Osteopathic Considerations of Endocrine Disorders

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I have no financial interest or other relationship with any manufacturer of commercial products or services.
Objectives

• Describe the osteopathic approach for the treatment of patients with endocrine disorders.

• Discuss the evidence for osteopathic treatment in diabetes mellitus and other endocrine disorders

• Provide recommendations for osteopathic manipulative treatment for those with endocrine disorders
Tenets of Osteopathic Medicine

• The body is a unit; the person is a unit of body, mind, and spirit.
• The body is capable of self-regulation, self-healing, and health maintenance.
• Structure and function are reciprocally interrelated.
• Rational treatment is based upon an understanding of the basic principles of body unity, self-regulation, and the interrelationship of structure and function.
Endocrine Disorders

• Diabetes
• Osteoporosis
• Thyroid disease
<table>
<thead>
<tr>
<th>The body is a unit</th>
<th>The body is capable of self-regulation</th>
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<th>Rational treatment is based on an understanding of basic principles</th>
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- Diabetes
  - Multisystem disease
  - Genetic predisposition
  - Environmental factors
  - Comorbid diseases
| The body is a unit | The body is capable of self-regulation | Structure and function are interrelated | Rational treatment is based on an understanding of basic principles |

- Diabetes Distress

- Pain
| The body is a unit | The body is capable of self-regulation | Structure and function are interrelated | Rational treatment is based on an understanding of basic principles |

- Self-care activities
- Physical Activity
- Diet
Technology in Diabetes

- Lose It
- My Fitness Pal
- Diabetes Tracker
- Glucose Buddy

- 7 Minute Workout Challenge
- Johnson & Johnson 7 Minute Workout
- 7 Minute Fitness
The body is a unit | The body is capable of self-regulation | Structure and function are interrelated | Rational treatment is based on an understanding of basic principles

- Diabetic Cheiropathy
- Gastroparesis
The body is a unit

The body is capable of self-regulation

Structure and function are interrelated

Rational treatment is based on an understanding of basic principles

• Musculoskeletal Complications
  • Adhesive capsulitis
  • Dupuytren contractures
  • Carpal tunnel syndrome
The body is a unit, the body is capable of self-regulation, structure and function are interrelated. Rational treatment is based on an understanding of basic principles.

- Palpatory findings
  - Viscerosomatic: T5-T11
  - T11-L2: diabetic nephropathy?
  - Posterior cervical spine turgidity and blood glucose
- Body Awareness
Osteopathic Manual Treatment in Patients with Diabetes Mellitus and Comorbid Chronic Low Back Pain: Subgroup Results From the OSTEOPATHIC Trial


- Subgroup of 34 patients from 455 adult patients with LBP
- Randomized, double-blind to OMT or sham treatment

- Key lesions in 27 patients (79%) with DM vs. 243 patients (58%) without diabetes
- Reduction in LBP over 12 weeks was significantly greater in 19 patients receiving OMT than the 15 patients receiving sham treatment

- Reduction in TNF-α in those receiving OMT vs. sham
Osteopathic Manipulative Treatment

- Diaphragms
- Lumbar and sacrum
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- Increase physical activity
- Promote self-care and self-management
- Treat somatic dysfunction as indicated
- Evaluate for diabetes distress
- Intensification of treatment
- Engage with patients
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- Osteoporosis
  - Fracture

- Osteomalacia
  - Bone pain
  - Muscle weakness
  - Fracture
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<tbody>
<tr>
<td></td>
<td>Weight bearing exercise to increase bone mass</td>
<td></td>
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<tr>
<td></td>
<td>Vitamin D</td>
<td></td>
<td></td>
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<td></td>
<td>Lifestyle</td>
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- Goals of Manipulation
  - Normalize joint motion
  - Balance soft tissue tension
  - Support the body’s inherent motion
  - Increase quality of life
A randomized control trial on the effectiveness of osteopathic manipulative treatment in reducing pain and improving the quality of life in elderly patients affected by osteoporosis

Papa L, Mandara A, Bottali M, Gulisano V, Orfel S. Clinical Cases in Mineral and Bone Metabolism 2012; 9(3): 179-183

- Patients with osteoporosis were randomized to either OMT or sham treatment
- Quality of Life and Pain

- After 6 sessions:
  - Significant improvements in overall disability score, mental wellbeing, health perception and pain on QOL scale
  - No significant difference for pain measured by VAS
| The body is a unit | The body is capable of self-regulation | Structure and function are interrelated | Rational treatment is based on an understanding of basic principles |

- Suggested treatment
  - Counterstrain
  - Muscle energy
  - Myofascial release
  - Still technique
• Pharmacologic treatment when indicated

• Lifestyle changes

• Calcium and vitamin D supplementation when indicated

• Increasing joint mobility
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- Thyroid disease
  - Systemic manifestations
    - Constipation
    - Depression
    - Neuromuscular pain and myalgias
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- Physical activity
- Nutrition
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- Viscerosomatic and somatovisceral reflexes
- Upper limb and shoulders and head/neck
  - Soft tissue
  - Spencer’s techniques
- Myalgias
Can osteopathy help women with a history of hypothyroidism and musculoskeletal complaints? Outcome of a preliminary, prospective, open investigation


- 18 patients on medication for hypothyroidism each received three identical osteopathic treatments 1 week apart
- Pain intensity and pain interference with aspects of daily living were assessed by VAS
- Significant improvements in “pain intensity” and “pain interference”
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<tr>
<th>Technique</th>
<th>Description</th>
<th>Proposed Effect</th>
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<td>Soft tissue techniques</td>
<td>Anterior and posterior musculature of the cervical spine</td>
<td>Encourage relaxation of musculature</td>
</tr>
<tr>
<td></td>
<td>Posterior musculature of the upper thorax</td>
<td></td>
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<tr>
<td>Articulations</td>
<td>Cervical spine, Ribs, Clavicle, thoracic spine</td>
<td>To restore mobility of the neck and thoracic segments</td>
</tr>
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<td>Posterior functional release</td>
<td>Applied to the diaphragm</td>
<td>Encourage mechanics required for diaphragmatic breathing</td>
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<tr>
<td>Fascial techniques</td>
<td>Passive stretch to pre-tracheal fascia in superior/inferior direction</td>
<td>Encourage venous and lymphatic drainage of anterior neck</td>
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<tr>
<td>Chapman’s reflexes</td>
<td>Static pressure to reflex pointes in intercostal spaces bilaterally</td>
<td>Stimulate thyroid gland</td>
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<td></td>
<td>Static pressure to costo-vertebral regions of T2</td>
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<tr>
<td>Cranial</td>
<td>CV4 technique</td>
<td>Reduce sympathetic drive and encourage parasympathetic activity</td>
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- Treatment with medication when indicated
- Treatment of symptoms
- Increase physical activity
Key Points

- Diabetes
  - Increase physical activity
  - Look for diabetic cheiropathy
  - Screen of diabetes distress
- Osteoporosis
  - Increase physical activity
  - Improve joint mobility and balance
- Thyroid disease
  - Increase physical activity
  - Treat symptoms
I have no desire to be a cat, which walks so lightly that it never creates a disturbance.

- A.T. Still MD, DO
References

- Shubrook JH, Johnson AW. An Osteopathic Approach to Type 2 Diabetes Mellitus. *J Am Osteopath Assoc*. 2011;111(9):531-537
- Papa L, Mandara A, Bottali M, Gulisano V, Orfel S. A randomized control trial on the effectiveness of osteopathic manipulative treatment in reducing pain and improving the quality of life in elderly patients affected by osteoporosis. *Clinical Cases in Mineral and Bone Metabolism* 2012; 9(3): 179-183
Thank you!

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