

1 Upper Extremity Counterstrain

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2 Counterstrain

- Osteopathic manipulation technique developed by Larry Jones, D.O.
- Discovered by accident
- Based upon finding tender points and then passive patient positioning to treat the tender point

3 Counterstrain Advantages

- Easy to teach
 - Little need for biomechanics
 - Find tender point - Fold and hold
- Easy to implement at the bedside
- Great gateway technique for further study in osteopathic manipulation
- Safe for most patients
- Requires minimal patient cooperation

4 Counterstrain Advantages

- Great for acute pain
- Great for headaches
- Great for sports injuries
- Great for patients with soft tissue pain

5 Counterstrain Points

- Have tissue texture change
- Are tender to palpation
- Frequently located in relationship to soft tissue structures
- Can be used as a standalone technique
- Frequently combined with other manipulative modalities

6 Principles of Counterstrain

- Identify the tender point
 - May be based on pain pattern, regional scan, observation, etc.
- Establish a pain scale (1-10) and stay on the tender point
- Bring patient to text book treatment position
- Patient is completely passive!

7 Principles of Counterstrain

- Recheck tenderness of tender point
 - Want at least a 70% reduction
- Continue to monitor the tender point
- Hold with patient completely relaxed for 90 seconds

- Occasionally recheck that point is no longer tender

8 Principles of Counterstrain

- While continuously monitoring the point, slowly bring the patient back towards neutral
- Observe tissue texture as you do this, may need to continue treatment

9 Principles of Counterstrain

- Treatment reactions
 - Increased discomfort for 24-48 hours after treatment
 - May occur in 30% of patients
 - Increased clear liquid intake beneficial
 - OTC NSAIDs if needed
 - Ice/Heat

10 Approach to the Shoulder

- Pain patterns provide a major clue
- Anterior shoulder pain common culprits:
 - Biceps, pectoralis major and minor, deltoid, infraspinatus, supraspinatus, scalenes and subclavius
- Posterior shoulder pain common culprits:
 - Levator, teres major and minor, supraspinatus, trap, subscap, serratus posterior superior
- Cervical, thoracic and rib dysfunctions

11 Long Head of the Biceps

- Found over tendon in groove
- Pain Pattern in the anterior upper arm and shoulder

12 Long Head of the Biceps

- Patient supine with dorsum of the ipsilateral hand on the forehead. Shoulder and elbow flexed to 90. Fine tune with int/ext rotation

13 Short Head of the Biceps

- On the inferior lateral aspect of the coracoid process
- Produces pain in the anterior upper arm and anterior elbow

14 Short Head of the Biceps

- Patient supine, flex the shoulder to about 90 with the elbow also flexed. Moderate adduction.

15 Pectoralis Minor

- 3-4 cm inferior and 1-2 cm medial to the coracoid process. Located at the junction of the tendon and muscle.
- Produces regional pain

16 Pectoralis Minor

- Patient supine. Stand on opposite side and the ipsilateral arm is adducted diagonally across the chest in line with the muscle fibers. Provide some traction on the arm caudad and medially.

17 Pectoralis Major

- Related to 1st and 2nd rib dysfunction
- Located in the muscle belly

- 18 **Pectoralis Major**
- Patient supine and flex the head. Sidebend and rotate toward the tender point
 - May need to internally rotate medially traction the arm
- 19 **Lateral Coracoid**
- Located on the lateral side of the coracoid process
- 20 **Lateral Coracoid**
- Patient supine. Head extended over table sidebend neck away and rotate towards the tender point.
- 21 **Subclavius**
- Point located just medial to the coracoid process or in the belly of the subclavius
- 22 **Subclavius**
- Patient seated rotate arm internally so it rests on the iliac crest. Push elbow forward to achieve internal rotation
- 23 **Deltoid**
- Any part of the deltoid
 - Flex or abduct the arm to allow palpation under the acromion
- 24 **Deltoid**
- Seated patient. Shoulder flexed or abducted 90-120 degrees. Fine tune with slight internal or slight external rotation
- 25 **Subscapularis**
- Tender Point along the lateral side of the scapula.
 - Gotta dig deep!
 - Tender in most patients!
- 26 **Subscapularis**
- Patient supine with patient towards the edge of the table. Extend shoulder to 30. Rotate arm internally with slight adduction.
 - Difficult to monitor tender point
- 27 **Posterior Points**
- 28 **Infraspinatus**
- Found anywhere in the body of the infraspinatus muscle
- 29 **Infraspinatus**
- With patient supine shoulder is flexed to 135.
 - Fine tune with with slight adduction/abduction and internal/external rotation
- 30 **Supraspinatus**
- Located in body of muscle

- 31 **Supraspinatus**
- Patient supine. Flex shoulder 45-90 degrees, abduct 45 degrees. Marked external rotation
- 32 **Teres Minor**
- Lateral border of the upper scapula in the muscle mass
- 33 **Teres Minor**
- With patient seated or supine extend the arm 30. Slight adduction and marked external rotation of the shoulder is used
- 34 **Teres Major**
- On the posterior lateral surface of the inferior angle of the scapula
- 35 **Teres Major**
- With patient seated, shoulder is extended 30 with elbow flexed to 90. Apply marked internal rotation with slight adduction
- 36 **Levator Scapula**
- At the attachment of the muscle with the scapula.
 - May need to wing the scapula to properly locate point
- 37 **Levator Scapula**
- Patient supine. Side bend neck slightly towards the tender point
 - Flex and slightly adduct arm to note softening of the soft tissue
 - Apply superior force along humerus to elevate scapula
- 38 **Rhomboid**
- Along the medial border of the scapula at the attachment of the muscle.
 - Often a burning pain between the shoulders
- 39 **Rhomboid**
- With patient seated abduct the shoulder to achieve maximum relaxation then pull the arm posteriorly
- 40 **Trapezius - Medial**
- In the fibers of the upper part of the upper part of the muscle at the junction of the head and neck
- 41 **Trapezius - Medial**
- Monitor tender point
 - Side bend the head toward the point.
 - Fine tune with flexion and rotation away from the tender point
- 42 **Trapezius - Lateral**
- In the fibers of the trapezius overlaying the supraspinatus muscle
- 43 **Trapezius - Lateral**
- Slightly side bend the neck slightly towards the tender point
 - Flex the shoulder 150-170 and grasp the arm to traction the shoulder towards the head to

fine tune

- 44 **Serratus Posterior Superior**
- Relates to posterior rib somatic dysfunction
 - Located posteriorly along the rib angles
 - VERY COMMON
- 45 **Serratus Posterior Superior**
- Side bend away
 - Rotate thorax away
 - Slightly extend the cervical spine
 - Traditionally hold this position for 120 seconds
 - Also a supine method
- 46 **Triceps**
- Located on the posterior, medial or lateral aspect of the upper arm
- 47 **Triceps**
- Extend the elbow as far as comfortably possible
 - Exert a varus or valgus force with internal or external rotation of the extended elbow
 - Some supination may be required
- 48 **Triceps Tendon**
- On the medial and lateral aspect of the olecranon
- 49 **Triceps Tendon**
- Hyperextend the elbow and supinate the forearm. A varus or valgus force is directed towards the side of the tender point
- 50 **Supinator**
- On the anterior lateral surface of the radial head
 - May refer pain between the first and second metacarpal bones
 - Associated with tennis elbow
- 51 **Supinator**
- Put the elbow into full extension comfortably. Place forearm into maximum supination and exert a mild valgus force
- 52 **Supinator**
- Self Treatment position
- 53 **Pronator**
- Over the medial aspect of the anterior elbow from the epicondyle to the antecubital fossa
 - An alternate point is over the radial head
- 54 **Pronator**
- Marked flexion and pronation of the elbow
 - May have some internal rotation of the humerus

- 55 **Pronator**
- Self Treatment position
- 56 **Brachialis Tendon**
- On the medial and lateral aspects of the coronoid process in the antecubital fossa
- 57 **Brachialis Tendon**
- The elbow is fully flexed and pronated within the patient's comfort level
 - May need to fine tune with some medial to lateral pressure against the forearm
- 58 **Flexors of the Wrist and Hand**
- Tender point is found on any of the flexor muscles of the forearm
 - May also be found over the palmar area
- 59 **Flexors of the Wrist and Hand**
- Flex the wrist to find a flexion a softening of the tissue under your finger
 - May fine tune with rotation of the forearm
- 60 **Extensors of the Wrist and Hand**
- In any of the extensor muscles of the hand and wrist
 - From the wrist to the lateral epicondyle
- 61 **Extensors of the Wrist and Hand**
- Extend the fingers and/or wrist to find a softening of the tissues under your finger
 - Fine tune with rotation of the forearm
- 62 **Opponens Pollicis**
- Over the base of the 1st metacarpal at the carpal-metacarpal joint on the palmar surface
 - Patient may complain of pain in the area or weakness present in the thumb during grip
- 63 **Opponens Pollicis**
- Flex the wrist fully and exaggerate the flexion by pressing on the thumb
 - Fine tune with wrist rotation
- 64 **Further Study**
- Counterstrain
 - Tucson Osteopathic Medical Foundation
 - Other manipulation techniques
 - American Academy of Osteopathy
 - Michigan State University
- 65 **Further Study**
- Osteopathy in the Cranial Field
 - Sutherland Cranial Teaching Foundation
 - Cranial Academy
- 66 **Contact Information**

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