



Module 1887

Lower back pain and sciatica

From this pharmacy CPD module on lower back pain and sciatica you will learn about:

- What conditions can cause lower back pain and when patients should be referred
- How non-specific lower back pain is assessed and managed
- How pharmacists and their staff can support patients with this symptom
- How sciatica is recognised and treated

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The ageing population is often cited as a reason for the NHS's financial woes, and lower back pain is a prime example of why this is true: disability due to the symptom has increased by more than 50% worldwide in less than 30 years, making it the leading global cause of disability.

Most cases seen by pharmacists and their teams will be minor and self-limiting, but some will be more problematic and require a referral to a GP or specialist. There is also the possibility that the lower back pain a patient is complaining of is a symptom of something much more serious that requires emergency care.

What is lower back pain?

Lower back pain is a symptom, rather than a condition in its own right. It is often described as a discomfort located in the bottom section of the back. This is also known as the lumbosacral region – after the five vertebrae that comprise the lumbar spine (L1 to L5) and the sacral bone (S1) – which is why lower back pain is sometimes referred to as lumbago.

If it worsens upon movement and varies according to the person's posture and how long they have held that position, the symptom

isn't usually anything sinister and is referred to as non-specific lower back pain. In many cases, the symptom is attributed to a knock or pull, although the cause is often irrelevant. Obesity, physical inactivity, manual work (eg that involves heavy lifting or similar) and mental health conditions (such as depression) are all risk factors for non-specific back pain.

What could be causing the pain?

Although the back pain can often be described as non-specific, some conditions that feature lower back pain as a symptom require referral for investigation. Examples of causes of back pain include:

Sciatica

If the lower back pain is accompanied by a pain in one leg that radiates down towards the foot, this may be sciatica. Other signs of sciatica include tingling, numbness or muscle weakness (known as radiculopathy) – these may be indicative of nerve root compression.

This is most commonly due to a herniated disc between two of the lumbar spine vertebrae, but other causes include stenosis (narrowing of the bone channel occupied by the spinal nerves or the spinal cord), infection or cancer of the

spine (see p2). Risk factors for sciatica include middle age, strenuous physical activity, frequently carrying heavy loads, prolonged periods of sitting, frequent twisting (eg golf), obesity and smoking.

Osteoporosis

This should be considered in someone who has risk factors for the disease; for example, an older woman who is a smoker and/or uses corticosteroids. The pain of osteoporosis is usually non-specific, but if a vertebral fracture has occurred, there may be localised tenderness.

Ankylosing spondylitis

This differs from non-specific back pain as it usually presents as pain at night that does not ease when the sufferer lies down. It is often accompanied by morning stiffness that isn't relieved by movement. These symptoms tend to

build slowly, but persistently.

Ankylosing spondylitis can affect anyone, although it is most common in young men and most likely to start in the late teens or 20s. Those with ankylosing spondylitis typically have a gene called HLA-B27 – which can be detected by a blood test. This gene is not solely responsible for ankylosing spondylitis, but it can significantly increase a patient's risk of developing it.

Cauda equine syndrome

This is a rare condition in which the nerve roots at the base of the spine become compressed due to narrowing of the spinal canal. This may have occurred as a result of trauma, infection or even a slipped disc. As well as pain, patients will have progressive or severe neurological deficit of both legs and may suffer from incontinence.



Lower back pain accompanied by a pain in one leg that radiates down towards the foot may be sciatica

Spinal infection

In cases where back pain is due to an infection of the spine, fever will generally be present alongside the pain. Individuals more likely to experience this: have recently had a urinary tract infection; have a history of intravenous drug use; or are immunocompromised.

Spinal fracture

This can cause back pain that is sudden and severe in nature. It eases a little when lying down, but there may be localised tenderness or a visible alteration in posture. If a patient has poor bone-density, then a spinal fracture can result from a relatively minor fall or even from strenuous lifting.

Cancer of the spine

The back pain that can occur in cancer usually builds in nature to the point when it is severe and unrelenting. This can occur even when lying down and is worse when sneezing, coughing or when doing anything else that causes a strain. This patient group typically tends to: be older; have a history of cancer; and may report unexpected weight loss.

Other conditions

Many other conditions may feature lower back pain as a symptom; for example: kidney stones and other urinary tract problems; peptic ulcer disease; shingles; and pancreatitis. However, in such cases, other symptoms will generally predominate, so questioning about the range of symptoms affecting a patient should quickly point towards the likely cause.

How is back pain diagnosed and assessed?

The tests that are conducted when a patient presents with lower back pain depend on what the cause is thought to be. For example, someone who is thought to have a compression fracture, due to undiagnosed osteoporosis, will be referred for an x-ray of the spine and a DEXA scan to measure bone mass density.



The positive straight leg test can be used to determine if lower back pain is caused by sciatica

If symptoms point to sciatica, two tests that are likely to be performed are:

- the positive straight leg test – in which the patient lies down on their back and raises a straight leg. This test stretches the sciatic nerve, which courses down the back of the leg. If the patient experiences pain in the flexor of the knee when the leg is raised then the test is deemed as positive, meaning that one or more nerve roots leading to the sciatic nerve are affected.
- extensor plantar response check – which involves stimulating the lateral part of the sole of the foot. If the toes extend and fan outwards during this, then sciatica is indicated.

If a diagnosis of non-specific lower back pain or sciatica is reached, the patient should be assessed to establish whether they are low, medium or high risk for poor long-term outcomes, such as disability. This involves considering which modifiable risk factors they have, using a

questionnaire such as the STarT Back Screening Tool (see more at tinyurl.com/CDlowback1).

How is lower back pain managed?

The management of lower back pain depends on the patient's risk assessment, and also dictates where their expectations should be set. Someone who is considered low risk is highly likely to improve with information and self-care measures alone.

Someone who is at medium risk needs to know that they may have long-term pain, but with a higher level of care – for example, physiotherapy – they should still be able to manage their day-to-day activities, including work.

If assessed as high risk, a patient is likely to experience long-term pain and disability, and the aim of management is to reduce this to a tolerable level and improve psychological functioning. Talking therapies such as cognitive behavioural therapy (CBT) may be combined with

physiotherapy for such patients.

With lower back pain, self-care is typically the first step in management and involves providing information and encouraging continuation with normal activities and exercise programmes.

Manual therapies such as massage, manipulation and mobilisation may also be beneficial to some patients, but the National Institute for health and Care Excellence (Nice) does not recommend:

- acupuncture
- electrotherapies (eg transcutaneous electrical nerve stimulation)
- spinal traction (which stretches the spine to take pressure off compressed discs)
- the use of appliances, such as corsets.

In sciatica, topical heat can help reduce pain and muscle spasm, and sleeping with pillows under or between the knees may also ease symptoms.

An oral non-steroidal anti-inflammatory drug (NSAID) is the first pharmacological step advised by Nice for non-specific lower back pain, and this should be the lowest effective dose for the shortest possible period of time. A weak opioid with or without paracetamol may be a suitable alternative. Nice indicates that paracetamol alone is not advised, nor should antidepressants or antiepilepsy drugs be recommended for non-specific back pain.

The neuropathic nature of sciatica means amitriptyline, duloxetine, gabapentin or pregabalin are all first-line options, with tramadol used when required. Capsaicin cream should be considered in people with localised neuropathic pain who wish to avoid, or who cannot tolerate, oral treatments.

Nice does not recommend the use of benzodiazepines for any form of lower back pain. It states that there is little evidence supporting the use of the drug class in this way and emphasises the high risk of side effects.

Other treatments

Invasive treatments also have a place in therapy. Non-surgical options include:

- epidurals of local anaesthetic and steroid for

acute, severe sciatica

- radiofrequency denervation for certain cases of moderate to severe lower back pain.

Spinal injections are not recommended by Nice. Surgical spinal decompression is sometimes used for sciatica that has not responded to other treatments, but spinal fusion and disc replacement should not be performed.

What advice can pharmacy teams offer?

As minor conditions associated with pain or discomfort (including back pain) are among the conditions listed by NHS England as not suitable for prescribing, pharmacists and their staff are in a prime position to offer advice and product recommendations for these conditions, as well as identify those who need referring on.

Providing reassurance and accurate

information that is in line with published guidance is hugely important, as both non-specific lower back pain and sciatica have a high rate of recurrence, and a significant risk of long-term pain and functional impairment.

Given the widespread nature of back pain, there is little evidence supporting preventive measures, but there are a few common sense steps you can recommend for patients to help reduce the risk of the odd ache and pain developing into something more chronic and debilitating. This includes:

- exercising regularly – including focusing on strengthening the core
- undertaking proper stretching exercises
- avoiding being sedentary for long periods of time
- maintaining a healthy weight through sensible

eating and staying active

- taking care when lifting – ie using legs and not the back when moving heavy objects
- being aware of posture when sitting (particularly when screens are involved)
- sleeping on a supportive mattress.

For more information:

A good starting point for patients experiencing lower back pain are the NHS Choices pages on the topic at tinyurl.com/lowbackpain10 and tinyurl.com/lowbackpain4.

Two charities that provide information on the topic are Arthritis Research UK at tinyurl.com/lowbackpain11 and Backcare at tinyurl.com/lowbackpain12.

Both lower back pain and sciatica are topics covered in the Nice Clinical Knowledge Summaries

series: tinyurl.com/lowbackpain13 and tinyurl.com/lowbackpain14.

Other relevant Nice documents include guidance on the assessment and management of lower back pain and sciatica in over-16s, at nice.org.uk/guidance/ng59, and the management of neuropathic pain at nice.org.uk/guidance/cg173.

The STarT Back Screening Tool mentioned in this article can be accessed at tinyurl.com/lowbackpain15.

The World Health Organisation has published (and updated) a background paper on lower back pain, which can be viewed at tinyurl.com/lowbackpain16.

The Lancet recently published a series of articles on lower back pain at tinyurl.com/lowbackpain17.

Lower back pain and sciatica CPD

What are you planning to learn?

I want to learn more about what conditions can cause lower back pain, when patients should be referred and how non-specific lower back pain is assessed and managed. I also want to improve my knowledge of how pharmacists and their staff can support patients with this condition.

This learning will help me to improve my knowledge of the causes of lower back pain, how it is diagnosed, assessed and managed, and how to provide better, more effective advice to the patients and carers I serve in my pharmacy.

How are you planning to learn it?

- I plan to find out more about lower back pain on the Patient website at tinyurl.com/lowbackpain1.
- I plan to find out more about exercises for lower back pain from the Backcare website at tinyurl.com/lowbackpain2.
- I will read the tips for a healthier back on the Backcare website at tinyurl.com/lowbackpain3.
- I will find out about reliable sources of information and support for patients with lower back pain, such as the NHS Choices back pain guide at tinyurl.com/lowbackpain4, Arthritis Research UK at tinyurl.com/lowbackpain5 and Backcare at tinyurl.com/lowbackpain6.
- I plan to complete the five-minute test at www.chemistanddruggist.co.uk/update-plus to test my knowledge and confirm what I have learned.

Give an example of how this learning has benefited the people using your services.

I shared my learning with my pharmacy team, ensuring that all members are confident about providing advice about lower back pain and know when to refer. It was also a good opportunity to revise our knowledge of OTC pain relief options.

Take the 5-minute test online

1. Lower back pain is the leading global cause of disability.
True or false
2. Symptoms of sciatica include lower back pain accompanied by a pain in one leg that radiates down towards the foot.
True or false
3. The most common cause of sciatica is due to a herniated disc between two of the lumbar spine vertebrae.
True or false
4. Ankylosing spondylitis is most likely to first present in patients aged over 50 years.
True or false
5. Cauda equine syndrome causes back pain, progressive or severe neurological deficit of both legs and incontinence.
True or false
6. Nice recommends manual therapies such as massage, manipulation, acupuncture and electrotherapies for the management of lower back pain.
True or false
7. Paracetamol is the first pharmacological step advised by Nice for non-specific lower back pain.
True or false
8. Amitriptyline, duloxetine, gabapentin and pregabalin are all first-line options for the treatment of sciatica.
True or false
9. Capsaicin cream is not recommended for people with localised neuropathic pain.
True or false
10. Non-surgical options for acute, severe sciatica include epidurals of local anaesthetic and steroid.
True or false