Oh, My Aching Back!
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Oh, My Aching Back!
- Incidence, prevalence, background information
- Examination points
- Management
  - When to get imaging
  - When to refer
  - What tools we have to treat

Oh, My Aching Back!
- Fifth most common reason for primary care office visits
- Second most common cause for symptom related visits
- 5% of all patient visits
- 84% of population will have it at some time of life
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- Population survey of 30,000 people showed 26% had back pain lasting more than one day in the previous three months
- Estimated cost of $102 billion in the US in 2004

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- Risk factors for low back pain
  - Female sex
  - Sedentary work
  - Strenuous work
  - Psychologically strenuous work
  - Low educational achievement
  - Worker's Compensation insurance

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- Psychological factors
  - Anxiety
  - Depression
  - Somatization

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- Non-risk factors
  - Several studies have shown that strenuous activity outside the workplace do not increase the risk of low back pain
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- **Impact**
  - Swiss study showed economic impact was 2% of GDP
  - British study showed 90% stop seeking medical care within 3 months
  - Also showed that most still had symptoms after one year

**Clinical Practice Guides**

- Adherence to recommendations in clinical practice guidelines in the mgmt of low back pain has been associated with both improved clinical outcomes and reduced costs
- Many have been published. Summary in *The Spine Journal* 10(2010) 514-529 summarized 10 such guidelines

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- **Assessment**
  - Aimed at ruling out potentially serious spinal pathology, specific causes, and substantial neurological involvement
  - History
    - Typical history points – location, provocative and palliative maneuvers, history of injury, positional nature
    - Associated systemic questions – red flags

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- **Exam points**
  - Point tenderness, “tracks”, bruising, aortic pulsations, etc.
  - Most of exam is spent assessing whether lumbar radiculopathy is present
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- Only 4% of back pain has associated sciatica
- In those with sciatica, the following sensitivities and specificities apply to disk herniation or other causes of compressive radiculopathy

<table>
<thead>
<tr>
<th>Test</th>
<th>Sensitivity</th>
<th>Specificity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weak ankle dorsiflexion</td>
<td>54</td>
<td>89</td>
</tr>
<tr>
<td>Ipsilateral calf wasting</td>
<td>29</td>
<td>94</td>
</tr>
<tr>
<td>Abnl leg sensation</td>
<td>16</td>
<td>86</td>
</tr>
<tr>
<td>Abnl ankle jerk</td>
<td>48</td>
<td>89</td>
</tr>
<tr>
<td>SLR</td>
<td>80</td>
<td>50</td>
</tr>
<tr>
<td>Crossed SLR</td>
<td>30</td>
<td>93</td>
</tr>
</tbody>
</table>

**Red Flags**

- Various lists
- Synthesis of recommendations found 22 different red flags
- Consider in groups, aimed at the category being ruled out
- Consider using a questionnaire
**Red Flags**

- Malignancy
  - History of cancer
  - Unexplained weight loss of 10Kg over 6 months
  - Age over 50 or under 17
  - Night pain, pain at rest

- Infection
  - Persistant fever
  - Hx IVDU
  - Recent bacterial infection
  - Immunocompromised
  - Steroid use

- Cauda Equina or Severe compromise
  - Incontinence
  - Bilateral LE weakness or numbness
  - Progressive deficit
  - Weakness (3/5 muscle strength or less)
  - Foot drop

- Vertebral fracture
  - Prolonged use of steroids
  - Trauma over age 50
  - Age over 70
  - Osteoporosis
  - Significant trauma at any age
  - AAA, Ankylosing spondylitis
    - Entertain the dx.
### Neurological involvement
- History
- Exam focused on the dermatomes, myotomes, and DTRs of L4, L5, and S1
- SLRs not recommended due to concerns about validity, reliability, and interpretation

### Other Assessments
- Severity of symptoms, effect on activities of daily living
- Risk factors for chronicity (10 risk factors identified in the 10 guidelines, 7 of which were psychosocial in nature)

### Chronic pain risk
- Jama 4/7/10
- Most helpful predictors are maladaptive pain coping behaviors, nonorganic signs, functional impairment, general health status, and presence of psychiatric comorbidities

### Management
- Acute low back pain
  - Brief education about low back pain
  - Stay active
  - Acetaminophen, NSAIDs, reassurance, muscle relaxants
  - Spinal manipulation therapy (SMT)
  - Weak opiates
Acute low back pain

- None of the guidelines recommend:
  - Bedrest
  - Back exercises
  - Lumbar supports
  - Acupuncture
  - Biofeedback
  - TENS
  - Traction
  - Ultrasound

Chronic low back pain

- Brief education
- Stay active
- NSAIDs, weak opiates
- Back exercises
- SMT

Chronic back pain

- None of the guidelines recommend:
  - Bedrest
  - Biofeedback
  - Lumbar supports
  - Heat/Cold
  - Traction
  - Ultrasound

Chronic back pain

- Secondary interventions recommended include:
  - Rehab
  - Adjunctive analgesics
  - Behavioral therapy
  - Strong opiates
  - Fusion surgery
  - One guide also suggested facet injections, soft tissue injections, TENS
Chronic back pain

- None of the guidelines recommended:
  - Decompression surgery
  - Nucleoplasty

LBP with substantial neuro involvement

- Stay active
- Brief education
- Acetaminophen, muscle relaxants, and NSAIDs
- SMT
- Back exercises and/or massage

LBP with substantial neuro involvement

- None recommended:
  - Biofeedback
  - Lumbar supports
  - Heat/cold
  - Ultrasound

- Secondary interventions include:
  - Epidural steroids, behavioral therapy, rehab, decompressive surgery, adjunctive analgesics, and strong opiates

LBP with substantial neuro involvement

- None recommended:
  - Fusion
  - Nucleoplasty
**Summary**

- Assess patient through history, physical and neurological exams.
- Consider intake questionnaire for the red flags
- Physical/neuro exam focusing on L4/L5/S1
- This should identify 99% of potentially serious spinal pathology

**Summary**

- If red flags present or concerns about specific diagnoses, MRI/CT and/or neurosurgical consultation appropriate
- Even if neurological signs present, guides generally recommend trial of conservative care before getting imaging
- Do not get imaging if you aren't going to do anything with it.

**Summary**

- Although guides suggest assessment for risk of chronic pain, they did not generally have any suggestion of what to do about it
- None of the guides suggested it is necessary or beneficial to attempt to identify the specific anatomical structures involved.
  - Was suggested that ordering tests may increase the risk for chronicity

**Summary**

- Recommendations generally do not support use of injections, minimally invasive surgical approaches, or surgical procedures for low back pain
- Future study and guides should consider cost effectiveness of different therapies and diagnostic approaches