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The Role of Lymphatics in

Qigong

AN EXAMINATION OF THE ROLE OF THE LYMPHATICS IN THE POSSIBLE CURATIVE PHENOMENONS ASSOCIATED WITH QIGONG

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QIGONG, when translated into English, means something to the effect of "energy work" or "vital energy techniques", as far as I can tell. I have studied Qigong and such meditations for many years with varying degrees of success and understanding. I have come to believe in health benefits from the practice.

Taijiquan is considered a form of Qigong by most. It is recognized by its slow, purposeful movements and the seemingly tranquil state achieved by its practitioners. It is used in some orthodox treatment facilities for various illnesses and conditions that are hard to treat by orthodox medical techniques.

"Qi" is some mysterious energy that flows in and around us and when explained, often sounds like a discourse from the venerable Obi Wan Kenobi in the *Star Wars* movies. Some theorize Qi to be an electrical phenomenon. It has been found that there are currents of electrical energy on the surface of the skin that flow in the patterns

attributed by the ancients as being those of what are known in the West as "acupuncture meridians." Whether Qi is entirely electrical, or if electrical changes are simply effects associated with other processes, is debatable.

In the process of researching possible mechanisms behind historical claims concerning health benefits from the practice known as Qigong, I have come to realize and appreciate the many different levels that people come from when discussing this topic. As far as technical levels, there are those unfamiliar with Qigong entirely and who think it is a Chinese culinary dish. Some may be like myself some twenty years ago, when I stumbled across an obscure book on Silk Weaving Exercises and some books on Taijiquan by Gia Fu Feng. Others, such as a friend of mine (Ken Fish) in Gaithersburg, Maryland, may have been oriental medical doctors in Taiwan for many years. Others, such as Jim Lacy, have studied martial Qigong for over a decade. Interest levels also differ widely.

that if an individual goes into a state of shock, the capillaries can dilate and plasma proteins and fluid can leak out of the blood stream. As a result of shock, death can occur very quickly. Shock can occur from electrical jolts, physical trauma, or even severe emotional trauma. People have been said to go into shock from hearing about the death of a loved one. If this is true, then the event does not need to really happen as long as the person believes it has really happened.

The same process can occur on a small level and one can experience as a result: pain, inflammation, decreased energy, high blood pressure, etc.

As brief explanations, let's start with pain: One reason pain occurs in muscles is hypoxia. Hypoxia is an abnormally low concentration of oxygen. This happens to runners who run so fast they go into "oxygen debt". The muscles scream for oxygen. Lactic acid builds up also but is not the main reason for the intense short-lived pain. Protein trapped in tissue draws water to it creating a boggy swollen condition. This area becomes somewhat "stagnant" like a marsh. A small circulating stream, if dammed, can become a stagnant marsh. This lack of circulation prevents the proper influx of oxygen resulting in a state of hypoxia. Decreased oxygenation can also result in decreased energy. Obstruction of flow and trapped fluid needing to be drained can result in increased blood pressure and an increased work load for the kidneys.

It is known that one role of the lymphatics is to bring these trapped proteins back to the blood stream. When fluid leaves the blood stream, it becomes the domain of lymph. Interstitium gradually flows into small tubes called lymph capillaries. These flow into larger and larger vessels that have one-way check valves. These valves are important to prevent the back-flow of lymph in the wrong direction. The lymph vessels flow into lymph nodes. Lymph nodes produce lymphocytes and plasma cells. They are an important part of the immune defense and anti-body formation. They also act as miniature purification plants. Finally, the lymph vessels flow into the

subclavian vein and the nutritive material is returned to the blood stream. Lymphatics keeps blood proteins circulating.

Deep breathing & muscular movement is necessary to move the proteins back into the blood stream by way of the lymphatic system

The fluid, as it leaves the blood stream, is supposed to be loaded with a whole bunch of good junk that is there to nourish our cells. This fluid flows into the interstitium (irrigation canals) and bathes all the tissues (crop fields), supplying them with nutrients and, at the same time, drains off waste products and any accumulated toxins.

If negatively-charged proteins become trapped in the interstitium, several adverse changes will occur. The area will become edematous and swollen, resulting in a flooding of the "crops." Stagnation will result and this will cause a state of hypoxia to occur, thereby starving the tissue of needed oxygen. Proteins can become trapped because of physical trauma such as a blow to an area, a burn, or an electrical shock. We have also discussed how it may occur from emotional trauma. Again, another reason we cannot afford the luxury of a negative thought.

"Movement of Lymph towards Heart depends partly on compression of lymphatic vessels by muscles of limbs and partly on 'suction' created by movements of respiration"

—taken from ILLUSTRATED PHYSIOLOGY, McNaught and Callander, Churchill Livingstone publ., Third edition, 1981. page 112.

Deep breathing and muscular movement is necessary to move the proteins back into the blood stream by way of the lymphatic system. They are the two components that completely power the movement of lymph. To eliminate lymph flow, simply do not move much and breath very shallowly. This is one reason why too much bed rest can make us sicker. Even passive movement (when someone else moves us) is very beneficial to our overall health.

Those familiar with Qigong will see the direction I am heading with my chain of thought. Taijiquan, a popular form of Qigong, is a series of slow movements combined with a method of deep abdominal breathing. Not all Qigong has movement, but all the various methods that I

cal readings. In my study, it was found that Qigong also tended to balance out these areas. It tended to bring down measurements that were too high and bring up areas that were too low. I have done some preliminary studies that have shown that some Qigongs may actually cause imbalances to occur or worsen.

I believe that one mechanism that could explain this electrical change involves the lymphatics. If localized tissue bio-electrical irregularities are due to trapped electrically charged proteins (and the resulting cascade of events), then deep breathing and muscular movement would no doubt influence changes in this event by moving the trapped components back into the blood via the lymph. We have already documented that the two components of lymph flow are muscular movement and respiration.

In Chinese medicine, there is a lot of talk of ill health being the result of stagnant Qi and blood. We can see from the above explanation how this might actually occur on a physical level.

To quote from Zhang Dai-zhao:

"According to TCM (traditional Chinese medical) theory and its differentiation, the main causative factors for the incidence of tumors and their pathological mechanism are due to Qi, blood, phlegm, toxins, and deficiency (respectively). (Their detailed discussion) is as follows.

Disharmony of the Qi and Blood means the imbalance of the Qi and Blood. When Qi is mentioned in Chinese medicine, it may have (either of) two meanings. One is the gaseous Qi of the atmospheric air. This is what in Chinese medicine is called Heavenly Qi (Tian Qi). Its abnormalities (in the human body) may manifest as asthma and tympanites. Another meaning of Qi is the various normal physiologic functions. For example, among the five Zang [heart, liver, spleen, lung, and kidney. These are the yin/solid organs of transformation—article authors note], the normal physiological functions of the heart are referred to as Heart Qi; the normal functions of the liver are Liver Qi; the normal functions of the spleen are Spleen Qi (or Stomach/spleen Qi) and the normal functions of the lungs are Lung Qi.

Blood is the essence within the body which is derived from water and cereals (i.e. food). Normal functioning depends upon the balance of Qi and

blood in the body. If the Qi and blood lose their balance, stagnation of Qi and stasis of blood may result and which will (then) manifest as masses due to congelation of Qi and Blood.

The normal body fluid, such as the right amount of fluid within the thoracic and abdominal cavities, is referred to as Jin Ye. The body fluid tends to accumulate excessively in the interior of the body due to contraction of disease and failure to evacuate timely pathologic fluids, such as (inappropriate amounts of) thoracic and abdominal fluid and puffiness of the head, face, and limbs. Liquid retained in between the skin and flesh is called phlegm dampness in Chinese Medicine. If the phlegm and dampness fail to be dissolved over a protracted period of time, they will congeal and form a mass or an object causing swelling."

—The Treatment of Cancer by Integrated Chinese-Western Medicine by Zhang Dai-zhao, translated by Zhang Ting-liang and Bob Flaws, Blue Poppy Press, Boulder Co. pp 15-17.

In this book, it discusses treatment of cancer from both a Western and Chinese perspective. From it, we can see the importance of avoiding stasis of blood and Qi. It seems to define trapped protein and the resulting edema as "phlegm dampness" (liquid retained between skin and flesh). Qi, if it is considered to be bio-electric in nature, fits right in with this essay. The importance of timely evacuation of lymphatic fluid is also referred to. It seems to me what is termed *blood* by Zhang Dai Zhao is more closely akin to lymph. It is described as the fluid ("water") and nutrients ("cereals" or "food"). This is what plasma or lymph is. Blood, minus the red blood cells, is plasma. Plasma and lymph are very similar, the main difference being that plasma should have more protein. [Blood, at least to my Western mind, should refer to the fluid containing red blood cells.] Also, the author of the book explains in detail how such stasis and stagnation may lead to the development of various cancers.

We know that many cancers thrive in high sugar anaerobic conditions. This is created whenever we have trapped proteins in the interstitium as described above. The oxygen levels go down and can create a situation conducive to many failing physiologic conditions.

Many people explain a faltering lymphatic system only one way: we get a virus, germ, or

I am currently doing an analysis on live, unchanged blood cells and evaluating the effects of Qigong. This involves using microphotography with still photos and live video tape footage. I am consistently seeing that there is a clearing of heavy proteins, increased separation of individual red blood cells (reduced clumping) and other such positive findings. Comparing that to brisk walking, I have found that while brisk walking does indeed make the components circulate faster—it does not cause as dramatic a clearing of the heavy proteins, or as dramatic a decrease in the clumping of red blood cells...and we are not seeing the findings associated with increased clearing by the lymphatics as well as the liver. Heavy exercise (such as overload weightlifting) has been shown to actually increase red blood cell clumping and destruction, heavy trapped proteins, and free radical damage.

Possibly, part of the special effect of the Qigong has to do with the added concentration of the mind. The results may be in part due to the special type of mental focus that is part of Qigong. It may be that part of the answer to some healing is to be found in the "mind." Maybe Qigong and the mental practices associated with it should be adjunctives to certain therapies.

In the article, *Protein Dynamics In Skeletal Muscle After Trauma: Local and Systemic Effects*, by Richard Downey, M.D. and others in the magazine *Surgery*, the authors observed: "In the injured Soleus muscle, both protein synthesis and breakdown were dramatically elevated, possibly reflecting a combination of altered cellular transport and tissue repair." Surgery, it appears, could be a source of localized trauma and localized shock. Therapies such as Qigong and massage would seem to be good adjunctive procedures for many people after any surgery to prevent "stagnation of Qi and stasis of blood".

At this point, I would like to leave the comfort zone of the hard and factual and take a peek at the speculative, just to create some stir, controversy, and thought.

It is known that the body is an electrical field. This field can be measured for some distance. In the Winter/Spring 1995 edition of the *Tools For Exploration* catalogue, there is a piece of equipment known as the IBVA. It is described as "A fun, easy, one channel Mac-based brainwave moni-

tor/recorder with a unique radio headband (6'-35' range) allowing free movement." In other words, this headband broadcasts your electrical brain waves through the air up to 35 feet, which are then picked up and monitored by your computer. It retails for between \$1,300 and \$2,300 depending on the model.

In the film, "The Incredible Machine," a train was shown that would run in response to a sensor on someone's forehead. The sensor picked up subtle electrical energies, and the person wearing the headband could start and stop the train with their mental will. There are many other such devices.

An EEG picks up brain waves by little electrodes sitting on our scalp, an EKG picks up heart electrical waves by little electrodes sitting on the skin on our chest, and an EMG picks up electrical waves from little electrodes sitting on our muscles. If the skin of our hand sits on another persons skin, our electrical energy is there also. We also know that the human body responds to electrical energy, be it from a TENS unit or high-tension power lines near us.

It has been observed that medical therapies such as ultrasound and electrical muscle stimulation can dispel pain from an area of the body that is swollen and edematous. This has been concluded to be due to the electric fields caused by the therapeutic instruments. It has been found that the best benefit is found in the use of micro-current electrical stimulation—a current so small that frequently it won't even be felt by the patient. The larger, harder, currents can sometimes cause even more pain later from what is known as the "rebound effect".

If it can be shown that the body responds best to micro-current, then what about the micro-current produced by our human electric field? Could two persons' bio-electric fields interact? Many of us have turned on a microwave while we watch television and seen the interference occur, as indicated by the "snow" and interference seen on the television. Does this ever happen between two people (or between a person and a microwave)? Could two such patterns also be harmonious and create a better electrical balance? We all probably have experienced meeting someone and mentally noted feeling either soothed or put off by them.