Back To Chiropractic CE Seminars

Gentle Technique for the Upper Body ~ 4 Hours

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(also accepted in other states, check our website or with your Chiropractic State Board)

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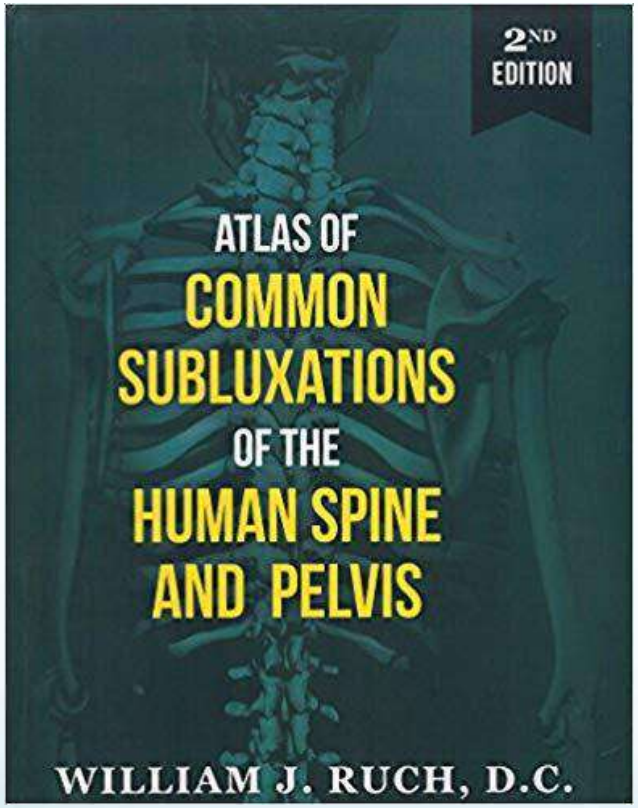
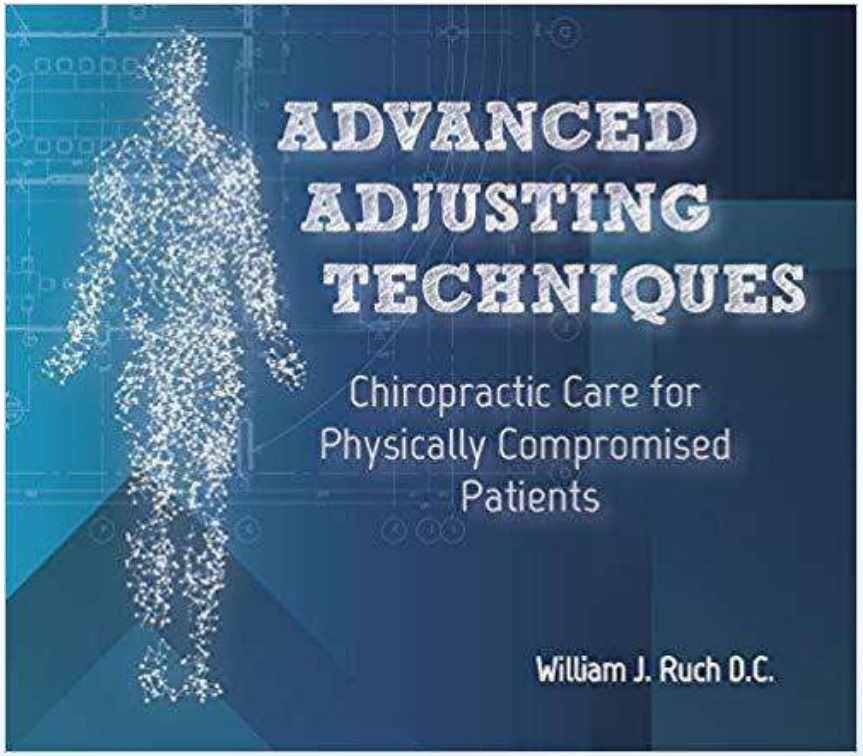
Marcus Strutz, DC
Back To Chiropractic CE Seminars

THE FOLLOWING PRESENTATION CAN BE FOUND IN MORE DETAIL IN THESE BOOKS





GENTLE ADJUSTING FOR THE UPPER BODY

This a presentation on Chiropractic Care for patients with advanced arthritis, spinal implants and other health considerations.

GENERAL CONCEPTS FOR EVALUATION, TREATING AND MANAGING PATIENTS WITH SPECIAL NEEDS

Patients with advanced arthritis and joint replacements have had some kind of traumatic event in most cases years earlier. I find most of these patients are victims of modern injuries.

MODERN INJURIES

Modern Injuries is my term for the results of an event or events that disrupt the integrity of the spine, pelvis, rib cage, including the anterior joints and extremities. This means a global or complete affect on the body. In my opinion, most of the injuries will become arthritic for most people who will have no care.

MODERN INJURIES

- "RAPID DECELERATION" EVENTS

  Mechanism of injury commonly involves instantaneous over stretching: MVA's most common (16+ million in 2016)

- THERAPY SHOULD NOT REPRODUCE MECHANISM OF INJURY (This might include most exercises and stretches and yoga)

- Manipulation may not be helpful or might be contraindicated

GENTLE ADJUSTING OF THE INJURED SPINE, RIB CAGE, PELVIS AND EXTREMITIES WITH USE OF SPRING LOADED INSTRUMENT AND DROP TABLE

- Avoiding instantaneous over stretching (manipulation)
- Avoiding reproducing mechanism of injury
- The Spring Loaded Instrument (SLI) allows specific contact
- The Drop Table allows gentle, repetitive thrust to the spine, rib cage and pelvis
- The Drop Piece allows specific gentle adjusting of the extremities

THIS TYPE OF CARE IS NEEDED FOR THE AGING AND INJURED POPULATION:

- More People with Advanced Arthritis that are living longer
- People are living longer with Chronic Health Problems
- Joint Replacement and Spinal Surgeries are becoming common

MORE PEOPLE WITH ADVANCED ARTHRITIS THAT ARE YOUNGER

- Prevalence of MVA Injuries of all ages
- Multiple Injuries or Health Problems
- Prior Surgeries and/or Joint Replacement earlier in life
- Advanced Arthritis in Children or Young Adults
- Deconditioned Patients in their Twenties
- Functional Capacity Issues at earlier ages

MULTIPLE HEALTH PROBLEMS AND CHIROPRACTIC CARE

- Cardiovascular problems
- Depression
- Obesity
- Arthritis
- Osteoporosis
- Cancer
- Multiple injuries

Maybe some day specialists of these conditions will realize the value of chiropractic care.

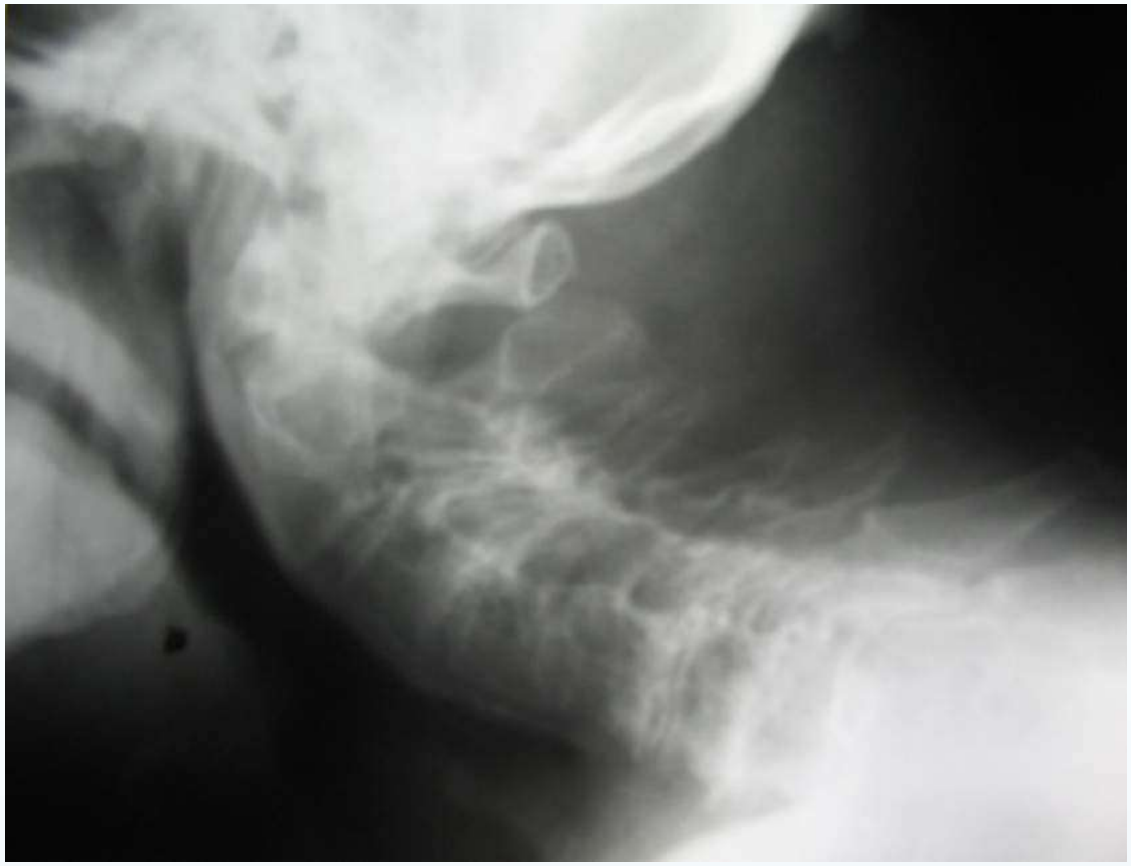
CHIROPRACTIC CARE FOR PATIENTS WITH ADVANCED ARTHRITIS

- Subluxations cause Osteoarthritis (i.e. Trauma)
- 96% of occurring Arthritis is OA
- Huge problem: 85% of Medicare claims
- Most common cause of Disability in the US
- Manipulation versus Adjusting

Advanced arthritis or osteoarthritis is caused by subluxation which is caused by trauma.

The following slides include some examples of patients that benefited from gentle adjusting with the Spring Loaded Adjusting Instrument and Drop Table Technique.

ADVANCED ARTHRITIS FROM MVA



If your patient knows the word "Odontoid", it's not a good sign. 42 years post MVA as a pedestrian, presents with altered posture and poor cervical ROM. Rib cage adjusting and upper cervical adjusting made some minor improvement in ROM and reduced pain, he was happy.

CERVICAL SPINE ARTHRITIS FROM MVA

Patient was thrown through a windshield at age 8. 50 years later she has a "stiff neck" and not much pain. Adjusting her rib cage and upper cervical adjusting gave her 90% of normal cervical ROM.

CHIROPRACTIC CARE AND PATIENTS WITH PRIOR SURGERIES

- More than a 1.5 Million Joint Replacements a year in the US
- Most are Hip Replacements (There is always a subluxated pelvis.)
- 500,000 Knee Replacements in 2015 (The Tibia is always subluxated with knee arthritis.)
- Most patients have additional Joint Dysfunction in the region of the surgery that has been ignored

CHIROPRACTIC CARE FOR PATIENTS WITH PRIOR SURGERIES

- Spinal Surgeries
- Hip Replacements
- Knee Replacements
- Open Heart Surgeries
- Other Surgeries (Usually Cancer)

SURGERY AND THE ELDERLY
THIS IS IMPORTANT!

- 2004 Study on 354 patients 60 years and older having orthopedic surgeries
- 59% suffered cognitive declines, 42% still suffering 2 years later
- Recommend use of brain wave machine and titrate the anesthesia to the patient just below reduced brain wave activity.
- Avoid surgery by maintaining alignment with chiropractic care

I can attest to this from personal experience.

MORE SURGERIES FOR YOUNGER PATIENTS

- More severe MVA's that are survivable
- More common use of MRI to determine need for surgery without an Examination leading to "Failed" outcomes
- Surgeries for Young Patients more common

CERVICAL SPINE INJURY FROM MVA

45 year old Patient fell asleep at the wheel; a quadriplegic at the time of this X-ray. Note the ribs displaced relative to the transverse processes. Rib subluxation was the primary source of paralysis of arms, along with undiagnosed dislocations of both shoulders and elbows. (Not subluxations; luxations.)

SURGICAL FUSION
20 YEARS LATER

Patient 20 years post cervical spinal fusion performed for tingling and numbness of the left arm and hand. Chief complaint is headaches, neck pain and the tingling and numbness of the left arm and hand. Upper cervical rib cage and left clavicle adjusting gave her relief and freed her from relying on prescription pain medications.

GENERAL PRINCIPLES OF ADJUSTING MULTIPLE ISSUE PATIENTS

- *Gentle, Gentle, Gentle*
- *Repetitive Force can Replace Large Force*
- *Isolate the Application of Intervention*
- *Develop Different Approaches for Different Patients*
- *Know how to Treat with out Prone Positioning*

MULTIPLE, GENTLE ADJUSTING TO CORRECT SUBLUXATIONS

ADVANTAGES

- Easier on the Doctor
  - *More years to practice*
  - *Less down time*
- Easier on the Patient
  - *Enhances patient retention*
  - *Patients able to self-check and become more involved with their care*

SOME NEW CONCEPTS

- The body has vital cavities
- The body will resist changes to these vital cavities
- The resistance is hard wired into the spinal cord
- The body doesn’t randomly misbehave: most signs and symptoms the patients present with are manifestations of valid protective mechanisms

3 VITAL CAVITIES

- Spinal Canal
- Rib Cage
- Pelvic Girdle

The disruption of these cavities could result in death.

ADJUSTING WITH FINGER ASSISTED SPRING LOADED INSTRUMENT

Why?

- *Increase Safety*
- *Decrease Anxiety*
- *Contraindications For Manipulation*
- *Acute Injury*
- *Multiple Injuries*
- *Limited Positions*
- *All The Above*

DROP PIECE ADJUSTING OF OCCIPUT

There is no rotation with these maneuvers. Contact, distraction and drop.

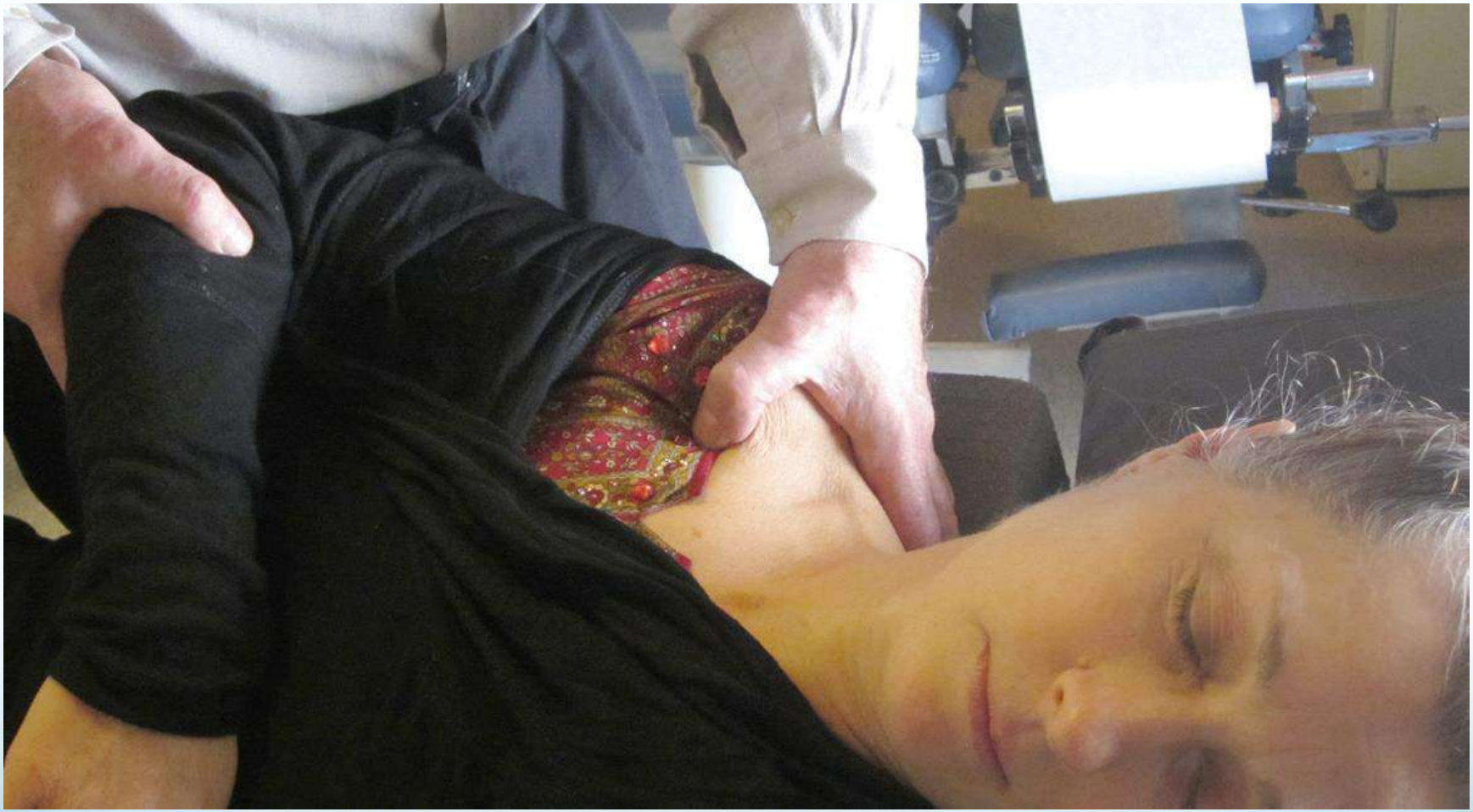
SLI ADJUSTING OF CERVICAL SPINE

There is no big thrust with this protocol; specific contact and gentle, repetitive taps.

SLI ADJUSTING OF RIB CAGE

The rib cage adjusting can be done in various positions based on patient comfort.

DROP TABLE FOR THE SHOULDER



Often with shoulder injuries we put the affected side up for adjusting and other care.

ADJUSTING WITH THE DROP TABLE

- Gentle, Repetitive Drops
- Use of Doctors Thigh or Hip to initiate Drop
- Broad Contacts
- Reduces Anxiety

ADJUSTING WITH THE DROP PIECE

Use in

- *Upper Extremity Adjusting*
- *Lower Extremity Adjusting*
- *Upper Cervical Adjusting*

START WITH THE RIB CAGE

- Neuro-muscular reflex guarding patterns from subluxated sternal joints (Clavicle and Ribs) will cause the SCM, Scalenes, Pectoralis, Serratus and SITS muscle groups to tighten to hold the chest together.
- This is a Spinal Cord Reflex. There are only 3 ways to get this reflex to stop: Adjust the joint, general anesthesia and death.
- **So we start with rib cage with any upper body complaint**

EVALUATING, ADJUSTING AND MANAGING THE INJURED RIB CAGE

- *Rib cage injury is common in "modern" events*
- *The "guarding mechanisms" involve the neck, head, shoulder and many entrapment syndromes*
- *MVAs*
- *Surgeries*
- *Stroke*
- *Other rapid deceleration events - sports, falls, skate boarding*

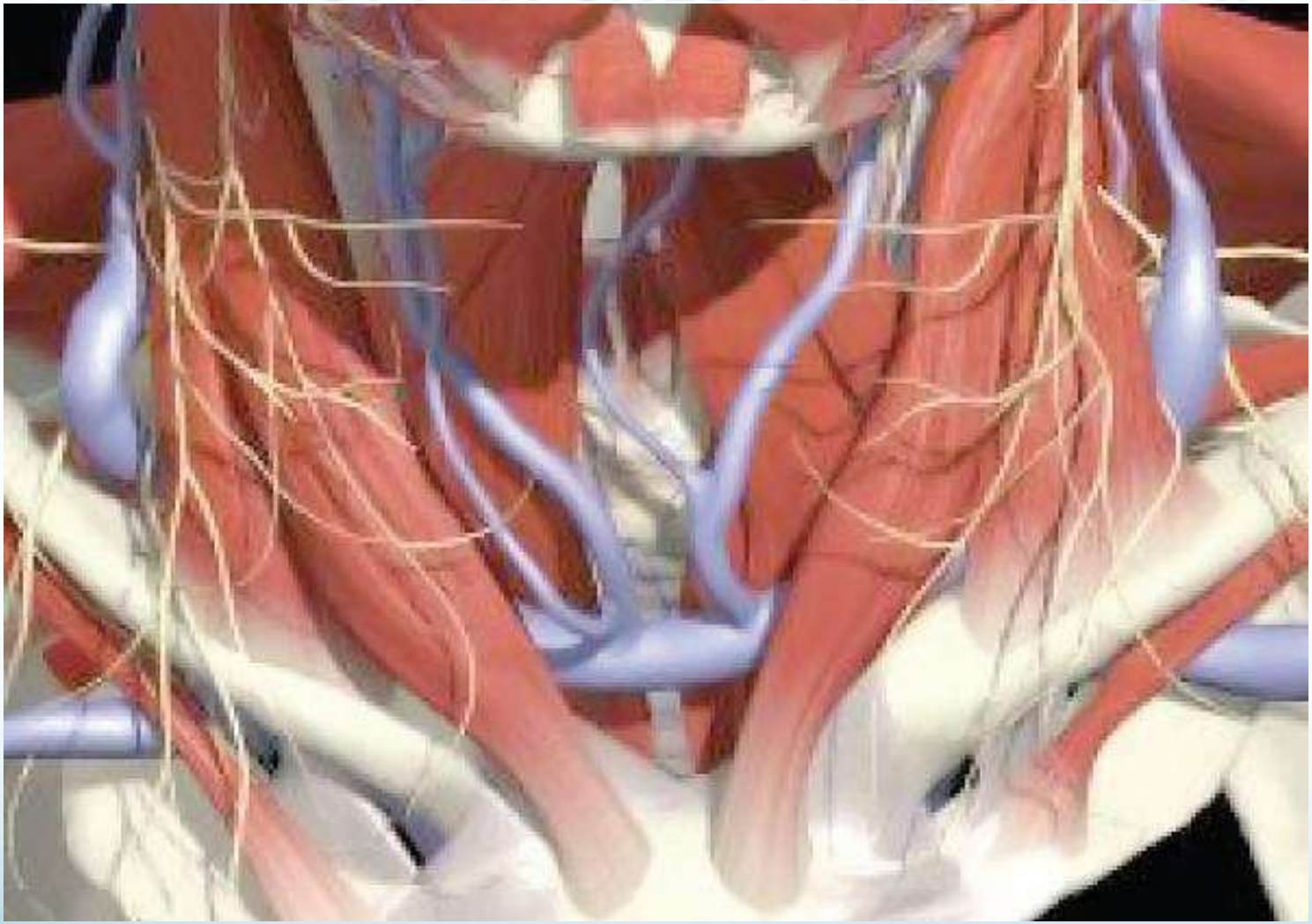
REVIEW OF THE ANATOMY INVOLVED

- *Costosternal joints, Axilla, Pectoralis, Serratus Anterior*
- *Sternoclavicular joints, SCM*
- *Scalenes Muscles*
- *Costovertebral and Costotransverse joints*
- *Evaluating the Guarding Mechanisms of the Rib Cage*

SYMPTOMS RELATED TO SUBLUXATION OF STERNAL JOINTS

- *SCM Involvement: Headaches, frontal area from occlusion of External Jugular Vein (drains eyes, ears, sinuses) and lateral head pain*
- *Cervical muscle (Scalenes) rigidity and pain, loss of ROM*
- *Neurological Entrapment of Brachial Plexus, Thoracic Outlet Syndrome*
- *Distress of Stellate Ganglion and Sympathetic Chain (PTSD, Panic Attacks, Anxiety Disorders)*

UPPER CHEST AND THROAT



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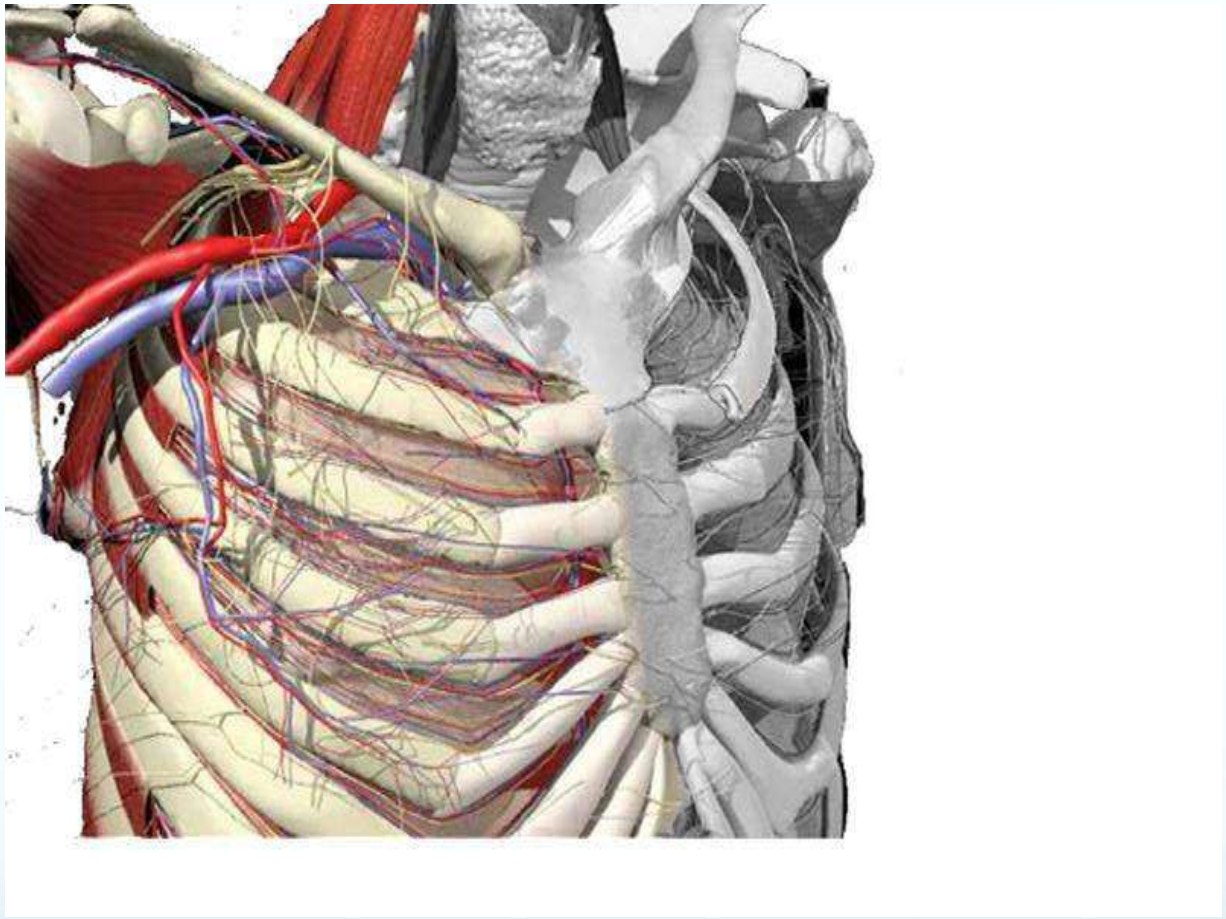
Note the SCM and throat muscle attachments to the Sternal Joints. Disruption of these joints can cause severe headaches, sinus, visual, auditory and balance problems.

THE ANTERIOR AND LATERAL VIEW OF THE RIB CAGE



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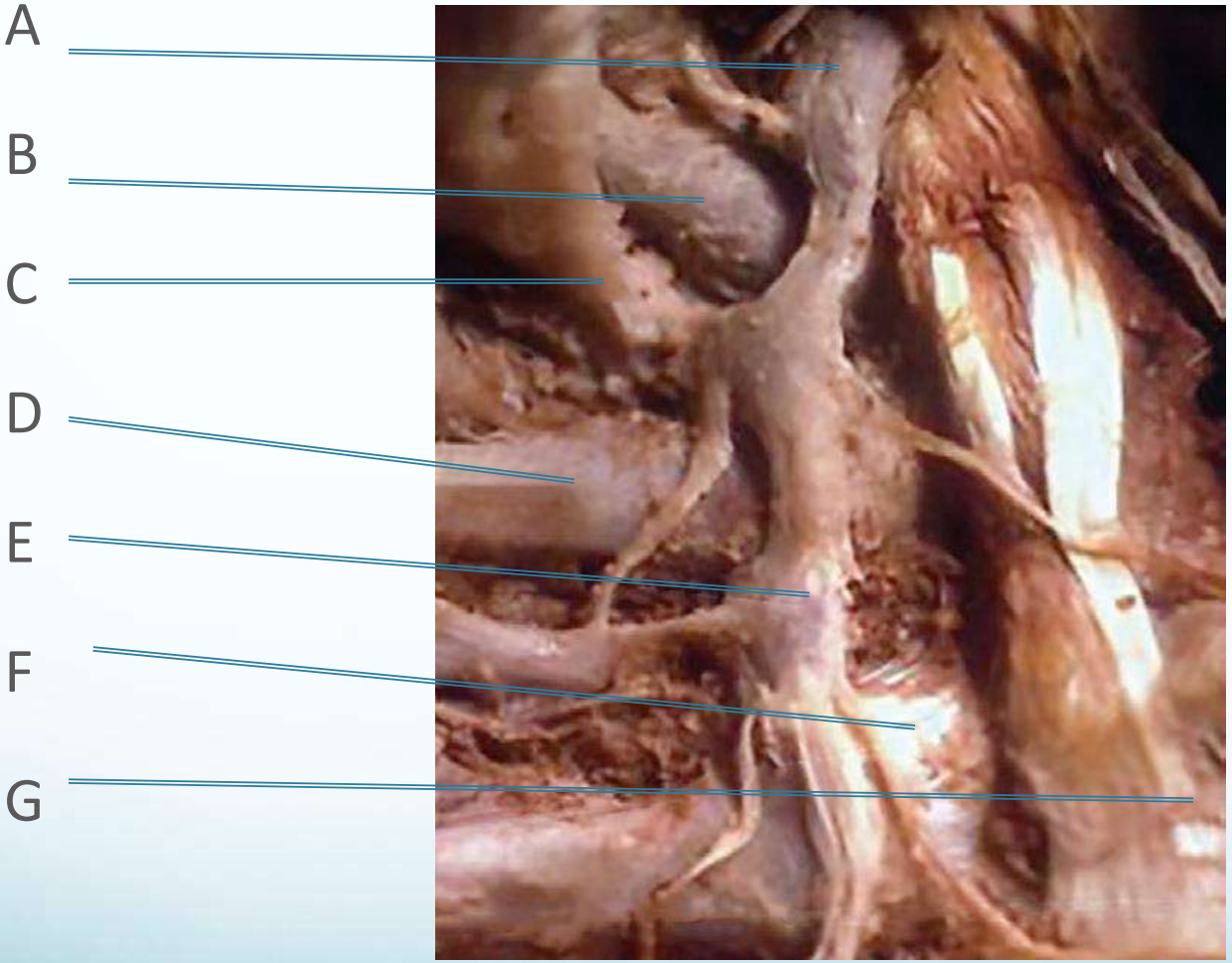
The nerves, arteries and veins of the Axial and Brachial Plexuses attach to the ribs. Rib subluxation causes Thoracic Outlet Syndrome and a number of entrapment syndromes.

ANTERIOR VIEW OF THE UPPER THORACIC SPINE



A. Stellate Ganglion
B. Rib 1
C. 1st thoracic nerve
D. 2nd rib
E. Sympathetic chain
F. Radiate ligament 3rd rib to spine
G. Thoracic Spine

Subluxation of the 1st rib can cause a “sympathetic storm” that alters every aspect of life.

EVALUATION OF THE AXILLA

With the doctor on the side of the patient, palpate for a tender pectoralis major tendon insertion. Ask female patients to move breast tissue forward. Evaluate both pre and post-adjustment.

RIB CAGE COMPRESSION TEST PART 1

Indications:

- *Pain on palpation of the Sternoclavicular joint*
- *Pain on palpation of the Costosternal Joints*
- *Pain and distress of the Axilla*

RIB CAGE COMPRESSION TEST, PART 2

Symptoms to Test for:

- *Loss or reduced Cervical Range of Motion*
- *Neck pain in the lateral and posterior aspect of the neck*
- *Radicular symptoms of the upper extremity*
- *Shoulder pain and loss of ROM*
- *Pain with breathing*

PERFORMING THE RIB CAGE COMPRESSION TEST

- *Stand Behind the Patient. If the patient is in bed or in a wheel chair, do one side at a time.*
- *Doctor's hands go up the Axilla as far as possible (ask the patient to relax after first contact and then go up a little further)*
- *Apply Pressure from lateral to medial (squeeze the chest)*
- *Maintain pressure for 20-30 seconds*
- *Have patient move neck and shoulders with ribs compressed*
- *Note changes*

EVALUATE RANGE OF MOTION FOR THE NECK, HEAD, AND SHOULDERS

This test can be performed for pain. Direct the patient to provoke the worst part of their neck pain and then perform the test. This example shows loss of rotation in the neck.

RIB CAGE COMPRESSION TEST WITH INCREASED RANGE OF MOTION

Note the increased range of rotation of the cervical spine while the ribs are being compressed.

SHOULDER SQUEEZE TEST, PART 1

Indications for the Shoulder Squeeze Test

- *Pain on palpation of the Sternoclavicular Joint*
- *History of MVA, Stroke or TBI*
- *Headaches, sinus problems, throat/swallowing issues*
- *Auditory, balance issues*
- *Visual and eye pain/throbbing complaints*

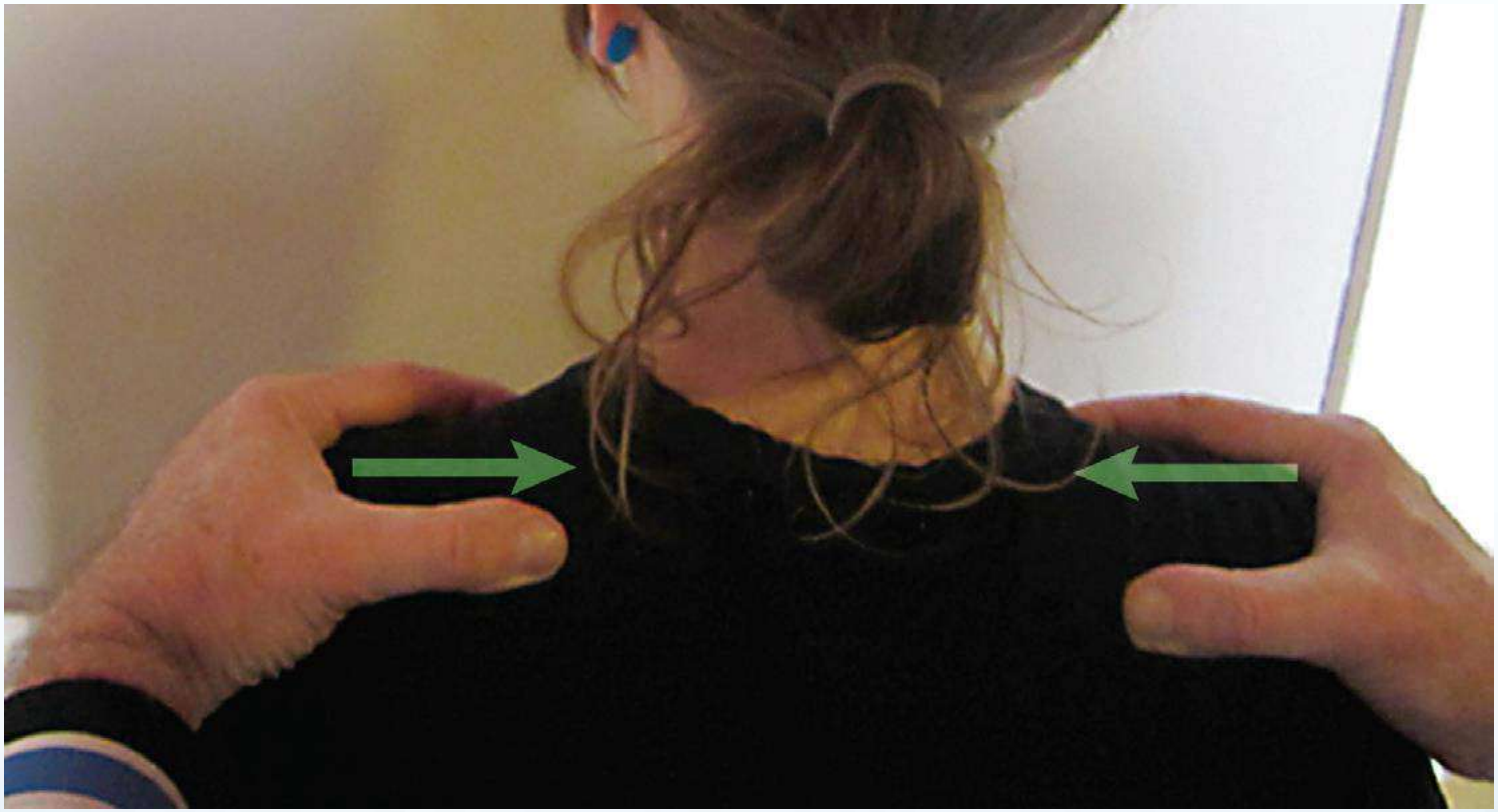
Why does the Sterno-clavicular joint have such power?: The External Jugular Vein is in the SCM. Subluxation of the Sterno-clavicular joint will cause constriction of this vein and occlusion will lead to engorgement of blood into the eyes, ears, nose and throat. That's all.

SHOULDER SQUEEZE TEST, PART 2

B. Symptoms that are related to Sternoclavicular joint dysfunction

1. Frontal or Sinus Headaches
2. Vertigo
3. Difficulty Swallowing
4. Throbbing Behind the Eye
5. Post Nasal Drip
6. Tension Headache in Temporal region

POSTERIOR VIEW OF THE SHOULDER SQUEEZE TEST



The Sternoclavicular joints are being pushed together in the Shoulder Squeeze Test. Maintain compression for 30 seconds. Please note the SCM and throat muscles attach to these joints.

ADJUSTING THE INJURED RIB CAGE

- *Avoid: Posterior Dorsal Manipulation, Anterior Dorsal Manipulation and Side posture Manipulations that contact the Chest and Shoulder to rotate the spine*
- *Adjusting should be done to Restore Alignment at the Sternum and Lateral aspects.*

ADJUSTING THE RIBS WITH THE SPRING LOADED INSTRUMENT (SLI)

- *Anterior to medial in Axilla*
- *Posterior to Anterior on Ribs between Spine and Scapula (seated, standing, supine and lateral decubitus)*
- *Contact Doctor's Fingers with SLI*
- *Broad Hand Contact on the Ribs*
- *Firm contact on the desired spot then use the SLI*

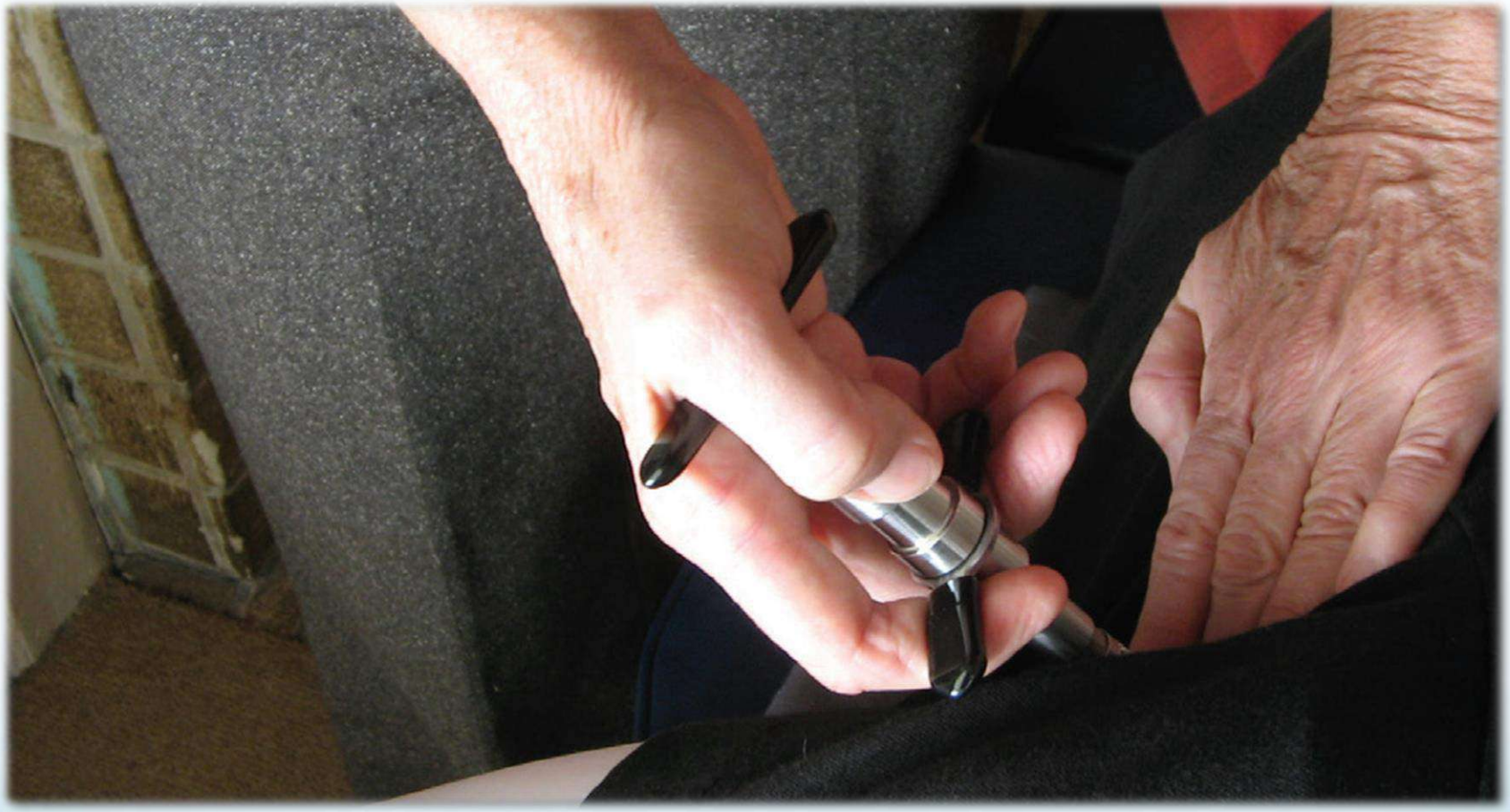
RIB ADJUSTING WITH A SPRING LOADED ADJUSTING INSTRUMENT AS THE PATIENT IS SEATED

Note firm contact with the fingers pressing the rib into the desired position. The SLI is applied through the finger.

RIB ADJUSTING WITH THE SPRING LOADED ADJUSTING INSTRUMENT WITH THE PATIENT PRONE

Note the SLI does not contact the patient. The force of the fingers pressing the rib is combined with the force of the SLI to make the correction.

RIB ADJUSTING WITH THE SLI



Note the broad hand contact by the doctor. This can be more comfortable for the sensitive and acute patient.

ADJUSTING THE RIBS FROM THE AXILLA WITH THE SLI

Using broad hand contact, pushing medial or anterior, contact Doctor's fingers with SLI

ANOTHER VIEW OF RIB ADJUSTING IN THE AXILLA WITH THE SLI

Note the lateral contact on the ribs; this can be done whether the patient is sitting or recumbent. Some patients are so distressed that lying prone is painful.

ADJUSTING WITH THE DROP TABLE

- *Broad hand contact, pushing medial or anterior*
- *Set up with cushions to accommodate the other shoulder*
- *Please note all procedures are gentle and firm, don't expect the first drop to complete the correction.*

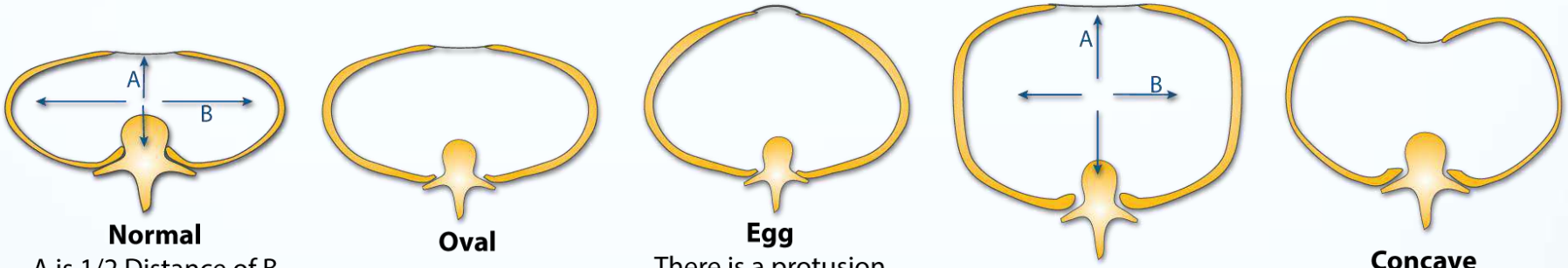
DROP TABLE RIB
ADJUSTING LATERAL TO MEDIAL

There can be the need for as many as 15 or 20 drops. With additional office visits the goal is to reduce the amount of adjusting because the body is healing and the alignment is improving. Regular patients should be less work than people that only come in for flare-ups. Set up with cushions to accommodate the other shoulder. The lower rib cage can be adjusted as well.

ERGONOMICS OF THE INJURED RIB CAGE

- *Determine if the weight of the Shoulder exceeds the limits of the rib cage injury*
- *Sleeping with the injured rib cage*
- *Getting Dressed with the injured rib cage*
- *Motor vehicles and the injured rib cage*
- *Other ADLs (children, animals, etc.)*

VARIATION IN RIB CAGE SHAPES



Generally the A-P narrow and wide left to right (far left) injured rib cage is harder to manage.

BRACING AND EXERCISE FOR THE INJURED RIB CAGE

- *Rib belts, bras and slings*
- *Isometric Exercise, Thera Band*
- *No push ups, bench presses, downward dog*
- *Avoid reproducing mechanism of injury*

6 INCH/WIDE NEOPRENE RIB BELT

This is a 6 inch wide neoprene rib belt. 2 inch and 4 inch sizes are also commonly used, according to the patients needs.

2 INCH/NARROW NEOPRENE RIB BELT

For women a 2” rib belt can be very helpful with an unstable upper rib cage injury. It can be worn under clothing, but over some undergarment.

EVALUATING AND ADJUSTING THE INJURED NECK, HEAD AND TMJ

All adjusting of Cervical, Occiput and TMJ should be done after all rib cage distress patterns has been relieved as much as possible. These injuries can greatly affect the head and neck and shoulder function of the patient. Ignoring these injuries will give incomplete and unsatisfactory results. I'm continually accepting patients who are coming from other providers who have missed these important features of the patient's injuries. Rib Cage and Clavicle injuries can mimic disc herniation. Without a full evaluation and MRI showing damaged disc (which could be asymptomatic) this would lead to an unnecessary surgery of the cervical spine, leaving the patient with the original symptoms and a fused and degenerating neck.

REVIEW OF THE ANATOMY INVOLVED

- *Sternoclavicular joint, External Jugular Vein, swallowing issues, headaches*
- *Costosternal joints, Scalenes*
- *Cervical spine, Levator Scapulae*
- *Occiput and Suboccipital musculature*
- *TMJ alignment*

EVALUATION OF THE RELEVANT STRUCTURES

- *Palpation of the anterior joints*
- *Palpation of the Axilla*
- *Rib cage compression test*
- *Shoulder squeeze test*
- *Palpation of the Cervical Vertebrae*
- *Palpation of the Occiput*
- *Palpation of the TMJ*

THE EVALUATION OF THE CERVICAL SPINE

The Atlas: With the patient supine, palpate the mastoid processes and move anterior-medial. Move the tragus of the ear to get into the anterior space of the mastoid process, posterior to the mandibular border, superior to the angle of the mandible. Don't go too anterior to avoid the Styloid Processes. This is approximately lateral to the transverse processes (tp) of C1. Upon palpation, if more of the mastoid can be felt on one side, then the atlas has rotated to the opposite side. One side of the occiput can be more anterior than the opposite side.

The Axis: The taut and tender muscle fibers are usually on the side that the C2 spinous process (SP) has rotated toward. Symmetry and soft muscles of the suboccipital region are normal. Asymmetry and taut muscles indicate subluxations. Find the base of the occiput, then palpate and find that the C2 SP has rotated, for example, to the right of the external occipital protuberance.

THE EVALUATION OF THE CERVICAL SPINE (CONTINUED)

The Cervical Spine (C3-C7): If the SPs of the cervical spine are not aligned on the mid-line, there is a subluxation pattern. This is usually accompanied by tight and tender muscles. Determine the direction of the displacement.

The Occiput: Occiput subluxation is common with motor vehicle accidents. To test for occiput subluxation, the doctor palpates for the C2 spinous process (SP) and its relationship to the occiput while the patient is supine. If there are painful and tender suboccipital muscles, some subluxation patterning has occurred. Test these by gently pushing or pulling the components forward or backwards to determine which direction gives relief. Generally, if I can feel a very prominent C2 SP and even if the top of it is separated from the occiput and it's very painful, I will consider that to be an anterior occiput. If the C2 SP is tucked in or not palpable, and there is pain or tenderness, the occiput has become posterior to the spine.

ADJUSTING THE CERVICAL SPINE WITH THE SPRING LOADED INSTRUMENT (SLI)

- *Who is a Candidate for SLI adjusting?*
- *Supine position best*
- *Use fingers to pull or push vertebrae into alignment*
- *Then tap finger tips repetitively*

SLI ADJUSTING OF QUADRIPLEGIC

SLI adjusting of C1 and C2 of a quadriplegic patient in a Halo Brace.

SLI ADJUSTING OF THE UPPER CERVICAL SPINE

Doctor's finger is pushing on C1 in direction of correction, then tapping.

SLI ADJUSTING OF C2

C2 is rotated to the patients right side. This is a two handed maneuver with one finger of my hand pulling on C2 back to midline and tapping the SLI with the other hand.

SLI ADJUSTING OF THE LOWER CERVICAL SPINE

Doctor's fingers are on the various transverse and spinous processes, pushing or pulling in direction of correction, then tapping.

ADJUSTING THE CERVICAL SPINE WITH THE DROP TABLE

- *Supine position best*
- *Use fingers to pull or push Vertebrae into alignment and then with gentle distraction, initiate drop*

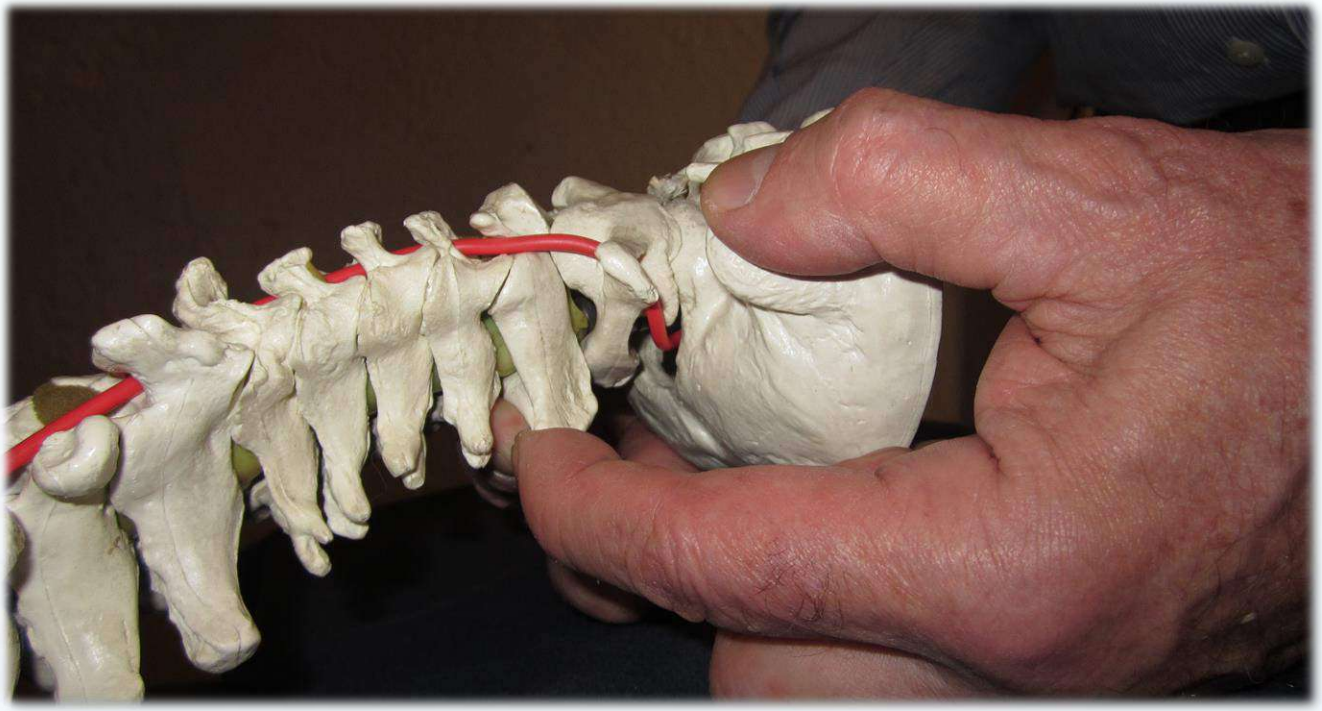
ADJUSTING THE OCCIPUT WITH THE DROP PIECE

- *For anterior Occiput, contact Mastoid Processes and posterior upper Cervical Spine, distract, squeeze and drop*
- *For posterior Occiput, contact anterior upper Cervical Spine (C1 and C2) and posterior of Occiput, distract, squeeze and drop*

ADJUSTING THE OCCIPUT WITH THE DROP PIECE (CONTINUED)

- *For inferior Occiput, contact Mastoid Processes, lift Occiput superiorly, distract and drop*
- *For superior Occiput, contact base of Occiput, push inferiorly and drop*

THE SETUP FOR AN ANTERIOR OCCIPUT ADJUSTMENT



Contact mastoid processes and posterior, inferior spinous process of C2. Distract, squeeze and drop simultaneously.

ANTERIOR OCCIPUT DROP

Thumbs contact the anterior mastoid processes and fingers are under C2 spinous process.

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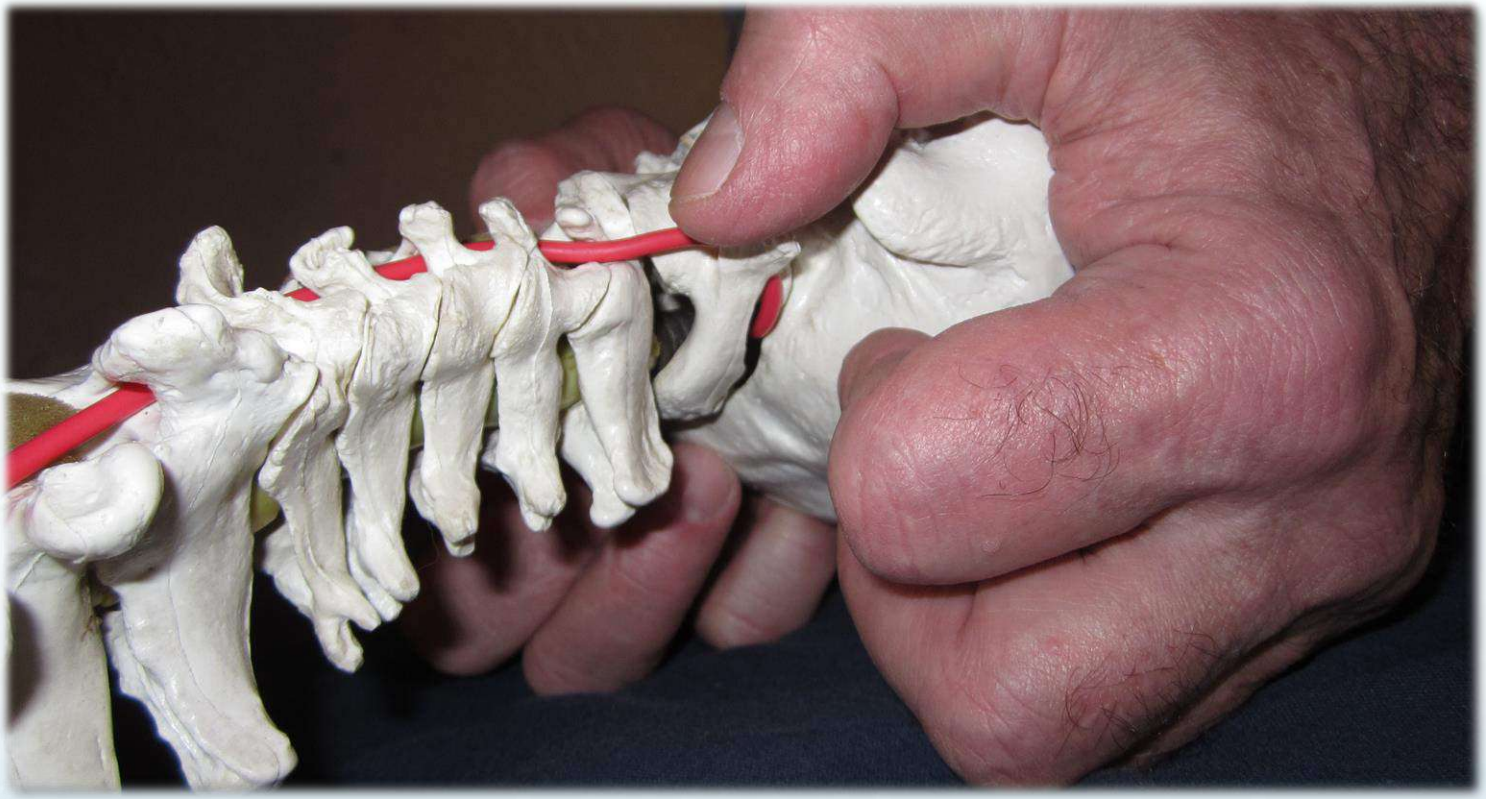
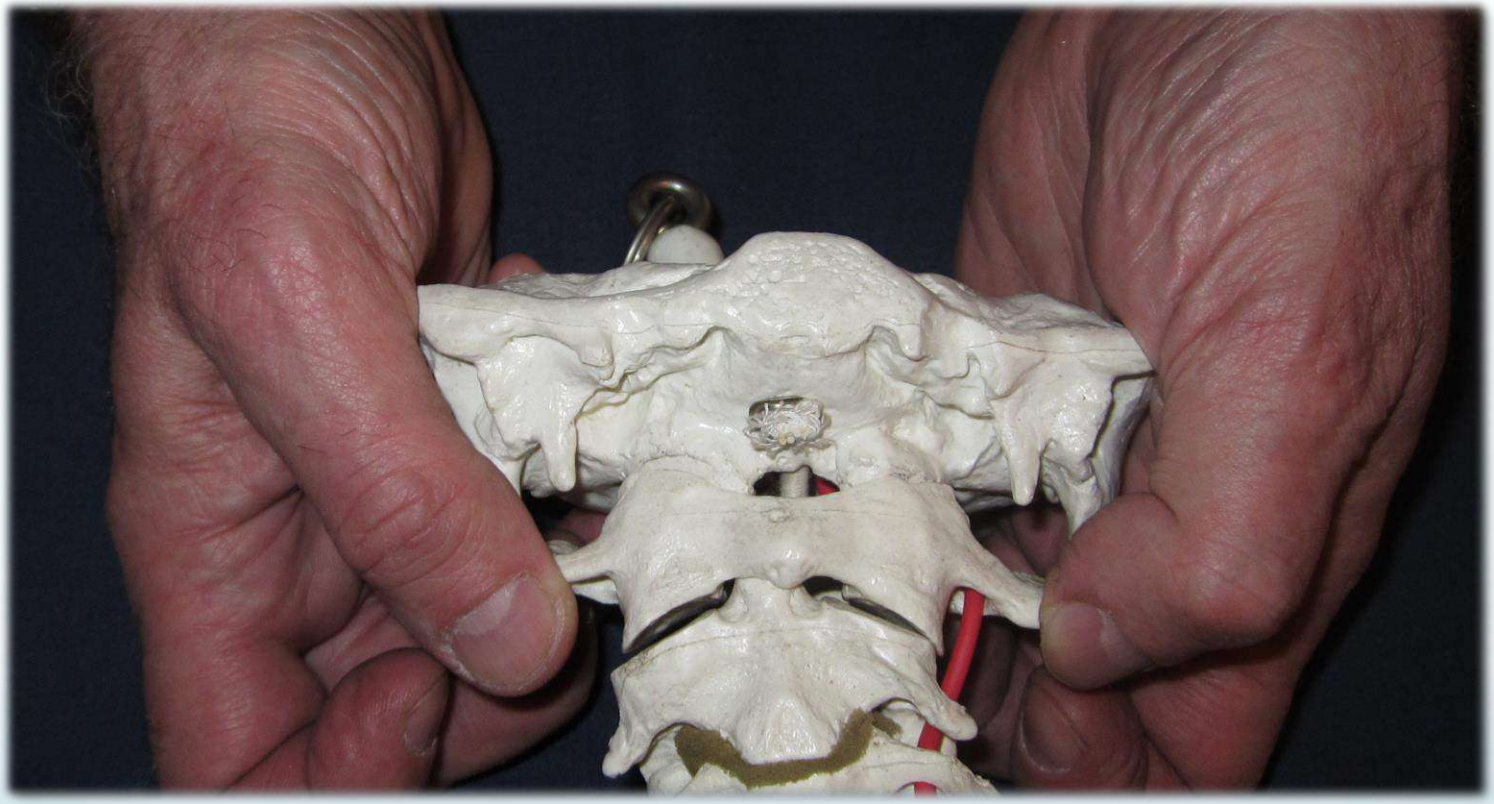
THE SETUP FOR A POSTERIOR OCCIPUT ADJUSTMENT



Contact the posterior occiput with fingers and anterior C1 and C2 transverse processes with thumbs; distract, squeeze and drop simultaneously.

ANOTHER VIEW OF THE SET UP FOR POSTERIOR OCCIPUT ADJUSTMENT



Thumbs contact anterior C1 and C2 transverse processes, fingers are on posterior occiput.

POSTERIOR OCCIPUT DROP

The posterior occiput adjustment is to contact the base of the occiput with the fingers and the anterior transverse processes of C1 with the doctor's thumbs. Distract, squeeze and drop, using forearms contact on drop piece. I find this to be very common and correcting a posterior occiput helps TMJ problems.

TEMPOROMANDIBULAR JOINT ADJUSTING

The evaluation of the Tempromandibular joint (TMJ) motion and palpation, if subluxated, should lead to a determination of laterality and posteriority. There are four separate maneuvers that I use to adjust the TMJ. In every part of the procedure, the patient keeps their mouth open.

- On the posterior side, contact the head of the TMJ through the ear of the side to be adjusted. Have the patient open their mouth and tap through the doctor's finger repeatedly with the SLI.
- On the posterior side, contact the neck or rami of the mandible with the doctor's finger. With the patient's mouth open, pull forward and tap through the finger repeatedly with the SLI
- If you evaluate a lateral displacement of the mandible, have the patient open their mouth and tap on the lateral side from lateral to medial, repeatedly, using the SLI
- With the patient's mouth open contact each side of the lower mandible (mental foramen) with the thumbs and drop straight inferiorly, repeatedly.

Note: All maneuvers should be done gently. Even with the most gentle touch, there will be, in some cases, extreme sensitivity. If you are making the correct adjustments, the region should get less sensitive. Note: monitor the motion of the mandible. Asymmetric mandibular motion should start to become symmetrical with continued adjusting. All rib, clavicle, vertebral and occipital subluxations have been addressed before TMJ adjusting.

ADJUSTING THE TMJ WITH THE SPRING LOADED ADJUSTING INSTRUMENT

Evaluation of TMJ dysfunction

- *Put your finger in the ear of the patient on the side of deviation, contact head of mandible, have patient open mouth and tap your finger, repeat on back of mandible and on that side of the posterior mandibular head with the patient's mouth open and repeatedly.*
- *Put your finger on the neck of the mandible, mouth open and tap your finger posterior to anterior*

ADJUSTING THE HEAD OF THE MANDIBLE THROUGH THE EAR

Gently press down on the mandibular head through the ear, tap your finger with the SLI multiple times. Careful, no recoil.

ADJUSTING THE HEAD OF THE MANDIBLE FROM BEHIND THE EAR

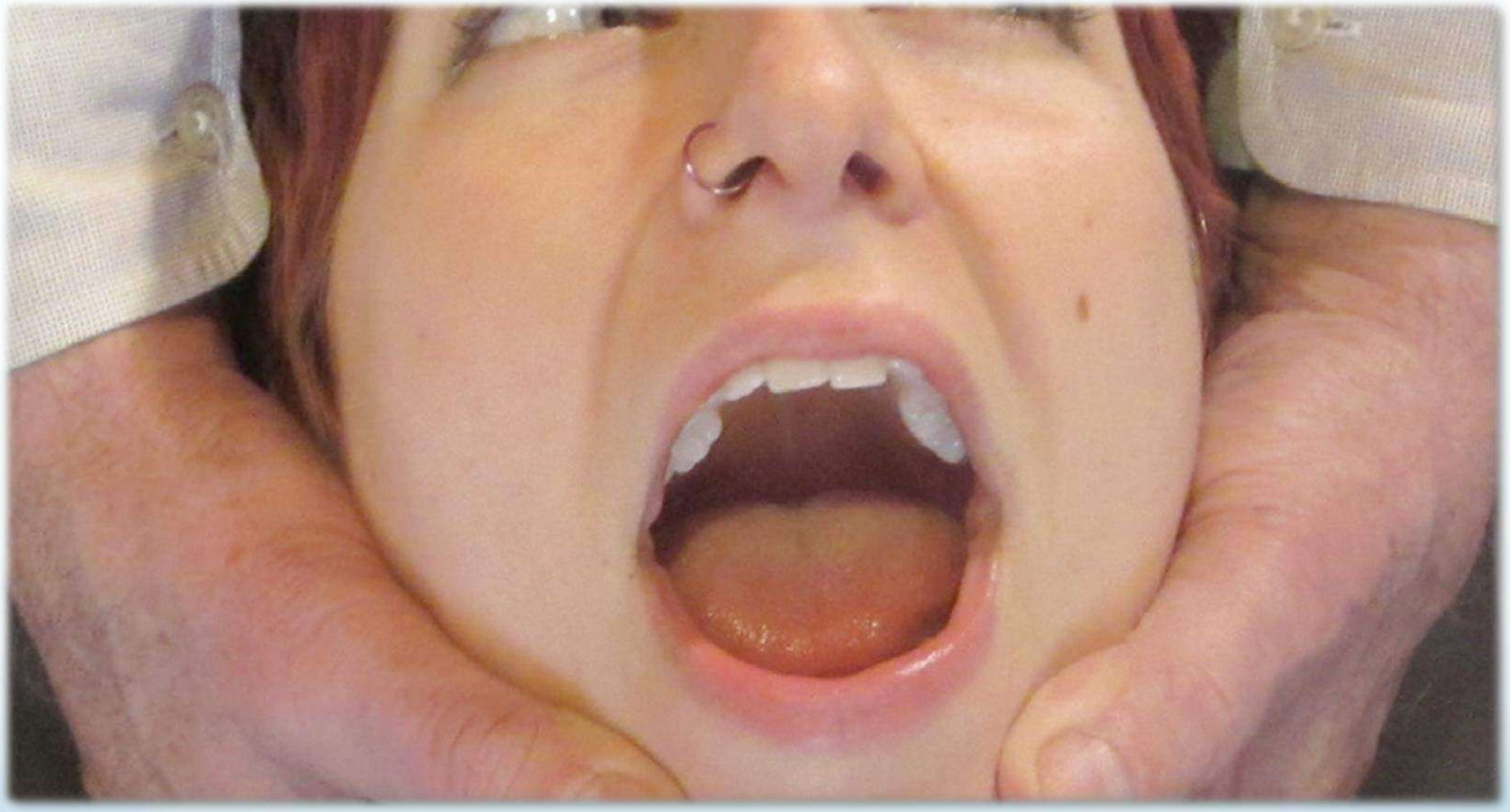
With the patient 's mouth open, contact the posterior part of the mandibular rami with your finger, and tap with the SLI. The mouth is open.

This is performed on the side of posteriority. If you find both sides are posterior, then both sides should get this adjustment.

ADJUSTING THE HEAD OF THE MANDIBLE LATERAL TO MEDIAL

When the mandible is lateral , contact that side, press lateral to medial and tap your finger with the SLI.
All these adjustments are performed with the patient's mouth open.

THE MANDIBLE DISTRACTION ADJUSTMENT



The last maneuver in this series is to perform a gentle drop on the inferior part of the mandible, bilaterally. This is performed repeatedly, if necessary.

EVALUATING, ADJUSTING AND MANAGING THE THORACIC SPINE

The Special needs patient, generally, cannot tolerate long axis manipulation. Some of the rib cage injuries the patients suffer will make prone adjusting contraindicated. Specific vertebral adjusting can be done with the SLI. When a patient can tolerate prone adjusting it needs to be gentle. The repetitive, gentle drop table adjusting for the spine can be very helpful for the arthritic spine. Keeping the arthritic spine mobile and the patient active are some of the major goals to have with Chiropractic care.

There are two main approaches to dealing with the arthritic spine. The first is segmental and the second is global.

SEGMENTAL ADJUSTING

- SPECIFIC ADJUSTING ON SINGLE VERTEBRAE
- VERY GENTLE AND REPETITIVE
- CAN BE DONE PRONE, SEATED OR SIDE POSITIONS
- ADJUSTING IS DONE WITH FULL UNDERSTANDING OF OTHER CONDITIONS AND/OR INJURIES

GLOBAL ADJUSTING

- ADJUSTING IS DONE TO CHANGE POSTURE
- ADJUSTING IS DONE RESPECTING OTHER INJURIES
- ERGONOMIC EVALUATION IS NECESSARY

The global adjusting is done with a change in the shape of that region of the spine as a goal. This approach uses postural analysis and x-ray analysis to make the determinations of the adjusting. For instance if someone has a hyperkyphosis of the thoracic spine then putting their thoracic spine in extension would help reduce the kyphosis.

Quite a few of the advanced arthritic patients will never have full correction of their spines. One of the goals of this approach to chiropractic care is to avoid the severe arthritis from developing. I know and my patients know that the chiropractic care they receive keeps them functional and prolongs their abilities to stay independent. Balance, weight bearing activity and conditioning will all improve with correcting, even marginally, the posture.

REVIEW OF RELEVANT ANATOMY

- Vertebral components, primarily, the Spinous Processes and the Transverse Processes
- These components are used as levers

ARTHRITIC THORACIC SPINES

SEGMENTAL ADJUSTING

DROP TABLE BEING USED WITH SPINOUS PROCESS AND TRANSVERSE PROCESS CONTACTS

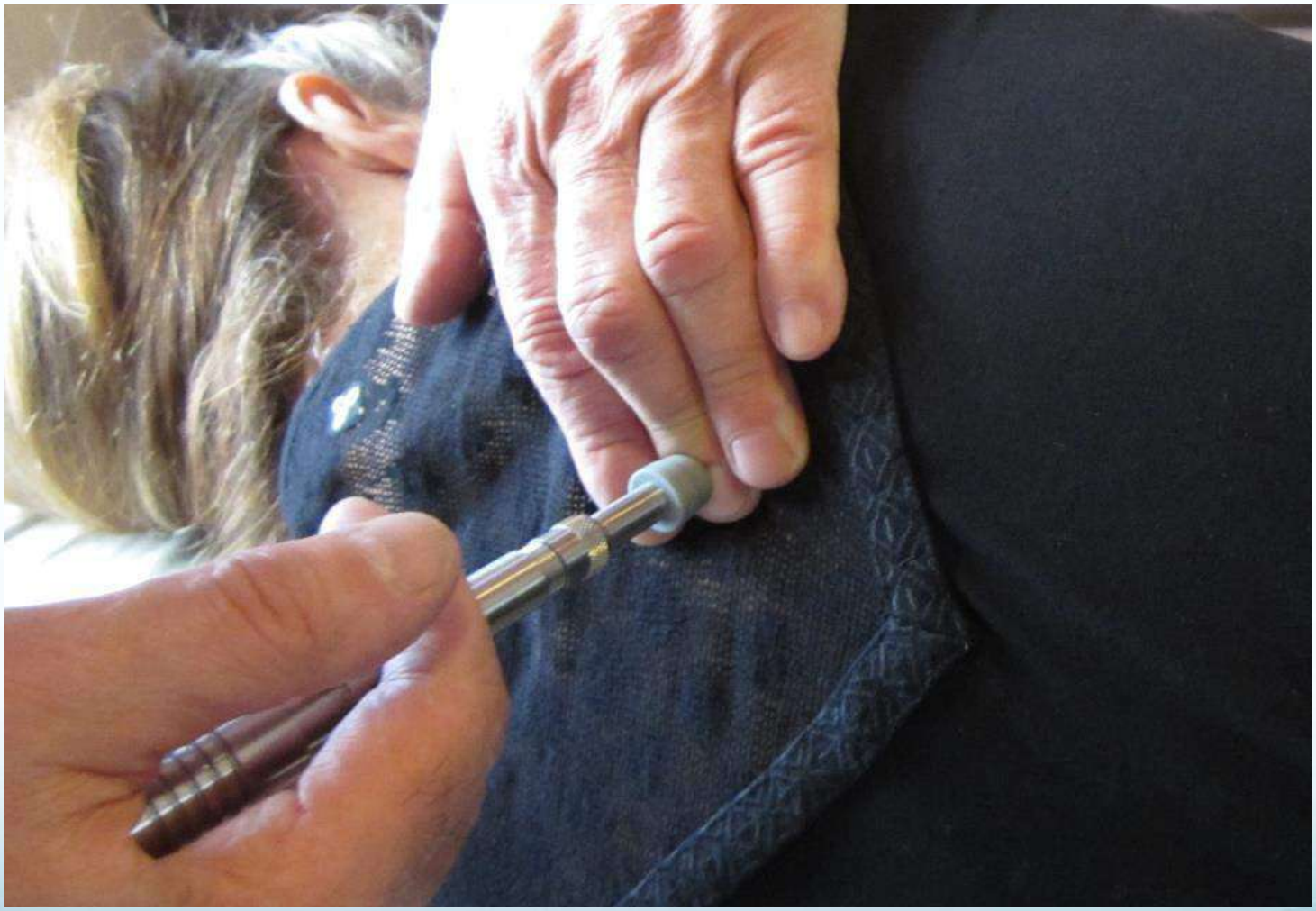
SLI ADJUSTING OF A THORACIC VERTEBRAE

SET UP FOR SLI BEING USED ON A TRANSVERSE PROCESS

SLI ADJUSTING OF A THORACIC VERTBRAE

SLI BEING USED ON A PATIENT WHO IS PRONE

SLI ADJUSTING OF A THORACIC VERTEBRAE



SLI BEING USED ON A PATIENT ON HER SIDE

THORACIC ADJUSTING

SLI adjusting of an osteoporotic patient in seated position

EVALUATION, ADJUSTING AND MANAGEMENT OF THE INJURED SHOULDER

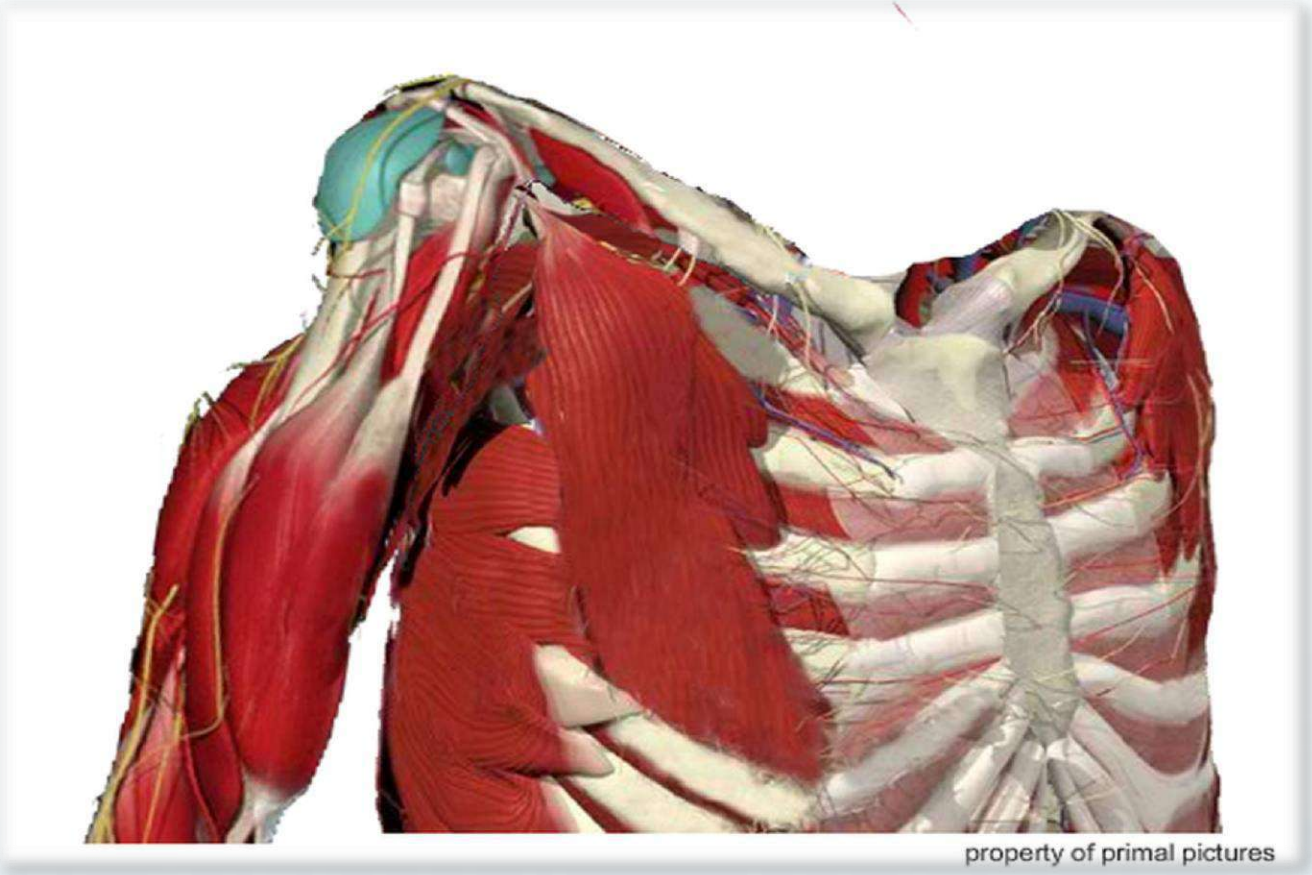
The rib cage is intimately involved with shoulder function.

Fix the rib cage before attending to the shoulder.

REVIEW OF THE RELEVANT ANATOMY

- *Sternoclavicular Joints*
  - *Costosternal Joints*
    - *Acromioclavicular Joint*
      - *Gleno-humeral Joint*
        - *Musculature of the Shoulder*

THE CHEST AND PECTORAL GIRDLE



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The shoulder and chest are connected. Few providers check the chest for shoulder dysfunction or pain. A tight pectoralis muscle is usually treated by stretching the chest muscles, which subluxations of the ribs that would affect the shoulder, are made worse.

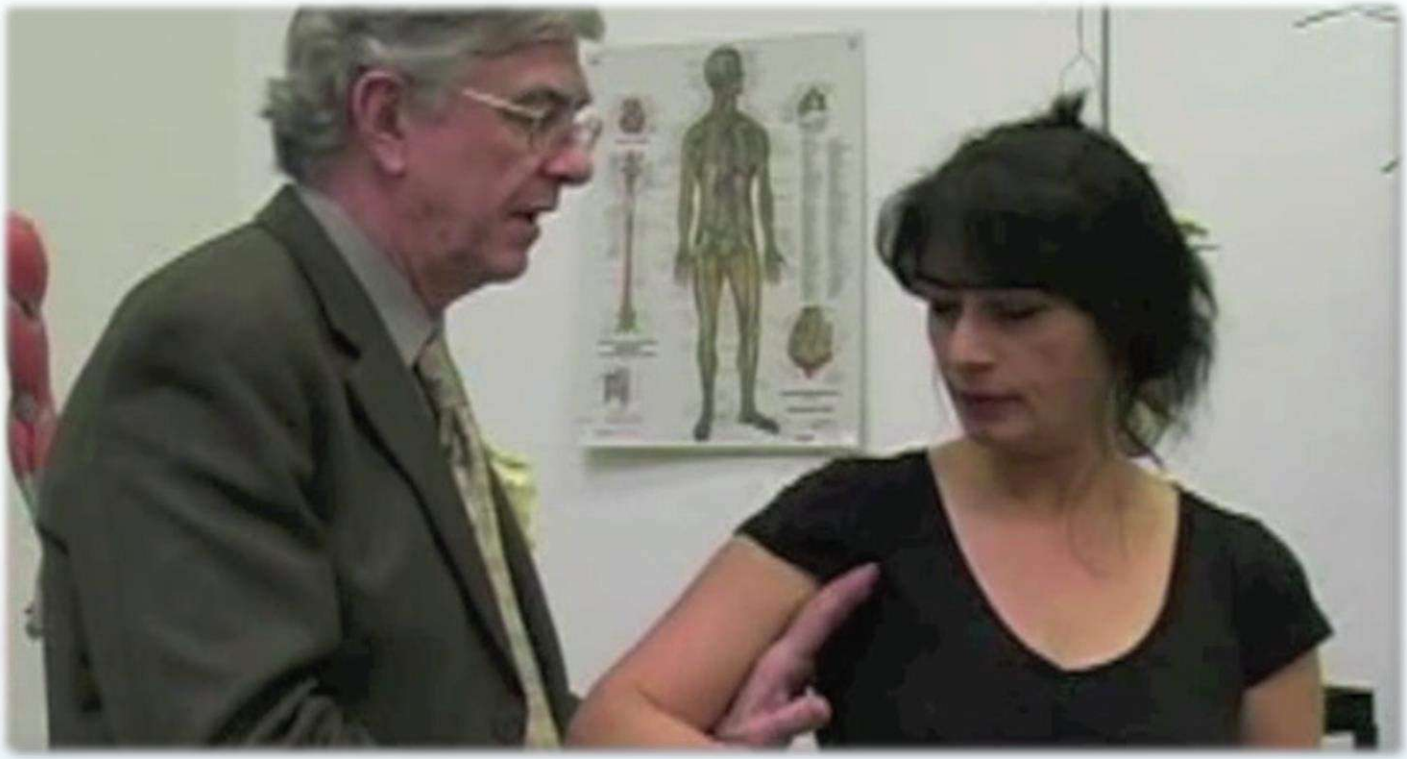
ROTATOR CUFF

This is a Rotator Cuff, a tough fibrous structure with no vascular components. Note: Deltoid muscle on the left and the Pectoralis muscle attaching to the Humerus on the lower right.

EVALUATION OF THE SHOULDER

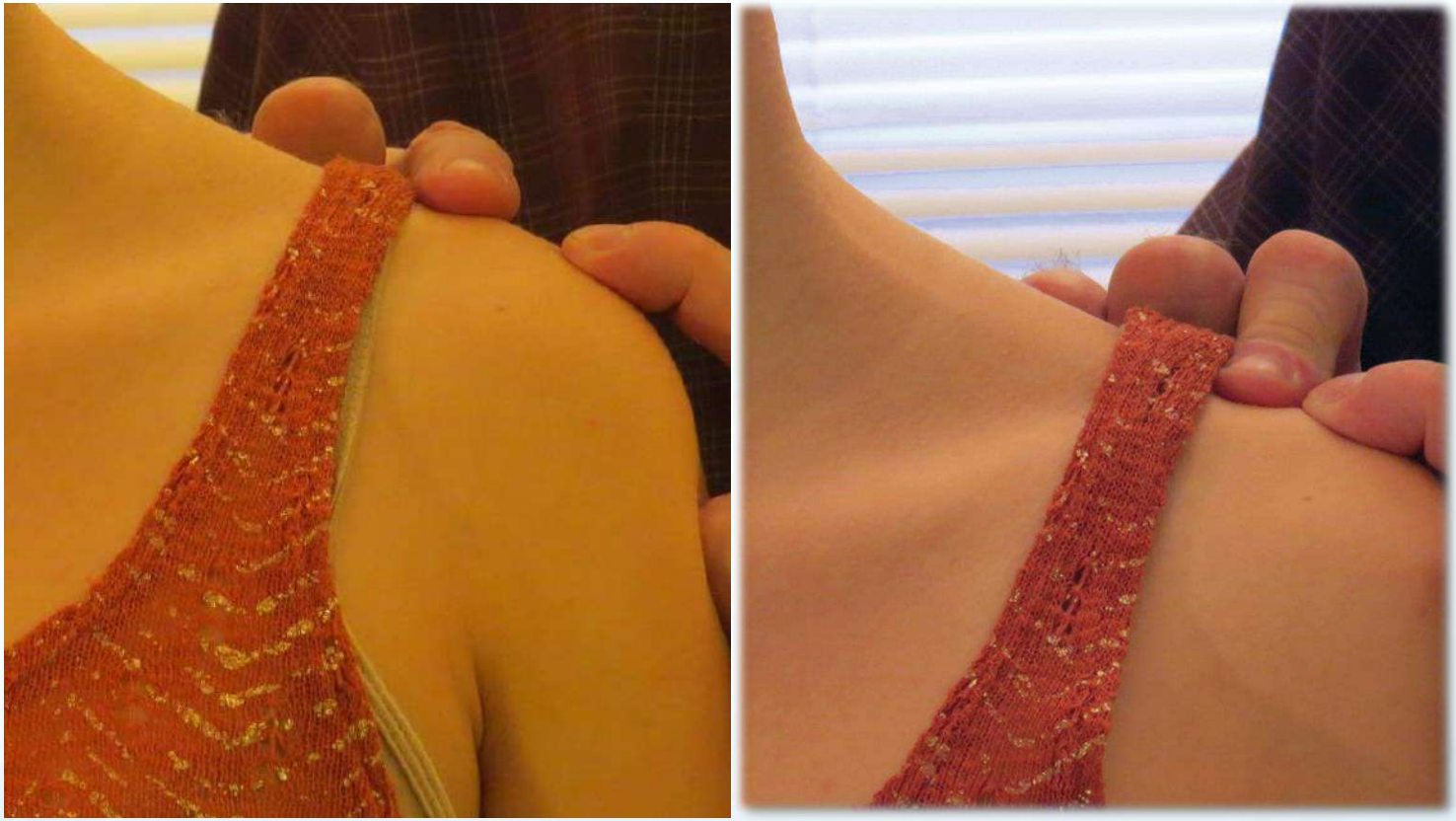
- *Inspect the sternoclavicular joints*
- *Inspect the costo-sternal joints.*
- *Inspect the axilla and flank*
- *Examine the muscles of the chest*
- *Examine the SITS muscles*
- *Inspect the acromioclavicular joints*
- *Inspect the position of the humeral head*
- *Inspect the rotator cuff*
- *Rib Cage Compression Test*
- *AC Compression Test*
- *Shoulder Squeeze Test*

THE EXAMINATION OF THE AXILLA



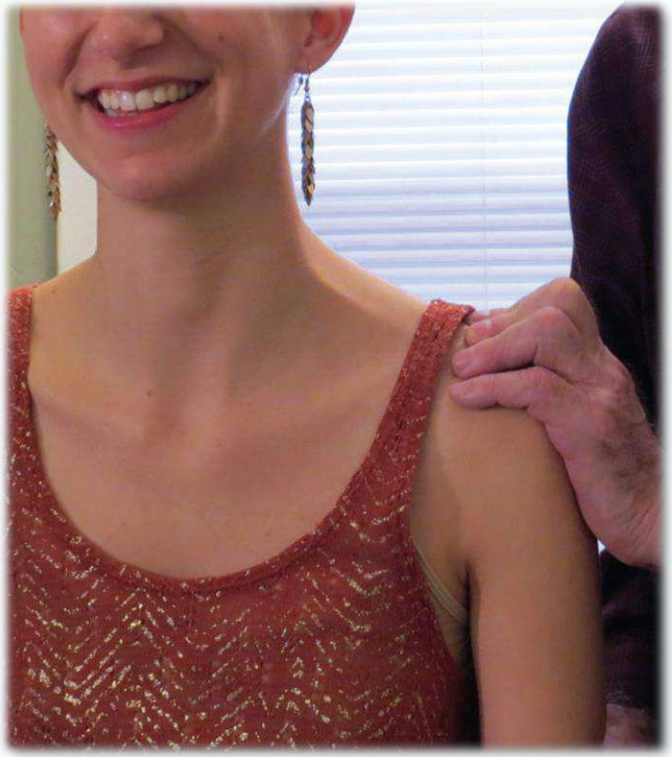
With the patient's arm still at rest in your hand, palpate the Axilla, Pectoralis, Serratus Anterior and the SITS muscles (Supraspinatus, Infraspinatus, Teres major & minor and Subscapularis).

EVALUATION OF THE AC JOINT



Evaluation of the AC Joint. Note the slightly higher Clavicle relative to the Acromion. The acromioclavicular joint should be flat or even, any bump or elevation should be suspected to be an injury to the joint. Note: compression levels the clavicle to the acromion.

THE AC COMPRESSION TEST



The test for AC joint separation, called the AC Compression Test, is to palpate the triceps muscle (or provoke any symptom you feel is associated with the AC Subluxation). If there is tightness and tenderness at this site then maintained pressure provokes discomfort or pain. Press down on the distal clavicle and maintain the pressure for 20 to 30 seconds. If there is a change in the tone of the triceps and the tendon then the AC joint is subluxated.

INDICATIONS FOR THE SHOULDER SQUEEZE TEST

- *Frontal Headaches*
- *Sinus Headaches*
- *Vertigo*
- *Loss of hearing*
- *Pain in the face, jaw or teeth*
- *Suspicion of involvement with TMJ problems*
- *Difficulty swallowing*

SHOULDER SQUEEZE TEST

- *Stand behind the patient*
- *Place a hand on the outside of each shoulder of the patient*
- *Squeeze the shoulders together (lateral to medial) and slightly forward*
- *You are trying to bring the Clavicles back to the Manubrium*
- *Maintain pressure for 20 to 30 seconds*
- *Note any changes*

INDICATIONS FOR THE RIB CAGE COMPRESSION TEST

- *Reduced and or painful ROM of the Cervical Spine*
- *Radiating pain to the upper extremity*
- *Loss of or reduced ROM of the shoulder*
- *History of broken ribs, Stroke, MVA or surgery*
- *Pain with breathing*

RIB CAGE COMPRESSION TEST

- *Contact the upper axilla*
- *Firmly compress lateral to medial*
- *Redo test or motion that was limited or painful*
- *Note changes*

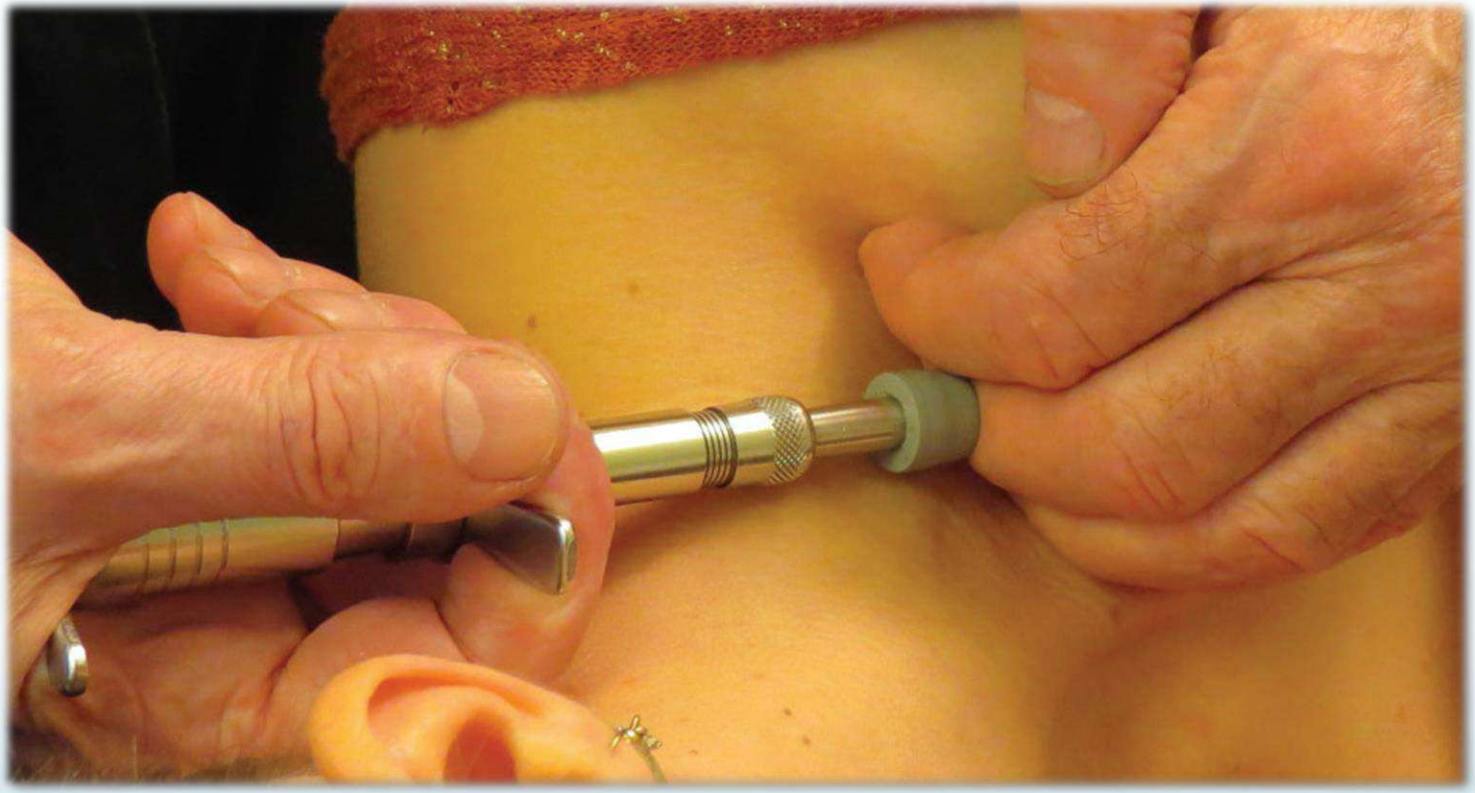
ADJUSTING THE SHOULDER WITH THE SPRING LOADED INSTRUMENT

- *Always adjust the rib cage first*
- *AC joint*
- *Gleno-Humeral joint (superior and inferior)*

ADJUSTING THE STERNOCLAVICULAR JOINT USING THE SLI

- Posterior to Anterior on Clavicle (seated, standing, supine and lateral decubitus)
    - *Broad hand contact on the clavicle*
    - *Contact doctor's fingers with SLI*
- Contact firmly on the desired spot, then use the SLI.

USING THE SLI TO ADJUST THE STERNOCLAVICULAR JOINT



A recumbent adjusting procedure using the hand to pull the Clavicle anterior and then tapping the fingers with the SLI.

ADJUSTING THE SHOULDER WITH THE DROP TABLE OR DROP PIECE

- *Consideration of additional injuries*
- *AC joint*
- *Gleno-Humeral joint (superior and inferior)*
- *Please note all procedures are gentle and firm, don't expect the first drop to complete the correction.*

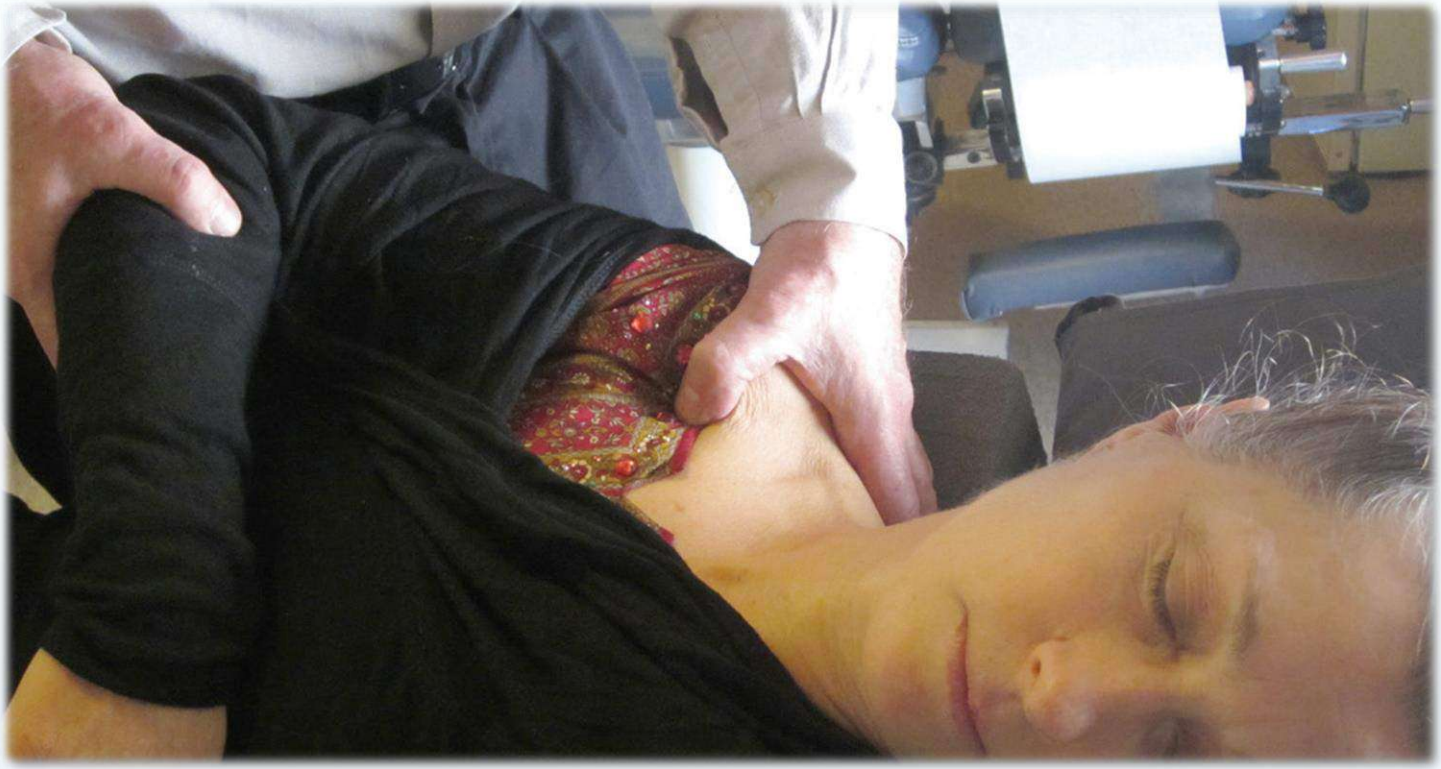
THE DROP TABLE ADJUSTING OF THE STERNOCLAVICULAR JOINT

The patient is prone on the drop table, the doctor's thumbs contact the posterior aspect of the Clavicles and drop down or anteriorly. (This can be very painful for the patient.)

ADJUSTING THE SHOULDER WITH THE DROP TABLE

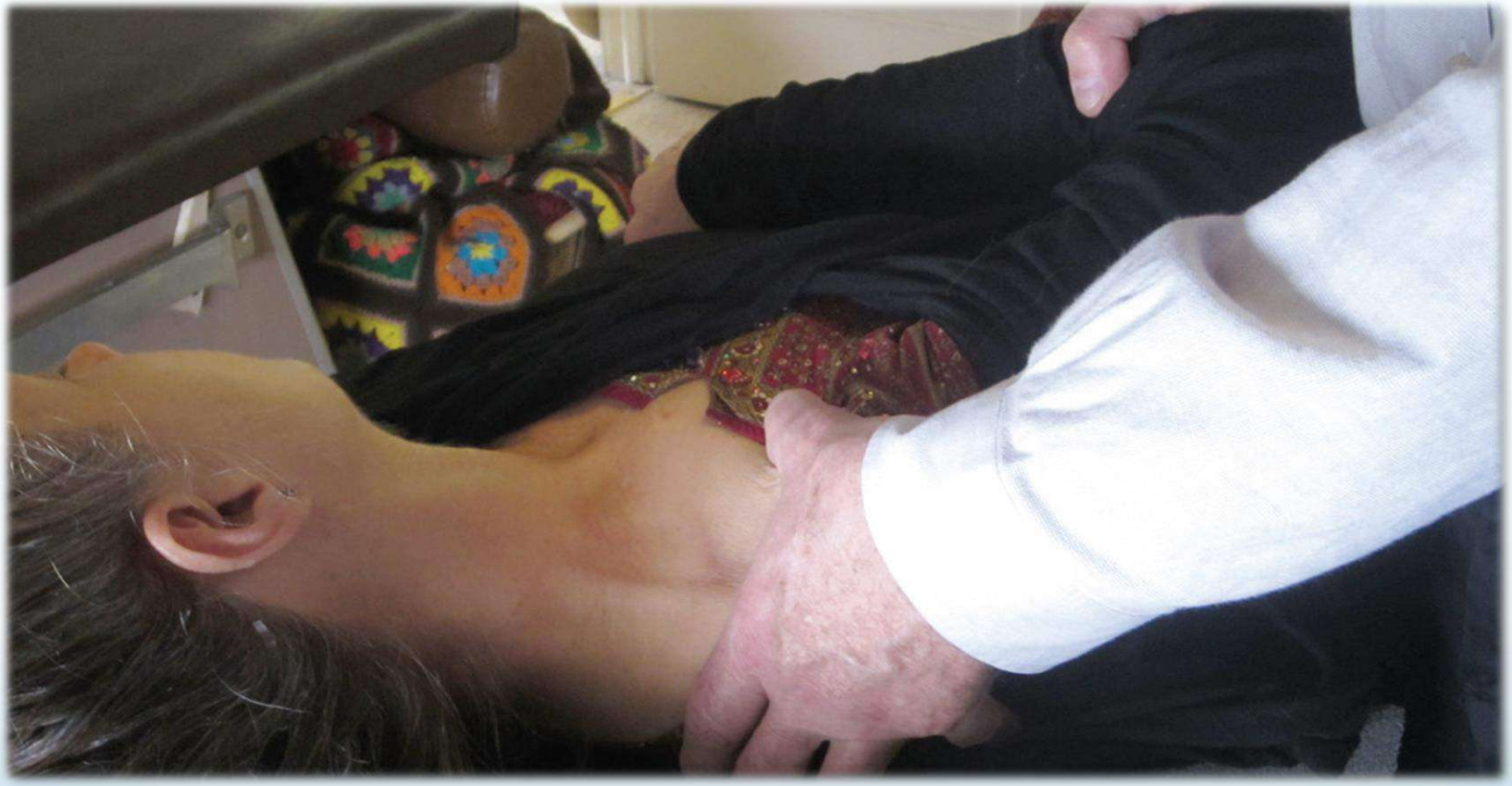
- AC joint
  - *Consideration of additional injuries*
  - *Gleno-humeral joint (superior and inferior)*
- The setup looks the same for the AC Joint and the Humerus. (See Figures 5-8, 5-9.)
- Contact doctor's fingers with SLI

ADJUSTING THE SHOULDER WITH THE DROP TABLE



Note the affected side is up, firm grip on the shoulder. The rib cage is often injured when the shoulder is injured. The thrusting must be done in front of the coronal plane to keep from re-injury to the ribs.

ANOTHER VIEW OF THE DROP TABLE SET UP



This patient has an injured rib cage. All adjusting must be done in front of the coronal plane, There is a hard foam wedge underneath her right shoulder.

ADJUSTING THE AC JOINT WITH THE SLI

The doctor’s hand is pulling down on the clavicle and then the tapping with the SLI.

ADHESIVE CAPSULITIS

- *Rib Cage is injured, causing internal rotation of the Humerus and lateral displacement of the Scapula*
- *Distortion of the Rotator Cuff causes inflammatory process*
- *Inflammatory conditions persist*
- *Eventually the Fibrinogen coagulates and adheres everything together*

ADHESIVE CAPSULITIS

- Adjusting:
  - *Restore Alignment to the Rib Cage*
  - *Adjust the Clavicle, AC and Sternoclavicular*
  - *Adjust the Humeral head to it's proper position*
  - *All mobilizing should be done in front of the Coronal plane*

MANAGING THE SHOULDER INJURY

- Determine if rib cage can support the weight of the shoulder
- Ergonomics:
  - *Car behavior is very limited*
  - *Limit ROM to the "window" in front of you*
  - *Rule of Dressing: Injured arm "Goes on first and off second"*

MANAGING THE SHOULDER INJURY CONTINUED

- List of questions for the patient to help them manage their injury
  - *Are there any children and how old?*
  - *Are there any pets, what are your interactions?*
  - *Are there any doors, windows or gates that you struggle with?*
  - *What are your sleeping positions?*

DONT'S FOR SHOULDER INJURY

Don't reach into the backseat of the car

- *Don't reach for the seatbelt with your affected side*
- *Don't reach behind you*
- *No push-ups, no bench presses*
- *No butterfly exercises*
- *No yoga*
- *Don't sleep your stomach or your back with the arms up over your head*
- *No Pilates or rowing machine*
- *Don't lean on your elbows while in the car, at your desk , on the couch or while lying in bed*

DO'S FOR SHOULDER INJURY

- *Do sleep on your sides with a supportive pillow underneath your waist, and two pillows for the head and neck*
- *Do only light activities directly in front of you (e.g, chopping vegetables and typing on a keyboard)*

Your window is in front of you.

Keeping your arms and hands in the window is your goal.

BRACING FOR THE INJURED SHOULDER

- *Bracing and supporting an injured shoulder can be necessary for some patients whose injuries have left the upper extremity joint unstable.*
- *Please note: a patient's arm and shoulder can weigh between 12 and 24 or more pounds. If the rib cage, AC and/or glenohumeral joints are injured and unstable, the weight of the arm and shoulder can be provocative and painful.*
- *The braces I use are applied, if necessary, after all the adjusting has been performed, when I have the patient walk around the office for five minutes as a "ligament stability test" to examine the effects of gravity on the injured joint.*
- *If the patient fails the "ligament stability test" then the patient is fitted for the appropriate brace.*

AC SPLINT (STABILIZER)

This is for the severely subluxated clavicle, one sign this brace is needed is that the patient can not let go of the arm.

SLINGS

This brace is for a dislocated shoulder or rotator cuff injury.

SULLY BRACE

This brace is for a dislocated shoulder, separated shoulder or rotator cuff injury.

RIB BELTS

Frequently this rib belt will give significant relief to a shoulder injury that has rib cage involvement.

AC JOINT TAPING PROTOCOLS

- Taping The Subluxated Distal Clavicle
- Involves Two Pairs Of Anchors, Inner And Outer
- Three Strips Of Tape Between The Anchors

INNER ANCHOR TAPING

The inner anchors proximal and distal

STABILIZATION STRAPS

Three Strips Of Tape, Mimicking The Deltoid Muscles, Are Stretched Between The Anchors ***With The Arm Exrtended***

FINISHED AC SUBLUXATION TAPING

THE OUTER ANCHORS ARE APPLIED BEFORE LOWERING THE ARM

EXERCISE FOR THE INJURED SHOULDER

- Rule #1: do not reproduce the mechanism of injury!
- Start with Isometrics

  Praying with “emphasis”
- Isotonic exercise with Thera Band in the “window”

EVALUATING, ADJUSTING AND MANAGING THE INJURED WRIST AND ELBOW

REVIEW OF RELEVANT ANATOMY

- Cervical spine, Brachial/rib/clavicle/shoulder review
- Ulna Humeral joint
- Radial Humeral joint
- Forearm musculature
- Wrist and hand

THE BONES OF THE ELBOW, FOREARM, WRIST AND HAND.

Note the Radius and Ulna are part of both the elbow and wrist complexes.

DORSAL VIEW OF FOREARM, WRIST AND HAND

Note muscles of the forearm are the muscles of the hand and fingers. Joint distress at the elbow will mostly be felt in the hand and wrist.

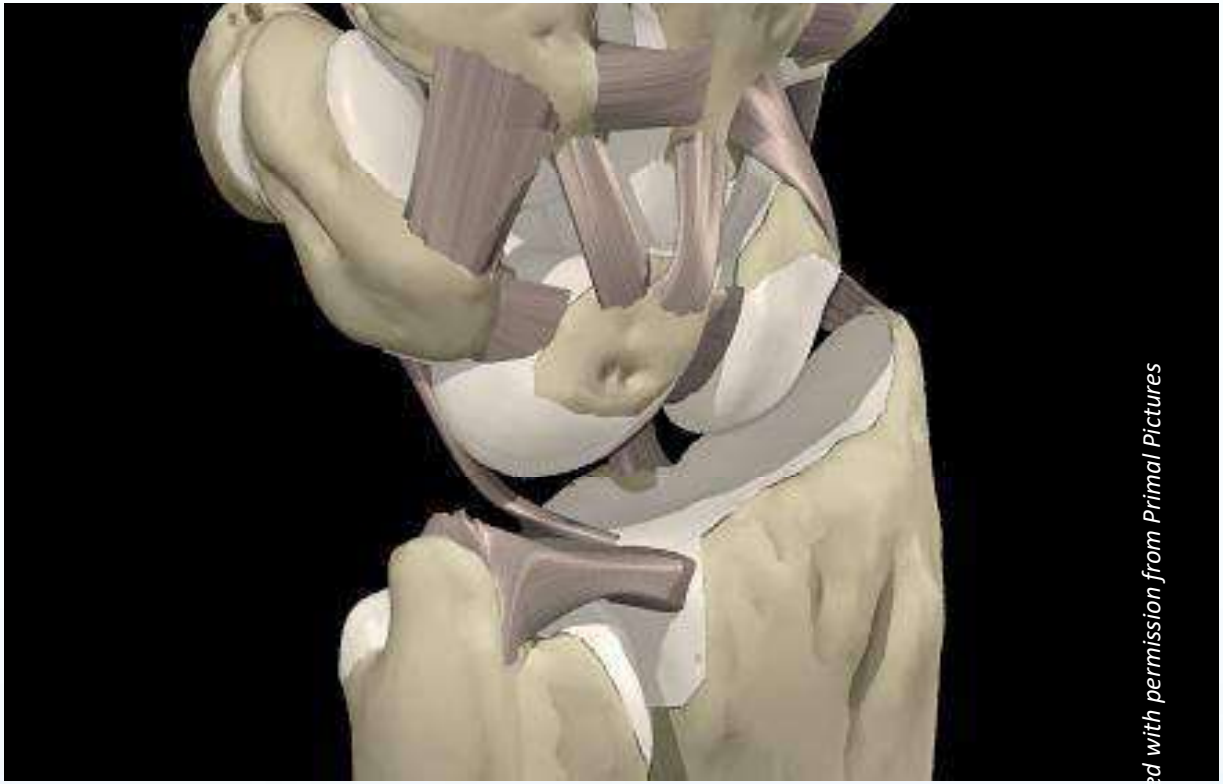
VENTRAL VIEW OF ELBOW FOREARM, WRIST ANDHAND

This shows the flexors of the hand and fingers. Irritating these muscles leads to painful and inflamed tendons in the wrist and hand.

THE INTEROSSIOUS LIGAMENT OF THE FOREARM.

Injury and instability to this ligament leads to chronic hand and wrist pain.

THE WRIST



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Note the base of the forearm forms a shallow "cup". Any displacement of the forearm bones at the elbow will change the shape of this "cup".

COMMON MECHANISMS OF INJURY

- Instantaneous (trauma), especially with fracture of any component of the mechanical chain
  - *Extending arms to avoid head trauma is a reflex*
- Persistent and chronic (crutches, canes, walkers)
  - *Lower Extremity and/or Low Back injury could lead to upper extremity injury*

COMMON MECHANISMS OF INJURY (CONTINUED)

- The combined rib cage, shoulder, elbow, wrist injuries are common in Modern Injuries
- If the Lower Body is involved in the patient, care is essential to all the injuries
- A review of all ADL and other factors (employment) must be reviewed

EVALUATION OF THE ELBOW AND WRIST

- *A thorough evaluation of the spine, rib cage, shoulder should be conducted*
- *The Ulna should tuck into the Olecranon Process with extension of the arm*
- *The Radius should be under the Capitulum with pronation and supination*
- *The forearm muscles should be soft at rest*
- *The wrist should have normal gliding motion with palpation*
- *If the Ulna and Radius are subluxated at the Humerus they cannot be aligned at the wrist*
- *If any of this is absent then intervention is needed*

THE ULNAR HUMERAL JOINT

The normal elbow should be able to have 180 degrees of extension. Hypermobile ligaments will allow subluxated elbows to extend fully or go into hyperextension.

THE COMMON SUBLUXATION OF THE ULNA AT THE ELBOW

The subluxated Ulna can cause a neuromuscular guarding response of the flexors and extensors of the hand and fingers, and the elbow will not fully extend.

NORMAL ALIGNMENT OF THE ULNA AND HUMERUS FROM A POSTERIOR VIEW

The Ulna should be midway between the lateral and medial edges of the Epicondyles.

SUBLUXATION OF THE ULNA, LATERAL TO THE HUMERUS

This is a posterior view of the elbow. Note the difference in the distance from the edges of the Humerus to the Ulna.

NORMAL ELBOW ALIGNMENT FROM THE VENTRAL VIEW

Note the close relationship that the Radius and the Ulna have to each other.

LATERAL SUBLUXATION OF THE RADIUS

The top of the Radius is palpable with this subluxation pattern.

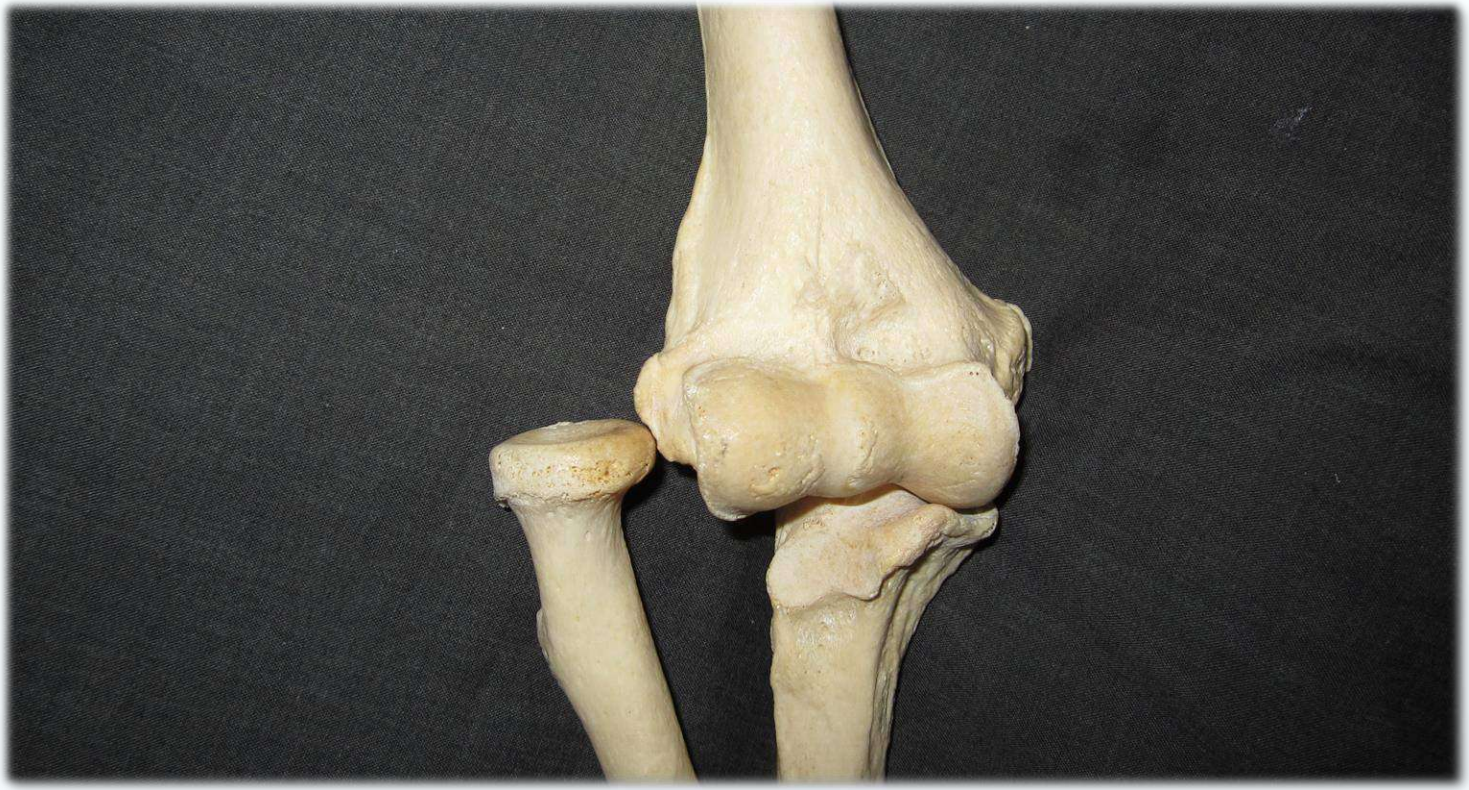
MEDIAL SUBLUXATION OF THE RADIUS

The lateral, inferior part of the Humerus is palpable.

THE LUXATION OF THE ULNA FROM THE HUMERUS

In my treatment experience of catastrophic injuries with broken spines and paralysis I have found the upper extremity to be severely injured. The injuries were pretty much ignored and upper extremity dysfunction was blamed on the spinal cord injury, the brain injury or the stroke. In these situations I've actually found luxated joints. The Ulna will be completely pulled away from the humerus. It is necessary to restore the normal alignment as quickly as possible post injury. All the nerves, arteries and veins and tendons that cross the elbow joint have to be severely distressed and injured. Their only hope of recovery is to restore Ulna Humeral alignment.

LATERAL LUXATION OF THE RADIUS

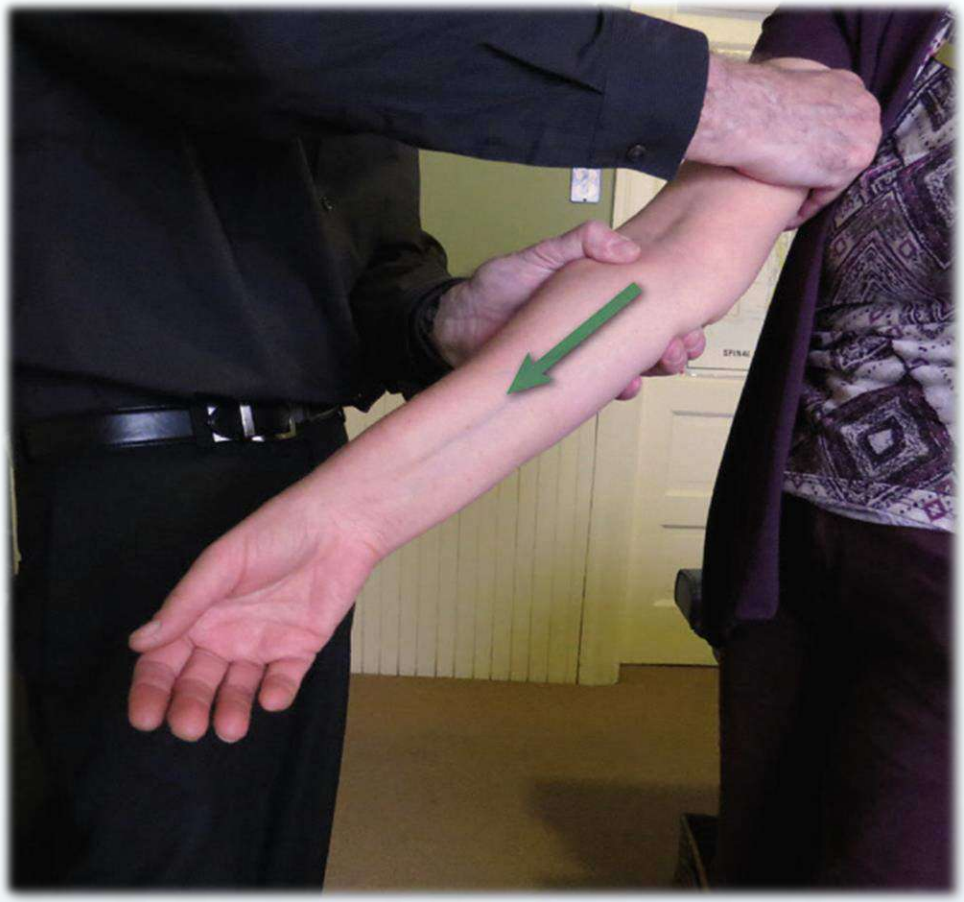


I've also found the radius to be completely out from underneath the humerus. The Radial Head will be completely palpable, even the little dimple on the top of the Radial Head can be felt. These injuries are usually associated with other severe injuries and can be over looked.

POSTERIOR LUXATION OF THE RADIUS

Sometimes the Radial Head has slipped up behind the humerus. Again I feel this is a luxation of the Radio Humeral joint. The elbow will be stuck in flexion, extension will be impossible. To longer this condition persists the harder it is to restore normal alignment and function.

THE ULNA DRAW TEST



The Doctor's hand is on the upper arm, stabilizing it. The other hand takes the patient's elbow (Ulna) at the edge of the Olecranon. Have the patient move the hand around, noting any pain or restriction. Then draw or pull the Ulna towards the fingers, have the patient move the hand around with the distraction is taking place. If there are any changes that means the Ulna is subluxated.

GENERAL RULES FOR UPPER EXTREMITY ADJUSTING

- *With rib cage injury, always keep the arm in front of the Coronal Plane (The Ear, Trochanter are land marks to separate the front from back halves of the body)*
- *You may need to use a foam block to raise the elbow and forearm so the adjusting doesn't stress the shoulder and rib cage*

ADJUSTING THE SUPERIOR ULNA WITH THE SLI

The Doctor is distracting or pulling the Ulna in the direction of correction. Note the likely presence of a shoulder injury.

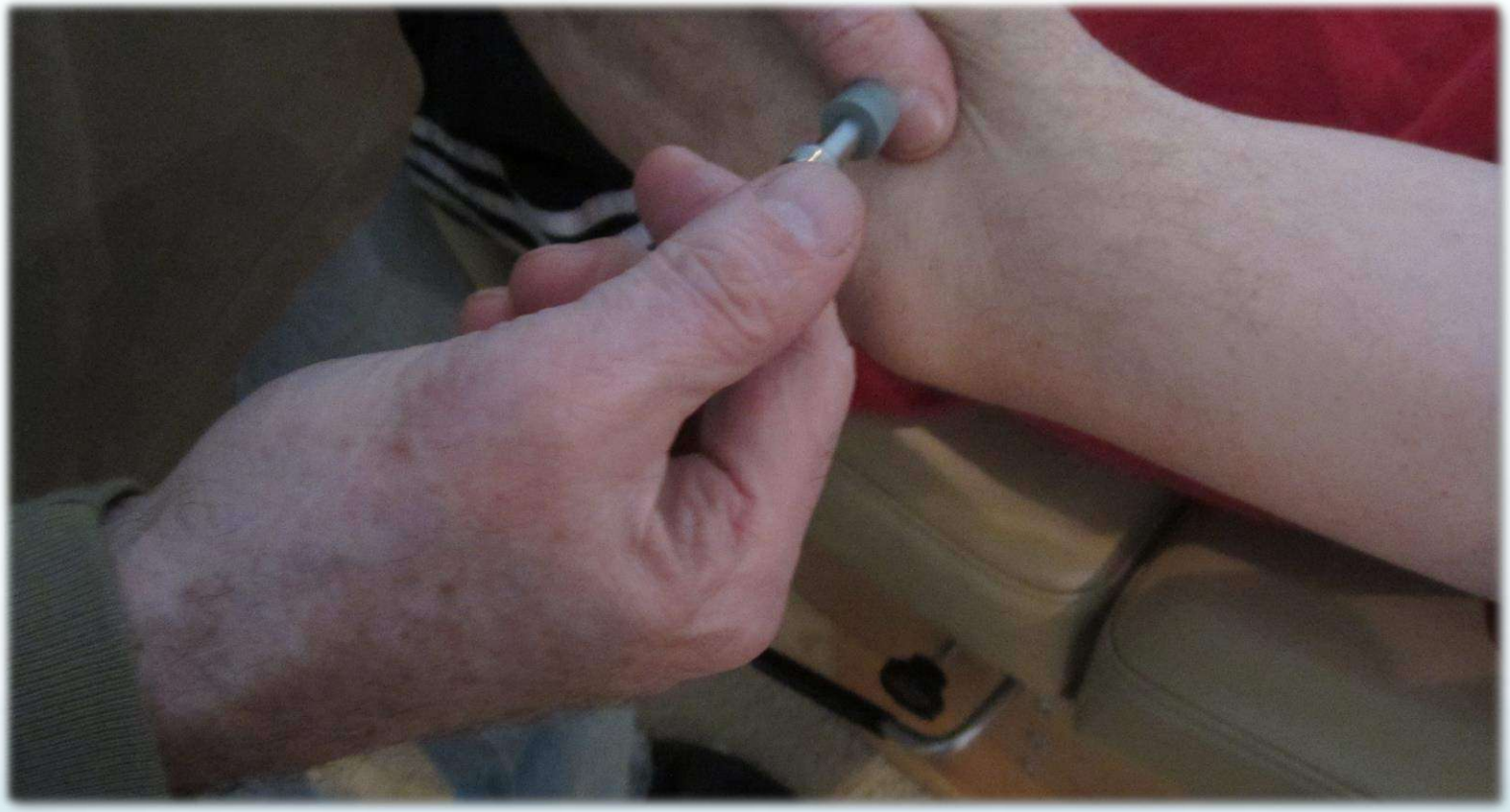
DROP PIECE ADJUSTING OF THE ULNA

The Olecranon Process is placed on the edge of the drop piece and the thrust is on the Humerus. The drop piece is on a block so the adjustment doesn't stress the shoulder or rib cage.

ADJUSTING THE ULNA WITH AN ELBOW CONTUSION OR FOREARM IN A CAST

The forearm is placed on the drop piece with the Olecranon above or superior to the edge of the drop piece. The thrust, as before, is on the Humerus.

ADJUSTING THE POSTERIOR RADIUS WITH THE SLI



The Doctor's thumb is contacting the Posterior Radius and initiating a tap posterior to anterior. Repeated taps are usually necessary.

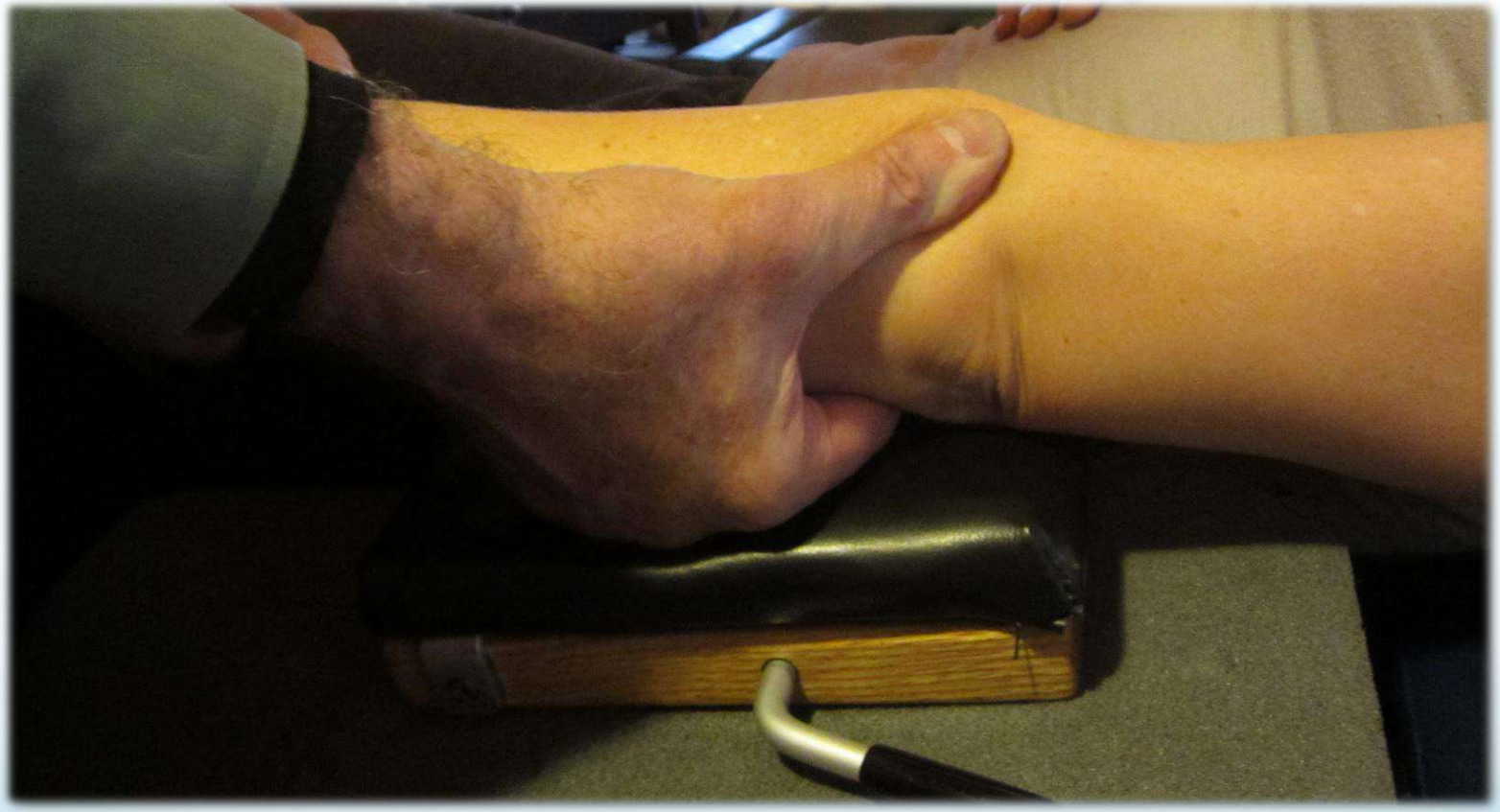
ADJUSTING THE MEDIAL RADIUS WITH THE SLI

The Doctor's thumb is contacting the Anterior aspect of the Radius, pushing it into the direction of correction (Anterior to Posterior) and tapping with the SLI.

DROP PIECE ADJUSTING THE MEDIAL RADIUS

The Doctor's thumb is contacting the Anterior/Medial aspect of the Radius and pressing into the direction of correction (Medial to Lateral and anterior to posterior).

ADJUSTING THE POSTERIOR RADIUS WITH THE DROP PIECE



The Doctor's thumb is contacting the posterior aspect of the Radius and thrusting, gently, posterior to anterior initiating the drop piece.

ADJUSTING THE WRIST

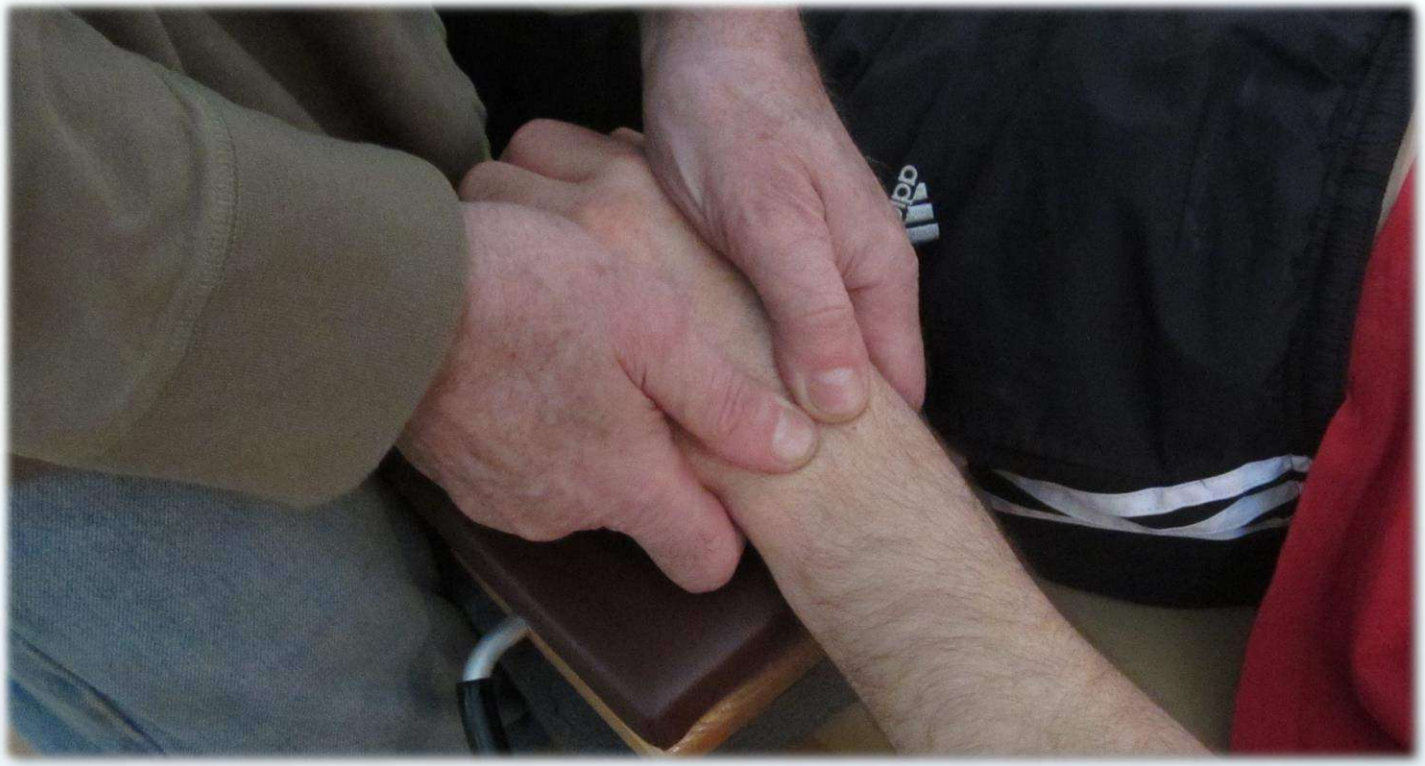
- *With the SLI*
- *With the Drop Piece*
- *Manual release*

Please note all procedures are gentle and firm, don’t expect the first drop to complete the correction.

SLI ADJUSTING OF THE WRIST

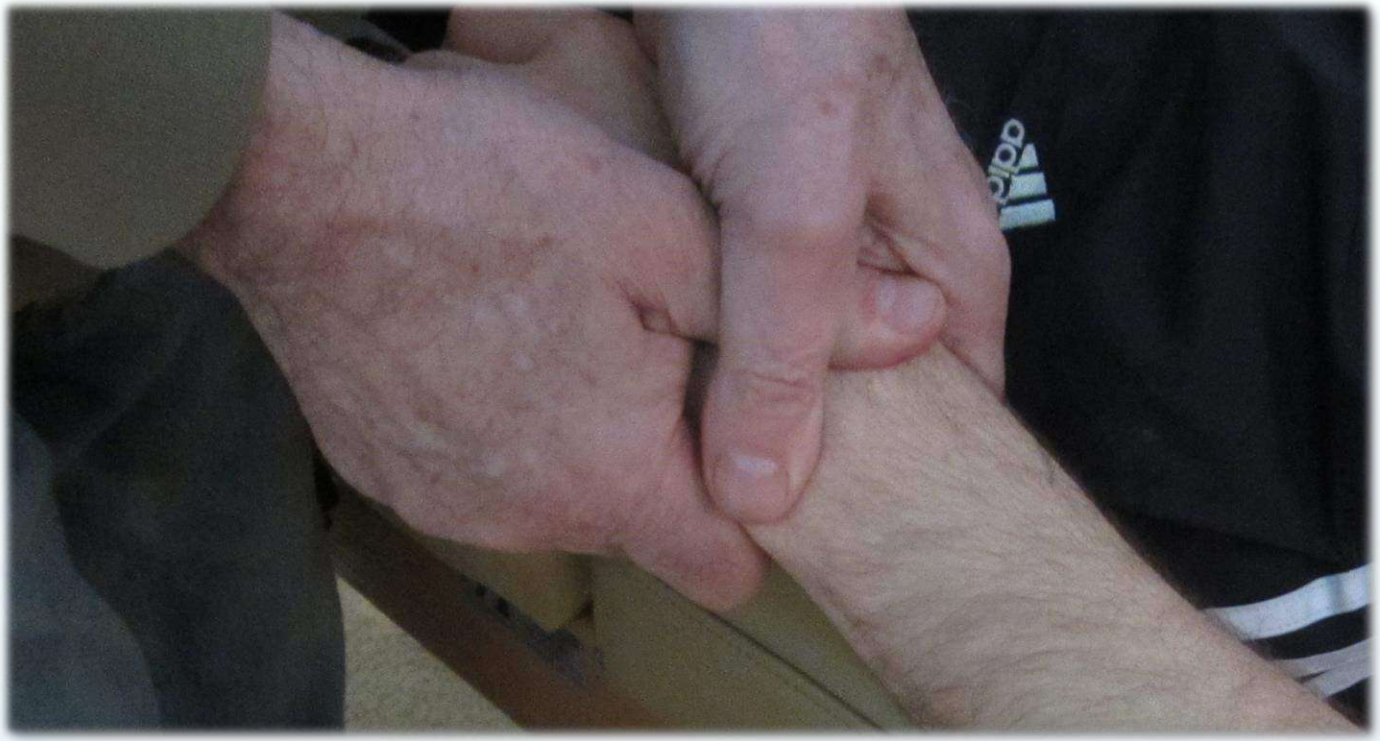
The Wrist is gripped by the Doctor's hand. The Carpal bone or bones that are fixated or misaligned are contacted by the Doctor's thumb and the SLI is tapped through the thumb to the Carpal bones.

ADJUSTING THE WRIST ON THE DROP PIECE



The Styloid Processes of the Ulna and Radius are contacted by the Doctor's thumbs while gripping the Wrist with the rest of his/her hands. While lying on the drop piece, the thumbs and fingers perform a gentle distraction of the Wrist and initiates a drop on the drop piece.

SET UP FOR A MANUAL MANIPULATION OF THE WRIST



The crossed thumbs contact the Styloid Processes of the Ulna and Radius. The hands are gripping the wrist. A gentle distraction is performed followed by a pulling (gently) of the hands and a thrust spreading of the Styloid Processes with the thumbs. If this is painful the Ulna and or Radius are still misaligned at the elbow.

MANAGING THE ELBOW/FOREARM/WRIST/HAND INJURY

Managing the elbow, forearm, wrist and hand injury has its own set of unique problems. Unfortunately most of the patients I've dealt with have other injuries as well. So activities of daily living with multiple impairments becomes a management problem.

Lifting: *In discussing ADL's with patients lifting and carrying with injured upper extremities should be approached by the patient with caution. The most common lifting and carrying involves groceries and laundry. So among the management techniques that we recommend is "small and repetitive". And by that we mean that when grocery shopping, the patient has the groceries put in multiple bags, making smaller, lighter bags. This will result in more bags and more trips. We feel this is a better alternative than being "efficient". Where efficiency means larger bags and fewer trips. We feel the opposite is needed. Smaller bags and more trips. If necessary more trips to the store. I shop once a week and get lots of groceries. In managing these types of injuries it would be better to have less ambitious shopping trips. Some people benefit by making almost daily trips to the store and only getting small amounts of groceries with each trip. Carts with wheels and other devices can be helpful for patients with these upper extremity injuries. The old ways of doing things that were done before the injuries have to be altered or completely abandoned for new methods. Laundry is the other typical lifting situation that causes problems with these upper extremity injuries. So we counsel the patient to do more frequent laundry duties than waiting until there are large amounts of laundry to be done. Again smaller loads more frequently done.*

MANAGING THE ELBOW/FOREARM/WRIST/HAND INJURY (CONTINUED)

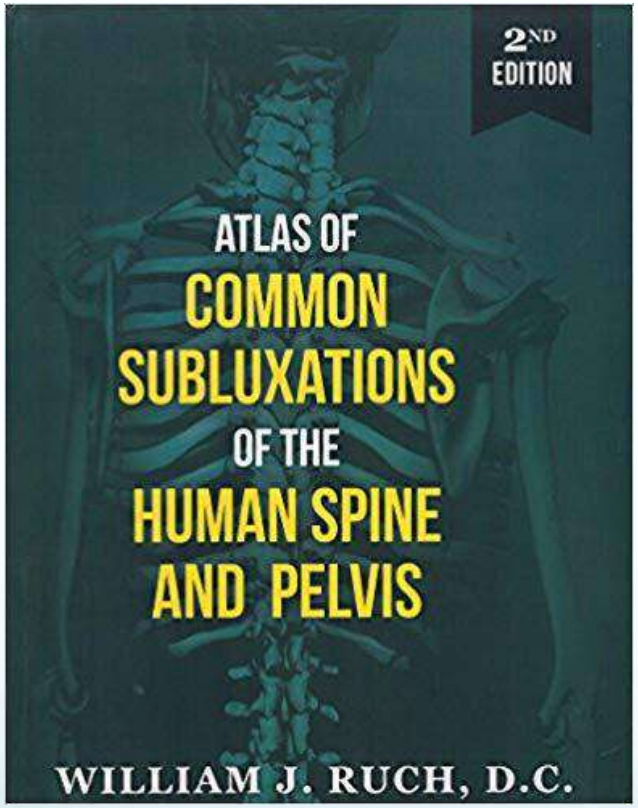
Walkers, Canes: *walkers and canes being used by people with these upper extremity injuries while also causing continued problems. Usually the walkers and canes are for lower extremity or other mobility problems. If the arms and hands are injured as well then the use of a walker or a cane can be painful and an obstacle in recovery of the injuries.*

Changing positions: *changing positions with multiple impairments is a common source of pain and difficulty. The upper extremity injuries will be challenged if not continually reinjured by the act of getting up using the arms. The patients that have lower extremity or low back injuries are usually using their arms and hands to change positions. If the arms and hands are injured as well this creates a vicious cycle for the patient. Reviewing with the patient their personal habits is necessary. Occupational therapy can be helpful but some people will not have access to these professionals. I have, in extreme cases, made home visits myself to consult with the family and the patient on how to modify furniture, where to place grab bars and possibly ramps. Sitting in a soft chair or couch requires even the normal person to use their arms to get out of the seated position. With these types of upper extremity injuries soft couches should be avoided altogether. Taking the cushions from the couch and putting them on a standard kitchen chair to boost the height of the seat will be very helpful in reducing the amount of arm assisted changes of position.*

MANAGING THE ELBOW/FOREARM/WRIST/HAND INJURY (CONTINUED)

Bracing: *bracing of the elbow and forearm can be very helpful to manage the instability of these joints. I have a different view of bracing than the majority of my colleagues. If a brace can keep me functional and reduced in pain I will continue to use the brace as long as the instability of the joints is apparent. I have no problem becoming "dependent" on the brace if it keeps me functional and reduces my pain pattern. Some of the injuries that we are treating will be permanent in nature. There will be no full recovery. It is necessary to manage chronic unstable and degenerating joints. The need for activity is great. If functional capacity is improved with the use of a brace that I feel there is no reason to not wear the brace. We need these patients as active and is independent as possible braces or not.*

THE PREVIOUS PRESENTATION CAN BE FOUND IN MORE DETAIL IN THESE BOOKS



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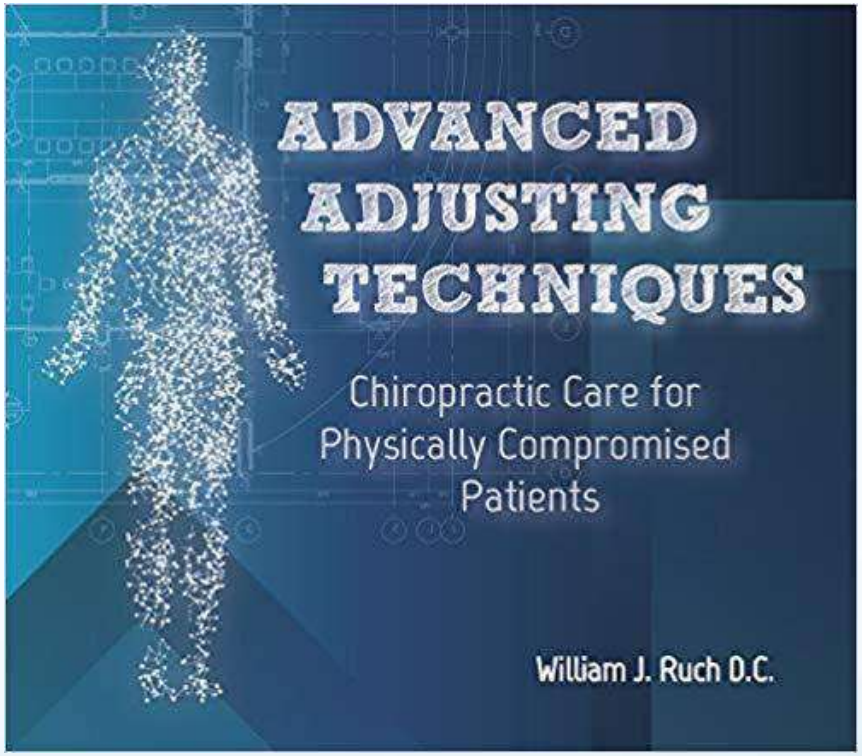

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Back To Chiropractic CE Seminars

marcusstrutzdc@gmail.com

707.972.0047