Evidence Based Osteopathic Manipulative Medicine 2012

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Review state of the evidence base for utilization of OMT for patients with various clinical conditions.

State the AOA Guidelines for Osteopathic Care of patients with Low Back Pain.

Learn the AOA Clinical Assessment Program Standards for using OMT for Patients with Low Back Pain.

Code for OMT appropriately in clinical practice.

Learn How to Keep Up to Date with EBM OMM.
Organizing an Osteopathic Approach to Patient Care

- “Think Osteopathically; Practice it; Prove it; Publish it; Promote it” – Martin Levine, DO, AOA President 2011-12
- What constitutes osteopathic thinking and practice?
- What is the consensus of the experts?
The Osteopathic Approach

- Health Oriented
- Patient Centered
- Optimize Physiological Functions and Structural Interrelationships
- Whole Person/body, mind, spirit integration
- Enable Self-Healing
- Accurate Diagnosis
- Rational Management Plan
Multiple EBM Sources Recommend Spinal Manipulation for Patients with Acute and Chronic LBP

- Cochrane Systematic Reviews
- Institute for Clinical Systems Improvement
- AHRQ National Guidelines Clearinghouse
- Systematic Reviews
- Meta-analyses
- Professional Societies (i.e., ACP, APS, AOA, AAFP, Dept. of Defense)
OMT by D.O.s is recommended for patients with Acute or Chronic Low Back Pain and Somatic Dysfunction

Agency for Healthcare Research and Quality (AHRQ) National Guidelines Clearinghouse (NGC) Guideline Summary NGC-7504

Grade 1a level of evidence (Meta-analysis, systematic review of RCTs)
For patients who do not improve with self-care options recommend:

Spinal manipulation for acute, subacute or chronic low back pain
If you manipulate, re-evaluate in 3-7 days
- Retreat as indicated by findings
- Re-evaluate progress at 1 month
- Refer to appropriate specialist if symptoms or signs worsen
Red Flags

- Age <20 or >55
- Trauma
- History of Malignancy
- Associated Constitutional Symptoms
- Progressive Course
- Neurologic Deficits
Red Flags
Refer to ER

Cauda Equina Syndrome

- Sudden onset or otherwise unexplained loss or changes in bowel or bladder control (retention or incontinence)
- Sudden onset or otherwise unexplained bilateral leg weakness
- Saddle numbness
Red Flags
See within 24 hours

- Fever 38°C or 100.4°F for greater than 48 hours
- Unrelenting night pain or pain at rest
- New onset (less than six weeks) of progressive pain with distal (below the knee) numbness or weakness of leg(s)
- Leg weakness
- Progressive neurological deficit
Red Flags
L-Spine x-rays

- Unrelenting night pain or pain at rest
- History of or suspicion of cancer
- Fever above 38°C (100.4°F) for greater than 48 hours
- Immunosuppression
- Chronic oral steroids
- Osteoporosis
- Clinical suspicion of ankylosing spondylitis
- Neuromotor or sensory deficit
- Serious accident or injury (fall from heights, trauma, motor vehicle accident)
OMT for LBP
Clinical Outcomes

REDUCED

- Pain
- Work loss
- Disability and impairment
- Medication use
- Physical therapy visits
- Hospital days
- Costs of care

INCREASED

- Patient satisfaction
Find Tissue Texture Changes, Asymmetry, Restriction of Motion, Tenderness in each body region;

Treat with OMT, using Muscle Energy, Articulatory, Myofascial Release, Strain/Counterstrain; some use HVLA and Osteopathy in the Cranial Field.
Osteopathic manipulative treatment is effective on pain control associated with spinal cord injury

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Study design: This study was designed as an experimental study (trial).

Objectives: To verify the effects of the association between conventional pharmacological treatment and osteopathic manipulative treatment (OMT) for chronic pain management in spinal cord injury (SCI).

Setting: This study was carried out at Spinal Unit, Ospedale Niguarda Ca' Granda, Milan, Italy. Istituto Superiore di Osteopatia, Milan, Italy.

Methods: We enrolled 47 patients with SCI, 26 with pain of both nociceptive and neuropathic origin, and 21 with pure neuropathic pain. In all, 33 patients had a complete spinal cord lesion (ASIA level A) and 14 had incomplete lesion (ASIA level B, C and D). The patients were subdivided in a pharmacological group (Ph), a pharmacological osteopathic (PhO) group and a osteopathic (Os) group. The verbal numeric scale (VNS) was used at various time intervals to evaluate treatment outcomes.

Results: Ph patients reached a 24% improvement in their pain perception, assessed by the VNS scale after 3 weeks of treatment, whereas Os patients reached a 16% improvement in their pain perception for the same weeks. Both treatments per se failed to induce further improvements at later time points. In contrast, the combination of the two approaches yielded a significantly better pain relief both in patients with nociceptive or pure neuropathic pain in the PhO group.

Conclusions: Our results suggest the OMT is a feasible approach in patients in whom available drugs cannot be used. Moreover, a benefit can be expected by the association of OMT in patients treated according to existing pharmacological protocols.

Keywords: osteopathic manipulative treatment; pain; spinal cord injury; pharmacological therapy; management of pain

Introduction

Pain in patients with spinal cord injury (SCI) is a common occurrence, with an incidence ranging between 65 and 80% of the subjects. One-third of these patients experienced severe pain. Despite pain, patients developed allodynia and hyperalgesia.1 Symptoms potentially originate in any moment of the patient history influencing patient psychological and social functioning.2,3 It affects quality of life, causes a substantial morbidity, with worsening of the disability and reduced involvement in rehabilitation programs.4

The International Association of the Study of Pain established a ‘Spinal Cord Injury Pain Task Force’ to classify pain in the SCI. They identified two main types of pain: nociceptive and neuropathic pain (Table 1).

The first study on the pathophysiological mechanism of pain associated to SCI dates back to 1950.5 Since then, the literature has produced evidence based mostly on the assumption that pain arises from changes in damaged nerve roots or changes in the brain.6 Recent observations reveal a role for mediators of inflammation, such as cytokines and prostaglandins, in sustaining chronic central neuropathic pain.7 Furthermore, the perception of pain may be exacerbated by the loss of spinal and thalamic inhibition and the structural reorganization of inputs in the dorsal horn of the spinal cord.8

Several therapeutic strategies are used, including pharmacological treatment (analgesics, opioids and non-steroidal anti-inflammatory drugs). Management of pain in these patients is difficult and complete recovery is rare.9

Osteopathic manipulative treatment (OMT) is efficacious for the relief of chronic pain related to osteoarthritis and/or inflammatory conditions.10 OMT functions on the
Osteopathic manipulative treatment is effective on pain control associated to spinal cord injury. Spinal Cord, 2010, 1–5. Advance online publication, 7 December 2010; doi:10.1038/sc.2010.170
Sixty (33 male; 27 female) soldiers ages 18 to 35 were randomly assigned to a group receiving OMT plus usual care or a group receiving usual care only (UCO).

The primary outcome measures were pain on the visual analog scale, and functioning on the Roland Morris Disability Questionnaire.

Outcomes were measured immediately preceding each of four treatment sessions and at four weeks post-trial.

Intention to treat analysis found significantly greater post-trial improvement in ‘Pain Now’ for OMT compared to UCO (P=.026).

Improvement in back pain with OMT added to usual care

the OMT group reported less ‘Pain Now’ and ‘Pain Typical’ at all visits (P=.025 and P=.020 respectively).

OMT subjects also tended to achieve a clinically meaningful improvement from baseline on ‘Pain at Best’ sooner than the UCO subjects.

OMT subjects reported significantly greater satisfaction with treatment and overall self-reported improvement (P=.01).
CONCLUSION: Osteopathic manipulative treatment slows or halts the deterioration of back-specific functioning during the third trimester of pregnancy.
OMT EFFECT IN ESSENTIAL HYPERTENSION

Osteopathic manipulation as a complementary treatment for the prevention of cardiac complications: 12-Months follow-up of intima media and blood pressure on a cohort affected by hypertension.

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Journal of Bodywork & Movement Therapies (2011) 15, 68e74
Efficacy of osteopathic manipulation as an adjunctive treatment for hospitalized patients with pneumonia: a randomized controlled trial

Noll et al. Osteopathic Medicine and Primary Care 2010, 4:2

Figure 5 Analysis of adverse events comparing treatment groups. OMT = osteopathic manipulative treatment, LT = light-touch treatment, CCO = conventional care only. Subjects may be included in more than one category. For example, three subjects had respiratory failure as their treatment endpoint and subsequently died while still in the hospital. * Serious adverse event category excludes respiratory failure and death. A, Intention-to-treat analysis. † OMT significantly greater than LT and CCO, P < 0.05. B, Per-protocol analysis. ‡ OMT significantly less than CCO, P < 0.05.
When OMT was administered in accordance with the protocol, reductions were seen in LOS, duration of intravenous antibiotics, and incidence of respiratory failure and death in the OMT group compared to the Conventional Care Only group.
RESOLVED: That CMA support the recognition and payment for Osteopathic Manipulative Treatment (OMT) by all payors.
NEWS! NEWS! NEWS!

• Medicare Increased Reimbursement for OMT
• Osteopathic Continuous Certification includes OMT Standards of Care Guidelines
The Centers for Medicare and Medicaid Services Physician Fee Schedule for CY 2012 final rule increased work relative value units (RVUs) for OMT codes 98925 through 98929:

- 98925 increased from 0.45 to 0.46;
- 98296 increased from 0.65 to 0.71;
- 98927 increased from 0.87 to 0.96;
- 98928 increased from 1.031 to 1.21; and
- 98929 increased from 1.19 to 1.46.
January 2013
AOA Clinical Assessment Program
Low Back Pain Module
Document education/learning – change charting practices
Assess for TART findings and use OMT for patients with somatic dysfunction and back pain complaints
ICD-9 CODES

- 739.0 Head region
- 739.1 Cervical region
- 739.2 Thoracic region
- 739.3 Lumbar region
- 739.4 Sacral region
- 739.5 Pelvic region
- 739.6 Lower extremities
- 739.7 Upper extremities
- 739.8 Rib cage
- 739.9 Abdomen and other
CPT CODES

- 98925 OMT 1-2 regions
- 98926 OMT 3-4 regions
- 98927 OMT 5-6 regions
- 98928 OMT 7-8 regions
- 98929 OMT 9-10 regions

- 59 combined with -25 for E/M code
e.g., 99214-25 and 98926-59
AOA Protocols for OMT

- call (800) 621-1773, ext. 8180, to receive printed copies
  - Protocols for Osteopathic Manipulative Treatment
  - Osteopathic Manipulative Treatment (OMT) with Evaluation and Management Services
Osteopathic EBM References

Foundations of Osteopathic Medicine

Somatic Dysfunction in Osteopathic Family Medicine

Editor, Kenneth E. Nelson
Associate Editor, Thomas Glonek

Written under the auspices of the American College of Osteopathic Family Physicians
Subscribe here -- it's free!

THE SOMATIC CONNECTION
OMM Research in progress

- Osteopathic Heritage Foundation and The Osteopathic Research Center: Partnership to Enhance the Evidence for Osteopathic Medicine

- Cost Effectiveness of Osteopathic Health Care: a National Study Based on the Medical Expenditure Panel Survey

- Mechanisms of Lymphatic Pump Enhancement of Immune Function

- Mechanisms of Action of OMT for Chronic Low Back Pain
OMM Research

- Osteopathic Manipulative Medicine in Pregnancy: Physiologic and Clinical Effects
- Developing PBRNs in the Osteopathic Profession
- Cervical kinematics, somatic dysfunction and OMT
- OMT for patients with Vertigo +/- VRT
- OMT for patients with Chronic Headache
1. Non neutral lumbar spine somatic dysfunction
2. Pubic dysfunction
3. Innominate shear
4. Sacral extension or torsion
5. Short leg/pelvic tilt syndrome
6. Muscle imbalance in the core and lower extremities
OMT for Migraine Prophylaxis or Pain and Symptom Reduction

- N=42 (21 randomized to OMT or control group)
- MIDAS, SF-36, Pain, HRQoL Questionnaires before and 6 months after OMT
- OMT 50 minutes x 5 over 10 weeks
- Both groups continued medication regimen

Results:

- Significantly reduced pain and working disability, improved HRQoL (p<.05) in OMT group

Compressing the Fourth Ventricle

**Fig. 20.** Compression of the Fourth Ventricle, on the Skull.

**Fig. 21.** Compression of the Fourth Ventricle on the Head.
Near infrared spectroscopy.
Twenty-one adults (age range, 23-32 y).
During the suppression (CV4) technique, there was a statistically significant decrease in both left ($P=0.026$) and right ($P=0.007$) $S_{Cr}O2$ in bilateral pre-frontal lobes with increased cranial OMM time vs. sham or control.
Decrease in sympathetic cardiac influence and an enhanced parasympathetic modulation.
Results/Conclusion: The cranial OMM suppression technique effectively and progressively reduced $S_{Cr}O2$ in both prefrontal lobes with the treatment time.
CV4 Pre Intervention

CV4 Intervention

CV4 Post Intervention
Hands contact medial to occipital-mastoid sutures
Conclusion: There is moderate evidence to support the use of manual therapy, in particular spinal mobilisation and manipulation, for cervicogenic dizziness.

The evidence for combining manual therapy and vestibular rehabilitation in the management of cervicogenic dizziness is lacking.

Further research to elucidate potential synergistic effects of manual therapy and vestibular rehabilitation is strongly recommended.
EBM References


