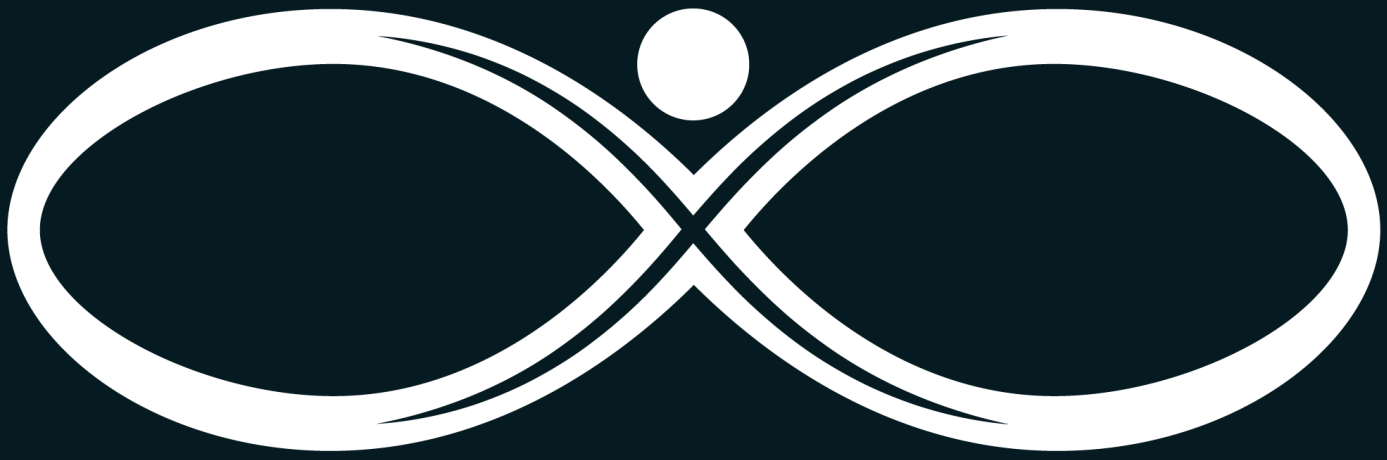
PHYSIOKINETIX



MANUAL THERAPY

# HYDRODYNAMIC NEURO-ARTICULAR KINETICS WITH SPINAL REHAB INTEGRATIONS

PRESENTED BY PAUL KELLY, BS | CPT | LMT | MPKT

TEMPLE HUMAN PERFORMANCE
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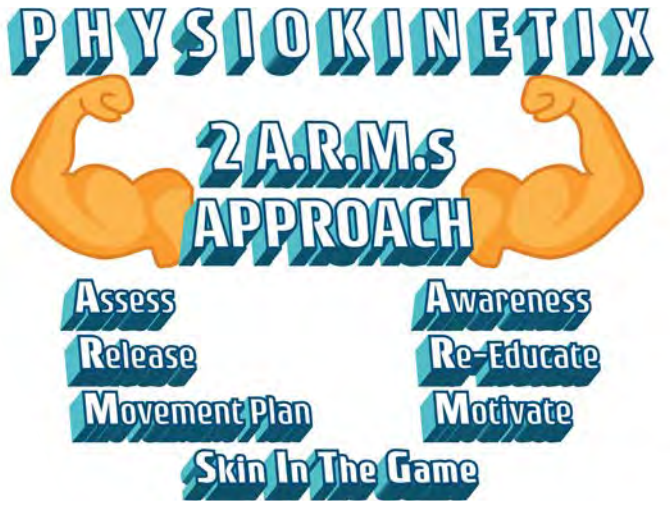
# *WHAT IS OUR MANUAL THERAPY AND WHAT MAKES IT DIFFERENT?*

**PHYSIOKINETIX MANUAL THERAPY IS THE DIRECT COMPLEMENT TO THE CORE PHYSIOKINETIX TRAINING SELF CARE PROGRAM. THIS INCLUDES A COMBINATION OF ADVANCED FUNCTIONAL ASSESSMENTS, MUSCLE BALANCING, NEUROLOGIC FACILITATING, AND JOINT FLEXIBILITY TECHNIQUES THAT BALANCE AND ALIGN THE BODY FOR OPTIMAL BODY PERFORMANCE. COMBINING THIS WITH THE CORE PHYSIOKINETIX TRAINING TECHNIQUES, GIVES A THERAPIST ALL OF THE TOOLS NECESSARY TO ELIMINATE CHRONIC PAIN AND IMPROVE MOBILITY FOR A CLIENT WITHOUT THE NEED FOR SURGERY. THERAPISTS LEARN HOW TO APPROACH PAIN FROM A CAUSATION POINT OF VIEW AND DESIGN SPECIFIC TREATMENT PLANS FOR CLIENTS WITHOUT CHASING PAIN.**

**PHYSIOKINETIX MANUAL THERAPY DIFFERS BY DEEP DIVING INTO ALL ASPECTS OF A PATIENT BY BREAKING DOWN PROTOCOL USING THE 2 A.R.M.S APPROACH.**




**USING PROPER EVALUATION OF THE PATIENT'S HISTORY, COMPLETE OBSERVATION, AND THE ADDITION OF THERAPY BANDS OF VARYING RESISTANCES, THERAPISTS CAN CREATE LONG LASTING OUTCOMES AND INCREASED NEUROLOGIC RE-EDUCATION.**

# CLASS OBJECTIVES

- **Definitions:** Arthrokinetics and biomechanics of the spine; Agonist and Antagonist relationship.
- **Assessment and Awareness:** Look at the spine, starting with the Lumbosacral and Lumbars, Thoracic rib cage, and Cervicals. Do movement awareness drill for a baseline before treatment.
- **Release:** Look at manual functional treatments of the spine on and off the therapy table.
- **ReEducate:** use PKT system to re-establish Motor Control and Neuromuscular Endurance.
- **Motivation & Movement Plan:** Understand what PKT techniques to utilize to create an Active Daily Lifestyle, ADL, for your clients.

# KINEMATICS OVERVIEW

**Motion is Divided into 2 Groups:**

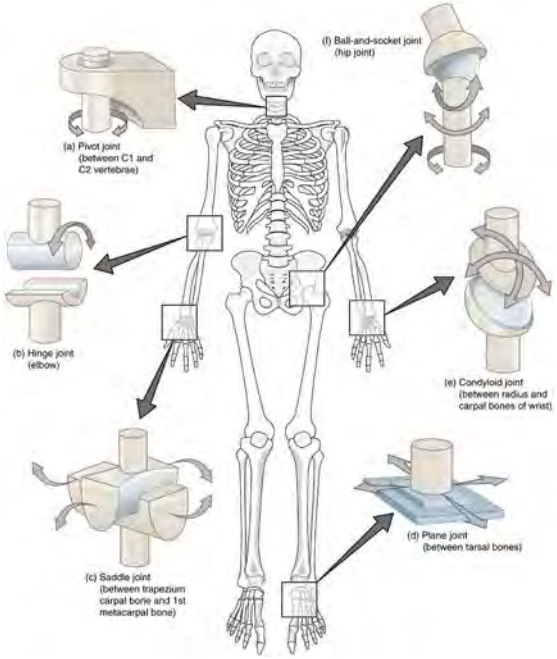
- **Linear** (Translational)
- **Angular** (Rotational)

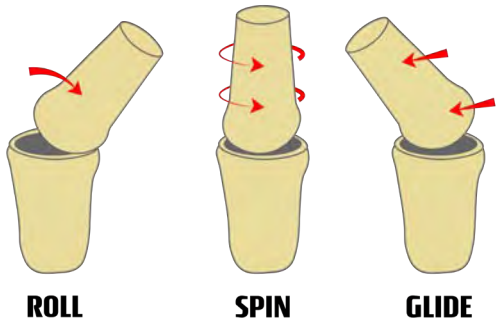
**2 Types of Kinematics:**

- **Osteokinematics:** Specific area of the body. Open and Closed chain Movements
- **Arthrokinematics:** Motion between Articular surfaces of the Joints.

**3 Types of Articular Motions:**

- **Rolling:** Angular motion where each point on the joint surface come in contact with a new point on the other joint surface. Ex. knee
- **Spinning:** The rotations of the movable joint surface are fixed on the adjacent surface. Ex. Glenohumeral joint
- **Gliding:** Gliding is a linear motion in where one joint surface is parallel to the plane of the adjacent joint surface. Ex. Facet joints, Carpals,

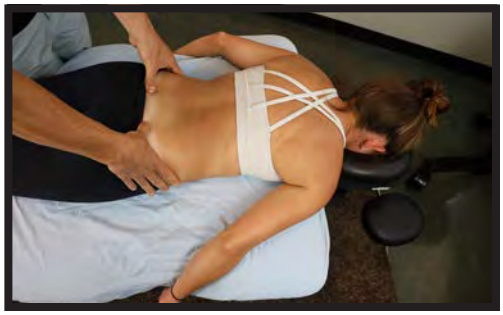


# ASSESS LUMBAR SPINE & PELVIS / HIP FUNCTIONAL CAPACITY

**Goal**:

Check Bony landmarks at Sacral Base, ILA, and PSIS and Greater trochanter for symmetry



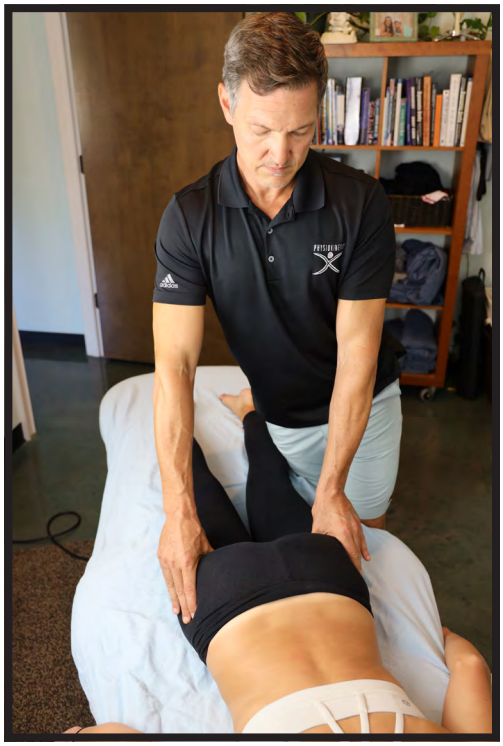
**Action**:

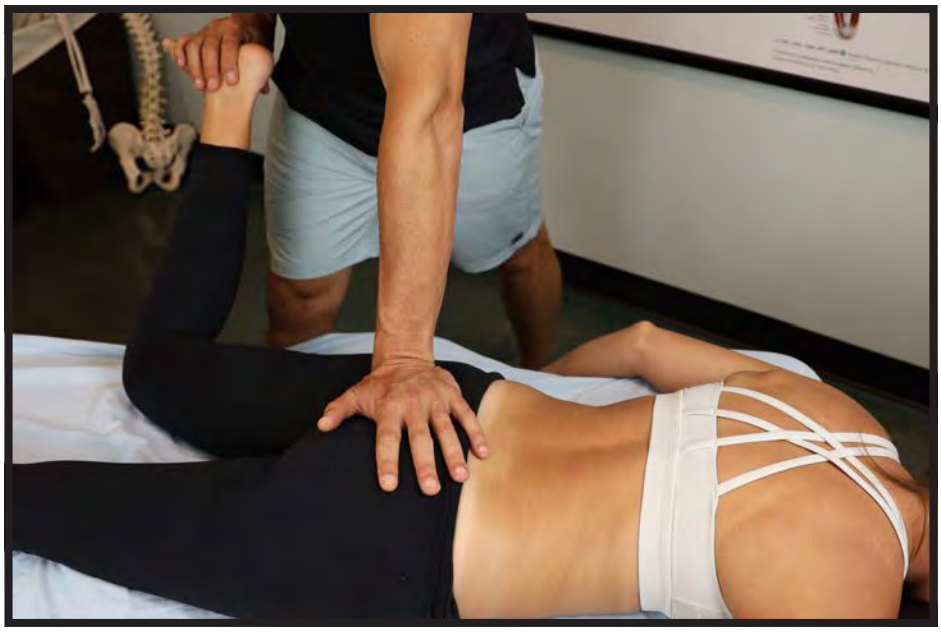
- Operator uses dominate eye over client to check alignment of PSIS with thumbs under the bony prominence pushing Cephalad

- Operator checks Superior border of greater trochanter for positioning internal or external rotated.

- Operator checks ILA, Inferior Lateral angles and Sacral Base Bi-laterally for symmetry and Spring Tests the Sacral base on L5

- Operator bends one or both legs to assess for any posterior deviations of the pelvis on knee flexion. Pain or elevation of hip or increased lumbar lordosis is a positive sign for tightness of the hips and lumbo sacral junction.





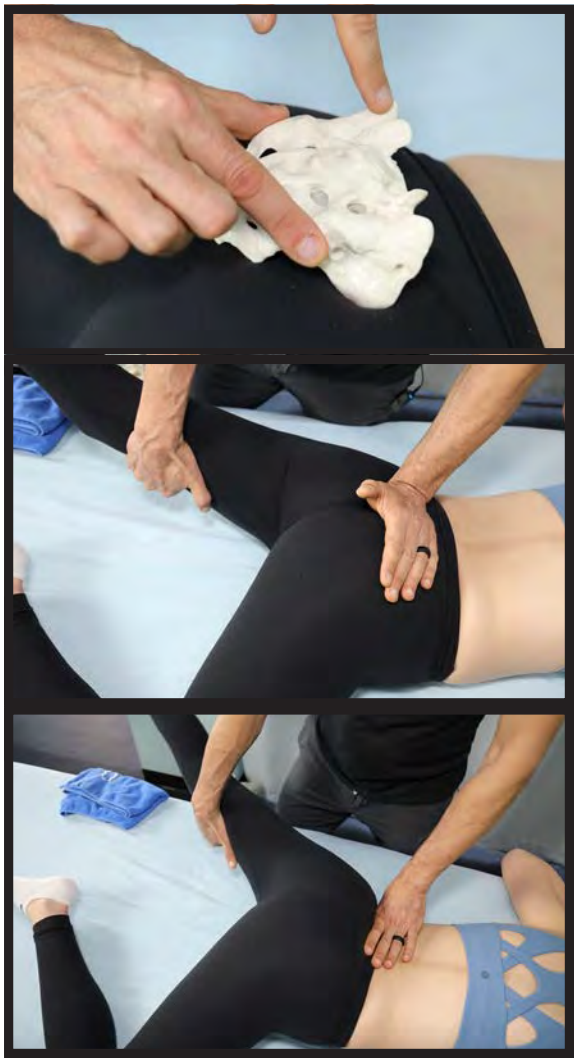
# PRONE HIP MOBILIZATION

**Goal**:

To Release right on left Sacral Torsion L5 - S1 and re-establish strength in the glutes, hamstrings, and adductors

**Action**:

- Part 1: Operator places thenar eminence of the thumb at client's left ILA while right hand holds clients left forefoot with knee bent at 90.
- Client introduces an activating force by pulling their foot against the operator to the midline.
- Operator resists the effort while maintaining constant pressure with the hand at the ILA.
- Operator creates eccentric lengthening of the rotators as operator pumps the ILA creating hydrodynamic mobilization.



- Part 2: While left hand is on the sacral base, the right hand reaches over the leg and grabs above the knee.
- Operator laterally abducts leg and internally rotates the leg as the left hand anteriorly/ superiorly glides S1 on L5. Add hip extension to the first restriction barrier. Instruct the client to do a PNF and reintroduce extension to the next barrier. While holding constant pressure at Sacral Base.
- Operator then abducts the thigh while webbing with their thenar eminence of index finger under the crest and on the transverse processes of L4 and L3 with mobilization

- Hip extension= 10 to 15 deg.

# PRONE SACRAL & VERTEBRAL RESPIRATORY GLIDES

**Goal:**

To mobilize and remove restrictions of the sacrum and vertebral segments using clients deep breathing

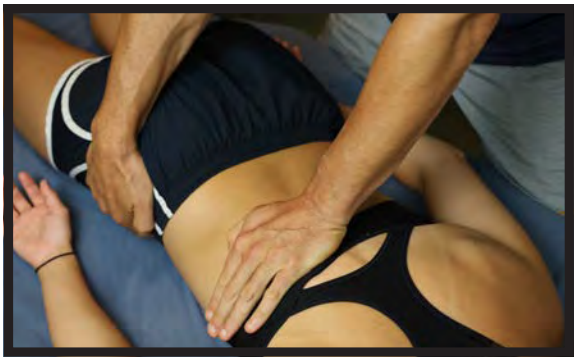
**Action**:

- Operator starts at sacral base using dominant hand with a web grip with other hand over top. Operator stands over the client and takes up the slack while the client takes a deep breath. Operator maintains an anterior/superior direction of force, adding hydrodynamic mobilizations.
- Operator travels up the spine, places hand thenar eminence of first index finger over spinous processes of segments to be mobilized in an anterior/superior direction.
- In the thoracics, operator monitors the height of the ribcage and directs anterior to superior or anterior to inferior pressure according to clients ribcage presentation.
- Operator then provides respiratory glides to the ribcage with anterior/superior pressure with inhalation on the concave side and anterior/ inferior pressure on the convex side, mobilizing with the breath.

# THORACO-LUMBAR JUNCTION INHALATION RESTRICTION

**Action**:

- Look for the dysfunctional segment by palpating the TP's of the Lumbar spine from L3 to T 11.
- Operators heel of right hand applies cephalic/lateral pressure over 11th, 12th ribs on inhalation.

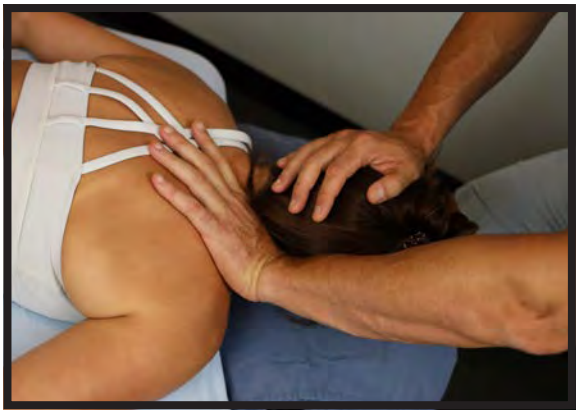


- Client pulls anterior against operators resistance at the ASIS 3 to 5 sec. Then operator engages new barrier
- Place clients hand over head to introduce side bending away from restricted segments Ex: Left sidebending if standing on clients left.

# C7 - T3 MOBILIZATION

**Goal**:

To release restrictions in the upper ribs, T-spine, and lower cervical spine. Helps to strengthen breathing, arm, and shoulder girdle function.



**Action**:

- Operator uses a webbed hand placing the thenar eminence of index finger against lamina and spinous. Operator engages the restrictive barrier and uses an inferior/ lateral Translation with the thenar eminence of the first index to the elevated rib shaft. Spring and repeat till ease of motion is restored.

- Note: When mobilizing upper ribs instruct the client to take a deep breath to activate scalenes of the top 3 ribs.

# ILIOSACRAL UPSLIP & COCCYX SHOTGUN TECHNIQUE

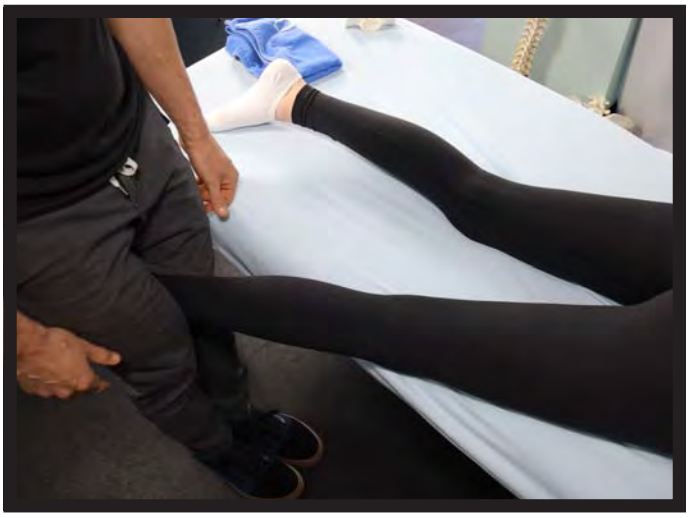
**Goal**:

To lengthen the short leg, create compression at the L5 S1 lumbosacral junction and decompress the hip and SI joint. To relieve low back, pelvic floor, and hip pain.

**Action**:

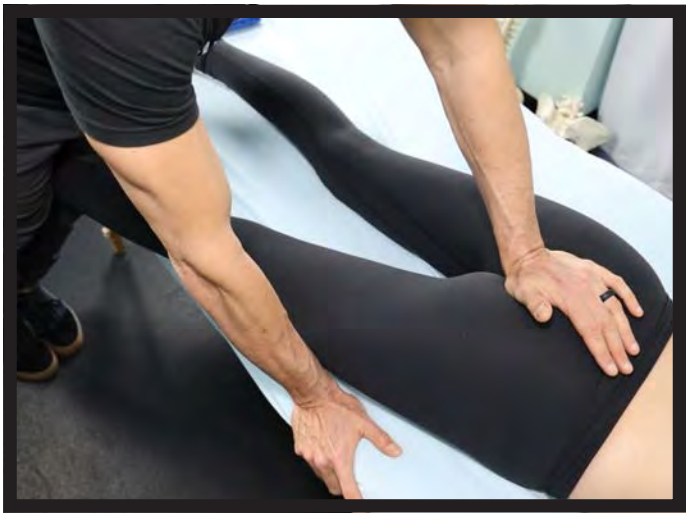
- Operator braces the posterior/ superior ILA with pinky-side palm.

- Operator straddles the short leg side and creates a counter force by squeezing the clients ankle with knees and leaning back while maintaining pressure at the ILA.



- Operator maintains a counter force with their legs against the clients ankles as they pump the posterior/ superior ILA in an anterior/superior direction to create an inferior/posterior iliosacral glide and extension at the sacral base.

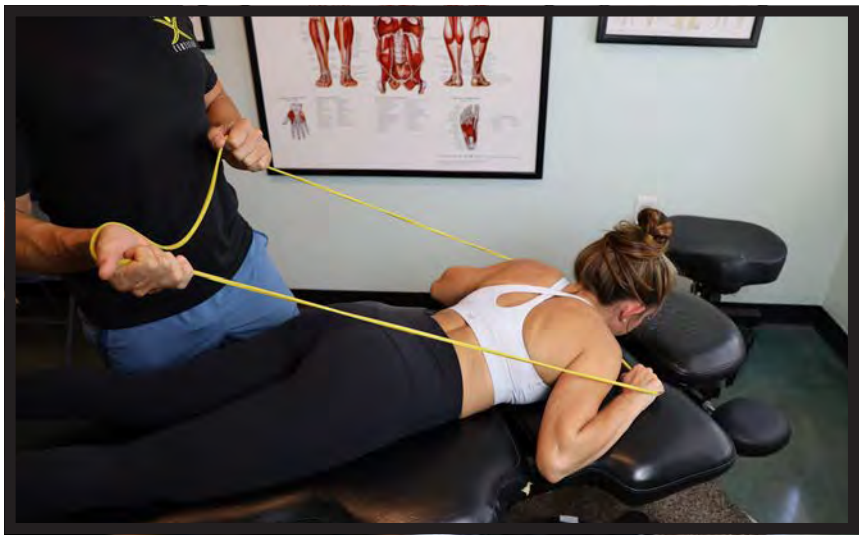
- Operator uses I.C.E. techniques and active lengthening of the leg while using hydro-articular kinetic mobilizations.



# THORACO-LUMBAR JUNCTION & DIAPHRAGM RELEASE

**PKT Integration**:

Level 1 Belly Angel Reaches: add Yellow band or neuro band

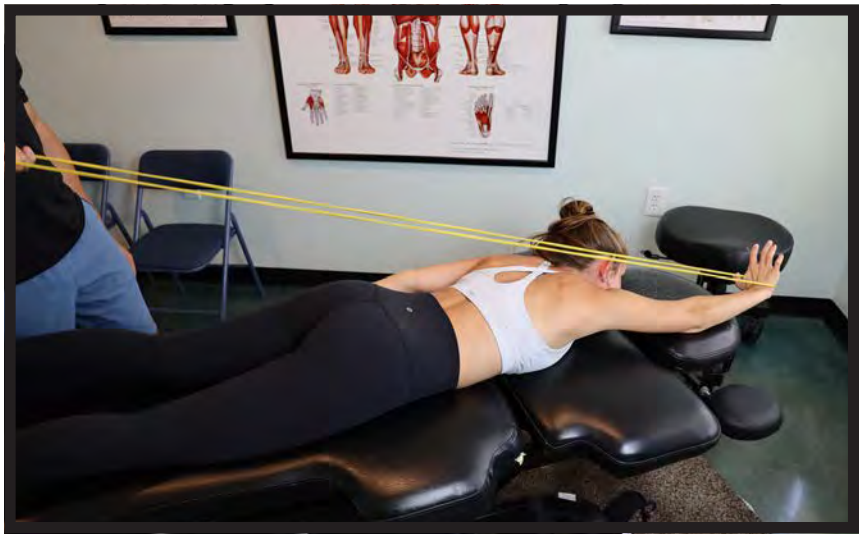


**Goal**:

To strengthen and release the rib cage/ diaphragm and spine.

**Action**:

- While Prone after Diaphragm release, instruct the client to hold the yellow band in both hands as the Operator stands and holds the band at the end of the therapy table near their feet.



- Operator instructs the client to push and extend the arm overhead as far as they are comfortable, keeping their arm elevated off the table as they breathe in deep. Client should hold for 2 seconds and repeat on Opposite side.

- Note: This can be very difficult if client presents with extreme kyphosis, be sensitive to clients abilities and modify accordingly.

# SIDE LYING SI GLIDE

**Goal:**

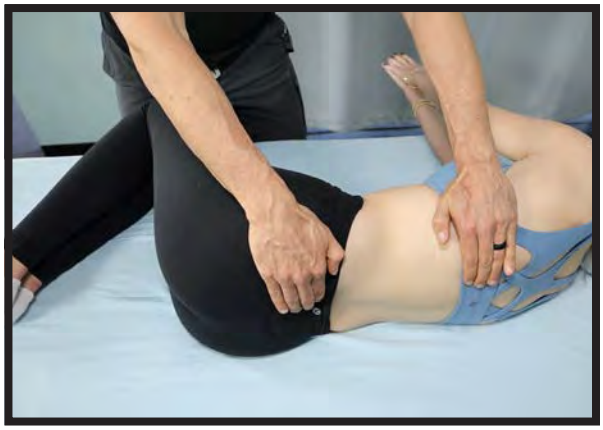
To mobilize the lumbosacral and thoracolumbar spine to create lubrication and hydration to the joints. To prevent musculoskeletal degeneration.

**Action**:

- Operator stands behind the client and places their left thenar emanence of thumb at the PSIS/sacral base, and their right hand on the clients shoulder.

- Clients are instructed to move their top knee and shoulder simultaneously in an anterior gliding motion and to keep feet together and hands on each other. This creates an anterior inferior and left pelvic rotation and spinal right rotation.

- Spring back and forth till ease of movement.  Try active release techniques by having the client move with you and against you while operator uses hydro-articular kinetic mobilizations.



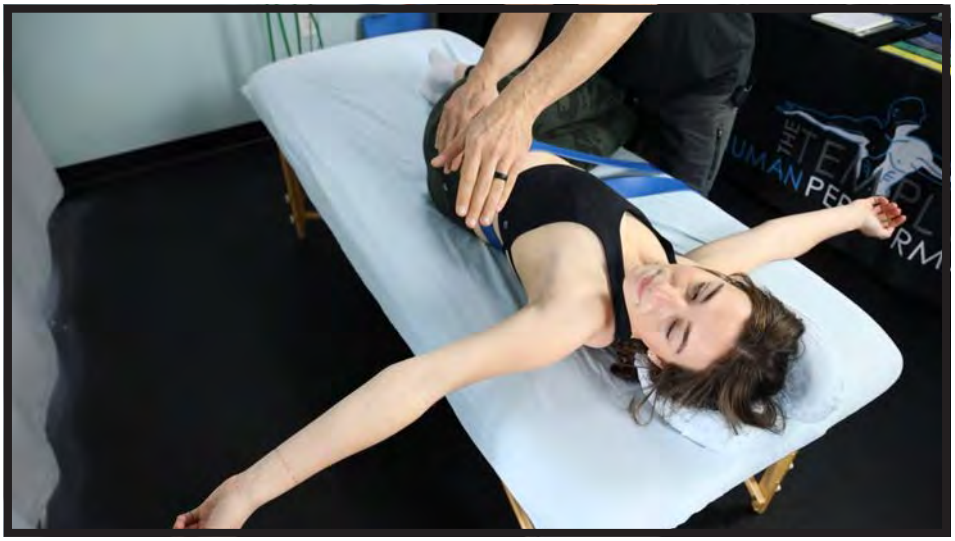
# ACTIVE BREATHING THORACOLUMBAR MOBILIZATIONS

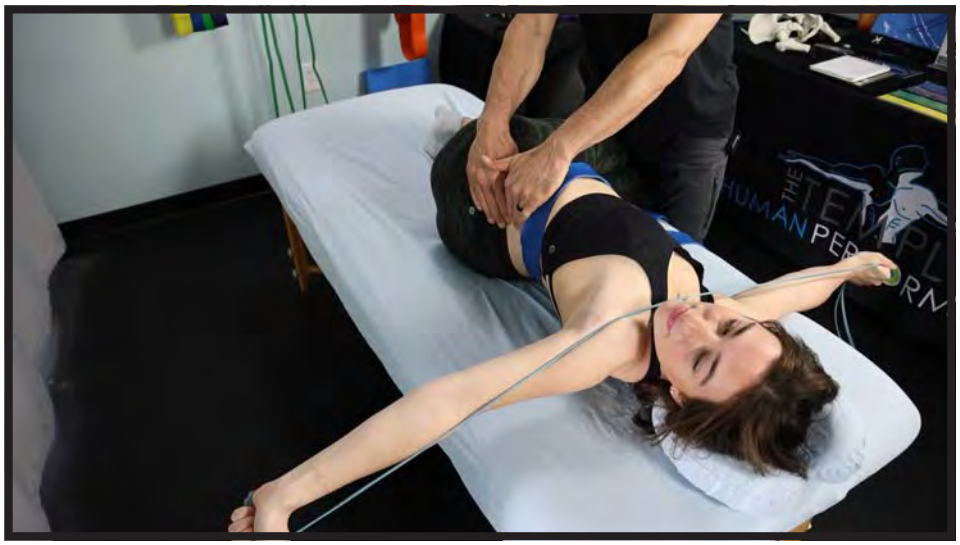
**Goal:**

To mobilize the thoracic ribcage and to open up the diaphragm for improved respiration and mobility.

**Action**:

- Operator braces the pelvis as client introduces left to right or right to left arm rotation depending on side. Inhalation on the rotation/reach.
- Client needs to stay within a pain free rotation. At restricted barrier, instruct client to breath in deeply to open up the ribcage for further mobilization.
- Add PKT band to increase range of motion (ROM) and improve neuromuscular endurance for pain mediation and management.
- Repeat 5-6 times or until client fatigues.





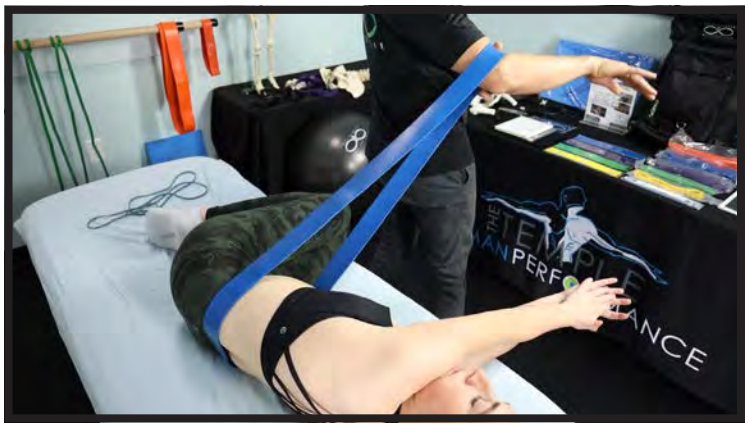
# PELVIC TUCKS W BLUE/ORANGE PKT BAND

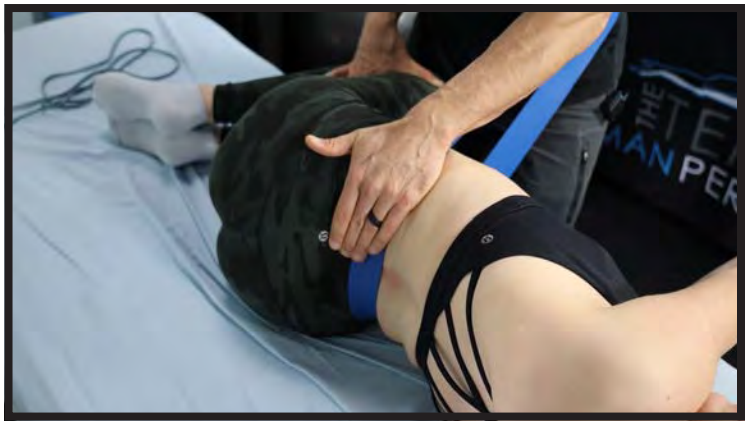
**Goal:**

To strengthen and mobilize the lumbar spine and improve core and leg function.

**Action**:

- Operator places band around clients L5 S1 junction and ilium and ask them to side lie with painful side down.
- Operator places band around their forearm and wraps it around their waist and faces client, placing clients knees at 90 degree angle at the hip and knee, against operations thigh.
- Operator braces clients lumbar spine with left hand and stabilizes clients knees against their body with the right arm as operator introduces external protuberance with the band.
- Operator instructs client to resist the band and flex their spine against operators pull.
- Operator instructs client to extend and flex their spine with inhalation and exhalation to help increase endurance, strength, and neuro-articular kinetic mobilization.
- Operator can move the band up and down the spine to mobilize different areas.
- Repeat as needed.

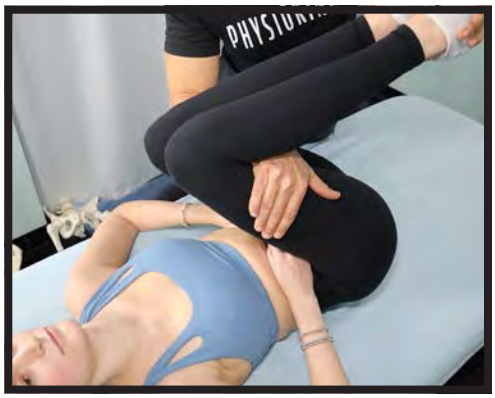




# SUPINE LUMBO-ILIO-SACRAL NEURO-ARTICULAR KINETIC MOBILIZATION

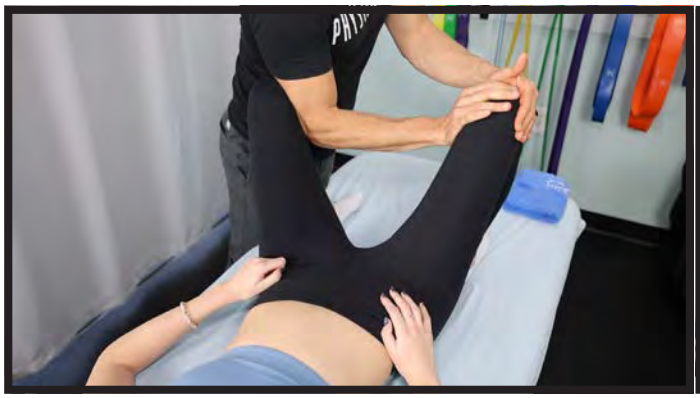
**Goal:**

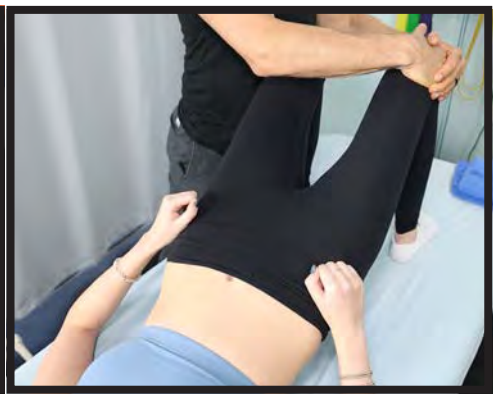
To relieve lumbar and leg pain by actively mobilizing the lumbosacral junction and releasing the lumbar spine from neuromuscular imbalance.



**Action**:

- Operator places clients knees at 90 degrees at hip and knee.
- Operators inside right arm reaches under the knees and holds the contralateral thigh.
- Operators left hand holds the feet.
- Client introduces right or left side bending according to clients pain or what operator found in the assessment.
- Operator instructs client to push against their arms with a concentric isometric contraction for 3-5 seconds.
- Operator instructs client to inhale on contraction to further open up the lumbar spine and expand the lumbosacral junction.
- Repeat 3 - 5 times with breath.
- Operator instructs client to bend knees and place feet at least a foot apart. Operator places elbow and palm against the medial sides of the clients knee.
- Client is instructed to push heels into table and lift pelvis as they squeeze hard against operators resistance.
- Note: This could be painful at first. If so, have them pull out with their knees and perform a hip bridge first. Then go back to squeeze.





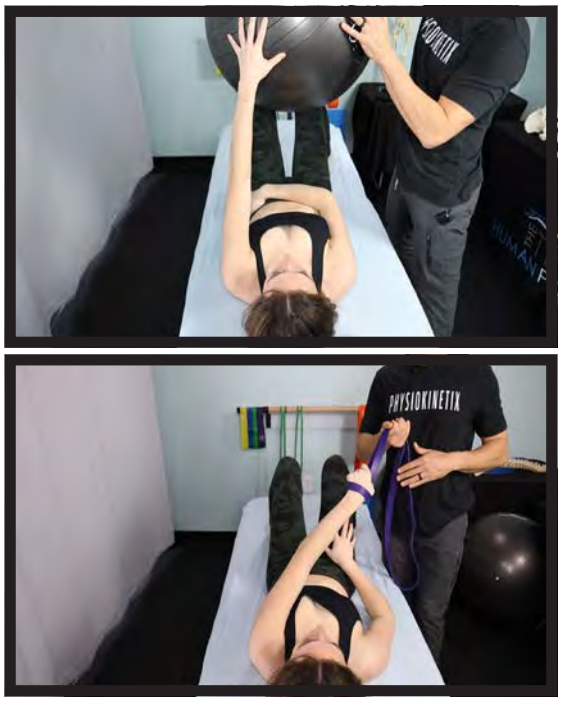
# ACTIVE THORACIC & NECK REHABILITATIVE MOBILIZATIONS

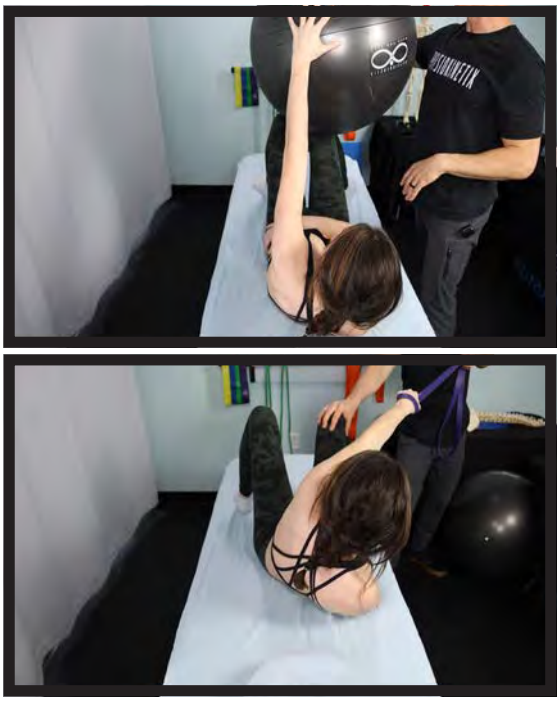
**Goal**:

To strengthen and actively mobilize the thoracolumbar and cervical spine in flexion and rotation. Helps release adhesions and fixations in Zygapophyseal joints.

**Action**:

- Operator braces clients right or left ASIS as they reach over the shoulder and under the spine.
- Operator instructs client to actively engage their trunk by lifting as Operator assists in the flexion and rotation effort.
- Operator instructs client to actively resist as operator uses an eccentric resisted force (isolytic).
- Operator uses a physioball and instructs client to press their extended arm and hand into the ball as they introduce active flexion and rotation of their trunk. (Both Sides)
- Operator uses PKT band to create isolytic and eccentric forces to mobilize and strengthen the posterior thoracolumbar erectors.

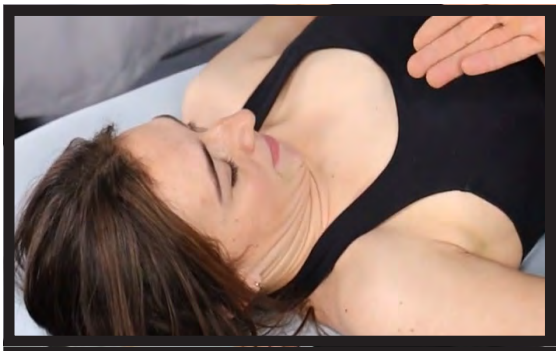


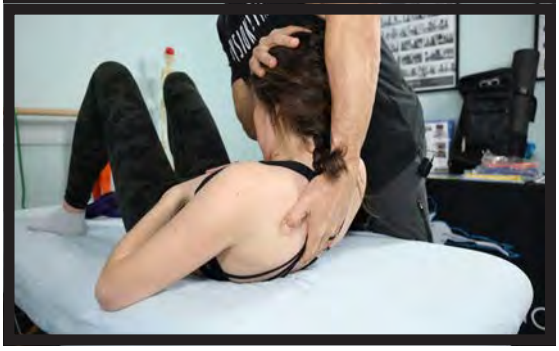


# CHIN TUCK WITH NEURO REHABILITATIVE TECHNIQUES

**Goal**:

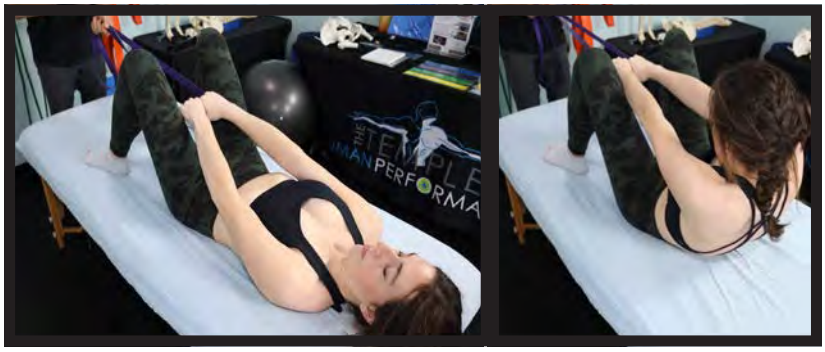
For restricted thoracic flexion or between T3 and T7.
To strengthen and correct proper neck firing order, while releasing flexion restrictions in the spine.

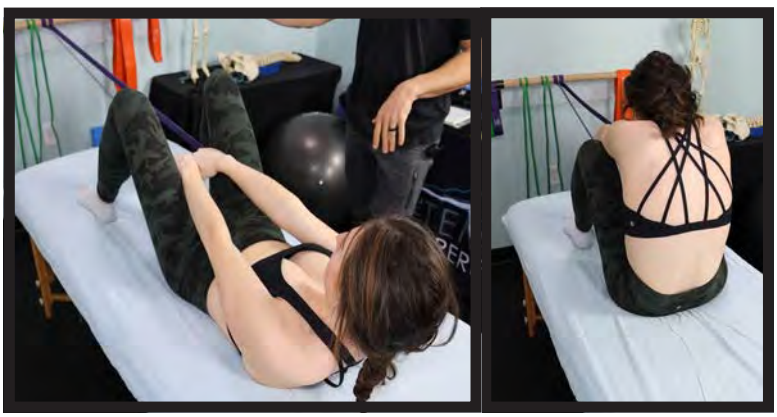




**Action**:

- Operator places their left hand underneath the thoracic spine up to T7 and cradles clients hand against their forearm.
- Operator instructs client to look at their chest as they initiate a curl up type movement.
- Operator drags the fascia in the lamina groove of the spine superiorly as they introduce flexion of the head with their right hand, instructing client to look at their chest and tuck their chin.
- Note: client needs to inhale on the flexion to expand the ribcage to aid in distraction and mobilization of the spine.
- Operator stands at the end of the table and introduces purple PKT band to client as they reach down with straight arms through their legs.
- Operator introduces resistance by leaning back, pulling the band. Operator asks client to resist but slowly curl up looking at their chest, as they go into trunk flexion (Isolytic).
- Operator asks client to pull themselves back to the table with straight arms, to mobilize their spine (Concentric).
- Use a barre or anchor system for self spinal mobilization.





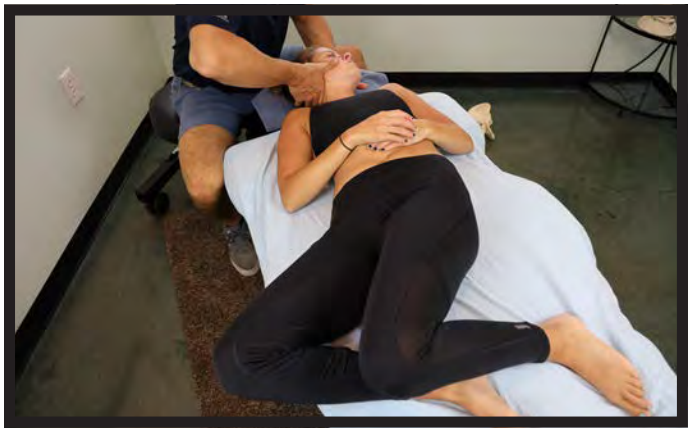
# WRINGING THE DURAL TUBE C 3 – L 5 / S 1

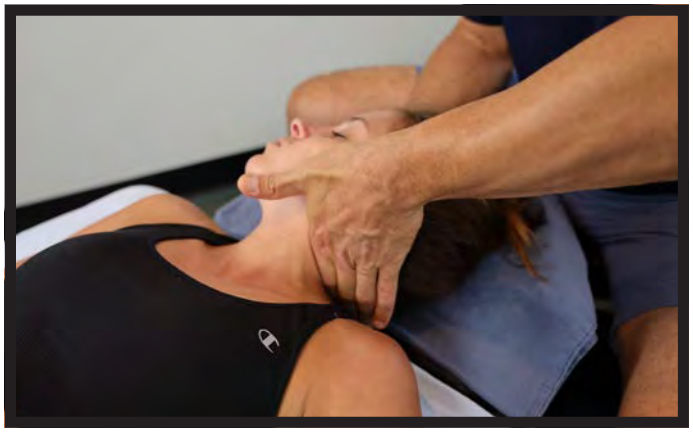
**Goal**:

Feel for ROM Restrictions using Spinal torsioning at the Key Junctions of the spine CVJ, C/T, T/L, L/S

**Action**:

- Clients knees are bent and Operator is Standing or sitting at their head.
- Operator uses the thenar eminences of both index fingers cradling the neck at the superior angle of the first ribs. Operator thumbs facing up to not occlude the arteries of the neck
- Operator instructs client to slowly introduce Right and Left rotation of the Knees which will rotate accordingly.
- Operator rotates the head left and side bends the head right as Client introduces the opposite direction of Knee/Trunk rotation.
- Operators use the index finger thenar eminence at the articular pillars of cervical spine to create a rocking motion with translation at each segment feeling for restrictions. If restrictions are found the client looks away from restriction as the operator resists their efforts 5 sec. Post isometric release occurs and Operator springs in a translation of the restricted segment. Alternate rocking motions are reintroduced.

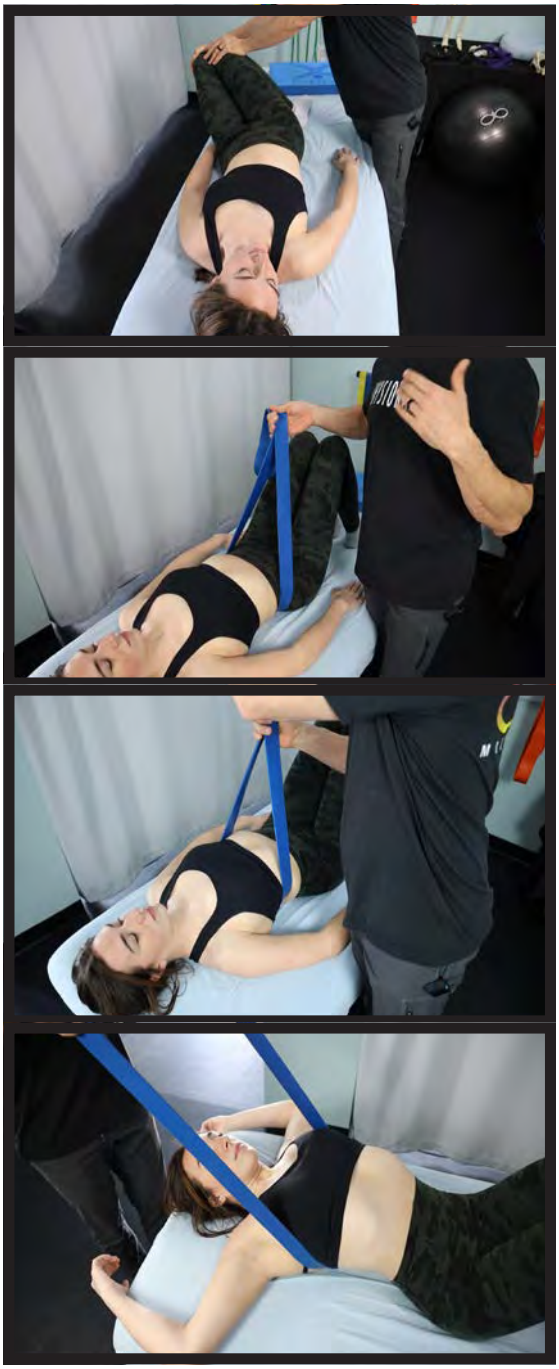




# SPINAL TRACTION MOBILIZATIONS USING BAND

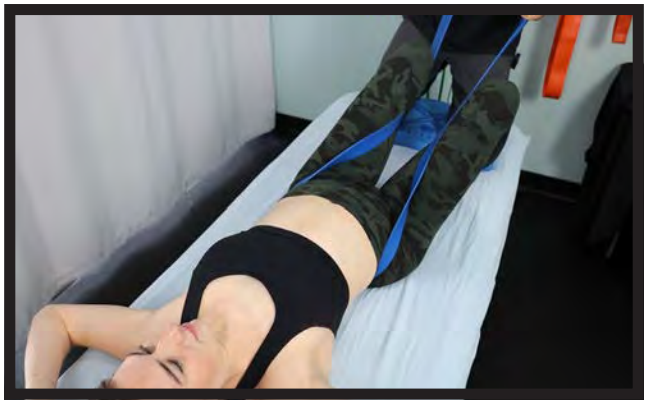
**Goal**:

To actively traction and mobilize the spine while strengthening and building endurance in the core and spinal stabilizers.



**Action**:

- Operator places PKT blue bands under clients lumbosacral region.
- Operator instructs client to slowly rock their knees left and right as operator introduces external resistance with the band.
- Operator moves up to the thoracic spine and introduces thoracic extension and distraction.
- Operator instructs client to pull against the resistance of the band and place their spine on the table, flat, with a forceful exhalation.
- Operator moves all the way up the spine to T7, pulling overhead and creating a long axis, thoracic and lumbar traction.
- Operator then places band around clients lumbosacral junction and in between the legs, grasping band at end of the table.
- Clients knees are flexed with feet on the table.
- Operator instructs client to slowly rock knees left and right as operator introduces external resistance and traction with the band.
- Note: Can be used as a self care protocol using the door anchor system.



# OCCIPITAL ATLANTAL ROM PASSIVE/ACTIVE INTEGRATION

**Goal**:

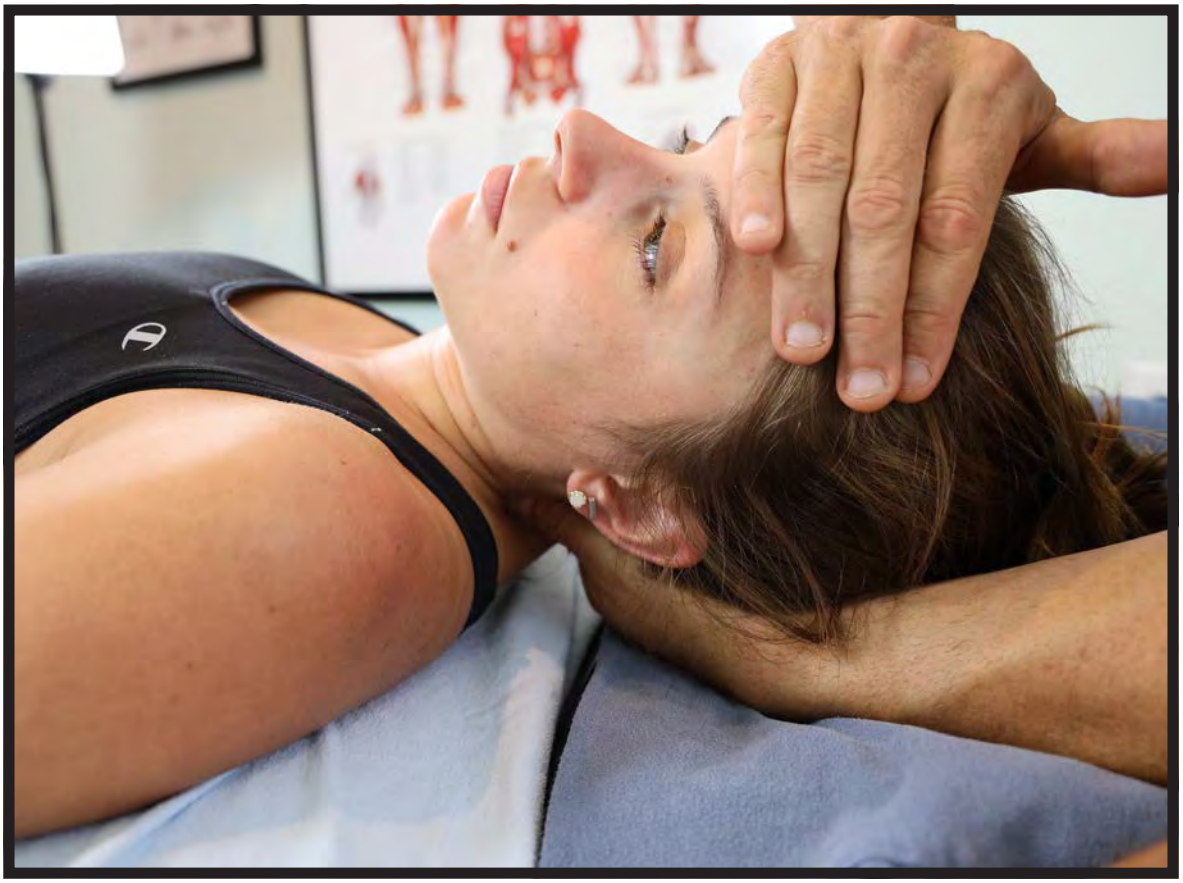
To assess and release movement restrictions in Flexion/Sidebending/Extension at C0, C1.
Normal ROM = Flexion 5 deg. Extension 10 deg. Lateral Flexion < 5 deg.

**Action**:

- Operators finger grasp clients head and feel for symmetry in fascia and condylar movements bias

- Operator moves the head around a A/P axis through the auditory meatus. Chin jutting A/P

- Operator Rotates Clients head 30 deg. Right and checks anterior glide and posterior glide of the Right condyle by extending and flexing the head asking it to glide anterior and posterior. If movement bias is found use eye movements in an oblique direction away from restriction and resist head 5 seconds and then reintroduce motion, Post Isometric release.



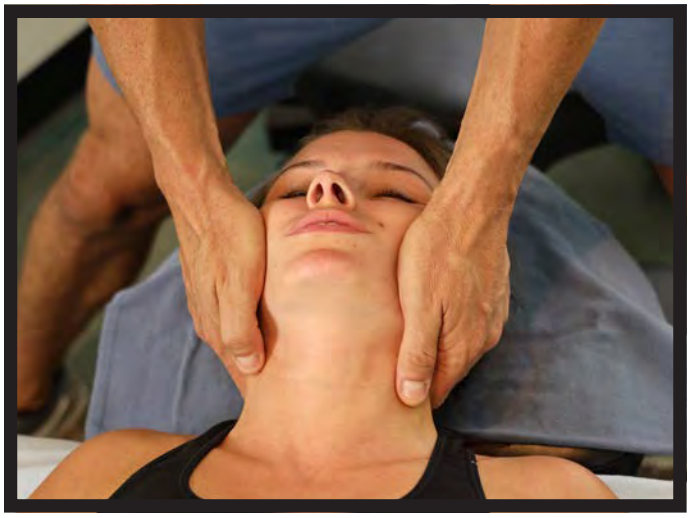
# ATLAS AXIS ROTATION RESTRICTION

**Goal**:

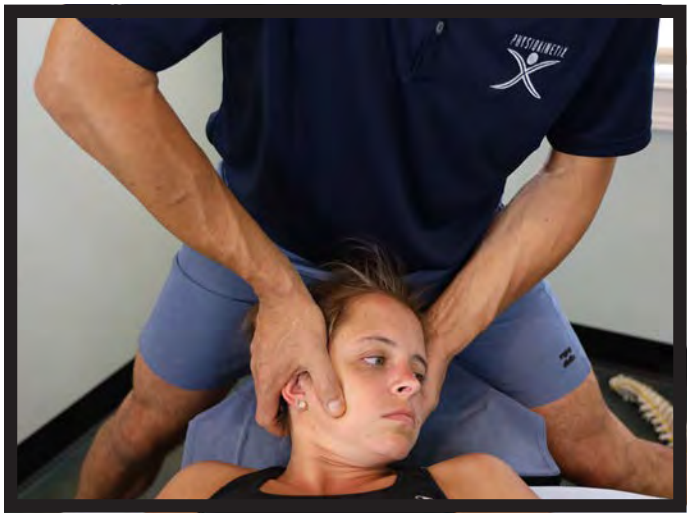
Assess ROM and Release and Re-educate using Eye movements. ROM = 45 deg. L/R

**Action**:

- Operator holds the base of the occiput with both hands draping the index fingers across the base at the level of C1. Clients chin is flexed to take out the slack and prevent Trick movements.



- Operator rotates head left and right keep chin flexed and in an axial rotation so that the chin does not move towards the shoulder in rotation. Feel for the resistance barrier, if found, have the client look away from the restriction as you resist for 5 seconds. Reintroduce the motion to retest. Restore ease of rotation in both directions



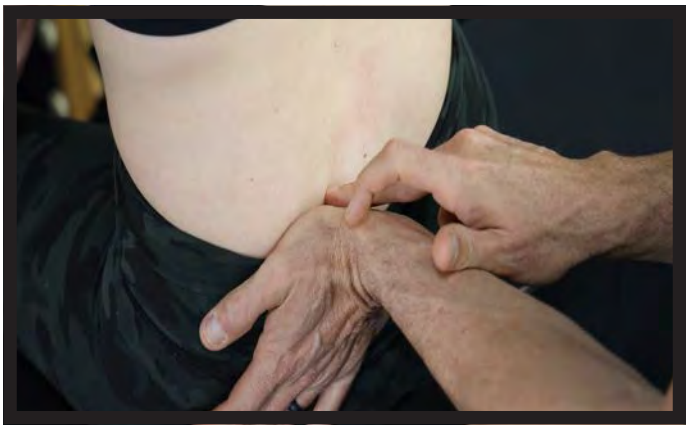
# SEATED LUMBAR TORSION

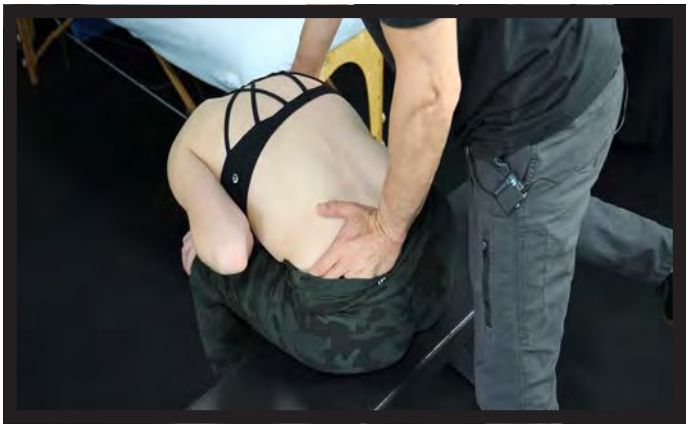
**Goal**:

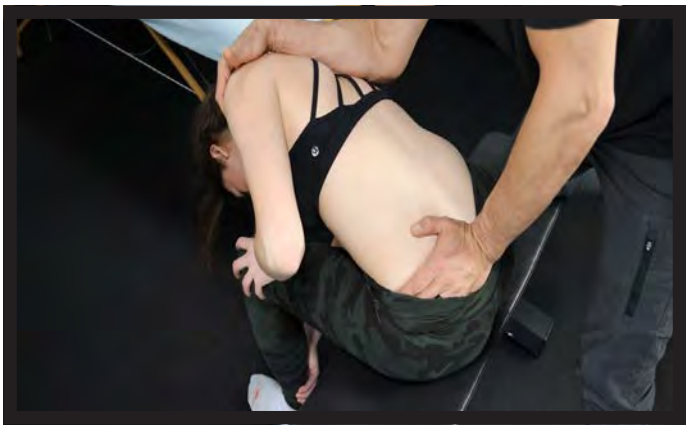
To treat torsions at the lumbosacral joint and mobilize the spine. To treat functional, non-structural, scoliosis. For scoliosis,sacral torsions, and rib, head, and neck pain.

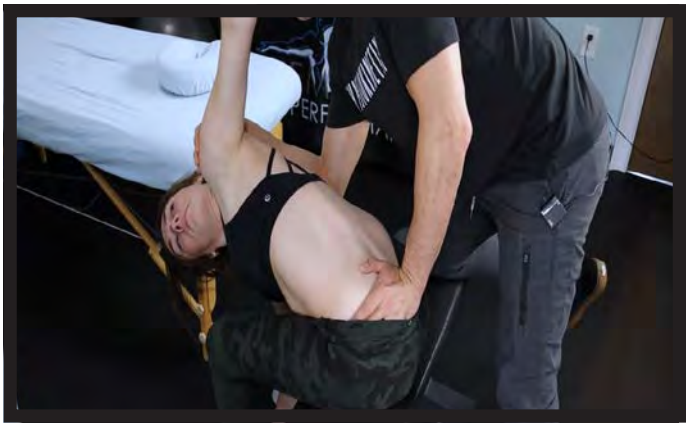
**Action**:

- Operator braces the PSIS and sacrum on the non painful side of clients low back.
- Ask the client to sit in a wide legged position with feet flat on the floor to provide room for the spine as they reach through their legs.
- Operator locks the arm out and braces with the palm, fingers down, on the lumbosacral joint.
- Operator asks the client to place their left hand on their knee as they reach their contralateral arm to the left in flexion and rotation.
- Client turns their eyes up toward the ceiling in the same direction of rotation. Example: Right to Left rotation
- Operator braces thoracic rib cage and lumbosacral joint and rocks client left and right in flexion.
- Operator asks the client to look in the opposite direction as he reaches and grabs arm and introduces left to right thoracic rotation.
- Client then repeats the motion, reaching back to the opposite foot with hand, and looking towards









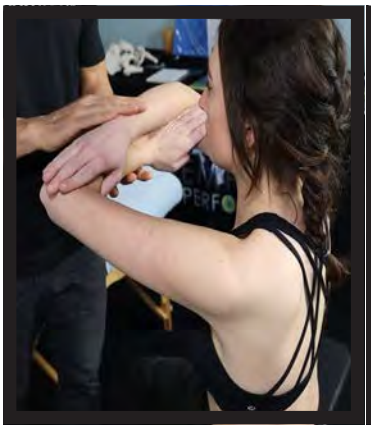
# SEATED GENIE

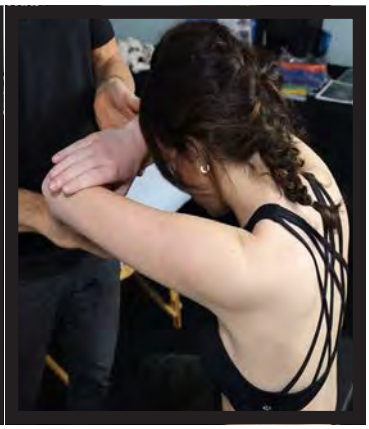
**Goal**:

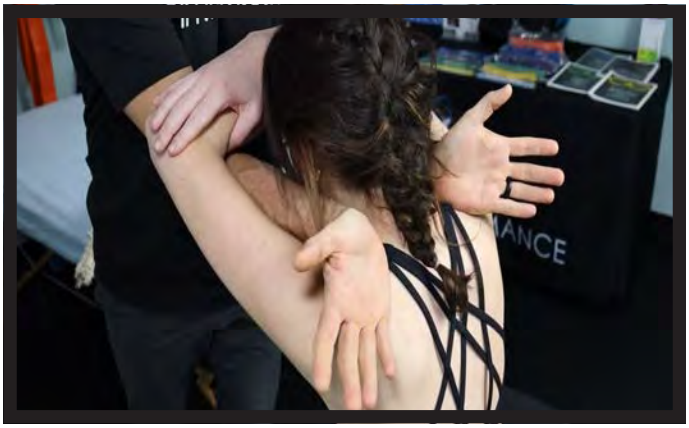
To release restrictions in the upper ribs, T-spine, and lower cervical spine. Helps to strengthen breathing, arm, and shoulder girdle function.

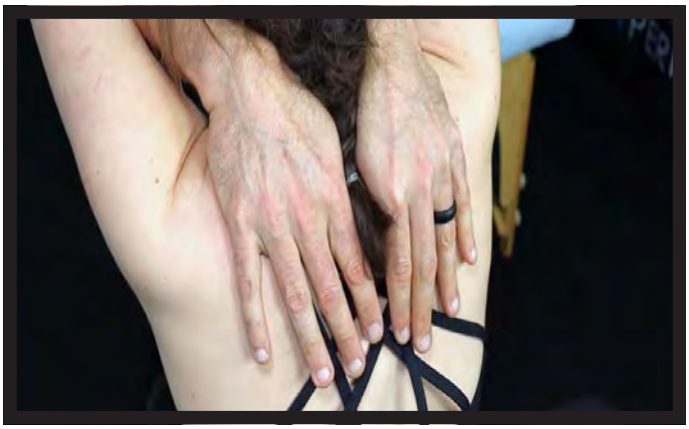
**Action**:

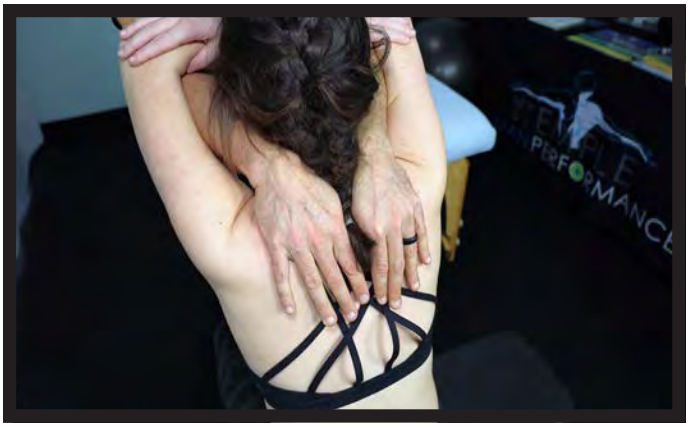
- Operator uses a webbed hand placing the thenar eminence of index finger against lamina and spinous.
- Operator engages the restrictive barrier and uses an inferior/lateral Translation with the thenar eminence of the first index to the elevated rib shaft. Spring and repeat till ease of motion is restored.
- Operator introduces left and right translation with overpressure of the thenar eminence of the thumbs to create hydrodynamic mobilization.
- Note: When mobilizing upper ribs instruct the client to take a deep breath to activate the scalenes of the top 3 ribs.

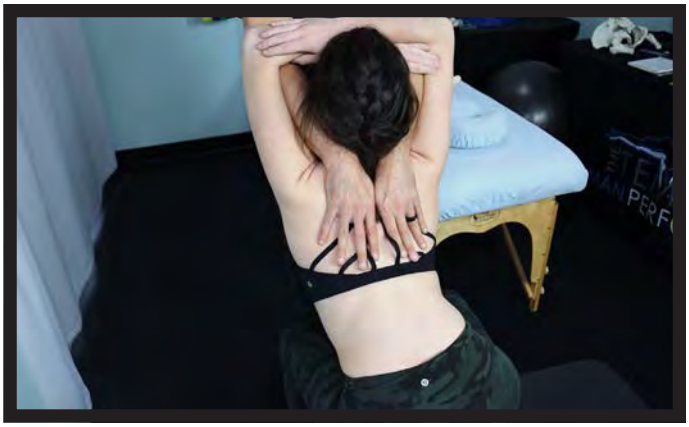












# OCCIPITAL RELEASE FOR HEADACHES

**Goal**:

To create an active release of the C0, C1 junction in flexion and extension and improve Head on Neck Mobility/Stability

**Action**:

- Operator places a purple or green pkt band under the base of the occiput creating a cradle where the head is inside the band and the Operator is standing above.

- Client is instructed to node their head up and down in neutral and at 30 degrees of rotation Left and then Right, against the resistance creating an active release of the O/A. Use a variety of active movements and Isometrics to reactivate the CVJ.


- If possible Client places hands behind their head around the band to help secure it to the occipital base.

- Operator creates an superior and anterior resistance on the band.

# NOTES

# PHYSIOKINETIX

MOBILITY | STABILITY | POWER | PERFORMANCE

## GET CERTIFIED IN OUR CLINICALLY PROVEN BRAIN-BODY BASED PAIN MANAGEMENT SYSTEM TO IMPROVE CLINICAL OUTCOMES & TAKE CLIENTS TO A NEW LEVEL OF PAIN FREE PERFORMANCE!

## "PAUL IS VERY KNOWLEDGEABLE IN EVERY ASPECT OF THE BODY. HAVING A LIVE SESSION WITH HIM IS BEYOND WORDS. I HAVE SEEN VIDEOS BUT THERE IS NOTHING LIKE GOING TO A WORKSHOP."