates *osteocytes* to migrate to a fracture site in order to form crystalline hydroxy apatite for the formation of calcium for fracture repair or bone remodeling.
11. Stimulates osteoblastic activity.
12. Stimulates dendrite formation directionally.
13. Vasodilatation.

Dr. Becker found that when one cuts a finger, the negative polarity shifts to positive for about five days. Following that, the polarity shifts back to negative and increases in amperage until day 21, at which time the polarity gradually returns to its normal resting state. Wound repair takes place, generally as follows. At the time of the cut platelets clump together, we usually place a band aid and a little compression, and the cations constrict the capillaries all of which help to stop the bleeding. The cations also help to keep the wound from infection due to its bacteriostatic effects. A thrombin clot with aid of fibrinogen seals the wound and forms a scaffold for further healing by collagen. Cations stimulate macrophages which clean up the dead cells and debris at the wound

site. Macrophages release endorphins which reduces pain. All of this transpires during the first 5 days. Next, negative anion micro-currents intensify during the next 14 to 16 days and attract the fibroblasts to come to the wound site, proliferate, open receptor sites on the fibroblasts for hormone peptide growth factors. The fibroblasts then form pro-collagen and collagen which is our very own supply of super-glue. All, as a result of the anions. This intensification of micro-currents explains why wounds often tingle and itch around two weeks after the injury. I used to tell my patients, "Oh, that's the nerves reconnecting." That sounded good to me, and they always accepted my explanation, but it wasn't the truth. Usually at about day 21 the wound has its maximum tensile strength so the anions lower back down to the normal basal resting state. Then, for the next six months to one year the scar re-organizes *remodeling phase*. If you check the effects of the currents they pretty much correlate to the phases of wound repair. I speculate that if Dr. Becker had carried on his measurements at the wound site for months after the initial healing process, he probably would have charted intense positive charges which are responsible for the absorption of scar tissue. The chart on the following page shows the process.

AMPERAGE [HYPOTHETICAL]



DAYS POST INJURY

Doctor Becker wanted to know what structures or circuits these currents flowed through and performed the following experiment. He removed a section of the sciatic nerve from the leg in a rat and then confirmed the de-nerving by nerve conduction studies to the distal fibula. He then fractured the distal fibula. He noted that even though the nerve had not reconnected by the time the fractures had healed, the fracture healed in spite. Although, the fracture healing time was delayed two to four weeks.

He then studied three groups of rats, where the first group he sectioned the nerve and waited five days to fracture the bone, the second group he waited 10 days, and the third group he waited 15 days. All three groups healed in the usual four weeks' time. He concluded that something happened those first five days. He then severed the nerve in another rat, waited 5 days, and then took the wound apart. He visualized a thin film of tissue bridging the gap between the cut nerve ends. When he looked at the tissue with a microscope he observed Schwann cells, which are the main cells of the *myelin sheath*.

Therefore, the nerve sheath probably conducts the D.C. flow or, possibly the meridian that runs along the nerve as we will discover later. Or, possibly the fascia is the conductor, as the fascia surrounds every cell in the body, and the nerve sheath is really a brand of connective fascial tissue.

Doctor Becker made an interesting observation. Over all of the years that he performed experiments on animals, fracturing bones and observing them heal they never had any non-unions of the fractures. He didn't immobilize the limbs either. No casts, no pins, plates, or screws. He let the animals run around the cages, and there were only mal-unions and delayed unions. He said, "Only people get non-unions." About 1 non-unions per 1,000 fractures. Even though, they are immobilized internally, and or externally. He didn't pursue this notion, but I have pondered it and my theory is that animals; have less stress than people, follow a natural diet, and they do lots of stretching. The stretching maintains fascial integrity and resultant "piezoelectricity" & "thixotropy". How many times a day do you see the average person stretch? How many times a day do you stretch? Animals stretch every chance they get.

Following is an interesting case which corresponds with some of these findings:

#### 16 YEARS POST ANKLE FRACTURE

Big John came to my office for his initial visit. He said, "I need one of those Bowen treatments you do. My friend Peter says they are a miracle. You fixed his back pain with one treatment and my back is killing me, so can you fix me too?" I replied, "First of

all I am a Foot Doctor and I don't treat back pain. Secondly, who's Peter?" He said, "I can't remember his last name, but he brought me here, he's waiting in the car out front." He went on to say, "Now I remember, he came to you with a foot problem and when you treated him for that his back got better. I have a pain in my foot right here, as he pointed to a spot on the top of his arch, you could give me a treatment for that, right mate?" I then said, "All right, lay on the table with your feet on the pillow and your head in the face cradle", and I began a session.

When I returned to the room after the customary three minute rest between the procedures to the muscles, he said, "I remember Peter's last name mate, it's Hubbard." After I completed the next series of movements, I went to the chart files and pulled Peter Hubbard's chart. When I glanced at my chart notes I remembered the patient and the incident. Peter had been in a car-motorcycle accident at age sixteen. His right ankle had been badly fractured. He'd had many surgical procedures, two years of physical therapy, a set of custom foot orthotics, and done home therapy exercises over the years. He was told at age nineteen that what he can see is what he's got and he was stuck with a permanent clubfoot deformity. He also had post-traumatic arthritis in the ankle and subtalar joints.

On the day of Peter's first visit he told me his story, and was concerned about his orthotics not fitting properly as he had them for many years. His leg muscle was in spasm, and he was walking differently due to these problems. I don't remember, nor did I note in the chart anything about back pain. But, it's very frequent that when one favors a foot deformity or pain they will experience back pain. I gave Peter a Bowen treatment for the muscle spasm and the other postural pains he was experiencing. I kept his orthotics for a week in order to refurbish them, and he came for a second appointment a week later. I gave him a second Bowen treatment, placed the orthotics in his shoe and reappointed him for one week for a follow up visit which he failed to keep.

When I finished looking at his chart my curiosity got the best of me and I walked out of my office to the parking lot and saw him sitting in the passenger seat reading a book. I said, "Hi Peter. Thanks for bringing Big John for a treatment. What's going on?" He

looked up and replied, "Oh, Dr. Mosher! I'm sorry I never came back to thank you for taking care of me. I know that you're very busy and I didn't want to bother you and I am lousy at writing letters." I inquired as to what had transpired and he told me the following. He didn't return for the follow up visit because he didn't notice any difference in the symptoms and pain he was experiencing after the two Bowen sessions. However, four weeks after the treatments, while retiring to bed one night his ankle started to itch quite badly. Not in the skin, but, "way down deep." It had kept him awake for a couple of hours, and then subsided enough for him to dose off. During the night the itching would wake him up, but then he would go back to a light sleep. When he got up the next morning his foot and ankle were noticeably more limber, and slightly less painful. The same thing happened four weeks later, and four weeks after that. He said that, "About every four weeks for about 14 months his foot would itch at bedtime for one night only, and each time he noticed better range of motion and lessened pain upon arising the next morning." Presently, he had no further foot deformity, no leg muscle spasms, and no more back pain. I have seen Peter off and on over the years for minor "tune-ups" and he remains just fine with regards to his ankle. He recalled on one occasion, that when he told me that afternoon at my office parking lot that he was all better, he really was only about 90% better. It took another year to a year and a half to get all the way well.

So, that shows he went through a three to four year unwinding process. Also, it is interesting that the majority of his recovery took 14 months, and he was 14 years post injury? That's one month for every year, and on a monthly cycle? I grilled him on two occasions, one in the parking lot, and another on the visit when he told me it took another year and a half to get the rest of the way back to normal; did he do any other modalities, change diet, take supplements, or herbs. And, he responded with a definite, "No."

It is possible that the release of the myofascial structures in turn released the scarring in his ankle and thus the bioenergy was released?

## FOUR YEARS POST BUNIONECTOMY

Shortly after the previous case unfolded, a lady came to my practice with a postoperative bunionectomy performed by another foot surgeon. She had problems healing the surgery which resulted in sesamoiditis beneath the first metatarsal. She was four years following surgery that she was not sure she should have undergone. She said that, "The surgery never healed right, and I've had stiffness in my joint, aching, swelling in my 2<sup>nd</sup> toe, and now this pain under the joint." She also complained of pain in her hip and lower back from favoring the painful foot problems. Examination revealed restricted joint motion, fibular sesamoid pain, and sub 2<sup>nd</sup> metatarsal capsulitis. Not wanting to do more than one thing at a time, otherwise I wouldn't know which one was doing what, I gave her a Bowen session that 1<sup>st</sup> visit in order to relieve the back and hip pain. Guess what she told me when she came back the next week for follow-up? She noted off and on itching down in the joint all week long and most of the pain had resolved. The 2<sup>nd</sup> and 3<sup>rd</sup> weeks she did not experience any pruritus, but the range of motion gradually improved, and the aching resolved, so she was discharged totally asymptomatic.

I conclude that the surgical repair site was stuck on a negative polarity and was not switching to positive for some unknown reason. Positive polarity is responsible for scar remodeling.

## **MERIDIANS AND MERIDIAN POINTS**

The meridians are; .5 to 1.5 micron (1/1,000 mm.) in diameter ducts which carry bioenergy; Qi - pronounced "Chee" in China, Ki - pronounces "Key" in Japan and Korea, Pranna - pronounced "Prah Na" in the Mid-East, and Life force - in North America.

Qi consists of electrical currents, probably direct current, D.C., chemicals, and maybe more. There are 14 main meridians, 12 of which have peak cycles during 2 hour time spans during the course of the day. The meridians cycle as follows; Liver (1:00 A.M. to 3:00 A.M.), Lung (3:00 to 5:00), Large Intestine (5:00 to 7:00), Stomach (7:00 to 9:00), Spleen (9:00 to 11:00), Heart (11:00 to 1:00 P.M.), Small Intestine (1:00 to 3:00),

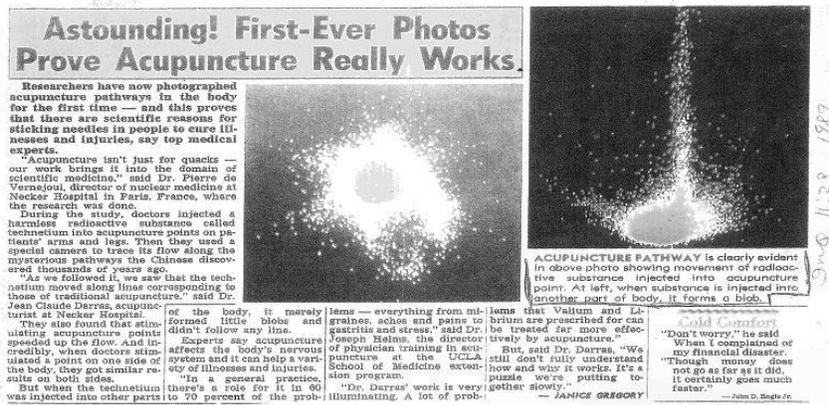
Urinary Bladder (3:00 to 5:00), Kidney (5:00 to 7:00), Pericardium (7:00 to 9:00), Triple warmer (9:00 to 11:00), and Gallbladder (11:00 PM to 1:00 A.M.). The other 2 main meridians are the conception vessel in the front of the body and the governing vessel in the back. These meridians cycle continuously around the clock. There are numerous other collateral and distribution meridians throughout the body.

The meridians are anatomically laid out like our freeway, hi-way, by-way, street, alleyway, cull de sac systems. The meridians function like an irrigation canal system, a very slow flowing non-pressurized system. They've been measured to flow at a rate of approximately 12 inches in 4 to 8 minutes depending on which meridian is measured. This is very slow compared to the blood circulatory system, which circulates from ventricle to atrium in 14 seconds, in a normal person at rest. The meridians have been observed in chick embryos, with the aid of high-resolution microscopy and a gamma ray scanner following injection of a radioisotope. The entire system is laid out and is fully developed within 15 hours following conception. Dr. Gerber cites studies that suggest that the etheric energy field directs the formation of the meridian system. And, that the development of the body parts and organ arrangement is determined by the meridians. Otherwise, how would the heart know to develop here and the liver over there? These channels appear before any vessels, nerves, organs, or limb buds.

In another study performed in Korea, the researcher removed a portion of the liver meridian and followed up with fine needle biopsies of the liver tissues. He noted the beginning of degeneration of hepatocytes, after 3 days. Therefore, the meridians are crucial for development and regeneration and repair.

The meridians have been isolated by a French researcher who injected a radioisotope (technetium 99) into humans at the meridian points and at random meridian points in the skin. He observed the ductile systems with a microscope connected to a gamma ray camera and notes that there is a superficial system under the skin and 4 deep systems; (1.along the vessels and lymph channels, 2. along the nerves, 3. inside the blood vessels, and 4.through the spaces around the internal organs) all of which are interconnected with each other and the superficial system by way of collaterals. The

meridians terminate in the cell nucleus. Following is a photograph from this study in a 1982 edition of the National Inquirer, one of the other medical journals. The white (actually yellow-orange), is the radioisotope in the tissue space in the left frame. The right frame shows the technetium in the point and then diffusing into the ductule channel.



The meridian points have been biopsied by several researchers and the following is a summary of their findings:

1. The points are adjacent to a corpuscle *diaphragm*.
2. Beneath the corpuscle is a plexus of nerves and blood vessels.
3. Biochemical analysis of tissue fluids reveal;

10 times, the amount of adrenalin than is in the blood.

Amino acids.

Cortisone.

DNA & RNA.

Hyaluronic acid.

16 different free nucleotides.

Estrogens, endorphins, and kinins.

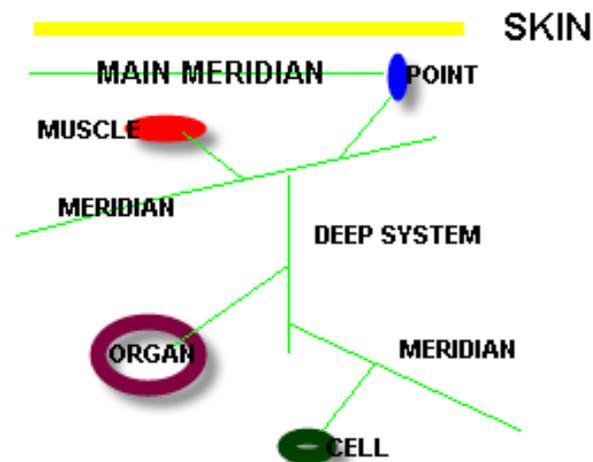


Diagram of Meridian System

Additionally, Dr. Becker studied the meridians with respect to their electrical activity. There is a measurable direct current flowing throughout, at some points positive and others negative. The amperage dropped as the probe was moved along the meridian pathway and when the probe reached a meridian point the amperage increased. It is thought that the points are like transformers, which boost the flow of the currents, because electrical current loses velocity as it travels distance.

As the meridians and nerves pass through the fascial structures and while the fascial- periosteal structures conduct the liquid-crystal system, it doesn't take a rocket scientist to figure out that prolonged fascial / myofascial dysfunction may cause occlusions in the

direct current bioelectrical system. Prolonged bioelectrical dysfunction will lead to cellular and biochemical dysfunction. Prolonged cellular and biochemical dysfunction may cause signs, symptoms, deformities, and disabilities. Additionally, fascial / myofascial dysfunction can lead to neuromuscular pain and skeletal misalignments. Therefore, removal of myofascial and fascial dysfunctions will improve the bioelectrical / biochemical functions which in turn will affect the cellular and biochemical functions, in addition to relieving neuromuscular pain, and deforming forces on the tissues. The reflex arcs from Bowen moves probably do all of this.

It makes you wonder how the Easterners knew all about the systems without any high-tech. They appeared to have mapped out the meridian and meridian point system about 4,000 years ago. However, when the frozen Eastern European hunter named "Itzy" sic, (discovered in a thawing glacier in Easter Europe), was carbon dated it was found that he was 5,500 years old. He had rheumatoid arthritis of the spine when they did the autopsy. Rheumatologists became very excited to learn that rheumatoid arthritis was not a modern age illness. They also found tattoos on his body placed over the meridian points which you would treat for pain in the areas where he had the arthritic processes. So, this was known about approximately 1,500 years before Qi Boy convinced the emperor of the Yellow Dynasty that acupuncture should be added to the Chinese Medicine formulary! A case that will reveal the re-establishment of meridian flow and subsequent healing of a chronic problem follows:

One Monday morning, a few months following my first Bowen class, a patient presented with a lump the size of an almond beneath the arch on the right foot. She told me that there was very little pain involved however, she was favoring it and this was causing pains in her hip and lower back. She was also concerned that a "lump" appeared. I reassured her that the lump was a classical benign plantar fibroma. Only if it grew rapidly or became painful should she consider having it removed. I informed her about the therapy that I had recently discovered and that it could help her back and hip. She immediately took me up on my offer. When we were all finished, she arose from the table and said, "Oh my, I feel so good. Can I come back tomorrow for another treatment?" I told her that we should wait one week before another session and for her

to make an appointment. When she returned the following week, the lump had reduced to the size of a pea and she said that she couldn't wait for another Bowen treatment. She scheduled another check on her foot and Bowen session one week later. I began the therapy prior to looking at her foot. During a point where the muscles are released on the inner thigh area she asked, "Is there any connection between that lump on my foot and my stomach?" I said, "I don't think so. Why?" She replied, "On the first visit when you released those muscles in the inner part of my thigh and left the room for me to rest, I immediately felt like a gush of worms crawling around in my stomach. All day long, I had a queasy feeling in my stomach. In addition, when I got home from work that night my stomach and gallbladder pain completely disappeared. I've not had to take any of my stomach medications for the past three weeks. I flushed \$200 worth of prescriptions down the toilet this morning. When I get to work, I'm calling the gastroenterologist who has been taking care of me the past two years and canceling my appointment for the endoscope procedure at the surgery center next week." She had an endoscopy procedure done every six months to keep a check on her problem! She added, "I won't need him anymore." I begged her not to mention my connection with any of this, as I didn't want to be in any trouble with the medical community or lose any referrals due to my deviation from the main stream. She assured me that she wouldn't and then she said, "Look at my foot." As I looked for the lump, it was almost completely gone. Now, it was about the size of a grain of rice! I found an old foot reflexology book and opened to the foot chart. Sure enough, the lump was right in the middle of the stomach and liver zone. I told her about that and she laughed, left the office quite happy, and has never returned.

Two years later, I was studying Acupuncture and recalled the incident. When I looked at the meridian chart, I saw that two of the four meridians that pass through the inner thigh and groin are the Stomach and Liver meridians. I could chalk it all up to coincidence or spontaneous remission. Or, I could believe that there was some kind of obstruction in that muscle tissue of the adductor canal and inguinal ligament which was blocking the flow of energy. When the blockage was released due to the immediate unwinding as a result of the reflex arcs, she then felt the "Gush of worms into her

stomach". Then, she healed herself. I tend to believe in the later. What is most perplexing is that the pathology reports following surgical removal of these fibrous lesions always stated, "Benign fibroplasia. Multiple fibroblasts and swirls of collagen." I'm not sure as to how this scar-like tissue could recede in three weeks

Local connective tissue fibrosis following an injury may affect both electrical conductivity as well as fibroblast-to-fibroblast communication. Therefore, local pathology can affect whole-body connective tissue signaling.

KEY POINTS FROM DAN MURPHY'S WORK 1) Unspecialized "loose" connective tissue forms an anatomical network throughout the body. 2) Connective tissue functions as a body-wide mechanosensitive signaling network that is separate from the nervous system, yet it also influences and is influenced by the nervous system. 3) Connective tissue signals include electrical, cellular and tissue remodeling. Each of these are responsive to mechanical forces that occur subsequent to changes in movement or posture, and to pathological conditions such as injury or pain. 4) Connective tissue functions as a whole body communication system. 5) Since connective tissue is intimately associated with all other tissues, including the viscera, connective tissue signaling may influence the normal or pathological function of a wide variety of organ systems. (This is extremely important for Bowen Therapists). 6) The existence of a connective signaling network may profoundly influence our understanding of health and disease. 7) Dividing the human body into separate systems for research and medical specialization is a mistake because all of the systems are integrated through the nervous system and connective tissue. 8) The musculoskeletal system does not physiologically function in isolation from the rest of the body. 9) "Unspecialized connective tissue not only forms a continuous network surrounding and infiltrating all muscles, but also permeates all other tissues and organs." 10) The connective tissue matrix allows "cells to perceive and interpret mechanical forces." 11) "Since connective tissue plays an intimate role in the function of all other tissues, a complex connective tissue network system integrating whole body mechanical forces may coherently influence the function of all other physiological systems." 12) Mechanical forces

generate electrical signals that propagate through the connective tissue extracellular matrix because proteins, including collagen, have semiconductive, piezoelectric and photoconductive properties. (The piezoelectric properties explain in part the mechanism by which Bowen Moves and postural changes work). Piezoelectric current science is integrated into the academics of various mechanical and manipulative techniques. 13) Tissue electrical conductance is affected by various external influences, including mechanical stress and illumination. Again, the “mechanical stress” explains in part a mechanism by which Bowen Moves and postural improvements help patients; 14) A whole body web of connective tissue is involved in a dynamic, body-wide pattern of cellular activity reflecting all externally and internally generated mechanical forces acting upon the body. 15) Connective tissue plasticity means that connective tissues will change in response to mechanical stress. These changes take place over the course of days to weeks following a change in posture or activity. This is important because it indicates that the joints and tissues that Bowen Therapists influence with their moves and procedures will ultimately result in desirable tissue adaptation. 16) Local connective tissue fibrosis following an injury may affect both electrical conductivity as well as fibroblast-to-fibroblast communication. Therefore, local pathology can affect whole-body connective tissue signaling. **(Important, this suggests that all local injuries have systemic manifestations.** 17) There is direct communication between the connective tissues within the matrix, and also indirect communication via the nervous system. 18) Connective tissue is richly innervated with mechanoreceptors and nociceptors. 19) Sensory information from connective tissue is integrated in the central nervous system. (Important: this supports that every connective tissue injury or problem and the Bowen Moves to the connective tissue injury or problem, will influence the central nervous system.) 20) “Connective tissue bioelectrical, cellular and tissue plasticity responses, as well as their interactions with other tissues, may be key to understanding how pathological changes in one part of the body may cause a cascade of ‘remote’ effects in seemingly unrelated areas and organ systems.” 21) “Connective tissue may be a key missing link needed to improve cross-system integration in both biomedical science and medicine.” The concept of the connective tissue creating a bioelectric tensegrity matrix that has the ability to alter our genetic expression when we

have altered alignment in a gravity environment is not new. It is expertly reviewed in the book Energy Medicine, The Scientific Basis, by James Oschman, Churchill Livingstone, 2000. Chapter 11 on gravity and spinal alignment is particularly applicable to Bowen and Scar Therapists.

The following two operation reports are presented so that the practitioner can have some idea of the depth, extent, and connection of deeper structures and organs which cannot be seen to the epidermal scar which meets the eye.

### **OPERATIVE REPORT BUNIONECTOMY**

**Procedure:** The foot and leg were prepped and draped in the usual sterile manner.

A 7 Cm. Skin incision was made with # 10 blade. The incision was deepened with sharp and blunt dissection with a # 15 blade. Large superficial vessels were clamped and ligated. Small vessels were cauterized with a Bovie. The dorsal-medial subcutaneous nerve was freed with blunt dissection and retracted away from the dissection plane. Subcutaneous tissue and fascia was separated from the joint capsule and an inverted "L" capsulotomy was performed. The capsule was detached from the metatarsal head and neck. The periosteum on the dorsal and medial aspects of the metatarsal neck was elevated to gain exposure to the cortical bone. The medial bone enlargement was resected with a surgical saw flush with the shaft of the metatarsal. Next a "V" osteotomy was made in the cancellous subchondral bone - the apex of the "V" was placed distally. The metatarsal head was moved laterally 5 mm. to reduce the increased inter metatarsal angle. The redundant medial bone was trimmed from the "V" and the bone edges were rasped smooth. The osteotomy was fixated with a Zimmer cortical screw. The wound was lavaged with saline and suctioned. The capsule was trimmed 5 mm. to reduce the Hallux Abductus angle when it was sutured back into place with 3-0 Vicryl sutures. The superficial fascia and subdermal tissues were approximated with 4 -0 Vicryl sutures and the skin edges were approximated with 5-0 nylon horizontal mattress sutures. Etc, Etc.

Note that every step except irrigation involves trauma to the tissues from skin to bone.

### **C SECTION OPERATIVE REPORT**

**PROCEDURE:** The patient was taken to the operating room where her epidural anesthesia was reinforced. She was prepped and draped in the usual fashion for the procedure. After adequate epidural level was confirmed, the scalp was utilized to make a transverse incision in the patient's lower abdominal wall. This incision was carried

down to the level of the fascia, which was also transversely incised. After adequate hemostasis, the fascia was bluntly and sharply separated up from the underlying rectus muscle. The rectus muscle was separated in midline exposing the peritoneum. The peritoneum was carefully grasped and elevated with hemostats. It was entered in an up and down fashion with Metzenbaum scissors. The bladder blade was placed in the lower pole of the incision to protect the bladder.

The uterus was palpated and inspected. A thin lower uterine segment was noted. The vertex presentation was confirmed. The scalp was then utilized to make a transverse or Kerr incision in the lower uterine wall. Clear fluid was noted upon entering into the amniotic space. At 05:27, a term viable female infant was delivered up through the incision. She had spontaneous respirations. She was given bulb suctioning for clear fluid. Her cord was clamped and cut and she was delivered off the field to Dr. X who was attending. The baby girl was subsequently signed Apgars of 8 at one minute and 9 at five minutes. Her birth weight was found to be 5 pounds and 5 ounces.

The placenta was manually extracted from the endometrial cavity. A ring clamp and two Allis clamps were placed around the margin of the uterine incision for hemostasis. The uterus was delivered up into the operative field. The endometrial cavity was swiped clean with a moist laparotomy pad. The uterine incision was then closed in a two-layered fashion with 0 Vicryl suture, the first layer interlocking and the second layer imbricating. Two additional stitches of 3-0 Vicryl suture were utilized for hemostasis. The uterine incision was noted to be hemostatic upon closure. The uterus was rotated forward, normal tubes and ovaries were noted on both sides. The uterus was then returned to its normal position of the abdominal cavity. The sponge and instrument count was performed for the first time at this point and found to be correct. The pelvis and anterior uterine space was then irrigated with saline solution. It was suctioned dry. A final check of the uterine incision confirmed hemostasis. The rectus muscle was stabilized across the midline with two simple stitches of 0 Vicryl suture. The subcutaneous tissue was then exposed, and the fascia closed with two running lengths of 0 Vicryl suture, beginning in lateral margins and overlapping the midline. The subcutaneous tissue was then irrigated and inspected. No active bleeding was noted. It was closed with a running length of 3-0 plain catgut suture. The skin was then approximated with surgical steel staples. The incision was infiltrated with a 0.5% solution of Marcaine local anesthetic. The incision was cleansed and sterilely dressed.

The result of a scar can manifest in the following symptoms and effects:

- Numbness
- Tingling
- Pain

- Burning
- Itching
- Hypersensitivity
- Muscle and tissue atrophy
- Postural distortion
- Reduced range of motion
- Loss of flexibility
- Feeling of coldness
- Feeling of disconnection between body parts
- Emotional difficulties

### **THE SCAR TREATMENT**

Last but not least, I saved the best part until the end of the class. The following describes how to perform a McLoughlin Scar Tissue Release:

- New scars wait for 6 to 8 weeks before treating and make sure they are completely healed before your treatment. It doesn't hurt to check with their M.D. before giving your session.
- Provide your client with the scar information you have learned in this class so that they can understand the implications of what you are going to do for them and that there are no surprises during or after your treatment.
- Determine the order in which scar / scars to treat. Today – and, in the future. Client input – Muscle testing.
- Are there any known emotional ties to the scar?
- How does the scar feel?
- You might want get consent to take a before and after photo to give the client and to use for your educational files.
- Large scars such as a hips, C-sections, and burns can be divided into two or more sessions.
- 30 minute sessions are the norm. Allow for 15 minutes beyond treatment time in case your client has an emotional release for which you have to stay with them.

Begin the session.

Begin the moves about 1 inch beyond the visible scar. Press into the scar with your fingertip with about 1 to 2 millimeters of pressure and make a hook-like pull with your fingertip (see instructional video [LINK](#)). Make the moves about ¼ of an inch apart from one another. End the moves about 1 inch beyond the beyond the other end of the visible scar.

After all of the moves have been made across the scar in one direction repeat the moves in the opposite direction. Again, beginning and ending about 1 inch from the edges of the visible scar.

Repeat the same process with moves up the scar and down the scar.

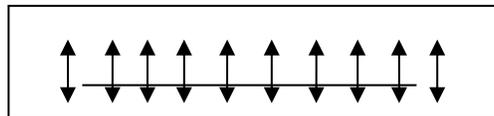
Repeat the moves 45 degrees across the scar in both directions.

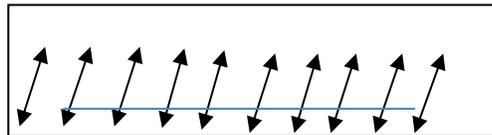
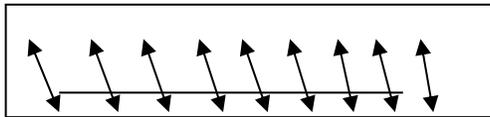
Repeat the moves 45 degrees across the scar in the opposite way in both directions.

Wait two or three minutes and repeat the sequences.

Wait two or three minutes and do one more sequence.

### SCAR RELEASE





Move 1 begins on the edge of the scar and your finger moves across the scar

Repeat the sequence 3 times

80% of scars respond fully with one session.

15% will need two sessions. And, 5% will need three sessions, unless you are splitting the scar into portions.

If the client begins crying, laughing, or going through some type of retracing or emotional release; end the session, stay present, reassure them everything will be okay, and give them comfort until they come to a “Still Point”. Note: If you are not comfortable and confident with this part of the treatment you should refer your clients to a trained scar specialist.

Often clients feel itching and tingling around the scar or up and down from it on the extremities. Sometimes the scar will hurt during treatment just like it did at the time of the injury. One time, I had a patient who I was treating the largest of multiple dog bite scars on her leg and as I treated the one scar all the others became painful. When treatment ends the pain quits.

So, after taking this course and applying the technique to your clients, don't be surprised at anything that happens and be reassured that all will be well in the end. The scar will be permanently rearranged with the exception of a keloid scar. For some reason they only change temporarily?

Take a post session photo for comparison and hope that the satisfied client will refer you someone else that you can help.

Thank you,

Dr. Mitchell R. Mosher

Retired foot surgeon, massage therapist, and health educator.

NC License # 8112 NCBTMB Provider # 450752-08



Pre Treatment range of motion



Treatment of axillary scars from lymph node resection



Range of motion after axillary scar release

Abdominal scar



Before release



1 week after Scar release

- \* Aching in muscles under ribs has disappeared
- \* Lower back pain disappeared.
- \* Hasn't needed inhaler all week
- \* Slept well all week.
- \* Abdominal scar is fading.
- \* Cesarean scar is no longer numb. (not in pic)
- \* Can bend to put on shoes without pain. .
- \* Less stressed, in better humour
- \* Can bear to touch tummy/scar again  
(curiously, her thighs ached for 2 days, as if she'd been to the gym!)

ONE Bowen session - Scar work and Respiratory procedure. When I greeted this client for second treatment, she had changed so much in her face I wondered was she the same woman. She looked like she had returned from a holiday.

For your 3 C.E. Hour certificate you must get 80% of the test questions correct and submit one case summary with before and after photos . Please forward your answers and case summary to: [bowenfootdoc@gmail.com](mailto:bowenfootdoc@gmail.com). Be sure to include your name and date.

#### Post Course Test Questions:

1. Collagen is the main component of a scar? True \_\_\_ False \_\_\_
2. Macrophages are directly involved with the formation of collagen? True \_\_\_ False \_\_\_
3. One of the protein strands in the collagen is crystalline? True \_\_\_ False \_\_\_
4. Piezoelectricity may be involved in scar remodeling? True \_\_\_ False \_\_\_
5. Peptide growth factor hormones are released by negative polarity micro-currents? True \_\_\_ False \_\_\_
6. Scars do not have any emotional feelings? True \_\_\_ False \_\_\_
7. A scar on the abdomen might be causing low back pain? True \_\_\_ False \_\_\_
8. When appointing a client for a scar session how much time should be allowed?
  - A. 15 minutes
  - B. 30 minutes
  - C. 45 minutes
  - D. 60 minutes
9. If a client begins an emotional release during a scar session?
  - A. Continue with your manipulation
  - B. Try working on a different scar
  - C. Discontinue your work and stay with your client until they are finished releasing
  - D. Do some other relaxing massage techniques
10. Working on a fresh scar is more important than working on an ancient scar? True \_\_\_ False \_\_\_
11. The entire scar should be treated on each session? True \_\_\_ False \_\_\_
12. A scar can extend beyond the boundaries of the scar seen on the skin?

- True \_\_\_ False \_\_\_
13. Toxic reactions are rare following a scar release? True \_\_\_ False \_\_\_
14. Itching, burning, and sensations tingling are common during a scar release session? True \_\_\_ False \_\_\_
15. Smoking affects the formation of collagen? True \_\_\_ False \_\_\_
16. Sometimes a scar on the knee can relate to a frozen shoulder? True \_\_\_ False \_\_\_
17. If a toxic reaction occurs after your scar session you should:
- A. Tell your client to lie down and take their temperature?
  - B. Tell you client to go to the emergency room?
  - C. Drink fluids, move about, and take a warm Epsom salt or Cider vinegar bath.
  - D. Reassure them that there will soon be an improvement as the toxins release.
  - E. A & C
  - F. C & D
18. Scars are only within the dermis and epidermis that you can see? True \_\_\_ False \_\_\_
19. You should work on more than one scar per session? True \_\_\_ False \_\_\_
20. Lymphatic drainage techniques may help following a scar release session? True \_\_\_ False \_\_\_

### Case Summary

Will you please give me some feedback on the scar treatments that I did for you.

What caused the scar? \_\_\_\_\_

How old is the scar? \_\_\_\_\_

Where is the scar location? \_\_\_\_\_

How long or big is the scar? \_\_\_\_\_

Did the wound ever get infected? \_\_\_\_\_

Can you connect any emotional trauma to the scar? \_\_\_\_\_

How did the scar *feel before treatment*? In general: \_\_\_\_\_ to touch: \_\_\_\_\_

What did you *feel while I was treating* the scar? \_\_\_\_\_

What did you experience after I treated your scar over the next few days? \_\_\_\_\_

---

---

---

Did you have any emotional releasing? \_\_\_\_\_

How does the scar feel now? \_\_\_\_\_

How does the scar look now compared to before? \_\_\_\_\_

Would you recommend this treatment to anyone else? \_\_\_\_\_

Name: \_\_\_\_\_

Do you give approval for any of this information to be made public - without any identifying personal information?

Yes: \_\_\_\_ No: \_\_\_\_

Signed; \_\_\_\_\_ Date: \_\_\_\_\_

## REFERENCES

### MCLOUGHLIN SCAR RELEASE TECHNIQUE

Alastair McLoughlin - Art of Bowen.com

“HEALING ANCIENT WOUNDS - The Renegade’s Wisdom”

John F. Barnes, PT

“THE BODY ELECTRIC”

Robert O. Becker, M.D.

“CROSS CURRENTS”

Robert O. Becker, M.D.

“VIBRATIONAL MEDICINE”

Richard Gerber, M.D.

“BIOLOGY OF BELIEF”

Bruce Lipton, Ph.D.

“BIOGRAPHICAL APPROACH TOWARD TUMOR REGRESSION IN MICE”

Humphrey & Seal: Science, 1959 130: 388-389

“INHIBITION OF EXPERIMENTAL TUMOR GROWTH IN HAMSTERS BY DIRECT CURRENTS”

Schauble, M.K. et al: Archives Pathol. Lab. Med. 1977, 101: 294-297

“ELECTRICAL STIMULATION FOR DERMAL WOUND HEALING”

Gentzlow, G.D. et al: Clinics in Podiatric Medicine and Surgery 1991 8:827-841

“ELECTRICAL STIMULATION AND WOUND HEALING”

Weiss, D.S. et al: Archives of Dermatology 1990, Vol. 126: 222-225

“LOW – VOLT PULSED MICROAMP STIMULATION”

Picker, R.I.; Clinical Management Vol 9, No2: 10-13 No. 3: 28-33