

The Painful Back

PRACTICAL ASPECTS OF MANAGEMENT



Produced by Medical Education Services Limited

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2 Symptoms

7 Examination

9 Investigation

5 The management

6 Conservative management

7 Physical

8 Surgery

9 Prevention



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Introduction

The aim of this booklet is to assist the general practitioner in the diagnosis and management of back pain. In a busy surgery it is often difficult to assess a patient with a painful back accurately and to select the appropriate course of treatment. Important options are:

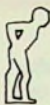
- to investigate with radiography and blood tests
- to refer immediately to an orthopaedic surgeon, physician or rheumatologist
- to manage the patient conservatively.

Acute back pain may be a considerable drain on community resources. The young mother who is suddenly unable to cope with her family, the labourer who is off work for months, and the old age pensioner with immobility due to severe back pain are well recognized problems.

Furthermore, the cost of back pain to industry and society is considerable. Each year, back pain causes a period of incapacity in more than 375,000 people in the UK, accounting for the loss of 26 million working days. It is the commonest cause of early retirement from industry and costs approximately £1000 million in medical care, sickness benefit and lost production each year. The size of the problem is therefore enormous, with 50,000 people at home with back pain on any working day, and 4 out of 5 people having back pain at some time in their lives. Back pain accounts for a third of all the diseases of the musculoskeletal system, and 1 in 40 of all consultations in general practice is accounted for by backache.

One of the most important points in diagnosis and management of back pain is to identify those patients who have a severe underlying cause for their pain. Such patients are diagnosed and dealt with appropriately; the other patients can be managed conservatively by the general practitioner. Minor trauma or strain, so called 'lumbago', is the most common cause of back pain and this responds well to conservative management.

Most patients with acute back pain respond rapidly to treatment; 40% are better in a week and 56% are better within a month. If recovery is delayed, the initial diagnosis should be reassessed. Only 1 patient in 20 with back problems is referred to a hospital and of these a proportion are better before the hospital appointment is kept. Thus, most cases of back pain can be dealt with adequately by the general practitioner at his surgery; his role cannot be overestimated.



Symptoms

2.1 Which points in the history are useful in diagnosis?

When taking the history it is important to discover whether the attack is the first the patient has experienced and whether the pain was felt suddenly or developed slowly. At the beginning of an attack, muscle spasm may suddenly prevent movement. Sometimes the pain is present on awakening, while in other instances it may increase gradually during the day. The general practitioner should determine whether the pain is intermittent or constant, decreasing or increasing in severity, and whether there are aggravating or relieving factors.

The precipitating cause of the symptoms is important (Figure 1). A history of a jarring strain, a fall or unaccustomed lifting of a heavy object may

I Important causes of back pain

Trauma

- Crush fractures due to:
 - severe trauma (fall from height)
 - osteoporosis
 - osteomalacia
 - malignancy
- Fracture of transverse processes
- Subluxated facet joints
- Minor trauma resulting in strains

Malignancy

- Primary tumour of bone or cartilage
- Secondary tumours in bone (arising from tumours of breast, prostate, lung, kidney, thyroid, pancreas and ovary)
- Multiple myeloma

Infection

- Osteomyelitis
- Tuberculosis
- Pyogenic disc space infections

Prolapsed intervertebral disc

Sacro-iliac strain

Inflammatory arthritis

- Sacro-iliitis due to:
 - ankylosing spondylitis
 - rheumatoid arthritis
 - inflammatory bowel disease
 - Reiter's disease
 - psoriasis

Lumbosacral strain

Degenerative disorders

- Spondylosis
- Osteoarthritis

Metabolic disorders

- Paget's disease
- Osteomalacia

Congenital disorders

- Spinal stenosis

'Malingering'

- Psychogenic causes

be pertinent. Acute back pain in young adults and middle-aged patients is often caused by apparently minor trauma, such as a jarring movement in a car or a bus, or a twisting and bending movement when lifting even a small weight.

The precise distribution of the pain and its possible radiation into new areas are also important factors to consider when taking the history (Figure 2). Pain due to strain tends to remain in the back. Root compression, however, results in pain following the nerve root distribution. In sciatica, the pain radiates below the knee and, after a week, may be more intense in the leg than in the back.

Occasionally, certain movements such as bending or twisting may be associated with pain; in nerve root compression the pain is increased by coughing and sneezing. Facet joint problems cause locking of the back on rotation, while pain relief on sitting forward might suggest spinal stenosis.

The first attack of back pain in a patient over 50 years of age is generally due to either disc prolapse or strain, but mechanical problems usually occur before this age. A serious underlying cause should be suspected in the older patient if the pain is severe, unremitting and is not relieved by rest or analgesia.

2 Symptoms and history

- Age
- Sex
- Precipitating cause
- Associated features, such as fever, malaise or headache
- Cause of pain (minimal trauma, severe trauma)
- Location of pain
- Severity of pain and how it interferes with daily activities
- Presence of paraesthesia or other neurological symptoms
- Any radiation of pain
- Relationship of pain to posture, time of day, and exercise or movement
- Exacerbating or relieving factors (e.g. coughing or sneezing)
- Drug therapy
- Previous musculoskeletal problems or back pain
- Amount of exercise (e.g. participation in sports)
- Occupational history
- Psychological status

2.2 What is the commonest presentation of back pain in a child?

The commonest cause of back pain in a child may be ligamentous strain either of the lumbar spine or neck, caused by unusual or excessive athletic activity. Acute torticollis is often seen in general practice and is commonly associated with an upper respiratory tract infection or viraemia. It can often be treated with mild analgesics, reassurance and, sometimes, an ether local

anaesthetic spray. A patient under the age of 18 years whose back pain does not respond rapidly to rest should be referred to a specialist. In a few of these patients the cause is organic in nature, and these few must be identified.

2.3 Which type of patient presents with a prolapsed intervertebral disc?

The patient with a prolapsed intervertebral disc is usually aged between 25 and 50 years. He most commonly presents a few days after jarring and straining his back, but sometimes there is no precipitating event. Generally, the onset of pain is quite sudden: the patient is seized with agonizing pain in the lumbar area while twisting, bending or stooping. Initially, he is unable to move but during the next few days the acute pain gradually becomes less severe. Two to three days after the acute phase, the pain radiates from one or other buttock down the back or side of the thigh into the calf or foot. Tingling or numbness may be present in the calf or foot and the pain is made worse by coughing or sneezing. As pressure is released from the nerve and the nerve recovers, the pain subsides first from the back. The patient often refers to the pain moving down the leg and flowing out through the foot. The history is one of repetitive attacks with complete remission between them.

2.4 How does lumbosacral strain present?

The patient is usually male and aged between 25 and 50 years of age. The pain is commonly at the top of the sacrum and often radiates to the front and lateral aspect of the thigh. It tends to be related to a specific event or activity, is exacerbated by bending forward and is much worse towards the end of the day. Often, the patient is unable to lie flat on his back and flexes the knees and hips to relieve the pain. Strains can be differentiated from a disc lesion by the fact that the pain remains in the back or buttocks, whereas in a disc lesion it radiates down the leg below the knee.

2.5 Which factors argue against a diagnosis of 'benign' back pain?

Pain which presents at extremes of age is cause for concern. When an elderly person or young child presents with back pain there may well be a more serious underlying cause than strain. Any associated features, such as fever, malaise or headache, may suggest a systemic illness and deserve careful investigation for infection or malignancy. A history of severe trauma (e.g. falling from a considerable height) would necessitate a radiograph. Persistent neurological signs and symptoms are also worrying. Severe continuous pain that responds neither to rest nor to analgesia requires a more detailed examination of the patient. Some neurological symptoms, such as paraesthesia, are relatively common, particularly with sciatica. Abnormalities of bladder or bowel function or loss of muscle power, however, are far more sinister and would require a diligent search for the underlying cause.



Examination

3.1 Examination of the patient with back pain

It is important to have a technique for rapid examination which allows an accurate diagnosis to be made and reveals any underlying illness. Ideally, a complete and thorough general examination and a full and detailed neurological examination should be performed on any patient with back pain. Unfortunately, a busy surgery and a waiting room full of patients often preclude this.

The extent of examination needed can generally be decided by the history. An old lady who is normally uncomplaining but presents with sudden onset of severe back pain should have a more detailed examination than a young housewife who has many complaints including a vague back ache. Selection of patients for examination is therefore assisted by a good history.

3.2 How is a rapid examination best performed?

When the patient enters the surgery it is possible to make certain observations. His gait, posture, movements and general discomfort are all readily seen prior to and during the history taking. His seated posture and ease of undressing and getting onto the examination couch are also easily assessed. The patient should be fully undressed for a proper examination. His general habitus, posture and spinal contour are observed. Scoliosis, kyphosis, loss of lumbar curve and any tilt to one side are then noted. In a busy general practice there may not be time for the patient to undress fully but he should at least remove his shoes and climb onto the couch for examination. After standing for examination of the back the patient is requested to return to the couch for reflex tests. A patient with acute back pain will obviously find difficulty in doing this, while the patient who is only attempting to impress the doctor with the severity of the pain will leap back onto the couch to lie down!

Source of pain

The patient should be asked to point to the site of maximum pain. A very tender point may indicate torn muscle tissue. It is useful to mark any point of maximum tenderness and refer back to it later (see page 8).

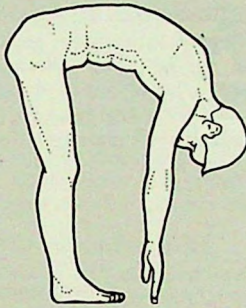
Palpation

The muscles around the spine should be palpated; any muscle in spasm will feel tighter than usual, and spasm may cause the spine to tilt towards the affected side. Tenderness may be elicited over a particular area. Vertebral percussion may reveal an area of bony tenderness, such as occurs from a crush fracture.

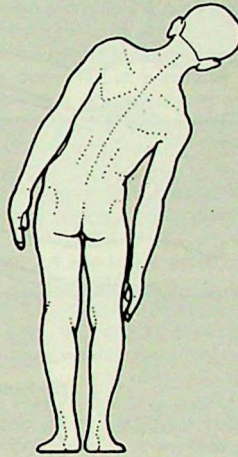
Active movements

Flexion, extension, lateral flexion and rotation should all be tested (Figure 3). Most true flexion occurs in the lumbar region, with little flexion in the thoracic area. Most of the apparent flexion of the spine occurs at the atlanto-occipital joints and at the hips.

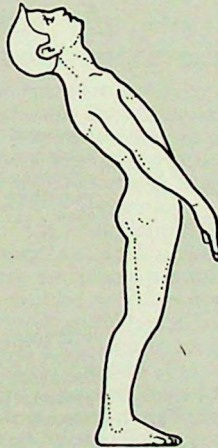
3 Testing spinal movements



1 Flexion



2 Lateral flexion



3 Extension



4 Rotation

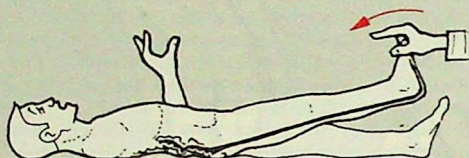
4 Straight leg raising tests



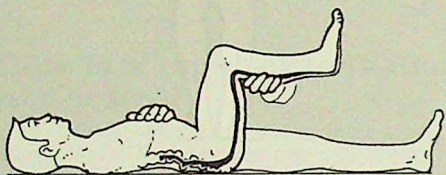
1 When supine, the nerve roots are slack



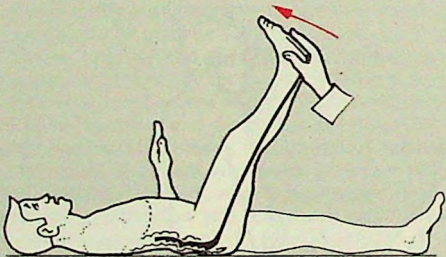
2 Straight leg raising is limited by the tension of the root over the prolapsed disc



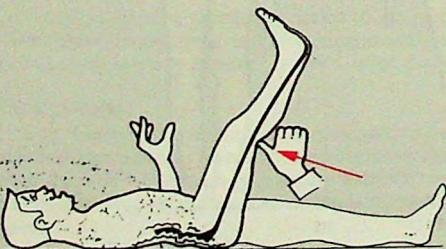
3 Tension is increased by dorsiflexion of the foot



4 Root tension is relieved by flexion at the knee and ankle



5 With the knee extended, the root tightens over the prolapsed disc causing pain which radiates to the back



6 Pressure over the centre of the popliteal fossa pulls on the posterior tibial nerve which is 'bow stringing' across the fossa causing local pain and radiation to the back

Examination

The straight leg raising test is performed with the patient supine (Figure 4). There must be no compensatory lordosis during the test; this is excluded by the examiner placing a hand in the small of the back and lifting the leg until the patient feels pain or a normal excursion is accomplished. If the excursion is limited, the test is repeated and, just before reaching the maximum height, the foot is dorsiflexed. This provides additional traction on the sciatic nerve, and if pain is caused by this manoeuvre it suggests irritation of the nerve roots forming the sciatic nerve. Pain occurring at less than 40 degrees to the horizontal is probably due to impingement of the protruding intervertebral disc on a nerve root. Pain occurring at a greater elevation is probably due to tension on a nerve root which is abnormally sensitive, though this is not necessarily caused by pressure from an intervertebral disc lesion.

Neurological examination

Any evidence of muscle wasting should be assessed. A dropped toe occurs with lesions of the L5 nerve root which also innervates other dorsiflexors of the foot.

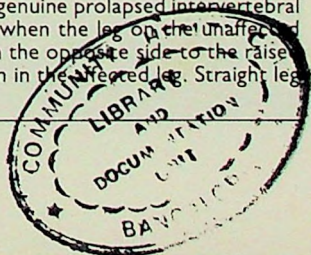
The knee jerk is supplied primarily by L4 and is not often affected. The ankle jerk (S1), however, is often lost or diminished in sciatica. Sensation to light touch and pinprick should be assessed in all cases of suspected sciatica and in other cases where symptoms, such as paraesthesia, are present. Dermatome distributions for the various nerve roots are shown in Figure 5.

Specific examination

Rectal and vaginal examinations and more extensive examination of other systems should be carried out as appropriate. A general summary of examination procedures is given in Figure 6.

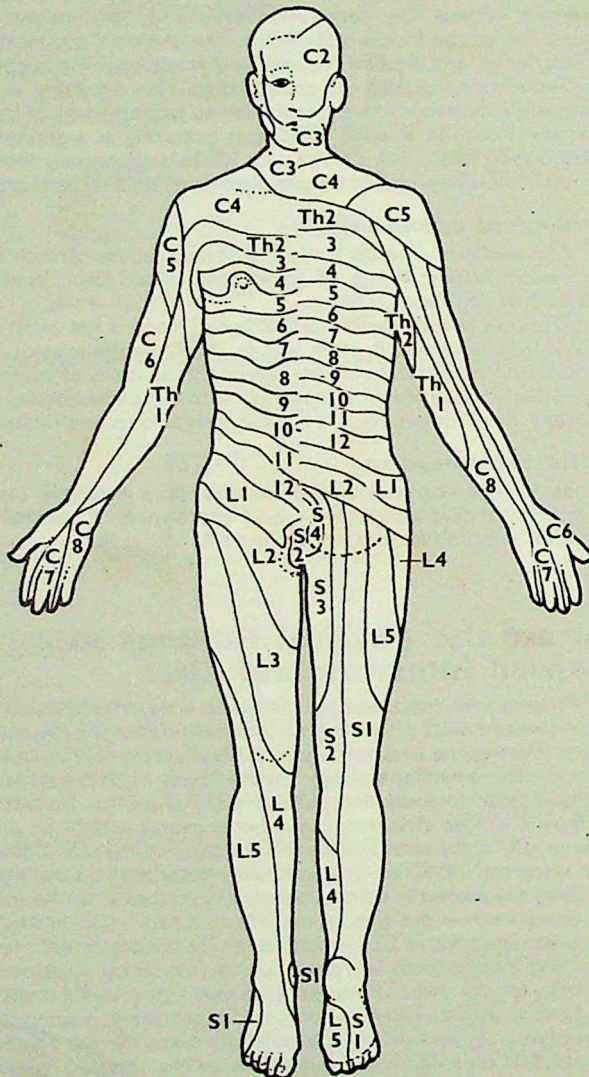
3.3 What are the physical findings in a prolapsed intervertebral disc?

Patients with prolapsed intervertebral discs often demonstrate a characteristic posture with a forward tilt and obliteration of the normal lumbar concavity. The hip and knee joints on the affected side may be flexed. Muscular spasm may cause a lumbar scoliosis. Lateral flexion in the opposite direction to the tilt is resisted (actively and passively) and is painful. Despite the loss of lateral flexion in that direction, the other movements will be pain free. The spasm is usually in the sacrospinalis and is worse on the side of the lesion. Pain radiates along the L4, L5 or S1 dermatome depending on the site of the disc lesion. Deep tenderness is often present 50 mm lateral to the mid-line and is more pronounced on the side of the lesion. If pain is felt in the front of the thigh, a protruding disc at L2,3 is suggested. The femoral stretch test (Figure 7) confirms this if the patient lies prone and flexion of the knee on the affected side reproduces the pain. The crossed leg pain sign is useful since patients are seldom familiar with it. Those patients with a genuine prolapsed intervertebral disc and severe sciatica will complain of pain when the leg on the unaffected side is raised. With a disc lesion this pain is on the opposite side to the raised leg. Thus, raising the unaffected leg causes pain in the affected leg. Straight leg



THE PAINFUL BACK

5 Dermatome distributions



6 Summary of examination procedures

- Body habitus and posture
- Site of pain
- Palpation and percussion
- Active movements, to be performed standing and sitting:
flexion, extension, rotation, lateral movements
- Straight leg raising test and dorsiflexion of the foot
- Femoral nerve stretch test
- Sacro-iliac joints (palpation and appropriate tests)
- Neurological examination:
muscle tone, bulk and power
ankle and knee jerk
sensory disturbance
- General examination:
rectal and vaginal

raising on the affected side is more restricted by pain than raising the unaffected leg. Weakness of the big toe extensor is common, as is loss of the ankle jerk. However, progressive weakness or loss of both the knee and ankle jerk is a reason for referral.

3.4 How can sacro-iliac disease be revealed?

Sacro-iliac disease is relatively uncommon. The sacro-iliac joint is inaccessible except at one small point which is one finger-breadth medial to, and one finger-breadth below, the posterior, superior iliac spine.

The patient is asked to point to the site of maximum tenderness. Passive movements when standing reveal that flexion of the spine is performed incompletely and with hesitation. The patient is asked to repeat the movement while seated and it is comparatively free in this position. Rotational movement increases pain at the affected joint. Palpation is best achieved by firmly placing the thumb just medial to the posterior iliac spine and asking the patient to bend forward slowly. This opens the joint and causes tenderness.

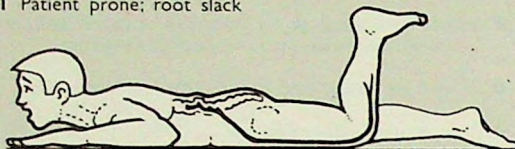
The straight leg raising test is unimpaired by sacro-iliac disease. The pump-handle test elicits pain at the sacro-iliac joint; in this test the leg is grasped below the knee and the hip and knee joints are fully flexed. The flexed knee is then directed firmly towards the opposite shoulder and pain is felt in the affected sacro-iliac joint.

Common causes of sacro-iliac disease are strain, which is a benign condition, and arthritis of the sacro-iliac joint, secondary to ankylosing spondylitis, Reiter's disease, inflammatory bowel disease or psoriasis.

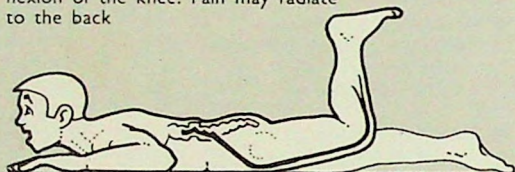
7 Femoral stretch test



1 Patient prone; root slack



2 The femoral root is tightened by flexion of the knee. Pain may radiate to the back



3 If the previous movement does not cause pain, the femoral roots are further tensed by extension of the hip

3.5 What are the findings in lumbosacral strain?

There is increased concavity of the lumbar spine and some spasm of the spinal muscles during active movements of the spine. Forward bending is limited when sitting and standing. Active movements involving the strained muscles cause pain but passive movements do not. The straight leg raising test can be performed on either side without restriction. If the patient is examined lying prone, with four pillows beneath the pelvis, then the gaps between the lower lumbar spinous processes are opened. The maximum tenderness is either below or just above the L5 spinous process. There may be an acute depression palpable between the normal intact ligaments and laxity of the deranged ligaments.

3.6 What if there are no physical signs?

Many patients with chronic low back pain have no physical signs. These patients often respond to simple methods of treatment and have normal radiographs and blood tests. Occasionally, the radiographs may show a condition which does not account for the pain (e.g. spina bifida occulta). If simple measures, such as rest and analgesics, are unsatisfactory and the patient's lifestyle and job are threatened, he should be referred to a unit specializing in back problems.



Investigation

4.1 Which patients should have radiographs and blood tests?

The need for radiographs and blood tests is determined on the basis of the history and examination. In an elderly patient presenting with severe back pain, multiple myeloma can be excluded by complete blood count (CBC), ESR, electrophoretogram and assessment of Bence-Jones proteins. Also in elderly patients, blood tests for calcium, phosphate and alkaline phosphatase may commonly indicate Paget's disease, osteomalacia or secondary carcinoma.

The indications for radiographs are less clear-cut. A history which suggests the possibility of crush fracture or other bony trauma obviously warrants radiographic examination, but a study in the USA showed that, in general, the risk and cost of a lumbar spine radiograph at the initial visit, in patients with acute low back pain, do not justify the relatively small associated benefit. The conclusion was that radiographs are only justified if the pain does not improve in an 8-week follow-up period. However, it is generally felt that if there is no improvement after a week of rest and analgesia, radiographs, CBC and ESR should be carried out.

Cervical spine pain is a different matter and, if there is any possibility of rheumatoid arthritis in a patient with neck pain, radiographs both of the affected area and of the odontoid peg should be taken. Radiographs may be normal in early ankylosing spondylitis and also in bony secondaries. A dramatic finding, such as spondylolisthesis, does not necessarily mean that the cause of pain has been found. Spondylolisthesis is the condition in which a vertebra has slipped forward relative to the one below it. It is not, in itself, serious and may have been present for a long time, with or without pain. If it does cause pain, it responds to simple conservative measures. Lumbosacral anomalies are also common. Spina bifida, transitional vertebra, lumbarization and sacralization do not necessarily account for the pain.

A lengthy radiographic report should not deter the doctor from initiating treatment because a large proportion of the report can probably be interpreted as normal findings. For example, in older patients the changes may be consistent with age. The term 'arthritis' should be avoided if possible and the patient informed that his back shows signs of normal 'wear and tear'.

Once it is clear that the pain is not going to subside with conservative measures and that further investigation is required, the patient should have a CBC, ESR and plain radiographs taken prior to more expensive tests, such as a myelogram or CT scan. In 9 out of 10 cases, radiographs of the lumbar spine are normal, but the doctor often feels he must send the patient for radiography to avoid the risk of medico-legal recriminations.



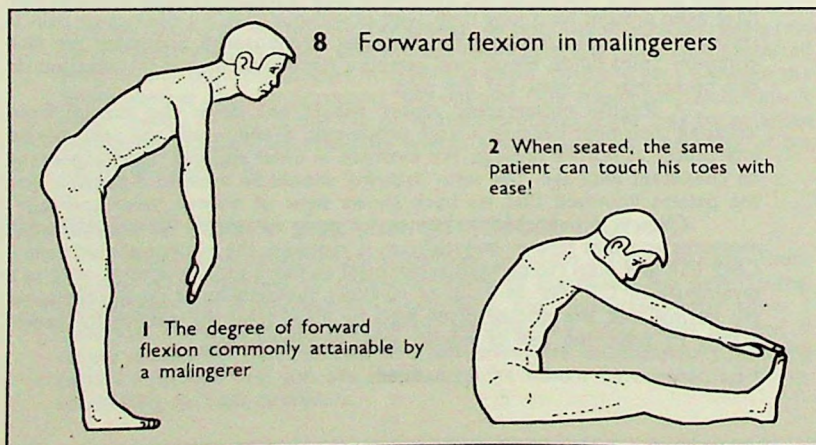
The malingerer

5.1 How can the malingerer be identified?

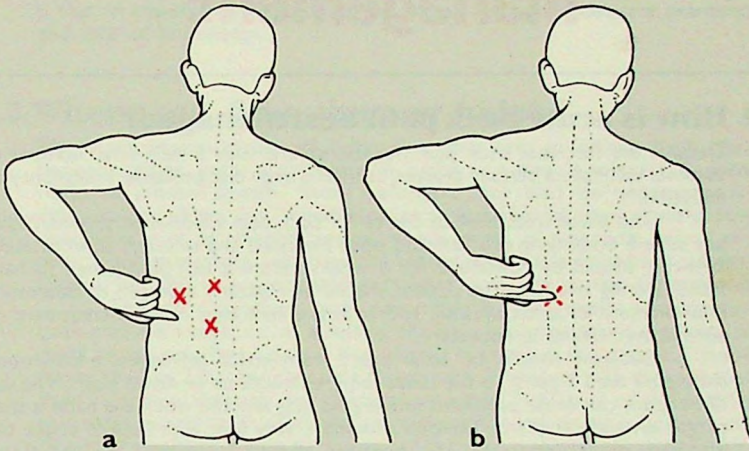
One of the most difficult problems for the general practitioner is that there are some patients who use symptoms of back pain to gain compensation, pensions, sympathy or time off work. Diagnosis of these 'malingers' depends on finding *positive* features in the history and examination.

A detailed history often gives an indication of the underlying problem: a patient seeking compensation from his employer can often give a long and detailed history of how and why the pain occurred. The cause is generally related to work and the patient relates with confidence the exact time and date of the onset of pain. Such a history does not, of course, indicate that the patient is definitely a malingerer, as pain can occur very acutely, and some patients with true back pain are able to specify the precise time of onset of their pain. Another type of malingerer, such as a middle-aged, depressed woman, may present with vague lower back pain associated with many other psychosomatic complaints (e.g. headache, tiredness, lassitude and poor sleeping habits). The malingerer often describes the pain as agonizing or unbearable, but shows little sign of severe suffering.

In the course of the physical examination the patient should be asked to touch his toes. If flexion is reduced, the patient should then be asked to sit on the examination couch and to touch his toes with his legs straight. The same movement is, of course, required in the two manoeuvres (Figure 8), and if the patient successfully completes the second movement but not the first, he may well be a 'malingerer'.



9 Location of pain in malingerers



a The malingeringer is unsure of the site of pain.

b The patient with true pain can pinpoint it.

Malingeringers are often unable to pinpoint the site of pain accurately. Inconsistencies can be detected by asking the patient to point to the site of maximum tenderness, marking this spot, and then, after examination of other organ systems, requesting the patient once more to identify the most tender point. The two points are often widely divergent (Figure 9). The malingeringer may also move with a 'broken glass' back and claim that movements in all directions give severe pain; this does not occur in organic pain.

Even where malingering is suspected, investigation may be required to exclude such disorders as malignancy, osteoporosis or ankylosing spondylitis. It must be remembered, however, that malingeringers are often very keen to have surgery for their complaint and the 'failed' back operation may provide an opportunity for medico-legal action.

Recurrent 1-day absences from work ascribed to sickness and back pain are associated with a particular personality type, and there is often a tendency to lateness and accidental injury in such people. If back pain is associated with emotional problems, the psychological aspect should be investigated. It is worth bearing in mind that severe, continuous pain commonly results in the patient becoming less emotionally stable than previously. The doctor must therefore be confident that the pain is not as bad as the patient asserts before he discounts it.



Conservative management

6.1 How is acute back pain best managed?

Despite the fact that back pain may be severe, only a very small number of patients will have a serious disease, such as a large disc prolapse, malignancy or infection.

The initial treatment of choice for back pain is bed-rest, provided that any severe underlying problem has been excluded and referred appropriately. Bed-rest should be continued for 6 weeks before it can be deemed to have failed. During this time the patient should be regularly assessed to determine improvement or deterioration, and to make sure that no new treatment or consultant referral is necessary.

Bed-rest should be total apart from toilet privileges; a commode should be used if going to the toilet requires a walk up or down stairs. The use of bedpans can cause problems as the pain may worsen when the patient tries to get on and off them. The bed should be very firm with boards under the mattress or, if necessary, the mattress should be placed on the floor. Orthopaedic mattresses are probably an unnecessary expense, but postural muscles jerk into action with each small movement on a soft mattress and this causes severe pain. Supine bed-rest can cause deep venous thrombosis. The patient should therefore be taught to move toes and feet regularly in order to prevent this complication.

Cervical pain is best relieved by a collar, while low back pain may benefit from a lumbar corset. If the patient must remain ambulant, a plaster jacket may be useful; however, there is some controversy regarding this approach to management. Heat treatment and a hot water bottle placed in the lumbar lordosis may help to relieve the pain.

The role of physiotherapy remains controversial, though it is generally agreed that recurrence of pain can often be prevented by teaching patients lifting techniques and correct posture. Ultrasonography may give some relief. Exercises are of little use while the patient has pain but, after the pain is relieved, exercises to improve tone in the oblique abdominal musculature may help to develop a natural corset. Back extension exercises may increase the load on the lumbar spine and exacerbate the symptoms, but isometric exercises that contract the abdominal and gluteal muscles may be helpful.

Traction may be valuable in reducing the disc pressure and may give considerable relief. It requires strict bed-rest and is most easily carried out in hospital. However, brief periods of traction at home in bed may sometimes be useful and, to some extent, the patient can help himself at home by lying flat on the floor and stretching the spine by working the hips and shoulders in opposite directions.

Manipulation should be avoided in any potentially serious back lesion, such as prolapsed intervertebral disc. However, in selected cases, dramatic relief can be obtained and excellent courses in back manipulation have now

become available. (General practitioners without training in this area are well advised not to attempt manipulation).

Osteopathy and acupuncture have a place in treatment and may provide relief when other methods fail. The main problem with these methods is that an important diagnosis may be missed through inadequate examination and lack of knowledge.

6.2 Where can drug therapy help?

There are several classes of drugs that may help to relieve back pain. A benzodiazepine, such as diazepam, is useful as a muscle relaxant to provide relief of muscle spasm. Stool softeners may also be necessary. Anti-inflammatory drugs (e.g. fenclofenac or indomethacin) have a useful role in conditions such as arthritis, severe muscle strain, or traumatic lesions of the back. Local anaesthetic injection into tender areas around the back can also be helpful, but this is a specialized technique, best left to the experienced.

The most common drugs prescribed by the general practitioner for back pain are analgesics. In assessing the level of analgesia required, measurement of the severity of pain is best scored in terms of the patient's disability, rather than by his subjective pain assessment. Problems with the activities of daily living (e.g. dressing and sleeping) are useful indicators of the severity of pain while examination of the patient will provide important indications of the degree of disability. Acute back pain tends to run a recurrent course, with the episodes settling spontaneously in 80% of cases within 2 weeks.

Analgesia should be aimed at continuously adequate pain-relief with minimal side-effects and inconvenience to the patient. Mild pain can often be controlled initially with aspirin or paracetamol, especially if other appropriate advice is given.

In patients with severe pain (e.g. in those with a prolapsed intervertebral disc), mild analgesics, such as paracetamol, are inadequate. Stronger alternatives (e.g. dihydrocodeine) should therefore be considered. The advent of sublingual buprenorphine*, by virtue of its effectiveness and long duration of action, has added significantly to the quality of analgesia available in such circumstances. On a regimen of two doses during the day and one at night, pain can often be completely controlled.

If buprenorphine or dihydrocodeine fail to control the back pain after a reasonable trial, the patient should be reassessed and possibly referred to a specialist. It is tempting for a general practitioner to resort to prescribing intramuscular opiates for acute back pain, but they should be avoided, if possible, because of the risk of addiction.

The most important consideration in choosing an analgesic is that it should be appropriate to the level of pain experienced. Frequent reassessment of the patient and the effect of the pain reliever is imperative. The analgesic to be used in the patient with chronic back pain is, of course, different from that prescribed for the patient who has an acute episode of pain from a prolapsed intervertebral disc. Prescribing analgesics for a 'maligner' is a difficult problem and it is crucial that a positive diagnosis is reached in these patients, rather than a diagnosis of exclusion.

*Temgesic®: Reckitt & Colman



Referral

7.1 When should a patient with back pain be referred?

In general, acute pain which does not respond rapidly to rest, or chronic pain which interferes with the patient's lifestyle, should be referred. The decision to refer is therefore based on an accurate and detailed history and examination. Obviously, a patient with myeloma, malignancy or severe rheumatoid arthritis requires referral. Patients with ankylosing spondylitis should also be referred, as should any case of sacro-iliitis which may be associated with psoriasis, Reiter's disease or inflammatory bowel disease. Sphincteric disturbance is a true emergency and needs immediate referral.

Further investigations are warranted if the pain is severe (e.g. if it interferes significantly with day-to-day activities); the history will suggest appropriate investigations. A myelogram will reveal nerve root compression and intradural abnormalities, though in one series in the USA, CT scanning was shown to be equally effective.

If careful investigations (myelography, CT scanning, discography, facet arthrography, ascending lumbar venography and electromyograms, as considered appropriate by the surgeon) fail to allow a specific diagnosis to be reached in a patient with back pain, then surgery is inappropriate. In this situation the general practitioner usually has a patient for whom analgesics are the treatment of choice. In some of the patients, repeated epidural injections may be useful. A much worse problem is a patient who has had back surgery which failed because of poor selection procedures.



Surgery

8.1 Which patients require surgery and what techniques are applied?

Only a few patients are suitable for surgery. The criteria for surgery are persistent pain, increasing or persistent neurological signs, and a definite and specific diagnosis.

In disc prolapse and nerve root compression a wide laminectomy can be performed in order to decompress the spinal canal. In some centres, disc excision (either posterior or anterior fusion) is performed by an approach through the laminae. In 9 out of 10 cases, this provides relief, even with a prolapsed disc. Thus, patients for surgery must be selected very carefully.

Vertebral fusion for disc degeneration, as shown on a discogram, is controversial, but may be performed either as an anterior fusion for one disc, or a posterior fusion with internal scaffolding if there are several degenerative discs. In facet joint osteoarthritis, partial denervation of the joint can result in relief of pain.



Prevention

9.1 Can anything be done to prevent back pain problems?

Much back pain could be prevented by simple advice from doctors, practice nurses and physiotherapists. There are also self help and back pain associations throughout the country.

Back problems occur in patients who are unfit, who have poor posture, or who bend and lift incorrectly. In sedentary workers, poor posture when seated and inactivity account for a high proportion of back pain. High-heeled shoes may also cause stress to the back. Pregnant women and those who are obese are more likely to have problems and therefore weight reduction may be necessary in some patients. Correct posture with head up and shoulders straight is also helpful. Incorrect bending can be remedied by suggesting patients bend from the knees and not the waist. Similarly, when lifting heavy objects the main movement should be at the knees rather than by back flexion.

Patients who already have back problems can be assisted with supports, corsets, cushions in cars, correct seating and firmer beds. (Volvo car seats are designed by a spinal surgeon, and there is a Pirelli inflatable car cushion which can be adjusted to give maximum comfort).

The social effects of back pain should not be forgotten by the doctor. These are very difficult to assess and include marriage problems, an inability to participate fully in family life and problems related to occupation. Employment problems and the resulting financial worries can cause difficulty. Ideally, the patient should change a heavy manual job for one that is more convenient and less physically demanding, but in the present economic situation it may be difficult to do this.



Conclusion

This booklet has attempted to assist in the management and diagnosis of back pain in general practice. There are three important points to remember.

- A good, concise history and examination are of paramount importance.
- Most of the causes of back pain are benign and the majority of patients will recover within a month with simple conservative management, such as bed-rest, bed boards and analgesia.
- Referral to a surgeon or a specialist should be based on history, examination and simple investigations. Cases in which back pain is prolonged, is increasing or is associated with neurological signs should be referred.

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