

Unnecessary fear avoidance and physical incapacity in a 55-year-old housewife

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SUBJECTIVE EXAMINATION

Lara is a well-preserved 55-year-old woman. She is married to Raymond, who is an architect, and they have one son who is a general practitioner. They are well off and have a lovely home in a very pleasant region of rural England.

Lara has a chronic pain problem relating to her back and legs, but in particular to her feet. She has pain in both feet, but also pain and dysaesthesia in both legs, and pain in her right groin, buttock and in the middle of her back (Fig. 5.1). She also has intermittent problems

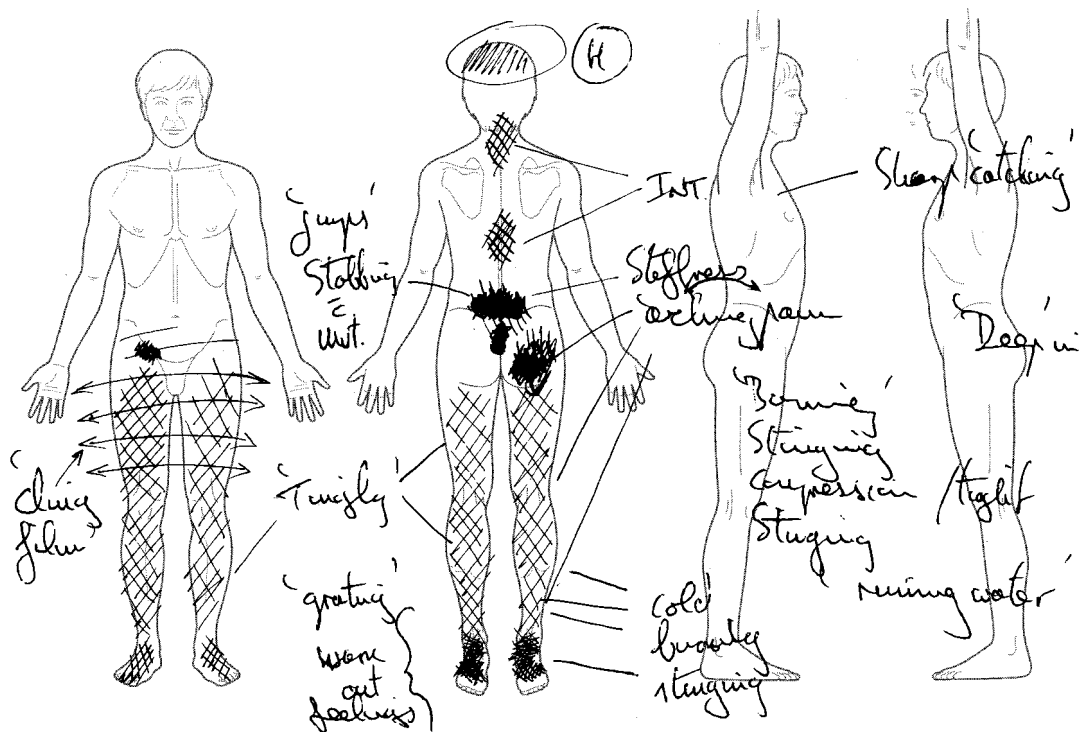


Fig. 5.1 Body chart illustrating the patient's symptoms.

in the low thoracic region and at the base of her neck, and she frequently gets headaches.

Lara came 200 miles to see me. She was recommended to me by two physiotherapists who had been working with her. She was pleasant on the phone and

said that she was desperate. I interviewed, examined and began her management in two sessions spread over 2 days. The first session, which was entirely interview, took 2 hours, while the second lasted about 1.5 hours.



REASONING DISCUSSION AND CLINICAL REASONING COMMENTARY

1 You decided to spend the full 2 hours of your first appointment entirely on interviewing this lady; this clearly indicates the importance you place on this initial session and on the information you will obtain. Could you briefly outline the broad aims of your initial interview and how you use this information to guide your subsequent physical examination and management.

Clinician's answer

There is no doubt that complex long-standing problems take time to understand fully. The broader more biopsychosocial approach that is taken here requires a full appreciation of patients' problems and the way in which their problems have affected them and those around them. Interview, and discussion during interview, is also a very powerful and important part of the management process. It provides the information base that dictates the best direction in which to proceed and it reassures the patient that I understand the problems that they are facing, as well as the nature of the presentation. There were several key aspects to the initial interview.

- To find out about her situation now compared with how it had been before the problem started. In particular, to find out how much she does physically in comparison to the situation previously. This gives an understanding of her disability level and some idea of shorter and longer-term goals.
- To find out what she feels is wrong, what the pain means to her, and what she feels about the future.
- I also needed to find out about her expectations of me and what she was expecting from our sessions. Much insight is gained here with discussion of previous treatments and investigations, treatment effectiveness, and how messages and information given have been interpreted.
- I needed to feel comfortable that no serious condition was present that would be more appropriately managed within or alongside some form of medical

intervention. Information here may lead to appropriate physical testing later.

- I wanted to get enough information so that together we would be able to plan a way forward.
- I needed enough information about her symptoms to be able to understand her problem in terms of pain mechanisms and all the current physical and any 'emotional/cognitive/psychological' issues relating to the problem.
- It is necessary to have a full appreciation of all psychosocial factors that may impede management.

2 With respect to your aim to ensure that no serious condition was present, were you concerned/worried at this stage that her bilateral lower limb symptoms could reflect spinal cord involvement?

Clinician's answer

Not really, although it is always a possibility and should always be entertained in every patient. Important 'special questions' and physical/neurological tests should never be left out, however confident one feels. The reason for my confidence here is threefold. First, patients with chronic pain like Lara have usually been seen by many doctors and specialists and have often been thoroughly biomedically screened already. Secondly, if there was significant spinal cord involvement, clues should be picked up during history taking. Thirdly, bilateral lower limb pain is not uncommon in many chronic pain states and may be a reflection of central processing/central mechanism factors rather than gross or frank cord pathology.

Clinical reasoning commentary

The clinician's account of the 'broader more biopsychosocial approach' he takes with this sort of complex, long-standing problem is consistent with

what Mattingly (1991) has described in the clinical reasoning literature as attending to the patient's 'illness experience'. As discussed in Chapter 1, a patient's illness experience, or what is synonymously described as 'pain experience' in the pain science literature, refers to the effects patients' problems have on them, and those around them, psychosocially. Understanding the context, also called 'narrative reasoning' (Fleming and Mattingly, 2000; Jones et al., 2002), requires attempting to understand the patient as a person, including their perspective of the problem (e.g. understanding, beliefs, desires, motivations, emotions, etc.), the basis of their perspective, and how the problem is affecting their life. Understanding the person, in addition to the problem, as identified by the clinician as a key aim of his interview assessment, is increasingly being recognized as a significant variable influencing patient outcomes (Borkan et al., 1991; Feuerstein and Beattie, 1995; Lackner et al., 1996;

Main et al., 2000; Malt and Olafson, 1995; Strong, 1995; Watson, 2000).

The clinician's reference to screening for potential serious conditions (i.e. precautions and contraindications) and attempting to understand the patient's symptoms in terms of pain mechanisms (i.e. pathobiological mechanisms) reveals a structure to his knowledge and thinking consistent with the hypothesis categories discussed in Chapter 1. This is not surprising given he has personally contributed to the development of these categories (Gifford, 1997; Gifford and Butler, 1997), but it also highlights how a framework, as provided by categories of hypotheses, can assist in organizing one's knowledge and guiding examination and reasoning. The clinician's aim of gaining sufficient information 'so that together we would be able to plan a way forward' is testimonial to the 'collaborative reasoning' approach to his assessment and management.

Initial assessment interview

Lara's husband accompanied her for every session. She met me with a smile, but she moved very stiffly and sighed easily. She sat bolt upright, back in extension, knees at right angles and together, and her hands rested on her thighs in a very symmetrical and stylized way.

The history of Lara's problem can be summarized as follows.

1. About 5 years ago, she had a fairly nasty low back problem, which she was told by her physiotherapist was a disc condition. There was no history of any injuring incident and in the past she had only suffered minor, odd back pains that lasted for a few days. This episode recovered with repeated extension exercises in one week. I asked Lara if she went back to 'normal' activities after this and she replied: 'The therapist helped me understand about fluid movement inside the disc and that bending pushed the fluid backwards and made the disc bulge towards my nerves. She also taught me good posture to prevent this happening. As a result all the pain went, but in order to be careful of the fluid I stopped most of the gardening and have always been very careful with any back bending.'
2. Eight months later, Lara had a hysterectomy and colposuspension (remodelling of the vagina) operation. She had complained of some urinary leakage prior to this operation and noted that the back pain

was markedly worse following it. She regretted ever having the surgery and her husband added that he believed that her problems really stemmed from the operation. He was notably disgruntled about it. She recalled that her low back was agony at the time of the operation, but that it 'more or less' cleared up once she got moving afterwards.

3. After a further 8 months, Lara's back pain returned, again for no apparent reason. This time the pain had increased its area to include the low right buttock. The physiotherapist told her that the bulge was likely to have increased and was starting to irritate the sciatic nerve. She said that the therapist went through all the postural and movement 'dos and don'ts' and some similar previous exercises. As well as giving the exercises, the therapist treated her using 'pressures on the back' and ultrasound. She remembers often feeling very stiff getting off the couch after treatment and that the exercises often left a lingering pain further down her right leg. After 10 treatments over 6 weeks, treatment stopped. She recalled the physiotherapist saying that the disc would be healed and that further treatment was unnecessary. I asked Lara if she had felt better, to which she said. 'To be honest, I felt quite depressed; my movements were better but my pain was much the same and I had some new rather odd feelings in my right thigh and calf, which I was also starting to feel in my other leg. The overall intensity of the pain was perhaps

- slightly less, but I was getting worried and it was starting to really trouble me at night.'
4. Lara was advised to see a local chiropractor by a close friend. She was diagnosed as having four major contributory problems. These were described as facial distortion ('some sort of jaw distortion'), C2 fixed in a left rotated position, unequal leg and arm lengths and what the chiropractor described as the worst sacroiliac (SI) blocking he had ever seen. I asked Lara how she had felt about that? She said, 'I remember feeling pleased to start with, that he had found something, he seemed very confident that it would all be put right very easily. Later on I started to dread going, when I think about it now I felt that he started to make me feel that the lack of progress was my fault. I also started to worry that the things he said were wrong, were impossible to overcome. By the end I got worse and stopped going.' Treatment involved a series of regular but very quick adjustments to her head and neck and some 'pressing on the roof' of her mouth'. Lara was warned to stop all swimming so as not to upset her SI joint: 'He told me to stop the physiotherapy exercises and concentrate on my neck posture.'
 5. A further 4 months later, Lara's doctor referred her to an orthopaedic consultant after radiographs revealed modest degenerative changes. 'He said that I had normal wear and tear on the X-rays but there was the possibility of spinal stenosis. I had a scan that revealed moderate disc bulging at L5-S1 and no significant stenosis.' What happened from there? Lara said, 'I remember feeling very empty, very tearful and almost embarrassed to start with. He made me feel as if I was making it up, I remember the comment he made, "you've got the same back as everyone else of your age on this earth", and then he said, "the best thing you can do is 100 sit ups a day and go swimming". About a week later, I started to feel very angry that I hadn't been believed, but even my husband seemed to side with his view—when he came in from work his first words were usually, "have you done your sit-ups?".'
 6. Through the next few months, Lara's doctor treated her for mild depressive disorder with amitriptyline (tricyclic antidepressant). She was also given 'painkillers' (ibuprofen: non-steroidal anti-inflammatory agent) and co-proxamol (dextropropoxyphene hydrochloride plus paracetamol: compound opiate analgesic).
 7. Within a couple of months, Lara started to suffer from stiffness in the back of the thighs on bending. She also had low back pain, buttock pain and lumbar stiffness. In desperation, she returned to her physiotherapist, who concentrated on the disc bulge. She had eight traction treatments, which helped to start with, but pain soon returned. In addition, she was given a corset to wear all the time. Lara could not remember any exercises being given that were not stopped because of exacerbation of the pain.
 8. She returned to the chiropractor, who 'cracked' her neck and adjusted her SI joint. After four treatments and progressively worsening pain, the chiropractor referred her back to her GP, who organized an appointment with the local rheumatologist.
 9. Lara saw the rheumatologist 2 months later. By now she was only walking around the house, rarely went out of doors and had stopped all social engagements. Her doctor son was keen for her to see a psychiatrist. 'I was starting to think that I had something that no one else in the world had ever experienced, and that because it was so new and nothing could be found to reasonably explain it, the only rational way for doctors to see me was in terms of some kind of madness! Even my son was seeing me as a mental case. The rheumatologist said that I was "atypical" and that I did not have any joint rheumatism. He actually took me seriously, listened and arranged for some blood tests. Once the results came through negative, he referred me to the local pain clinic. Here, I was given acupuncture and TENS (transcutaneous electrical nerve stimulation). After three treatments, I had terrible pains in the balls of my feet, which the physiotherapist said was a good thing! But the pains got worse and worse and she then referred me to hydrotherapy. She said that I had tight nerves that need moving and stretching.'
 10. The hydrotherapy was the first step towards some improvement; Lara enjoyed the movement in the pool and the pain was masked by the warmth. She said she felt very safe moving in the pool and after 4-5 weeks found that she was able to do some simple back exercises lying down at home. She made further gains using the Alexander technique (Barlow, 1981).
 11. She continued through early the following year 'managing' reasonably well and even getting to

about 70% of normal for several months. Lara continued with physiotherapy and the Alexander technique. Physiotherapy she described as 'lying on my tummy for 20 minutes while she loosened me, then some stretches to my legs and ultrasound on my feet. I had four major exercises. Tightening my stomach for 5 seconds ten times three times a day, then the same but also tightening my buttocks at the same time, holding this tension and arching and flattening my back 1 cm while I was sitting, and then lying on the floor and stretching my leg up the door frame. The main message was that my back was unstable and that muscle tone had to be

increased to prevent it slipping out of place. I was also instructed to never bend without tightening my stomach.'

12. Five months later Lara suffered a severe setback in pain and also had treatment for depression again.
13. Lara was referred to a neurosurgeon 2 months later, who offered to do a sympathectomy. Her comment was: 'How can I go ahead with an operation when the man I saw didn't even examine me, peered at my notes, scans and X-rays, asked two questions about my cold feet and said that my only chance was to have an operation that cut nerves to improve my leg circulation?'



REASONING DISCUSSION AND CLINICAL REASONING COMMENTARY

- 1** What were your thoughts regarding the history of Lara's problems? Include your thoughts on the previous management.

Clinician's answer

If you really follow what happened over time, it is an unfolding story of disastrous management that sequentially reinforced the notion of structural weakness and abnormality and fear of further damage; this resulted in progressive disability with psychological distress and depressive symptoms. All practitioners have been very structurally based in their thinking and have made no attempt to understand or take on board the patient's thoughts, beliefs, attributions and feelings regarding the nature of the problem. Little has been done to allay Lara's fears and rehabilitate her back to a fuller potential with increased physical confidence. Therapists appeared satisfied that pain relief was an adequate outcome. Also, common to many similar patients, doctors dismissed the problem as trivial and inferred mental weakness on the patient's part, with the unhelpful end result being the conclusion that the patient has a psychiatric disorder. It is worth noting that the therapists/doctors who have treated Lara to date have created:

- an obsession with upright posture: partially responsible for creating unrealistic avoidance and structural fear, or behaviour patterns caused by the fear created by therapy
- fear avoidance beliefs and behaviour, created disability/loss of confidence; this is the result of most

therapists using a 'weak/vulnerable structure' focus and not helping the patient actively and gradually to restore confidence in spinal movement and back strength alongside their treatments

- an unnatural overfocus on the body during movements; instructions like 'never to bend without tightening the stomach' reinforces structural weakness perception, movement avoidance, and tension with movement. Normal movement should eventually be trained to be thoughtless movement but pain-focused treatment reinforces a 'back off' movement strategy
- confusion and conflicting information: doctors and other clinicians have been adopting a blinkered view of the problem specific to their area of interest.

- 2** Specifically please comment on the key activity/participation restrictions and associated impairments you hypothesized would need to be addressed and the dominant pathobiological pain mechanism pattern you felt was emerging.

In the 'psychological/mental' impairments hypothesis category, it is clear that Lara is upset, unhappy, distressed, frustrated, and possibly even angry. There are also many very unhelpful beliefs and attributions about structure and cause that will need to be addressed and overcome before a gradual functional improvement approach can be started (especially those relating to bending). A thorough examination and careful explanation of pain mechanisms would be a useful start in the process. Highlighting structural

integrity and soundness following examination would be important. It is likely that Lara will have altered movement patterns and significant apprehension performing many movements. A great deal of tissue testing is likely to find widespread abnormality. In particular, lumbar flexion and lumbar flexion activities may need careful addressing.

It would be unwise to try and be specific about the pain mechanism(s) in view of the chronicity of pain, the consequent neuroplastic changes in nervous system input, processing and output pathways/networks, the weak and deconditioned tissues, possible minor or moderate degeneration, lack of normal movement patterns and the psychological and social consequences of the whole episode. A single lesion approach to well-established chronic pain states like this one has to be, at best, extremely cautious. A broader biopsychosocial model that incorporates multidimensional and multi-level thinking for assessment and management is probably the most desirable option (Gifford, 2000a, 2001, 2002a; Main and Spanswick, 2000; Waddell, 1998). Importantly, this does not preclude focussing on specific physical impairments at some time in the management process.

Allocating a specific pain mechanism in this type of patient is probably detrimental in that it makes thoughts linger in a focussed way and misses a far bigger picture. A shift in focus to disability (i.e. activity and participation restriction) management is probably the singularly most important issue. Clearly though, altered, or maladaptive, central processing of sensory and motor information, central generation of pain, maintained peripheral sensitivity, peripheral nerve hypersensitivity and all output mechanisms have a role in presentations of this type. The message is that there is no specific single source targetable by passive therapy interventions. By working on the patient's

thoughts and beliefs, alongside graded return of physical function and confidence, we will actually be working and manipulating neural pathways responsible for the pain and disability problem (Gifford, 2000b). A key thought is that inputs that improve things like self-efficacy, patient sense of control and understanding, levels of distress, physical function and goal achievement will have positive neuroplastic effects that will have repercussions for the health of the whole organism (see Gifford, 2002b; Lawes, 2002; Roche, 2002).

■ Clinical reasoning commentary

A key aspect of expert reasoning we wish to draw readers' attention to here is the clear illustration of the clinician's thinking occurring on multiple levels. Recognizing apparent psychological components, activity restrictions and physical impairments within a broader picture of overlapping pain mechanisms has provided a basis on which management strategies are already being formulated. Despite the emerging pattern, the patient's problem has not been pigeon-holed into a scenario where the pain and physical impairment are seen to be completely driven by the psychosocial issues. Rather, management of specific physical impairments is hypothesized as possibly being required, and the facilitation of 'thoughtless' normal movement, consistent with motor control retraining philosophies featured in other cases in this book, is seen as important in the overall management.

Also note here, and throughout the case, the clinician uses quotations from the patient extensively. This reflects how much he listens to the patient and the importance he places on the patient's thoughts and feelings about their problems.

Lara first saw me the following month. The following summarizes the current situation and other pertinent information to her condition.

Family history

Father fine, mother diagnosed as having spinal stenosis in last 2 years (86 years old). Mother always grumbled about her back and never did any lifting. She also never did any walking or kept fit. Lara has a brother 63 years old, very inactive with a long-standing bad back.

Symptoms

Lara is constantly aware of symptoms (Fig. 5.1). These rate on the Numerical Rating Scale (NRS) as 8–9 on average; 6 at best and 10+ at worst. The main problem is with the feet and back. Symptoms are described as burning, stinging, flickers, tightness or compression feeling, and cold discomfort. Lara describes being able to hear her feet grating and has the feeling that something inside was stuck and would not move. She describes her feet as having burning pain yet feeling

cold. The back produces sharp stabbing pains all the time when she moves.

Her legs feel tingly and coated in cling film from groin to lower one third of thigh. There are odd sensations in her legs: flickering, moving, wriggling, stinging nettles and running water sensations. All sensations are deep, not in the skin. There is no segmental pattern; the symptoms are deep and diffuse

throughout the whole leg. The low back was a constant problem and now the right SI joint area 'jumps' and often feels weak. The pain frequently moves. She often gets pain in the coccyx region and has a sharp catching pain in the right buttock. She also has right groin pain and when groin is better, the buttock is worse. Lara does not complaint of loss of sensation.



REASONING DISCUSSION AND CLINICAL REASONING COMMENTARY

- 1** Lara's body chart and this list of symptoms presents a rather daunting picture. Could you highlight your thoughts at this stage? What did you consider were the key features in the body chart and was there any further support for your earlier hypothesis regarding the dominant pain mechanism?

■ Clinician's answer

The body chart (Fig. 5.1) clearly shows that Lara's symptoms are complex, widespread, non-segmental, and not at all typical of common acute and subacute presentations. The body chart presentation reinforces the earlier interpretations with regard to multiple mechanisms and sources (relating to input processing and output) and the importance of maladaptive neuroplastic change (central mechanisms). My main thoughts were that the only form of helpful management would be if I could successfully restructure this lady's understanding of her problem and the potential of therapy to help/not help; then I may be successful in helping her to move on.

- 2** Given this sort of presentation, how specific were you prepared to be regarding possible sources of her symptoms at this stage?

■ Clinician's answer

The key here I believe is thinking in terms of multiple tissues and at multiple levels throughout, but with the central nervous system as the main player. Being specific, with our current state of knowledge, is likely to be detrimental to a multidimensional approach and is unrealistic. The very complexity of the presentation is enough to determine that, rather than try to grapple with hypotheses about specific 'sources' of symptoms, a

more productive approach would be achieved by investigating, understanding and addressing the relevant activity restrictions/disabilities/impairments. Some of the 'clues' that lead to these conclusions include the chronicity of the problem, the lack of success with interventions so far, the widespread and variable symptom distribution, and the many descriptive terms used. A final comment here is that it is probably far more productive to think in terms of sources of disability/activity restriction/impairment rather than sources of symptoms. This shifts thinking towards what can productively be improved rather than what needs to be 'fixed'.

■ Clinical reasoning commentary

The clinician raises an important point regarding the use of hypothesis categories. By virtue of being provided with a list of hypothesis categories to be considered when examining and managing patients, it is common for therapists to proceed and attempt to think through all hypothesis categories from the start with every patient. This is not only cognitively too demanding and hence unrealistic, as pointed out here, it also can be detrimental to understanding some patients' problems. Prematurely focussing on specific structures often occurs at the expense of gaining a broader picture of the patient and his/her problems. There are, of course, no strict guidelines that can be recommended for when specific structures should be hypothesized. Patient clues suggesting serious or sinister pathology must be recognized and immediately followed up. However, beyond that, the clinician has provided useful suggestions for when specific hypotheses regarding sources of the symptoms are less useful.

Even in nociceptively dominant problems, successful management will usually come more from treatment directed to specific function-related impairments rather than specific tissues. Therapists rarely have their hypotheses regarding sources validated and often make the reasoning error of interpreting patient improvement as substantiating the source. However, knowledge of common clinical patterns for specific structures can in many cases assist enormously the recognition of the problem, whether

physiotherapy is indicated, and if so what type of management is likely to be helpful. The application of thorough assessment and balanced reasoning, wherein identified impairments are considered within the broader picture of pathobiological mechanisms, and in conjunction with known and hypothesized pathology, will enable therapists to deliver effective management while continuing to improve their understanding and expand, and eventually validate, their clinical impressions.

Behaviour of symptoms

The main ways the symptoms occur are:

- standing still causes burning/tightness in the feet, which quickly builds in intensity; it is eased by taking shoes off; 'releases immediately'
- sitting also relieves the feet symptoms quickly but it increases the back and thigh pain, making her quickly restless
- the low back and buttock symptoms increase with sitting and Lara becomes very sore or 'raw' inside; the pain, when severe is tender to touch; maximum sitting tolerance is 20–30 minutes
- never really free of symptoms: they are constant; if they do go it is only for seconds
- back pain is there all the time as a background aching but when moving gives sharp jabs all the time
- cold feet feeling improves with fast walking but walking makes pain worse afterwards
- all symptoms aggravated by movement
- shopping in local supermarket consistently aggravates the pain in the feet so avoids shopping as much as possible (tried changing shoes, adding pads in shoes and different corsets—all with modest success for a short time, but now nothing helping)
- when pain increases in feet and legs, the coldness gets worse
- the colour of the skin of her lower legs and feet change from a blotchy/purple to a deep red when going from sitting to standing
- night time results in some problems lying on back, with tail pain, and side lying is best; occasionally wakes aware of pain but always manages to get back to sleep
- poor sleeper without medication
- copes best in the morning

- evenings are horrid and ends up lying semisupine on couch
- best when half asleep
- has noticed that symptoms are worse when she is 'uptight'.

Current activity levels

Lara's current activity levels can be summarized as:

- swims once a week: manages gentle walking in the pool and about one width in total by swimming on her back
- walks 1 mile once a week if she can and walks through the pain, which spreads to toes and settles; the whole leg becomes painful when she stops and it is usually all stirred up for 3–4 days, with a level of pain that forces her to rest off her feet most of the following day
- maximum walking time is 40 minutes; prefers fast walking
- used to be very busy but describes herself now as 90% less active than prior to the problem being severe; for example, she could easily walk 5–6 miles, swim 20–30 lengths and carry all her shopping bags with no problems
- spends an average of 4–5 hours doing very little during the day, mainly shifting from sitting to lying interspersed with small household activities
- most of her life is spent inside and at home; she used to be 'out and about' all the time
- occasionally does all the housework in a morning out of frustration but pays for it for several days afterwards
- has given all hobbies up; these were gardening (regular), flower arranging, voluntary work, painting flowers and embroidery (earlier in the year she had

managed some pottering about in the garden but she had not done any flower arranging for 2 years)

- has not been on holiday since the problem started because of fear of the problem worsening and wishing she had stayed at home
- has not cooked a meal for other than her husband or been out for a meal for 2 years (previously she had been very sociable, often giving dinner parties and going out with friends).

Any form of concentration has made the problem worse and makes her very frustrated and upset. When asked why she had stopped so much, Lara said that she had a fear of doing more damage, creating more pain, and of something giving or going, with days of resting afterwards. She said she felt weak; activities made her limbs feel heavy and she got very tired very easily.

REASONING DISCUSSION AND CLINICAL REASONING COMMENTARY

- 1** There is a certain degree of stimulus–response predictability that is apparent in the behaviour of her symptoms. In your previous answers, you noted that you felt there was strong evidence emerging supporting a dominant processing pain mechanism in her presentation; however, elsewhere (Gifford and Butler, 1997) you have described a common feature of the nociceptive pain mechanism pattern is its stimulus–response predictability. Can you comment on what features of this lady’s presentation alter the relevance of the stimulus–response predictability that is apparent in her presentation?

Clinician’s answer

A degree of predictability in symptom response to mechanical stress is common to a great many pain states: it is just as easy to increase and decrease symptoms instantaneously using physical forces and movements in an acute injury as it is in chronic pain states. ‘Processing’, along with cognitive, emotional and behavioural responses, are still a feature of all pain, even presentations that are acute and deemed largely nociceptive in nature. However, in the more chronic state, inputs that produce a pain response may be coming from quite normal tissues as well as from tissues that are in various states of ‘ill-health’—many of which presumably contain maladaptively sensitized and hence over-reactive nociceptors. Further, and central to chronic pain states, is the fact that the pain ‘reaction’ to physical inputs is often way out of proportion to what might be ‘needed’ by the tissues. In Lara’s case, features that tend to discourage any thoughts with regard to major nociceptive mechanisms (for which the stimulus–response pattern is more in

keeping with the extent of tissue pathology) are the length of time the problem has been around, the severity and reactivity of the symptoms, and the lack of medical evidence for significant enough pathology. One would expect less reactivity perhaps from a severe rheumatoid arthritis presentation. It might be best to reason that Lara has a great deal of maladaptive nociception going on and maladaptive processing of nociceptive traffic in the central nervous system as well. Clinically this equates to too much pain and sensitivity for the state of the tissues: hurt does not mean harm.

- 2** Has any of this new information elicited any new thoughts/hypotheses regarding other pain mechanisms or sources?

Clinician’s answer

Not really. There are some features that might elicit thoughts relating to circulation or even aberrant sympathetic activity: like the cold feet/legs and skin colour changes. Hence, one line of thought could be: maladaptive central processing leads to altered and inappropriate outputs, which, in turn, lead to sensory inputs and more sensations. Another side of the issue is that symptoms like alterations in temperature and blotchy skin may well represent reactions of a very unfit and deconditioned body and are hardly surprising. Also, there is the likelihood that Lara’s attention system has become conditioned to focus on bodily sensations, thus changes in temperature may be going on normally but, as a result of the maladaptive bias in attention towards her soma, she has become greatly aware of them. These types of interpretation are ‘better for the patient’ because the message that comes across is that improved function and fitness, decreased

body-related worry and attention and more physical confidence may help to overcome some of these symptoms and sensations. Allocating blame on the sympathetic nervous system or the circulation, immediately 'medicalizes' the findings and presents the patient with a problem that has no natural or guaranteed medical solution—presenting them with yet another source of worry and frustration.

3 Some features of her presentation, such as her coping best in the morning, frequent sharp jabs of pain and even her preference for walking fast, could be interpreted as support for a 'postural' or muscle control problem. Do you feel this impairment could be a component of her problem, either as a possible predisposing factor to the original onset and/or as a contributing factor to the maintenance of her symptoms? Could any 'motor control' impairment that may be present be a manifestation of her altered input–output mechanisms, that is a learned phenomenon with implications as to whether and how this should be addressed in her management?

Clinician's answer

This is a good point because it really highlights the dangers of focussing on a single 'dominant' pain mechanism. While central-processing issues are so important here, it is foolhardy to deny any input/sensory/nociceptive-related mechanisms. Tissues may be unfit, deconditioned, shortened, degenerate, prone to ischaemic effects, have scar tissues, perhaps even have a modest inflammatory component, etc. All these factors may produce a sensory barrage enough to maintain sufficient central activity to affect pain awareness.

An important point is that a 'muscle control problem' is not a direct pain mechanism, rather it is an impairment that in some circumstances may influence the sensory system. There are a great many of us with huge muscle control/weakness/imbalance problems who have no pain at all. However, in a weakened or vulnerable organism (Lara), minor impairments, like those relating to muscle control, poor muscle power or endurance properties, may be enough to play a part in maintaining hypersensitivity. It seems likely to me that the sensory nerves and pathways relevant to vulnerable tissues may somehow perceive that they have little

protection from related muscle systems and hence maintain their sensitivity to a high degree. Stronger and more efficient muscles, in parallel with increased patient 'physical confidence', may provide a sufficient environment for a sensitized tissue or sensory system to dampen down its hypersensitivity.

Dangers come when clinicians see an altered muscle control finding as key or central to this kind of problem. This is just a small hypothesis with regard to the 'bio' part of the assessment and needs to be attached very strongly to the 'psychosocial' part. I would be very wary of overfocussing on specific 'muscle control' issues in the early stages of patients like Lara.

You ask about thoughts regarding a learnt response. The answer is very much so. Pain alters movement patterns, so does fear of injury and fear of pain and loss of physical confidence. For most patients with chronic pain, these are long-standing features that result in chronically altered movement patterns, which become 'set' as new habits and for many start to feel normal. The secondary consequences to all the musculoskeletal tissues and the circuitry of movement must be vast. Thoughts like this highlight the need for reduction of fear of movement and structural weakness, and the adoption of adequate but graduated normal functional movement patterns from early on. Clearly for Lara, an essential part of her programme should involve normal movement patterns and normal recruitment. However, I would warn again about being overspecific and too focussed/complicated early in the management with a patient like Lara.

The following points are important alternative hypotheses.

- Sharp jabs of pain can be interpreted as 'neurogenic'. For example, ectopic impulse-generating sites in sensory neurons can spontaneously discharge and, therefore, have the potential to cause a sharp jab of pain. Ectopic impulse-generating sites can also be highly mechanically sensitive; hence small movements produce massive electrical discharges and consequently sharp pain.
- Coping best in the morning may relate to deconditioning; in the morning, the body has had some rest and may be best able to cope. Clearly muscle capacity to cope is a very likely part of this.
- Walking fast may produce a 'gating' effect. In other words, the preoccupation with walking fast helps to inhibit sensory input relating to pain from reaching consciousness.

■ Clinical reasoning commentary

The significance of one's organization of knowledge to the clinical judgments reached is apparent throughout these answers. The knowledge of pain mechanisms and their associated clinical features, linked with the implications for management and, no doubt, prognosis, clearly underlies the clinician's views. Patient information is not interpreted in isolation but considered with respect to the broader unfolding picture that is emerging: earlier hypotheses are supported. In this way, the stimulus-response predictability common in nociceptive dominant pain states can be seen also to fit within the pattern of central sensitization described by the clinician. Specific nociceptive physical impairments are not discounted; rather the likelihood of multiple pain mechanisms is highlighted with management implications that include taking care to avoid overattention to any single physical impairment. Further, the importance of

education and explanation as an aspect of skilled clinical reasoning also stands out in the clinician's caution regarding apportioning blame to a particular structure or system with a patient where such beliefs are hypothesized to already be contributing to her problems.

The importance of re-establishing more normal movement patterns is recognized but, as with involvement of other systems, motor control is considered within the broader framework of altered central processing. Alternative interpretations for conventional clinical features of motor impairment are put forward. Clearly it is not possible to discern the precise interrelationship between the patient's altered movement patterns/muscle control and the underlying pain mechanisms within a clinical examination. However, so long as the alternatives are considered, as they are here, the manual therapist can then proceed with interventions directed at altering motor control and be guided by reassessment of the relevant outcomes.

General health and wellbeing

Her general health and wellbeing are not good:

- frequent colds and 'flu, which take much longer to shrug off than prior to problem worsening
- urinary problems still disturb her
- generally low and feels 'blue' most of the time; copes best in the mornings and is tearful on average once a week
- worries about her problem and feels very vulnerable physically
- feels her concentration and memory are not up to what they had been: 'When you do nothing you get out of practice!'

Current pain management: treatment and medication

She uses a number of pain management methods:

- uses TENS for relief of back pain, which 'helps a little'
- hot showers and hot water bottle are 'comforting'
- takes amitriptyline 'for sleeping'; this is 'effective'
- takes co-proxamol and diclofenac (non-steroidal anti-inflammatory agent): little help but takes the edge off symptoms

- the Alexander technique audiotape has been helpful so keeps using this
- has tried visualizing pain away: not successful.

Patient understanding of problem and attributions regarding problem

Lara felt that her problem related to some weakness and instability in her back and that nerves were trapped in some way. She felt that her SI joints were still stuck and that she had pelvic torsion and leg length problems. She also thought that there was arthritis in her back, that it might be developing in her feet, and that her neck was 'weak' and vulnerable to being 'locked out'. She had no fear of sinister disease and felt that her mother was to blame for passing on her 'weaknesses'.

Coping

Generally Lara copes reasonably well, especially in the morning, but really struggles by the end of the day. Her husband and family are very supportive; however, her husband displays overly solicitous behaviour toward her, not allowing her to do much. She said that she had become far less spontaneous since the problem began: 'Normal me is in a cage; I have been so restricted physically for so long that the natural spontaneity part of me seems to have disappeared'.

Her husband added that 'she is not the same person at all; it's very sad really'.

Patient's thoughts about the future and expectations about clinician's input

Lara has come with high expectations for a cure as she has been told that I teach and write articles about 'curing' chronic pain.

Her thoughts about the future are sometimes positive; she feels it is curable and she just has to find the right therapist and therapy. Lara has been through negative phases—'I want to die'—and been through some 'bad times emotionally'.



REASONING DISCUSSION AND CLINICAL REASONING COMMENTARY

1 How has the information from the interview either supported or not supported your previous hypotheses regarding this patient's problems and the dominant pain mechanisms?

Clinician's answer

The information from these sections confirms that Lara has a number of factors contributing to her activity and participation restrictions. She is physically disabled and deconditioned; the pain mechanisms are multiple, complex and well established, and her psychological distress strongly features. It also confirms my feelings about her very passive attitude to recovery, her reliance on medical intervention, and her 'structural weakness' beliefs about the nature and cause of her pain. These findings provide much baseline information. I am starting to understand where she is now in terms of her physical and psychological health and where she would like to return, which is important with regard to short- and long-term goals, as well as providing useful starting points for discussion and action.

2 Given all the information obtained to this point, what were your thoughts regarding potential contributing factors (e.g. environmental, psychosocial, physical, biomechanical, etc.) to the development and maintenance of Lara's symptoms and activity or participation restrictions (i.e. disabilities)?

Clinician's answer

The onset of the original back episode, as in a great many patients, could not be related to any specific

injuring incident. Understanding or dwelling on the original mechanism of injury may not be that helpful at this stage. It has happened; it will have had physical origins and it has now become complex and chronic. There does not appear to be anything serious biomedically at this stage, but vigilance should always be maintained. It seems that there is a family history of back pain—her mother and her brother—which should make one think in terms of 'genetic' predisposition and social learning/social modelling factors. Factors like these help us to come to terms with prognosis and help us to understand just a few possible features that contribute to the development and maintenance of a problem. It is very unhelpful to attribute blame on factors like these, for we can have little effect on familial features or the effects of the past.

As far as contributing factors in relation to maintenance of activity/participation restrictions and symptoms, a significant percentage of Lara's restrictions (i.e. disability) may be put down to the way she has been managed and the resulting beliefs and attributions she has about her problem: for instance, the images she has been given, the conflicting messages, the lack of information or interventions promoting health and function, and the lack of any convincing (to her) examination of structure. Other issues include ongoing high levels of pain that are poorly controlled, the widespread distribution of pain, ongoing and high levels of psychological distress, and a predominantly passive/avoidance coping style with low activity levels. These are all present and are known to be strong predictors of high disability and poor outcome (Watson, 2000). Her husband's understanding, beliefs and behaviours are also likely to be contributing to the maintenance of her disability/activity restrictions

and participation restrictions and will need to be addressed (Newton-John, 2000).

Many of the above factors are likely to have played a major role in the maintenance of her symptoms too. Poor management leading to ongoing anxiety in relation to the problem may create a habitual focussing on pain, serving to enhance its accessibility to consciousness and further strengthen its neural representation. Deconditioning, degenerative changes or what might be termed 'physical vulnerability' must also play a part as well.

3 Given the presentation that is unfolding thus far, what are your aims for your physical examination?

Clinician's answer

Physical examination has significance for the management process, for diagnosis and for the patient. For the patient, we need to seek to reassure via a thorough examination. The patient must feel that a thorough examination has been done and that any findings have been given a reasonable explanation. It is wise always to attempt to give reassuring messages, rather than create fear. Examination is perhaps one of the most important parts of the management process; an important issue for patients like Lara is finding features that are good and highlighting them as they emerge, rather than searching out the bad and adding to the worry and confusion.

For management we need to explore the extent of physical impairment and make sense of it in relation to the type of intervention offered.

Diagnostic examination may have limited value in this type of patient with chronic pain. Clearly the clinician should always be aware of any 'red flag' features of importance. However, Lara has had plenty of medical screening tests and is, therefore, unlikely to have any serious disease process.

Examining patients like Lara, who have chronic pain and marked activity restriction, does not normally warrant any in-depth or focussed appraisal of minor impairments if a broad educational/self-management/functional recovery approach is to be adopted. Here, the early focus of examination is more on observations of function and activity restriction and perhaps some of the more blatant and relevant physical impairments, as well as patterns of illness behaviour, tension and fear in movement, and an appreciation of the extent of the problem and the degree of the deconditioned state. We basically need to know what the patient can do on

their own rather than bias our investigation to more detailed findings. More specific examinations of physical impairments can sometimes be useful and relevant later in the management process. Every abnormal reaction, minor movement abnormality or loss of range is something that can be added to a list of findings that could be worked on and improved, but may not need to be. Most frequently, the restoration of confident movement patterns greatly improves or even resolves many of the physical impairments that may be noted. The primary aim is to get a disabled human being active, functional and confident again, and not to delve unnecessarily further into finding overspecific abnormalities that may be irrelevant or of little value to treatment goals—especially early on in the management process.

Clinical reasoning commentary

As discussed above, it is easy to overattend to the source of the symptoms in a classic medical diagnostic sense. While hypothesizing regarding symptom source is useful in many patient presentations, and here the clinician is increasingly more certain of a widely distributed source to much of her symptoms, identifying the contributing factors relevant to the presenting disability often will be as important, or even more important, to a successful outcome. In this case, psychosocial factors/impairments are considered the key contributing factors, although physical impairments, such as the altered motor control discussed above, may also be seen as contributing factors to the maintenance of her problems. While experience will enable therapists to recognize patterns where physical impairment is secondary to the broader psychosocial and health/fitness concerns, as is the case with this patient, prematurely discounting or not even assessing for physical impairment is as much an error as only looking for specific physical impairments without regard for the broader psychosocial and health status of the patient. That is, physical impairment can also trigger or drive psychosocial problems, and differentiation of the relevance of each is best made through thorough assessment, intervention and reassessment of both physical/functional and psychosocial outcomes.

An important aspect of skilled clinical reasoning, which is nicely highlighted here, is the clinician's

incorporation of management within the actual examination. By 'finding features that are good and highlighting them as they emerge', the dynamic nature of the clinician's reasoning is evident. Clinical reasoning does not occur as a series of set steps. Rather, it is a fluid, evolving process where hypotheses are continually being reappraised.

Management is not reserved until some set point when all information has been obtained; instead it commences with the initial introductions, especially through the rapport that is established and the interest that is shown, and continues with the ongoing explanations and education that are provided.



PHYSICAL EXAMINATION

Movement analysis and testing is not a silent or totally therapist dominant affair. All the time I am asking the patient what they think about the quality, range or particular strength of a movement or test. In these types of presentation, as well as observing the poor quality of many movements, I also make a point of looking for good quality or relaxed movements and may positively reinforce what I observe, thus beginning a forward moving therapeutic process. Most examinations that these patients have had point out the abnormal findings, thus adding to their already negative state. It is useful to hear what the patient thinks in relation to your thoughts, and it is important to involve them in the process of analysis—something that has usually been denied them (Shorland, 1998).

Initial observations and functional observations

Lara sat very upright, knees together and very symmetrically poised. She looked tense and she moved very stiffly and winced going to sit and stand. She kept very still at first and talked very clearly in a slow and monotonous voice.

Before asking her to undress, I asked Lara to walk several times the length of the clinic corridor and to go up and down some steps. She walked with a relatively slow, but normal gait. Walking was recorded as 43 seconds to do four lengths of the corridor (the corridor is about 9 metres long and four lengths at a reasonably normal walking pace takes about 20 seconds). She managed the steps with great effort; she regularly winced and held herself.

She could get into the upright kneeling position with difficulty but was unwilling to go onto all fours or

get down onto the floor. She could not walk on tip-toes and was very unsteady walking backwards.

Lara's husband helped her a lot in undressing. Lara avoided all bending, groaned a great deal and held her back when it hurt.

Her standing posture looked fine; leg length looked equal with no obvious major distortion or shift. There was no evidence of marked muscle wasting in any one individual group. Her balance on either leg was poor.

Physical goals

Several physical goals could be listed at this stage:

- relaxed sitting and moving, especially getting out of a chair, gait and negotiating stairs
- relaxed and faster/more normal walking pace
- improve confidence and find a 'physical pathway' or a series of graded exercises or activities to facilitate tip-toe walking, backward walking, kneeling on all fours and getting onto the floor
- independent dressing/undressing, independence from husband (he needs to be included in understanding pain and suggested process of rehabilitation)
- reducing groaning and grimacing; the aim is to enjoy movement
- improve balance.

We also need to discuss and reassure Lara concerning leg length and all the other 'structural faults' she has been told about.

Standing examination

I informed Lara: 'I want to look at some of the movements of your back and legs. I don't want you to do anything you don't feel like doing, I just want to get an

idea of how good your movements are. We can discuss what you feel or anything you want to say as we go along, is that OK?’

I usually stand where the patient can see me and first perform the movements to show them what I want them to do.

Flexion

Flexion was about 10 degrees. When asked, ‘What stops you going further?’, Lara answered ‘The pain and I know it will stir it up for hours’. We continued, doing and asking.

Extension

Extension was virtually nil: ‘I hate it’.

Side flexion

Side flexion was half range and rotation was all trunk on legs with very little spinal movement.

Arm and neck movements

With Lara facing me, I asked her to copy my movements as far as she wanted to move. I did arms above head, hand behind back, and horizontal shoulder flexion, all standard neck movements, deep breath in and fully out (noted good spontaneous thoracic and lumbar extension and flexion here). Her arm and neck movements were full range, spontaneous and of good, smooth quality. When I asked Lara how her arm and neck movements felt to her, she surprisingly replied, ‘extremely difficult and they feel like lead’. She then made a spontaneous comment: ‘I’ve been examined at least 10 times in the last few years and no one has ever asked me what I think or feel with the tests. It’s almost as if I have to relinquish ownership of this body thing that I live in, because nobody asks, nobody understands, because nobody has time to listen, nobody has heard anything. I think that the medical profession and all the therapists are afraid of my problem.’

Lumbar movement

Lumbar side gliding or side shifting revealed surprisingly good quality of movement.

Hip movement

Standing with one hand on the wall for balance, we did hip flexion, abduction and extension. These movements were generally half range and difficult for her to

perform, with the description ‘heavy’ featuring strongly again. Lara was surprised at the findings and made the comment in a rather disconsolate voice: ‘I’m more knackered than I thought I was’. I then commented back (it was a very opportune time to do so): ‘All this is not surprising, as you haven’t been at all active for a long time. I’m seeing someone in front of me who, like many others similar to you, is in quite a deconditioned state. You’re weak and your body has become more sensitive, in part because it is so weak. I’ll tell you more about this later, but for the time being understand that the human body has a very good capacity to get strong and healthy if its done in a careful, constructive way and in a way that you don’t feel frightened.’

Tests for behavioural signs

Before moving, on I did an additional two tests: axial loading and simulated rotation. Both these tests are used to indicate what Waddell terms ‘behavioural signs’. These signs and the reasoning behind them are described in detail in his book *The Back Pain Revolution* (Waddell, 1998). This book is strongly recommended to all manual therapists. Axial loading involves slight pressure applied to the top of the patient’s head with your hands. Simulated rotation aims to rotate the patient’s body without producing rotation in the lower spine. In order to do this, the examiner gently rotates the patient from the pelvis making sure the trunk does not twist. Trunk twist can be prevented by getting the patient to stand relaxed with their hands at their sides, holding the patient’s wrists or hands against his or her pelvis, and passively directing rotation of the body. Both the tests were positive in that they provoked pain in the back.

The other ‘Waddell signs’ are:

- widespread tenderness spreading far beyond single anatomical regions and often over many segments
- distracted straight leg raise (SLR)
- regional weakness indicated by weakness over many segments and a jerky or ‘giving way’ response: for example, weak and jerky quadriceps testing, yet the patient can walk
- regional sensory change: losses of sensation where the boundaries are beyond the normal innervation field and dermatome distribution.

The symptoms may include:

- pain at the tip of the tailbone
- whole leg pain

- whole leg numbness
- whole leg giving way
- complete absence of any spells with very little pain in the past year
- intolerance of, or reactions to, many treatments
- emergency admission to hospital with simple backache.

Additional physical goals

Lara needs a progressive programme to restore confidence and the function of lumbar and hip movements and muscles. At some stage, a programme for the upper limbs and neck should be included.

Sitting examination

I now asked Lara to sit on a low stool. I sat in front of her, again doing the movements with her. Movements performed were head into flexion and back up, and slumping the spine. As I did the latter movement I said, 'Can you let yourself go into what I call lazy sitting, like this?' She commented back, 'I haven't done that for 2 years—I've been told to keep upright to stop the disc bulging'. Remember that her bending was 10 degrees in standing and that her husband had helped her undress—I had not seen her bend beyond this. I then hugged one knee to my chest and gently dropped my chin part way to my knee: 'What about this movement, or a part of it?' Lara tried and demonstrated quite smooth movement with spontaneous lumbar flexion using either leg. Importantly, I *did not* say something like: 'See your back is bending'. All I said was, 'That looks good, now lets try this'. I put my leg back down, placed my hands on my knees and slowly lowered my body forwards towards my knees, saying, 'See what you can do. You have your arms to stop the movement if you are not sure and you can come back up any time you like. If you don't want to do it, that's fine.' She flexed very slowly but quite well in the spine and hips, probably about half normal range.

I then looked at Lara's feet, palpated them generally and did foot movements and muscle tests while she sat with her legs dependent on the treatment couch. Her feet were cold and 'blotchy'. They were hypersensitive to palpation, particularly over the balls of her feet, but active movements were good. All muscle tests produced giving way (a notable 'Waddell sign'). Her feet looked anatomically normal, with no evidence of swelling or degenerative changes except some slight lipping of the medial joint line of the metatarsophalangeal joint of

the big toe. Lara mentioned being aware of some cracking and clicking in the ankle joint. My response was, 'Is that concerning you?' She replied, 'It makes me feel that arthritis is setting in'. I responded, 'OK, that is an issue that I will put on my list of things to go into'. The point is that until a patient understands the nature of chronic pain and tissue health issues it is difficult and often unhelpful to discuss individual concerns like this. The best strategy is to listen and acknowledge all the patient's worries and concerns so that they can all be dealt with later on.

Calf and quadriceps reflexes done in this sitting position were quite normal. There was no clonus and the Babinski test was normal. Proprioceptive testing in all four limbs was normal. There was no major sensory loss to light touch, although diffuse areas of slight numbness around the foot and lower leg were revealed. The key words she used were, 'I know its not as it should be'.

Lying examination

The examination continued in a similar vein in supine lying, crook lying and side lying. Most tests were actively performed by the patient and directed or demonstrated by myself. For example, Lara performed the following active movements in lying.

- Hip flexion: patient grabs her knee and pulls it towards her. Lara was very tentative but could do it.
- Active SLR: good range to 90 degrees with the opposite leg in 'crook' position. With both legs straight she could not initiate the movement. Passive testing/assistance revealed marked pulling in the whole leg at 70 degrees (both legs). If active dorsiflexion was then added, the pulling spread into the foot quite markedly.
- Active lumbar rotation in crook lying was half range and tense.
- Active hip abduction in crook lying position demonstrated good range.
- Active pelvic rocking surprisingly showed a good range of flexion, well coordinated and with no wincing! Extension was of modest range and reasonably relaxed until pain came in.
- Leg length looked quite normal with feet together in supine and crook lying (she agreed).

I also put a long ruler across her anterior superior iliac spines to assess for any pelvic torsion. Again we both

agreed that there was little difference. I even tried to get Lara to tilt the pelvis by contracting her buttock muscles on one side and then relax; always the ruler came back to level. This raised a lot of questions for her as you can imagine. Rather than dismiss the notion of pelvic torsion (which might be quite detrimental), I commented: 'I will talk about all this later and I hope you will be able to see how it fits in to a bigger picture about the modern understanding of ongoing pain. All the findings here, and the findings of those you have seen in the past, need explaining as far as possible. For now, try and think of your system as having entered into a "hypersensitivity state" with all your nerves conveying information that too easily gets processed

by your nervous system in terms of pain and danger. I will talk about it more later and I have some hand-outs so you can go over it when you are at home.'

All areas of pain were palpated to establish the extent of the sensitivity state (rather than solely using it to assess for local tissue pathology or local tissue abnormalities). For instance, in side lying it was established that very gentle palpatory tests over the back and right buttock areas were excessively sensitive, indicating marked hyperalgesia/allodynia. The reader should also be aware that widespread tenderness on palpation in atypical non-segmental patterns is one of the 'Waddell signs' (listed above). Again, an indication of a maladaptive central hypersensitivity mechanism.



REASONING DISCUSSION AND CLINICAL REASONING COMMENTARY

- 1** There is some concern amongst some clinicians that the 'Waddell symptoms and signs' can lead to some patients' problems unfairly and non-usefully being categorized as 'non-organic'. Can you comment on how you interpreted this lady's positive signs and the implications it held for the management plan you were formulating?

Clinician's answer

It should be remembered that Gordon Waddell is an orthopaedic surgeon whose primary concern when he developed these tests was to prevent any unnecessary surgery or the performance of surgery on patients who were likely to have a poor outcome. He developed the 'non-organic versus organic' symptoms and signs to help to distinguish between patients with back pain who had a specific and uncomplicated problem that was amenable to surgery and those whose pain states were far more complex and where surgery was inappropriate. Unfortunately for many patients assessed by others, the very unhelpful term 'non-organic' suggested that the patient's problem had psychogenic origins and was, therefore, to be discounted as real. What Gordon Waddell intended from the list of signs and symptoms is a great deal different from the way it has been interpreted and used. His choice of terms was very unfortunate.

Interpreted in a non-judgmental way, these signs are very useful. My preference is to use them to help in classifying the patient in terms of 'chronic

hypersensitivity syndrome': thus, offering evidence of a marked presence of a maladaptive centralized pain mechanism in the patient's problem and the likelihood of high levels of distress. I rather feel that the thinking clinician, with all the subjective information and the information gathered from the observations, should be able to see the state of affairs quite clearly without recourse to the 'Waddell symptoms and signs'. However, they are well researched and, like routinely checking reflexes, they are often well worth quickly doing. If several of the signs and symptoms are present, they are strong indicators that a multidimensional approach is vital. The fact that two of the behavioural signs are present in Lara adds supportive evidence to the emerging picture that further suggests a complex hypersensitivity syndrome, rather than a biomedically alarming presentation.

- 2** At this stage what were your thoughts regarding the information obtained from the physical examination?

Clinician's answer

Because of the chronicity and the subjective presentation findings, my thinking during the physical examination of Lara was not overdominated by thoughts relating to specific hypotheses about pathology, sources and mechanisms. However, key 'red flag' testing for neurological impairment has still been done and should

never be omitted, in my opinion. My main intention was to look at function/activity restriction (and monitor the regions or 'sources' of the restrictions) and hence find out what she could and could not do, thus giving me some idea of where a process of physical recovery might begin or proceed. I guess that in a subconscious way observations of movement and willingness to move in different positions reveal features that confirm a feeling of structural confidence and that no major biomechanical or pathological issues are present. For example, I was able to observe good lumbar intervertebral movement from some starting positions in my sitting examination. What this left me with was that her back was capable of physically bending given a situation whereby fear, anxiety or the notion that the back was bending/vulnerable was eliminated or was being 'gated out' in a subconscious way. The key is that this type of situation is common, and, if anything quite normal, even in acute back injuries where patients have an understandable fear of bending. It must not be looked upon as the problem being 'non-organic'. Rather, it reveals the extent of fear of movement, but it also reveals a 'way in' to be able to restore back bending confidence for the patient.

By the end of the sitting examination, some of the important issues raised were:

- examination revealed a simple way of addressing lumbar flexion fear/movement loss
- matters relating to education about her problems, e.g. arthritis and cracking/clicking
- education about the process of physical recovery, for example, that bending of the spine is safe, normal and necessary for a healthy spine, and that it is possible to improve
- areas of hypersensitivity in the feet; a graded touch/massage programme to address this may be appropriate at some stage.

Note that findings like normal reflexes and diffuse low-grade alterations in sensitivity that are out of classic nerve root or nerve trunk patterns increases confidence in the therapist's structural and physiological interpretation. It also downgrades notions about mechanisms relating to anatomical structure, such as tissue integrity or peripheral nerve root vulnerability.

Also note that in the lying examination a 70 degree SLR with foot dorsiflexion adding to the symptomatic response could be seen as a positive sign for neurodynamic abnormality or a peripheral neurogenic mechanism. However, I hesitate to consider this anything more than hypersensitivity relating to the neural continuum and central processing, rather than labelling it

in pathological terms, such as 'adverse neural tension' or a significant peripheral neurogenic mechanism. The symptom picture is just too long standing and too widespread to consider in an isolated way. Far better for now to label this finding as a SLR impairment that could be usefully addressed at some stage in the rehabilitation programme.

Favourable examination movements/ findings

Most practitioners focus on the negative findings: the things that are wrong. While this is understandable and necessary in treatment models that chase the 'sources' of a disorder, or that seek-out the impairments to be rehabilitated, it is often worthwhile to start with summing up the positive aspects of the examination for this type of chronic problem. Most of the time these patients are presented with a rather grim scenario following standard physical examinations, so presenting some positive findings is a novel and very useful thing for many patients. The importance of using positive reinforcement has been emphasized by Shorland (1998). For Lara the positive findings were:

- walking and ascending/descending stairs
- side shifting in standing
- bringing knee up towards chin in sitting
- coming forward in sitting
- feet movements in sitting
- all knee movements in sitting
- hip flexion and active SLR in crook lying
- pelvic rocking in crook lying (i.e. arching and rounding the back)
- lumbar rotation in crook lying (i.e. taking both legs to one side then the other)
- essentially normal neurological findings, e.g. reflexes
- taking some exercise, e.g. swimming, walking.

Findings that may be focussed on for improvement

Much relates to fear of movement, fear of damage and fear of pain exacerbation, as well as lack of use and physical deconditioning:

- wincing and holding with many movements and activities
- unable to go to all fours or get down onto floor
- markedly reduced lumbar motion in standing and during functional activities, e.g. dressing
- hypersensitivity over back/buttock and feet

- heaviness/weakness in arms/neck/legs
- poor balance
- poor hip movements
- general lack of end-range capability in affected areas
- giving way with muscle testing.

Examples of some important functional findings (activity and participation restrictions):

- decreased tolerance to standing still
- decreased tolerance for sitting
- decreased walking distance
- not dressing independently
- inactive in the evenings
- sleeping problems
- limited shopping
- stopped various activities, e.g. driving, cooking, gardening, flower arranging, embroidery
- general feeling of weakness and being unfit.

Social participation restrictions include:

- entertainment and hobbies curtailed/nil
- not been on holiday
- a significant loss from what she used to do (see list above)

Mental/psychological impairment was not formally evaluated. However, it is quite clear that this lady is distressed and frustrated by her predicament and is desperate to get help in some way.

Many chronic pain management units assess levels of depression and distress as well as heightened

somatic perception using questionnaires, for example the Modified Zung Depression Inventory and the Modified Somatic Perception Questionnaire (MSPQ). High scores on these measures really indicate that there may be a need for psychological input alongside the physical rehabilitation process (Waddell, 1998).

■ Clinical reasoning commentary

The continual linking the clinician makes between examination findings and implications again highlights the dynamic nature of clinical reasoning. Expert therapists do not wait until all possible examinations have been completed before forming and further testing hypotheses. Hypothesis generation and testing is an evolving process commencing from the patient interview and continuing through the physical examination and ultimately throughout the ongoing management. While expert therapists will have highly developed knowledge bases that enable them to recognize clinical patterns and management implications, they arguably only reach that level of knowledge organization through a process of reflective reasoning that allows them to integrate acquired biopsychosocial knowledge with clinical presentations learned from their practice. Even management in the form of deliberate responses to the patient and goal setting are seen to commence within the physical examination by this expert, a skill only possible when the therapist is able to think simultaneously and metacognitively on these different planes.

m Management

■ Management stage 1

There are two initial difficulties that need to be helpfully addressed. Both relate to the patient's beliefs. First, the beliefs about the nature of the problem are very 'vulnerable/weak structure' and disease orientated. Secondly, the beliefs about treatment are orientated towards a process of finding the source or disorder and fixing or curing it. Lara seems to have high expectations that I will provide her with the cure and this is unrealistic and unhelpful.

A primary goal was to shift her understanding of the problem from a perspective where pain is seen as a reliable guide to danger (adaptive/helpful pain) to one where pain can in large part be viewed as of little value (maladaptive/unhelpful pain).

The steps that follow encourage a patient dominated role in the process of restoring physical fitness and confidence. Patients usually quickly understand the meaning of a deconditioned state and that lack of physical activity leads to loss of physical fitness and heightened sensitivity.

Education 1

The overall goal of the first 'education' input was to decrease her concern about pain meaning damage or danger, so that the process of gradual return of physical confidence might go ahead less hindered by negative and fearful thinking about structural damage and progressive disablement. This is not as easy to do as it sounds. Maladaptive pain is just as real as adaptive pain, and it can be very hard to believe that the hurt you have has little meaning or little value. Like it or

not, patients are more likely to listen to and believe clinicians who in their minds have some kind of high professional status.

The second aim was to help Lara to understand that a passive treatment approach was inappropriate at this stage and that the best approach involved a great deal of input from her. Part of this involves a shift in emphasis from pain-focussed management to more function-focussed goal achievement.

Education, therefore, involved a simple brief discussion of the following.

- The nature of adaptive/acute pain and chronic/maladaptive pain: the former is useful, helpful pain as opposed to useless, unhelpful pain.
- A simple explanation was given for maladaptive and excessive sensitivity to movement, intolerance of prolonged posture, and tenderness/hypersensitivity to touch and pressures.
- The analogy was made of ongoing background pain to an annoying tune in the head all the time, i.e. the constant pain relating to abnormal nervous system 'circuitry activity' rather than a disease or abnormality in the tissue where the hurt is felt. Explaining and discussing phantom limb pain often helps here (Gifford 1998a,b).
- The gate control theory of pain is explained (i.e. that pain normally comes and goes relative to an individual's attention and the value or meaning which they may put on it).

- The effect of mood on pain, activity and life in general is discussed. This helps the patient to come to terms with low mood being normal for anyone who suffers an ongoing and seemingly non-resolvable problem. It also underlines the positive message that mood state commonly improves as the patient starts to achieve progress and gradually recover better physical function.
- The effect of 'pain fear' and 'damage fear' on movements, activity and life leads on to introducing a treatment approach with a focus more on functional recovery/physical confidence rather than on getting rid of the pain or the apparent source of the pain. Patients somehow have to come to terms with the fact that pain therapies and medical interventions for chronic ongoing maladaptive pain have a very poor record of success. In contrast, approaches that focus on better physical confidence and fitness have a much better record. It is sometimes helpful to give a brief history of another patient who has been successful. Giving the patient a book like Neville Shone's *Coping Successfully with Pain* (1995) is often very helpful.
- The illustration from Nicholas (1996; Fig. 5.2) was used to show the patient the way in which modern pain research has begun to appreciate the complexity and difficulties that a patient with ongoing pain can have. Patients are often relieved to find that medicine is beginning to understand the impact that their ongoing pain has on their lives, and that they are not alone.

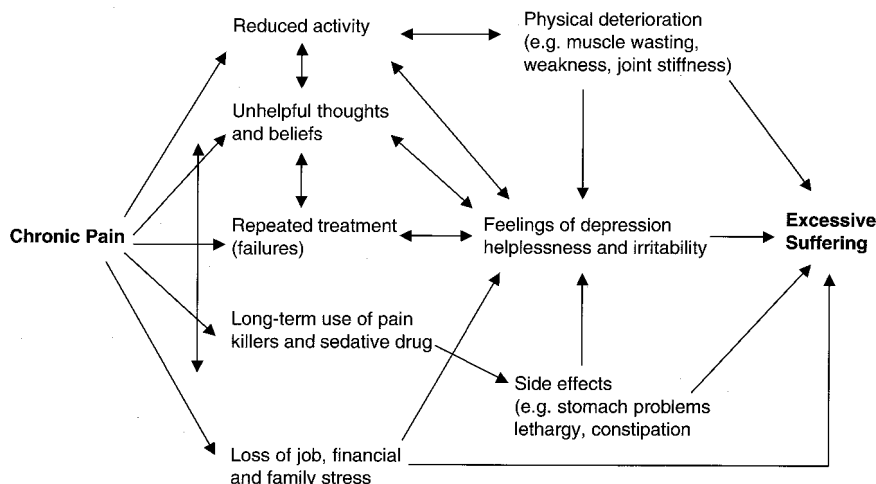


Fig. 5.2 The common consequences of chronic pain. (Redrawn with permission of the IASP, from Nicholas, M.K. (1996). *Theory and practice of cognitive-behavioral programs*. In *Pain 1996: an updated review*. Refresher course syllabus, Campbell, J.N., ed., pp. 297–303. IASP Press, Seattle, WA.)

Like many similar patients, Lara found the information very enlightening and interesting. She had many questions, and we both explored many issues that related to the hopes and fears of past management as well as issues for the future. She quickly grasped the concept of maladaptive pain and that physically getting back more relaxed and normal movements would be a good starting point for recovery. She was instantly eager to start the physical 'challenge' and we spent quite some time dealing with fear of bending/flexing the spine and the natural strength of the spine, even when degenerate.

As with so many patients in similar situations she said, 'Why hasn't anyone told me this before about pain and movements?' An answer that can helpfully be given is that, 'It is only in the last 10 to 15 years or so that science and research has started to give us a better understanding of pain, and it is only very recently that the full implications for management of pain has started to have an impact on clinical practices'. This attempts to avoid producing any unhelpful anger with previous practitioners and treatments or advice.

Pre-prepared handouts were given relating to all the above.

Starting the process

The last 45 minutes of the second consultation involved a focus on a series of simple exercises relating to the back, hip and leg, as well as two functional activities: walking and going up/down stairs. Concepts discussed included gradual mastery (graded exposure), baselines, pacing and incrementing the exercise programme.

Gradual mastery/graded exposure process

The term gradual mastery/graded exposure comes from the psychological literature dealing with phobias (Harding, 1998; Shorland, 1998). The key process is that the patient overcomes their fear (for example of a spider or of a particular movement) by gradually approaching rather than avoiding the cause of the fear. This can be a very slow process and the speed of exposure is determined by the patient rather than by therapist bullying! A successful outcome is achieved when the process is graduated (slowly more and more difficult levels are mastered), repeated regularly and prolonged. Gradually, the patient gains confidence and learns that their fears are unfounded as they achieve their goals. The key to success is starting the chosen movement or activity at a realistic and achievable baseline.

Baselines, pacing and incrementing

Most pain sufferers like Lara persist with activities until they are forced to stop by the pain. This often involves many hours, sometimes days of resting and inactivity. In order to break this overactivity-underactivity cycle, exercises and activities are paced so that this very unproductive process is overcome. A baseline is the number/repetitions/amount of time for an exercise or activity that a patient can manage to do every day regardless of the intensity of the pain. This is found by taking the average of a series of trials done over several days and then reducing the average by 20%. Incrementing or pacing from this baseline is done by increasing the number or time of each activity/exercise after a set period, for example weekly or every four days (Harding, 1997, 1998; Shorland, 1998).

The overactivity-underactivity cycle was explained and pacing of resting was discussed. Exercises were recorded for reference and handouts were given relating to exercise and functional pacing and the overactivity-underactivity cycle. The following exercises were used:

- crook-lying starting position: lumbar rotation; pelvic rocking; alternate leg flexion (possibly progress to grasping knee or if easier do in sitting as in examination)
- active SLR with non-active leg in crook position
- walking up/down stairs or step-ups (whichever preferred)
- sit to stand
- standing starting position (with support as required): hip flexion/extension, hip abduction, one leg balance, alternate calf raises
- tip-toeing practice (weight through arms as required).

Instead of walking for 2 miles intermittently and with marked exacerbation, it was decided that a short regular walk of good quality would be of greater benefit. Lara's initial task was to find a reasonable baseline starting time or distance that would not incur a massive flare up and which was manageable even on bad days.

Management stage 2

Lara returned 2 weeks later. I saw her twice over 2 days, with each session being 1.5 hours.

She felt she had begun to master lumbar movements in lying (e.g. flexion using pelvic rocking and

single leg flexing) and paced up her numbers from an initial baseline of 10 slow, relaxed, small-range repetitions to 15 fuller range and slightly faster repetitions. She had managed to generalize this out to modest flexing in sitting and was feeling good about it because she was needing quite a bit less help with dressing from her husband. She made a spontaneous comment: 'The most profound thing that has happened is the sense of relief. I believe what you say; it makes sense. It gives me control and it allows me to have a vision of my life with some kind of future. Whatever it is going to be it will be better than where I have been for so long—I know that.'

She had had one bout of a very bad flare up for 1 day but had managed to keep most of the programme going. For the first time, the flare up had not unduly bothered her. Her comment was, 'It taught me that my desire to progress quickly may be my worst enemy. The day before I got carried away with the exercises and paid for it. The good thing was that I recovered and haven't lost any ground.'

She found the use of regular short resting far more effective than responding with rest only when pain became severe and unmanageable.

The second half of the first session was spent going through some of the things looked at in the initial physical examination. Movements and the exercises she was doing were observed and discussed, and walking, climbing steps, balance etc. were reviewed. The focus was on patient comments about the quality and feel of each task/movement, not on pain and not on any 'therapist opinion' about the movement (unless helpful). At appropriate times, positive reinforcement was given. Difficulties were discussed and Lara was encouraged to problem solve and find out for herself rather than be told or shown alternatives by me. For example, she had found left SLR in crook lying difficult and uncomfortable to do. She had kept to a baseline of four repetitions three times per day but had not progressed it and did not like doing it much as she immediately felt sore in her leg and back. I explained that the exercise strengthens weak hip and back muscles, as well as moving and stretching leg muscles and nerves from the back. Also, that subtle adjustments of the back, the leg or the starting position were often helpful in making movement easier. I gave an example of doing the exercise in a semi-reclined position. She tried it and was not convinced. She then tried it sitting but found this even harder. After 5 minutes or so experimenting, with some ideas

thrown in from me, she came up with the notion of doing it while lying in the flexed pelvic rocking position. The result of this is that it helped her to find a way of doing the exercise much more comfortably, but it also introduced the idea of being 'allowed' to play around with or modify an exercise to make it more acceptable. For so long patients have been fearful of doing an exercise 'wrong'. In my opinion, this is very unhelpful when dealing with this type of patient and problem.

Some new exercises were added:

- sit-up in supported (pillows behind back) slouch sitting
- lumbar extension in lean forward sitting with arms supported on knees.

The first was decided on after experimenting in different starting positions to get some dynamic abdominal work going and to encourage active lumbar flexion. Lying flexion from the 'top-end' was found too difficult. Bilateral leg lifting from the crook-lying position produced sharp pain in the initiation phase of the movement, but reaching forward from a gentle slouch sitting position was enjoyable! This was because, first, she found it rewarding to try slouching after so long avoiding it and, secondly, the movement was pain-free and easy to perform. Lara could immediately see how her abdominal muscles were working quite strongly, that she was flexing her back, and that she could occasionally try a lying, or half lying, sit-up when ready to progress.

Sitting with arms supported on knees was the starting position found most useful as a progression from extension in the crook lying position. It should be remembered that Lara 'hated' extension from the standing position.

Education 2

In the second half of the session, time was taken to explain the importance of setting realistic goals in all areas of Lara's life and looking at the physical components that needed to be mastered in order to achieve these goals. The following goals were chosen and programmes worked out to help to achieve them:

- dressing independently
- getting on all fours
- swimming one length of the pool
- starting hobbies again (e.g. flower arranging).

The health requirements of tissues

Some simple information was required about the needs of musculoskeletal and neural tissue for movement and exercise to remain healthy and to improve fitness. Part of this included the notion that fitter tissues which are used in a confident way have a better chance of becoming less sensitive. Key aspects of tissue requirements include the need for regular through-range movements, comfortable stretching, progressive strengthening, endurance training, and improved coordination. A handout was given to Lara.

Understanding the multiple factors that can trigger pain

Headaches were used to illustrate the multiple triggering factors that can be involved in triggering pain. Most patients are able to come up with some of the following factors that can trigger or worsen a headache: diet, tiredness, stress and tension, a particular environment or situation, as well as more physical factors like prolonged postures or overexertion when tired or hungry. These issues are then discussed in relationship to the variability of the patient's pain and in such a way that the patient can start to understand the complexity of the problem and the difficulties in trying to relate the waxing and waning of pain to a single structure or pathology. Realising that multiple factors are often involved in precipitating flare-ups helps the patient to realise that there is more to pain and its behaviour than just physical factors.

Management stage 3

One month later Lara returned again for two more long sessions. She had achieved all the goals and was

progressing the swimming and could now manage two lengths of the swimming pool without a significant flare-up. She had started some simple gardening tasks as well as getting more involved in some of her hobbies.

Movement quality and range was markedly improved. For example, she was able to get onto the floor and as a result now managed to get in and out of the bath. She was managing a few half sit-up exercises and had increased her daily walking to a comfortable 20 minutes. She had progressed to doing a full SLR from supine lying.

Time was spent discussing some new goals. These included entertaining her family to a meal and the possibility of a holiday for a few days with her husband.

Some current difficulties were discussed. In particular this included a major concern she had about the pain and the hypersensitivity: 'I am doing so much better physically, I am achieving more, I continue to improve and my confidence is gradually returning, but the pain and symptoms seem to be much the same and I am still very tender.' This prompted a review of the nature of chronic pain and hypersensitivity, but also a review of pain reduction and desensitizing strategies that may be helpful. Some of these were the use of rest and relaxation techniques, progressive desensitizing massage, heat/cold, 'nice' exercises and stretches. 'Nice' exercises are those exercises that the patient chooses which feel good and are often used to ease discomfort: they are usually a combination of relaxed through-range exercises and comfortable stretches. A simple breathing relaxation technique was taught and instruction given regarding the use and progression of massage over the tender areas. Again, information was written down and handouts given.



REASONING DISCUSSION AND CLINICAL REASONING COMMENTARY

1 The abdominal exercises you have described appear very general. Do you feel assessment of specific trunk and pelvic muscle function (i.e. awareness, recruitment, strength, endurance, etc.) is appropriate for this sort of presentation, and if so, at what stage would you assess these further?

■ Clinician's answer

This is a very personal matter, especially considering the current wave of enthusiasm for specific muscle control approaches. I would urge great caution in over-focussing on specific impairments at this stage. Muscles work in groups, and movement should normally be for

the most part unconscious, thoughtless and silent; this is what needs to be rehabilitated. Recall that Lara had been given specific exercises for the trunk and pelvic region in relation to a diagnosis of 'instability' and had been told never to bend without tightening her stomach. This style of approach may enhance somatic awareness as well as increase fear that if she does not do this she is likely to cause further harm. If successful functional recovery occurs then bringing more focussed 'muscle imbalance' issues in may be worthwhile later on. It is always important for a patient to feel that they have good muscular control, especially around an area that has given a great deal of trouble for a long time. However, I do not think that it is desirable for patients to have to recruit muscles consciously before or during movements: not only is it very difficult to do for many people, it is not natural.

- 2** What are your thoughts regarding this patient's long-term prognosis? Please include some reference to the 'positive' and 'negative' features in her presentation that you feel assist in predicting this result.

Clinician's answer

Lara has successfully coped with a new perspective on her problem for over a year. She has made quite significant gains in function and independence and has reintroduced many of her former hobbies and interests. This was all helped by her open-mindedness, her readiness to accept new perspectives on her problem, and her eagerness to take responsibility for her own management. Her home situation and financial security were very helpful in that they allowed her to have time to devote to the programme. She got involved, she did the programme and she worked hard at it. Note her comment above that 'working with chronic pain can be very hard work'. In this respect, it is very common for patients to make changes to their lives, manage well for a while, but to then relapse into old ways and become passive and despondent about the whole situation. Lara is as vulnerable to relapse as anyone and this is a strong possibility.

Her long-term prognosis looks good. Importantly, there are two aspects to consider for the future: her disability and function and her pain and symptoms. The prognosis for function is good. Her recovery is already excellent and still improving; even if she relapses she knows the way out. Symptom prognosis is a different

matter and one that is really very difficult to predict. Everyone wants their pain to go; however, the reality of long-term well-established widespread pain with its underlying neurophysiological representations is that, like the significant memories of our lifetime, they are very hard to get rid of or forget. The reality is that the pain will probably always be there; however, many patients like Lara find that it bothers them less and it becomes easier to manage.

Clinical reasoning commentary

The application of any therapeutic intervention, be it joint mobilization, motor control retraining or explanation to alter understanding, must be based on patients' unique clinical presentations. Recipe treatments or protocols are unfortunately still common in manual therapy, although often the latest 'fad' is created by those who extrapolate from the ideas of others and not by the originators of the research on which it is based. There is clearly a continuum of impairment possible within the sensory-motor system, which, when considered along with the multitude of biopsychosocial factors that influence how that impairment will manifest in a given patient, necessitates that therapists are sufficiently open-minded and skilled in sensory-motor retraining. While a variety of techniques are used to facilitate improved motor control, it is important the underlying strategy is based on sound principles of motor control and learning theory. Again there is no recipe. Even with the growing body of research to assist us in recognizing the factors that influence motor control, application of that knowledge to our patients requires advanced assessment and teaching/training skills as well as the clinical reasoning to know which strategies are indicated and when they should be trialed. Reassessment of the effect on the different systems (e.g. psychological, cognitive/affective/behavioural, neuromusculoskeletal) should guide the progression and modification of all interventions.

Determination of prognosis may well be one of the most difficult decisions for therapists to make. However, prognosis, like the other categories of hypotheses, forms patterns. Attending to the positive and negative features from the patient's psychosocial and physical presentation is the key.

There may also be more than one prognosis, as discussed here, with different prognoses predicted for the patient's functional recovery and pain recovery. The crucial factor, as with all clinical patterns, is reflective reasoning. Not simply making a prognosis

but, as time goes by, and particularly if the prognosis is not met, taking the time to reflect what may have been missed, over- or under-rated in the initial judgment, so that future predictions might be improved.

Outcome

One year after Lara first consulted me she was back to near normal levels of activity and confident that she would progress further. She moved in a relaxed way and was not frightened to bend her back. She could easily bend to touch the floor with both hands flat; she could walk happily on tip-toes and go up stairs two steps at a time. She still had low periods and occasional pain flare-ups. Her pain level overall was, in her words, 'more manageable and less intrusive'. She slept much better and managed slowly to stop all her medication. She commented: 'Working with chronic pain can be very hard work, it is a daily challenge that most often is quite conquerable, but on some days it is a long and very tough and tiring struggle'.

At the time of writing, there had been seven visits in total and she was coming to see me about once every 3–4 months. There had been no passive treatment, but there had been a great deal of skilled physical appraisal and the gradual introduction of more and more specific exercises related to more minor physical impairments. This is not always required but it had been Lara's aim to get as fit as her age and underlying condition would allow.

I picked Lara as a good example of the problems we all can have with the management of chronic pain states. She exhibits many features that can be made to fit various models and explanations, yet if her problem is really scrutinized there is a great deal that does not fit, can be viewed as odd or can be unproductively classified in some way as 'non-organic'. She had been through a large number of therapies and consultants in search of an answer to her problem with little success. She has been through periods of great hope with some of them, yet her hopes dwindled to despair as treatment after treatment failed and consultant after consultant provided inadequate or even dismissive explanations and attitudes to her and her problem.

Like many chronic pain sufferers, Lara had widespread symptoms and signs that do not fit into neat diagnostic categories or syndrome presentations. She had many maladaptive movement and behaviour patterns, and she had many unhelpful and unrealistic beliefs and attributions about the nature of her problem and the means of recovery. Her case history illustrates how an enclosed tissue-based and predominantly passive approach to treatment really did not help, and how a multidimensional and multilevel perspective and approach enabled her to recover and lead a far fuller and more confident life.

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