The Fulford Papers

Compiled by:
Stephen Myles Davidson, D.O., C-SPOMM

Articles and Papers

By

Robert Fulford, D.O.

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President's Message

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A new President is usually expected to outline what he intends to do during his term in office and I wish to state that my administration will be one of service. Every letter will be answered and every suggestion or complaint will be carefully evaluated.

The Cranial Academy has a tremendous responsibility in spreading the knowledge of the Primary Respiratory Mechanism as it exists throughout the human body to the following specialists: the Anesthetist, Internist, Pediatrician, Obstetrician, and the Behavior Psychologist.

Maya Pines, in her book "The Brain Changers," tells of the experimental work on the brain and calls the cortex the "thinking part" of the brain. She shows that when an animal has pre-natal and post-natal malnutrition that it suffers a 60% reduction in the number of brain cells by the time it is weaned. If this happens in the human infant I raise the question as to how much of this could be attributed to the malfunction of the Primary Respiratory Mechanism in the mother during pregnancy and the infant after birth?

In closing, I have only one request to make at this time. If you have any idea that should be considered, please share it. It will do no good locked up in your cranium. Help me to serve you by making known your desires.

Cranial Academy Declares Appreciation Day for Dr. Fulford

Published in "News letter" of the Cranial Academy, Summer, 1985.

Colleagues, friends, students and patients joined together to say thank you to **Dr. Robert C. Fulford** at the banquet during the conference in Santa Monica.

Dr. Bob has touched many lives in many ways during his almost eighty years. A wide assortment of letters and cards were collected and put together in a scrapbook which was presented to him. It was a great outpouring of love for one of the pillars of the Cranial Academy and the SCTF.

He was a student of Dr. William Garner Sutherland and has faithfully carried on his work. He has quietly continued to work and learn over the years and is now doing more teaching. He is always willing to share his wisdom and has been a second father to many a young student.

Having been a child who was in need of Cranial treatments himself, Dr. Fulford has dedicated a great deal of his time to infants and children so that they might be spared some of his struggles. Nothing has given him more joy than to see a misshapen little head round out, tiny eyes sparkle and little limbs move normally. Not eager for money, he has considered himself well paid when tears of gratitude well up in a patient's eyes as a baby begins to crawl or walk or talk when it had been considered a hopeless case.

Five year olds have asked to come in for treatments and one of his rowdy teenagers once announced that he "would rather come here than eat when I'm hungry!"

Dr. Bob has not touched lives lightly. He has always changed them for the better and his friends were delighted to tell him so.

Osteopathic Philosophy

Integration of Love with the Cranial Concept

Paper given at the 1988 Cranial Academy Conference,
Published in "Cranial Letter," Fall, 1988.

Everyone has something different in mind as a definition of love. Some define love as a state of being, acceptance, caring, unified home, healing, oneness, sex, God, attitude, harmony, creative energy, compassion and so forth. Each definition may be relevant to a particular life, but is a limited definition of love.

When you limit your definition of love, you limit your ability to use this energy that exists everywhere. Love is a conscious sameness throughout the world. Love is the foundation principle of the world. In our world man is made of a material body, a mental being and a spiritual being. To know the human being would be to know and experience all three elements, the physical being the conscious mind and the personal spirit.

Material body is energy

The material body is more than just flesh and bones. It is energy. If we break it down to its component atoms, and those atoms into their smallest particle, the body becomes a mass of whirling, vibrating light. The smallest measurable atomic particle is a proton of light. The material body is the result of energy. If we take away energy, the material body will disappear. It is not just energy, but a particular kind of energy. It is bioenergy, the energy of all living things. The same energy of plants and animals. This energy has been called by many names. India calls it "prana." Mesmer called it "animal magnetism." Wilhelm Reich called it "orgone." The Russians call it "plasmic energy." It is often called the "electric body," "life force," "life vitality," "vital body," or "etheric body." Whatever the name, it feeds the cells and keeps them going.

Life energy must flow freely

It is common understanding that we get energy by eating and drinking. Most people don't realize we get a major part of our energy from breathing. We all know the body takes in one form of energy and changes it into another form. The body is a transformer of energy. It takes food and oxygen and changes them into bioenergy, the energy that cells use. Life energy must flow freely and completely. Any diminution in its amount or impediment to its free flow is an indication of ill health.

During examination of a patient, the physical body expresses distortions such as a torsion of the knee joint, rigidity of the rib cage, torsion pattern of the skull, etc. These are effects, not causes. One must direct one's thinking to the concept of subtle inner energy fields to find the cause of

malalignment and imbalance. Dr. Sutherland kept reminding us to stay close to our Maker. The fields can be expressed as a physical field, a mental field and a spiritual field. Problems in the physical field respond rapidly to treatment. Problems in the mental field take many months to correct. Difficulties in the spiritual field may take many years. So each patient presents a challenge for the doctor.

Appreciate the power we use

In using cranial manipulation "we" interact with the patient or matter. What is that force we use? That is a key question. If we cannot appreciate this force, our results will not be complete.

Dr. Bernard Grad, a retired biochemist at McGill University, did research work on the effects of laying on hands. He treated water by laying on hands. Then he used the water to irrigate plants. The results were an increase in plant growth. Mice were injured. By laying on hands, their rate of recovery increased.

Then there is the work of Dr. Dolores Krieger, the developer of therapeutic touch. When she uses therapeutic touch in healing, her brain wave shifts into rapid synchronic beta wave activity. The EEC of patients she treats produce a lot of high amplitude alpha waves, a brain pattern associated with a state of relaxation. Dr. Krieger's work with hemoglobin count shows that therapeutic touch interacts and increases hemoglobin count.

Other research shows that hospital patient anxiety has been reduced by therapeutic touch. Studies also show that the behavior of enzymes in a sealed container can be influenced by the power of touch.

Touch transfers energy

Therapeutic touch is focused on the whole person. It helps people move in the direction of healing and wholeness. It releases the power to bring forth self healing. There is an exchange or transfer of energy between the "thinker" and the "thought about" object or patient. In therapeutic touch the specific intent behind the procedure helps determine whether healing will occur.

When we talk about wholeness, we have to talk about spirit. When working with something like therapeutic touch or cranial manipulation, the whole body, mind and spirit of the doctor is interacting with the whole body, mind and spirit of the patient. Therapeutic touch represents the act of unconditional love and compassion. These principles of therapeutic touch are consistent with similar principles that are found in various cultures of the past, namely:

1. The healing power or healing capacity of unconditional love;
2. Attribution of the healing power of love to the great cosmic mind.

These principles remain the same today in our work. Love heals. Love finds its way into the world through individual beings.

Improved potency

Empathy and identification with the patient's problem indicates a state of emotional focus. This inevitably leads to trouble for the doctor. It will make itself felt as fatigue and as an acutely oversensitive nervous system. This can incapacitate the doctor or at least intercept the free activity

of the healing process. The cure for this, if the doctor discovers this tendency in himself, is to work through the heart center and the head center. This keeps a steady flow of positive energy of love pouring out towards the patient. This insulates the doctor from the patient's problem but not from the patient. This will improve the potency of the doctor's work.

Using love in healing work

Unconditional love is giving to an "other" the divine love that is within you without expectation of reward, recognition or results. In other words, you the server stand neutral, acting as a conduit for the flow of divine love. Any bias towards others – political, social, religious or anything – represents a mind-set within you that reduces the love level which you are able to use. Think of the love as energy operating at different step-down levels. As you learn to use love properly in healing work, your body vibrations increase and it becomes easier to handle the potency of the love energy. The unconditional love and the intention to serve can correct defects in the patient's bio-energetic field, energetically change a patient without depleting yourself, and balance the energy fields of the patient. For this last result, one must be careful because one can overload the bio-energetic field of the patient. To do so without the patient's consent is manipulating the patient. Expressed consent means the patient knows what you are doing and accepts the procedure.

Dr. Sutherland in his statement "Stay close to your Maker," is telling us to use unconditional love in osteopathy in the cranial field for our protection and for the patient's welfare. Only work done with love is done perfectly.

It's Written in the Bone

Robert C. Fulford, D.O. Presented at the Cranial Academy Conference, 1987
(Published in the "News letter" of the Cranial Academy, October, 1987)

Since so many are claiming to be doing the cranial manipulation, I am going to describe what Dr. Sutherland taught in 1945 and 1946 when I took the cranial course.

Dr. Sutherland rediscovered a knowledge that was known in China in the 6th century BC. The Taoists referred to the Cranial pump and the sacral pump which circulated energy from the lower centers to the higher centers. They described the cranial respiration and the moving of the life force throughout the body. The cranial course in the early days was two weeks. The first week consisted of the anatomical, physiological approach and was taught by Dr. Kimberly. This approach is considered the Sutherland teaching. It is geared around the senses, which gives an incomplete database of information. The second week, Dr. Sutherland taught. His teaching consisted of three basic principles:

1. Staying close to your maker;
2. The importance of breaths;
3. The house with the wave.

He drew a house on the blackboard with a lot of wave lines, surrounding the house and through it. The house with the plumbing and the wire represents the physical body . It is surrounded by waves which represent an energy which is called the Eathric field or, as known in scientific circles, as the bio-energetic field. The Egyptians gave the same field the name Eathric. The Eathric field has one main objective, and that is to vitalize and energize the physical body. There is interplay between the Eathric matrix and the gases, liquids, and solids of the physical body. There is a constant balancing taking place between the vital, regenerative forces of the Eathric field and the degenerating and decaying forces of the physical body and the environment.

The physical body has its essential form in the body structure of the Eathric field. It exists around and through the body, maintaining the balance and the total function of the physical form. If we become attached to a thought process that has a high emotional content, that thought process will be locked into the Eathric field. It will manifest itself in distorted patterns in the physical body. Namely, a slumping of the shoulders, a shortening of a leg, a twisting of the body, a pulling of a muscle of the eye or the face, etc. If it continues for an extended period of time, these patterns become chronic and locked into the form, the bony structure, thoughts, or other things. All diseases are congested in the Eathric Field.

Summary of the Eathric Body

The Eathric body is an exact replica of the dense physical body. It is the double of the physical body. It is a web of energy streams, of lines of light and force. The Eathric Body permeates the physical body entirely. It is the inner scaffolding which under goes every part of the whole man. It is that which conditions and determines the outer form. The Eathric body is a vehicle of life force.

The quantum in physics is the same as the pneuma. It is the conveyor of physical vitality. It channels energy from the soul, the mental, and the emotional levels into the physical body. Whichever of these streams is more potent will control the action of the physical body.

There are three fulcrums to consider: The crista galli in the skull which is in the physical body; the Sutherland point or the Sutherland fulcrum or the stillpoint in the Eathric body; and the light of the divine minds centered over the pineal gland. This forms a triangle made by the three fulcrums that control the being.

The importance of the breath

The most obvious and the most vital function of the organism is the functioning of the breath. A balanced breath is a must for a long, interesting, healthful, youthful life. Through the breath, the body and the nervous system receive giving oxygen, pneuma, and the universal life as well. Unbalanced breathing disturbs the sleep pattern. Unequal lengths of breath cycles disturb the craniosacral mechanism. They have a very negative effect upon the mind, the nerves, and the body. The unequal length of the cycles causes the unfortunate victim to seek various ways of quieting his screaming nerves or overcoming his or her irritability, fear, timidity, and bashfulness.

We charge the body by the intake of breath. We release a thought pattern when we release the breath outward. Learn to breathe deeply and well, and above all, in a loving way. As we breathe together, we become one in thought and being. The physics of the consciousness demands that we maintain a healthy and holistic body through breath control. You must stay close to your maker. This is a spiritual part of the cranial concept. When the word "spiritual" is used, it is not referring to religion but to the inner core or essence of the man.

The spiritual force

The human skull as we know it today has a dual origin. The cranial vault, the face structures including the upper jaw, and the clavicle develop out of the bone formed in membrane, whereas all other bones are formed out of cartilage. The bones formed in membrane are divine parts that were inherited from the universal one. The membranous bones are an expression of the higher energies of the soul.

Love is the energy that expresses the spiritual force. When you can love without constraint, you maintain a balance of force and development. The art of loving is being able to recognize and respect in each person or object the essence within them. Once you can see the beauty of the essence, you are drawn to the person or object. They are drawn to you. No longer are there two persons, but one in the love that we have for each other. The act of loving is to make another person whole. The energies of intention, worth, and love form a coherent pattern. With this coherency, we can penetrate the Eathric field and release the programs that are locked in their being. If these programs are not released, a struggle with them for the rest of their lives will occur. To heal is to bring a state of wholeness and well-being to a person: to help a person come in contact with their essence. All forms of laying on of hands are to assist in the precise linking of the person's essence to their body. Through the use of our hands, we balance the force in the body. This is my understanding of the cranial concept.

The Search For An Answer

In tribute: 1979 Sutherland Memorial lecture.

It was the most important day of my life when I had the opportunity to sit in the classroom of the Des Moines College back in 1949. Dr. Sutherland was teaching his "cranial concept." His ideas were heavily charged with energy, and they soon began to work in me like some powerful force.

I found myself being jolted from my usual rut of thinking and my customary channels of thought and feelings by the sheer weight of his teaching. He expressed many of his ideas by way of symbols. I wish to bring to your attention the meaning of these symbols as I understand them.

D.O. was Dr. Sutherland's favorite symbol. He stated that it meant "Dig On." It has encouraged me to read, explore and experience many avenues of thought, some of which were blind alleys. Along the path were found a few gems that have helped to form an answer to other symbols and the "cranial concept."

One day Dr. Sutherland had a visitor. I wish to relate what transpired between them. The visitor asked Dr. Sutherland, "What is the cranial concept?" Silence fell over the room as Dr. Sutherland swayed rhythmically from side to side in his swivel chair. He did this for quite awhile, remaining perfectly silent as he looked out the window and far away...beyond the horizon. The expression on his face showed that his thoughts were peaceful. He turned and painstakingly explained that the cranial concept was...the fluctuant motion of the cerebrospinal fluid in its relation to, and as an integral part of, cranial motion. And so, ended a stimulating visit. On the journey homeward some of the astounding implications of the cranial concept tumbled over each other in their eagerness to obtain mental attention, which finally materialized into a ballet being composed. At this time I wish to share the ballet with you.

The Cranial Bowl

A Dramatic Ballet by Lil Liandre Johnstone. Idea inspired by the cranial principle of Dr. W.G. Sutherland

The Time.....All the time
The Place.....Everywhere
Scene 1.....The Bowl
Scene 2.....The Fountain
The Cast :
The Cells.....The Ensemble
The Three Masters.....(sphenoid, temporal, occiput)
The Five Senses.....(sight, sound, smell, taste, touch)
Breath .....Ethereal Being who appears as Symbol of Life

Synopsis

Scene 1:

The curtain rises on an empty Cranial Bowl. It symbolizes the world of thought and sensation. The dancers are strewn on the stage in patterns of diffused formlessness. The Breath of Life sweeps across the stage swiftly and disappears. The vibrations remaining from the magnetism of her presence causes the diffused formlessness to emerge slowly as individual cells of Life, then as groups of cells, ever increasing the energy level of the movement, evolving the creation of the Three Master Bones. The Sphenoid, The Occiput and the Temporal. The lights begin to dim as a chain of lesser bones begin to form through the power of the cell group. The cells keep dancing until they are faded out by the dimming of the lights. The Breath of Life again sweeps across the stage, pauses for a moment, then enters the skull and disappears into the spinal cord. The birth of the cranial structure has been witnessed and its harmony about to be tested.

Scene 2:

The cells pass through the Fountain (a baptismal ceremony) and are now infused with the Breath of Life. They are now prepared to manifest and function in consciousness through the medium of the Five Senses. As the Senses join one another, their movements reveal the harmony within the perfect cranium, totaling the perfect man. The cell work is completed. They are led by the Breath of Life into the background and ascend the spine and drop into the Cranial Bowl which then becomes a complete cranium. The lights dim and the Five Senses move into the background and gaze knowingly upon a band of happy men and women that march across the stage. The Breath of Life emerges for the last time, winding her way in and out of the groups. The skull slowly lifts its head and a radiant face is manifested. The audience witnessed the evolution of their own composition in the making. Dr. Sutherland wrote, “I would very much like to see the cranial concept expressed from the ‘artistic point of a ballet.’”

Let us return to another symbol and see if it will give us a greater understanding of the Cranial Concept. In one of Dr. Sutherland’s classes, he drew a picture on the blackboard of a three-story house which was floating upon waves that resembled the ocean.

This picture has constantly been recalled over the years, demanding an understandable explanation. One day, I came across A Model of The Universe by P.D. Ouspensky, that gave a satisfactory explanation. The author described the ocean as a body of water in which the mind of nature operates as a field of energy within the atmosphere. The house represented the various minds of man.

That part of the house submerged in the water represents the instinctive mind. The first floor represented the subconscious mind. The second floor represented the intellectual mind. The third floor represented the spiritual mind. The picture expresses the constant rhythmic interchange that goes on between the mind of nature and the mind of man.

The picture might be expressed in terms of equilibrium. All living bodies are energy systems, which strive to maintain themselves in a state of dynamic equilibrium. When this dynamic equilibrium becomes upset, the organism feels a need or a hunger. The hunger arouses the organism to modify the existing pattern, so a re-establishing of the equilibrium can take place.

An example of the dynamic equilibrium is seen in the development of the brain sensory-motor circuits. The individual with dynamic equilibrium will have the five sensory circuits equally developed. The quality of response over each circuitry will be equal intensity and centered in the sensory-motor area. If a child has some cranial lesion that would effect the development of an eye or an ear, the sensory motor circuits could be retarded or over developed. The amount of fondling that a baby receives might determine the extent of its tactile awareness later. The auditory awareness may be either developed or retarded by the relative quietness or noisiness of the nursery. Its visual awareness may be retarded or developed by the static or changing pattern of visual stimuli. These may have been some of the determining factors which brought about the completion of certain sensory circuits ahead of others, guiding the organization within the brain into dealing with the first stimuli received, thus laying down a pattern of mental behavior which gives precedence to it for a lifetime.

This explanation has satisfied my desire for a meaning to the house upon the waves because it has given greater depth to the Cranial Concept.

The next group of symbols is found on the bookplate of The Cranial Bowl, a beautiful work of art designed by Dr. Sutherland's wife, Adah. There is a balance in the lines that provides the framework. In the upper right hand corner is a diagram showing the fulcrum and the poles of attachment, illustrative of the Reciprocal Tension Membranes. Just below the fulcrum is a circle. The cycle represents completeness and perfection. It also represents the "Hole in the Tree" with the squirrel which is taken from Dr. Still's well known remarks. Below the circle is a pine bough which symbolizes Stability, Longevity and Resolute Purpose. Below the pine bough are fingers projecting from the side of the frame, representing the Thinking, Feeling, Seeing, Knowing fingers. Directly across from the fingers on the left side is the sphenoid bone with the pituitary body seated atop. Above the sphenoid bone is a Ram..

The Ram represents Dr. Still's remark "the ram of reason." It emphasizes that Dr. Sutherland's thinking was included in the science of osteopathy. His experiences and discoveries were rooted in the fact that he considered himself a follower of the trail blazed by Dr. Still. Below the sphenoid lies the vault portion of the skull, next to it is the frontal bone and then the book Cranial Bowl, then the temporal bone and the occiput bone which form the lower portion of the bookplate. The cranial vault with the anterior fontanelle conspicuous must refer to Dr. Sutherland's concept of the "Bent Twig." At the lower part of the framed portion are two interweaving lines which are based

on the fundamental importance of the "Wave" in all life and the Fulcrum as the still source of all power, the interweaving, the "rhythmic balance interchange," the "potency of the tide," as well as the "Fluid within a fluid." The bookplate is not only a beautiful piece of art work but a complete story of the Cranial Concept.

Dr. Sutherland explained the Cranial Concept to us by way of the Newtonian viewpoint. The Newtonian view of the world was that "The whole is the sum of its parts." Consequently, if you wished to understand the whole, you had to begin by taking it to pieces and analyzing the basic parts from which it was put together. The idea is that the characteristics of the whole were derived not just from the properties of its component parts, but from their interplay and interaction, one with another. It was not possible to understand any object in isolation from the surroundings with which it was in a state of interplay and interaction. This idea was not totally appreciated or accepted.

The Newtonian view has had to be abandoned in physics itself, for while it serves admirably in what is called "the zone of the middle dimension," it breaks down and had to be abandoned by the physicists when they research the realm of the very small, the atom and subatomic particles, finding nothing more than an oscillating field and waves of rhythm. Everything dissolves into pure rhythm.

Of what is the body made? It is made of space and rhythm. At the ultimate heart of the body, at the heart of the world, there is no solidity. Once again, there is only the dance. Rhythm. Dr. Sutherland was aware of the oscillating fields and waves of rhythm, but knew that the students could not comprehend this concept if presented in electrical waves.

When I came across Dr. Sutherland's name referred to in a book, I was assured that he was aware of the energy fields. In *The Continuity of Life, Why You Cannot Die* by Lao Russell, on page 198, Dr. Russell describes "that flash of light as a complete severance of the seat of Mind-consciousness, located in the pineal gland which centers the head, from the seat of sensation within the two lobes of the brain." Page 199... "My late husband based his belief on the short circuit conclusion, partly upon the fact that his optic nerve was so affected by each experience that he was blinded for a long time, much as a man would be if forced to look directly at the sun. To verify his belief that the light was a physical effect of short circuit, he consulted the late Dr. William Sutherland, a noted cranial specialist, who attached a specially prepared negative to the brain of a dying man. At the instant of death, a light flash was recorded on the negative which proved the light was what my husband believed it to be."

Who is Dr. Walter Russell? A Sculptor, Painter, Architect, Composer, Author, Philosopher and Doctor of Science. He was familiarly known as "the man who tapped the secret of the Universe." He brought to the attention of mankind the Law of Balance. "The universal law of balance is that principle of equal interchange between all creating things which preserve both the unity and continuity of the Universe." Balance is the principle of unity and of oneness. In it is stability. Balance Interchange is the principle of equal giving between moving pairs of unbalanced opposites. Rhythm Balance Interchange is the principle of continuity of Effect. "The Law of Balance is the Law of Love upon which the universe is founded. Love is, therefore, the fundamental principle of nature, and Rhythmic Balance Interchange is the keynote of its expression through action."

Dr. Russell wrote a book *The Bending of the Twig* which describes the molding of Character in an individual. Dr. Sutherland wrote *As The Twig Is Bent* which describes the effects of birth deformities of which we never recover. Both men were interested in the development of human

potential.

Dr. Sutherland particularly wanted it clearly understood that he was speaking from his own knowledge and that he knew his statement to be only information to us. He urged us to "Dig On" to find our Maker and our own knowledge.

To understand this statement, I consulted A Study of Gurdjieff's Teaching, by Kenneth Walker. "Few people realize that a man's knowledge depends on his Being. Everybody recognizes the importance of an increase of knowledge, but few people ever stop to consider the equally pressing need for an increase of Being. To most people the word 'Being' means only existence."

"The proper development of man, progress has to take place simultaneously along the two lines of Being and Knowledge. For progress along the line of Being we must struggle with our own weakness. If our knowledge is allowed to outrun our Being, the result would be that we should know in theory what we ought to do but would not be able to do it, whereas if it were Being which outstripped knowledge, then we should be in the position of people who had acquired new power but had no idea what to do with these powers."

"Knowledge did not of itself confer understanding on a person, nor did understanding necessarily arrive with a further accession of knowledge. Understanding was the outcome of a certain relationship between knowledge and Being. Another important thing about understanding was that it always entailed a realization of the relationship existing between the object studied and something bigger."

"This is an age of specialism, and specialism entailed knowing less and less about the relationship of the part to the whole. It is the piecemeal method of studying things which is in great part responsible for the rarity of understanding at the present time."

Dr. Sutherland referred to the Still Point in his lectures. Although an anatomical location was given to it, a deeper meaning is associated with the phrase. The Still Point is Mind. Mind is a stillness rather than activity. Mind centers on all things. It gives life and purposefulness to all things. Bodies acquire awareness of purpose only through electrical messages of command from the Mind which centers them, for nobody could otherwise move, survive or fulfill its purpose without being centered and polarized by mind . . . The Stillpoint.

As I remember Dr. Sutherland, he was a quiet man with a radiance about him that told one he had tremendous vitality of spirit. There was nothing more dramatic about him, but there was a subtle light in his eyes which inspired you. As those eyes narrowed, one could feel that he was not looking at the physical body, but at one's inner being.

Dr. William Garner Sutherland, a genius, one of the rare few in whom the awakening of inner vision has so increased their range of perception that the invisible and unknown spiritual half of the Universal idea has become visible and knowable.

Osteopathic Principles

What is release?

Report of Conference Program by Anne L. Wales, D.O.
Published in "News Letter" of Cranial Academy. Summer 1980

Robert C. Fulford. D.O.

The program chairman for the cranial conference in Chicago, June 14-16 was ROBERT E. KAPPLER, DO, FAAO for the Cranial Academy. The theme UPDATE 1980, was applied in several directions, all revealing what Dr. Sutherland said so emphatically in his early teaching: "The cranial thought is not a thing apart from the science of osteopathy: it is within it." The theme, "Dig On", was present in several respects also. There were ten tables available for the thirty-eight who were present to use in practice sessions.

The program was designed to provide time and opportunity for questions and answers and was unhurried. The conferees enjoyed the arrangements for individual learning and free discussions.

Monday's principal lecture by Dr. Robert Fulford was entitled WHAT IS RELEASE? This title does not convey the full impact of what Dr. Fulford had to say for in fact it was a stimulating presentation of the significance of a ventral fascial mechanism that he has found by persistent observation, thought and experience. What release means to Dr. Fulford was carefully explained and in the explanation an anatomical-physiological mechanism came into view. Then he gave a number of thumbnail sketches of clinical problems he has solved by release of this mechanism plus HOW he does it.

Dr. Fulford demonstrates technic.

One definition of **release** in Webster's is: to set free from constraint or restraint. What is released in the process of ad [administering osteopathic manipulative treatment] especially to the cranium, was elaborated in terms of oscillatory equilibrium in tissues, even in the nuclei of living cells. The differences that obtain in various conditions of health and disease are related to electrical as well as mechanical changes. There are several correlation between phases of to and form, expansible and contractile, charge and discharge, and neurovascular functions. There are more between the parasympathetic and sympathetic physiology and respiration.

The abdominal brain, the solar plexus, can be understood as a vegetative center of life process, a center of biological energy. With respiration the organism alternates between the

dominance of the parasympathetic and the sympathetic nervous systems. If either predominate for long the equilibrium between them modified toward autonomic stress and stasis.

In an instance of respiratory disturbance one draws in the breath and holds. When a change is necessary the expiration is incomplete and shallow. This constricts the abdominal cavity and the diaphragm may become fixed in its inspiratory position.

The diaphragm, which is a transverse fascial septum containing muscle fiber, descends in inspiration and elevates in expiration. As the central tendon of the diaphragm, the mediastinal fascia, and the cervical fascia constitute a connected ventral fascia that ultimately attaches to the outside of the cranium and face, it clear that the cranial base would be directly restrained by this constriction and fixation. To quote Dr. Sutherland: "Fascia drags and sacral sag make chronic rags."

Dr. Fulford notes that a state of combustion without oxygen could ensue resulting in no energy, for with oxygen metabolism produces heat and energy. He also sees that biodynamic electricity would be reduced.

When the whole involuntary respiratory mechanism is restored to full action by osteopathic treatment of cranial problems the "release" from restraint provides the "spark gap" for the release of electrical tension in cell membranes. Thus "release" as Dr. Fulford means it is the release from the restraint placed upon the Primary Respiratory Mechanism by a constricted abdomen and a relatively fixed diaphragm.

Dr. Fulford used some examples from his clinical experience in treating certain cases as illustrations of **how** he releases this condition when he finds it to be the problem. The first incident he described was the case of Brenda who was in a practice group at the course last March at WVSOM. The instructor of the group found no cranial motion and asked Dr. Fulford to examine her. Before Dr. Fulford makes a contact on a patient's abdomen he asks permission to do so. As he felt the constriction he asked her to recall any traumatic experience in her life. At first she could think of none and then she remembered that at the age of four she had been thrown out of a moving car. As this was sufficient explanation of the constriction and restraint upon her cranium he proceeded to treat her in this manner:

1. He placed the palm of his hand gently on her abdomen between the xiphoid process and the umbilicus.
2. He found the area taut.
3. He pressed down and held this contact with the tissues while going with her respiratory excursions as they occurred.
4. When the pull in the area changed and the diaphragm responded he felt the release that was followed about two minutes later by motion in the cranial base as observed by the instructor of the group.

The second illustration was the case of Angie, a three year old who lived as a vegetable. She was totally relaxed in extension and smiled and that was about all. Restoration of normal action was a challenge and the aim of treatment.

The third case was a three-month old baby who cried constantly except when in motion. It had hardly slept since it was born. The parents and grandparents requested his return to Cincinnati last December because nothing that had been done had changed the situation. The baby's head was taut, in fact boardlike. He made a contact between the umbilicus and sternum and found that the

diaphragm had apparently flip-flopped down into the abdomen. With a firm finger contact in the umbilicus he effected a release and a reversal that showed immediate benefit. The baby slept for four hours and continued toward normal living.

The operator can feel the abnormalities in the area of the abdominal wall. He can feel constriction and variations in respiratory timing. As the umbilicus is a scar in the linea alba it can serve as a contact for working with the entire fascial mechanism in the abdominal wall and the diaphragm. Dr. Fulford has experienced no reactions and no complaints from his technique for release in this area. After considerable study and observation he has found that the tensions in the area focus on the umbilicus. Furthermore it is accessible to contact for a technique of release.

The fourth case was a nurse – Susan – who suffered from asthma. After four visits she was having no attacks and was coughing up much mucus. After a dramatic release in the upper left quadrant of her abdomen she felt a warmth in her legs, her color changed, fear and anxiety went, and Dr. Fulford could observe cranial motion.

When using the umbilicus as a contact cross the thumbs and spread them enough to build tension in the tissues. Hold that and keep your attention constantly on what you are doing and follow what is happening. Keep precise control of your operation. Energy follows thought Dr. Fulford has had three instances of people who told him of the same experience while he was working with them to effect a release from restraint.

Release of Fascia

By Robert C. Fulford, D.O.

The fascia is a part of a system that is composed of the mind, brain and fascia. Mind is observable only by what happens in it. Or mind is the ability to interact.

The nature of this mind-brain fascia is to build an infinitely flexible system for accommodation and adaptation to new information. The brain, however, is a material organization. The energy from the brain supports the mind, and mind acts as a king or director general over the operation of the brain.

The fascia is also of material organization and response to the mind-brain activity. Nothing exists except as an interchange of energy. So we have a constant interchange going on between the mind and the fascia by way of the brain. If any inhibition is present it will interfere with the bio-electrical energy and create a stasis in the fascia. When chronic biological stasis is present, there is inadequate discharge of both feeling and biological energies, an increase of tension in the spastic somatic area with local anoxia, energy stasis in the cellular tissues, and some protoplasmic degeneration.

Effects of fascial tissue has also been found to have a definite effect on the development of the fetus and its arrival into the world.

Stress is the very fiber of life and of intelligence. But stress has become the enemy within. Obviously the life-giving balance of stress and relaxation has been seriously upset. We are locked into a cultural stress-stress atmosphere which produces the abnormal flow of energy through the fascia.

The subconscious mind's control mechanism is triggered by thoughts and fantasies through the instinctive, moving, intellectual, emotional, imagination and sex centers. When these subconscious pressures do not find expression in words or acts, and internal pressures build up, it is expressed in the fascia as a bio-electro-chemical blockage.

The release of fascia can be expressed by the following formula: Mechanical force – build up of electrical potential – release-lowering of the electrical potential of the bio-electro-chemical blockage and dissipation of the mechanical force.

"The Mysterious Vital Force"

The Mysterious Vital Force is a Universal Power of Intelligence present in all things. It is our job to release this energy of the Universe into practical power.

When this energy is disorganized the whole body is affected and this is what we call an

osteopathic lesion.

Scientists have found that muscular-skeletal stress initiates or is associated with unbalanced streams of impulses entering the central nervous system and these have the effect of upsetting the delicate balance of that part of the nervous system with which the lesion part is most directly connected.

Another group found that you must have a perfect functioning body so that the river of life can pass through. The body must be free of its spastic and fibrous tissues so that there is no interference with the pathways of the wave system.

The Mysterious Vital Force has also been described as a bio-energy that not only exists within the human organism, but externally as a cosmic force as well.

Man is a world in miniature. And just as the Earth is a single function of the solar system: which, in turn, stands intimately related and dependent on other systems, so man is a citizen of the universe in all its parts, both visible and invisible. There is not a star that shines or a sun that burns but what has expression in Man's being, either active or latent.

Cranial Osteopathy has given us a greater understanding of these forces that surround us and also the ability to release them for the benefit of the body economy.

Applications

Treatment of children

Robert Fulford, D.O. told of his ways of treating children and conducted a guided practice session at the tables. When he was studying with Dr Sutherland in the 1940's there was some emphasis on breathing. The action of breathing can be used to amplify the perception of the mobility of the cranial bones and the fluctuation of the cerebrospinal fluid. Breathing is a vital and subtle function. It is both conscious and unconscious; both voluntary and involuntary. The universe tries to become conscious within us

The primary regulation of respiration lies in the floor of the fourth ventricle along with other physiologic centers. The "Breath of Life" in the cerebrospinal fluid, as sheet lightening is in a cloud, is transmuted to the central nervous system for its basic health. A balanced breath is essential for health, both for oxygen and for prana. Breathe through the nostrils.

The umbilical cord should be allowed to stop pulsating before it is clamped so that the oxygen content of the blood can shift gradually as the first deep breath expands the infant.

Breathing gets shut off in most people when they are shocked or injured even with a small trauma.

Doctor Fulford's way of approaching a child or baby is to play with it before starting a treatment. The mother sits beside the child and holds hands. Very small babies and C-section babies like to be cuddled. Put a hand on the chest and vibrate it a little to sense the quality of breathing. If there is a charcoal color around the mouth, the breathing is insufficient. Children often carry the same cranial and facial pattern as the mother. Observe both for information.

Treat the head carefully – remove the memory of birth trauma – observe the face.

Check the rib cage and shoulder girdle. Check the abdomen to see how deep the breathing is. Is the abdomen bloated? Check hips, knees, and ankles. If there are problems with the knees there is apt to be a problem in the diaphragm and neck. Tibial torsion and overlapping frontal may be connected. Release both.

Free the sacrum so as to get a release in the abdomen just above the pubes. Work to get the flip release of the diaphragm at the xiphoid/sternum. Then check the sternal angle. The clavicles may present a problem that affects the cranium.

Consider your intentions before you start to treat a child. Decide what you plan to do, especially with babies under one. From age one to three do not force a treatment procedure upon a child. Let the visit constitute the treatment. Common ear problems may appear at about eighteen months. This may be a difficult time for the child for the bregma is closing.

To live freely is to breathe freely. Parents have a decided effect on children. Often an unwanted pregnancy affects the fetus, the infant, and the child. The mother's attitude at the time of conception, the relationship between the father and the mother, and the mother's relation with her mother all constitute a background which the child feels.

There is interest in the book *The Secret Life of the Unborn Child* by Verney.

The Primary Control

Editor's Note: Dr Fulford discussed the primary control at the 1989 Cranial Academy conference. Published in The Cranial Letter, Spring, 1990.

Dr. Fulford demonstrates his treatment methods.
Photo by Bob Clark

Part 1: The Atlas and the Axis

For many years, I have had an interest in the occipito-atlanto-axial complex. To my surprise, I have found that the significance of the sub-occipital system as a primary mover of the cranium has been missed. Attention has been given solely to the larger, freer and wider movements which take place at the middle of the neck.

In *The Cranial Bowl*, Sutherland spends less than half a page on occipito-atlantal conditions and sees them only as problems of the occiput. The Lippincotts, in their manual of technique, repeat Sutherland word for word but add three lines on the occipital problem not mentioned by Sutherland.

This clearly explains why lecturers in the Sutherland Cranial Teaching Foundation course have made a great point of explaining that the dura mater in the spine forms a tube that superiorly is firmly attached to the foramen magnum or the occiput, inferiorly is attached to the second sacral segment and in between is fastened only to the bodies of C2 and C3 but never said why.

So I turned to more orthodox osteopathic textbooks. In 1935 McCole wrote an analysis of the osteopathic lesion. The index refers to only six lines on the occipito-atlanto-axial area. Another eleven lines can be found by digging about in the text.

Fryette it looked more promising: "The atlas-axis and the occiput-atlas articulations are probably the most vulnerable of any of the spinal joints. They are mechanically the weakest joints of the entire spine."

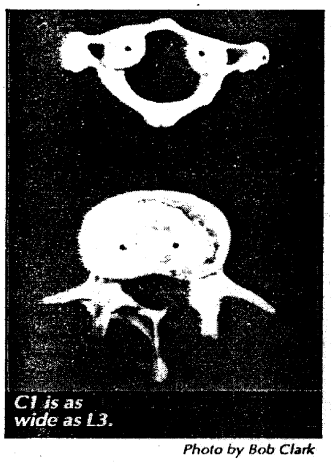


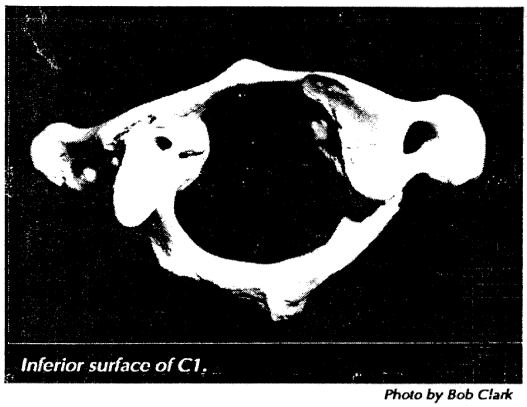
Photo by Bob Clark

Subsequently he writes this about the axis: "Because of its free articulation with the atlas, the axis becomes a sort of universal coupling between the spine and the cranium." The axis not the atlas. This, I thought, is what I was looking for. The three pages on the whole area contained but one pearl of Wisdom.

One becomes concerned when Fryette, McCole, the Lippincotts and Sutherland couldn't manage to write more on the occipito-atlanto-axial joints.

From the cranial sources, then, I knew about the dural attachments at C2 and C3 but nobody seemed to offer any reason. Dr. Anne Wales had told us Sutherland viewed this mechanism as being like

the balance wheel of a watch and he viewed C1 and C2 as functionally part of the cranium. From orthodox osteopathic sources, I learned that these were mechanically weak joints and many imbalances were compensated here. Fryette also added; "The occiput-atlas and atlas-axis and axis-third cervical articulations have a very profound, subtle, and still a very mysterious relation." It seems that we should have more than four written pages to show for all the billions of hours osteopaths have spent talking about and treating the area.


Inferior surface of C1.
Photo by Bob Clark

Consulting Cunningham's Anatomy, I found "The atlas is a ring of bone of surprising dimension, matched in width only by the third lumbar vertebra. It has no body and unlike any other vertebra, has both pairs of facets (i.e., superior and inferior) anterior to its neural arch. The axis viewed from below looks like a perfectly normal cervical vertebra. It has a body and arch and facets in the right places and a foramen for the vertebral artery. Turn it over and it is instantly an oddity. Its superior facets are anterior to its neural canal and it has a strange odontoid peg formed from the rudimentary body of C1."

The cranial texts deal only with the occipito-atlantal problem and that in a dismissive fashion. I want to point out one of the two features that show the need to review the anatomy of this area: The axis (C2) has a number of ligamentous connections with the skull that bypass the atlas (C1). The axis is attached to the anterior portion of the foramen magnum by the apical ligament from this apex of the odontoid process. The axis is suspended from the anterior border of the foramen magnum. The odontoid process is also connected laterally to occipital condyles by the alar ligaments. These will clearly limit any attempt at sidebending, will check excessive rotation, but will not oppose flexion or extension. Although the transverse ligament of the atlas (the one that holds the odontoid process in position) is obviously connected to the atlas, it has a superior and inferior prolongation which converts it into a cruciate ligament and these superior and inferior portions again connect the anterior part of the foramen magnum directly to the axis.

The membrana tectoria, which Cunningham says is an upper extension of the posterior longitudinal ligament, is attached to the posterior part of the body of the axis and covers the cruciate ligament posteriorly, again bypassing the atlas and attaching inside the skull to the upper surface of the basilar part of the occiput blending with the dura.

The dura is firmly attached around the foramen magnum. It also bypasses the atlas and attaches to the bodies of the axis and C3 before descending the vertebral column to attach to S2 in the sacrum.

The atlas is attached to the skull by an anterior and a posterior atlanto-occipital membrane and by lateral ligaments to the jugular process.

When one looks at the attachments, the connections of the axis are even more impressive with its muscular attachment linking it to the skull, the atlas, the cervical vertebra, the five thoracic vertebra, the first rib and the scapula. In spite of this potential leverage, it is interesting that Fryette holds the articulation between C2 and C3 to be the key to the whole area.

Some authorities like to view the occipito-atlantal articulation as being analogous to a ball and socket joint. Cunningham, however, makes the point that is not a true ball but an ellipsoid with

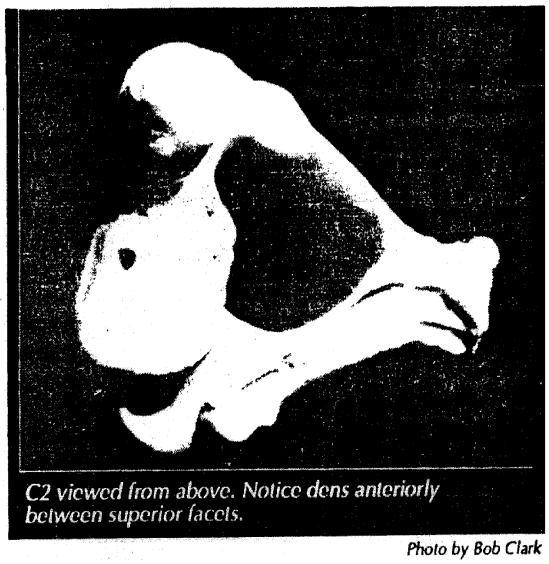
its long axis transverse. If this is so, then flexion and extension will be the main movements, sidebending being possible only with sideshift rotation also is almost nil, as the almost vertical anterior aspect of C1 facet will prevent it.

The muscle arrangements seem to support the view since only the superior oblique is capable of producing any rotation. Additionally, if one continues to regard the two vertebrae functioning as one unit, since rotation is the principle motion between the atlas and axis (the anatomy of the joints and muscles confirm this), then rotation is virtually unnecessary between the skull and atlas.

To recap, the axis has a number of ligaments which attach it directly to the base of the skull bypassing the atlas. The movements possible are flexion and extension of the occipito-atlantal articulation with very little sidebending and no rotation. The atlas rotates on the axis plus minimal flexion and extension and virtually no sidebending.

This gives us Fryette's universal joint but the idea in this universal-joint mechanism is that the atlas behaves in it many respects more like a joint meniscus.

This information does not give us much enlightenment regarding the importance of the relationship between the cervical area and the cranium.

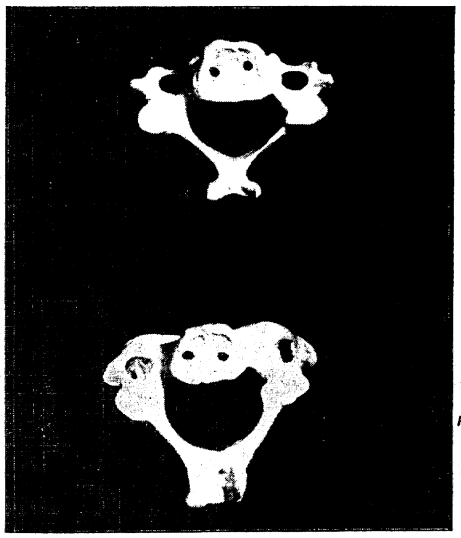


C2 viewed from above. Notice dens anteriorly between superior facets.

Photo by Bob Clark

Part 2 : The Sub Occipital triangle

Since I had been reading some of the work of F. M. Alexander before entering osteopathic school, I thought of Alexander's work on the primary control of the psychophysical mechanism, the suboccipital triangle.



Inferior view of C2 and C3. Can you tell them apart?

Photo by Bob Clark

The Suboccipital Triangle contains:

1. Vertebral Artery;
2. posterior primary ramus of the first cervical nerve;
3. posterior arch of the Atlas;
4. posterior Atlanto Occipital Membrane. The posterior Atlanto Occipital Membrane reaches the capsular ligament on each side. The upper border is attached to the posterior margin of the Foramen Magnum. The medial part of the lower border is attached to the posterior arch of the Atlas. The lower edge of the membrane is

thickened and sometimes is ossified.

Mungo Douglas of Bolton, Lancashire, England, through his knowledge of Alexander's work, stated in 1937 that:

1. the primary function of muscles is a "relationing" of the various parts of the body to one another;
2. their function as a mover of body parts upon body parts is secondary;
3. as all such "relationing" in the body, the head-neck relation, brought about by the suboccipital group of muscles (atlas-occiput, axis-occiput, atlas-axis) is of paramount importance.

It is worthy of the distinction of king recognized as "the primary relation upon which all more ultimate relations depend."

What Douglas has called "relationing" of parts is a neat way of describing the customary postural positions which adjacent body parts assume as the result of the groups of muscles moving them. His purpose was to demonstrate the muscular-anatomical background of Alexander's "Primary Control" that is the head-neck relation. A further significant anatomical fact is that this important suboccipital group of muscles controlling the head-neck relationship is supplied by a single nerve, (Suboccipital) from a single segment (first cervical) of the spinal cord. This nerve supply is purely motor. The reflex response of these muscles and joints as end organs are immune from skin receptor interference by the segmental area of the skin.

There are receptors other than tactual which affect this head-neck relationship. There is a brain tract of such high importance in every creature with a head articulation to the trunk. This tract is the medial longitudinal bundle. It binds together anteriorly the three motor nuclei (Oculomotor, Trochlear and Abducens) supplying the eyeball muscles and posteriorly it connects the anterior horn cells supplying the musculature that link the head to the trunk.

The most important sensory element in determining the postural adjustments evoked by this bundle is formed by the inner segmental fibers running from the Vestibular nucleus to the eye muscle's nuclei anteriorly, to the anterior cervical segments and posteriorly to the coextensive spinal nucleus of the Accessory nerve. The intersegmental fibers coming from the brain segment supplied by the eighth nerve (Vestibular) cause those simultaneous modifications in tension in the musculature that control the position of the eyes in relation to the bead and of the head in relation to the trunk. The muscle tension changes reflexly by the ever changing position of a mobile head.

MUSCLES OF THE SUBOCCIPITAL TRIANGLE

Obliqus Capitis Inferior
Origin: Axis or C2
Insertion: Transverse process of the Atlas

Obliqus Capitis Superior
Origin: Transverse process of the Atlas
Insertion: Occipital bone deep and lateral to Semispinalis Capitis

Rectus Capitis Posterior Major
Origin: Spine of C2
Insertion: Occipital bone below the Inferior Nuchal Line

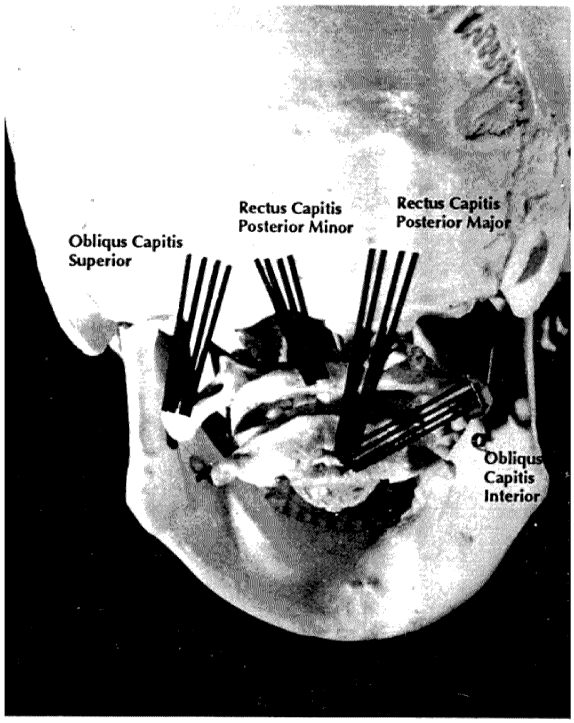
Rectus Capitis Posterior Minor
Origin: Posterior tubercle of the Atlas
Insertion: Occipital bone below the Inferior Nuchal Line

The vestibular apparatus serves to adapt the position of the trunk and limbs to that of the head and supplies afferent impulses which enable the erect position of the head and the normal attitude of the body to be maintained. The vestibular apparatus (co-ordination apparatus) is situated in the substance of the petrous portion of the Temporal Bone in close proximity of the axis-atlanto-occipital joints. The slightest movement of the head at these joints would be communicated to the media in the vestibular apparatus through the action of the suboccipital muscles.

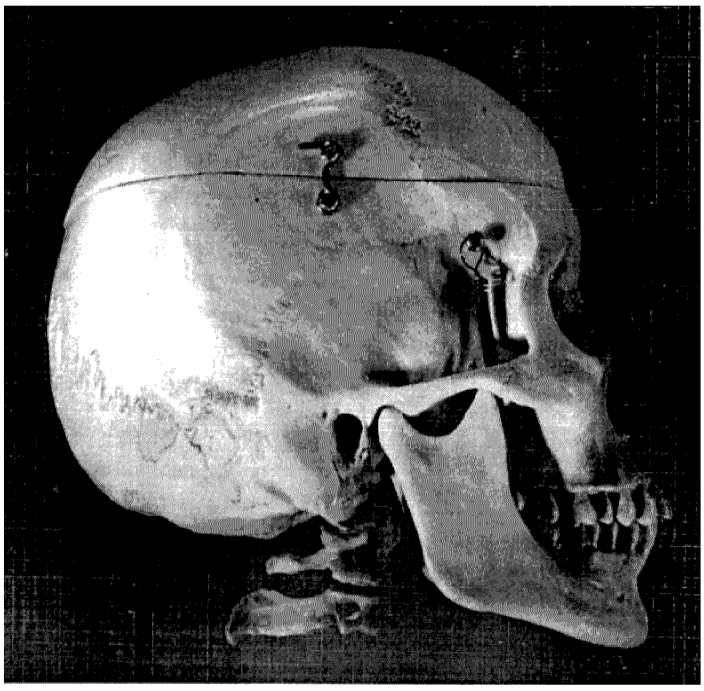
The prime fact about human body movement is that it entails the co-operation or integration of both conscious and unconscious mechanisms, i.e. the "will" and the "reflex." As Sir Charles Sherrington has said: "today's knowledge teaches us that every so-called voluntary muscle with its nerve supply is a little reflex system. Any act, of whatever provenance, which employs such muscles cannot fail to enlist a reflex action from it, and from muscles related to it both synergists and analognists."

The consciousness cannot play its proper part in movement unless we have an interest in our movements. Our body reflects our mind, just as vehicles portray their owners. The attitude of a person's mind toward his framework, by whose operation each and every action of life is performed, has a profound effect upon that framework.

Alexander's appreciation of the effect of the relationship of the head to the neck upon body-movement patterns and posture has been corroborated extensively by all the educators he trained. This relationship and consequent effect have been exhaustively studied through grants from the Carnegie Corporation of New York and the United States Public health Service for over a decade at the Institute for Psychological Research, Tufts University. They found there was a prime importance in the proper use of the head, neck and shoulders.



The whole region at the base of the neck, both front and back, is a veritable maelstrom of muscular co-ordination. It is here that an inadequate evolutionary adaptation - shoulders and upper arms - will exert their distorting influence during the many activities in which we engage. Faulty patterns in breathing can throw the muscles of the lower neck and upper ribs into spasm. It is here that the mechanism of speech and swallowing require reasonably good vertebral alignment if the esophagus and trachea and associated vocal structures are to function well.



Blood vessels and nerves of great importance pass through this region including blood vessels to the base of the brain and nerve ganglia which affect breathing, heart rate and blood pressure, and nerve roots, with age become susceptible to compression. Also, the fascial sheet and the attachment of the dura is associated with this region. The most prevalent movements that cause distress to the dura consist of tightening the head backward on the neck and downward into the chest,

What is the Alexander Principle ? It is that harmony can be established in the body by dealing with the misuse of the head, neck and shoulders.

The Neck

Part 1 : The atlas-occipital and atlas-axis.

Published in "News letter" of Cranial Academy, September, 1974.

In the early nineteen hundreds two important discoveries were made in the field of anatomy. First, the late Rudolph Magnus, a physiologist of England, revealed by animal experimentation that "the use of the head and neck in relation to the torso conditioned the use of parts throughout the body." Second, the late F. Mathias Alexander of London, England, studying living men and women, discovered that "the usage of groups of muscles lying below the neck posterior to the spine were those that first must be inhibited before it was possible to permit all groups of muscles to perform movements of parts about joints, and maintain relations of parts to parts with the least friction." His work was introduced to leading medical men of London in 1904 and was first written about in 1918.

In 1937 Mungo Douglas, M.B. of Bolton, Lancashire, England, through his knowledge of Alexander's work, wrote an article: "Reorientation of Viewpoint Upon the Study of Anatomy." He claimed (1) that the primary function of muscles is the "relationing" of various parts of the body to one another; (2) that their function as movers of body parts upon body parts is secondary; (3) that of all such "relationing" in the body, the head-neck relation, brought about by the suboccipital group of muscles (atlas-occipital, axis-occipital, atlas-axis) is of paramount importance and that it is worthy of the distinction of being recognized as the "primary relation upon which all more ultimate relations depend."

This atlas-occipital, axis-occipital, atlas-axis system, or the sub-occipital triangle of muscles was named The Primary Control by Alexander (1932). A further significant anatomical fact is that this important suboccipital group of muscles controlling the head-neck relationship is supplied by a single nerve (sub-occipital) from a single segment (first cervical) of the spinal cord. This single body segment is the only segment of the entire series of post cranial segments where the nerve supply is purely motor in character, apparently for a special reason.

In the writing of Dr. Still we find reference to his procedures in treating himself for headaches. His procedure was to lie down and place his head-neck area in a loop of rope that was tied to the limb of a tree. He reported good results. Wasn't Dr. Stilt inhibiting "The Primary Control?" Or was he doing a modified "Bulb Compression" procedure?

I am suggesting the following exercise for you to experiment with and observe changes in the respiratory mechanism of the body. Lie on the carpeted floor or your table with the occiput resting comfortably on several books forming a hard bolster (ordinarily 2 to 3 inches high, though it could vary to 6 inches or more in height), and the feet flat on the floor drawn as close to the body as possible without muscular strain, knees in the air slightly abducted, elbows on the floor and the relaxed hands resting on the junction of the thorax and abdomen. Don't let the fingers overlap the midline of the body. Remain in this position for fifteen to thirty minutes.

In the next News Letter we will consider the muscle attached to the occipital bone and the two temporal bones which contain the vestibular apparatus, and the special function the muscles have in moving the cranial bowl.

Part 2: The cervical postvertebral muscle and relaxation

Published in "News letter" of Cranial Academy, December, 1974

In the last News Letter we started the discussion of the atlas-occipital, atlas-axis, atlas-occipital system.

There are two groups of muscles in the neck area. The one group is designed to hold the head securely on the atlas-axis joint, and give the necessary movements in the delicate functions of balancing. The other group is the large neck muscles which form a ring outside of the first group and gives the movement of the head at the middle of the neck with other body movements.

The first group of muscles are: Rectus capitis posterior major arises from second cervical spine, inserted in the occipital bone below the inferior nuchal line; Rectus capitis posterior minor arises from the posterior tubercle of atlas inserted into the occipital bone below the inferior nuchal line; Oblique capitis superior arises from the transverse process of the atlas inserted into the occipital bone above the inferior nuchal line; Oblique capitis inferior arises from the second cervical spine inserts in the transverse process of the atlas.

These muscles hold the squamous part of the occipital bone to the atlas-axis joint. The basilar part of the occiput is held to the atlas-axis joint by the rectus capitis anterior which arises from the lateral mass of the atlas inserted in the basilar part of the occipital bone; Rectus capitis Lateralis arises from the transverse process of the atlas inserts in the jugular process of the occipital bone; Longus capitis arises from anterior tubercles of the third, fourth, fifth and sixth cervical vertebrae inserted into the inferior surface of the basilar part of the occipital bone.

The cervico-cranial muscles which give solely to the larger, freer, wide movement that takes place at the middle of the neck, that are attached to the Occiput are: Semispinalis arises from the transverse process of the upper six thoracic vertebrae and the articular processes of the lower four cervical vertebrae inserted between the superior and inferior nuchal line; Splenius capitis arises from the ligamentum nuchae at the level of the fourth cervical vertebrae downward and the spines of the seventh cervical and the first four thoracic vertebrae, inserted in the occipital bone in the lateral part of the superior nuchal line; Sterno-mastoid arises from the manubrium sterni and the clavicle inserted in the occipital bone in the lateral half of the superior nuchal line; Trapezius arises from the medial third of the superior nuchal line for the most part to the occipital protuberance, the ligamentum nuchae spinus of the seventh cervical and all the thoracic vertebrae inserted into the clavicle and scapula.

From the above, we see that the muscles that preserve the posturally maintained relationship of the head to the vertebral column in man have cranial insertions that are confined for the most part to the occipital bone.

As stated before, the suboccipital group of muscles holds the head on the atlas-axis joint and gives the necessary movement in the delicate function of balance. The function of balancing requires a co-ordinating apparatus which is the vestibular apparatus. The vestibular apparatus seems to adopt the position of the trunk and limbs to that of the head and supplies afferent impulses which enables the erect position of the head and the normal attitude of the body to be maintained.

This co-ordinating apparatus – the vestibular apparatus, is situated in the petrous portion of the temporal bone and in close proximity to the atlanto-occipital joint, so the slightest movement of the head at this joint would be communicated to the delicate media in the vestibular apparatus through the action of the sub-occipital muscles.

The temporal bone also has insertions of the sterno-mastoid muscle and the splenius capitis muscle which also has an occipital bone insertion. The longissimus capitis is the other muscle attached to the temporal bone.

Why is the vestibular apparatus situated in bone and not in the soft substance of the brain? To prevent it from being affected by any other stimulus than its own normal stimulus from the delicate movements of the head at the atlanto-occipital joint, otherwise the delicacy of movements of fluid in the canals would be interfered with by the varying pressures in the brain.

The cranial bowl containing the vestibular apparatus is a passive agent and requires some muscular agency to move it for its special function. That mechanism is obviously the suboccipital group of muscles. Today, in the majority of people, the control of this function of the cranial bowl through the action of the suboccipital muscles has been lost and with it our power to maintain a proper poise and posture. From this loss come many of the disabilities from which man suffers. Use determines function. Does this loss of function cause the cranial lesions we find?

Now I wish to explain the exercise suggested in the last Newsletter. A little refinement to the exercise. The heels are as close to the buttocks as possible. The feet are twelve to fifteen inches apart and the knees together. The explanation for the exercise is found in an article "A simple psycho-physiological technique which elicits the hypo-metabolic changes of the relaxation response" by Herbert Benson, M.D., J. F. Beary and Helen P. Klenchuk, Boston City Hospital and Harvard University. It is found in Psychosomatic Medicine 35:115-120. 1974.

"The technique or relaxation:

1. Comfortable posture requiring minimal muscular work.
2. A quiet environment decreases oxygen use and carbon dioxide production and respiratory rate without altering the respiratory quotient.
3. A passive attitude.
4. A mental device to prevent distracting thoughts (such as a, e, o, u repeated silently or audibly).

These above conditions produce an integrated hypothalamic response called the relaxation response." So, from the exercise we have a relaxation response, a fulcrum produced by external occipital protuberance on the hooks, a pressure on the occiput and the sacrum that produces a response similar to a bulb compression, and traction on the cervical spine with straightening of the lumbo-dorsal spine.

I have found this exercise very effective to be used at home in the treatment of low back and acute sciatic conditions, whiplash syndrome and in treating the problems of children. It has been an energizer for myself every noon hour. I have also found the exercise posture ideal for treating cranial problems that are difficult to manipulate

In the next Newsletter I will continue the discussion of the muscles of the neck, and how to use the eye muscles in manipulating the axial-atlanto-occipital joint.

Seasons greetings to everyone!

Part 3: The cervical prevertebral muscles, fasciae and nervous system.

Published in "News letter" of Cranial Academy, March 1975

In the last Newsletter a discussion of the muscle groups of the cervical postvertebral muscles and their relation to the movements of the head and neck were presented. In this paper the prevertebral muscles of the neck will be considered. They are the flexors of the cervical vertebral column and of the head upon the column (including lateral flexion) according to their attachments.

The rectus capitis anterior arises from the lateral mass of the atlas and inserts into the basilar part of the occipital bone between the longus capitis and the occipital condyle.

The rectus capitis lateralis arises from the transverse process of the atlas and is inserted into the inferior surface of the jugular process of the occipital bone.

Longus capitis arises from the anterior tubercle of the transverse process of the third, fourth, fifth and sixth cervical vertebrae and inserts into the inferior surface of the basilar part of the occipital bone, anterior and lateral to the pharygeal tubercle.

The longus cervicis is divisible into three portions: a verticle, an inferior oblique and a superior oblique. The various parts extend from the third thoracic vertebrae to the anterior tubercle on the atlas.

There is the vertebro-costal group (scalenus anterior, medius and posterior) that arise from the transverse processes of the cervical vertebrae and insert in the tubercle on the first or second ribs.

The other neck muscle are :

1. muscles of the hyoid bone (superhyoid and infrahyoid);
2. muscles of the tongue (extrinsic and intrinsic);
3. muscles of the pharynx and soft palate;
4. intrinsic muscles of the larynx;
5. sterno-mastoid muscle which has been described previously.

This last group of muscles with the exception of the sterno-mastoid muscle are not involved with the head-neck relationship.

The fasciae of the head and neck is another part of the picture to be considered when studying the relationship of the head upon the neck. There is the superficial and deep fasciae of the head and face which has various attachments to the skull bones. It then extends down into the neck, investing the muscles and forms fascial coverings for the pharynx, esophagus, glands and large vessels, thus making a superficial collar or tube that gives off various inter-muscular septa.

The fascia extends on down through the thoracic cage, etc. so that any constriction in the superficial and deep fasciae in the lower part of the body can distort the position of the neck, the head on the neck, and distort the cranial movements.

A study of the fasciae of the head and neck is worth one's time when manipulative procedures are being considered in this area.

In the phylogenetic scale, the amphibians and reptiles have overdeveloped cervical and post vertebral muscles compared to the deep lateral and prevertebral muscles of the neck. The postvertebral development is carried through in the development of the primate, thus helping to produce hyperextension of the head on the neck.

Another factor that affects the head-neck movement is the well developed pons. The pons is the physiological seat of the tonic neck reflex, a visual motor center and an auditory center. From a neurological standpoint, the pons has a direct effect upon the positioning of the head on the neck and its associated movements.

Ontogenetically the tonic neck reflex should be partially established prior to birth and its reflex function tends to cease at about twenty weeks after birth. Obstetrical procedures make use of the tonic neck reflex via the rotation of the baby's head during the birth process. If it is not present at birth, the birth process is made much more difficult. Many neurological dysfunctions which have as their etiology birth trauma, are probably foetuses which had been neurologically injured or neurologically under-developed prior to birth. This trauma results in the lack of a strong tonic neck reflex.

An intact tonic neck-reflex can function most effectively while the infant is lying on its back. While on its back the child can flex or extend either side of its body simply by turning its head. When one turns an infant on its stomach for sleep the proper expression of the tonic neck reflex is interfered with by gravity, which could cause interference with neurological development and a disturbance of the head rotation on the neck and neck vertebrae, also the cervical and thoracic junction would be involved. These beginnings of postural problems would cause problems of vision, learning and behavior.

A study of a series of neck x-rays showed many distortions. For example:

1. The neck (cervical vertebrae) had dropped forward;
2. The lower cervical vertebrae were forward, the upper cervical vertebrae were backward and the head positioned backward on the vertebral column;
3. Head pulled backward with the atlas and axis dropped backward;
4. Head hyper-extended with the cervical vertebrae collapsed forward so that only five vertebrae are showing;
5. Over straightened cervical vertebral column with the head flexed forward on the neck;
6. A side-bending twist at the base of the neck (a cervico-dorsal scoliosis) upsets the muscle balance in the neck. This condition can be noticed by one ear lobe slightly down toward the shoulder.

The above examples all exhibit a disturbance in the two groups of muscles that control the gross and fine movements of the head on the neck. Due to the muscle attachments on the occiput and temporal bone, the neck distortions could be transferred into the cranial bowl and its motions. I do not intend to go into the complex mechanism of muscle physiology, but will direct your attention to factors that take place in the neck. As stated above, there is a tonic neck reflex that functions in the neck muscles through the fifth month of life. After that period of life it is the sensory and motor nerves of the nervous system that controls the tonus of the muscles of the neck.

The motor nerves have two systems. The first system, or fifty-five percent of the motor nerve, makes the muscle fibers contract and shorten. The second system comprises the other forty-five percent of the motor nerve which goes to the muscle spindle which is concerned with the lengthening of the muscle. There are the sensory nerves from the muscles back to the spinal cord and brain except one nerve, the suboccipital nerve, which is only a motor nerve.

The suboccipital nerve controls all the muscles of the suboccipital triangle of muscles except the rectus capitis lateralis. The action of this muscle is to flex the head laterally, The other suboccipital muscle actions are:

1. rotate the head;
2. draw the head backward;
3. rotate the atlas and cranium.

Thus we find that the delicate balance of the head on the neck is under the control of an exclusive motor nerve which is connected to the cerebral cortex and the reticular formation.

The above mechanism is extremely complex so the above is given just to arouse your curiosity and encourage further study into the delicate balance of use in the head and neck area.

I will attempt to describe a technique that I use in establishing motion in the occipit, atlas, axis joints and the vertebrae of the middle part of the neck.

Place an imaginary protractor so that the base bar is at the center position of the odontoid process of the axis. The arc part of the protractor would then extend from one shoulder, circling up past the chin and back down to the other shoulder. The midline of the chin or nose would be at the 90 mark of the arc of the protractor. The hands are placed on the side of the skull with the fore fingers anterior to the ear and the other fingers posterior to the ear and folding down into the muscles under the occiput. The movement of the head on the neck is then started by directing our attention to the pivot which is the odontoid process and moving the arms so that the elbows will follow the opposite arc of an imaginary protractor, or in other words, an arc posterior to the occiput.

Assuming we move the chin first to the right, very slowly move the head so the chin will move 10 or 15 on the imaginary protractor. Then rest a few moments to observe what is taking place in the neck muscles. Then very slowly, keeping attention on the odontoid process, move the head to the left 10 to 15 and rest for observation. Then turn to the right again and add 10 more to the rotation. Repeat to the left again. Continue with the rotation back and forth until one side becomes very hard to move into. At this point you have a choice of holding until it begins to loosen up from the forces working upon the tightness, or you can bring the eyes into the action which will function through the pons via the oculomotor nucleus.

I will give you several positions that can be used. You can use one or all of the eye positions as you choose, depending on how the neck muscles are reacting and the joints are loosening.

If the patient is old enough to cooperate, tell him to turn his eyes to the right and think about turning the head to the right but don't turn the head – let the operator turn the head to the right for him. Repeat with the eyes turned to the left, think about turning to the left and operator turning head to the left. This will loosen the muscles of the neck and the joint surfaces may move. The release is sometimes dramatic.

If a release hasn't been accomplished assume we have the head turned to the right side. Have the patient turn eyes to the right and think about turning to the right and the operator turns head to the left. Then reverse. Have patient turn eyes to the left and operator turns head to the right. The turning under this procedure is going to become hard and one has to use force in pushing his elbows through the imaginary arc – don't forget the pivot point

The third choice is to either have the patient close the eye on the side you are turning the head toward, or put a patch over the eye if unable to hold eye closed or too small to control eyes. Then

tell patient to think about turning the head to the side with the closed eye and the operator turns the head. Then reverse the procedure. The tight side will loosen and movement can be established in the joint area. Just in passing I drop this suggestion, if you have a resisting SBR problem have the patient close eyelid on the restricted side and see what happens.

The question now arises as to what are we doing to accomplish the goal? When we are turning the head the following takes place: The muscles tighten which brings into play the jugular compression which produces increased tension of the nerve roots. By compressing the jugular vein the intra spinal fluid pressure rises. This in turn, stretches the dura and its extensions covering the nerve root, also the operators fingers on the muscles increases the jugular pressure. A sensitive nerve root responds sharply to the increased pressure. Orthopedists use the jugular compression test for diagnosis.

In the use of the eyeballs and muscles, through the fascia bulb oculi, the dura is stretched and increased tension on the cranial nerves, 2nd, 3rd, 4th, 5th and 6th, causes stimulation to the pons area of the brain, and intracranial and intraspinal fluid pressure rises.

Blinding one eye uses another complex mechanism. Although sight and the influence of visual organs upon muscular tone are an ancient biological phenomena, binocular stereoscopic vision is a recent acquirement restricted to primates.

The group reflex mechanism which facilitates rotation of the head and whole body toward the temporarily blind side is a complex explanation and will not be discussed in this paper.

This procedure of closing the eye on one side to which one wishes to rotate, facilitates the rotation so remarkably that it forms an essential element in the technique of the neck and other postural problems.

In the next Newsletter I will continue with the discussion of stasis in the negative nervous system.

Part 4: The various neck distortions and release

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In the last News Letter reference was made to the various neck distortions. In philosophy there is an expression "What is above is also below." Assuming that the expression is correct, we will apply it to the spinal column. The first cervical has a relationship to the fifth lumbar, second cervical to the fourth lumbar, third cervical to the third lumbar, fourth cervical to the second lumbar, fifth cervical to the first lumbar, sixth cervical to the twelfth dorsal, seventh cervical to the eleventh dorsal and first dorsal to the tenth dorsal.

The distortions in the neck area will be expressed in a similar distorted pattern in the lower back area and pelvic bowl.

The spinal column expresses a serpentine motion in response to the rhythmic alterations of expansion and contraction that the body exhibits with normal respiration. The spinal distortion will cause a disturbance in this serpentine movement and the flow of the bioelectric energy in the body.

The pelvic disturbance, sometimes referred to as the "dead pelvis" or "emptiness in the pelvis," is expressed by the tenseness of the musculature of the buttock, the bony pelvis is fixed in a retracted position, an arching of the spinal column, the pelvic floor is pulled up, the diaphragm is

in a downward fixation and the abdomen is pushed outward so the abdomen, pelvis and thighs move as one piece. This picture I have found in most of the children that have troubles.

This means that somewhere, in the development the natural vegetative impulses have been suppressed. Some of this suppression originates in early childhood at the time of bowel training and bed wetting punishment.

When the pelvis is in this retracted position, it creates a tension or rigidity, in the abdominal wall which in turn exerts a pressure against the solar plexus. This causes a disturbance in the respiratory movement and also disturbs the flow of the bioelectric energy in the vegetative nervous system.

What is bioelectricity and where does it come from? Bioelectricity is created in the process of combustion. Chemically speaking, combustion is everything that consists in the formulation of compounds of the body substance with oxygen. Without oxygen, there is no combustion and consequently no production of energy. In the organism, energy is created through the combustion of foodstuff. If respiration is reduced, less oxygen is introduced, only as much as is needed for the maintenance of life, which means a reduced amount of energy.

The abdominal cavity contains the generators of the biological energy. Also within the abdomen are the large centers of the vegetative nervous system. They are the solar plexus, the hypogastric plexus and the lumbosacral or pelvic plexus. These are the centers from which the bioelectricity originates in the vegetative nervous system. The energy flows from the center to the periphery of the body and back again to the center, producing a rhythmic motion of biological expansion and contraction throughout the organism.

These pulsations of expansion and contraction are present in the organism long before the development of the organized nervous tissue. This is exhibited in the Protozoa and Metazoa which do not possess an organized nervous system.

As the Alexander Principle states “Use determines function” in the areas of physiology, structure, behavior and in the emotions. If the statement “structure functions from the base (below) upward and function from above downward” is correct then the empty pelvis takes on a very important role in relation to the distortions found in the neck area of the spine and other areas of the body.

When a pattern is found, as described above, the problem that is present is a state of stasis in the abdomen. A method must be found to release this bioelectric stasis and establish the activity and motility of the central vegetative organs.

I have been using two techniques to release the stasis. I put the fingertips of both hands at about the midpoint between the umbilicus and the sternum and have the patient breathe deeply. During expiration I press the upper abdomen in gradually and gently, continue until a flip is felt and the abdominal wall relaxes. In infants and children where you are unable to get cooperation with the breathing, I have found that by synchronizing my breathing with the patient the same results can be obtained. I have also found that working on the knee area at the popliteal fossa until a flip or release occurs under the patella will also release the vegetative stasis.

The home exercise I have them do is the Dog Walk. I have the patient get down on all fours on the floor (hands and feet) like a cat or dog and walk around on the floor (with knees bent). Have them bring the right leg up to the left hand and the left leg up to the right hand as they walk. This will alternately turn and twist the hips, buttocks and pelvis.

In summary, attention has been given to:

1. The sub-occipital triangle of muscles and their importance in relation of the head to the neck;
2. Description of a technique for releasing the sub-occipital muscles and also a home treatment for the patient;
3. Description of the distortions in the cervical vertebrae and the effect it can produce in the head-neck relationship;
4. Description of the "dead pelvis" and associated disturbances in the spine and abdominal area;
5. Bioelectric energy and the importance of the vegetative plexuses of the abdomen;
6. Techniques for releasing the stasis of the vegetative nervous system;
7. Home exercises for the release of the dead pelvis and stasis of the vegetative nervous system.

I realize that this paper is very incomplete, but it was written to present some highlights that might be considered for further investigation and research.

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