Acute Management of Low Back Pain

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Providence Physiatry
## Triage LBP (Low Back Pain)

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Concern</th>
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<tbody>
<tr>
<td>Pain in the lower extremities (including the buttocks) more than pain in the lower back</td>
<td>Radiculopathy</td>
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<tr>
<td>Weakness or sensory deficit in one or both lower extremities</td>
<td>Radiculopathy and the possibility of cauda equina syndrome (especially if there is bilateral involvement of the lower extremities)</td>
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<tr>
<td>Bowel or bladder changes; saddle anesthesia</td>
<td>Cauda equina</td>
</tr>
<tr>
<td>Severe pain in the low back, including pain while lying down</td>
<td>Malignant neoplasm</td>
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<tr>
<td>Fever, chills, night sweats, recent loss of weight</td>
<td>Infection and malignant neoplasm</td>
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<tr>
<td>Injury related to a fall from a height or motor vehicle crash in a young patient or from a minor fall or heavy lifting in a patient with osteoporosis or possible osteoporosis</td>
<td>Fracture</td>
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<tr>
<td>History of cancer metastatic to bone</td>
<td>Malignant neoplasm</td>
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</table>
Red Flags

• 1. Profound upper or lower motor neuron injury
  – Myelopathy or cauda equina syndrome

• 2. Systemic symptoms with back pain, especially after spinal injection or other procedures/surgery
  – Spinal infection, discitis, osteomyelitis (CBC/CRP/ESR with/out MRI)

• 3. Weight loss, nocturnal pain, pain worse laying down
  – Cancer related pain

• 4. Severe trauma, fall with very focal pain
  – Vertebral compression fracture
LBP with Radicular features

- Radiculitis vs Radiculopathy
  - With a true radiculopathy, obtain advanced imaging quickly if patient is interested in spinal injection or potential surgery
  - Radiculitis, trial PT for 6 weeks before obtaining advanced imaging
- Spinal stenosis: Obtain advanced imaging if failure of conservative management and patient considering spinal intervention (injection or surgery)
- EMG/NCS also useful to assess severity of problem
- Not all radicular pain is radiculopathy: hip, sacroiliac joint, piriformis, meralgia parasthetica, myofascial trigger points
Axial Low Back Pain

• Once red flags are ruled out, this is the most common of symptom
  – Acute/subacute (less than 12 weeks) vs chronic
• Muscle/ligamentous (myofascial)
• Facet pain (synovitis)
• Sacroiliac joint pain
• Discogenic back pain
Psychosocial Factors

• 30-40% of those with chronic low back pain have depression
• High correlation with anger and pain
  – Possibly related to deficient opioid modulation in those with high anxiety, anger, and fear reactivity
• As clinicians, try to reduce fear avoidance
  – Pain will be permanent; related to activity; exercise will damage their back
• Recognize pain catastrophizing
  – Excessively negative thoughts, high fear of movement
    • Reassure patient that they are not damaging their spine
    • Changes in beliefs account for 71% reduction in disability
Nonorganic Signs

- Inappropriate tenderness that is widespread or superficial
- Pain with only simulated loading or rotation of the spine
- Inconsistent performance when testing the same thing in different positions
  - Ie FABER or SLR while sitting versus laying down
- Regional deficits in strength or sensation that do not have an anatomical basis
- Overreaction during physical exam
Medication Management

• NSAIDS: Longest trial was 6 weeks, but short term evidence for effectiveness is good
• Muscle relaxants: Controversial but often used clinically
  – Benzodiazepines: some studies show effectiveness for short term (5-14 days)
    • No evidence that is more effective than cyclobenzaprine
    • Multiple side effects and dangerous with opioids
  – Cyclobenzaprine: similar to TCA
  – Carisoprodol: high abuse potential, especially with opioids
  – Baclofen (use more for those with neurological diseases)
  – Tizandine- central acting alpha 2 agonist (very good for high anxiety patient)
• Antibiotics: Augmentin study for 100 days for Modic 1 changes
Medication Management (cont)

• Antidepressants
  – TCA: Many studies support the use of TCA’s for chronic neuropathic pain conditions
    • Depression was excluded in many of these studies which suggests the mechanism of action is independent of the treatment of depression
• Opioids: Commonly used for short term use, but use for chronic low back pain is controversial
  • Many side effects, high abuse potential
  • Should be considered last resort of LBP (tramadol is my 1st line)
• Anticonvulsants: Gabapentinoids, Topamax (not common); chronic pain<acute
• Systemic steroids: Multiple studies have shown them to be not effective
  – (anecdotal) I use commonly for those with radicular pain and unable to get an epidural
Modalities/Other

• Manual Manipulation: More effective than placebo and effective for acute low back pain
  – Use with caution for patients who have cervical/lumbar fusion
• Traction: Mixed results from clinical trials
  – (Anecdotal) Give patients a trial of traction during PT
• Lumbar support braces: Conflicting evidence, poor compliance
  – Most important post-surgically, and when used for short term/task specific activities
    • For patients who have very mechanical symptoms, ie pain with extension, I find some patients respond well
• TENS unit: Meta-analysis shows a trend for pain reduction, but not statistically significant
Physical Therapy/Exercise

• Physical therapy does not routinely need to be ordered for LBP less than 4 weeks
• No one form of exercise is clearly show superiority for subacute or chronic low back pain
  – Aerobic, aquatic, yoga, pilates, tai chi (elderly)
• Directional preference therapy
• Dynamic lumbar stabilization (core exercise)
<table>
<thead>
<tr>
<th>Education and self-care</th>
<th>Acute low back pain (&lt;6 weeks)</th>
<th>Persistent low back pain (&gt;12 weeks)</th>
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</thead>
<tbody>
<tr>
<td>Advice to remain active</td>
<td>First-line treatment, consider for routine use</td>
<td>First-line treatment, consider for routine use</td>
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<td>Education</td>
<td>First-line treatment, consider for routine use</td>
<td>First-line treatment, consider for routine use</td>
</tr>
<tr>
<td>Superficial heat</td>
<td>Second-line or adjunctive treatment option</td>
<td>Insufficient evidence</td>
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<tr>
<th>Pharmacological therapy</th>
<th>Acute LBP (&lt;6 weeks)</th>
<th>Chronic LBP (&gt;12 weeks)</th>
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<tbody>
<tr>
<td>Paracetamol</td>
<td>Not recommended</td>
<td>Not recommended</td>
</tr>
<tr>
<td>Non-steroidal anti-inflammatory drugs</td>
<td>Second-line or adjunctive treatment option</td>
<td>Second-line or adjunctive treatment option</td>
</tr>
<tr>
<td>Skeletal muscle relaxants</td>
<td>Limited use in selected patients</td>
<td>Insufficient evidence</td>
</tr>
<tr>
<td>Selective norepinephrine reuptake inhibitors</td>
<td>Insufficient evidence</td>
<td>Second-line or adjunctive treatment option</td>
</tr>
<tr>
<td>Antiseizure medications</td>
<td>Insufficient evidence</td>
<td>Role uncertain</td>
</tr>
<tr>
<td>Opioids</td>
<td>Limited use in selected patients, use with caution</td>
<td>Limited use in selected patients, use with caution</td>
</tr>
<tr>
<td>Systemic glucocorticoids</td>
<td>Not recommended</td>
<td>Not recommended</td>
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**Interventional therapies**

<table>
<thead>
<tr>
<th>Epidural glucocorticoid injection (for herniated disc with radiculopathy)</th>
<th>Acute LBP (&lt;6 weeks)</th>
<th>Chronic LBP (&gt;12 weeks)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Not recommended</td>
<td>Limited use in selected patients</td>
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## Non-pharmacological therapy

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<th>Acute LBP (&lt;6 weeks)</th>
<th>Chronic LBP (&gt;12 weeks)</th>
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<tbody>
<tr>
<td>Exercise therapy</td>
<td>Limited use in selected patients</td>
<td>First-line treatment, consider for routine use</td>
</tr>
<tr>
<td>Cognitive behavioural therapy</td>
<td>Limited use in selected patients</td>
<td>First-line treatment, consider for routine use</td>
</tr>
<tr>
<td>Spinal manipulation</td>
<td>Second-line or adjunctive treatment option</td>
<td>Second-line or adjunctive treatment option</td>
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<tr>
<td>Massage</td>
<td>Second-line or adjunctive treatment option</td>
<td>Second-line or adjunctive treatment option</td>
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<tr>
<td>Acupuncture</td>
<td>Second-line or adjunctive treatment option</td>
<td>Second-line or adjunctive treatment option</td>
</tr>
<tr>
<td>Yoga</td>
<td>Insufficient evidence</td>
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<tr>
<td>Mindfulness-based stress reduction</td>
<td>Insufficient evidence</td>
<td>Second-line or adjunctive treatment option</td>
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<tr>
<td>Interdisciplinary rehabilitation</td>
<td>Insufficient evidence</td>
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Marijuana Derivatives/Products

- CBD (cannabidiol)
- Very limited data on safety and efficacy
- Few convincing studies with CBD only products
  - Sleep was not impaired with 300 mg
- Possibly better tolerated due to lack of psychogenic effects

- THC
- Most meta-analysis studies show no benefit with THC
  - Overwhelmingly negative results
- Many patients drop out due to side effects
- Studied for neuropathic pain, rheumatological, and cancer pain
ACP Guidelines Similar to Lancet
Acute to Subacute LBP

• Exercise: No effect for acute low back pain, effective for chronic
• Acupuncture: small improvement in pain, not in function
• Massage: Improvement in pain/function, but low quality evidence
• Manipulation: improvement in function, not pain. Low quality evidence
• **Heat:** moderate improvement in pain and function
• Low level laser (‘Cold laser’): pain relief but low quality evidence
• Lumbar supports/brace: no difference
Wrap Up-Questions?

• Continue to use opioids less for acute on chronic pain
  – Lower patients expectations about the use/benefit of opioids
• Physical therapy more effective for subacute and chronic low back
• Education and exercise important for all back pain

• THANK YOU FOR YOUR ATTENTION!!!