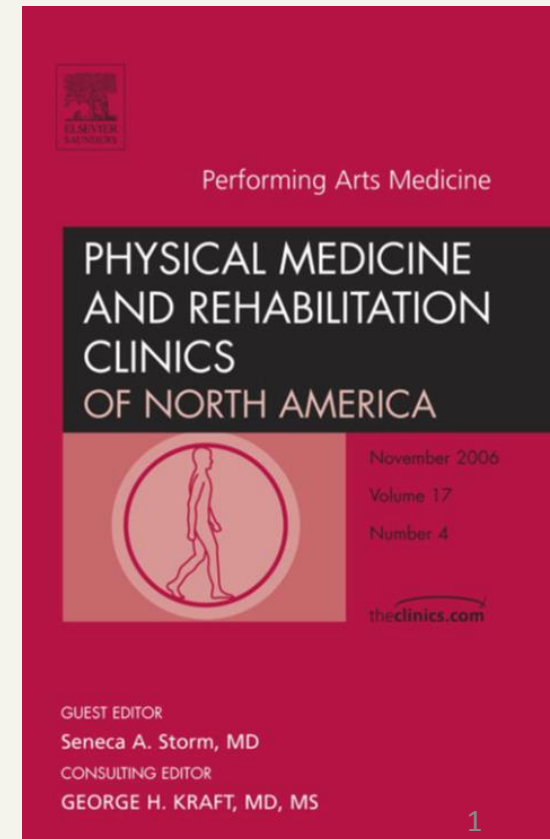


An Osteopathic Approach to the Injured Instrumentalist Lab

David Shoup, D.O., AOBNMM
Clinical Associate Professor
Midwestern University, AZCOM



Traditional Medical Approaches to the Performing Artist

- The incidence of performance-related musculoskeletal injuries in musicians, at some point in their career, has been noted to be 60 - 70% [2–9].
- Traditional medical treatment, including physical or occupational therapy, medications, and surgery, may be beneficial in some performing arts injuries.
- These interventions, however, may be insufficient for full restoration of health and motion to the injured area.
- Performing artists require near perfect function of the musculoskeletal system to meet the high demands of performance.

Osteopathic Approach

- An osteopathic approach to the performing artist considers all possible causes of the injury and requires a rational, and often, multi-disciplined treatment plan.
- It may be necessary to use medications, physical therapy, and occasionally surgical procedures.
- An osteopathic approach, also may require behavior or lifestyle modifications, good practice habits, proper nutrition, vitamins and supplements, osteopathic manipulation, and perhaps alternative medicine modalities such as yoga, Tai Chi, deep muscle massage, or rolfing.
- Osteopathic manipulation is one of the most essential tools an osteopathic physician possesses in the treatment of performing artists. An expanded discussion of specific osteopathic manipulative techniques applied the performing artist follows.

Occupation History for the Musician

- Pertinent details include
 - Hours spent playing per day and per week average
 - Intensity of playing per day
 - Any recent increases in playing
 - Other hobbies or interests which may contribute to overuse of the involved region (computer, texting, repetitive tasks)
 - Occupational (music or otherwise) extremity usage
 - Frequency of breaks or rest periods
 - Frequency of cardiovascular or stretching exercise

Structural Examination

- A routine osteopathic examination is performed.
- Special attention is focused on instrument specific problem areas.
- The physician observes and palpates for areas of tension while the musician is playing. Inappropriate areas of tension will be obvious to the osteopathic physician even without full knowledge of proper instrument technique.

Structural Examination

Observe for the Following

- A seated musician should be sitting erect on the Ischial Tuberosities, head should be over the hips, neutral spinal position, not leaning forward or back.
- Normal lumbar lordosis/thoracic kyphosis should be present.
- Shoulders should be neutral, not elevated or forward.
- Shoulder should not be overly abducted (which can lead to Supraspinatus strain).
- Neck should be close to a neutral position.
- Wrist and elbow should be relaxed and in as close to neutral positions as possible.
- Fiddle/Piano Demo: playing relaxed rather than tight, tense, or strained.

Structural Examination

Palpate for the Following

- Forward posturing dysfunctions
 - Internally rotated Humerus
 - Protracted Scapula with associated fascial restrictions
 - Sternoclavicular joint tenderness
 - Elevation of shoulders, Anterior/Middle Scalene contraction
 - 1st rib elevation
 - Pectoralis Minor contraction

Greenman Upper Quarter Syndrome Findings

Palpate for the Following [\[13\]](#)

- Hypertonic upper Trapezius, SCM, Levator Scapula Muscles, Scalenes, and Latissimus Dorsi
- Inhibited/weak Rhomboids, lower Trapezius, and Serratus Anterior Muscles
- Inhibited/weak forearm extensors, hypertonic forearm flexors
- Strong hand grip strength, but weak hand extensors

Common Counterstrain Tenderpoints

(Often Correlated to Greenman's Hypertonic Muscles)

- Look for the following tenderpoints:
 - Supraspinatus
 - Subdeltoid Bursa
 - Levator Scapula
 - Trapezius
 - Supinator
 - Lateral Epicondyle
 - Adductor Pollicis (1st CMC) and 1st MCP
 - Dorsal Interossei

Fascial Restrictions

- Could occur anywhere but commonly seen areas include:
 - Supraclavicular/Cervical fascia
 - Pectoralis fascia
 - Scapulothoracic fascia
 - Forearm fascia
 - Interosseous Membrane of the forearm

Osteopathic Manipulative Treatment (OMT)

- Generally the choice of technique is at the osteopathic physicians discretion.
- Direct techniques may be more efficacious for chronic problems and indirect for acute problems.
 - Direct techniques require placement of the dysfunctional area of the patient into the barrier of motion (direction of joint restriction or tightness). Indirect techniques place the dysfunctional region into the direction of ease or freedom of motion.
 - Indirect techniques are particularly useful for acute injuries.

Osteopathic Manipulative Treatment (Continued)

- Common direct techniques include high-velocity low-amplitude, articulatory, soft tissue mobilization, and muscle energy modalities.
- Common indirect techniques include Counterstrain and myofascial release modalities.
- Other useful techniques include cranial manipulation, facilitated positional release, Still technique, functional technique, ligamentous articular release, and balanced ligamentous tension.

High Velocity Low Amplitude

- High velocity low amplitude (HVLA) involves moving a dysfunctional joint into its restrictive barrier and then adding a short and gentle impulse or thrust through the restrictive barrier to restore physiologic, normal range of motion [1]. Chiropractic manipulation commonly is thought to be this form of manipulation, although chiropractic manipulation is not limited to thrusting techniques. Even the word manipulation is associated commonly with this technique, however, HVLA is only one of many modalities of manipulation.
- In treating the performing artist, HVLA is useful for chronic joint dysfunctions, where restriction of the joint results in pain or lack of mobility which limits the musician's ROM during playing.

High Velocity Low Amplitude (Continued)

- Musicians often have joint restriction in the cervical, thoracic, and lumbar spine because of the prolonged static holding of the instrument and the long periods spent playing in relatively stationary or seated positions. In addition, chronic problems of the wrist and hand often exhibit restricted joint motion.
- Dancers more commonly have joint restrictions and dysfunction of the feet, ankles, and knees.
- HVLA is applied with care in the extremities.

Steps for Performing HVLA

- Somatic dysfunction or restriction of motion in a joint is diagnosed.
- Soft tissues are treated first to relax them.
- A fulcrum, usually created by the physician's hand, contacts the dysfunctional joint to be treated.
- The dysfunctional segment or joint is positioned to the barrier in multiple planes of motion while maintaining a firm fulcrum.
- Respiratory cooperation or other distracters may be used to help relax the patient.
- A HVLA thrust is delivered against the segment by the physician's hand, thus moving the segment through the pathologic barrier and restoring physiologic motion.
- The segment is returned to neutral, and the motion is reassessed.

Articulatory Technique

- The articulatory technique involves slowly and repeatedly moving a restricted joint to the barrier of motion (into the direction of the restriction).
- This direct treatment helps to restore motion in a joint by stretching tight muscles, joint capsules, fascia, and ligaments that may be contributing to joint restriction [1].
- This approach is considered a low-velocity, high-amplitude technique (LVHA).
- Articulatory techniques are especially useful in mobilizing restricted shoulder, wrist, and finger joints in the performing artist.

Soft Tissue Mobilization

- This is performed to stretch muscles and fascia. Palpation simultaneously diagnoses the dysfunction, monitors the tissue response, and treats the restricted tissue.
- Lateral stretching, linear stretching, deep pressure, traction, and separation of muscle origin and insertion are all aspects of this technique.
- Treatment effects include relaxing hypertonic muscles, stretching passive fascial structures, enhancing circulation, improving local tissue nutrition, and facilitating removal of metabolic wastes [1].
- The patient should be as comfortable as possible and remain passive during the treatment.
- Soft tissue mobilization is especially useful for the musician who suffers from muscle tightness in the neck and upper back involving muscles such as the Scalenes, Levator Scapula, and Trapezius.

Muscle Energy Technique

- Muscle energy technique (MET) is used to stretch hypertonic muscles.
- The physician treats the hypertonic muscle by stretching the patient's muscle to the restrictive barrier. Then the patient is asked to exert an isometric counterforce (contraction of a muscle against resistance while maintaining constant muscle length) away from the barrier while the physician holds the patient in the stretched position. Immediately after the contraction, the neuromuscular unit is in a refractory or inhibited state, during which a passive stretch of the muscle may occur to a new restrictive barrier [\[10\]](#).

Muscle Energy Technique

- This process is repeated several times, increasing range of motion of the joint and lengthening of the hypertonic muscle.
- MET may balance the discrepancy between the inhibited muscles and hypertonic muscles.
- Muscle energy is useful in stretching Greenman's hypertonic muscles of the upper quarter which include the upper Trapezius, SCM, Levator Scapula, forearm flexors, Latissimus Dorsi, and Pectoralis muscles, as well as the pronators/supinators of the forearm.

Muscle Energy Technique

- Musicians often have poor flexibility in postural muscles (these are Greenman's hypertonic muscles), which can lead to muscle strain and spasm.
- Lack of physical exercise and appropriate stretching programs may cause an imbalance between agonist and antagonist muscles with weak/hypertonic pairs.

Steps for Performing MET

- A specific diagnosis is made determining the planes of restricted motion.
- The restricted barrier is engaged in all planes, fully stretching the hypertonic muscle.
- The patient is instructed to contract the muscle against the physician's isometric counter-force, trying to return to a neutral position.
- The isometric contraction is held for 3 to 5 seconds.
- The patient relaxes for approximately 2 seconds.
- The new barrier is engaged by further stretch of the muscle.
- The process is repeated three to five times. The patient's response is assessed throughout.

Counterstrain

- Counterstrain (CS) is an indirect technique that reduces hypertonicity by resetting muscle tone accomplished by facilitating down-regulation of the feedback loop from the spinal cord to the muscle.
- To treat a muscle in spasm, the patient is placed into the direction of ease or position of comfort. This shortens the muscle that is hypertonic and allows reflex relaxation [\[11\]](#).
- It is used often in conjunction with MET to enhance relaxation prior to stretching it.
- Counterstrain can treat performing artists with acute overuse injuries to help provide immediate relief of pain. This is extremely valuable for performing artists with demanding performance schedules who may not be able to rest. Counterstrain is also useful to treat long-standing chronic muscle hypertonicity that is resistant to stretching and other treatment.

Steps in Performing Counterstrain

- The tenderpoint is located on the patient by firm palpation. Many of these are named according to their location and muscle involvement [\[11\]](#).
- The patient is placed in a position of ease or comfort, whereby the distance between the muscle's origin and insertion is shortened.
- The patient's tenderpoint is palpated with the same firm pressure as the initial assessment. The physician inquires about relative tenderness in the treatment position as compared with the initial tenderness.
- The patient's position is adjusted and fine-tuned until the tenderness is reduced to less than one-third of its initial tenderness (i.e. two-thirds improvement in overall tenderness).
- The position is held for at least 90 seconds.
- Then, the patient is returned a neutral position slowly and passively.
- The patient's tenderpoint is retested. The tenderness should be decreased markedly from the initial pain level, thus giving the patient immediate relief. The tissue should be palpably softer.

Myofascial Release

- Myofascial release treats fascial and other soft tissue restrictions.
- Direct myofascial release takes the tissue into the restrictive barrier or in a direction of increased tissue tension and applies forces to stretch the tissue and increase its length.
- Indirect myofascial release brings the tissue into the direction of balanced tissue tension where it is free of restriction. The tissue is held until the tissue begins to release [\[1\]](#). As it releases, the balance point is followed until normal motion is restored.
- Multiple planes of motion of the tissue are engaged/disengaged such as anterior/posterior translation, clockwise/counterclockwise rotation, superior/inferior translation, and medial/lateral translation.
- Its use in performing artists extends to any fascial restriction in the body, but it is especially useful in upper extremity dysfunctions where loss of normal motion has occurred.

Osteopathic Manipulative Treatments for Common Performance Related Musculoskeletal Problems

- The choice of the most appropriate osteopathic manipulative treatment for the performing artist depends on the injury and on the expertise of the practitioner.
- Often, several manipulative modalities are combined to obtain the most efficacious results.
- The following are technique examples for the more common problems encountered in the performing artist. This does not serve as an all-inclusive treatment list, but rather a sampling of possible techniques for specific injuries.

Common Musculoskeletal Problems

- Hand or forearm pain
 - Tendinitis or muscle strain of the hand, wrist, or forearm
 - Tendinitis, strain, or arthritis of the thumb
 - Carpal tunnel syndrome
 - Lateral epicondylitis
- Shoulder pain
 - Bursitis
 - Frozen shoulder/adhesive capsulitis/impingement
 - Tendinitis, strain

Common Musculoskeletal Problems Continued

- Muscle strain or hypertonicity
 - Trapezius
 - Supraspinatus
 - Pectoral
 - Levator Scapula
 - Latissimus Muscles
- Neck strain/sprain
- Consider treatment of other muscles such as Scalenes.

Tendinitis or Muscle Strain of the Hand, Wrist, or Forearm

- Musicians, particularly string and piano players, are susceptible to tendinitis or muscle strain of the hand and forearm [8]. Because of the repetitive nature of instrument playing, overuse is common, and recovery is slow. Muscle energy, Counterstrain, and myofascial release help to restore muscle and tissue balance and improve joint mobility.
- Muscle energy treatment of the hand can be performed on any restricted muscle or joint. The joint is positioned at the restrictive barrier, and muscle energy principles are applied.

Finger, Thumb, and Wrist Counterstrain

- Counterstrain can be used for treating the muscles of the hand by folding a finger, for example, around a tenderpoint, thereby shortening the muscle, decreasing the distance between origin and insertion, and applying Counterstrain principles.



Counterstrain

- Dorsal Interossei
 - Location: On the dorsal surface of the shafts of the metacarpal bones.
 - Indication: Strain or tendinitis of the dorsal hand.
 - Treatment: Extend the affected finger and adduct or abduct toward the tenderpoint.
 - Treat using Counterstrain principles.



Counterstrain

- Opponens Pollicis (1st CMC and MCP joints)
 - Indication: Muscle strain or pain at the base of the thumb.
 - Location: At the base of the 1st metacarpal and carpal-metacarpal joints on the palmar surface of the hand.
 - Treatment: Flex the wrist and thumb and while keeping the thumb adducted, adding compression through the thumb.



Wrist Articulatory

- Indication: Chronic wrist joint restrictions causing hand pain.
- Treatment:
 - Place your hands on either side of the patient's hand while the arm is pronated.
 - Place your thumbs on the dorsal aspect of the carpal bones.
 - Test motion in flexion/extension, abduction/adduction, and circumduction gliding.
 - Apply traction to the wrist to gap the carpal joints by leaning backward slightly
 - Move slowly and repetitively into the barrier of motion until joint motion improves. There may be audible joint articulations.



Carpal Tunnel Syndrome

- Opponen's Roll
 - Hold the thumb with one hand and medial wrist with your other hand, placing your thumbs over the Pisiform and hook of the Hamate
 - Externally rotate and abduct the patient's thumb, while stretching the flexor retinaculum and gapping the proximal carpal bones.
 - Extend the wrist slightly and apply traction as you hold the stretch for a few seconds and release.
 - Repeat several times.



Forearm Counterstrain

- Extensors of the hand and wrist
 - Location: In the extensor muscles of the forearm from the belly to the lateral epicondyle.
 - Indication: Lateral epicondylitis, forearm extensor muscle tendinitis/strain.
 - Treatment:
 - Extend the fingers and wrist. Fine-tune with supination or pronation of the forearm.
 - Treat using Counterstrain principles.



Forearm Counterstrain

- Flexors of the hand and wrist
 - Location: In the flexor muscles of the forearm from the belly to the medial epicondyle.
 - Indication: Medial epicondylitis, forearm muscle tendinitis/strain/hypertonicity.
 - Treatment:
 - Flex the wrist to about 90 degrees and the elbow to about 140 degrees (gooseneck position). Fine-tune with supination or pronation of the forearm.
 - Treat using Counterstrain principles.



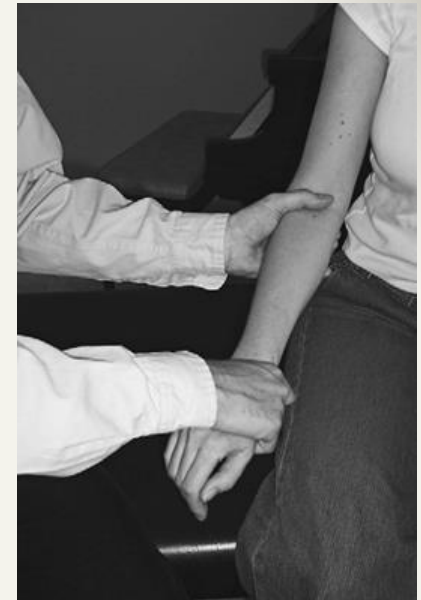
Forearm Muscle Energy

- Wrist Flexor Dysfunction:
 - ME may be effective in treating hypertonic muscles especially of the wrist flexors, and for lateral or medial epicondylitis.
 - For example, a wrist that is restricted in extension (or exhibits tight flexor muscles of the forearm) is stretched to the barrier of motion.
 - The patient is instructed to contract his flexor muscles against the physician's holding force (isometric contraction) for 3-5 seconds.
 - The patient then relaxes for approximately 2 seconds. Then the physician stretches the wrist to the new extension barrier and repeats the process 3-5 more times.
 - Wrist extensors can be treated similarly by flexing the wrist and having the patient push back to neutral.



Pronation and Supination Forearm Restrictions

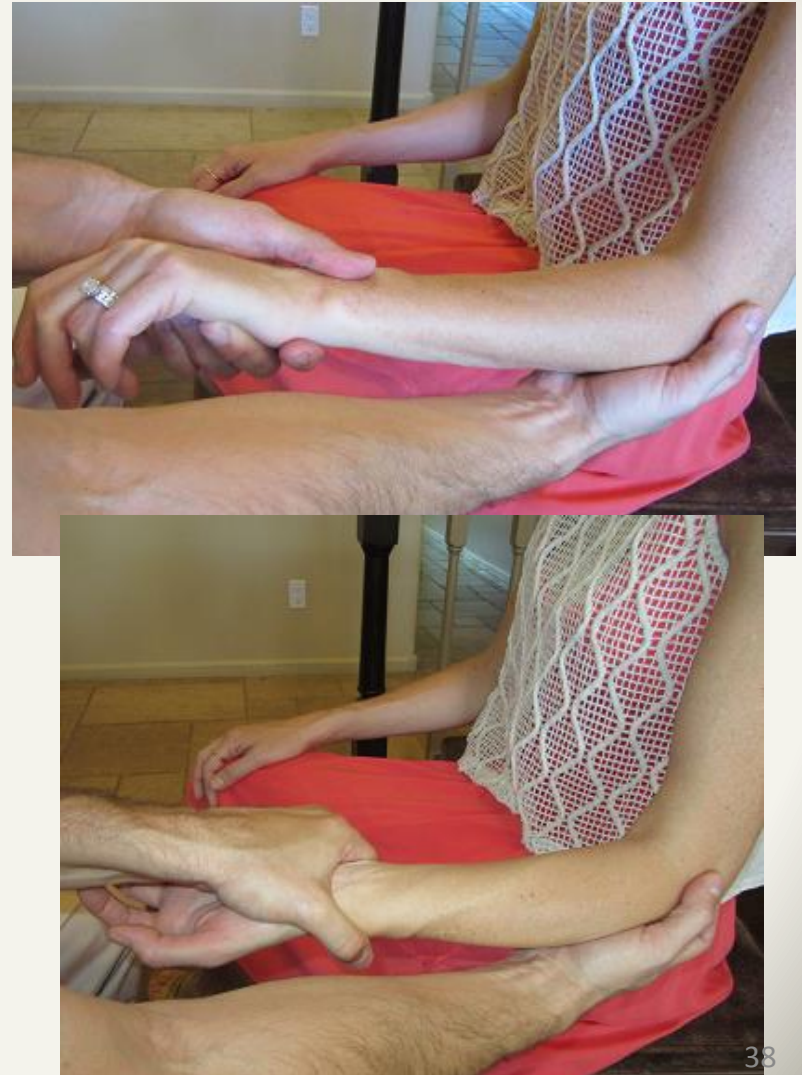
- Myofascial release (MFR) direct can be useful to relax and loosen muscle and fascial restrictions.
 - Direct myofascial release of the forearm is performed by grasping the forearm with one hand at the elbow and the other hand at the wrist.
 - After motion testing, the forearm then is stretched into the direction of restriction either pronation or supination, holding each position for a minute or two until the tissue begins to release.
 - Other vectors of force, such as a slight traction or compression, may be added at the wrist.



Pronation and Supination Forearm Restrictions

- ME of the Forearm

- Positioning similar to MFR. Stabilize the affected elbow with one hand and grasp the patient's wrist with your other hand.
- After testing ROM, move the forearm into the direction of most restriction either pronation or supination.
- Once at the barrier, have the patient turn back toward neutral as you apply the principles of ME.



Shoulder Pain

Adhesive Capsulitis, Impingement, Bursitis, Strain

- Impingement of the shoulder may be caused by adhesive capsulitis, Supraspinatus tendinitis, or shoulder bursitis. These problems often occur from repetitive use following the strain of prolonged playing. Because pain and decreased range of motion are the primary symptoms, myofascial release, Counterstrain, and muscle energy techniques are the most useful. Usually abduction and external and internal rotation are limited.

Shoulder Pain

- This problem often occurs in the right shoulder of string players because of movements of the bowing arm, although it is possible for any performing artist to develop a shoulder injury.



Shoulder Bursa

Counterstrain of Subdeltoid Tenderpoint

- Location: Under the acromion process high on the anterolateral humerus while the arm is abducted slightly.
- Indication: Bursitis of the shoulder.
- Treatment:
 - With the patient supine, the physician places the patient's shoulder into 90 degrees of abduction with 30 degrees of forward flexion (the Statue of Liberty position).
 - Treat using Counterstrain principles.



Adhesive Capsulitis or Impingement

ME Treatment for Ext/Int Rotation Restriction

- Restriction of shoulder motion can be treated effectively using ME by engaging the barrier of one of the restricted planes of motion. The technique should be implemented to patient tolerance.
- Technique: For restriction in external rotation, the patient's arm is positioned to approximately 90 degrees shoulder abduction with 90 degrees of elbow flexion. The physician supports the patient's wrist and elbow. The shoulder then is positioned at the external rotation barrier. The patient is instructed to push his or her wrist forward against the physician's holding force (isometric contraction) for 3 to 5 seconds. Apply the remainder of steps in the muscle energy protocol until joint motion is improved.



Adhesive Capsulitis or Impingement

ME Treatment for External/Internal Rotation Restriction

- Technique: For restriction in internal rotation, the patient's arm is positioned to approximately 90 degrees shoulder abduction with 90 degrees of elbow flexion. The physician supports the patient's wrist and elbow. The shoulder then is positioned at the internal rotation barrier. The patient is instructed to push his or her wrist forward against the physician's holding force (isometric contraction) for 3 to 5 seconds. Apply the remainder of steps in the muscle energy protocol until joint motion is improved.

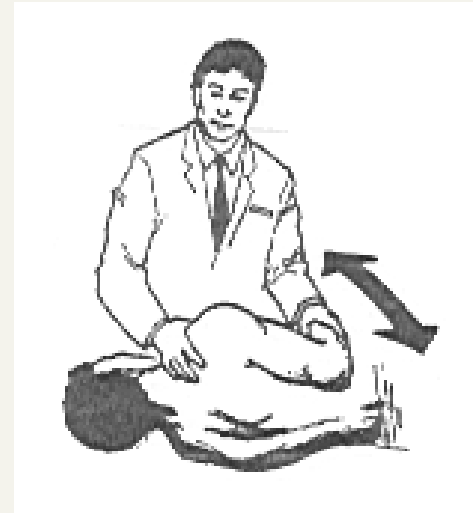


Adhesive Capsulitis or Impingement

Spencer's Articulatory Treatment

- The Spencer Technique can be used for evaluation of passive range of motion and then for subsequent treatment. The patient is lying on their side with the involved shoulder up. Physician is facing the patient stabilizing the clavicle and scapula. There are seven stages of treatment which put the shoulder through all major ranges of motion (**except external rotation**). Each stage is repeated several times in a direct articulatory fashion until free range of motion is obtained. This technique is useful for problems of the shoulder resulting in decreased range of motion. Although the order of stages is not crucial for success, each stage generally progresses to more complex shoulder motions that may become painful.

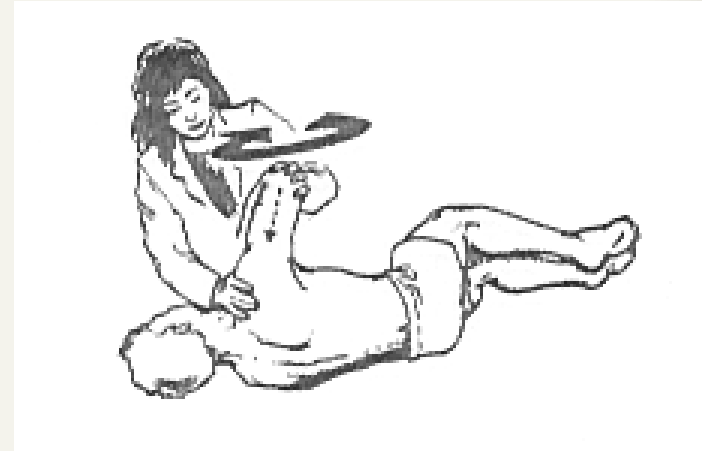
- Stage 1 - **Extension** of GH joint, elbow flexed. Physician flexes patient's elbow and extends shoulder joint. “Hi how are you today?”



- Stage 2 - **Flexion** of GH joint, elbow extended. Physician extends patient's elbow and flexes shoulder. “Let’s go over there and get an ice cream.”



- Stage 3 - **Circumduction** of GH joint, elbow flexed. Shoulder 90 degrees abduction, elbow flexed pointing at the ceiling, circumduct in small circles, clockwise and counter-clockwise, with slight compression downward through the elbow. “You can have the little cone.”



- Stage 4 - **Circumduction** of GH joint, elbow extended. Shoulder 90 degrees abduction, elbow extended, circumduct and increase arc of motion as tolerated, clockwise and counter-clockwise, with gentle traction of the arm toward the ceiling. “I’ll have the BIG cone!”



- Stage 5 - **Abduction** of GH joint. Shoulder 90 degrees abduction, elbow flexed; physician's cephalad hand stabilizes scapula and clavicle, other hand on elbow. Patient's hand draped over the physician's elbow of the cephalad arm, as physician introduces further abduction at the GH joint. "The big cone is mine you chicken."



- Stage 6 - **Internal Rotation** of GH joint. Shoulder internally rotated, elbow flexed, hand behind back. Physician further internally rotates GH joint by pulling elbow forward. "Ohhh, so you want to fight over it?"



- Stage 7 - **Lateral Traction/ Distraction** of GH joint. Elbow extended, wrist supported on physician's shoulder. Physician grasps the deltoid area just distal to patients GH joint with both hands. The physician then applies a traction/ distraction force at the GH joint. “Ahhhh I’ll share, let’s be friends!”



Shoulder Pain with Limited Scapulothoracic Motion Scapular Myofascial Release

- The patient lies on his side with the affected side up.
- The patient's hips and knees are flexed (for stability) and a pillow is placed under his head for comfort.
- The physician stands along side the table facing the patient.
- Drape the patient's arm over your caudad forearm.
- Introduce the fingertips of both hands under the medial border of the scapula.
- Control the scapula with both hands and gently assess its full range of motion (medial/lateral glide, superior/inferior glide, clockwise/counterclockwise rotation). Keep in mind the muscular restrictions that would cause a loss of motion.

- Restrictions in motion can be relieved by:
 - Holding against a barrier with traction. (Direct Myofascial Release)
 - Holding in a position of ease. (Indirect Myofascial Release) Follow the unwind.
 - Range of motion/stretching or vibrating against the barrier. (Articulatory Technique)
- Reassess the S-T motion and treat remaining restrictions



Muscle Strain of the Trapezius and Supraspinatus Muscles

- These closely associated muscles are strained commonly in performing artists. For the musician, holding the static weight of the instrument or repetitive motions from playing may cause hypertonicity or strain in these muscles. Following relaxation of the muscle by Counterstrain, MET may be used to stretch the muscles and improve range of motion.

- **Supraspinatus Counterstrain Treatment**

- Location: Found by palpating the Supraspinatus fossa for tenderness.
- Treatment: With the patient supine, the physician adds 45 degrees of flexion, abduction, and external rotation of the arm. Fine-tune with more flexion in needed. Use Counterstrain treatment principles to complete the treatment.



- **Trapezius Counterstrain Treatment**

- Location: In the fibers of the upper Trapezius that the junction of the neck and shoulder.
- Treatment: Sidebend the neck toward the tenderpoint. Flex the shoulder to about 170 degrees. Add traction cephalad. Apply Counterstrain principles.



Mid-Lower Trapezius and Rhomboid

Retraining Home Exercise for Inhibited Muscles

- Initially position the arms straight down, elbows bent to 90 degrees, and palms facing upward.
- Externally rotate the arms such that the palms move laterally.
- While doing this, bring the scapula downward and medial by contracting the mid-lower Trap and Rhomboid.
- Avoid contraction of the upper Trapezius.



“I Ain’t Got
No Money!”



Pectoralis Muscle Hypertonicity

MFR [12]

- Grasp the patient's arm with both hands.
- Abduct the arm using the UE as a lever to obtain a stretch into the Pectoralis muscles.
- Hold stretch until the tissue lengthens and reassess.



Latissimus Dorsi Hypertonicity Length Test and Manual Stretching [13]

- Length Test: Patient is supine with arms fully flexed. The side of more restriction will have decreased flexion.
- Manual Stretch: Pull both arms further into flexion to the barrier. Apply ME principles to stretch the Latissimus.



Levator Scapula Counterstrain [14]

- Location: At the superior medial angle of the Scapula.
- Position: Patient supine and neck sidebent to the side of the tenderpoint. With the elbow flexed, apply a cephalad force through the shaft of the Humerus to elevate the Scapula.
- Treat using Counterstrain principles.



Neck pain and Restriction of Motion Caused by Muscle Hypertonicity

- Neck pain is a common musculoskeletal complaint in the performing artist. Often this is because of the strain caused from static positioning during long hours of practicing. Violinists and violists in particular may develop neck strain from the static load of their instrument held between the shoulder and chin. Osteopathic techniques are used to restore range of motion of the cervical spine with such techniques as HVLA, CS (to relax tight muscles), muscle energy technique (to reduce hypertonicity), and myofascial release (to decrease muscle and fascial restriction).

Neck Pain/Strain - MFR Treatment

- Suboccipital Release

- A simple and effective way of releasing strained muscles and restricted fascia in the cervical spine is by the suboccipital release.
- With the patient supine and the physician seated at the head of the table, the physician contacts the soft tissue at the base of the Occiput with the pads of the fingers.
- Traction is added in an antero–cephalad direction.
- As the tissues begin to relax, the pressure continues to be exerted in a cephalad direction.
- The traction is continued for a few minutes until a release or softening of the suboccipital tissues is obtained.



Final Comments Regarding an Osteopathic Manipulative Treatment

- Often, there are several musculoskeletal problems coexisting in the performing artist. In other words, muscle spasm in the upper back may lead to muscle strain in the neck and later contribute to tendinitis in the forearm or hand. A single, initial problem may evolve into a more complicated presentation with multiple regions involved. A thorough osteopathic physical examination requires a comprehensive structural examination from head to toe with emphasis on the area of pain and on other contributory dysfunctions.
- An osteopathic manipulative treatment usually involves attention to all areas of major dysfunction. This may involve using a combination of osteopathic techniques, requiring meaningful patient interaction. Most osteopathic physicians who specialize in osteopathic manipulation spend at least 30 minutes with their patients. This attention to details is appreciated by the patient and is often necessary to obtain lasting improvement.

References

- [1] Ward RC, Hrubby RJ, Jerome JA, et al. Foundations for osteopathic medicine. Philadelphia: Lippincott Williams and Wilkins; 2003.
- [2] Fishbein M, Middlestadt SE, et al. Medical problems among ICSOM musicians: overview of a national survey. *Med Problem Perform Art* 1988;3:1.
- [3] Middlestadt SE, Fishbein M. The prevalence of severe musculoskeletal problems among male and female symphony orchestra string players. *Med Probl Perform Art* 1989;4:1.
- [4] Fry HJH. Incidence of overuse syndrome in the symphony orchestra. *Med Probl Perform Art* 1986;1:2.
- [5] Fry HJH. Prevalence of overuse (injury) in Australian music schools. *Br J Ind Med* 1987;44:35–40.
- [6] Caldron PH, Calabrese LH, Clough JD, et al. A survey of musculoskeletal problems encountered in high-level musicians. *Med Problem Perform Art* 1986;1:4.
- [7] Newmark J, Lederman R. Practice doesn't necessarily make perfect: incidence of overuse syndromes in amateur instrumentalists. *Med Problem Perform Art* 1987;2:4.
- [8] Manchester RA. The incidence of hand problems in music students. *Med Problem Perform Art* 1988;3:1.
- [9] Shoup D. Survey of performance related problems among high school and junior high school musicians. *Med Problem Perform Art* 1995;10:3.
- [10] Mitchell F. The muscle energy manual. Volume 1. East Lansing (MI): Met Press; 1995.
- [11] Jones L. Jones Strain–Counterstrain. Boise (ID): Jones Strain–Counterstrain, Incorporated; 1995.
- [12] Posch, Michael. An Osteopathic Approach to the Injured Pianist.
- [13] Greenman, Phillip. Greenman's Principles of Manual Medicine.
- [14] Myers, Harmon. Clinical Application of Counterstrain.