Dimensional Massage Therapy Techniques for Soft-tissue Conditions of the Elbow and Radioulnar Joints, Hand and Wrist

AMTA National Convention

Date: Wednesday September 17, 2014

Place: Denver, CO

By

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# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syllabus</td>
<td>Pages 4-7</td>
</tr>
<tr>
<td>Shoulder Girdle Muscles</td>
<td>Page 8</td>
</tr>
<tr>
<td>Glenohumeral Joint Muscles</td>
<td>Page 9</td>
</tr>
<tr>
<td>Radio-ulnar and Elbow Joint Muscles</td>
<td>Page 10</td>
</tr>
<tr>
<td>Anatomy, Palpation, Exam Procedures</td>
<td>Pages 11-15</td>
</tr>
<tr>
<td>Postural Abnormalities</td>
<td>Pages 16-20</td>
</tr>
<tr>
<td>Short Upper Arms</td>
<td>Page 21</td>
</tr>
<tr>
<td>Repetitive Action Injuries</td>
<td>Pages 22-23</td>
</tr>
<tr>
<td>Dimensional Massage Therapy</td>
<td>Page 24</td>
</tr>
<tr>
<td>Neck and Shoulder Techniques Supine</td>
<td>Page 25-30</td>
</tr>
<tr>
<td>Supine Chest and Upper Extremity Techniques</td>
<td>Pages 30-32</td>
</tr>
<tr>
<td>Forearm Techniques</td>
<td>Pages 33-35</td>
</tr>
<tr>
<td>Forearm, Hand, and Wrist Muscles</td>
<td>Pages 36-38</td>
</tr>
<tr>
<td>Hand and Wrist Techniques</td>
<td>Pages 39-45</td>
</tr>
<tr>
<td>Bibliography</td>
<td>Pages 46-47</td>
</tr>
</tbody>
</table>
Course Description:

The body is all connected. It has depth, width, and length. The joints in the body provide a network of anatomical structures designed for regular use. Repetitive actions cause a constant torque on our guy-wire tendons and muscles that enable our joints to function. How many of your clients have repetitive action conditions of the forearm, hand and wrist? Consider a Dimensional approach to this vast area of concern! In this workshop participants will explore, evaluate and treat a variety of common difficult conditions affecting the forearm region. Nancy will lecture on the skeletal and neurological anatomy of the upper extremity, with particular emphasis on the brachial plexus and its distal destinations. She will also address the specific etiologies, signs, symptoms and massage treatments related to the pathologies of these areas. She will demonstrate hands-on evaluation techniques designed to assess the pathologies discussed. Special attention will be given to discuss the history and exam findings that would warrant health professional referral. Nancy will provide by lecture and power point review of the muscles and soft tissue structures of the arm and forearm. She will discuss trigger points, and referred pain patterns and repetitive actions that affect the arm, forearm, hand and wrist. Nancy will demonstrate techniques used in Dimensional Massage Therapy and provide supervision for hands-on practice by participants. Dimensional Massage Therapy techniques are deep tissue strokes and methods that have been designed to balance joints by working on all the muscles that produce, assist in, or oppose the actions of, or stabilize the joints. They include a wide variety of dual-hand techniques, elliptical movement of soft tissues, active engagement techniques and determining the appropriate sequence for forearm, wrist, or hand conditions. Careful attention will be given to the execution of these techniques, specific muscles and their idiosyncrasies, and to the individual structure of the receiving person on the table. Good body mechanics and safe use of the hands and wrists will be emphasized. Tables and minimal lubrication are required for the hands-on exchange.

Nancy W. Dail, BA, LMT, NCTMB has been a professional practicing massage therapist and AMTA member since 1974. She is the founder and director of the Downeast School of Massage in Waldoboro, Maine (USA) (1980). A leader in her field, Nancy presents workshops internationally, is certified in Orthopedic and Sports Massage, and has developed the working philosophy of Dimensional Massage Therapy as lead author in *Kinesiology for Manual Therapies* published by McGraw-Hill. Her BA in Health, Arts, and Science from Goddard College helps her balance her administrative
duties as Director with teaching Dimensional Massage Therapy, Advanced Skills, Kinesiology, Ethics and related subjects at DSM.

Course Objectives:

1. To provide a close examination of the muscular, skeletal and neurological structures of the upper extremity focusing on the elbow and radio-ulnar joint, as well as the forearm, hand, and wrist.
2. To review pathologies and conditions affecting the elbow joint, radio-ulnar joint, hand and wrist.
3. To discuss historical considerations of aspects of disorders that would warrant clinical referral.
4. To take a critical look at how posture and repetitive holding patterns affect the muscles of the upper extremities.
5. To provide a hands-on physical assessment
6. To review trigger points and referred pain patterns of the muscles of the elbow joint and radio-ulnar joints as contributing to lateral epicondylitis and other repetitive action conditions of the hand and wrist.
7. To discuss an appropriate Medical History Questionnaire.
8. To demonstrate Dimensional Massage Therapy Techniques and practice the techniques under supervision.
9. To explore ways to critically think about sequences, muscles, and techniques.
10. To answer questions in relation to the workshop.
11. To provide a Bibliography for additional reading and study.

Outline:

Date: September 17, 2014  8 hours  8AM-12PM

I. Introduction - Overview of the workshop

II. Postural Assessment of Elbow, Forearm, Wrist, and Fingers
   A. Short upper arms and ramifications
   B. Protracted shoulders
   C. Head forward posture
   D. Upper cross syndrome

III. Repetitive action injuries of the upper extremities – an overview
   A. Lateral epicondylitis – tennis elbow - facts
   B. Muscles and causes
   C. Clinical and non-clinical solutions
   D. The whole body response
IV. Pathology – Etiology, Pathogenesis, S&S, Diagnosis, Contraindications, Treatment
   A. Common Sprain/Strain
   C. Tendonitis
   D. Tenosynovitis
   E. Tendonosis
   F. Lateral and Medial Epicondylitis
   G. Cubital Tunnel Syndrome
   H. Pronator Teres Syndrome
   I. Double Crush Syndrome
   J. Bicipital Tendonitis
   K. Bursitis

V. Muscle Specifics – Elbow Joint
   A. Origin and Insertions
   B. Trigger points
   C. Pain patterns
   D. Postural perspectives

VI. Exam Procedures
   A. History
   B. Subjective Questionnaires
   C. Exam (lecture then hands-on)
      1. Observation
      2. Palpation – bony landmarks, nerves
      3. Muscle Strength
      4. Orthopedic tests for elbow, wrist and hand
      5. Neurological

VII. Dimensional Massage Therapy – The Philosophy: An Art and Science Mix
   A. Pre and Post Treatment Protocols
      1. Medical History – subjective – include pain scale, objective, assessment, active and passive ROM, plan; SOAP notes for records
      2. Palpation
      3. Passively shorten muscles/ position shoulders and scapula
      4. Work superficial to deep
      5. Release hypertonic muscles
      6. Use dual hand distraction methods when possible
      7. Work individual muscles, their attachments, synergists, stabilizers, and antagonists – study the myotactic unit
      8. Do not overwork and do trigger point work last on passively shortened muscles
   B. First Treatment – What is the treatment goal?
   C. Comfort level – Ice?
   D. Environment
E. Positions

VIII. Dimensional Massage Therapy Techniques – Treatment Adaptability
   A. Reduce hypertonicities
   B. Return tissues to function
   C. Elongate fibers
   D. Types of techniques
   E. Rehabilitation protocol
   F. Techniques for Upper Extremity

IX. Hands On – Dimensional Massage Therapy Techniques for the Elbow Joint

Lunch 12PM-1:00PM

Afternoon Session: 1:00-5:00PM

I. Muscle Specifics – Hand and Wrist
   A. Origin and Insertions
   B. Trigger points
   C. Pain patterns
   D. Postural perspectives

II. Pathology – Etiology, Pathogenesis, S&S, Diagnosis, Contraindications, Treatment
   A. Carpal Tunnel
   B. Common Sprain/Strain
   C. Tendonitis
   D. Tenosynovitis
   E. Tendonosis
   F. Duputren’s Contracture
   M. De Quervain’s Tenosynovitis – Finkelstein’s test
   N. Ganglion Cysts

III. Practical Sessions – Hand and Wrist Techniques
   A. Sequence suggestions for forearm and hand and wrist
   B. Acute, subacute, and chronic – when can I work?
   C. Ice and hydrotherapy questions
   D. Integration with chiropractic, medical and other professional health therapies

IV. Wrap-up, Questions, and Evaluations

Notes:
<table>
<thead>
<tr>
<th>Name of Muscle</th>
<th>Origins</th>
<th>Insertion</th>
<th>Actions</th>
<th>Innervations</th>
</tr>
</thead>
</table>
| Trapezius     | Upper: occiput, ligamentum nuchae  
Middle: spinous processes of C7, T1–T3  
Lower: spinous processes of T4–T12 | Upper: lateral clavicle  
Middle: spine of scapula, acromion  
Lower: root of spine of scapula | Upper: elevation, upward rotation of scapula  
Middle: adduction, elevation, upward rotation  
Lower: depression, upward rotation of scapula, and adduction  
bilateral extension of spine | Accessory nerve (CN XI), branches of C3, C4 |
<p>| Levator scapulae | C1–C4 transverse processes | Vertebral border of scapula (medial) from superior angle to root of spine | Elevation of scapula | Dorsal scapular nerve (C5, C4, and C3) |
| Rhomboid major | T2–T5 spinous processes | Vertebral border of scapula below root of spine | Adduction (retraction), elevation accompanying adduction, downward rotation of scapula | Dorsal scapular nerve (C5) |
| Rhomboid minor | C7, T1 spinous processes | Root of spine of scapula | Same | Same |
| Serratus anterior | Surface of the upper nine ribs at the side of the chest | Anterior aspect of the whole length of the medial border of scapula | Abduction, upward rotation | Long thoracic nerve (C5–C7) |
| Pectoralis minor | Anterior surfaces of the 3rd to 5th ribs | Coracoid process of scapula | Abduction, downward rotation as it abducts, depression from upward rotation | Medial pectoral nerve (C8–T1) |
| Subclavius | Superior aspect of 1st rib at its junction with its costal cartilage | Inferior groove in the midportion of clavicle | Stabilization of sternoclavicular joint, depression; draws clavicle down as shoulders abduct | Nerve fibers from C5 and C6 |</p>
<table>
<thead>
<tr>
<th>Name of Muscle</th>
<th>Origins</th>
<th>Insertion</th>
<th>Actions</th>
<th>Innervations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deltoids</td>
<td>Anterior: lateral 1/3 of clavicle&lt;br&gt; <strong>Middle</strong>: lateral acromion&lt;br&gt; <strong>Posterior</strong>: spine of scapula</td>
<td>Deltoid tuberosity of humerus&lt;br&gt; Same&lt;br&gt; Same</td>
<td><strong>Anterior</strong>: abduction, flexion, horizontal adduction, medial rotation of humerus&lt;br&gt; <strong>Middle</strong>: abduction of humerus to 90 degrees&lt;br&gt; <strong>Posterior</strong>: abduction, extension, horizontal adduction, lateral rotation of humerus</td>
<td>Axillary nerve (C5, C6)</td>
</tr>
<tr>
<td>Rotator cuff:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supraspinatus</td>
<td>Supraspinous fossa of scapula</td>
<td>Superior facet, greater tubercle of humerus</td>
<td>Weak abduction, stabilization of head of humerus to initiate abduction</td>
<td>Suprascapular nerve (C5)</td>
</tr>
<tr>
<td>Infraspinatus</td>
<td>Infraspinous fossa of scapula</td>
<td>Greater tubercle of humerus, middle facet</td>
<td>Lateral rotation, extension of humerus, horizontal abduction</td>
<td>Suprascapular nerve (C5, C6)</td>
</tr>
<tr>
<td>Teres minor</td>
<td>Upper axillary border of scapula</td>
<td>Greater tubercle of humerus, inferior facet</td>
<td>Lateral rotation, extension, horizontal abduction</td>
<td>Axillary nerve (C5, C6)</td>
</tr>
<tr>
<td>Subscapularis</td>
<td>Subscapular fossa of scapula</td>
<td>Lesser tubercle of humerus</td>
<td>Medial rotation of humerus, adduction of arm, extension</td>
<td>Upper and lower subscapular nerve (C5, C6)</td>
</tr>
<tr>
<td>Latissimus dorsi</td>
<td>Thoracolumbar aponeurosis from T7 to iliac crest, lower three or four ribs, inferior angle of scapula</td>
<td>Floor of bicipital groove of humerus</td>
<td>Extension, medial rotation, horizontal abduction, adduction</td>
<td>Thoracodorsal nerve (C6–C8)</td>
</tr>
<tr>
<td>Teres major</td>
<td>Posterior inferior angle of scapula</td>
<td>Medial lip of bicipital groove of humerus</td>
<td>Extension, medial rotation, adduction</td>
<td>Lower subscapular nerve (C5, C6)</td>
</tr>
<tr>
<td>Pectoralis major</td>
<td><strong>Clavicular head</strong>: medial 1/2 of clavicle&lt;br&gt; <strong>Sternal head</strong>: sternum, cartilage of upper six ribs</td>
<td>Lateral lip of bicipital groove of humerus</td>
<td>Clavicular head: medial rotation, horizontal adduction, flexion, abduction (once the arm is abducted 90 degrees, the upper fibers assist in further abduction), adduction (with the arm below 90 degrees of abduction)</td>
<td>Clavicular head: lateral pectoral nerve (C5–C7)</td>
</tr>
<tr>
<td>Coracobrachialis</td>
<td>Coracoid process of scapula</td>
<td>Middle of medial border of humeral shaft</td>
<td>Flexion, adduction, horizontal adduction</td>
<td>Musculocutaneous nerve (C5–C7)</td>
</tr>
<tr>
<td>Name of Muscle</td>
<td>Origins</td>
<td>Insertion</td>
<td>Actions</td>
<td>Innervations</td>
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| Biceps brachii | Short head: coracoid process of scapula  
Long head: supraglenoid tubercle of scapula | Tuberosity of the radius and bicipital aponeurosis (Lacertus fibrosis) | Flexion of elbow, supination of forearm, weak flexion of shoulder joint | Musculocutaneous nerve (C5, C6) |
| Brachialis     | Lower-half anterior shaft of humerus | Coronoid process of ulna | True flexion of elbow | Musculocutaneous nerve and sometimes branches from radial and median nerves (C5, C6) |
| Brachioradialis| Lateral supracondylar ridge of humerus | Styloid process of radius | Flexion of elbow in neutral position, pronation from supinated position, supination from pronated position | Radial nerve (C5, C6) |
| Triceps brachii| Long head: infraglenoid tubercle of scapula  
Lateral head: posterior humerus above spiral groove  
Medial head: posterior humerus below spiral groove | Olecranon process of ulna | Extension of elbow, long head: extension of humerus, adduction and horizontal abduction of shoulder joint | Radial nerve (C7, C8) |
| Anconeus       | Posterior surface of lateral condyle of humerus | Posterior surface of olecranon process of ulna and dorsal surface of ulna | Extension of elbow, contracts with triceps | Radial nerve (C7, C8) |
| Pronator teres | Distal part of medial condylar ridge of humerus and medial side of ulna | Middle third of lateral surface of radius | Pronation of forearm, weak flexion of elbow | Median nerve (C6, C7) |
| Pronator quadratus | Distal fourth of anterior side of ulna | Distal fourth of anterior side of radius | Pronation of forearm | Median nerve (palmar interosseous branch) (C6, C7) |
| Supinator      | Lateral epicondyle ridge of humerus, dorsal surface of ulna | Lateral surface of upper third of radius | Supination of forearm | Radial nerve (C6) |
Treatment Approach differences “My perspective”

Massage therapy treatment is directed towards normalizing soft tissue abnormalities

This can be achieved by techniques designed to restore the proper soft tissue length, tone and nutrition.

Complimentary Integration

Proper joint kinesthetic feedback achieved with proper joint movement helps restore normal soft tissue length, tone and nutrition locally.

Normalized soft tissue length, tone and nutrition help restore proper joint motion therefore proper kinesthetic feedback

Anatomy Shoulder

A. Osteology
   1. Scapula
      a. Acromion Process
      b. Supraspinous Fossa
      c. Spine of Scapula
      d. Infraspinous Fossa
      e. Coracoid process
      f. Superior Angle
      g. Inferior Angle
      h. Glenoid Cavity
      i. Infraglenoid, Supraglenoid Tubercles
      j. Superior, Lateral and Medial Borders
      k. Subscapular Fossa

   2. Humerus
      a. Head of Humerus
      b. Greater Tubercle (superior, middle & inferior facets)
      c. Lesser Tubercle
      d. Deltoid Tuberosity
      e. Bicipital Groove
      f. Medial and Lateral Epicondyles

   3. Clavicle
      a. Sternal end
      b. Acromial end

B. Joints
   1. Glenohumeral Joint
   2. Acromioclavicular Joint
3. Sternoclavicular Joint
4. Scapulothoracic Articulation

C. Bones and Joints of Forearm, Hand and Wrist
1. Ulna – Elbow joint
   a. Olecranon Process
   b. Coronoid Process
2. Radius – Radial – Ulna Joint
   a. Radial Tuberosity
   b. Styloid Process
3. Interosseous Membrane
4. Carpals, Metacarpals, Phalanges
5. Wrist Joint – Metacarpal Phalangeal Joints - Condyloid
6. Carpals – Gliding
7. Phalanges – Hinge (Ginglymus)
8. Thumb – Saddle Joint

D. Neurology
1. Brachial Plexus
2. Radial
3. Axillary
4. Musculocutaneous
5. Median
6. Ulnar

Palpation of Elbow Joint and Radial Ulna Joint Muscles

Biceps – see above – Class Exploration
Brachialis
Triceps
Anconeus
Supinator
Pronator Teres
Brachioradialis
Pronator Quadratus

Palpation of Forearm Hand and Wrist Muscles

Flexors - Class Exploration
Palmaris Longus
Flexor Carpi Radialis
Flexor Carpi Ulnaris
Flexor Digitorum Superficialis
Flexor Digitorum Profundus
Flexor Pollicis Longus
Extensors – Class Exploration
- Extensor Carpi Ulnaris
- Extensor Carpi Radialis Brevis
- Extensor Carpi Radialis Longus
- Extensor Digitorum
- Extensor Indicus
- Extensor Digitii Minimi
- Extensor Pollicis Longus
- Extensor Pollicis Brevis
- Abductor Pollicis Longus

Exam Procedures

A. History
1. Chief Complaint

Onset, Quality (achy, sharp, throbbing, numbness, burning…), Severity (VAS, pain Scale), Timing (duration, frequency), What makes worse/better, Associated manifestations

2. Past & Present Medical History

3. Systems Review / Family History

4. History questioning associated with postural exam

- They generally do not present to you with postural problems as the major complaint
- Was there any Injury if so were there any postures that caused or relieved pain
- Currently are there any postures that cause or relieve pain
- Family history of postural problems e.g. Scoliosis
- Does footwear make a difference?
- Has there been a growth spurt (if a child)
- Any neurological symptoms
- Having a hard time with clothes fitting
- Difficulty breathing e.g. scoliosis
- What's the dominant hand?

B. Observation
1. Determine your dominant eye:

Make a circle with the first fingers and thumbs, then overlap the circles and hold arms out in front of the face and observe an object across the room through the circles with both eyes opened. Close one eye if the object is still in the circle that’s the dominant eye. (Generally the eye you instinctually look into a camera with)
* Attempts should be made to allow dominant eye closest to the center of what's being viewed.

2. Adequately undressed for the areas to be observed

3. No shoes worn initially. You can observe changes in posture with shoes on after.

4. Provide time for the patient to adopt their relaxed posture.

5. Look for asymmetry

6. Note any muscle atrophy, soft tissue swelling, boney enlargement, scars, skin changes

C. Postural Assessment of the Shoulder

1. **Standing Postural Assessment**
   a. **Posterior View: Should be done first!**

   **Position of Head**
   Straight on shoulders, not tilted or rotated

   **Trapezius neck line**
   Equal on both sides
   * slope on the dominant side may be greater

   **Shoulder level**
   Level and should not droop or slump forward
   * slightly lower on the dominant side

   **Scapulae**
   Good alignment, flat against back.

Arm positioning and length - Hanging relaxed at their sides.

Angle of elbow - Slightly bent so that the forearm is slightly anterior to arm.

Palm position - Flat against thighs, hanging at the same distance bilaterally or neutral.

b. **Lateral View:**

   **Ear** - In line with the acromion process, the high point of iliac crest, the midline of the lateral knee joint line and just anterior to the lateral malleolus

   **Position of Head** - Neither flexed nor extended, Eye should have a level view
**Cervical Curve** - Slight reverse C shape

**Shoulders** - Should not droop or slump forward

**Angle of elbow** - Slightly bent so that the forearm is slightly anterior to arm.

**Palm position** - Palms are flat against thighs.

c. **Anterior View:** Helps to provide addition info at the end

**Position of Head** - Straight on shoulders, not tilted or rotated

**Nose** - Tip of the nose is in line with the Sternum and belly button

**Position of Jaw** - Generally lips are close together, teeth are slightly apart

**Trapezius neck line** - Equal on both sides
  * slope on the dominant side may be greater

**Shoulders** - Level and should not droop or slump forward

**Clavicles & A-C joints** - Should be level and symmetrical

**Facial symmetry**
  Note changes of facial expression from side to side

d. **Sitting:**
  Position patient with feet flat on the floor and back is unsupported
  Observation is the same with standing
  Note any changes between sitting and standing postures of the head and neck and shoulders

e. **Forward flexion:**
  Is there asymmetry of the rib cage or spinal musculature?
  Is there any restriction to movement e.g. tight hamstrings?

f. **Supine Lying** - note head neck and shoulder girdle position

g. **Prone Lying** - note head neck and shoulder girdle position

C. **Palpation** - Note the muscle spasm, tenderness, or abnormal bumps. Take careful note of differences from side to side
Postural Abnormalities

A. Postural Abnormalities

1. Normal posture
   - “Posture is a **composite** of the positions of all the joints of the body at any given time.
   - Correct posture is the position in which minimum stress is applied to each joint.

2. Abnormal postures
   **General statements about faulty posture**
   “When muscle imbalances occur some muscles become inhibited and weak, while others become tight. Such imbalances lead to tissue changes that may result in inappropriate patterns of movement”
   Vladimir Janda, MD, DSc

   “Muscle imbalance usually precedes recurrent joint dysfunction.”
   Karel Lewit, MD, PhD

   Muscle imbalances play an important role in the development of musculoskeletal complaints that are presented in clinical practice

   Faulty posture can cause painful conditions, but it can also exist without causing complaints.

   **General statements about faulty posture cont...**

   What usually makes a faulty posture symptomatic no matter whether it is a severe or minimal fault is the constancy of the fault. An individual who has a major postural fault but maintains mobility to the area is more likely to be asymptomatic. Whereas a person even with a minor fault can experience complaints if mobility is limited.

   Cumulative effects of constant or repeated small stresses can give rise to the same difficulties a sudden severe stress

3. Examples of Abnormal Posture
   **Upper crossed syndrome**
This syndrome is based on Dr. Vladimir Janda's pioneering work in researching and understanding the predictable pattern of muscular compensation and postural imbalances in the body. He postulated that faulty movement patterns on a poor postural base contribute to habitual overuse in isolated joints, while they minimize normal movement in others, thus creating a self-perpetuating cycle of dysfunction and eventual injury.

Upper crossed syndrome leads to:

A forward head posture causing strain to the muscular attachments of the shoulder and shoulder blade.

An anterior tilt and abduction (“flaring out”) of the shoulder blades occurs, producing a rounded shoulder appearance.

Due to the rounded shoulder posture, the mechanical axis of rotation of the glenoid fossa (shoulder socket) becomes altered.

The humerus now requires additional stabilization from muscles that typically are quiet:

- Levator scapulae
- Upper trapezius
- Subscapularis
- Pectoralis minor
- Supraspinatus muscles

Postural overdevelopment of these muscles creates a deltoid shear (crossing of rotator cuff under AC joint), leading to a host of shoulder problems including shoulder impingement, tendonitis and bursitis syndromes.

Due to chronic shortening, tightness and weakness in the primary stabilizers of the shoulder (supraspinatus, infraspinatus, teres minor and subscapularis), muscular adhesions and trigger points develop that must be removed before active/passive stretching.
Pathologies cont…

**Upper crossed syndrome cont….**

**Postural examination** tends to reveal:
- A marked anterior head carriage
- Upper cervical hyperextension
- Elevated and protracted shoulders (rounded)
- A hyper-kyphotic thoracic spine

**Other findings:**
- Cervical ranges of motion restrictions with the report of pulling muscular pain elicited at the end ranges
- Thoracic ranges of motion restrictions
- Tender myofascial trigger points were detected in the suboccipital, SCM, levator scapulae, and upper trapezius muscle groups bilaterally

**Treatment:**
- Ultrasound the infraspinatus or subscapularis, depending on the most painful area of palpation and trigger-point referral pattern. Laser therapy also may be used. Typical dose is 170 Joules per point.

- Shoulder-blade retraction exercises for building the serratus anterior/posterior, trapezius and rhomboids, and for restoring scapular stabilization strength.

- Rotator cuff protocol: External rotation (three sets of 12-15 repetitions). Internal rotation not recommended due to the tendency of the subscapularis to become tight and overdeveloped.

- Y, T, W, L Exercises on the stability ball to restore and enhance muscular recruitment patterns.

- Manipulation of the 5th and 6th cervical vertebrae and upper thoracics.

- At-home treatment consists of rest and TENS to control pain. The tennis ball massage technique on the trapezius and infraspinatus (five to seven times per day) is extremely beneficial for breaking up active/latent trigger points. Self myofascial release with foam rollers on the upper back, lower latissimus dorsi, teres major/minor and infraspinatus will accelerate healing.
Lower body imbalances affect the overall posture and if left untreated would contribute to/or sustain an upper body postural disorder. Lewit states the most important imbalance in the lumbopelvic region is between weak gluteal muscles with hyperactive hip flexors, and hyperactive lumbar erector spinal with weak abdominal muscles.
Short Upper Arms
By Nancy Dail

Often in a practice we run across individuals with similar problems in a series that can sometimes be blamed on the season or weather. Certainly clients with back issues come to us after shoveling snow or during gardening season. For what ever reason, however, lately, I am seeing several clients with short upper arm structures and resulting issues from their genetic frame. Normally, if you measure the arm or humerus in our upper extremity it expands from the glenoid fossa of the scapula superiorly to the distal end (olecranon process of the ulna) inferiorly to the waist and iliac crest. Individuals with short upper arms have humeral bones that do not measure down to the iliac crest. Usually they have no idea why they have leaned forward their entire lives or why they may not have been able to reach something on a top shelf when someone the same size can. Often these folks will have more trouble with work stations and are likely to develop carpal tunnel-like symptoms.

A medical history and a visual observation will reveal clients with short upper arms present with over pronated forearms; very hypertonic pronator teres and resulting numbness and tingling to wrist and fingers. The structure itself lends to abducted scapulae with prominent medial humeral rotation, more so on the dominant upper extremity. Add repetitive actions and non-ergonomic work areas and you have a laundry list of muscles to unravel and release entrapments and a recipe for carpal tunnel syndrome, pronator teres syndrome and possibly double crush syndrome.

A Dimensional approach begins the sequence in a supine position with techniques to release hypertonic trapezius, SCM, posterior cervical muscles and pectoralis minor and major muscles. Active engagements techniques help to pin and stretch pectoralis minor and subscapularis. Both muscles are usually very tight on these types of frames. Moving on to the upper arm, release and stretch arm muscles with elliptical movement and dual-distraction moves. Release the elbow joint with movement and techniques. Elliptically move the forearm muscles and release the pronator teres. Sidelying is next with serratus anterior as a star target. Position the client prone lastly to release the soft tissue of the back. Exercises are suggested.

There are a wide variety of techniques massage therapy uses on clients with all kinds of structural issues. The above is my approach for short upper arms and clinical issues that often present themselves to this target group. Other considerations could be hip and pelvic positions, gait, and lower extremity factors. One fact remains apparent that the structure we have contributes to a reaction to our repetitive activities. A wise massage therapist will see beyond the repetitive action!
Repetitive Action Injuries

I. Repetitive action injuries of the upper extremities
   A. 56% of upper extremity cumulative trauma disorders are occupational injuries
   B. Lateral epicondylitis is one of the most common of these upper extremity overuse problems
   C. Other disorders include: carpal tunnel syndrome, pronator teres syndrome, double crush syndrome, ulnar nerve compression, medial epicondylitis, radial nerve compression, strains, sprains, slip and fall, tenosynovitis, tenonitis, tendinosis
   D. Cyriax – 4 varieties of tendonitis
      1. Teno periosteal – partial tear at ligamenous attachment of hand and finger extensor muscle to lateral epicondyle produces painful scar – rest and injection.
      2. Muscular – extensor carpi radialis
      3. Tendinous – lesion in body of tendon, common extensor tendon at level of head of radius extensor carpi radialis brevis. 4-8 massages

II. Muscles involved:
   A. Brachioradialis, Supinator, Extensor Digitorum, Extensor Carpi Radialis Brevis, Extensor Carpi Radialis Longus, Biceps, Triceps, Brachialis
   B. Causes:
      1. Excessive amounts of concentric wrist extension or eccentric wrist flexors
      2. Isometric contraction – chronic tension – mouse
      3. Eccentric load on extensors
      4. Excessive use of supinators and pronators causing flexors and extensors to hold the hand with isometric positions
      5. All could lead to myofascial trigger pts making it a concurrent problem
      6. Posture and use of body/sleep positions
      7. Slip and fall injury

III. Clinical and non-clinical solutions
   A. Bracing
   B. Rest from activities
   C. Ice applications
   D. Rehabilitative exercises
   E. Anti-inflammatory meds and injections – corticosteroids
   F. Surgical resection
   G. Arthroscopy
   H. Laser surgery
I. Reduce hypertonicity through dimensional approach of the entire upper extremity and cervical region

IV. **Muscles** – Repetitive action injury due to action in concentrated area – not using the whole body
   A. Muscles involved in elbow and forearm
   B. Shoulder girdle and shoulder joint compensatory changes

V. **Medical History Questionnaire – Orthopedic Assessment**
   A. Take a good history
   B. Questions on pain – type and quality
   C. Observation
   D. Palpation
   E. Active, Passive, Manual Resistive ROM
      1. Contractile, muscle strain, spasm, tendonitis, tendinosis, tenosynovitis
      2. Inert, Scar tissue, impingement, bursa or nerve, ligaments, joint capsule, joint pathology
      3. Pain – nerve entrapment – pins and needles, radiating burning pain or numbness
      4. Active ROM – contractile or inert – causes tension
      5. Passive – inert structures
   F. Special Tests – Orthopedic tests – Hoppenfeld, Magee, Lowe
   G. Soap notes

VI. **Pre and post treatment protocols** – match physiology of tissue injury with the physiological effects of treatment
   A. Treatment plan – acute, subacute, chronic
   B. Therapeutic environment
   C. Positions – sidelying, supine, prone, seated
   D. Soap notes

VII. **Dimensional Techniques and Additional techniques – Treatment Adaptability**
   A. Reduce hypertonicities – passively shorten muscles for efficiency
   B. Return collagen fibers to optimal function
   C. Elongate fibers and spread fibers
   D. Deep transverse friction versus circular friction
   E. TP work with passive shortening
   F. Massage with passive movement
   G. Massage with active engagement
   H. Broadening with active engagement
   I. Lengthening with active engagement
   J. Always end with effleurage

VIII. **Rehabilitation protocol**
   A. Normalize soft tissue dysfunction
   B. Improve flexibility
   C. Restore proper movement patterns
   D. Strengthening and conditioning
**Technique and Practice: Dimensional Massage in Action**

**Dimensional Massage Therapy – A Philosophy**

The body is all connected: it has depth, width, and length. The joints in the body provide a network of anatomical structures designed for constant use. In order to properly relax and unwind soft tissue, the massage therapist must manipulate as many of these structures as possible. Each joint is a collection of muscles that work in groups and in paired opposition. By systematically working on specific muscles that share contraction and opposite action, Dimensional Massage Therapy helps to create balance to the joint structures. Dimensional Massage Therapy encompasses an approach to technique and structure, as well as to the sequence of the specific techniques for a particular soft tissue problem. The techniques are a collection of soft tissue manipulations that are designed to be efficient and sequentially specific to unwind the most resistant hypertonicities. Dimensional Massage Therapy should provide the least amount of discomfort to the client in the therapeutic process and, if performed correctly, the techniques should be easy on the therapist’s hands and body. Many DMT techniques first utilize passive shortening of the length of the muscle to efficiently soften fibers. Other DMT manipulations require rhythmically moving a joint at the same time as unwinding specific muscles, or alternating clockwise and counterclockwise movements to joints or muscles. These “distractions” provide a mechanism for the client to give up “holding” patterns and the soft tissue fibers release built-up tension. All techniques should be sequenced according to the individual structure of the client. The therapist needs to build a large “tool belt” consisting of many techniques to adapt to the wide variety of structures and repetitive actions that plague humanity. Dimensional Massage Therapy provides a philosophical approach, sequence, and methodology of techniques for the massage therapist to utilize in a therapeutic practice.

Sequence is always determined by the client’s medical history, the structure, and the area of the body needing work. Evaluation of pressure and technique will be determined by the stage of the condition: acute, subacute, or chronic. Never dive into the structure. Use superficial strokes to experiment with your palpation skills, preparing the involved joint or joints for further deep tissue techniques. Unwinding an area involves patience, structural knowledge, and intelligent use of your sequence of techniques. Warm-up techniques include an efficient use of effleurage. Depending on the problem, one would utilize techniques requiring no lubrication first. If possible, remember to place the body part and muscle in a passively shortened position. The following sequence should give the student a solid foundation for a full body massage and prepare for using the philosophy of Dimensional Massage Therapy.
Neck and Shoulder Techniques Supine

Check shoulders for roundness, position, unequal height. Reach under the back and pull the scapula in a superior direction. Palpate for hypertonic muscles. Passively shorten area muscles whenever possible. Relax the muscles under the occipital protuberance if you have not already worked on the client’s scalp. Hold the head in your hands and apply your fingers to below the occipital ridge. Push the chin up slightly with the palms of your hands. Engage the muscles below the ridge with circular friction and motion. Palpate the whole ridge area.

1. **Edging the Upper Trap** – Stand at the head of the table behind your client who is in a supine position. Bend the client’s elbow to passively shorten the upper trap. For the left upper trap, place your right hand under the client’s neck and engage the edge of the upper trap on the same side you intend to stretch. Place your left thumb on the client’s left upper trap close to the insertion at the clavicle and draw your hands away from each other stretching the trap in opposite directions. Be careful to use slight to no lubrication with this technique.

![Edging the Upper Trap Image](image)

2. **Petrissage Back of Neck while Edging the Upper Trap** – While in the same position as above, petrissage the back of the neck while edging the upper trap.

3. **Repeat 1 and 2 on the Other Side of the Neck**

4. **Effleurage Around Shoulders and up Neck** – Start with gingers of both hands pointing toward each other flat underneath the clavicles bilaterally. Stroke with smooth rhythm and complete contact around shoulders and up the sides and back of neck to the occipital ridge and attachment of the upper trap. Hold in a slight traction before repeating the sequence again.
5. **Petrissage Traps – Alternately and Together** – Turn head slightly to the side and support the head with your forearm as you grasp the traps with your hand. Petrissage the traps on the other side with your other hand. Do other side.

6. **Alternating Hands Neck Stretch** – Start at the base of the neck, cupping the cervical spine with one hand, the spine in between the index and thumb and stroke with pressure up to atlas axis area; other hand takes the place of first hand alternating and repeating the stretch-stroke. Keep the head fairly straight and arch the neck as you draw towards C1 and C2.
7. **Hands Under Back** - to lower thoracic up spine in any combination of effleurage, vibration or friction or circular friction with pressure.

8. **Head Rotation – Bilaterally**
   Place the left hand on the left lateral side of the forehead and the opposite hand on the right lateral and posterior occipital protuberance.
   Gently, passively rotate the head first in one direction and then switch hands to rotate in the opposite direction.

9. **Neck Stretch to Side**, stroking alternately while stretching with the other hand.
   First, gently turn the head laterally.
   Place one hand on the shoulder and one hand on the back of the head.
   Slide the hand from the shoulder to the head.
   Take the other hand off the head and place it on the shoulder.
   Stretch. Slide. Stretch.
10. **Effleurage Shoulders** 3 times.

11. **Closed Palm Shaping** – with the dorsal side of hand make a relaxed loose fist, and while the other side of the head is supported with your opposite hand, stroke posterior to SCM superiorly to inferiorly and back.

12. **Knuckling** – with loose fists move your hands in circular motion in the traps bilaterally close to, but not on, the spine and away from the bones of the shoulders. Make sure the upper arms are in a relaxed bent elbow position to un-tense the traps as much as possible.

13. **Cervical Work** – petrissage as close to the vertebrae as possible C-7 to C-1 and back. Your fingers should be in between the body of the vertebrae and the transverse processes. Explore Suboccipitals and attachments to C1 and C2 spinous process and transverse processes. DTF interspinales in between spinous processes.

14. **Stripping Bilateral Cervical Muscles** – Lift the back of the head with one hand and with the other hand straddle the cervical spine as close to the occiput as possible. Crook your index finger on one side and your thumb should be on the other side of the cervical spine. Glide down to C7 as firmly as possible. The neck should arch if you do this technique correctly and the client is relaxed.
15. **Scalenes** – Lift the back of the head with one hand. Laterally flex the head toward the shoulder that you are working. Place your thumb behind the SCM on that same side and glide toward the first and or second rib as you continue to flex the head forward. Repeat several times.

16. **SCM Techniques and Posterior Occipital Ridge Muscles**  Assess how tight the SCM is bilaterally. Laterally tilt the head toward the shoulder and slightly flex the head forward. On the side closest to the shoulder repeatedly **Strip** the fibers of the SCM from the mastoid process for a couple of inches toward the origins of the muscle (Fig. 15). **DTF** the origins of the muscle at the sternum and clavicle. **Jostle** the length of the muscle and work the muscle fibers between your thumb and index finger. Do a pincer palpation to the trigger points in the muscles. Check in with the client for the appropriate pressure – these trigger points can be exquisitely painful, and some might refer to the head. Remember to stretch the muscle after you treat the trigger points. Repeat the routine on the opposite SCM.
Now that all the superficial layers of muscles have been treated and relaxed, the deeper posterior cervical muscles have to be visited. If the headache has gone, then the routine is over. Working deeply on these muscles might make the headache return with a vengeance, so check in with the client and use caution.

Supine Position – Chest and Upper Extremity

1. **Pectoralis Major** – Compression – Standing next to the client at the side of the table, place your hand closest to the client on the Pectoralis Major. Hold the client’s arm at about 90 degrees from his/ her body. Compress the Pec while you pull the arm at the wrist away from the body. Be careful not to compress the anterior deltoid so you do not irritate the subdeltoid bursa.
2. **Pec Major Jostling** – Place your hand on the pec with your fingers on the ventral side of the muscle and your thumb in the axillary region. Jostle the muscle.

3. **Pec Major Elliptical Movement** – Place all fingers of both hands on the pec major. Place your thumbs in the axillary region. Alternately move the muscle in a clockwise and then counterclockwise movement.

4. **DTF and Circular Friction Pec Major Attachments** – Locate the clavicular head of the Pec Major. DTF and circular friction the attachment. Repeat to the sternal attachments. You may need to work over a towel for a woman.

5. **Coracobrachialis** – Pick up the client’s arm at the elbow and hold it over the trunk at a right angle. With your hand that is closest to the body locate the coracoid process. Palpate the coracobrachialis from the coracoid process to the humeral attachment. You will have to palpate through the pec major and anterior deltoid. DTF the muscle and its attachments. It will be tender. Be careful of brachial plexus.

6. **Subscapularis** – Locate the Trigger points and DTF the fibers. Standing next to the supine client, grasp the client’s arm above the elbow and bring the arm out to about 90 degrees laterally in an abducted position. Place your inferior fingers under the scapula and your thumb in the axillary region. The client’s forearm will rest over your forearm of the hand that is in position to work the subscapularis. Locate the anterior scapula with your thumb. Apply pressure on Trigger points and DTF fibers. Be aware this may be very tender and work with client feedback.

7. **Deltoids, Elliptical Motion** – Do the over-the-head stretch. When you are in position holding the upper extremity over the head, grasp the deltoid on both sides of the
muscle. Gently but firmly alternately move the muscle in a clockwise and counterclockwise motion.

8. **Deltoids** – Rock and roll the deltoids around the humerus. Petrissage the muscles.

9. **Stretch the Deltoids** – Cradle the arm over the top of the head for one stretch. Draw the arm across the body by grasping the elbow and pulling across from the other side of the table. Move the entire joint.

10. **Pec Minor Active Engagement** – Place your hands one on top of another in the direction of the fibers around the 4th rib fingers down away from the coracoid process. Ask the client to reach toward the knee on that side of the body and then elevate the shoulder slowly and carefully. Keep pinning the fibers during the elevation of the shoulder and ask for feedback from the client.

11. **Active Broadening of Biceps** – Broaden the biceps as the client flexes the forearm.

12. **Active Lengthening of Biceps** – Lengthen fibers of the biceps as the client extends the forearm.

13. **Longitudinal Stripping of Bicep Tendon** – Locate the bicipital groove. Strip the long head of the bicep tendon lengthwise. Be sure to notice the size and depth of the groove and size of tubercles. Do not do stripping if tendon is vulnerable to sliding out of the groove.
**Forearm**

Place the forearm in a neutral position.

Compression of brachioradialis and forearm muscles. Straddle the brachioradialis and stroke deeply to the elbow.

Jostle the brachioradialis.

Grasp the muscle and with a slight traction vibrate it from origin to insertion.
Broaden brachioradialis

**Elliptical Movement of Forearm Muscles**
Grip both sides of the forearm, with thumbs on the dorsal side of the forearm and the sides of the index fingers on the supine side of the forearm. In a deep alternating motion, move the muscles of the forearm around the bones. The radius will move on the ulna, with the motion effectively stretching tissue.

**Myofascial stretch brachioradialis** – Draw fibers over your thumbs starting close to the elbow joint and work distal.
Parallel thumbs brachioradialis – Roll one thumb over the other down the length of the muscle proximal to distal.
Strip origin of brachioradialis, Strip insertion of brachioradialis
Petrissage

Myofascial humeral twist

Range of Motion with Elbow Joint - Cup the olecranon process with one hand and, with the other hand on the client’s wrist, passively rotate the forearm, first in one direction and then in another. Go to the complete range of motion of the client.

Shake the Upper Extremity Passively
Grasp the wrist lightly and gently shake the whole extremity with a bent elbow.

Effleurage entire extremity wrist to shoulder joint.
FLEXORS of the Hand and Wrist

**Palmaris longus**
*Origin:* Medial epicondyle of humerus
*Insertion:* Palmaris aponeurosis of the second, third and fourth and fifth metacarpals
*Action:* Assists in flexion of wrist, weak flexion of elbow joint
*Innervations:* Median nerve

**Flexor carpi radialis**
*Origin:* Medial epicondyle of humerus
*Insertion:* Base of 2nd and 3rd metacarpals palmer surface
*Action:* Flexion of hand, abduction of hand at wrist, weak flexion of elbow
*Innervations:* Median nerve

**Flexor carpi ulnaris**
*Origin:* Medial epicondyle of humerus via common tendon, posterior aspect of proximal ulna
*Insertion:* Base of 5th metacarpal, pisiform (hamate)
*Action:* Flexion and adduction wrist, weak flexion of elbow
*Innervations:* Ulnar nerve

**Flexor digitorum superficialis (3 heads)**
*Origin:* Medial epicondyle of humerus via common tendon; ulna - medial coronoid process of ulna; radial – oblique line of radius
*Insertion:* Sides of shafts of middle phalanges of 4 fingers
*Action:* Flexion of four fingers at pip jt, flexion hand and wrist, weak flexion of elbow.
*Innervations:* Median nerve

**Flexor digitorum profundus**
*Origin:* Proximal 3/4 of the anterior and medial ulna
*Insertion:* Base of the distal phalanges of the four fingers
*Action:* Flexion of 4 fingers at the DIP, PIP and MP joints, flexion of the wrist
*Innervations:* Median nerve to 2nd and 3rd fingers, Ulnar nerve to 4th and 5th fingers

**Flexor pollicis longus**
*Origin:* Middle anterior radius, anterior medial border of ulnar (just distal to coronoid process), interosseous membrane
*Insertion:* Distal phalanx of thumb
*Action:* Flexion of thumb at IP jt - tip, assists flexion of wrist
*Innervations:* Median nerve, palmar interosseous branch

EXTENSORS of the Hand and Wrist

**Extensor carpi ulnaris**
*Origin:* Lateral epicondyle of humerus (common extensor tendon), middle two fourths of posterior border of ulna
**Insertion:** Base of 5th metacarpal  
**Actions:** Extension of wrist, adduction of wrist, weak extension of forearm  
**Innervations:** Radial nerve

**Extensor carpi radialis brevis**  
**Origin:** Lateral epicondyle of humerus (common extensor tendon)  
**Insertion:** Base of 3rd metacarpal (dorsal)  
**Action:** Extension of wrist, abduction of wrist, weak flexion of elbow  
**Innervations:** Radial nerve

**Extensor carpi radialis longus**  
**Origin:** Supracondylar ridge and lateral epicondyle of the humerus  
**Insertion:** Base of the 2nd metacarpal (dorsal)  
**Action:** Extension and abduction of wrist, weak flexion of elbow  
**Innervations:** Radial nerve

**Extensor digitorum**  
**Origin:** Lateral epicondyle of humerus  
**Insertion:** Base of middle phalanges of 4 fingers, extensor expansion of 4 fingers (dorsal)  
**Actions:** Extension of MP joints of 4 fingers (phalanges of fingers) extension of wrist, extension of elbow  
**Innervations:** Radial nerve

**Extensor indicis**  
**Origin:** Middle to distal one third of posterior ulna, interosseous membrane  
**Insertion:** Head of 2nd metacarpal and extensor expansion of index finger  
**Actions:** Extension of index finger at the metacarpophalangeal jt, weak wrist extension  
**Innervations:** Radial nerve

**Extensor digiti minimi**  
**Origin:** Lateral epicondyle of humerus  
**Insertion:** Proximal phalanx of the 5th phalange (dorsal)  
**Actions:** Extension of little finger at the metacarpophalangeal jt, weak wrist extension  
**Innervations:** Radial nerve

**Extensor pollicis longus - anatomical snuffbox**  
**Origin:** Posterior middle to lower ulna and interosseous membrane  
**Insertion:** Base of distal phalanx of thumb (dorsal)  
**Actions:** Extension of thumb at IP, MP, and CMP joint, extension of wrist  
**Innervations:** Radial nerve

**Extensor pollicis brevis**  
**Origin:** Posterior surface of lower middle radius  
**Insertion:** Base of proximal phalanx of the thumb dorsal  
**Actions:** Extension of thumb, weak wrist extension
**Innervations:** Radial nerve

**Abductor pollicis longus**  
**Origin:** Posterior aspect of the radius and midshaft of ulna  
**Insertion:** Base of the 1st metacarpal (dorsal)  
**Actions:** Abduction of thumb and wrist CMP, abduction of wrist  
**Innervations:** Radial nerve

**Palpation of Forearm Hand and Wrist Muscles**

- **Flexors - Class Exploration**  
  - Palmaris Longus  
  - Flexor Carpi Radialis  
  - Flexor Carpi Ulnaris  
  - Flexor Digitorum Superficialis  
  - Flexor Digitorum Profundus  
  - Flexor Pollicis Longus  

- **Extensors – Class Exploration**  
  - Extensor Carpi Ulnaris  
  - Extensor Carpi Radialis Brevis  
  - Extensor Carpi Radialis Longus  
  - Extensor Digitorum  
  - Extensor Indicus  
  - Extensor Digiti Minimi  
  - Extensor Pollicis Longus  
  - Extensor Pollicis Brevis  
  - Abductor Pollicis Longus
Dimensional Massage Therapy Forearm, Hand and Wrist

Drape one of the upper extremities.

Effleurage Whole Extremity

Effleurage entire extremity, starting at the wrist and rounding the shoulder, then gliding back down in a light nerve stroke. Repeat the stroke and increase pressure until you are sinking into the tissues.

Hand and Wrist *Note: Can also use alternate routine included here*

Lift hand and alternately grasp the palm. Pick the hand up and spread the hand with alternating strokes. Work on all the sections of the hand.

Notes:
Separate the Carpals
Place your thumbs on the dorsal side of the hand and the side of your index fingers on the palm side of the client’s hand. In an up-and-down motion, move the carpals as if to separate and stretch ligaments.

Thumbs on supine palm, spread palm alternately.

Knuckles on palm – relaxed knuckles in a circular motion in the palm of the hand.

Thumb pressure in palm, pushing the palm into the thumb.

Elliptical movement of carpals (separate the carpals).

Mobilize each finger and thumb with range of motion.

Tendon valley slide – start at the thumb web – adductor pollicis. Place thumb in between the metacarpals dorsally and index finger on the palm side. Press the two together and slide distally out the web. Move onto the next one.

Interlace and traction – interlace the fingers of your hand with the client’s fingers. Hold onto the client’s wrist with the other hand. Apply a little traction with the interlaced fingers and slowly slide out of the fingers.

Flipping wrist – place your thumbs on either side of the wrist at the joint. Put your index fingers on the palm side of the hand. Gently flex the hand at the wrist, using thumbs and fingers alternately.

Abduction and adduction of wrist – place the medial portion of your palms on the either side of the wrist, your fingers facing towards forearm. Alternately shake the wrist laterally and back.

Hand and Wrist – Bonus Alternate Routine!

Hand Sandwich
Hold the hand of the client by placing the client’s hand in between both of your hands. Place the palm of your hand to the palm of the client’s hand. Rest your other hand on the dorsal side of the client’s hand. The fingers of both of your hands should be pointing toward the client’s wrist. Take a deep breath and relax in this position. The client’s hand should be just resting in your hand.

Dorsal Hand Strokes
Hold the client’s hand palm down. Wrap your hands around the client’s hand so that your fingers support the palm and your thumbs rest parallel to the arm, pointing towards the elbow, on the dorsal side of the client’s hand. Using the pad of your thumbs, make strokes that are overlapping half circles over the dorsal side of the hand. Maintaining position, gently raise and lower the client’s hand at the wrist.

**Petrissage Hand**

Holding the hand in the same position, alternately petrissage both sides of the hand while moving the wrist in abduction and adduction.

**Hand Squeeze**

Continue to hold the hand in the same way. Rest the thumbs fully on the back of the client’s hand. Using light pressure, squeeze the client’s hand very gently while moving thumbs to respective sides. Work entire surface.

**Finger Strokes**

Use one hand to support the client’s hand in a way that is comfortable for both. Use the other hand to massage fingers. Starting at the base of the finger, with your thumb on one side and your index finger on the other, do one or a combination of the following:

- Walk the thumb and index finger up the client’s finger by quickly alternating movement toward fingertip.
- With a gentle squeeze, perform thumb circles on top of the finger from base to tip.
- Squeeze client’s finger between thumb and fingers. Release. Move distal a little, repeat. Continue to fingertip.
- Repeat strokes 2 - 4 times per finger. Finally, squeeze fingers gently but firmly while stroking up the finger in one even motion. Slide off the fingertip. Complete sequence on one finger. Move to the next finger smoothly and repeat entire sequence. It is all right to switch hands to do the thumb with the opposite hand, if it is easier for you.

**Tendon Valley Slide**

Stroke proximally to distally on either side of the metacarpals, then out web of each finger and thumb, using thumb dorsally and index finger supine.

**Range of Motion Fingers**

With one hand, support the client’s hand at the base of the fingers. Use the other hand to grasp one finger (start with the thumb or little finger). Holding the finger straight, rotate it several times in each direction. Then bend it down and up from the joint closest to the hand. Next, with the supporting hand hold the base of the finger still and move it up and down from the middle knuckle. Repeat with the distal phalanx. Continue until all fingers have been done. Include the thumb. Draw it across the palm and back as an additional motion.

**Stretch Carpals and Metacarpals Joints**
Grasp the hand as you did in the dorsal hand strokes, just above the wrist. Your thumbs should be on top of the carpals and your fingers on the palm of the hand underneath. In an up-and-down motion, move the carpals as if to gently separate and stretch ligaments. Move up to the metacarpals and repeat across the hand.

**Rotate and Stretch Wrist**
Grasp the wrist with one hand. Interlace the fingers of the client’s hand with the fingers of your hand. Rotate the wrist and, with a little traction at the wrist, pull gently to free your fingers from the client’s.

**Flipping Hand**
Place your thumbs on either side of the wrist at the joint. Put your index fingers on the palm side of the hand. Gently flex the hand at the wrist, using thumbs and fingers alternately.

**Shake Wrist**: Abduction, adduction.
Place the medial portion of your palms on the either side of the wrist, your fingers facing towards forearm. Alternately shake the wrist laterally and back.

**Neutral Position**
Turn the client’s forearm so that it rests in a neutral position. The ulnar side of the hand will be on the pillow and the thumb side should be up. Hold the client’s hand by the ulnar side. With your opposite hand, interlock your thumb and forefinger with the client’s thumb and forefinger. Do a circular kneading motion with your interlocking hand.

**Pressure to the Adductor Pollicis**
In the same position as above, apply a small amount of pressure with your thumb and forefinger to the fleshy pad between the client’s thumb and forefinger.

**Palm Strokes**
Turn the client’s hand over and place your thumbs in the client’s palm. Your fingers of both hands will be holding the dorsal side of the client’s hand. Make circles with your thumbs across the palm. Apply gentle pressure with your thumbs into the palmar tissue.

**Relaxed Fist Circles**
Support the client’s hand with one hand. Place relaxed, loose fist in the client’s palm and, using your mid knuckles and flat part between them, make circle around the palm.

**Stretch Palm**
Interlock your little finger and next finger of one hand with the little finger and next finger of the client’s. With your other hand, interlock your little finger and next finger with the client’s thumb. Stretch the palm with your thumbs. Place hand on table and prepare to move on to forearm techniques.
Hand and wrist

Elliptically move carpals  Stroke antebrachial fascia  Cross stroke antebrachial

Strip forearm tendons  Flex extend and strip  Treat lateral origins

Treat medial origins  Broaden with active engagement
Arm

Arm over Head Stretch
Place your inside hand over the shoulder and, with a firm grasp of the wrist, lunge forward lifting and stretching the arm passively over the head of the client. Pivot your feet and move behind the client. Re-position your hands to work on the deltoids, biceps, and triceps of the client.

Deltoids
Grasp both sides of the deltoids and elliptically move them first in one direction and then another (clockwise and counterclockwise). Petrissage deltoids.

Cradle and Stretch Upper Extremity
Place one hand well under the shoulder and, with the exhale of the client, stretch superiorly.

Roll Biceps and Triceps
Roll the biceps and triceps around the humerus.

Compressive Effleurage over Triceps and Biceps
Apply compressive effleurage alternately to the triceps and biceps.

Ballerina Rotation
Place one hand under client’s scapula. Grasp his/her elbow joint with your other hand. Rotate the entire extremity around the head of the client in one direction and then the other.

Lateral Stretch
Position the arm on the table at a right angle to the body. Support it next to your forearm. Slide your hand out from under the body, pulling and stretching towards you with both hands, effectively stretching the shoulder joint.
Shake the upper extremity passively again.

Repeat effleurage of entire extremity.

Friction
Circular friction the entire extremity from wrist to shoulder, then back to the wrist.

Tapotement (Hacking)
Do a light percussion called hacking to the whole extremity. Use only your fingers and not the ulna side of your hands. Relax your wrists.

Ending
Place your hands on the shoulder or upper arm and lightly stroke down to the hand. Do at least twice. The third time as you approach the wrist, slide one of your hands under the client’s hand in the original position of the “hand sandwich.” Hold this position for a short time and then glide both your hands simultaneously off the client’s hand and fingertips. If appropriate, place the client’s hand under a sheet or blanket.
Bibliography


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