

Freeing the Heart

By Dale G. Alexander, LMT, MA, PhD

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The central question is, what can we do as massage therapists to stem the tide of cardiovascular disease? Heart disease is a progression that expresses itself in many forms, lowering the quality of life for millions and is the cause of death for a citizen in this country every 60 seconds.¹

My premise and clinical experience suggests that we can literally create more space for the heart within the thorax. This is achieved by increasing the suppleness and length of the soft tissues both within the chest and those of the outer wall, enhancing the mobility of the thoracic joints, and by reducing the pressure within the cavity itself.

The heart expands and contracts to send blood out over approximately 60,000 miles of vessels.² By creating more room for the heart to expand, potentiates its capacity for gathering together and pushing more blood. The quantity of blood and the strength of the push during the contraction phase are both assisted by reducing the resistance to the heart's expansion phase. Something this simple can make a significant contribution. Our touch, when guided by intention, perception and knowledge can truly make a difference.

In the book, *The China Study*, the author cites a study of autopsies done during the Korean War that identified that all of the 22-year-old young men in the study showed the beginning signs of moderate to severe heart disease.³ A rather chilling reference for us to consider that the progression of heart disease actually can begin this young. Yet, it offers us an anchor point in our awareness that most of our clients would benefit from our attention to "freeing the heart."

Let's begin with a method for quickly assessing the tension and pressure of the chest.

With your next 10 clients:

1. Softly depress their chest on either side of their upper sternum, toward the table.

2. Then compress the sides of their ribs toward the midline, first one side, then the other.
3. Next, slide your hands and fingers under their back and lift the rib angles.
4. With their knees bent, contact the medial costal arch and softly glide it laterally (do both sides).

With each palpation, memorize the quality of the resistance to your palpations. The reason for assessing 10 people is to develop a continuum for your kinesthetic memory. It's a random sampling. You might want to do this same thing with an infant, a child, a teen, various adults and, people in your life that are over 60 years old to further develop your kinesthetic awareness to establish a continuum of what healthy distensibility of the thorax feels like.

It's been my repeated experience that resistance to compression, pliability, and distensibility, just beneath the breast area between ribs 5 and 6, is the most significant tip-off that the heart is unable to expand to its fullest capacity. This becomes even more significant if either side of the diaphragm muscle resists lateral excursion.

As our profession has so many different technique orientations, my intention in this series will be to outline the most critical perceptual, kinesthetic and anatomical reference points that my clinical experience has demonstrated to be effective in "freeing the heart."

One of my galvanizing experiences that prompts me to write this series is the feedback from a client in his 80's that his cardiologist had "never seen a left ventricle" that had been enlarged for 30 years shrink back to its normal size. The client has been seeing me on a regular basis since his mid-70's. None of us can promise or even assert with confidence that such functional changes will happen, but my clinical experience suggests it is possible.

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Freeing the Heart, Part 2: Equalizing the Pressure

By Dale G. Alexander, LMT, MA, PhD

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Cardiovascular disease does not happen overnight. It is a progression that evolves over decades and genetic pre-disposition can accelerate this progression dramatically. That is why we read of so many people in the obituary column dying between the ages of 45 and 65 which is the prime demographic age range of so many of our clients.

What is rarely considered is how these progressions toward cardiovascular disease figure into chronic somatic profiles that clients present to us every day and can dramatically affect their quality of life.

Two core principles of the Inside-Out Paradigm assert that the body's two imperatives are to allocate resources (oxygen and nutrition) as equitably as possible to all body tissues and to distribute the strains of physical and emotional stresses across as broad an area as possible. The allocation function is carried out by the blood vessels while the body's intricate reflex arc system governs the distribution of strain thesis. It is my premise that all forms of therapeutic massage and bodywork can positively influence these dynamic relationships.

The names that are given to cardiovascular problems are many and varied. The basic categories concern the heart itself and blood vessels. These terms include: heart attack, stroke, angina pectoris, atherosclerosis, arteriosclerosis and high blood pressure; all pathological progressions are labeled as diseases. I will explore other heart progressions that relate to disruptions in its electric rhythmic activity, infections and congenital pre-dispositions in a separate article.¹

In order to de-mystify some of these terms, let's review the contrasting definitions of arteriosclerosis and atherosclerosis since even pronouncing them tangles my tongue. According to the [Mayo Clinic](#), healthy arteries are flexible, strong and elastic. Over time, however, too much pressure in your arteries can make the walls thick and stiff and sometimes restricting blood

flow to your organs and tissues. This process is called arteriosclerosis, or hardening of the arteries. Atherosclerosis is a specific type of arteriosclerosis. Atherosclerosis refers to the buildup of fats in and on your artery walls (plaques), which can restrict blood flow. These plaques can also burst, causing a blood clot which can either affect your heart causing a heart attack or, if it reaches the brain, may provoke a stroke.¹

Functionally then, the term that I propose which makes the most sense to our orientation as massage therapists is "endothelial health."² This relates to understanding what happens along the internal walls of arteries as a result of increased pressure and the accumulation of calcium and fatty deposits along their inner vascular tubes. Constant high blood pressure hardens and stiffens the arterial walls and makes them more likely to sluff off plaques. Again, it's a progression of deterioration. Pressure is like the Goldilocks fable... too hard, then, too soft, and finally, ah, just right! Instead of seeing pressure as the enemy, let's resolve to learn how we might assist the body to equalize its internal pressure(s) "between" the body's three great cavities and "within its 60,000 miles of blood vessels."³

In 1987, Dr. Jean Pierre Barral DO, inspired my understanding that the pressure within the thoracic cage needs to be "less" than the pressure of the cranial cavity and within the abdominal-pelvic cavity in order for circulation to maintain a normal homeostatic flow of fluids back to the heart.⁴ With this perspective, our goal as massage therapists is to increase the pliability of the chest wall, especially around the space of the heart, and to also ease the tensions throughout the thoracic cavity. Let's add two steps to the proposed screening protocol from my last article. First, lift the client's head, memorize its weight. Next, palpate the tension of the abdominal wall.

At the end of any bodywork session, not only do we want the chest to become more distensible, we would also like the head to weigh less and the tension of the abdominal wall to ease. All three markers are reliable indicators in my clinical experience that the pressure between the cavities has equalized to some degree.

Let's review one "inside-out" technique that can jump-start the easing of thoracic pressure. Its effectiveness relies on the loosely organized areolar connective tissue along the posterior margin of the diaphragm muscle. Standing on the right side of your supine client, posteriorly contact the opposite side of the spinous processes, beginning at C7, with your upper hand and placing the palm of your lower hand just below the anterior costal arch. Softly anchor C7 with finger tips in contact with the opposite side of

the vertebra then stretch the abdominal tissue inferior and medial toward the belly button. Feel for the connectedness between your hands. Your intention is to stretch the internal tissues within the chest so that at the interface of the diaphragm, the downward and medial stretch gaps the loose connective tissues allowing the thoracic pressure to flow from an area of greater concentration to one with a lower concentration. A diffusion gradient is being manually produced. This same procedure can be repeated along each vertebra from C7 - T12. Yes, do both sides.

This approach is not the whole enchilada, but it consistently primes the pump between the thorax and the abdominal-pelvic cavities. And, this technique allows for a two for one potential effect. This same long lever stretching while anchoring each vertebra creates a potential rocker effect to the vertebral/rib complex which is theorized to hydrate and contribute to mobilizing the posterior thoracic spine. Therefore, is my premise that the progression toward all forms of cardiovascular disease is a backstory lurking behind many chronic somatic problems. It is also my assertion that as massage therapists we can make a real difference in the quality of life for our clients as we aspire to comprehend how the human body really works.

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Freeing the Heart Part III: Elongating the Esophagus

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The premise asserted in the first 2 articles of this series is that physically freeing the space around the heart can make a significant contribution to the quality of life for your clients and may reduce the chronic component of their ongoing somatic difficulties.

The last article described a technique for equalizing the pressure between the thoracic and abdominal-pelvic cavities. This same technique has also shown itself to assist mobilizing the posterior vertebral/rib articulations of the region.

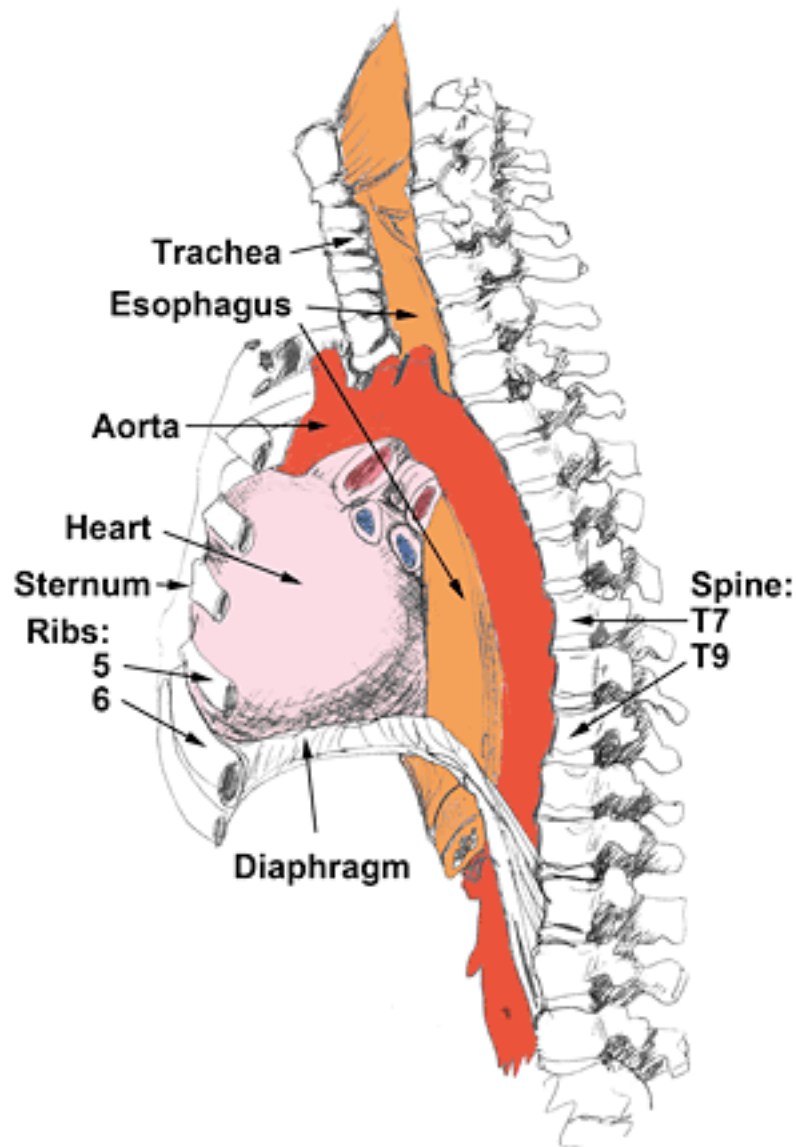
It is proposed that reducing the pressure within the thorax both decreases the internal resistance to the heart's expansion resulting in greater cardiac output and, enhances the efficiency of venous & lymphatic return back to the heart. Two additional steps were added to the initial screening assessment protocol. (A review of the assessment protocol and the suggested techniques can be accessed online).

This article proposes that elongating the esophageal tube can contribute to Freeing the Heart. The heart actually enfolds the muscular tube of the esophagus. Even less appreciated is that the upper 2/3's of esophageal fibers are striated fibers while the lower 1/3... the part that is juxtaposed to the heart as it pierces the diaphragm and becomes the stomach, is comprised of smooth muscle fibers.(1)

There are many implications of this dual innervation and its potential participation in heart related problems. Selecting the most obvious, consider how any type of cervical whiplash could re-set the resting length of the striated fibers of the esophagus toward varying degrees of chronic contraction or spasm. And, that this shortening of the esophagus may lie dormant for years going undetected yet, adding a posterior resistance to the heart's expansion as well as influencing the onset of hiatal hernia symptoms and the reflux of stomach acid leading to chronic "heartburn." A shortened esophagus adds friction between itself and the sac of the heart, the pericardium. Friction begets irritation and irritation eventually incites inflammation. Chronic inflammation is increasingly considered the bridge between stress related ailments and the onset of many pathological progressions during the aging process, including cardiovascular disease.(2)

Common sense suggests that the sac around the heart cringes in its attempt to prevent the acid from penetrating its protective sheathing. And, should the acid

reach the fibers of the heart muscle that it creates an irritable reaction within them. Might this relate to a host of the different heart ailments that increasingly are described both in abnormalities of electrical transmission within the heart and the increasing frequency of atrial fibrillation ?



Many years ago I had the unique opportunity to work with an exceptionally gifted physical therapist who was known for her success with helping infants and children. An infant was brought to her office with a diagnosis of non-epileptic brain seizures. As she was a graduate of Ohio State University, she called there and was referred to Pediatric GI specialist. On the conference call, we both had a galvanizing learning moment as the specialist described that the infant may have been born with a congenitally short esophagus and that the seizures may stem from

its central nervous system's attempts to elongate the tube.(3) What a concept. He further noted that it was a fairly rare condition but that he had seen it enough times that his model for dealing with such unexplained seizure activity now included this as a possibility.

The epiphany for me was that along a continuum of genetic possibilities, not only could the esophagus be congenitally short, but that in many individuals it is predisposed to contracting strongly and may re-set its resting length in response to intense emotional reactions and prolonged stress in addition to the physical provocations described earlier. The most pertinent physical implication of the esophageal fibers bunching is its potential to limit the heart's expansion phase posteriorly. Thousands of clinical experiences with clients now validate this notion for me. The neurological implications of a shortened esophagus will be explored in the next article.

It has long been known that mid-sternal pain more likely relates to esophageal contraction or spasm whereas pain associated with the left breast area is more likely to relate to some aspect of possible heart dysfunction or impending crisis.(4) I carefully inquire with new clients to make sure that they have had a cardiology work-up if they present with either of these and insist that they see their physician if they haven't. It is prudent for us all to encourage clients to rule out any possible pathological or congenital predisposing scenarios.

The addition to the screening protocol I have found to be consistent with esophageal involvement is to palpate along the occipital ridge for the space and ease of distraction of the occiput from the atlas bone. The more close packed and resistant to distraction, the more the esophagus is a variable has become my clinical interpretation.

Another primary myofascial structure that co-participates in the compaction of the head upon the neck are the SCM's (sternocleidomastoid muscles). It is my clinical experience that the SCM's function as the guard dogs of preserving the cranium's safety in the event of a sudden shift in position of the head as may happen in a fall, the body flung forward or backward (bicycle or motorcycle accident) or, impact trauma of all kinds.

So, the answer to the question of what can you do to help your clients is... to use whatever techniques you have learned to reduce the tension of the SCM muscles.

A unilaterally contracted SCM or bilaterally so, compresses the jugular foramen through which both the vagus nerves and the accessory nerves exit from the brain. Old time anatomists suggested that the Accessory Nerve functions as an overflow valve for vagal tensions. (1) And, let's remember that the accessory nerve innervates the Trapezius muscles as well. Thus, tight Traps are also a tip off that compression of the jugular foramen is a variable and that a contracted esophagus may be a crucial variable flying under the radar as a soft tissue structure that we need to treat.

Assisting the esophagus to elongate is accomplished by anchoring the occipital ridge and softly compressing the the left side of the sternum along its length toward the left hip with an emphasis around ribs 5 - 6 and then into the soft tissue of the abdomen just beneath the left costal arch.(5)

In the next installment to this series we will further explore the role of the esophagus along with those of the pericardial sac and explore the possibility that sometimes the heart may shift from its normal position in the thorax. It is my clinical experience that all of these variables can be positively influenced through bodywork, massage, movement and energetic therapies.(6)

To date, this series has endeavored to offer an assessment sequence and a couple of fairly specific techniques that have clinically shown themselves to assist an easing of thoracic rigidity. The clinical inference is that by doing so we are reducing the workload of the heart to deliver newly oxygenated & nutritious blood systemically.

Assessment Sequence for Freeing the Heart

The central theme is to assess the degree of pliability and distensibility of the thoracic cage. My experience suggests that when the left sternal border and the intercostal space associated with ribs five and six are rigid that the heart is definitely having to work harder to push out newly oxygenated and nutritious blood. Restriction to the lateral excursion of either or both hemi-diaphragms only adds to the workload of the heart.

1. Softly depress their chest on either side of their upper sternum toward the table.
2. Compress the sides of their ribs toward the midline, first one side, then the other.
3. Slide your hands and fingers under their back and lift the rib angles.
4. With their knees bent/feet standing, contact the medial costal arch of each hemi-diaphragm and softly glide it laterally (do both sides).

5. Lift the client's head, memorize its weight.
6. Palpate the tension of the abdominal wall. At the end of any bodywork session, not only do we want the chest to become more distensible, we would also like the head to weigh less and the tension of the abdominal wall to ease. All three markers are reliable indicators in my clinical experience that the pressure between the cavities has equalized to some degree.
7. The addition to the screening protocol I have found to be consistent with a shortened esophagus is to palpate along the occipital ridge for the space and ease of distraction of the occiput from the atlas bone. The more close packed and resistant to distraction, the more the esophagus is a variable has become my clinical interpretation. Remember that releasing the tension of the SCM's is an essential first step to accessing the fibers of the esophagus.

Technique Review for Freeing the Heart

Let's review one "inside-out" technique that can jump-start the easing of thoracic pressure. Its effectiveness relies on the loosely organized areolar connective tissue along the posterior margin of the diaphragm muscle.

1. Standing on the right side of your supine client, posteriorly contact the opposite side of the spinous processes, beginning at C7, with your upper hand and placing the palm of your lower hand just below the anterior costal arch. Softly anchor C7 with finger tips in contact with the opposite side of the vertebra, then stretch the abdominal tissue inferior and medial toward the belly button. Feel for the connectedness between your hands. Your intention is to stretch the internal tissues within the chest so that at the interface of the diaphragm, the downward and medial stretch gaps the loose connective tissues allowing the thoracic pressure to flow from an area of greater concentration to one with a lower concentration. A diffusion gradient is being manually produced. This same procedure can be repeated along each vertebra from C7 - T12. Yes, do both sides. And, this technique allows for a two for one potential effect. This same long lever stretching while anchoring each vertebra creates a potential rocker effect to the vertebral/rib complex, which is theorized to hydrate and contribute to mobilizing the posterior thoracic spine.
2. Use whatever techniques you have learned to reduce the tension of the SCM muscles.
3. Assisting the esophagus to elongate is accomplished by anchoring the occipital ridge and softly compressing the left side of the sternum

along its length toward the left hip with an emphasis around ribs five and six and then into the soft tissue of the abdomen, just beneath the left costal arch.⁵

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