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Approach to low back pain – physiotherapy

This article forms part of our allied health series for 2014, which aims to provide information about the management approach of different allied health professionals, using the case example of uncomplicated, mechanical low back pain.

Keywords

physiotherapy; low back pain

Case study

A man aged 42 years, who works as a police officer, presented with severe lower back pain, which he had experienced for 24 hours after spending the previous day helping his brother to move house. He had difficulty ambulating and most movements aggravated the pain. There were no lower limb symptoms and no red flags present on history or examination. He was otherwise well and was not taking any regular medications.

This article aims to provide a brief description of modern physiotherapy practice in the management of mechanical low back pain, as taught in Australian universities and recommended in clinical practice guidelines.¹⁻³

Initial assessment

The first aim of the physiotherapy examination for a patient presenting with back pain is to classify the patient according to the diagnostic triage recommended in international back pain guidelines.² Serious and specific causes of back pain are very rare⁴ (eg. fracture, cancer, infection and ankylosing spondylitis) but it is important to screen for these conditions. Patients are then divided into those with signs and symptoms suggesting compression or irritation of a nerve root or those with mechanical back pain.^{2,3} The rest of this article focuses on mechanical low back pain, which accounts for over 90% of patients presenting to primary care.⁵

The assessment aims to identify impairments that may have contributed to the onset of the pain, or increase the likelihood of developing persistent pain. These include biological factors (eg. weakness, stiffness), psychological factors (eg. depression, fear of movement and catastrophisation) and social factors (eg. work environment). The assessment does not focus on identifying anatomical structures (eg. the intervertebral disc) as the source of pain, as might be the case in peripheral joints such as the knee. Previous research and international guidelines suggest it is not possible or necessary to identify the specific tissue source of pain for the effective management of mechanical back pain.^{2,3,6}

The assessment starts by taking a thorough patient history. This focuses on classifying the patient according to the diagnostic triage, developing hypotheses about contributing factors and assessing psychological or social barriers (often called yellow flags) to recovery.^{2,7}

A typical physical examination starts with observation of posture and alignment, focusing on positions and movements that are described as being painful (eg. sitting). The relationship between altering these movements and the subsequent pain response is examined. A neurological examination is common but is not required in the presented case, as there are no symptoms extending into the legs.

Active movement examination is conducted to assess the degree of pain and reduced motion in different movements, while searching for mechanical patterns (eg. flexion increases pain, whereas extension reduces pain) that can be used to guide movement strategies (including exercise), manual therapy, or advice given. Typically, this will be followed by palpation of the lumbar spine muscles and joints, including specific joint mobilisations of intervertebral levels to assess reproduction of pain and any perceived stiffness. In an uncomplicated case, such as that presented,

this is likely to be the extent of the examination. In cases of persistent back pain or when a patient has had several previous episodes, a more extensive examination will be required.

Management strategies

Immediate

There is strong evidence that most people with simple back pain, as described in this case, improve rapidly with limited intervention.^{8,9} The initial treatment should include emphasis on the benign nature of the problem, advice to remain as active as possible, avoid bed rest, and reassurance that the pain is likely to settle quickly.^{1,2} Patients are advised to take simple analgesics if required.^{1,2} Physiotherapists commonly add manual therapy and/or exercise interventions if the assessment reveals that these are likely to help an individual patient. In patients with severe pain and muscle spasm, modalities such as heat and massage may be used to provide short-term pain relief. In patients with mechanical low back pain imaging is not ordered, as per international guidelines.^{1,2}

Short term (days to weeks)

If the patient is progressing well, as would be expected in the case presented, the physiotherapist may see the patient once or twice more over the following weeks to monitor progress, extend the exercise program (either general activity or specific exercises as needed) and provide manual therapy if indicated. The aim of treatment is to address the patient's individual goals, with emphasis on self-management.

Medium term (up to 6 months)

The expectation is that most patients will recover well before this time and be discharged from physiotherapy. Physiotherapists do not typically continue to see patients in a preventative or maintenance manner. However, if the examination revealed impairments such as poor strength or muscle coordination, which research has shown to be associated with recurrent low back pain,^{10,11} physiotherapists will often teach patients appropriate exercises to work on these impairments. This is a decision made with a patient, as after the episode has settled some patients are motivated to work on prevention strategies while others are not.

If patients do not improve well within the first few weeks a more detailed examination is required. Management of patients who develop chronic back pain is more complex and beyond the scope of this article but often involves a multidisciplinary approach and may require further investigation such as imaging.

Long term (years, including prevention and maintenance strategies)

Physiotherapists do not commonly see patients in the long term for prevention or maintenance. Group exercise classes for prevention have become increasingly common and there is some evidence for the effectiveness of these measures.¹²

Contraindications

There are few contraindications to physiotherapy interventions for mechanical back pain as long as the diagnostic triage has been applied to identify people with serious causes of back pain. Osteoporosis is a contraindication to most manual therapy. Importantly, physiotherapists work in a model where effects of treatments are closely reassessed to minimise the likelihood of increasing symptoms or adverse events.

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