Acute back pain

Malcolm I V Jayson MD FRCP, Consultant Rheumatologist, University of Manchester

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Back pain is remarkably common. The statistics are daunting: the problem affects some 60–80% of the population at some time in their life, with over 90 million certified working days lost per annum, and the true figure probably greatly in excess of this. The costs to our economy have been estimated as £5.9 billion per annum. Moreover, in recent years there has been a dramatic increase in the amount of back disability, though not in the actual number of incidents of back pain.

Recognition of the magnitude of the problem has led to major reviews and guidelines on the management of acute back pain. Three principal reports have been published[1–4]. They are evidence-based, broadly similar, and have promoted a fundamental shift in our approach to the patient with acute back pain.

Occupational health studies have indicated that back pain episodes are common, recurrent, but usually of short duration. There is an association with the physical demands of work, in particular with bending, lifting and twisting, but it can be difficult to determine if excessive strains on the spine are the cause of back problems, or that a person with a back problem has difficulties with heavy manual work. Detailed studies have shown that the physical demands of work are risk factors, but play only a minor role compared with individual and non-related psychosocial factors in determining disability and care-seeking.

Occupational physicians are often asked to advise whether a person is capable of undertaking a particular job. The most important predictor of future low back pain is a previous history of back pain, and placing a person with such a history in a physically demanding job should be avoided. However, a previous history of a back problem is not a reason for exclusion for work. If this policy were adopted, the majority of the working population would be excluded. Psychological distress is another important secondary risk factor. Physical examination, X-ray and imaging findings, and quantification of back muscle strength and movements are of little value in predicting future back pain.

In terms of the actual work, there are guidelines on manual handling techniques. There should be an atmosphere of concern for safety, in particular avoiding sudden unexpected movements, excessive loads and vibration exposure. Exercises and physical fitness programmes are often promoted but have little benefit in preventing future back pain. Indeed, while much effort is expended on ergonomic training, controlled studies have failed to show that they work. Likewise, lumbar belts and supports are of no value. Perhaps the most important preventive measures are job satisfaction and good industrial relations.

Classification of acute back pain

The patient with acute backache should be assessed as having:

- simple back pain
- nerve root pain
- possible serious spinal pathology.

This distinction is made on clinical grounds without the need for investigations.

Simple back pain

Simple back pain is defined as occurring in a patient aged 20–55 years, with pain restricted to the lumbo-sacral spine, buttocks and thighs, mechanical in nature, and varying with physical activity and time. The patient is otherwise fit. The prognosis is good, and 90% recover within six weeks.

Nerve root pain

The patient with nerve root pain experiences unilateral leg pain worse than the back pain, which may radiate to the foot and toes and can be associated with numbness and paraesthesiae. There may be symptoms and signs of nerve root irritation. The prognosis is less good, with 50% recovering within six weeks.

Possible serious spinal pathology

Red flags to indicate possible serious spinal pathology include:

- age less than 20 years or more than 55 years
- a history of trauma
- constant progressive non-mechanical pattern of pain
- thoracic pain
- a past history of serious illness or steroid therapy
- the patient is unwell or has lost weight
- widespread neurology involving more than one nerve root
- structural deformity.

Detailed investigations are required, including blood tests, X-rays and scans. Possible diagnoses include not only mechanical problems but also inflammatory disorders such as ankylosing spondylitis, infections such as discitis, neoplasms, metabolic problems, and referred pain from the abdomen and pelvis.

Yellow flags are psychosocial risk factors, and beliefs and behaviours by the patient that will predict a poor outcome[5]. They include the belief that back pain is potentially severely disabling, fear avoidance behaviour, low mood, social withdrawal, and the expectation of passive treatment.

Patients with medico-legal claims experience more severe pain, with longer lasting duration of disability, and they have a lower recovery rate than patients with similar problems but without any form of redress[6].

Management

The principal management of patients with back pain[3] is a minimal period off work, avoidance of bed rest if at all possible but, if necessary, not more than 2–3 days. Return to work should be

achieved as soon as possible, even if there are some residual symptoms, adapting the work if necessary, and continuing the ordinary activities of daily living and work as naturally as possible. Analgesia, usually paracetamol, is often prescribed. If the patient does not recover rapidly, he or she should be referred for an active rehabilitation programme from a physiotherapist, osteopath or chiropractor.

The longer the period off work, the less the chances that the patient will ever return to work. Only 23% per cent of those off work for a year return to employment, and less than 10% of those off work for two years will get back to work[1,2]. The concern is the patient who has not returned to work by 1–3 months. The patient should be reassured that it is not necessary to be pain free before going back to work. It may be necessary to undertake adjustments to the job, and the emphasis should shift from symptomatic treatment to self-management. If necessary, such patients could be referred for an active rehabilitation programme.

Indications for a specialist opinion from a rheumatologist, pain specialist or a spine surgeon are:

- back pain not resolving by 6–12 weeks
- nerve root pain not resolving
- possible serious spinal pathology.

Simple back pain should be referred to a rheumatologist or a pain specialist, nerve root pain to an orthopaedic surgeon or neurosurgeon, and possible serious spinal pathology to a rheumatologist for investigation. Multiple nerve root damage and cauda equina lesions may need an urgent or emergency surgical referral.

Options for management of mechanical back problems include prescription of analgesics, anti-inflammatory drugs, muscle relaxants, serotonin antagonists, local injections such as epidurals, intensive rehabilitation programmes, and surgery.

Risk for recurrent episodes of back pain

Although most patients will recover rapidly, there is a high risk of recurrent attacks. Croft *et al*[7] showed that 90% of patients with new episodes of back pain stopped consulting within three months, but only 25% had fully recovered a year later. In a prospective study by Thomas *et al*[8], risk factors for the development of chronic disabling low back pain were found to include:

- *patient factors,* in particular, being female and of older age
- *pre-morbid factors,* including psychological distress, poor self-rated health, a low level of physical activity, a previous history of back pain, smoking and job dissatisfaction
- *episode-specific factors,* including widespread pain, long duration of symptoms prior to consultation, radiating leg pain, and restriction of spine movements in more than one place.

Thomas *et al*[8] constructed a multivariate model, the features of which were the previous history of back problems, job dissatisfaction, widespread pain, radiating leg pain, restriction of spine movements and gender. This model was 74% accurate in predicting the outcome of a back pain episode.

Key Points

Acute back pain should be triaged on clinical grounds into simple back pain, nerve root pain and possible serious pathology

Acute back pain should be treated with minimal periods of rest. Patients should return to normal activity and work as soon as possible

Beware of 'red flags' suggesting possible serious pathology and of 'yellow flags' indicating psychosocial risk

Consider specialist referral according to the nature of the problem

Conclusion

There is a fundamental shift in our approach to acute back pain, with the emphasis on avoiding rest, maintaining physical activity, keeping at work if at all possible, and return to work as soon as possible if time has to be taken off work. There are early signs that this philosophy is effective. Some recent studies conducted in the USA suggest that we may be seeing the beginnings of a reduction in the apparently remorseless increase in back disability[9].

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Address for correspondence:
Professor Malcolm Jayson,
The Gate House, 8 Lancaster Road,
Didsbury, Manchester M20 2TY