OMM - Thoracic Somatic Dysfunction

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A few words about OMM....

- A. T. Still, M.D. D.O.
- His “Moment of Clarity” came on June 22, 1874
- **Osteopathy is that science** which consists of such exact, exhaustive, and verifiable knowledge of the **structure and functions of the human mechanism, anatomical, physiological, and psychological**, including the chemistry and physics of its known elements, as has made discoverable certain organic laws and remedial resources, **within the body itself**, by which nature under the scientific treatment peculiar to osteopathic practice, apart from all ordinary methods of extraneous, artificial, or medicinal stimulation, and in harmonious accord with its own mechanical principles, molecular activities, and metabolic processes, **may recover from displacements, disorganizations, derangements, and consequent disease, and regain its normal equilibrium of form and function in health and strength**
A few words about OMM....

- 1\textsuperscript{st} class 1892- American School of Osteopathy 16 men, 5 women and a skeleton
A few words about OMM....

• ECOP Education Council on Osteopathic Principles 1984 “uniformity”
• AOA Foundations of Osteopathic Medicine
• The correct terminology is OMT- Osteopathic Manipulative Treatment
A few words about OMT and me....

• Teaching at Atlantic Regional Osteopathic Convention since 1993
• Actively use OMT in the office.... Practical and when appropriate
• I use simple documentation...
• Run the OMT lectures at CarePoint Health....
• Always something to learn....
A few words about OMT....

“\textit{To find Health should be the object of the physician. Anyone can find disease.}”

\textit{A.T. Still}

\begin{minipage}{0.9\textwidth}
\begin{center}
\textbf{Classical Osteopathic Philosophy}
\end{center}
A.T. Still’s fundamental concepts of osteopathy can be organized in terms of health, disease, and patient care.

\textbf{Health}
\begin{itemize}
\item 1. Health is a natural state of harmony.
\item 2. The human body is a perfect machine created for health and activity.
\item 3. A healthy state exists as long as there is normal flow of body fluids and nerve activity.
\end{itemize}

\textbf{Disease}
\begin{itemize}
\item 4. Disease is an effect of underlying, often multifactorial causes.
\item 5. Illness is often caused by mechanical impediments to normal flow of body fluids and nerve activity.
\item 6. Environmental, social, mental, and behavioral factors contribute to the etiology of disease and illness.
\end{itemize}

\textbf{Patient Care}
\begin{itemize}
\item 7. The human body provides all the chemicals necessary for the needs of its tissues and organs.
\item 8. Removal of mechanical impediments allows optimal body fluid flow, nerve function, and restoration of health.
\item 9. Environmental, cultural, social, mental, and behavioral factors need to be addressed as part of any management plan.
\item 10. Any management plan should realistically meet the needs of the individual patient.
\end{itemize}
\end{minipage}
Thoracic Spine

• It cannot be considered separate from the other body regions, since such dysfunction is always interdependent and it is bounded by the cervical and lumbar spine (interconnected).

• 12 Thoracic Vertebra
  • Spinous Process angles

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>T1-T3</td>
<td>Over the body of corresponding vertebra</td>
</tr>
<tr>
<td>T4-6</td>
<td>Over the intervertebral space below</td>
</tr>
<tr>
<td>T7-9</td>
<td>Over the body of the vertebra below</td>
</tr>
<tr>
<td>T10-12</td>
<td>Over the body of the corresponding vertebra</td>
</tr>
</tbody>
</table>
Thoracic Spine

• Main motion of T-spine: Rotation
  • Upper and middle thoracic: Rotation > flexion/extension > side bending
  • Lower Thoracic: flexion/extension > side bending > rotation

• 12 Ribs: 3 types - True/False/Floating
  
  • **Bucket-Handle Motion** -- Characteristic rib motion, primarily of the lower ribs, that occurs during respiration. The effect is to increase the transverse diameter of the thorax during inspiration. This involves ribs 7-10
  • **Pump-Handle Rib Motion** -- Characteristic rib motion, primarily of the upper ribs, that occurs during respiration. The effect is to increase the anteroposterior diameter of the thorax during inspiration. This primarily effects ribs 1-6.
  • **Caliper motion**: Ribs 11, 12
Thoracic Spine

- The muscles of the thoracic spinal area are involved in the following:
  - Posture
  - Head and neck control
  - Locomotion
  - Stabilization of the extremities
  - Visceral function

![Regional Thoracic Muscles Table]
## Thoracic Spine

### Regional Thoracic Muscles

<table>
<thead>
<tr>
<th>Muscle</th>
<th>Muscles</th>
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<tbody>
<tr>
<td>Pectoralis major</td>
<td>Subcostals</td>
</tr>
<tr>
<td>Pectoralis minor</td>
<td>Transversus thoracis</td>
</tr>
<tr>
<td>Teres major</td>
<td>Levatores costarum</td>
</tr>
<tr>
<td>Teres minor</td>
<td>Splenius</td>
</tr>
<tr>
<td>Trapezius</td>
<td>Spinales</td>
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<tr>
<td>Latissimus dorsi</td>
<td>Semispinalis</td>
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<tr>
<td>Levator scapulae</td>
<td>Longissimus</td>
</tr>
<tr>
<td>Rhomboid</td>
<td>Iliocostalis</td>
</tr>
<tr>
<td>Quadratus lumborum</td>
<td>Rotatores</td>
</tr>
<tr>
<td>Serratus anterior</td>
<td>Multifidus</td>
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<tr>
<td>Serratus posterior (superior/inferior)</td>
<td>Interspinales</td>
</tr>
<tr>
<td>Intercostals</td>
<td>Intertransversarii</td>
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<tr>
<td>External Intercostals</td>
<td>Diaphragm</td>
</tr>
<tr>
<td>Internal Intercostals</td>
<td>Obliquus capitis inferior</td>
</tr>
<tr>
<td>Innermost Intercostals</td>
<td>Subclavius</td>
</tr>
</tbody>
</table>

![Thoracic Spine Diagram](image-url)
Thoracic Spine
Thoracic Spine

• Sympathetics:
  
  • T1–T4: Head and neck, with T1–T6 to the heart and lungs
  
  • T5–T9: All upper abdominal viscera: stomach, duodenum, liver, gallbladder, pancreas, and spleen
  
  • T10–T11: Remainder of the small intestines, kidneys, ureters, gonads, and right colon
  
  • T12–L2: Left colon and pelvic organs
Thoracic Spine

Chapman’s Points/Reflexes:

<table>
<thead>
<tr>
<th></th>
<th>Anterior</th>
<th>Posterior</th>
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<tbody>
<tr>
<td>Heart</td>
<td>2nd intercostal space (ICS), left lateral border of sternum.</td>
<td></td>
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<tr>
<td>Lungs</td>
<td>Upper lung: 3rd ICS, just lateral to the sternum.</td>
<td>T6 to T7, in the intercostal space, about 2 cm lateral from the spinous process.</td>
</tr>
<tr>
<td></td>
<td>Lower lung: 4th ICS, just lateral to the sternum.</td>
<td></td>
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<tr>
<td>Stomach</td>
<td>6th ICS, one inch lateral from the sternoclavicular joint</td>
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<tr>
<td>Liver 5th and 6th ICS</td>
<td>Gall bladder</td>
<td>6th ICS, mid-clavicular line.</td>
</tr>
<tr>
<td>Pancreas</td>
<td>Lateral to the costal cartilage between the 7th and 8th ribs on the right</td>
<td>Transverse process of T7 and T8 on the right.</td>
</tr>
<tr>
<td>Adrenals</td>
<td>2&quot; superior and 1&quot; lateral to the umbilicus</td>
<td>Between the spinous and transverse processes of T11 and T12</td>
</tr>
<tr>
<td>Kidney</td>
<td>1&quot; superior and 1&quot; lateral to the umbilicus</td>
<td>Between the spinous and transverse processes of T12 and L1.</td>
</tr>
<tr>
<td>Appendix</td>
<td>Tip of the 12th rib on the right</td>
<td>Transverse process of T11</td>
</tr>
</tbody>
</table>
OMT

- Multiple modalities and techniques:
  - Soft Tissue
  - Myofascial Release
  - Counterstrain
  - Muscle Energy
  - High Velocity/*Low Amplitude*/

- My rules of OMT:
  - Be confident in the techniques you do
  - Know more than one technique
  - Let your hands do the work
  - Don’t hurt yourself doing techniques
  - Making modifications to a technique to achieve the endpoint is “OK”
  - DON’T do HVLA if you are not “coordinated”…. Too many bad movies!
  - EVERYONE can do soft tissue…. Don’t forget to bill/code for OMT (next lecture)
OMT Common scenarios

• Soft tissue techniques

• The patient is prone, preferably with the head turned toward the physician. (If the table has a face hole, the head may be kept in neutral.)
• The physician stands at the side of the table opposite the side to be treated.
• The physician places the thumb and thenar eminence of one hand on the medial aspect of the patient’s thoracic paravertebral musculature overlying the transverse processes on the side opposite the physician.
• The physician places the thenar eminence of the other hand on top of the abducted thumb of the bottom hand or over the hand itself.
OMT Soft Tissue

• Keeping the elbows straight and using the body weight (**leverage**), the physician exerts a gentle force ventrally (downward) to engage the soft tissues and then laterally, perpendicular to the thoracic paravertebral musculature.

• This force is held for a few seconds and is slowly released.

• Done with a gentle, rhythmic, and kneading fashion AND/OR done using deep, sustained pressure.
OMT Soft Tissue

- Other option is two hands with slight separation and apply alternating deep pressure.
- The force is held for several seconds, slowly released and reapplied with the other hand:
OMT Soft Tissue

- Other variation is applying counterpressure.
- The physician exerts a gentle force with both hands, ventrally to engage the soft tissues and then in the direction the fingers of each hand are pointing, creating a separation and distraction effect.
- The degree of ventral force and longitudinal stretch exerted varies according to the patient’s condition (e.g., severe osteoporosis), as rib cage trauma can occur.
OMT Soft Tissue

• Trapezius Release (Inhibitory Pressure)
  • Pt is supine.
  • Thumbs placed on anterior trapezius, index and other digits placed posteriorly.

• A slow squeezing force is applied on the trapezius between the thumbs and fingers and held until tissue texture changes are palpated.
OMT Myofascial Release

• Patient is prone, physician is next to patient.
• The physician places both hands palms down with the fingers slightly spread apart immediately paraspinal on each side.

• A gentle downward force is applied into the patient’s thoracic tissues with only enough force to control the skin and underlying fascia while monitoring for ease bind motion.

• Gentle/moderate force is applied either indirectly or directly meet the ease-bind barrier until a release is palpated.
OMT (Strain-)Counterstrain

- Lawrence H. Jones, DO, FAAO, initially referred to his new treatment approach as spontaneous release by positioning
- “Wrap the body around your finger” after palpating the counterstrain point
- “Maximally shortening the muscle to effect a release”
- Start with “10/10” and bring the patient to at least a “3/10”
- Hold 90 seconds or until a release is felt (now is a good time to discuss other patient issues, refills, sports etc.)
- The patient is returned to a neutral position slowly, without any muscle contraction on their part
OMT Muscle Energy

- Muscle energy is a plan of diagnosis and treatment that requires exertion of the patient's muscles, on request, from a precisely controlled position, in a specific direction, and against a distinctly executed counterforce (direct technique).

- Example: Reduced thoracic rotation to the left.

- Patient is placed on table with arms crossed, physician is behind patient.

- Patient is rotated into this restriction (left). Patient is then told to rotate to the right against resistance (3-5 seconds).

- Direct the patient to relax, while simultaneously ceasing the applied counterforce.

- Physician returns patient to “neutral”, then re-engages the new barrier (L Rot) and the technique is repeated 3-5 times or until release.
OMT HVLA

• The best known of all manipulative techniques are the high-velocity, low-amplitude thrusting techniques.

• In these techniques, the physician positions the patient in such a way that the restricted joint is placed into its restrictive barrier(s) to motion.

• The physician then quickly applies a small to moderate amount of force to the joint in such a way as to move it through the barriers. Improved joint motion should result very quickly.

• Many patients feel that the treatment is successful only if they hear this sound; others are frightened by it, fearing bones may be breaking (too many bad movies).

• The patient must be assured that the sound is harmless.

• Feeling the joint move is more important than hearing it pop.

• To achieve the best results with as little discomfort as possible, the surrounding soft tissues should be relaxed (soft tissue, etc.).
General Principles of Thrusting Techniques

1. Prepare the joint to be treated by relaxing the soft tissues so that the joint may be moved more easily with less resistance from the soft tissues.

2. Place the joint into its restrictive motion barriers. If only one barrier is to be engaged, it is essential that all other joint motions be “locked” out.

3. Once a joint has been placed into its motion barriers, this position must be held firmly by the physician and the “locking” thus created not lost as the force is applied.

4. The physician must control the force. Excessive force should never be applied in the hope that the joint will move. Only force sufficient to create the motion desired should be used. Force should never replace skill.

5. Treatment must be localized and applied to the specific restricted joint. A “shotgun” approach to an entire area of the spine is inappropriate and harmful.
OMT HVLA

• “Texas Twist”, “Crossed Pisiform” or Prone Cross Hand Technique

• Patient is prone, physician is on the opposite side of the restriction.

• The area of restriction is engaged by the thenar eminence of one hand while the hypothenar eminence is placed on the opposite side.

• The physician begins to twist to “reduce slack” (localization) and allow for “low amplitude” thrusting monitoring the patient’s breathing.

• The patient inhales and exhales, and on exhalation, a high-velocity, low-amplitude thrust is delivered by using a momentary drop of own body weight to transmit the force through the wrists and elbows.
OMT HVLA

• “Kirksville Krunch” or Supine Thrust Technique
• My technique of choice for isolating areas and with my modifications
• Patient is supine, physician is standing on the opposite side of the restriction.
• Patient crosses their arms, however the arm on the opposite side of the physician should be superior.
OMT HVLA

• The physician's hand is placed on the patient's shoulder and is used to rotate the patient toward the physician. The hand is the opposite as the restriction side (in this case, physician’s left hand treating a right sided restriction).

• The physician reaches across the patient and places their thenar eminence on the patient's posterior transverse process with the palm cradling the spinous processes and rest of the fingers extended (or alternate technique).
OMT HVLA

• The patient's elbows (locked) are placed in the physician's epigastrium. The physician localizes a force over the fulcrum by adjusting own body weight through the patient's elbows, which act as a lever.

• The patient inhales and exhales fully. During exhalation, the physician increases localization by applying own body weight through the patient's elbows.

• At the end of exhalation, the physician applies a high-velocity, low-amplitude thrust by dropping own body weight through the patient's thorax toward the floor.
OMT HVLA

• My modification allows for anyone to do this without the need to tuck, lift, hold, “relax” and tell me if Old Spice is still working.
• Key is crossing the arms, holding them and elbow position.
• The elbows must be over the thenar eminence for effective thrust.
OMT HVLA

- My modification uses **elbow position** for high or low thoracic dysfunction and induces “flexion” by the arm position....

![Higher Thoracic](image1)

![Lower Thoracic](image2)
OMT HVLA

• The other caveat is rather than use body weight, use core muscles.
• Most importantly, be gentle with the technique particularly with kyphoscoliotic patients in which case you simply need to gently roll on the thenar eminence with some head support or a roll pillow.

• Most important for this technique is isolation of the restriction and “locking out” the area. Remember, this isn’t…
OMT

• A patient presenting with gastritis will have a somatic dysfunction/tissue texture changes in which are of the thoracic spine?

• a. T1- T4
• b. T2-T3
• c. T11-12
• d. T5- T10
• e. T3-T6
OMT

- A patient presenting with gastritis will have a somatic dysfunction/tissue texture changes in which are of the thoracic spine?

  - a. T1- T4
  - b. T2-T3
  - c. T11-12
  - d. T5- T10
  - e. T3-T6
OMT

• A patient with chronic asthma may exhibit palpatory changes in the thoracic spine between T1 and T4.

• A. True
• B. False
OMT

• A patient with chronic asthma may exhibit palpatory changes in the thoracic spine between T1 and T4.

• A. True

• B. False
Acknowledgements

- My wife and and boys....
- Student K.C.
- Foundations of Osteopathic Medicine
- An Osteopathic Approach to Diagnosis and Treatment
  Eileen L. DiGiovanna, Stanley Schiowitz, Dennis J. Dowling
- A.T. Still Museum
- And to....
Our Founder

An osteopath is only a human engineer, who should understand all the laws governing his engine and thereby master disease.

Andrew Taylor Still

Questions?
Billing and Coding for OMM

Antonios Tsompanidis, D.O. FACOFP
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Chief Academic Officer
Director of Medical Education-CarePoint Health
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Family Medicine Residency Program Director-Christ Hospital
Proper coding and billing involves the intricate knowledge of ICD10 codes, CPT codes and the use of modifiers as applicable.

There are several caveats:

Always pick a specific ICD10 code!
Always assign the proper diagnosis to the proper CPT!
Your primary diagnosis code should be the most complex!
Make sure data is entered correctly the first time!

AND MOST IMPORTANTLY,
KNOW YOUR INSURANCES
(they follow their own rules)!
ICD10 stands for International Classification of Disease

The ICD10 coding system is an international classification system which groups related disease entities for the purpose of reporting statistical information. The purpose of the ICD10 is to provide a uniform language and thereby serve as an effective means for reliable nationwide communication among physicians, patients, and third parties.
CPT stands for Current Procedural Terminology

It is a listing of descriptive terms and identifying codes for reporting medical services and procedures. The purpose of CPT is to provide a uniform language that accurately describes medical, surgical, and diagnostic services, and thereby serves as an effective means for reliable nationwide communication among physicians, patients, and third parties.
These are your coding tools of the trade!
ICD-10 codes for OMT

The following ICD-10 codes should be used for proper OMT billing:

- M99.00 Segmental and somatic dysfunction of head region
- M99.01 Segmental and somatic dysfunction of cervical region
- M99.02 Segmental and somatic dysfunction of thoracic region
- M99.03 Segmental and somatic dysfunction of lumbar region
- M99.04 Segmental and somatic dysfunction of sacral region
- M99.05 Segmental and somatic dysfunction of pelvic region
- M99.06 Segmental and somatic dysfunction of lower extremity
- M99.07 Segmental and somatic dysfunction of upper extremity
- M99.08 Segmental and somatic dysfunction of rib cage
- M99.09 Segmental and somatic dysfunction of abdomen and other regions
CPT Codes for OMT

98925 - OMT; one to two body regions involved
98926 - OMT; three to four body regions involved
98927 - OMT; five to six body regions involved
98928 - OMT; seven to eight body regions involved
98929 - OMT; nine to ten body regions involved
Modifiers are important when coding for any procedure such as OMT, trigger point injections, cryotherapy and cerumen extraction.

There are many modifiers but the -25 modifier is the one that is applicable for our purposes.
The HCFA form is the paper form that is used for billing (the same form is transmitted electronically).

Although it appears complex, most billing software fills in the patient demographics, insurance information, DOB, etc. THIS IS WHY IT IS IMPORTANT TO HAVE ACCURATE INITIAL DATA ENTRY!

The key parts for our discussion are boxes 21 and 24. ICD10 codes are entered in box 21. Box 24 is where the CPT codes, modifiers, dates of service, location of service and provider identification numbers are entered.
HCFA with OMT visit only
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Medicare Fee Schedule (effective 1/2019)

New Jersey charge class Area 01 consists of the following counties: Bergen, Essex, Hudson, Hunterdon, Middlesex, Morris, Passaic, Somerset, Sussex, Union, Warren

(Area 99 covers the remainder of the state counties)

<table>
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<tr>
<th>OMT:</th>
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<th>Area 01</th>
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Conclusion:

Always keep up with ICD10 & CPT changes.

Be specific with coding!

Know your insurance rules and LCD’s (local coverage determinations).

Proper coding = proper and prompt payment!

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