

Chapter 2

Impostor back pain



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This book is about non-specific back pain – the cause of 97% of all back aches. It is *not* about back pain caused by possibly serious diseases such as cancer, arthritis or deformity. It is also *not* about back pain that obviously derives from disc or facet joint problems or diseases, or about back pain that results from neurological disease.

This does not mean to suggest that massage, and other associated manual methods, cannot offer some relief to people with these more serious causes of back pain, but it strongly suggests that you should be aware of which type of problem you are treating.

As outlined in Chapter 1, non-specific back pain almost always gets better in a matter of weeks or months, and the evidence (also discussed in Chapter 1) is that massage can help in this process. Massage might, in the short term, be able to ease the pain of backache caused by serious conditions, but massage cannot change the course of more serious problems. It is important for the patient's safety, and for your own protection, that if you are in any doubt about the causes of a person's back pain, you should refer the patient for a diagnosis.

In this chapter, we will briefly outline:

- 1 Imposter symptoms
- 2 The main pathological causes of back pain
- 3 Neurological causes of back pain.

The purpose is to clarify those causes that this book does not cover, because our focus is on the vast number of people who suffer unnecessarily from *non-specific* back pain – a condition that research has shown to be commonly helped by appropriate massage and soft tissue treatment (Cherkin et al 2001, Ernst 1999).

GRIEVE'S MASQUERADERS

Grieve (1994) has described conditions which 'masquerade' as others. He says, 'If we take patients off the street, we need ... to be awake to those conditions which may be other than musculoskeletal; this is not 'diagnosis', only an enlightened awareness of when manual or other physical therapy may be ... unsuitable and perhaps foolish. There is also the factor of perhaps delaying more appropriate treatment'. You might become suspicious that a problem is caused by something other than musculoskeletal dysfunction – and seek a definitive diagnosis – when:

- misleading symptoms are reported
- something does not seem quite right regarding the patient's story describing the pain or other symptoms
- your 'gut feeling', instinct, intuition, internal alarm system alerts you. If this happens you should always err on the side of caution and refer onward for another opinion
- the patient reports patterns of activities that aggravate or ease the symptoms that seem unusual and cause you to have doubts about the case being straightforward.

It is important to remember that symptoms can arise from sinister causes (tumors for example) that closely mimic musculoskeletal symptoms, and/or which may coexist alongside actual musculoskeletal dysfunction.

When there is lack of progress in symptoms reduction, or if there are unusual responses to treatment, this should cause you to review the situation.

CAUTIONS: RED AND YELLOW FLAGS

Red flags are signs that may be present, alongside acute back pain, that suggest that other factors than musculoskeletal dysfunction are operating. In most people, there are no obvious pathological features associated with their back pain, but:

- around 4% have compression fractures (probably with osteoporosis as a background to that)
- 1% have tumors as the cause of the problem
- between 1 and 3% of people with acute back pain have prolapsed discs (Deyo et al 1992).

Multiple causes of identical pain

Giles (2003) has demonstrated how a number of very different conditions can produce back pain in precisely the same place (Fig. 2.1).

Pain in the area shown in Figure 2.1 can be the result of:

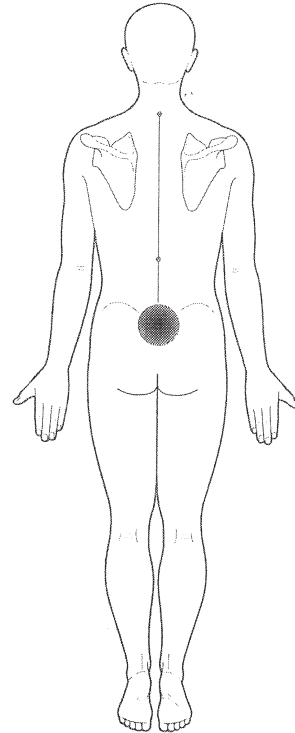


Figure 2.1 Localized presenting complaint site. (From Giles 2003.)

- Carcinoma of the pancreas (see Fig. 2.3)
- Inflammatory arthropathy
- Abdominal aneurysm
- Leg length inequality.

Pain distribution as shown in Figure 2.2 can be the result of:

- Intervertebral disc protrusion (see Fig. 2.4)
- Sacroiliac joint dysfunction
- A small aortic aneurysm
- Pain following discectomy
- Spondylolisthesis (see Fig. 2.5)
- Cauda equina syndrome
- Tethered cord syndrome
- Lumbar neuroma
- Perineural fibrosis.

'Red flags' for impostor (masquerader) symptoms

The red and yellow flag lists, given below, are derived from the document *European Guidelines for the Management of Acute Non-specific Low Back Pain in Primary Care* (RCGP 1999). Red flags suggest (but do not prove) the possibility of more serious pathology.

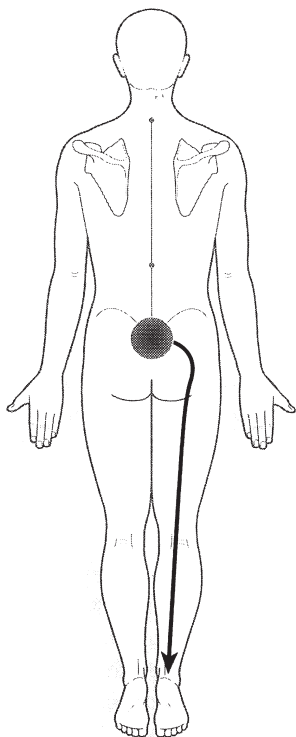


Figure 2.2 Presenting complaint, radiating pain pattern. (From Giles 2003.)

Suspicion or recognition of red flags emerges from the person's history and symptoms.

If any of the signs listed below are present, further investigation should be suggested before treatment starts, particularly to exclude infection, inflammatory disease or cancer (RCGP 1999).

- The acute back pain started when the person was <20 years or >55 years old
- There is an associated recent history of violent trauma such as a motor vehicle accident or a fall
- There seems to be a constant progressive, non-mechanical pain that is characterized by no relief being experienced with bed-rest
- There is thoracic pain accompanying the back pain
- The patient reports a past history of malignancy
- There is a history of prolonged use of corticosteroids (such as cortisone)
- The patient has a history of drug abuse, taking of immunosuppressive medication, or a diagnosis of being HIV positive
- The back pain is accompanied by systemic 'unwellness', and/or unexplained weight loss

- There are widespread neurological symptoms. For example, there may have been changes in bladder control, or widespread or progressive limb weakness, or changes in gait
- There is obvious structural deformity such as scoliosis
- The back pain is accompanied by fever.

Note: It is probable that one form of massage or another would be useful for back pain relating to all or any of these signs and symptoms, but this should not be offered until the real nature of the problem has been investigated. It would be both unethical and unprofessional to delay such investigation.

'Yellow flags'

Unlike the possibly pathological signs that the red flags represent, yellow flags suggest psychosocial factors that 'increase the risk of developing, or perpetuating chronic pain and long-term disability' (Van Tulder et al 2004).

Examples include (Kendall et al 1997):

- Inappropriate attitudes about back pain, such as the belief that back pain is actually harmful and potentially disabling; or that bed-rest is all that is needed rather than performing specific beneficial exercises. One of the first and most important lessons people need to learn is that '*hurt does not necessarily mean harm*'
- Inappropriate pain-behavior, for example reducing activity levels or 'fear-avoidance'
- Compensation (the possibility of financial gain if back pain continues), and/or work-related issues (for example poor work satisfaction and the 'benefit' of time away from it)
- Background emotional problems such as depression, anxiety, high stress levels.

SPECIFIC DISEASES OR CONDITIONS THAT INVOLVE, OR MIMIC, BACK PAIN

- A degenerative (e.g. arthritic) hip can refer pain beyond the hip area, resulting in pain in the groin, sacroiliac joint (SIJ) and lower back
- Trochanteric bursitis usually causes hip pain
- Lumbar zygapophysial (facet) syndrome can refer pain to the buttock and SIJ, as well as the pain wrapping around the hip to the anterior thigh
- Ovarian cysts, fibroid tumors, and endometriosis can sometimes refer pain to the hip or SIJ area
- Inflammation or dysfunction of the fallopian tubes may cause SIJ pain because the suspensory ligament of the fallopian tube attaches to the front of the SIJ.

Other 'impostor' symptoms that replicate or produce low back pain

Mense and Simons (2001) describe general regions of the back that may become painful in response to organ diseases:

- *Acute kidney pain*: The flank area, running from the lower ribs down towards the pelvic crest and round to the anterior superior iliac spine may all develop a severe deep ache that does not change with movement or when posture is modified. Abdominal trigger point activity can be an additional source
- *Pain which closely resembles acute thoracolumbar dysfunction* can be the result of stones in the ureter ('renal colic')
- *Acute pancreatitis*: Along with acute abdominal 'stabbing' pain, there is a radiating pain in the lower thoracic spine spreading downwards. Spasm may also occur in the lower chest wall
- Almost any abdominal disorder (such as peptic ulcer, colon cancer, abdominal arterial disease) can produce pain in the back. Therefore, all other reported symptoms, especially those involving the digestive system, should be evaluated alongside the musculoskeletal assessment. Viscerosomatic pain should be considered, especially if back pain and symptoms associated with internal organs coincide (Fig. 2.3)
- A hiatal hernia (involving the diaphragm) is usually associated with bilateral thoracic and shoulder pain
- Waddell (1998) suggests that cauda equina syndrome (involving a cluster of fine nerves at the end of the spinal cord) and/or widespread neurological disorders, should be considered if the patient with low back pain reports difficulty with urination (desire for, or frequent urination, or inability to urinate at times), and/or fecal incontinence. A *saddle formation* area of anesthesia may be reported around the anus, perineum or genitals. There may be accompanying motor weakness in the legs, together with gait disturbance. Immediate specialist referral is called for with any such symptoms
- You should be suspicious of ankylosing spondylitis, or other chronic inflammatory conditions, if the symptoms of low backache arrive (usually in a male) slowly but progressively, before 40 years of age, especially if there is a family history; extreme stiffness in the morning; constant stiffness involving all movements of the spine and peripheral joint pain and restriction. There may also be associated colitis, iritis and/or skin problems such as psoriasis
- The patient with angina pain usually presents with chest, anterior cervical and (usually left) arm pain.

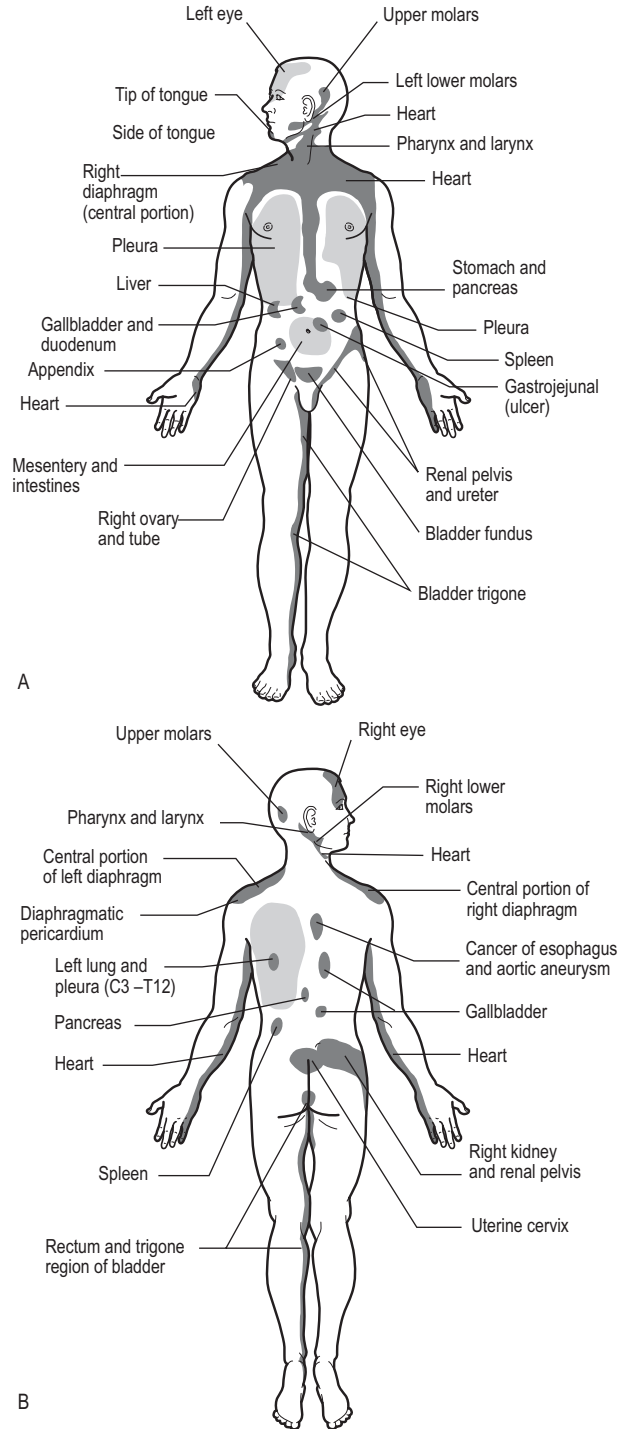


Figure 2.3 Pain referred from viscera. (A) Anterior view. (B) Posterior view. (Adapted from Rothstein et al 1991.) (From Chaitow and DeLany 2000.)

Thoracic facet or disc conditions can mimic angina, as can active trigger point activity. Those factors that are reported as aggravating or easing the symptoms can usually offer clues as to whether the condition is cardiac related, or whether the symptoms are caused by biomechanical influences

- A dysfunctional or diseased gall bladder commonly refers pain to the mid-thoracic area uni- or bilaterally, or to the shoulder and tip of the scapula on the same side
- Sacroiliac and right buttock pain may be produced by perforation of the ilium in regional ileitis (Crohn's disease)
- Severe low back pain (possibly referring to the testicles) may be associated with an aneurysm that is about to rupture
- If a patient has a background of coronary, pulmonary or bronchial disease, the vertebral veins may have become varicosed, leading to an ill-defined backache
- Osteitis deformans (Paget's disease) may present with a constant aching pain but may be symptomless. Needle biopsy is necessary for confirmation of a diagnosis
- The filament at the end of the dural tube, the filum terminale, may be involved in a tethering lesion, especially in adolescents during the 'growth spurt' years, with symptoms of back pain.

Where else might pain derive from in low back pain problems?

- Fatigued and ischemic musculature (and tendons) – established by tests which evaluate unbalanced firing patterns, such as prone hip extension test and side-lying hip abduction test. See Chapter 4 for these functional assessments
- Muscle shortness, which is usually obviously related to postural imbalances such as the lower crossed syndrome (see Fig. 4.9) and further established by specific muscle shortness evaluations
- Fibrosis and other soft tissue changes (established during massage, neuromuscular technique (NMT) and other palpation procedures). Treatment protocols will depend on the nature of the dysfunctional pattern, and might include deep connective tissue work, stretching methods such as muscle energy technique (MET) and myofascial release (MFR), as well as rehabilitation exercises (see Chs 7 and 8)
- Myofascial trigger points – established by NMT and other palpation methods and treated by appropriate deactivation strategies including NMT, integrated neuromuscular inhibition technique (INIT), MET, positional release technique (PRT), acupuncture, etc. (see Ch. 7)

- Instability involving spinal ligament weakness – established by history and/or assessment. Ligamentous weakness is a common cause of instability (Paris 1997). Ligamentous weakness pain usually starts as a dull ache, spreading slowly throughout the day to muscles that are taking over the ligament's role as stabilizers. People who habitually self-manipulate ('cracking themselves') may obtain short-term relief, but actually increase the degree of instability. Treatment should include reestablishing optimal muscular balance, core stability exercises (see Ch. 8)
- Degenerative discs may cause motor weakness and loss of sensation. These may be diagnosed by use of scan evidence (Fig. 2.4). Treatment depends on the degree of acuteness/chronicity. Traction might be used but this is not universally approved (Paris 1997). Bed-rest may be essential in some cases, if acute swelling of soft tissues in the area of disc protrusion has occurred. In the sub-acute stage postural reeducation, mild stretching, core stability and other specific exercises (such as extension

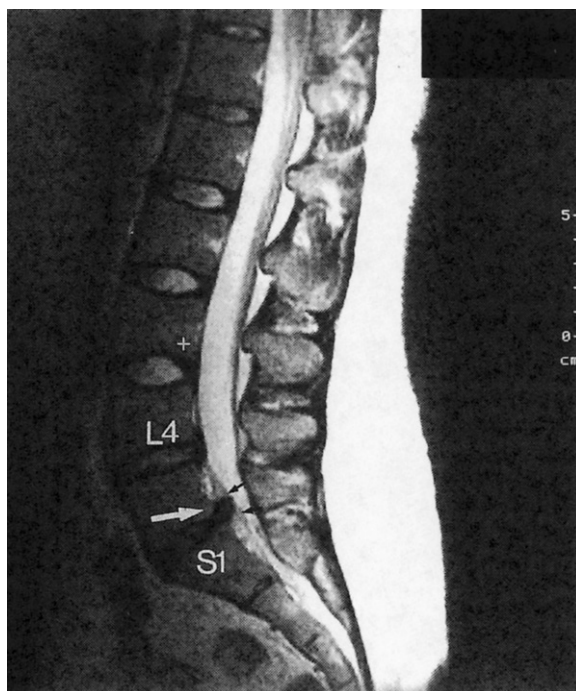


Figure 2.4 An MRI T2-weighted sagittal lumbar spine scan showing the moderately large central disc protrusion at the L5–S1 level (white arrow) that may be confined by the posterior longitudinal ligament which is displaced posteriorly. The moderately severe degree of compression on the anterior aspect of the dural tube/theal sac is clearly visible (black arrows). Note that the L5–S1 intervertebral disc shows more advanced desiccation than does the L4–5 disc. (From Giles 2003.)

exercises to re-establish lordosis if this has been lost) may be prescribed. Surgery should only be considered if neurological signs are evident

- Involvement of zygapophyseal facet joints as a cause of back pain requires careful assessment. Facet dysfunction might include facet capsule synovitis, facet capsule entrapment, facet blockage due to meniscus or loose body entrapment, or degenerative arthrosis of the facet joint. Treatment of facet joint problems may include rest and/or manipulation or pain killing injections
- SIJ capsules and ligaments – the sacroiliac joint and its ligaments are a common source of low back pain (see Ch. 5)
- Congenital anomalies such as spondylolisthesis (where a vertebral segment has ‘slipped’ forward on the one below) can be established by X-ray or scan. Unless there are neurological signs, spondylolisthesis is best treated by encouraging improved posture, rebalancing of the low back/pelvic musculature, and core stabilization protocols (see Ch. 8). If neurological signs accompany a spondylolisthesis, surgery and possibly fusion may be required (Fig. 2.5)
- Stenosis (narrowing) of the spinal canal or lateral foramen is evaluated by means of signs and symptoms and scan evidence. Stenosis may produce neurological symptoms aggravated by exercise and relieved by forward bending
- Arthritic changes. Signs and symptoms and history, as well as X-ray or scan evidence, confirms the presence of arthritic changes, including conditions such as lupus, ankylosing spondylitis, rheumatoid and osteoarthritis. Manual therapy may offer pain relief and circulatory and drainage enhancement
- Low back pain may be a feature of widespread conditions in which pain is a primary feature, such as fibromyalgia, where bodywork plays a role in palliative care.

LEWIT'S ADVICE

Karel Lewit (1992) suggests that, apart from their local significance in terms of pain, and their influence on target areas, trigger points can have a clinical significance due to their links with certain pathologies, for example triggers in:

- the thigh adductors may indicate hip pathology
- iliacus may indicate lesions/subluxation of segments L5–S1 (coccyx)
- piriformis may indicate lesions/subluxation of segment L4–5 (coccyx)

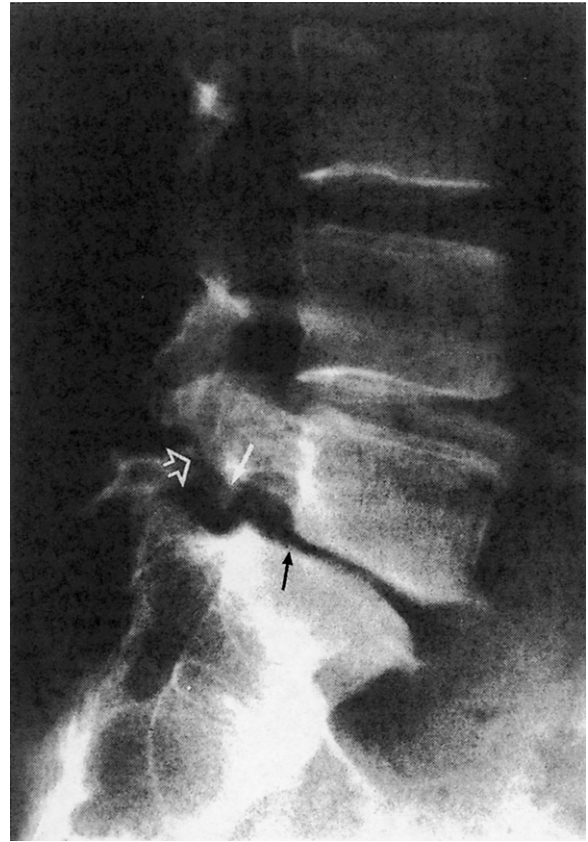


Figure 2.5 A lateral view X-ray of the lumbosacral region showing grade 1 spondylolisthesis of L5 on S1 with advanced thinning of the intervertebral disc at this level and osteophytic lipping at the anterior margins of the L5 and S1 bodies. The open arrow shows the fractured pars interarticularis. The white arrow indicates the bone spur projecting into the right L5–S1 intervertebral foramen. The black arrow shows the degree of spondylolisthesis, i.e. the L5 body as moved approximately one-quarter of the distance along the sacral body, hence the grade 1 classification according to Myerding's (1932) classification. (Giles & Singer 1997, Yochum & Rowe 1996.) (From Giles 2003.)

- rectus femoris may indicate lesions/subluxation of L3–4 (hip)
- psoas may indicate lesions/subluxation of the thoraco-lumbar junction (T10–L1)
- erector spinae muscles may indicate lesions/subluxation of a corresponding spinal level
- rectus abdominis may indicate problems at the xiphoid, pubis or low back.

NERVE ROOT PAIN

This commonly produces sciatic type pain and causes can include disc prolapse, stenosis of the spine, scar

formation, or more complex neurological disorders. As a rule, nerve root pain involves pain along the sciatic distribution, down the leg and including the foot, which is more intense than the accompanying back pain. There is commonly a degree of numbness in the same areas as the pain. If neurological symptoms or signs affect several nerve roots or both legs, then there may be a more widespread neurological disorder. This may present as unsteadiness or gait disturbance.

One of the clearest signs of neural involvement in low back/sciatic pain is the straight leg raising test (see Ch. 4), which aggravates and/or reproduces the painful symptoms (Butler & Gifford 1989).

DISTORTIONS AND ANOMALIES

If abnormal structural features are noted on standing examination, such as scoliosis or marked kyphosis, it is important to observe whether this remains evident during prone positioning.

- If it does not remain in prone positioning, i.e. the spinal distortion reduces or normalizes when the patient lies face down, then it represents muscular contraction/spasm. A true scoliosis will remain evident even under anesthetic

- If it does remain in prone positioning, the cause may be structural, or may be muscular, since a long term, fixated, muscularly induced scoliosis may also remain in non-weight bearing position.

KEY POINTS

- While massage and associated soft tissue methods may offer short-term pain relief for almost all forms of back pain, it is only useful in relation to speeding recovery in non-specific back pain
- If there are red or yellow flag suspicions, it is important to have the patient seek a firm diagnosis rather than possibly offering short-term pain relief for a problem that needs urgent attention elsewhere
- There are a variety of congenital, structural, neurological, pathological and degenerative causes for the small proportion of back pain that has specific causes
- Identical localized low back pain, with or without referral into the lower limb, can derive from a variety of different conditions, making differential diagnosis essential for the safety of both the patient and the therapist.

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