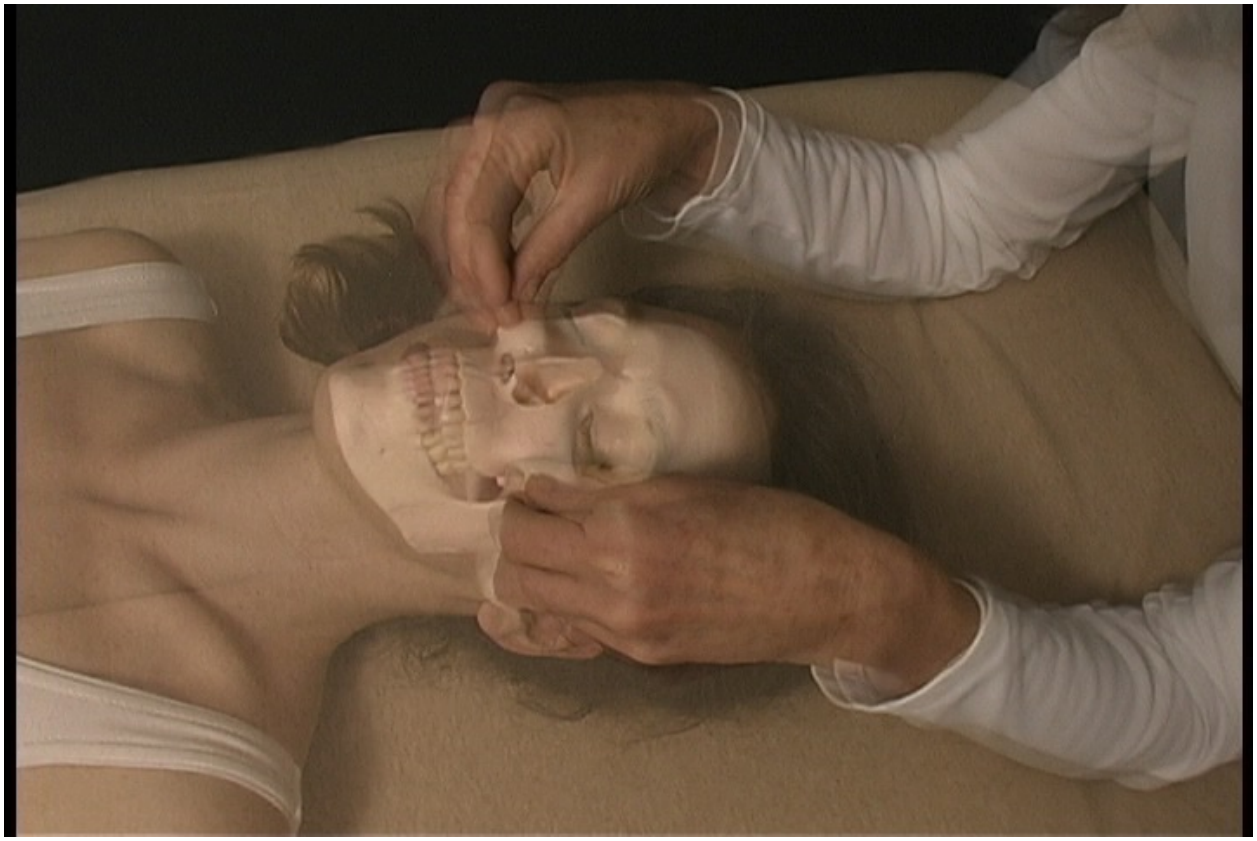
Cranial-Sacral Therapy



With Mary Sullivan

Lesson 1 History of Cranial work

William Sutherland was in his last year of osteopathic training in Kirksville, Missouri at the turn of the last century. He had passed by a display case containing a disarticulated skull many times. One day while looking at the sutures, a thought occurred to him. “beveled, like the gills of a fish, indicating articular mobility for a respiratory mechanism.”- meaning that the cranium was made to move. This momentary insight was to transform his life and the history of cranial osteopathy. Up until this time the cranial bones had been considered immovable. Dr. Sutherland was fascinated by the possibility of a cranial mechanism that allowed for motion, and could not put this thought out of his mind for years. After he set up his practice, his inquiring mind led him to take apart his model skulls and delve deeper into his idea. If the skull’s sutures were capable of moving and breathing then he would try to prove it. In school he was taught the basic osteopathic premise that structure follows function. In this case if structure follows function, then why would the sutures look movable if there were no need for movement? Dr. Sutherland was a persistent scientist and began experimenting with his “wild idea” on himself. He gathered together pieces of leather from baseball mitts, a football helmet, shoe laces and pieces of rubber and devised a helmet that he could strap on and compress different areas of his cranium. With the use of this helmet he compressed the fourth ventricle of the brain and managed to stop the movement of his temporal bones. He stood on his head with the helmet on and practically passed out during some of his experiments. In other experiments he compressed his cranium and felt heat in his sacrum, inspiring him to postulate a connection between the cranium and the sacrum. Through his long years of experimentation he came to the conclusions that we now take for granted. The cranium does move and breathe.

In terms of treatment, Dr. Sutherland advised delicacy and presence. He spent a part of every day in silent contemplation and said that the time he spent in the still silence was what gave him his insights into the cranial system. His touch produced dramatic results with people who were very severely injured and mentally handicapped. Dr. Sutherland inspired many osteopaths to continue the work he began and his legacy continues to ripple out from that first insight he had as a student.

Lesson 2 Bones of the cranium

Bones

The cranium is the bony bubble that surrounds and protects our brain. It is made up of 14 different bones. The keystone is called the sphenoid. It is located deep in the skull at the base, and articulates with most of the other bones of the cranium. Because of this, working with the sphenoid directly influences the cranial rhythm and motion of all the bones of the skull. Posterior to the sphenoid is the occiput. Then above are the two parietal bones. Inferior to the parietals on each side are the temporal bones. Anterior to the parietals is the singular frontal bone. Below the frontal bone is the zygoma, and the maxilla. Not strictly part of the cranium, but important non-the less, is the mandible. There are other bones of the cranium, but these are the major ones.

We tend to think of bones as inflexible because of our contact with their bleached and dried versions found in the environment. Living bone is far from white and dried- it is slimy, wet, flexible and tough- not at all brittle. The cranial bones have an ability to flex, and this ability to bend and deform is part of the strength of the cranial system. Another aspect that lends strength is the design of the cranial bones. In cross section there are two layers of solid bone, with a layer of mesh-like cancellous bone between. The sandwiching effect makes the bone lighter and stronger than if it was solid. We also see such an ingenious design in cardboard. The crumpled paper between the two outer sheets makes the whole structure stronger. Lastly, the arched shape of the cranial bones give them strength, the arch being one of the strongest structures in nature, and used by engineers in buildings around the world.

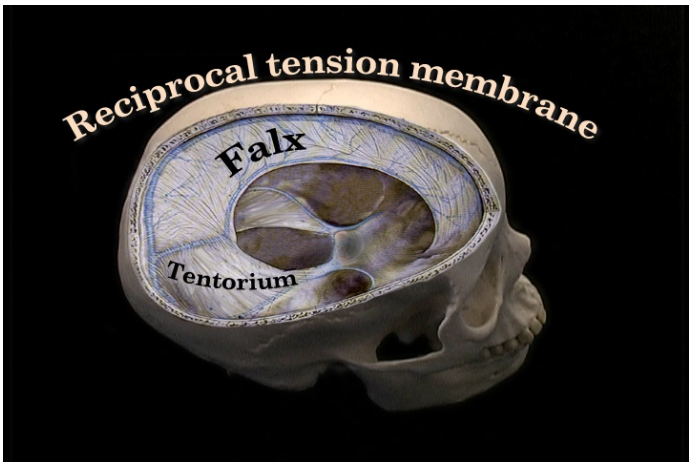
Sutures

Where the cranial bones meet is called a suture. The coronal suture separates the frontal bone from the parietal bones. The sagittal suture separates the two parietal bones from each other. The lambdoid suture separates the parietals from the occiput. The squamous suture separates the temporal bone from the parietals. There are varying kinds of sutures. Some sutures, or "joints" interdigitate, like lacing your fingers, other sutures have sliding plates, and others butt up against each other like this. Contrary to popular belief, the sutures are not completely fused, but actually have the ability to allow very slight movement, about 1 tenth of a millimeter. Sutures operate similarly to the way vertebral discs work in the spine. They allow for compression and tension release so that if you suffer a strong blow to the head, the suture will accommodate that blow and lesson the likelihood of severe injury. Sutures also allow micro-movements in response to inter-cranial pressure.

Dural tube

Lining the inside of the flexible cranium is a layer of tissue called the dura mater. The dura is a tough membrane that encases the entire cranium, surrounding the brain and spinal column. The dural tube has attachment points to the foramen magnum as it exits the cranial cavity, an light attachment at C2 and also a distal attachment to the second sacral vertebrae. It is

our most interior piece of soft connective tissue and it houses the entire central nervous system- the brain, spinal cord and cerebro-spinal fluid.



The dura mater forms sheets of fairly tough non-resilient connective tissue called the falx cerebri and cerebelli, which separate the right and left hemispheres of the cerebrum and cerebellum. These fascial sheets also transmit force in an anterior/posterior direction, as well as superior to inferior. The dura mater also forms the tentorium cerebelli, which acts like a tent separating the cerebrum from the cerebellum. The tentorium transmits force in a lateral direction. Dr. Sutherland termed the phrase reciprocal tension membrane to describe the function of the tentorium and the falx. As these membranes are connected directly to the cranial bones, their tension patterns have a great effect upon the movement of the cranial bones. The purpose of most cranial techniques is to balance this membrane system as well as free any sutural restriction.

Next to the dura mater is a layer of delicate tissue called the arachnoid mater. Next to the arachnoid mater is the pia mater, and this layer of tissue follows the contours of the brain. These three layers of tissue are called the meninges and are free to move in relationship to each other because they float in a sea of cerebrospinal fluid.

Cerebro-spinal fluid

There are 4 ventricles, or spaces in the brain that are connected to each other and the subarachnoid space by a network of canals. Hanging from the top of each of the ventricles are a group of capillaries called the choroid plexuses. The choroids plexuses filter the blood, and what they let pass is called cerebro spinal fluid. The cerebro spinal fluid circulates around the brain

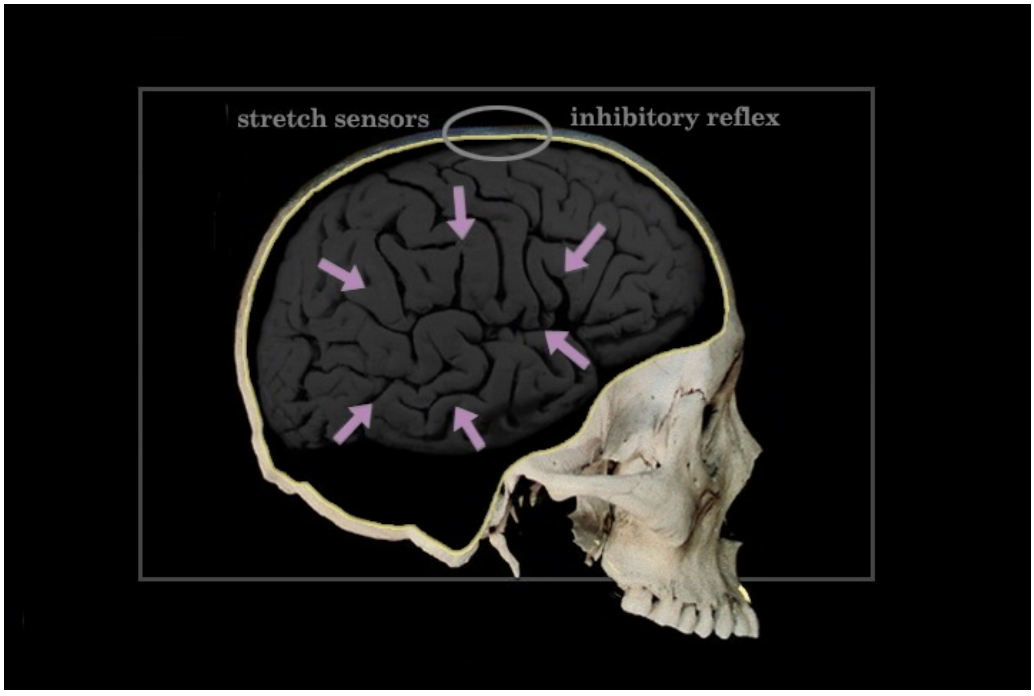
and spinal cord until it is reabsorbed by the arachnoid villae which are mainly located in the sagittal venous sinus.

Dr. Upledger, an osteopath and one of the main popularizers of cranial work, has proposed that the movement of the cranial bones is caused by the production of cerebrospinal fluid taking place faster than the process of its reabsorbtion. This is called the pressure stat model. Upledger has hypothesized that as the pressure increases inside the cranium, stretch sensors in the sutures send an inhibitory reflex to the choroid plexus which stop producing cerebral spinal fluid. When the pressure decreases, the production starts again. The increase and decrease of pressure is what is thought to drive the pull of the reciprocal tension membrane and the movement of the cranial bones. Not all doctors agree with the pressure stat model, but the fact that cranial motion exists is the most important consideration to the practitioner.

The movement of the cranial bones is described in terms of flexion and extension. These terms are based on the motion of the sphenoid. Flexion is when the top of the sphenoid moves anterior, and the bottom moves superior. The movement of the rest of the bones is also called flexion, even though their individual motions are unique. During flexion the whole cranium becomes wider from side to side and foreshortens from front to back.

During flexion, not only do the cranial bones widen, but the whole body slightly rotates externally and broadens. People who are stuck in a flexion pattern tend to have a duck walk and have their arms rotated outward. In extension the cranium narrows and elongates and the body goes into internal rotation. An internal rotation pattern would be a pigeon toed walk. The entire body is affected by this flexion extension phenomenon. If there is a rhythmic pattern lesion somewhere in the body it will affect the breath, the blood flow, the endocrine system. You can imagine the domino effect that this rhythmic pattern can initiate, just like putting a stone in water. It ripples out over the entire surface. The entire flexion and extension cycle takes about 6 seconds.

This flexion extension motion is the breathing of the cranium, and the sutures are there to accommodate the motion. This rhythmic movement continues throughout our life and can be disrupted by influences from our internal and external environment.



Lesson 3 Technique

Direct technique and indirect technique are two treatment approaches. With direct technique you first evaluate range of motion for the bone. If a barrier is discovered, for example, in an anterior direction, meaning that the bone won't move anteriorly, then with direct technique you urge the bone in an anterior direction- engaging the barrier and stretching it until it softens. With indirect technique if a barrier is found to be in the anterior direction, the practitioner follows the bone in the direction of least resistance, in this case probably posterior. After a release is felt, then the practitioner retests for motion and discovers that the anterior barrier is gone. So direct technique directly confronts the barrier while indirect technique goes toward the place of greatest ease. Most cranial therapists discover that indirect technique is much more effective and safe.

The application of indirect technique to cranial work is manifested in the technique called **tracking**. Tracking means following the motion of the cranial bones. As you follow the cranial bones, restrictions will release because of the fulcrum you are providing. Normally the cranial bones are influenced by inter-cranial pressure, the reciprocal tension membrane, and muscular attachments. When the practitioner touches the bone, even with the 5 grams of pressure that is recommended for cranial work, a new influence is set upon the bone. This small amount of pressure is called a fulcrum. There are 4 possible outcomes as you provide a fulcrum- **release, unwinding, still point and no change**.

Release is when a barrier dissolves and the bone is able to resume its' natural movement pattern. You will know a release by noting if any of the following occur:

A lengthening or opening of the tissues you are touching
The area warms up, or you feel a steady and strong vascular pulsation
The bone becomes smoother or wider in its range of motion- a more liquid feeling
An increased energy flow to the area being treated
A general relaxation of the whole body
Fasciculation- or trembling or twitching
The clients' breathing pattern alters- becoming slower or deeper, or includes a yawn or a sigh
An emotional release- possibly weeping

The intent of performing cranial work is to facilitate a release. When you feel a release, wait for a little while to make sure it is complete, and then move to the next technique.

Another outcome to providing a fulcrum is **unwinding**. Unwinding is a change in the facial tensions that induce spontaneous movement in the client's body. The movement can be large- the clients arm extending, or small- the clients neck rotating. The sensitive practitioner can let the body lead, and support the motion that the body wants to make. Just hold on and allow the body to move. Upledger reports that during unwinding many clients end up in the same position that they experienced in an initial trauma. Unwinding is the body's natural process of releasing restrictions, and if it occurs should be allowed to continue. After the unwinding stops, both you and the client will notice a release has occurred in the tissue you are working with.

Another outcome to providing a fulcrum is a **still point**. The best description of a still point is that the cranial rhythm comes to a stop. The practitioner will experience a still point by the cessation of movement in the palpated bone. This can happen spontaneously through the

fulcrum, or can be encouraged by the practitioner placing a drag on the cranial motion. During still point the entire cranial system will reorganize, frequently initiating a spontaneous corrective movement. When the cranial rhythm returns it will be stronger and fuller. The wisdom of the body to heal itself resides in the still point.

The final outcome to providing a fulcrum is that there is **no change**. Perhaps there are no restrictions to release. Another option is that the practitioner is not feeling the cranial rhythm, so cannot accurately assess when a change happens. If palpation of the cranial rhythm is difficult, lighten the touch. The mistake students most often make is to push too deeply. Due to the delicate hydraulic balances within the cranium, just 5 grams of pressure- or the weight of a quarter, is all it takes to apply a fulcrum. The light finger pressure combined with the therapist's sensitivity to the cranial rhythm is what facilitates a release. Many of the cranial techniques apply this light compression, which loosens the sensitive reciprocal tension membrane, allowing it to unwind. It doesn't take a lot of pressure to affect a great change, and sometimes the touch is so light that the practitioner's intention is enough to initiate movement.

In cranial sacral therapy **presence** is just as important as technique. It is very difficult to monitor the cranial sacral rhythm of a client if you are not present and quiet inside. Any personal practice that enables you to quiet your mind and body will greatly enhance your ability to do cranial work. Remember that the movement of the cranial rhythm is occurring at a quieter and slower pace than the respiration and blood circulation. First learn to monitor the blood pulse and the breath of your client so that you will be able to differentiate these rhythms from the cranial wave.

The techniques that you will use have the generalized intention of accessing the memories held in the bones. It may be memories of trauma, of birth, of emotional problems; any kind of pain and imbalance can be accessed through focusing on how the bones feel. They will talk to you if you are still enough to listen. Your client has shared with you her reasons for seeking out cranial work. Listen to the feelings under her words. Your most important intention is to be willing to be present to feel with your alert fingers what her bones are saying to you through their dance or lack of dancing movement. Each person has a different kind of rhythm. No two people dance in the same way. Don't force your perception of how the dance ought to be on your client. Just follow her lead. Be interested and alert. Know when to pursue a rhythm and when to let it go by. You will know by how you feel inside as you hold the bone. Learning the basic patterns of each bone can be helpful in knowing how to respond to the rhythms you feel. But just because a bone isn't behaving in the orthodox way, don't assume that this movement is wrong. Just be with what is and feel it move and shift. The ultimate healer is the body of the client. You provide the attentiveness and hands- and the client will provide the healing with the wisdom of her own cerebrospinal fluid as it ebbs and flows and interacts with the bones and the reciprocal tension membrane. You are simply providing a new vantage point for reorganization of patterns.

Exercise 1

The intention for this exercise is to feel the various body rhythms including the breath, blood pulse and cranial rhythm. Sit at the head of the table, and place your palm on your clients sternum. Stay here for 1 minute and feel the breath. Now feel for the jugular vein in the neck. Tune into the blood pulse. Still feeling the blood pulse, see if you can also feel the breath at the same time. Hold both of these rhythms in you attention at the same time. Now place your thumbs very lightly on her parietal bones as your index finger touches the wings of her sphenoid, your middle finger touches her temporal bones and your ring finger and little fingers touch her occiput. The touch you initiate is very light, about the weight of a dime. Too much force interferes with the cranial movement. As you sit here with her, allow your breathing patterns to match hers and see if you can feel the blood pulse under your fingers. After you feel that pulse, go deeper and get quieter, and begin to feel for the cranial rhythm, the broadening and narrowing every 6 seconds. Allow each finger to feel the rhythm equally. When you feel that you are sensing this deeper movement, focus only on your thumb. Sense the movement in the parietals. Then transfer your focus to the index fingers and monitor the sphenoid bone. Then move to the middle finger and feel the temporals. Then move back to the ring and little finger to palpate the occiput. Notice which finger feels the rhythm most easily. Keep this position until you can feel the cranial rhythm. Don't be upset if you don't feel it at first. For many people it takes multiple tries to feel the motion. You can stay in this position for an hour if you need to. Just keep feeling and listening and trust that at some point you will begin to feel the rhythm.

Lesson 4 The sacrum

Location and motion

The sacrum is located at the base of the spine. It articulates with the 5th lumbar vertebrae and the ilium on each side. The dural tube is attached to the anterior lip of the sacrum on the second sacral segment, and free floats through the spinal column, then attaches at C2 and also to the foramen magnum. Because of this both bones mirror each other's motion. Pull on the sacrum through the dural tube causes the sacrum to swing along a horizontal axis, the apex moving anteriorly during flexion and posteriorly during extension. This is the main motion that is taught in the osteopathic model, and is the easiest to feel. However many other micro-movements or deformations are possible including side bending, as well as a circular motion where the tip of apex of the sacrum moves in the circle. These are just a few of the possibilities, and it is up to you as a therapist to be present and feel each sacrum individually.

Restriction in the sacrum can pull on the dural tube, causing dysfunction all the way up into the cranial base. A restricted sacrum can be the culprit in sinusitis, migraines and other maladies that effect the cranial base, as well as the more obvious lower back pain.

On the personal level the sacrum houses a fiery energy and may also hold memories and trauma relating to birth, sex, and survival. Keep this in mind as you get still and connect to the sacrum, allowing it to speak to you.

The purpose of the following techniques is to release any restriction in the client's sacrum and SI joint and restore a healthy, harmonious range of motion to the sacrum.

The Sacral Release

Position your client supine on the table. Get a stool or chair and sit next to your client at the level of their hips. Tell them what you are going to do, and ask your client to raise their hips off the table, then slide your right hand under your client's sacrum and your left under the 12th lumbar vertebrae. Your hands should form a T. Again ask your client if they are comfortable with this. Become quiet inside as you attune your breath to your client's. Notice anything you feel. Does the sacrum feel stiff or pliable? Is there a regular rhythm? Be patient, it will take you some time to sense the subtle motion in the sacrum. The more attuned you are to your own inner quietness and the more focused your attention is, the more clear the motion will be.

Sometimes the weight of the body may cause your hand to go numb. In Dr. Upledger's book CranioSacral Therapy, he states that this numbness is ok, and actually increases your proprioseptive sense by diminishing other distracting sensations. Personally I don't like it when my hand goes numb. If your hand goes you can keep working, or stop and perform a different technique while your hand renews circulation.

Also note that because your hand is between your clients legs, this technique may look invasive, or inappropriate due to the close proximity to the client's genitals. Looks are deceiving, however, and the client will experience your hand more toward the back of their body, and not close to their genitals at all.

After you have begun to feel movement, there are 3 possible intentions. The first is to follow the sacral motion during flexion/extension. For this push your elbow into the table, using it as a lever to allow your hand to have greater contact with the sacrum. Let the hand melt and become one with the sacrum as you feel the motion. If there is a restriction in the motion, just follow it. The gentle touch of your hand and your intention will create a fulcrum causing the

sacrum to reorganize and start to move in a balanced way. This may take up to 10 minutes. Be patient and keep following the motion until it is balanced and full.

To encourage a still point, you would hold the sacrum a little longer in flexion, not using more than 5 grams of pressure. When the client goes into a still point, just wait. When the body starts to come out of still point it will feel like the bone is about to sneeze- it gathers energy or potential and then usually makes a corrective motion. Usually the corrective motion will come after the still point because the body wisdom has figured out what it wants to do.

The next possible intention it to use this position to evaluate restriction in the dural tube. As the sacrum moves into flexion think about the slightest traction, and extend your awareness up the dural tube, feeling for any restriction. To feel further up the tube, gently increase your pull. Any restriction in motion indicates a restricted dural tube. With practice you will be able to sense how far up the spine the dural tube is restricted.

The final intention for this technique could be to decompress the lumbo-sacral joint. Some authors believe that compression at the lumbo-sacral joint is an underlying cause of recurring cranial base restriction. To perform this technique, apply gentle traction to the sacrum in an inferior direction while your superior hand stays stable. Remember to use a maximum of 5 grams of pressure. Focus on creating space between the 5th lumbar vertebrae and the sacrum. Wait for a release to occur. If you perform this decompression, make sure to also decompress the cranial base as the two are connected.

Modified sacral release

For this sacral T, keep your right hand outside the leg. Have your client lift their pelvis, and slide your right hand under your client's sacrum then place your left hand superior to the right hand to form a T. Again become patient and wait for the sacrum to speak to you. If the patient has come to you with sciatica, sinus problems or low back pain, then you may suspect the sacrum as being involved, but always keep an open mind, because low back pain could be caused by a sphenoid bone that is stuck on one side or a jammed frontal bone. You never know until you actually feel the rhythm under your fingers. Just as in any fluid mechanism, all the parts interact with each other. As you free up one part, you may free up others or you may see more clearly where the problem area is and zero in more directly. You are solving a mystery and need to be very alert.

Cradle

For this technique, sit at the side of the table, move the client's hand out of the way, roll the hip up, and slide both hands so they are cradling the sacrum. This technique is used to monitor the sacrum's motility at a deep level. Your client's body will be providing most of the compression. By pressing your forearms into the table, you can move your hands into a more intimate contact with the sacrum. The finger contact is very light, sensitive and delicate. When a sacrum is locked and there is very little motion perceivable, the fulcrum you provide with this contact can be very effective in helping the bone to reorganize and balance. With this hand position you can really sense all the variations of movement within the sacrum.

Sacro-iliac decompression

Slide your right hand under the sacrum. When that contact feels firmly established and you feel relaxed, place your forearm across the iliac spines. The part of your forearm closest to the elbow rests on the right iliac spine, your fingers contact the left iliac spine. Your sensitivity will be greater if your contact is light and focused. Extend your awareness into the ileum, the ischium and the perineal floor as well as the symphysis pubis. Try to feel the bones move under your forearm and fingers as they harmonize with the sacrum. It will help if you synchronize your breath with your client's. There are two possible intentions for this technique, the first is to track the motion and wait for an unwinding to occur. The second is to apply a light compression on the ilium toward the midline, which will gap the iliosacral joint posteriorly. This is a great technique to do if the sacrum is stuck and you are having trouble feeling any movement. The key to doing very effective work is to be able to be still and focused enough to differentiate patterns of restriction. As you begin this work, be patient with your self and know that your focus and stillness is facilitating healing in your client.

Core link

Staying seated with the right hand cradling the sacrum, move your left hand to cradle the base of the occiput. Remember that the dural tube has attachment points at S2 and the foramen magnum. Sit and monitor the rhythms of the sacrum and occiput. You are providing a fulcrum through which these two poles can reorganize their rhythms and communicate clearly with each other. Notice the amplitude, rhythm and speed of the cranial wave, and see if you can tell if there is any restriction in the sacrum or occiput. Keep your breathing deep, relaxed and rhythmic.

In all of these sacral techniques the intention is to bring harmony and balance into the cranial rhythms. The client's body wisdom will do the rest. If the sacrum wants to unwind in any of these holds, follow the movement of the client. Do not lead her. Give her permission to move with your intention. You don't necessarily need to say anything. There may be times when a soft word of permission would be appropriate. Once the movement of unwinding starts, just be with it, as you would be in a contact dance. Be respectful and follow her lead.

Lesson 5 The occiput

The occiput makes up the posterior base of the cranium. It articulates with the parietals superiorly at the lambdoidal suture, the temporal bones laterally, anteriorly with the sphenoid at the synchondrosis, and inferiorly with the atlas. The foramen magnum is the space through which the spinal cord moves surrounded by the dural tube. On the inside of the occiput, the Falx cerebri attachment creates a ridge here, and the tentorium cerebelli splits and attaches to these two ridges. These ridges attest to the powerful force that these two membranes have on the occiput. Because of these powerful attachments, the cranial wave is very accessible while touching the occiput.

According to the osteopathic model, the occiput swings around a transverse axis. During flexion it moves like so, and during extension, it moves back. The occiput moves in concert with the sphenoid, and the sphenobasilar joint is very important. According to Hugh Milnes' liquid electric model, or the opposite motion model, the occiput can also move laterally. As the tentorium flattens when the temporal bones flex, one side of the occiput moves slightly anterior and lateral. Then as the opposite side of the tentorium flexes, the other temporal bone moves anterior and lateral- bringing the other side of the occiput anterior and lateral. Clinically the most important thing is that the distance, rhythm, and intensity of movement is balanced, whether you are tuned into the lateral motion or the midline motion.

Cranial base release

The purpose of this technique is to release the soft tissue attachments to the cranial base and free the movement of the axis in relationship to the occipital condyles. If you performed the lumbo-sacral decompression make sure to include this technique. Start by positioning the top of your client's head one hands-length down from the end of the table. Cradle your client's head in your hands, and contact just inferior to the occipital ridge with your finger-pads. Lift the client's head by straightening your fingers as much as you can in an anterior direction, allowing the weight of your client's head to rest on your finger pads. As the client relaxes, the weight of their head will fall more into your palms and your finger-tips will penetrate deeper into the sub-occipital space. When your fingers begin to feel the posterior arch of the axis, apply light traction in a cranial direction with your index and second finger, while your ring finger guides the axis in an inferior direction away from the occiput. The client may experience a feeling of floating. This is good

Sometimes while monitoring the occiput you may experience the side-to-side motion as being very exaggerated. Often it feels like the bone is moving inches out to one side. Of course, the bone really isn't moving that far, but it feels like it. If this should happen during your work, just sit, hold and monitor the wave. It may take a long time for the flexion and extension patterns to normalize. If they don't, then you can assume that this client needs more help than you can provide. Know when to refer to a physician especially if a client has come to you with severe symptoms.

4th ventricle technique, or CV4

This is a profoundly relaxing technique that enhances cranial rhythmic function and improves lymphatic flow throughout the body. Because of the direct connection to the falx cerebri, falx cerebelli, tentorium cerebelli, and dural tube, freeing the movement of the occiput can have profound effects. Sutherland and others have said that this is the most useful of all the cranial techniques. This technique alone has helped relieve headaches, reduce fever, assist in a difficult labor, relieve congested sinuses and lungs and reduce edema. It is also good to reduce trauma as in a whiplash injury. It also activates the para-sympathetic nervous system resulting in deep relaxation. As a caution, if a client has high blood pressure or any other disease that involves an imbalance in the arterial or venous system, this or any other compression techniques are inadvisable.

Start with your hands palm down on the table next to your client's head. Then as your client exhales, rotate your hands, and position your hands so that her head rests securely on the thenar eminences of your palms. Your fingers are cupped and both thumbs should be at the side of the neck. Your thenar eminences will be able to monitor the cranial wave of the occiput as it moves into flexion and extension. An optional thumb position is to have the thumbs in a V shape. Whichever thumb position you use, the most important thing is that your thenar eminences rest on the occipital bone.

Track whatever movement you feel. Sometimes there will be spontaneous still points where a particular movement will stop for a few moments as it reorganizes around the fulcrum provided by your hands. Just be present to the process. The movement will begin again, perhaps in a different rhythm. You will notice that the motion of the occiput mimics the motion of the sacrum. This is because of the 2 large attachment sites of the dural tube at S2 and the foramen magnum. Working with the occiput actually completes the work that you just did on the sacrum.

The occiput is also an excellent bone to help facilitate a still point. To encourage a still point, track the occiput as it widens in extension, and gently resist its motion. The pressure is so light, that really it is more of your intention than actual pressure. You will feel the occiput wiggle or shimmy against your thenar eminences and then relax into a still point. When the body is ready to come out of the still point you will feel the occiput gather itself together and bloom into flexion, accompanied by whatever corrective motion the body needs to make. Do not maintain this hold for longer than ten minutes at a time. If your client begins to move her head or starts to unwind her neck, follow her. You can gently move her head off the end of the table as you support it with your hands. Then she can unwind freely. During any unwinding, you may need to shift your position to accommodate and support her movements. When you feel satisfied with the movement and sense that the reorganization of cranial rhythm is complete, gently release the hold, being careful not to jar your client.

Lesson 6 The sphenoid

The sphenoid is called the butterfly bone. It is located in the center of the head and influences the motion of all the bones around it. When the sphenoid moves into flexion, the movement of the bones around it are said to move into flexion. The sphenoid is the center of the cranium's movement. The movement of the sphenoid provides the rhythm for many of the other bones in the brain. The sphenoid moves in response from the occiput and the tentorium. It moves like a butterfly, front and back, from side to side and laterally. Think of the position of the sphenoid. It is connected through cartilage to the occiput. It is right there in the middle behind the frontal and under the parietals, right next to the temporals. The sphenoid and the occiput have a very specific relationship to each other because of their joint, called the spheno-basilar junction. It is thru this junction that the motion of the sacrum is translated to the inside of the cranium via th eoccipu. It is because of this sacrum-occiput-sphenoid connection that clients will fequetly fell their sinuses clear or experience some other sensation in their head while you are working with their sacrum. Since we have just worked with the occiput, our next logical step or direction in our cranial dance is to work with the sphenoid. The falx and tentorium pass around and through it. When we place our fingers on the greater wings of the sphenoid we feel the flexion and extension opposite motion pattern. The sphenoid will nose-dive down towards the feet in flexion, pause and turn to climb back towards the top of the head in extension creating a lazy 8 pattern or infinity sign pattern.

Another option for sphenoid motion is that the wings move alternately into flexion and extension. The left wing moves anteriorly during flexion as the left temporal rotates externally into flexion. When the left temporal rotates into flexion it brings the tentorium into a lateral inferior position. The temporal bone expands out at the squamous suture. As the occiput circumducts during flexion and moves to the left, the falx cerebrum is pulled back and down and slightly to the left towards the straight sinus, which has been called Sutherland's fulcrum. The straight sinus pulls on the parietal bones so that they move laterally at the squamous suture, down at the sagittal suture and into a slight internal rotation. When the left side of the sphenoid nose dives in flexion, it moves smoothly to the front off of the parietals which are rotating in the opposite direction. This pattern reverses in extension.

So as you can see this dance is very complex and involves a lot of varied movements. Tracking this movement takes a lot of presence and concentration. The main thing to look for is movement. If this dance is not happening , then one side is stuck either in flexion or extension and can cause lots of problems, from migraines, to nausea to vertigo or epilepsy. Just hold and focus and allow the movement to return. You are jump starting the movement through your contact. Once the movement has been reinstated all the components will usually normalize. The healing abilities in the client will take over.

Sphenoid release

The sphenoid bone is delicate and asks for a light sensitive contact.
Sit at the head of the table and lightly rest your fingers on the occiput. Place your thumbs over the wings of the sphenoid bone. You are now in contact with both sphenoid and occiput. Get a sense of the movement in each bone separately. Allow your fingers to tune into the occiput and assess its patterns. Then focus on the sphenoid. When you get a sense of each bone separately then tune into their combined pattern. When the sphenoid goes into flexion so does the occiput. Track the movement and allow it to freely go through its movements. Just by tracking you will

be providing a fulcrum around which the sphenoid can reorganize and unwind. It can feel very invasive to your client to apply more than a very light pressure to the sphenoid.. It can also be very annoying to your client to feel your fingers moving and trying to force a change or a still point. Just by being there and holding sensitively, the unwinding will occur. The still points will come and go. Just be present and witness. If the unwinding is asking for more movement, just keep the contact firmly delicate and follow the motion of your client. Keep the contact stable so your client feels safe and allow it to move however it wants. Unwinding usually takes place in a circular pattern. If you maintain presence and stay in contact with the cranial wave during the unwinding, you client will do the rest.

Decompressing this critical bone is highly effective in treating all kinds of headaches, sinusitis, back pain, some learning disabilities, Temporal mandibular joint dysfunction and vision problems. The sphenoid is also the bone upon which our pituitary gland rests. The functioning of this gland regulates our entire endocrine system. The motion of the sphenoid gently milks the pituitary. If the sphenoid is compromised in its movement pattern, we can feel adverse affect anywhere in our endocrine system. By restoring balance to the sphenoid, we also restore balance to the pituitary gland and all that it regulates.

Lesson 7 The Temporal

The temporal bones are located on the side of the cranium, and are connected to the sphenoid, parietals, occiput, zygomas and the frontal at the pterion. The mandible articulates with the temporals through the temporo-mandibular joint. There is an attachment to the tentorium cerebelli on the inner surface. The movement of the temporals is complex, but the standard model has the squamous portion moving laterally and the mastoid portion moving posterior and medial. In Hugh Milne's liquid electric or opposite motion model he describes an alternating motion, where one temporal goes into flexion, while the other extends. One bone takes up the slack in the tentorium cerebelli while the other bone gives it out slack, then they switch. Stay open to whatever motion you feel in your client.

Balancing the temporal rhythms can be extremely therapeutic for the entire cranium. The temporal bone houses the inner ear, which is responsible for our gift of hearing and also the mechanism by which our body maintains its balance. When a client has vertigo, dizziness or generally feels out of sorts, look to balance the temporals. The facial nerve moves through the temporal bones and can affect Bell's palsy and other numbness and neuralgia symptoms. Monitoring the rhythm of the temporals will give you a good idea of how the sphenoid and mandible are behaving. If the temporals feel out of balance, there is a good chance that the sphenoid is torqued and the mandible is locked, causing painful symptoms of tempro-mandibular joint dysfunction. Cranial sacral therapy is one of the most effective and non-invasive methods for helping tempro-madibular joint dysfunction. The feeling of a healthy relaxed temporal bone is that it feels elastic. It is as if when you contact both temporal bones at the same time, you feel a rhythmic elastic pull.

Ear Pull-decompression

Contact each ear with three fingers as shown here. Place the thumb inside the ear and place your index and middle fingers outside the ear establishing a firm yet gentle contact. Hold and become still. Monitor the cranial rhythm. Notice if one side feels stuck or restricted or if both bones are moving freely. Clients who have tinnitis, tmj dysfunction, or vertigo particularly after childbirth will usually have one temporal bone in a stuck or compromised movement pattern. You can relieve these conditions by decompressing the temporal bones. Slowly begin to decompress by pulling the ear back and down at a 45 degree angle to the table. As you are pulling make sure you stay in full contact with the cranial wave. Keep your attention focused. Here again is the fulcrum you are providing. Visualize horizontal elastic tent of the tentorium in your minds eye. See the moving of this membrane and feel the elasticity under your fingers. You will feel the tentorium moving back and forth as it goes through flexion and extension, unwinding the lesions that may be causing headaches, tinnitus, nausea and other pathological conditions.

Palming-compression

Place your palms completely over the ear. Have your thumbs covering the sphenoid area and the zygomae. Your little finger is in contact with the occiput. Your palms are over the ear with a very light yet firm contact. Apply subtle compressive force. This softens the tentorium, allowing freer motion of the temporal bones. Close your eyes and be still. Wait for movement. It is very subtle and yet pronounced. As you feel and connect with the membrane quality of this contact you will feel movement emerging, as if coming out of a fog. Begin to discern distinct movement as you feel the temporal bones dance and breathe and relax. Feel here how the temporals communicate with the mandible, the sphenoid, zygomae and frontal. Fine-tune your perception so that you can mediate a balanced rhythm. Your client's breathing will become deeper and more relaxed as she surrenders to this new rhythm provided by your fulcrum. Be patient with the changes. Get quieter and quieter inside and you will be rewarded by a lovely symphony of movement.

Lesson 8 The parietal

The parietal bones make up the top of the cranium. They connect with the frontal bone anteriorly, the occipital posteriorly, and the temporal bones laterally. The falx cerebrum connects directly to the underside of the saggital suture, and as with the other bones, the dural membrane is connected to the inner surface. On flexion the parietals move inferior, become wider, and move slightly anterior.

On a spiritual level the parietals are where our crown chakra is located.

The Parietal Hold and Lift

The purpose of this technique is to free the sagital and squamus sutures and release any tension in the falx cerebeli. Step one is to place your thumbs lightly on the crown, and your fingers at least a half each above the top of the ear. Feel the movement of the cranial wave under your fingers. Once you get in tune with the cranial rhythm step 2 is to apply gentle medial pressure with your fingers and wait for the temporal sutures to disengage. This may take several minutes. You will feela slight softening under your fingertips. When this happens, gently release your hand position for a few seconds to allow the cerobro spinal fluid to normalize before you begin the actually parietal lift. Once this occurs, step 3 of the technique is to allow your thumbs to move away from the skull as your fingers apply gentle traction in a superior direction. On an energetic level, pull the parietal towards your open heart as you move into compassion. Closing your eyes or moving them into a very soft focus can facilitate your allowing the parietals to energetically move through your heart space. This technique induces peace and tranquility and is very helpful for clients who have vertex headaches or are easily angered. When you have reached the end of the range of motion, gently hold until you feel a further softening, and then follow the parietals as they settle back down next to the temporals. Complete by releasing your fingers.

Lesson 9 The frontal

The frontal bone forms the most anterior portion of the neuro-cranium and separates it from the viscero-cranium, which are the bones of the face. Its most superior portion is at the bregma which is the junction of the coronal and sagittal sutures. In eastern spiritual traditions the bregma is the point of the crown chakra, where we connect to god. The frontal provides a wonderful place to center ourselves and access our higher centers. The falx cerebri connects to the inside surface of the frontal bone, and through the pull of the falx cerebri force is transmitted between the frontal and occipital bones in an anterior-posterior direction. Long term strain can cause the fibers to re-orient themselves, setting up a dysfunctional motility pattern. Techniques on the frontal bone are designed to reduce strain on the falx cerebri.

The osteopathic view of frontal motion is that in flexion the falx cerebellum pulls on the frontal flattening out the center. Other possible motions are rotating of the sides in a similar motion to the occiput. In a small part of the population, there is suture down the center of the frontal bone. It is possible that this suture helps during the flattening phase of cranial motion.

Frontal Decompression

The intention of this technique is to free any restrictions between the coronal sutures and to balance any abnormal tensions in the falx cerebri. Use this technique with anyone who has received a blow to the head, has headaches, or where you suspect birth trauma. Start with your client supine. Place your thumbs lateral to the eyebrows. Take out the skin slack as you move your thumbs slightly towards each other. Monitor the cranial rhythm and gently lift the frontal bone up into the sky. This is a very subtle light movement that is executed as you breathe with your client. Your touch will allow her to release tensions held in the frontal bone. The sutures will relax and disengage, allowing more breathing room so that the frontal bone can dance unobstructed and let go of adhesions and trauma. After the sutures have released you may feel a more elastic resistance caused by the membrane connection. If you notice a tugging sensation against your pressure, just continue to hold until you get a softening and release. It will feel as if the frontal bone is floating.

Balance the glabella and bregma

Cradle your client's head in your hand. Making a secure contact at the occiput. Place your other hand lightly over the frontal bone. Your thumb will contact bregma. Your middle finger contacts the glabella, or third eye, and your two other fingers will contact the apex of the eyebrows. This contact establishes a good vantage point from which to sense the communication between the occiput and the frontal. You will sense the membrane activity of the falx cerebrum.

Hold this contact as you maintain communication with the cranial wave. Use the same technique of waiting, listening and entraining with your client's breath to sense the movement of these bones. The compression is derived from the weight of the occiput and the very light yet secure contact over the frontal bone. Feel the membrane elasticity and the 6 second flexion extension patterns as you feel the occipital bulging in confluence with the sphenoid nosedive. Hold until you sense a still point and a rebalancing of rhythms.

Balance the frontal with the viscerocranium

Place your palms on the frontal bone and allow your fingers to lay over the mandible and zygomae. Just as with the temporal palming, monitor the rhythms and feel the communication between the frontal, the mandible and the zygomae. Maintain the same conscious awareness as you have had throughout the session. This technique is very soothing and integrating.

Lesson 10 The Zygomae

The zygomae are located at the corner of the face, here. They are the face we show to the world. There are no direct connections to the reciprocal tension membrane. The zygoma are thought to act as shock absorbers between the motion of the temporals and maxillae. During flexion the orbital part of the zygoma rolls antero-laterally, and the tuberosity rolls inferior. Give attention to the zygoma after dental trauma, being hit in the face, or with sinus problems.

Zygomae palpation

To restore a balanced cranial rhythm to the zygomae, start by placing your fingertips and thumbs over the zygomae and hold them lightly. Quiet down and open up to the subtle motion. This contact is very helpful for sinusitis and frontal headaches. If there is any tension or compression held in the zygomae, they will enjoy this hold and may want to unwind. They may take the cue from your contact to begin moving from side to side. Just keep focusing and feeling the zygomae push and pull back and forth as they unwind and balance is restored. Another treatment option is to laterally decompress the zygomae by applying gentle force in a lateral direction, all the while keeping in contact with the cranial wave.

Lesson 11 The maxillae

The maxillae are a part of the viscerocranium and form parts of the mouth and nostrils. The maxillary sinuses are the largest in the head and can be the source of stubborn sinus infections. The zygomae, palatines and vomer all connect with the maxillae and help absorb some of the motion of the sphenoid before it reaches the maxillae. The speed reducing attributes of these bones is analogous to a circuit breaker box taking the full energy of the power line and making it useable in a household. The way the maxillae moves is affected by the movement of facial muscles, the position of the tongue, and the movement of the sphenoid and palatine bones. When the sphenoid goes into flexion, the maxillae moves down and out. The maxillae is involved with talking, chewing and smelling.

Inside the mouth Decompression and unwinding

The intention for this technique is to free the median palatine suture. This can offer relief for eye socket headaches, cluster headaches, migraines and sinus congestion. This technique is helpful to those undergoing orthodontic procedures. Always ask permission before doing any work inside the mouth. Sit at the head of the table and put on gloves. Support the upper lip with your thumbs and place the two index fingers as far back along the surface of the upper teeth as is tolerable for your client. There are three possible intentions for this technique, the first is to feel the cranial movement, follow it and allow the natural unwinding. The other is to exert a slight lateral decompression. For this hook your fingers on the inside of the molars. Apply slight lateral motion, and as you do so tune into the cranial motion. The third intention is to decompress the maxilla in an anterior direction. To do this, your fingers are resting on the teeth, imagine that you have suction cups on your fingers that are gripping the teeth, and exert an anterior traction that is ounces at most. While performing traction, always follow the motion as the bone unwinds. When you are complete with this technique check in with your client. There can frequently be emotional content in jaw disturbances.

Lesson 12 The Mandible

The mandible is the most actively movable bone in the viscerocranium. It is large and strong and is able to tolerate a lot of activity. The state of the mandible influences the rest of the body dramatically. When the mandible is relaxed and open, the rest of the body is more relaxed and open. Tension held in the mandible can cause a lot of problems in our respiration movement and sense of well-being. We all are familiar with the problems that a tense mandible can bring. Anger, sexuality, eating , a sense of who we are, of expressing our truth and determination are but a few of the deep human connections that are expressed through the mandible. The tempero-mandibular joints are right in front of the ears and can easily be felt when the jaw is open. The contact between the teeth of the maxilla and mandible are areas that are addressed often in teeth grinding and jaw tension. The TMJ have a large nerve supply and our mandible motion controls the patterning for over a third of the motor muscles of the body, mostly in the neck, chest and pelvic areas. The mandible has sixteen muscle group attachments, more than any other bone in the body except the scapula. Because of this we can easily see how restoring balance and motility in the mandible at the TMJ can have a positive influence on the entire body.
The mandible follows the motion of the temporal bones and is highly influenced by our emotional state and by the tension held in the muscles it attaches to. The mandible motion is also very affected by what our feet are doing. When you step forward with your foot that side of the mandible moves forward as the tmj joint starts to rotate open. The mandible follows the alternating opposite motion pattern of the temporals. The left side of the mandible moves down and back with left temporal flexion while the right side of the mandible moves up and forward. The mandible is also influenced by sphenoid motion by way of its connection to the pterygoid mandibular connectors.

Manbible inside the mouth technique

With your gloves on, gently place your thumbs over the bottom teeth as you contact the mandible on the lateral sides. Hold and sense the motion of the teeth. Usually they have a lot to say and will begin unwinding. If this unwinding is not occurring naturally, apply a 5 grams of decompression movement to the teeth, holding them out laterally to encourage movement. You will feel the madible drop slightly “out” of the joint space and posterior as restriction is freed up. When you feel complete, remove your thumbs.

Another unwinding, done from the head of the table involves placing your thumbs on the surface of the bottom teeth while holding the mandible bottom with your fingers.

Palming

If you or your client feels uncomfortable working inside the mouth, here is a way to release the mandible externally. Place your palms gently over the mandible and tune into the cranial rhythm. Your connection to the mandible will be the fulcrum and the mandible will start to unwind. This contact relaxes tense mandibles and is helpful for emotional calming as well as teeth grinding.

Mandible Compression/decompression

Contact the lower border of the mandible with your fingers. Put your thumbs in the center of the mandible. Have your client keep her mouth slightly open so that the teeth are not touching. The intention here is to compress the mandible into the temporals through the temporal mandibular joint. Sense the movement in the tentorium, the temporals, parietals and the falx cerebrum. Focused attention will help you tune into the progression of the resistance through your fingers. Once you have sensed that your pressure has been felt through all these tissues, then allow your intention to reverse so that all of the tissues now decompress and there is a deep relaxation. You will be able to sense this release through your hands, and through the quality of your client's breath. The release of tension in the neck muscles is also a notable sign of release.

Eargate

This is a nice way to end your session and uses the acupuncture point, Triple Warmer 21, to access the temporal mandibular joint and induce a peaceful calming state. Contact this area with your middle finger. Focusing toward the center of the brain where the pituitary gland and mammillary bodies are located. Sit comfortably and visualize the mammillary bodies and hold until you feel the membrane quality of movement, as if you were alternately stretching and relaxing an elastic band. Send you client peace with your intention.

End your session as you would with a massage- perhaps holding the feet, or brushing down the entire body. When you are done, verbally tell the client that the session is over.