

Somatic Dysfunction and OMT – a view from basic science

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1. Somatic dysfunction definition

“impaired or altered function of related components of the somatic (body framework) system: skeletal, arthrodiarthral, and myofascial structures, and related vascular, lymphatic, and neural elements”

Glossary of Osteopathic Terminology, 2001

2. Somatic dysfunction diagnosis

Tissue texture changes
Asymmetry of structure
Restriction of motion
Tenderness to palpation

3. Evidence for facilitation – “the facilitated segment” – the Denslow, Korr and Krems result of 1947

4. Possible mechanisms: proprioceptive and nociceptive

5. OMT: hypothesized mechanisms

- a. Functional methods of W. Johnston and
- b. Strain-Counterstrain of L. Jones

Both techniques emphasize minimization of afferent input – shortening of dysfunctional muscles, movement into positions of ease, with slow and gradual return to neutral position

c. Muscle energy

Direct techniques are hypothesized to inhibit the overactive muscle by activating the antagonist muscle. (There is no experimental evidence that such maneuvers have lasting effect.)

Indirect techniques are hypothesized to generate Golgi tendon inhibition or to take advantage of the more complete relaxation of a muscle that often follows an isometric contraction.

6. "The use of osteopathic manipulative treatment as adjuvant therapy in children with recurrent otitis media," by Miram Mills, MD, Charles Henley, DO, Laura Barnes, PhD, Jane Carreiro, DO, and Brian Degenhardt, DO

Article appeared in Archives of Pediatrics and Adolescent Medicine, vol. 157, pp. 861-866, September, 2003

Statistically significant improvement with OMT in:
number of episodes of acute otitis media (AOM),
number of surgical interventions required,
mean number of surgery-free months, and
frequency of normal tympanograms

See also discussion of OMT for AOM by Centers, Morelli, Vallad-Hix, and Seffinger, in Foundations for Osteopathic Medicine, 2nd ed., Chapter 22, General Pediatrics.

7. Why do neonates cry?

Does expiratory crying contribute to the maintenance of airway patency gained during inspiratory efforts over the first few minutes of air breathing?

Increasing resistance to expiration by pursing the lips is known to minimize airway collapse that occurs during forced expiration in adults, especially those with COPD.

A review of the phenomenon of dynamic airway collapse.

Do most infants cry at birth?

Conclusion

Somatic dysfunction: proprioceptive and nociceptive components

