Florida Institute of Orthopedic Manual Physical Therapy

Manipulation Technique Manual

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Cervical Upglide Thrust C2-C7

Patient position: Supine on table, cervical spine begins in neutral.
Operator position: Standing to the side of the patient’s head. The superior forearm rests under the patient’s neck allowing upper cervical sidebending and rotation to the right. The superior hand rests on the patient’s chin. The patient’s lower cervical spine is pulled into left sidebending. The segment being manipulated should be at the point between these counter curves and thus in relative neutral sidebending. The inferior hand second MCP joint is placed on the posterior facet column at the level to be manipulated.
Direction of forces: The upper cervical spine right sidebending and rotation and the lower cervical spine left sidebending and right rotation creates a ligamentous and articular lock above and below the segment being manipulated. The operator provides and upward thrust at the barrier.
Indications: To inhibit pain and guarding at or above/below the level; improve segmental cervical motion. This techniques is highly specific when locking is performed well.
Cervical Upglide Thrust C3-C7

**Patient position:** Spine head in neutral or slight extension for C2-C4, but lower levers bring in some flexion may be helpful

**Operator position:** Head of table, yet will shift to diagonal/martial arts stance as levers are induced. Hand contacting desired level will be on the posterolateral aspect of the articular pillar. Opposite hand is on the posterolateral aspect of the occiput. (An alternative can be a bilateral cradle hold where both hands are mirrored at same level) As levers of side bend and lateral glide are induced, the therapist body position shifts diagonal with feet pointing in direction of thrust. As body is turned toward direction of thrust side bending is induced then lateral glide is induced as therapist shifts weight toward front leg. Therapist midline should be centered with vertex of the patient’s head. Table should be low enough so elbows are slightly flexed and in not out and away from your body.
Direction of forces: This technique combined extension or flexion with side bending and lateral glide with rotation being primary lever of thrust, yet minimal due to the combined levers for this technique. Vertex of patient’s head should remain midline with therapist throughout the technique. Therapist combines side bend, lateral glide, rotation, extension or flexion and even some PA shift. Compression can be added as well, both hands must work together to maintain forces and ensure position of joint is maintained before thrust. Hand on Occiput can draw up to keep in neutral. The direction of force will vary from the opposite eye to the ramus of the jaw depending on the level. It is not necessary to preorder your forces or to go to maximum barrier. Feel forces being engaged then you may back off, it is important to feel and ease into barrier then to excessively create it. This is not a ligamentous lock. PT may prime the targeted level with small impulses to sense and feel the desired barrier and better feel the best direction of thrust and the when you have it thrust into an arc of rotation based on level you are targeting.

Indications: For segmental restrictions, localized pain, Scapular pain, head aches
Cervico-Thoracic Distraction Manipulation

Patient position: Seated, hands cradled behind neck, thoracic spine supported on operator’s chest, cervical spine in neutral.  
Operator position: Standing behind the patient, knees slightly bent, forearms interlocked with patient arms through the axilla. Operator’s fingers palpate C7T1 interspinous space. Patient’s thoracic spine is supported on operator’s chest.  
Direction of forces: Slack at the CT junction is taken up cranially by slightly elevating and retracting the shoulder girdle with adduction of the operator’s arms against the lateral trunk of the patient. The impulse is directed cranially and is generated by the operator extending his knees while maintaining contact with the patient’s lateral trunk. Operator takes CAUTION to avoid any force into flexion of the cervical spine.  
Indications: To inhibit pain and guarding and to improve motion in all directions of the CT junction and/or upper thoracic spine.
Cervico-Thoracic Lateral Glide Manipulation T1-T3

Patient position: Patient is placed in prone, close to side being targeted. Hence right CT junction patient is toward right side of table as in picture. Ipsilateral arm is placed in elevation with hand resting on the corner of the table, yet not necessary if patient is unable. The contralateral rests in neutral along patient's side. A few towels are rolled and placed to allow occiput to rest and minimize full rotation during pre-manipulation position.

Operator position: Centered over patient toward head. Upper hand contacts patient’s front or temporal bone with fingers pointing superiorly toward head to create lateral flexion and not rotation. Lower hand using first web space and index finger to contact T1 with wrist flat and in neutral as the forces need to be in line with the forearm.
Cervico-Thoracic Lateral Glide Manipulation T1-T3

**Direction of forces:** First engage lower hand to induce lateral flexion as this is done the patient’s head with move from rotation to neutral. It is at this point that the upper hand and second lever will be engaged creating lateral flexion. Together as the lower hand induces lateral flexion and head moves to neutral: Lower hand thrust into lateral glide/translation and upper hand will thrust into lateral flexion. This creates a ‘bend’ of C7 over T1. It is important that more force is delivered with the lower hand maintaining emphasis on a shorter lever arm. Common error is thrusting with upper lever only with a much longer lever arm and not desired.

**Indications:** For limited mobility at the C/T junction. This technique is effective for patients with upper trapezius and scapular pain.
Upper Thoracic Manipulation T1-T3

**Patient position:** Supine, arms crossed in a ‘V’, 1-2 towels rolled between arms and chest for comfort. Patient can place legs into flexion to increase some tension or remain straight in extension. This can be a nice option when you feel it is needed

**Operator position:** Directly centered over patient, imagine around xyphoid or just inferior. The top arm holds both of patient’s arms, this allows for more control and allows added forces for more localization of the barrier. The inferior hand is a closed/relaxed fist with desired segment spinous process centered within bottom hand. If T2/3 is desired segment then T3 will be with middle phalanx of third finger and T2 spinous process centered at middle finger.
Upper Thoracic Manipulation T1-T3 (Continued)

**Direction of forces:** First, pull down to bring patient’s elbows vertical-epigastric region just inferior of xyphoid process on patient’s elbows. Primary lever is Anterior–Posterior thrust and secondary levers can be added such as compression, rotation, side flexion, extension. This is done by inferior hand radially deviating or pronating and using upper arm to assist. Can also “scoop” pull down to add a little traction force and bring thoracic spine toward extension. Thrust is delivered by dropping your knees at moment of thrust. Therapist spine should be upright and erect with head up.

**Indications:** For segmental restriction into extension, but can assist with rotation and side bend. Although techniques that use side bend or rotation as primary levers may be more effective.
Rib PA Manipulation Supine T6-T10

**Patient position:** Patient is supine on the table, arms crossed and hands placed along rib cage to tighten fascia.

**Operator position:** Facing patient, the radial side of the hand/thumb is placed along the rib to be manipulated. The superior hand is placed on the patient's elbows anteriorly.

**Direction of forces:** Operators superior hand will deliver an A-P force through the patients elbows. The inferior hand, along the rib, will force the rib anteriorly-providing a ventral/lateral HVT is given perpendicular to the costovertebral joint as the patient’s body moves posterior into the table.

**Indications:** Treatment for a hypomobile, non-painful rib.
Rib PA Manipulation Side Lying T3-T10

**Patient position:** Patient is placed side lying over a bolster placed under targeted level. If level is T6, then bolster is under T5-6, placing thoracic spine in left side bend and right rotation locking the level from rotating left. Legs are in hip flexion. Remember: In neutral extension side bend and rotation will be opposite which then assist with the locking. Coupling forces are your friend when trying to be specific as possible

**Operator position:** Facing patient, Superior hand ulnar placed on desired rib level, lower hand stabilizes patient’s pelvis for stability

**Direction of forces:** Operators upper hand will stabilize upper trunk yet create slight counterforce to the thrust hand, the upper hand can also induce some rotation to assist with gaining a barrier and more localization of the targeted level. As the patient performs full expiration...a ventral/lateral HVT is given perpendicular to the costovertebral joint

**Indications:** Symmetry of the segmental motion should be noted as well as its relative movement with inhalation and exhalation observed to determine restriction. Technique is into anterior glide thus improving exhalation and ipsilateral rotation.
Lumbar Spine Rotation Manipulation

Patient position: Patient is placed side lying over a bolster which is placed below the targeted level. If level being manipulated is L23, apex of bolster is at L4. The patient is flexed from below up to L23 by bringing one hip into flexion. Remember: In flexion, side bending and rotation will be in the same direction which then assists with the locking. Thus from below the patient should be in flexion and right sidebending/right rotation. The segment being manipulated is in neutral.

Operator position: Facing patient, the superior hand is pronated over the ribs and the inferior hand is on the ilia.

Direction of forces: Operators upper hand will provide the HVLA thrust from the superior arm/body and create a counter force with the inferior arm.

Indications: Improve segmental motion. Decrease pain and guarding in the segmental level or a few levels above or below.
R Ilium Anterior Rotation Manipulation

**Patient position:** Prone over bolster, ASIS off table edge, lumbar spine in flexion and L SB, locking L5S1 into L rotation

**Operator position:** Behind and to left side of patient, left hand on R iliac crest, R hand supporting distal thigh in adduction to produce L SB while maintaining lumbar flexion

**Direction of forces:** Operator directs the R Ilium in an anterior and slightly lateral direction

**Indications:** Restriction in anterior rotation of the R Ilium relative to the Sacrum
Patient position: Sidelying; spine in flexion and L SB, locking L5S1 into L rotation. Operator position: Side stance in front of the patient; The superior hand with heel of hand on the L ASIS, the inferior forearm at the Ischial tuberosity with operator’s body supporting the L hip in flexion and slight adduction. Operator fingertips palpate SIJ. Direction of forces: Operator directs the L Ilium in a posterior and slightly medial direction. Indications: Restriction in posterior rotation of the Ilium relative to the Sacrum