

**PUTTING THE SOUL BACK IN THE BODY:**  
**A Manual of Imaginative Anatomy for Massage Therapists**  
**by DAVID LAUTERSTEIN**

The intellect is powerless to express thought without the aid of the heart,  
liver, and every member."

Wordsworth

## ACKNOWLEDGEMENTS

This book is dedicated to:

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I thank you all from the bottom of my heart.

## FOREWORD!

" All of me, why not take all of me?"  
-- Billie Holiday

You already know anatomy. At every moment your nerves are jumping, you're heart's a-pumping and, let me tell you, if your nerves are not telling you how your heart's doing, you are in big trouble. See? Knowledge, information, about how you're doing, where, and why, is constantly circulating through you or you'd be you no longer.

Plato said that the acquiring of knowledge is just a form of recollection. I like that. Learning anatomy is just becoming self-conscious, recollecting what you're already aware of on the physiological level. Learning anatomy is making the unconscious conscious.

Internally, our natural ability to coordinate all our complex life functions is so amazing that we may all be aptly described as physiological geniuses. Learning anatomy is awakening to your own physiological genius.

If this manual can help you to know yourself more deeply, I will be happy--and so will you! If you will let your newfound self-knowledge and enthusiasm flow into your massage therapy, your clients will be happy too! How can we lose?!



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## An Anatomical View of Massage Technique

Gustav Mahler wrote a symphony, his Third, in which the movements are variously entitled, "What the Night tells me; What the Flowers tell me; What Love tells me; What the Child tells me." Similar feelings and words come to mind in describing massage technique, i.e., "What the Hands tell me."

If you love the feeling of, for instance, your child's warm, soft skin, your hands will communicate your love when you touch the child. Your hands will "tell" the child, in effect, not only, "I love you" or at least, "I love the feeling of your skin", but also they remind the skin of its own nature, communicating non-verbally, "See how soft and warm you are." These sorts of communications are happening constantly during a massage. Touch can't lie.

It is our job as massage therapists to engage with the client in revealing and enhancing, mostly non-verbally, the logic, vitality, and beauty of his or her psychophysical being.

Let us consider the basic strokes of massage from this standpoint.

### Resting Stroke

Although not commonly taught as a stroke, what is meant here is just placing your hand on the person, making contact. It may be said to be the basic stroke of some disciplines such as polarity, Jin Shin Do, Reiki, etc. But it needn't be considered esoteric. We all know how helpful a simple hand on the shoulder may feel when things get a little rough. That hand says, "I care about you, I'm here, it's going to be O.K."

At the beginning of each massage I use this stroke, not with the pretense of "Here's Mr. Healer," but simply as a way to introduce myself to the person's body, oftentimes while we're lightly conversing.

Another use of this stroke is in conjunction with friction. Even though you need only one hand for most deep techniques, working, say, on a hamstring with your fist, it is essential to keep the other hand on the body, in the resting stroke. In this way the combined communication of your two hands is, "I've got to go a bit deep here to release this particular tissue restriction but, please remember, I do care about you." I think of the resting hand as the "consoling" hand or the "Yin" hand to the more "Yang" friction hand.

Similarly, the resting stroke is Yin in the sense of receptive. When I want to know how a client is feeling, I may pause in the treatment and, letting the hands rest, try to sense with them, or simply ask, "How ya doing?"

Lastly, the resting stroke allows, both literally and figuratively, for breathing space in the massage. Sometimes the constant motion of the hands becomes an actual distraction to the client and/or practitioner remaining sensitive to exactly what's going on. Take a rest, re-establish contact. The interweaving of stillness and movement, many different rhythms, are as necessary in a massage as they are in the interwoven sound and silence of music.

-- The focus of the resting stroke is contact. --

### Effleurage

is, usually, a flowing and superficial stroke. Therefore, it's great for wiping away "surface tension." Especially after physical or emotional trauma, it can be very soothing.

Effleurage also says to the body segment, "feel how long you are." More than any other stroke, effleurage must convey an appreciation and knowledge of exactly how long the body segment is. For example, if you do not go up at least to the iliac crest, you will shortchange the person's sense of leg length. Knowing precisely where muscles and bones begin, run, and end is essential if this stroke is to have much impact.

Deep effleurage aims not so much at suggesting length, as at creating it. Using any appropriate instrument--fist, forearm, fingers, thumb--work slowly into a deep layer of the muscle, then move along it, generally toward the insertion, lengthening and possibly re-orienting the directions of the connective tissues as you go. This is a basic stroke of Rolfing and some other structural approaches.

-- the main focus of effleurage is length and direction  
(usually of a whole body segment) --

### Petrissage

is a love squeeze, a form of caress. It goes deeper than the resting stroke, contacting not only the surface but the sides and even underside of the muscle(s). Therefore, it is more intimate. For instance, notice how in a conversation with a stranger you might feel comfortable placing a hand on his/her forearm to make a point, but be hesitant to even lightly knead the shoulder. Whereas, with a better friend, you'd have no hesitation to give their shoulder a little squeeze right off the bat.

Even done gently, lifting the muscle belly away from the underlying bone, petrissage can give the client a sense of spaciousness within themselves. Most clients do feel compressed, tight, and it can be deeply relieving for them to experience some room between their muscles and bones.

Deep petrissage is one good way to address tension and congestion under the surface. Through inactivity, overuse, injury, psychological armoring, poor nutrition, postural ignorance--most of us develop internal "dumps" where we store our wastes instead of eliminating them. Kneading, wringing, and squeezing the muscle will help eliminate the waste products that were lying stagnant within it. Then it again becomes available to circulatory refreshment.

-- The main focus of petrissage is three-dimensional draining of tension (usually from the whole muscle) --

### Tapotement

done lightly is a love tap. Note how people will spontaneously pat each other's backs or playfully punch a friend's arm. Tapotement, far from being the stupid pounding (or an oily slapping which makes a person feel like his/her back is being covered with dying fish!), is a very stimulating and effective stroke. Done gently, with affection, it can be very reassuring. With more percussive force, especially, for instance, on the sacrum, it can seem to "jar" one's energy loose. Often it will evoke a rollicking and good-humored response in the client.

Many fine martial arts practitioners are also "healers", being sensitive to the nourishing as well as the wounding capacities of touch. I enjoy the fantasy that the ideal martial artist could walk up to a sick person, give them one strong loving punch to some precise point of their body, and the sickness vanish. This would be the high physical correlate to the seemingly natural desire to "knock some sense into somebody's head."

-- The focus of tapotement is rejuvenation, awakening --

### Friction

Actually, I believe that friction is best considered to be just a deeper version of the resting stroke! It is also about resting and making contact, only the contact takes place on a physically and psychically deeper layer.

Palpate an area for adhesions, movement restrictions, coldness, etc. Determine a specific place to start working and try to figure out the muscle being addressed so that, along with the form of adhesion, you can also take the psychosomatic role of this muscle into account. Then, using your body weight and leverage, not force, enter into the tissue. Once you feel you can go no further without forcing the issue, rest. Patiently wait, with just the slightest movement, for the client to open up on a deeper layer. Feel for "melting." This is often as not as much imagination as sensation. One visualization--imagine two sheets of saran wrap stuck together with some heat-sensitive glue. Say you want to separate them. If you use too much pressure, you will only pin them down. If you stretch them, you still won't have addressed the adhesion. Instead imagine your warmth melting the glue, and then, with sensitive movement, help the sheets slide

freely over one another.

All of which is to imply that friction, far from being a vertical forced entry, is often more of a horizontal stroking on a deep level, a coaxing apart of adheded tissues. Occasionally, more force may be necessary, but this is the exception and to be engaged in only with clients whose problems require it, who have been educated about, and are willing to undergo the "good" pain which such deep healing entails.

-- The focus of friction is freedom from unnecessary restriction (usually points of fascial adhesions within the muscle).

Friction explicitly works in, not on, the body. --

In conclusion, notice how the basic movements of massage are all derived from everyday gestures of affection. If we will let their spontaneity affect even our deeper work, our clients will feel fantastic. Add to this a thorough anatomical knowledge and some psycho-physiological insight and there you have it--this most delightful and potent art and science of massage therapy.

### A Note on the Connective Tissue System

All the muscles, bones, organs, and vessels of the body are covered by a connective tissue, which is like a continuous saran wrapping. It is called by various names according to what it's covering. Right under our skin, there's a second "skin", a body stocking called "superficial fascia." This radiates into a deeper layer covering each individual muscle, "deep fascia." The muscle itself has a second skin composed of the same connective tissue but now called "epimysium." Each muscle bundle is surrounded by "perimysium"; and each individual fiber, by "endomysium." At either end of the muscle belly, these tissues naturally converge, but now they're called "tendon." The tendon attaches to the connective tissue covering the bone--"periosteum," and so on. As you can see, we are highly layered in our structure. Deep massage specifically addresses the adhesion between or within layers of connective tissue.

This three-dimensional spider webbing all around and through us comprises not only the packaging, but also much of the packing matter of our bodies. There can be no slide taken from the human body that will not naturally contain general connective tissue. This stuff is a bit like ubiquitous jello. It is made up of a "ground substance" with occasional threads of collagen running through it, a protein that helps hold things together. Ground substance is composed mostly of hyaluronic acid, a colloid whose density depends on the level of activity within it or energy applied to it from without. Therefore, for instance, since this acid is also one of the major components of the synovial fluid within our joints--When there's reduced joint activity, the synovial fluid will thicken. However, with resumption of normal activity, the synovial fluid again becomes less dense.

This changeability of hyaluronic acid is one of the strongest bases for the long-term effectiveness of massage therapy. For what is massage but the application of energy--movement, warmth, pressure--to the tissues of the body? Softening the appropriate layers of connective tissue will allow for greater fluidity of movement, circulatory freedom, and many other psychophysical benefits. Since the hyaluronic acid within connective tissue is everywhere within us, we are more thoroughly open to change through movement and massage than we may sometimes think.

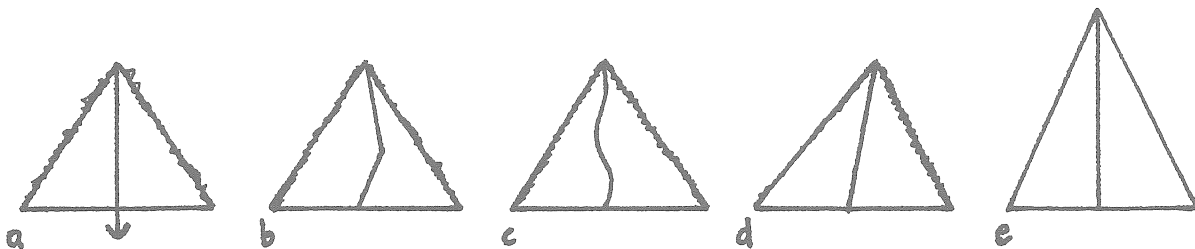


## Gravity and Grace

Here we are on earth. Gravity is ever with us. How do we get about? Thank God, our bones are not truly stacked on top of one another as we normally think. If so, we'd be arthritic invalids by age two.

In truth we are more like an imaginary ship which is entirely held together and moved by its sails and rigging.

Visualize a tent pole and two guy wires.



In the first four drawings, the wires are too tight: a) the pole's being driven into the ground, b) the pole breaks, c) it curves, d) both wires are too tight, but the right side more than the left. e) shows us our ideal. The wires are of equal tension and only just enough to keep the pole upright. The pole is, therefore, not compressed and is balanced in gravity.

Imagine that the pole is your spine and the guywires, the muscles and connective tissues to either side of it. Think about a - d . . . uh oh. Think about e . . . aahhhh (sigh of relief).

This theory--that the connective tissues act as guywires to give our structure buoyancy and movement--is derived from the "tensegrity" concept of Buckminster Fuller, the father of the geodesic dome.

Picture d is especially relevant to massage therapy. The wire on the right (R) is super-tight, so the wire on the left (L) really has a hard job. It's being stretched out, overwhelmed, but it must nonetheless simultaneously hold on tight so the pole won't be pulled all the way over to the ground at the right. Consider Mr. Sternocleidomastoid on p. 14. The muscles on the front of his body are tight like wire R. The muscles of his back have the harder job of wire L, namely to continually keep him from falling flat on his face.

There are two kinds of contraction being described here. Wire R is contracting concentrically; that is, the muscle is shortening and

tightening, the ends of the muscle being drawn in toward the center of the muscle belly. In wire L, however, you have what's known as eccentric contraction. The muscle is being lengthened and tightening; i.e., the more Mr. Modern World is hunched over, the more his back will be stretched and yet have to hold onto him for dear life . . . His back is being given a double message--let go (some), but hold on! The ends of the muscle are being drawn away from its center (ec - out from; centric - center).

Bodybuilders know that eccentric contraction is much harder. They use it to build themselves up. But when a person holds a muscle constantly in a state of chronic eccentric contraction--look out. This is the case for Mr. SCM (sternocleidomastoid). His back hurts. Perhaps he has seen the orthopod who has prescribed muscle relaxant so that now he leans over even farther, his head looking like a bowling ball that's lost its way in space.

The solution? Try lengthening wire R, the tissues on the front of his body, so that wire L, his back, won't have to work so hard. The result--hopefully, as if by magic, he will feel much better right away. Let him know gently, "Mr. SCM, if you were not such a slouch, you would not have your back pain. Please stand up straighter in the future." A little movement education, a little anatomically-oriented massage therapy, and Mr. Modern World is back on the track looking over his shoulder and saying, "Hey, thank that Mr. Lauterschwaber or whatever his name was for teaching you about the dangers of chronic eccentric contraction."

## The Head and the Problem of Evolution

Home is where the head is. Or is that how it goes?

"I think, therefore, I am." To which I say, "Oh, yeah?" It seems to me unbelievable that Descartes, who uttered the above quote, was completely serious. For instance, I find the statement, "I feel, therefore, I am," much more appealing and just as true.

How could Western civilization get so far from biological reality as to totally identify thinking with being? Evolution sheds some light. When we were just little bitty reptiles back in the cotton fields so to speak, life was pretty straightforward. The nervous systems of lizards and alligators go for one way responses. Kick an alligator in the side and he will bite your foot off. He doesn't choose to do that, he doesn't bear you any particular ill will—nature just "calls," saying, "He kicked you, bite his foot off." As most of us know, at our worst, at home, at work, or waiting in line in some bureaucratic purgatory, we have not so little of the reptile still with us, eh? However, you can choose for example not to murder your husband because he left the toilet seat up and your buns took an unexpected dip at 2:00 a.m. An alligator, however, has no such choice; it will bite his foot off, both his feet off, for instance, for yet smaller misdeeds.

Whence our marvelous self-control?

When the lizard decided to try life in the trees, he/she found many more irrelevant stimuli. On the ground you've gotta keep track of everything. But in the trees alot is going on that doesn't make too much difference, life's a little easier. It doesn't make sense to react to every little thing. As a matter of fact, energy there can be saved, and, thus, life enhanced by not reacting to everything. So nature developed a new wrinkle. It created on the tip of the olfactory (smelling) lobe of the brain a little bump whose purpose was to be more selective about which stimuli the lizard would react to. In other words, rather than rewire the whole reptile brain, it just developed a "governor" which determined which stimuli the reptile would ignore, i.e., remain unconscious of. This worked great.

Nature, never being one to ignore a good thing, has taken this quite far. Gradually more and more new wrinkles develop in the gray matter of the brain. We learn how to become increasingly selective in our reactions to external stimuli. As humans, we can remain unconscious even of messages originating in our own nervous or endocrine systems!

"An example will illustrate this. An early Stone Age Man is squatting beside his precious camp-fire at night. Suddenly he sees a pair of gleaming eyes just beyond the circle of light, then another pair and then more. He realizes that wolves are prowling around him in the darkness. This sensory perception has been composed out of raw optic messages in his cortex. As it constitutes a threat, it is immediately passed by the lower censorship and conveyed to the diencephalon (the reptile brain) for action.

"The diencephalon goes into its normal emergency routine. It raises

the pulse-rate, the blood pressure and the blood sugar; it stops hunger and may produce a liquid evacuation of the bowel; it may raise gooseflesh and will tense the muscles. This is the normal preparation of the body for flight and the appropriate bodily response to fear. Yet the Stone Age Man is not consciously aware of any panic, nor has he any intention of making a dash for the safety of his cave.

"Leisurely, he picks a flaming brand out of the fire and hurls it at the closest pair of eyes. The eerie lights vanish, and he returns to the patient chipping of a flint. The new thing that has happened in his brain is that, while the old terror of the wolves is still there, the new censorship at the level of consciousness has screened off the instinct of fear because his artifacts--in this case the fire--have rendered the natural instinctive reaction unnecessary."

A.T.W. Simeons - Man's Presumptuous Brain

So it's provocative to consider whether human being is to be characterized by its rationality and vast stores of knowledge or, on the contrary, by the far vaster realm of which we are unconscious. Nature has freed part of the brain from having to concern itself constantly with everyday detail, "physiological management" so to speak being accomplished by the evolutionarily "older" parts of the brain. The neo-cortex instead engages in speculations, plans, choices, creative leaps of thought, etc. However, as I show in the shoulder girdle segment below, new freedoms do not necessarily generate skillful use, oftentimes rather freeing the creature to abuse new opportunities. The neo-cortex, "freed" from ordinary matters, is also free to totally lose touch with reality. When's the last time you heard of a dog committing mass murder? The skull is itself the ivory tower from which issue pristine notions and from which as well you have Charles Whitman (sniper, Texas, 1966) firing on students at random.

Until recently, the history of civilization has been a history of the parallel growth of knowledge and unconsciousness. The neo-cortex is a know-it-all--it believes in its supremacy and the all powerful nature of rationality. The more we have allowed it to dominate us, the more we have had "progress" with limited regard to the unconscious, with little awareness of our own biological reality, and that of the earth around us. World War II, the concentration camps, Hiroshima, I hope, provoked the beginnings of a massive doubt--Hey, if we can murder millions of our own kind, invent weapons capable of destroying all life on earth--how rational are we? There must be something really wrong. Today we still see "rational" minds trying to explain away the pollution and destruction of land, sea, air, plant, and animal life. We see "cool" heads condescendingly explaining why we cannot "afford" to send food stores to millions of starving peoples. On the less spectacular plane, we sometimes see ourselves often "knowing" just what we "ought" to do at work, with our spouses, or our kids, and yet going ahead and instead doing something rather destructive to ourselves, workmates, or family.

Us rational? Not very.

What to do?

All through history, as the depth of unconsciousness increased in direct proportion to the accumulation of conscious knowledge, there has been a counter-current. Many thinkers, religious and philosophical traditions, much folklore, have kept alive the awareness of a reality wider than egocentric rationality allows for. The concept of Yin-Yang, the ever-present complementing of opposite forces, the "shadow" of which C.G. Jung speaks--the notion that each thing and each statement somehow includes its opposite and cannot be fully understood apart from it--these are essential antidotes to the over-simplified logic which says something either is or isn't, is true or is false with no in between. Lao Tzu, Buddha, Christ, Rousseau, Thoreau--all have kept drawing mankind's attention back to a more enlightened and humble appreciation of our place in nature.

Finally Freud, through his experiences with physiology and psychology, blew narrow-minded rationality apart by placing the unconscious on a scientific footing. He showed indisputably that behavior is in some essential ways determined by internal forces of which we have little conscious knowledge and over which we have very limited control. His therapy revolved around making the unconscious conscious; helping the client to become aware of these forces as part of themselves which, though unconscious, could be brought by various techniques into consciousness so that the client could choose whether to act out previously forbidden impulses instead of being again and again victim of their own hidden desires.

A.T.W. Simeons takes this one step further. He shows that the "unconscious" is simply everything but the neo-cortex. Taking the standpoint of earthly as opposed to individual evolution, he says the so-called "unconscious" is simply all life, all biology, which has evolved prior to the neo-cortex and which even now constitutes 99% of life's structure and functioning.

He shows that the evolution of the neo-cortex and human culture has reached a psychosomatic dead-end. If we continue to pretend that a narrow rationality is sufficient to guide the life of our society and its members, we will destroy humanity and, quite possibly, all higher forms of earth life.

If we accept on the other hand the individual and ecological necessity to harmonize as well with the far wider non-conscious realm of experience, we may make it. How do we do this?

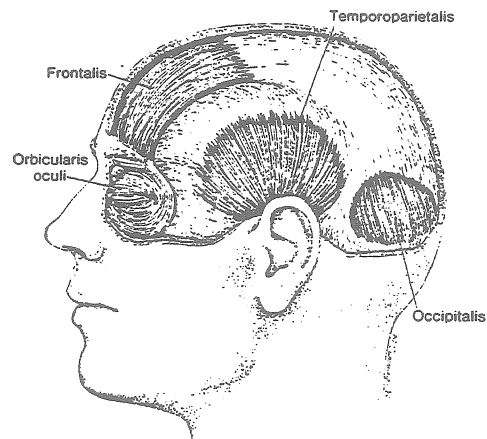
- 1) Try to admit that we don't have all the answers. This can free the rational mind of the burden of pretending that it's the whole story. Look at your own life and your face in the mirror. Say, "I have all the answers." Can you believe it? You gotta laugh or cry, eh? We don't have all the answers and it can restore one's sense of humor and compassion to admit it.
- 2) Know thyself psychologically. As they say in AA--take a fearless moral inventory of yourself. Acknowledge your less complimentary

aspects. Realize how your early environment may have fostered tendencies in you which may no longer serve you. But don't idolize or blame circumstances. Take responsibility for your failures and your successes. Don't lose your sense of humor.

- 3) Love and work--Freud said it well. Psychological health in a vacuum, a malady of the new age, is sterile. As adults we need to generate offspring and/or works that will add to the world.
- 4) Appreciate and honor the earth. Overly-rationalized mankind believes themselves to be such a miracle and treats most of the rest of creation thoughtlessly. The truth is the far greater miracle is the whole earth, this fruitful planet in the middle of who knows how many light years of uninhabited space! This planet teeming with plant and animal life of which we humans are truly only one small part.
- 5) Know thyself physically. Learn what you need to do to keep your vital juices flowing. How to stand, sit, walk, run, relax, eat, make love, etc. These are things we should learn in school or from our family, but which we more often pick up haphazardly, usually after some chronic problem develops.

How does all this relate to massage therapy? I believe that we are outlining here perhaps the highest role of massage therapy. For, in working with our clients, we make them directly aware of their nonconscious, subcortical self. By working with "educated" hands, hearts, and minds, we help people know themselves better in a most deep and immediate fashion. This tremendously essential lesson is unlearnable from lectures or disease-oriented medical practice. Our primary and secondary educational systems are incredibly and woefully inadequate, teaching us in "Health" class about pimples and VD, in "Biology" about almost everything except our own bodies. It has fallen to massage therapists, other body-workers, body-oriented psychotherapists, and health educators to take responsibility for teaching people perhaps the most important lesson that mankind needs to learn. To communicate with hands, heart, and mind to the vastest world below self-consciousness that we do want to be respectful, knowledgeable and responsible for our whole being.

In so re-claiming our still predominantly animal selves, we can make the benefit of the neo-cortex available to all life, all things on earth, and beyond. Then mankind can help create a higher level of harmony within the universe and will truly fulfill our most glorious evolutionary opportunity.



### The Epicranium and the "Breathing" Brain

Origin	- Occipital bone; auricular cartilage; eyebrows
Insertion	- Central tendon, the galea aponeurotica
Action	- Lifts eyebrows, wrinkles forehead, wiggles ears (if you're lucky) (Excessive: headache)

The epicranium is similar in structure to the diaphragm and bears some functional similarities as well. Since it originates along the base of the cranial bowl with all due reverence it may be remembered as the "Three Stooges Muscle" since Moe, Curley, and Larry were famous for their bowl-shaped haircuts.

The muscle fibers flow into a central tendon on top of the head roughly where orthodox Jews wear their "yamulkes." Many people are surprised to learn that there is a muscle on top of the scalp although their headaches so often do tell them there is a muscle there and it's in trouble.

In the early part of this century Dr. William G. Sutherland, an osteopath, became convinced through study and practice that the bones of the skull do not completely fuse but rather retain a small yet very significant degree of motion relative to one another. This motion may be felt by placing one's hands on either side of the head and feeling for a motion resembling a slow and very gentle in and out breathing. It is theorized that this gentle expansion and contraction of the skull is the result of the rhythmic production and reabsorption of the cerebrospinal fluid which is the medium in which the brain and spinal cord float. The basis of cranial osteopathy is that the movements of the cranium can be in turn affected by gentle manipulations to restore symmetry and address any other abnormalities in or resulting from the cerebrospinal system. These manipulations are subtle, often complicated, and can be very powerful. Therefore, their practice should be reserved for only sensitive, thoroughly trained practitioners.

However, we can in general note that, if there is a restriction of the epicranium muscle, a chronic tightening for reasons psychological or somatic, this may in turn restrict the free motion of the cranial bones. Therefore, it behooves us to feel for such immobilized places and to apply a slow deep friction to them. It should be emphasized that massage of the scalp should not be overly forceful as we are not attempting to realign the cranium but only to help free its motion by removing restrictions from the epicranium.

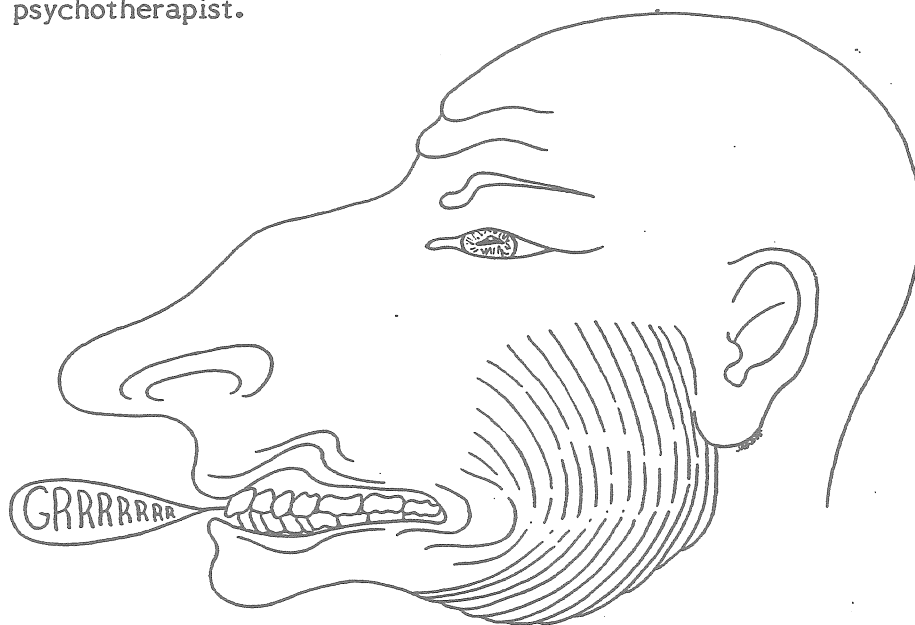
## The Masseter - Jaws, Too.

Origin	- Maxilla and zygomatic arch (upper jaw and cheekbone)
Insertion	- Angle and ramus of mandible
Action	- Elevation of mandible, chewing (Excessive - jaw pain)

Earlier we spoke of the reptile in human evolution. One place where many of us still experience a bit of reptile in our own bodies is in the jaws. When you are angry and feel like biting someone's head off, so to speak, you may notice your jaws feeling tense. This is due to the fact that, though you may wish to bite someone's head off, you may not do so without being imprisoned or committed. Nonetheless the relevant bones, muscles, and feelings are there and they do make themselves known.

One of the most popular, prevalent, and profitable disorders today is known as TMJ or temporo-mandibular joint dysfunction. This is generally another fancy name for tight jaws due to the chronically frustrated and unexpressed desire to bite somebody's head off. Very often the solution to this problem is to express one's anger in some more acceptable way. However, since anger is neither an attractive nor very sociable emotion, people often choose to clamp down around it.

The major muscle used to do this is the masseter. Generally the masseter is best worked with slow deep friction on hardened areas while stabilizing the opposite side of the jaw with the flat of one's hand. It may help if the client lets the lips part, occasionally moving the mandible slowly while you're working. This is a place not to work overly deep—the problems may be due to serious misalignment of the jaw, teeth, or cranium. Difficult cases often require a team approach, e.g. cranial osteopath, orthodontist, and psychotherapist.

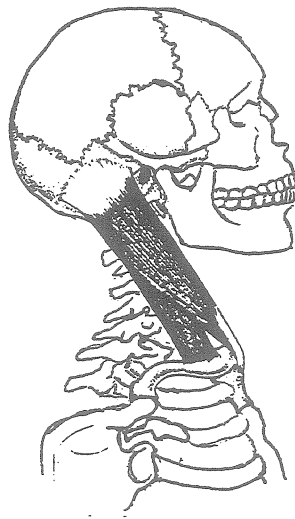


Mr. Masseter





Cervical Lordosis  
In The Modern World



### Sternocleidomastoid

Origin	- Sternum and clavicle
Insertion	- Mastoid process of temporal bone
Action	- Bilateral: flexion of neck, extension of head (Excessive: cervical lordosis) Unilateral: ipsilateral flexion and contralateral rotation of head (Excessive: torticollis)

When you turn your head to the side, a lovely line leading from the collar bone straight up the neck appears. This outlines the sternocleidomastoid, a popular muscle for revealing its origin and insertion in its name. Due to its oblique route, the "SCM" pulls the neck forward but lifts the chin by pulling the mastoid processes closer to the clavicles. Thus, its overcontraction will actually fold the neck around C3, flexing the lower cervicals while extending the upper cervicals along with the head. Another way to say this is the SCM participates in cervical lordosis.

However, if you loosen the SCM, the neck will not necessarily straighten. How does the neck straighten and head lift up? The cosmic sky hook? Nope.

There are two structural keys to a gracefully balanced and uplifted head.

- 1) The upper thoracic vertebrae. Just as a tilted, i.e., flexed, pelvis will necessarily tilt the sacrum and, with it, the lower lumbar vertebrae; so the flexing of the upper thoracic vertebrae and ribs will necessitate the flexion of the lower cervicals. To compensate for these flexions, we extend respectively the upper lumbar and upper cervical regions. In this way, flexions of the pelvis or of the upper thoracic region are often responsible for the lordotic curving of the vertebrae above them.

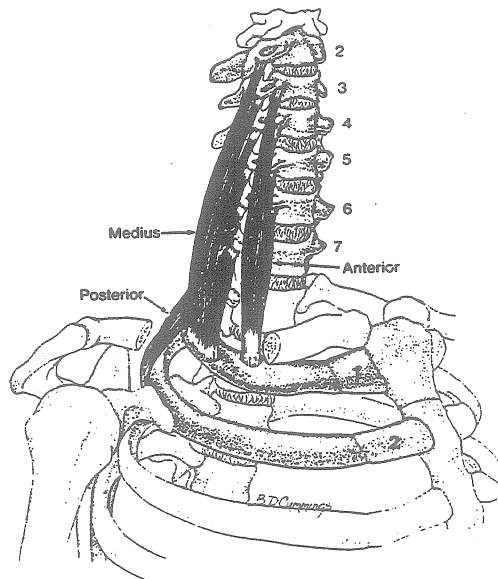
To reverse this tendency people advocate tucking the pelvis under and "squaring" the shoulders, straightening the lower and the upper back. These are indeed solutions if not engaged in mechanically but rather with an understanding and appreciation for the integrity and

openness of the pelvis, shoulder girdle, ribs, waist, and neck.

- 2) With the spine now gently straightened, the head must rest lightly above the neck. The flexors and extensors must balance and maintain only enough tension to stay balanced. Such a head has, regardless of its features, a lovely character of nobility, intelligence, and dignity.

## Scalenes

- |           |   |
|-----------|---|
| Origin    | - Anterior: Anterior transverse processes, C3 thru 6<br>Medius: Posterior transverse processes, C2 thru 7<br>Posterior: Posterior transverse processes, C5 thru 7                                       |
| Insertion | - Anterior & Medius: First rib<br>Posterior: Second rib   |
| Action    | - Bilateral: Elevation of the ribs with gentle inhale;<br>Anterior scalene flexes the neck<br>Unilateral: Lateral flexion of neck<br>(Excessive: Chronic flexion and compression of cervical vertebrae) |



The scalenes are palpable in the triangular opening between the sternocleidomastoid and the trapezius. Years ago an Aston Patterner asked me to breathe with my neck. I thought she was crazy. I have learned since that breathing with your neck is not so far fetched. When inhaling with the head and the neck balanced, the scalenes help lift the upper 2 ribs, and through them the whole ribcage. In relaxing they allow a full exhale, lengthening and so letting the whole rib cage float down.

Even though the strongest trunk "flexor" is gravity, the flexor muscles in the front of the body will also be shortened if we continually hunch over. This is because a chronically underused muscle will atrophy and decrease in both diameter and length. Lengthening such muscles as the scalenes and

the sternocleidomastoids will facilitate the gentle balancing of head and neck.

Try this--gently straighten the thoracic spine--relax your shoulders--feel the neck float up--throat relax--and the head delicately balance midway between flexion and extension. Now breathe in deeply and visualize the scalenes lifting the top of the ribcage up; breathe out and imagine the scalenes lengthening, letting the ribcage fully descend. Feel a spaciousness develop between the neck, clavicles and ribcage.

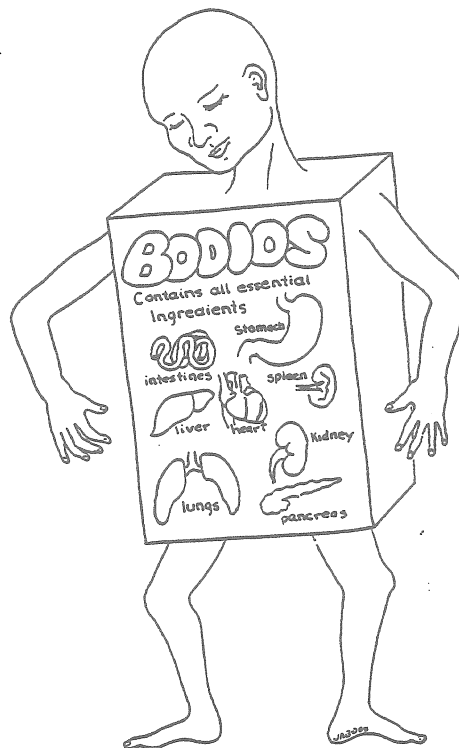
Clients are often "touchy" about this area being worked on. Therefore, it is useful to have them move their necks and heads gently forward, back, around or side to side while doing melting with the finger pads. This movement accomplishes a three-fold goal: 1) By actively engaging the client, they feel more a part of things, safer, and therefore clearer about these changes being their own accomplishments, not something done to them. 2) By having them focus on their own motion, they are distracted from your fingers and therefore you can often go deeper with less resistance. 3) More movement elicits more nervous activity. Therefore, you are more likely to affect proprioception--the usually subcortical sense of relative position of the body part, muscle length, joint compression, etc. Although we don't know the extent, it is certain that deep work does affect the nervous as well as the musculo-skeletal systems.

Oftentimes working this area with the client sitting up will help you work deeply. It will also help him/her feel the changes in gravity which is, after all, where it counts.

## Introduction to the Torso

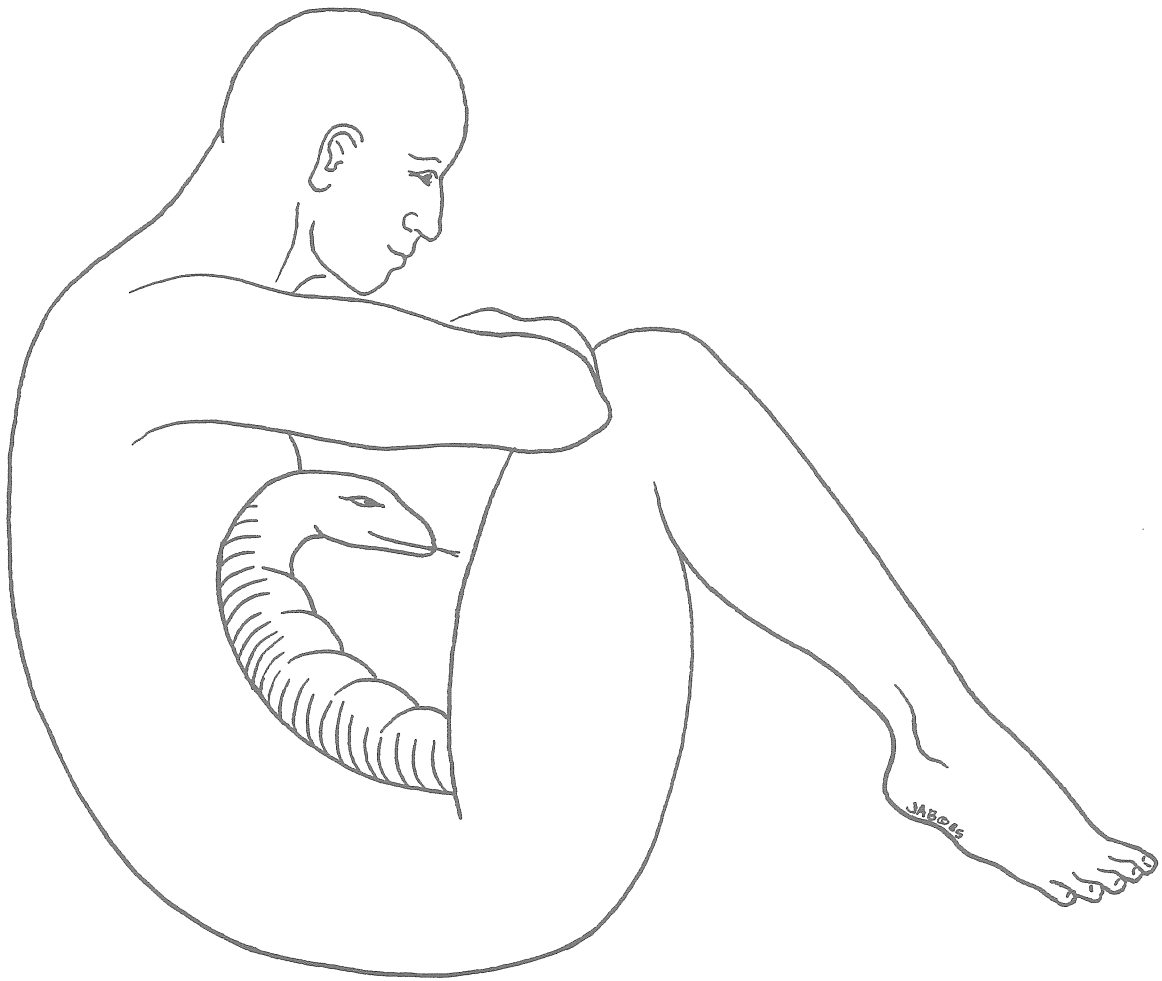
The torso forms the main "body" of the fifth limb. The vertebral column runs up through the center of the body, up through the neck and "becomes" the cranium.. The muscles, the organs, bones, and other tissues of the torso surround the spine, "fleshing it out", so to speak, just as the muscles and other tissues of the thigh surround the femur. So it's useful to think of the torso three-dimensionally like an elongated orange with a spine running through its core. Truthfully, it makes no more sense to say, "the back" or "the front" than it does to speak of the back of an orange!

The most common misconception of the torso is that it is like a box containing organs and other vital things out of which protrude arms, legs, and a head.



Kind of an ambulatory cereal box, eh? Unfortunately, such a misconception gradually gives rise to problems derived from treating one's torso in such an amalgamated fashion. For example, the older we get, often the more dragged down we become. One of the first places where this happens is the waist. We lose our sense of waist, of the span between the ribcage and the pelvis. This is obvious in the notorious "love handles" which are simply fleshy bulgings in response to compression between the ribcage and pelvis. Accompanying this functional loss of waist may be other problems such as organ distension, hiatal hernia, intestinal blockages, PMS, lower back pain, sciatica, shortness of breath, etc. Not that "waistlessness" is the sole cause here, but it definitely can be a contributing factor to all these problems.

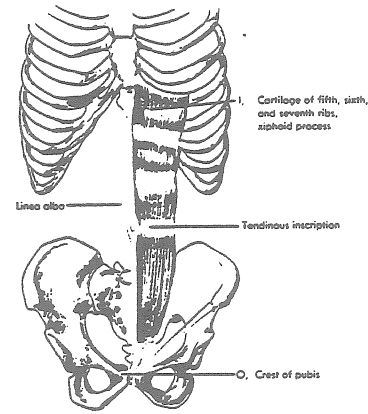
To ease description in the following pages we unfortunately must use the terms "front", "back", and "sides", but please remember these are abstractions, not the things in themselves. As we proceed please override the at times necessarily two-dimensional language and keep plugging the description into your three-dimensional body sense.





## Rectus Abdominis

Origin	- Pubic crest of pelvis.
Insertion	- xiphoid process to cartilages of ribs 5-7.
Action	- Flexion of spine and/or extension of pelvis (Excessive - thoracic kyphosis)
Antagonist	- Erector spinae



Both actions of the rectus abdominis are present in the version of the sit-up in which you bring your head and upper torso up toward your bent knees and pelvis --

Since the rectus abdominis traverses such a long distance without any skeletal attachment, nature has provided a unique means of keeping its length relatively constant. Every few inches along its length there is a horizontal layer of connective tissue called a tendinous intersection. These intersections create muscular segments which are clearly visible in body builders rippling up the abdomen.

There are a number of very important things which the rectus abdominis may need to "know" or feel.

Many, perhaps most, people in our culture feel themselves to be overweight, particularly uncomfortable with their stomach's bulging out. Since we often avoid concentrating on those things that make us uncomfortable, most of us are not consequently not curious or knowledgeable about the abdominal aspect of ourselves. Since this area is our "guts", both in the physical and the psychological sense, we can perpetuate a lot of organic distress, gutlessness, and lack of pleasure by not knowing ourselves here.

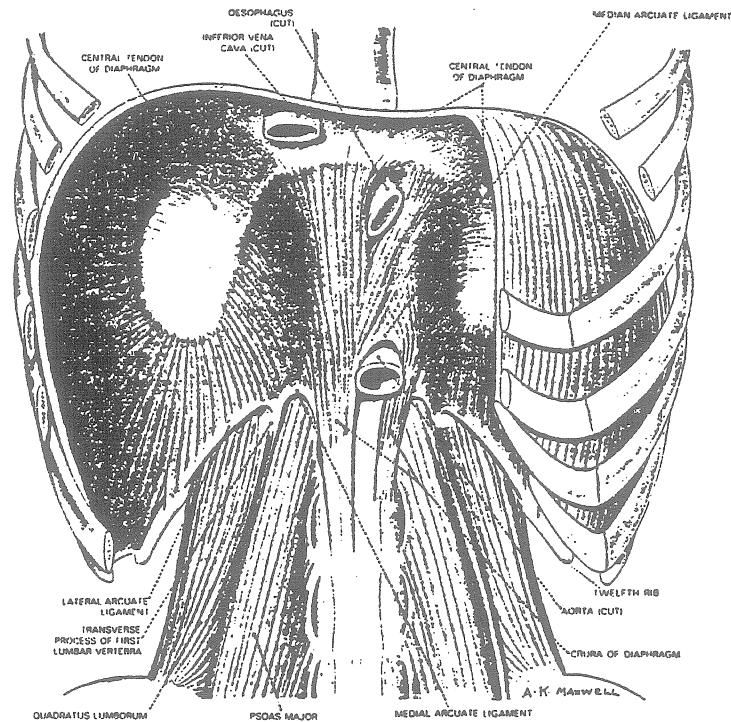
First of all, then, notice that the rectus abdominis is a long muscle, extending not merely up to the bottom of the ribcage but all the way up to the level of the nipples. Communicating with your hands and/or words this length to your client will help them feel more open and lifted in the front of the torso. The rectus abdominis is, along with full breathing, the key to lengthening the front torso.

Since we are so often preoccupied with the stomach as fat, we often lose touch with its power. The rectus abdominis with its assistants, the obliques, is the source of abdominal power. Sometimes while working, I will have a client slightly flex the trunk to underline, while lengthening its connective tissues, that it is yet a very powerful muscle.

The rectus abdominis is like a snake. Even its tendinous intersections look like the bands of color around the snake's body. This image can help us remember the power and sensuality of this muscle. It also emphasizes its three-dimensionality. Remember to work not only on the rectus abdominis' surface, but also on its sides and, when easily palpable, even underneath it. Pay particular attention to the attachments on the pelvis and the

costal cartilages as ways to communicate its full length.

Since the area around the rectus abdominis is so sensitive, it is usually best worked with your most sensitive instrument, the finger pads. Do not put pressure on the linea alba, the connective tissue running down the mid-line, as it can herniate.



Diaphragm and muscles of posterior abdominal wall. Part of diaphragm has been removed in front and on the right

## Diaphragm

- |            |   |
|------------|---|
| Origin     | - Inferior border of ribcage; anterior lumbar vertebrae; xiphoid process.         |
| Insertion  | - Central tendon.   |
| Action     | - Inspiration; forms floor of thoracic cavity.<br>(Excessive - shallow breathing) |
| Antagonist | - Pelvic diaphragm, Levator Ani   |

Imagine a parachute made of a fabric which becomes more solid the closer you get to its center. This will give you a feeling for the form and function of the diaphragm. It is a muscular parachute, the circumference of which is attaching to the lower border of the ribcage, the front of the lumbar vertebrae, and the xiphoid process of the sternum. When it contracts, it pulls down its thicker central part, called the "central tendon", and "squishes" the abdominal contents, pushing them out as well as down against the pelvic floor. The diaphragm's descent makes available more room in the chest cavity which air consequently rushes in to fill.

The apparent and fascinating contradiction here is that, from the standpoint of the inside of the body, we actually have less room in ourselves when we inhale--the organs are pushed down by the diaphragm and the ribs are pushed out by the extra air filling up the lungs. When we exhale, the diaphragm floats up, pushing the air out, the ribs relax, and the organs are decompressed. This is why we breathe a sigh of relief out, not in.

Using the analogy of core and sleeve, we can further see that, looking at it from the insides' standpoint, our core ascends when we exhale, the organs and diaphragm float up; while our sleeve--the shoulder girdle and ribcage here--descends. And so it is fascinating as well to visualize and feel these cooperative yet contrary motions.

The subtle and constant motion of breathing is one important way the tissues of our torso stay lively and nourished. Interference with the rhythm or amplitude of breath can affect not only our vitality through too little or too much oxygen; it can also induce musculo-skeletal tension through too much or too little motion. Respecting and reinforcing the natural rhythms and amplitudes of the client's breathing is an essential part of massage therapy.

- 1) Generally--enter the tissues on the exhale.
- 2) Use the client's breathing so that they can work with you, from "inside out".
- 3) Note any chronic restriction of breathing and, when appropriate, help the client resume natural breathing with your words or by working on the area(s) of greatest restriction.