

## A Pain in The...

# Looking at Lower Back Pain



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Table 1

### Warning signals to detect in emergency situations

#### Risk factors for fractures

- Severe trauma (car accident, high fall)
- Light, secondary trauma due to lifting with older or osteoporotic patients

#### Risk factors for tumours

- Patients age 50 and over or younger than 20 years
- Antecedents of neoplasia
- Systemic symptoms (recent episodes of fever or shivering, unexplained loss of weight and appetite, fatigue)

#### Risk factors for infections

- Recent bacterial infection
- Intravenous drug user
- Immune deficiency (steroids, immune-suppressing agents, HIV, *etc.*)
- Accentuated pain in dorsal decubitus
- Intense nocturnal pain

#### Risk factors for cauda equina

- Saddle anesthesia
- Recent urinary dysfunction (retention, incontinence, frequent mictions)
- Serious or progressive neurologic deficit in the lower extremities

Over 75% of the population suffers from lower back pain at some point, constituting one of the main reasons for medical consultations.<sup>1</sup> The source of lower back pain is, however, often unidentifiable.

### Jim's Pain



Jim, 35, has been a lumberjack for seven years. While working, he feels acute pain in the lower part of his back. Jim is unable to finish his shift and then goes to the local emergency department.

- A questionnaire reveals pain radiating to the posterior right buttock and thigh.
- Physical exam shows no particularities except lumbar stiffness and pain.
- X-ray of the lumbar spine is normal.

For more on Jim, go to page 74.

### Where to start?

It is crucial to identify possible emergency situations early based on established warning signals (red alerts) found in patient questionnaire and physical examination (Table 1).

Once these warning signals have been ruled out, the clinical investigation can go further and discern the origin of the pain (Table 2).

Pain originating from the disc and the spinal cord is largely central, but sometimes accompanied by a radiation resembling

Table 2

## Possible etiologies of non-urgent lower back pain

### Spinal discal

- Sprain (rupture of the annulus), discal insufficiency, inflammation, *etc.*

### Spinal bone

- Spondylolysis, spondylolisthesis, scoliosis, spondylo arthrosis, sacroiliitis, coccygodynia, *etc.*

### Syndrome

- Facet, posterior section, thoracolumbar junction, iliolumbar, piriformis, Bastrup's, myofacial pain, *etc.*

a sciatica or a meralgia. The different syndromes frequently entail radiating pain. Even though it is said that 80% to 90% of patients recuperate within 12 weeks, recent studies show a chronicity in 35% to 79% of cases.<sup>2</sup>

## Easing Jim's Pain

Jim is ordered to rest and prescribed non-steroidal anti-inflammatory drugs (NSAIDs) and morphine. One week later, he shows no improvement. The doctor prescribes physical therapy and orders a computed tomography (CT) scan, which shows a L5-S1 disc herniation.

Nine weeks after the initial incident, Jim has improved; however, he has not yet gone back to work and is undergoing physical therapy. An orthopedic consultation is requested for a surgical opinion.

What strategy should have been adopted from the start?

For the answer, go to page 75.

## What's the treatment plan?

Whether lower back pain is caused by the disc, the bones or a specific syndrome, initial treatment is always conservative (Table 3). Studies show:

- non-steroidal anti-inflammatory drugs (NSAIDs) are more efficient than placebo for acute low back pain (grade A);
- no convincing evidence that NSAIDs are more effective than acetaminophen (grade D);
- muscle relaxants are effective in the short term for acute lower back pain (grade A);
- no additional benefits to combining muscle relaxants with NSAIDs (grade B);
- physical therapy is not recommended during acute phase;
- manipulation is no better than medication alone (grade B);
- little evidence supporting facet blocks and radio frequency denervation;
- few studies and no meta-analysis for cryotherapy;
- no consistent data supporting the efficacy of epidural injection in acute phase (grade D);
- corticotherapy can sometimes bring significant relief; and
- antidepressants and morphine derivatives can be tried if applied responsibly.<sup>2-4</sup>



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## Jim's Strategy

There was no need to X-ray Jim's back at the first visit. Investigation on initial visit is only indicated if there is a warning sign. Reassurance and a conservative treatment plan emphasizing self-management of pain is most important.

Patients must understand pain might not completely have disappeared (even with pain killers), but the faster they return to normal activities, the better the chance of improving and not developing chronic pain.

One week after injury is probably too soon for Jim to go to physical therapy and a computed tomography (CT) scan is unnecessary. Even if patients are seen on a weekly basis, their situation must be reviewed at four weeks. If there has been no improvement, investigation begins.

Treatment must be reviewed and all other options explored (e.g., antidepressants, morphine derivatives, manipulations, cortisone shots, etc.).

By week nine, Jim has improved, but hasn't returned to work, as he fears further injury (pain management wasn't appropriately explained). There is no need to consult a surgeon now. Jim's physical therapist should aim for a progressive return to normal activities. If Jim is still problematic after 12 to 15 weeks, a multidisciplinary team should be consulted.



### References

1. Cypress BK: Characteristics of physician visits for back symptoms: A national perspective. *Am J Public Health* 1991; 12:141-56.
2. Slipman CW, Bhat AL, Gilchrist RV, et al: A critical review of the evidence for the use of zygoapophyseal injections and radiofrequency denervation in the treatment of low back pain. *Spine J* 2003; 3(4):6.
3. Harwood ML, Chang SI: What is the most effective treatment for acute low back pain? *J Fam Pract* 2002; 51(2):118.
4. Maigne JY: *Soulager le mal de dos*. Collection Consulter/Prescrire. Éditions Masson, Paris, 2001.

Table 3

## Treatment options

### 1st intervention

- Reassurance, pain self-management
- Brief rest (< 2 days)
- Return to usual activities as soon as possible
- Acetaminophen, NSAID, +/- muscle relaxants

### 2nd intervention (4-6 weeks)

- Review of diagnosis +/- investigation (antidepressants, morphine derivatives, manipulations, infiltrations all to be considered)

### 3rd intervention (≥ 12 weeks)

- Competent multidisciplinary team
  - Overall reconditioning
    - Postural hygiene
    - Muscular and cardiovascular exertion (weekly evaluation report to improve)
    - Psychologic support (stress management, self-control)
- Intervention in the workplace
  - Ergonomics of the work station
  - Change of duties

## Take-home message



- Initial investigation is recommended only in the case of the noted warning signals.
- It is crucial to emphasize normal activity as early as possible.
- Diagnosis should be reviewed four weeks later. If no improvement has occurred, an investigation on the basis of the presumed underlying causes should be undertaken.
- If there is still no improvement within 12 weeks, a multidisciplinary team should be consulted.