Clinical Integration of Osteopathic Manipulative Medicine (OMM)

Family Medicine – Low Back Pain

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Intro: Lower back pain has a substantial impact on lifestyle and quality of life. It is the second most common symptom related reason for clinical visits in the United States.1,2,3 Up to 84% of adults have low back pain at some point in their lives.1,4 The total cost of low back pain in the US exceeds $100 billion per year.5 While the long term outcome of low back pain is generally favorable, most patients were still experiencing low back pain, for which they did not seek care, one year after the initial episode.6

Differential diagnosis:

- The differential diagnosis for lower back pain is broad and can be broadly grouped into two categories: mechanical and systemic
- Mechanical
  - Degenerative disc disease
  - Lumbar strain/sprain
  - Scoliosis
  - Sciatica
  - Spondylosis
  - Spondylolisthesis
  - Spondylolysis
- Systemic
  - Neoplastic
  - Infectious (vertebral osteomyelitis)
  - Inflammatory (ankylosing spondylitis)
- Imaging:
  - Plain radiographs are indicated if there has been no improvement after 4-6 weeks and are used to rule out tumor, infection, instability, spondyloarthropathy, and spondylolisthesis
  - Imaging is indicated at less than 4 weeks if any of the following is present:
    - Progressive neurological findings
- Constitutional symptoms
- History of traumatic onset
- History of malignancy
- Age < 50 years old
- Infectious risks
- Osteoporosis
  - CT or MRI imaging is considered after 12 weeks of persistent low back pain

**Clinical pearls and diagnostic tools:**

- Clues that suggest underlying systemic disease:
  - History of cancer
  - Unexplained weight loss
  - Duration of pain greater than 1 month
  - Nighttime pain
  - Pain that is not relieved when lying down
  - Incontinence

- Evaluate three primary concerns when taking the patient’s history:
  - Is there evidence of systemic disease?
  - Is there evidence of neurologic compromise?
  - Is there social or psychological distress that may contribute to chronic, disabling pain?

- Important pieces of the physical exam include:
  - Inspection of the back and posture
  - Range of motion
  - Palpation of the spine
  - Straight leg raise test
  - Neurologic assessment of L5 and S1 nerve roots
  - Evaluation for malignancy when the history strongly suggests systemic disease

- When to refer:
  - Cauda equina syndrome
  - Suspected spinal cord compression
  - Progressive or severe neurological deficit

**Osteopathic Manipulative Medicine (OMM) Integration:** While medications such as NSAIDs and muscle relaxants are considered the first line treatment for low back pain (LBP), OMM is also considered as an effective treatment modality. There is statistical evidence which shows that OMM treatment can reduce low back pain when compared to a placebo or a non-treated control.\(^7,8\) In 2010, the American Osteopathic Association’s Clinical Guidelines Subcommittee on Low Back Pain conducted a meta-analysis of six randomly controlled blinded studies involving OMM and low back pain in ambulatory care settings. The authors of this review concluded that treatment with OMM significantly reduced low back pain (LBP) during the short-term (\(P=.01\)), intermediate-term (\(P<.001\)) and long-term (\(P=.03\)) follow up periods.\(^7\) In addition, obesity is considered a risk factor for low back pain and OMM treatment in this...
specific patient population has been looked at. There results found that OMM combined with specific exercises was significantly more effective in reducing pain than those specific exercises alone (p<.05).9

**Osteopathic Structural Examination:** Due to the large number of possible causes of low back pain, the somatic dysfunctions that could be found are widespread. An osteopathic structural exam should be performed and any somatic dysfunctions present should be identified. In the majority of the studies in which the authors analyzed the use of OMM for patients with low back pain, treatment was individualized for the patient.

**Possible treatment options:**

- Myofascial of the thoracic and/or lumbar spine
- Muscle energy for pelvic and sacral dysfunctions
- FPR for sacral motion restriction
- Counterstrain for the piriformis, psoas, lumbar process tenderpoints
- Counterstrain for the pelvic and sacral tenderpoints

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