

Managing complexity in musculoskeletal conditions: reflections from a physiotherapist

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There are more years lived with musculoskeletal (MSK) disability than any other long-term condition. The aim of this article is to present a case study that reflects some of the challenges in translating the multitude of evidence into clinical practice and the context of the individual with multi-morbidity.

LEARNING OUTCOMES

TO SUPPORT PHYSIO FIRST QAP

- 1 Introduction to the concept of the intersubjective space and its potential in person-centred care.
- 2 Understand how to reconcile the tension between the narrative and normative using the person-centred approach.
- 3 Recognise how the totality of evidence is used to inform person centred decision-making.
- 4 Awareness that there is a way to include the use of social prescribing in the management of multi-morbidity conditions.

Introduction

Musculoskeletal (MSK) disability has an enormous impact on the quality of life of millions of people in the UK:

- One in four, or around 9.6 million UK adults, many of whom are young and of working age, are affected by MSK disability
- 30% of GP consultations in England are MSK related (Department of Health 2006)
- 10.8 million working days are lost as a consequence of MSK conditions
- A large number of co-morbidities, including diabetes, depression and obesity are associated with MSK conditions (Arthritis Research UK 2013)

- More than 25% of all surgical interventions in the NHS are MSK related and this figure is set to rise significantly over the next 10 years (Arthritis Research UK 2013)
- £4.76 billion of NHS spending each year is on MSK conditions (Department of Health 2012).

The hierarchy of evidence-based physiotherapy, with randomised controlled trials that are viewed typically as the highest and most valued source of evidence, can fall short of informing clinical decision-making due to lack of external validity, generalisability and application to the individual case. This article discusses ways in which clinicians can move towards an approach that attempts to draw on the totality of evidence from multiple sources to allow an evidence-informed process that makes sense to both the clinician and the patient, in the spirit of person-centred decision-making and compassionate care.

An opening encounter

A 58-year-old nurse with intermittent bilateral posterior thigh pain to the knee was referred to my clinic. Her main complaint was a recurrence of persistent low back pain.

She had already undergone investigation and her MRI scan showed a healthy spine, albeit with some bilateral lateral

recess narrowing at L4/5 with type 1 modic changes around the vertebral end plate.

I remembered treating this patient maybe six or seven years ago. Lisa (name and details changed for anonymity) worked in a care home and was a stoical type. She had endured many difficult medical and social situations, had a history of breast cancer and, since I last saw her, she had become pre-diabetic, put on weight and was smoking, which I was sure she felt guilty about, having previously given up. We had got on really well last time and she had made a good recovery, but this time it was different.

I asked how she was doing, knowing full well that she was clearly struggling.

Her reply was “not so good”, and she lowered herself into the chair with a pained grimace. I sat opposite her and invited her to tell me what had happened since we had last met. I kept quiet and concentrated on her story.

LISA'S STORY

Over the past five or so years, the periodic back pain that Lisa had suffered had been minimal and not at all intrusive. She had felt in control of her symptoms, she understood a lot more about how it affected her and what she could do about it, particularly during flare-ups. She would take things a little

“I AM IN CONFLICT WITH THE CURRENT MANUAL HANDLING GUIDELINES THAT ADVISE TO KEEP THE SPINE STRAIGHT AND MOVE IN WAYS THAT SEEM UNNATURAL”

easier at work, restart her home exercise programme and take some over-the-counter analgesia.

Lisa believed that the heavy manual handling she had done in her 20s had caused irreparable damage to her back. I didn't challenge this belief; I am in conflict with the current manual handling guidelines that constantly advise to keep the spine straight and move in ways that seem unnatural but, for Lisa, the identity of her back pain and her passion for her job was so deeply intertwined and I didn't want to negatively affect the rapport we had developed.

When I asked about when things started to get difficult again, Lisa explained that, about 18 months ago, while helping to turn a patient, she had felt a sharp sting in her back and a pain like she had never felt before. Her back went into spasm

and, as she was unable to finish her shift, she went home to recover. The next day her back was extremely stiff and she started to experience a vague pain in both legs.

Aware of her medical history (figure 1, box 1), I asked Lisa what she was thinking at that stage. She said she had started to worry about the referred pain. She had seen patients suffering with back-related leg pain who were now in wheelchairs.

She went to see her GP who examined her and completed a neurological assessment, decided that the history indicated a back sprain, prescribed analgesia and signed her off work for a week, asking her to come back after that time. The GP had reassured Lisa about her leg symptoms and, following the visit, her pain initially eased. Feeling that she was going to recover quickly, Lisa

started her home exercises the next day but for some reason they were making her symptoms worse.

When I asked what she thought might have happened, Lisa explained that she felt she must have done some serious damage and, on returning to her GP, became more concerned when the advice was that she needed more time off work and the symptoms should resolve in six weeks.

When Lisa returned to work a few weeks later she was still in pain. She was put on light duties and told that she could not return to normal duties or shift patterns until she was 100% better. Six weeks later her symptoms still had not significantly improved; she was struggling to bend to pick things up and put her shoes on and she was increasingly reliant on her family to do more things around the house. Lisa's leg pain became even more erratic with no pattern why some days were completely pain free and others were terrible. She was having trouble sleeping, was comfort eating and becoming less active. She gained weight and started to feel hopeless.

Reflections on the intersubjective space

A critical area of a narrative based approach is in the sharing of power between clinician and patient / client.

Every aspect of the sense-making process must be led so that the individual's, in this case Lisa's, own narrative is heard and isn't an entirely interpretative one that fits the clinician's bias or experience. Additionally, the concept of intersubjectivity is one that recognises that sense-making and understanding must be mutual.

A traditional biomedical approach involves dividing the patient's presentation into subjective and objective phenomena where the patient's knowledge, thoughts, perspectives and background become subjective and interpretative, while the clinician's understanding of exactly the same areas are objective and somehow closer to the "truth". This

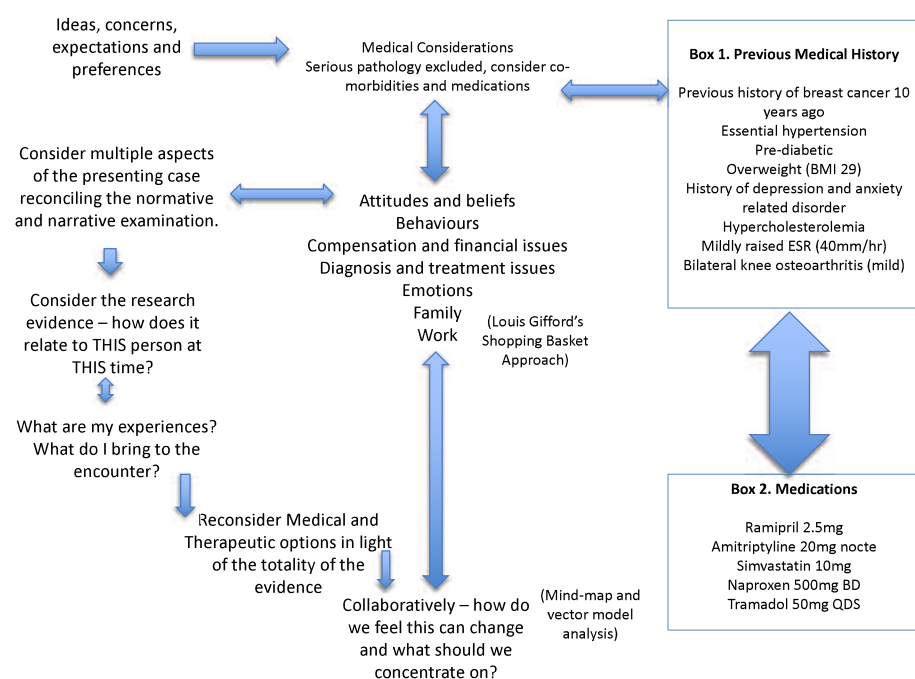


FIGURE 1: Flow chart gathering the totality of evidence

paternalistic perspective of healthcare is not conducive to reflexivity, therapeutic rapport or balanced with respect to reasoning within this context. Recognising intersubjectivity appreciates that the patient undergoes the same sense-making process as the clinician, with exactly the same categorical areas of understanding but with different aspects of experience, knowledge and wisdom. Drawing from the individual's life experience and perspective is much more likely to facilitate understanding and knowledge translation (Laurer 2018; Greenhalgh 2018) and improve the therapist – patient interaction (figure 1). For more information on this, a modification from the work of Øberg *et al* (2015) was presented in my paper (figure 2) on the clinical use of dispositions in clinical practice (Low 2017).

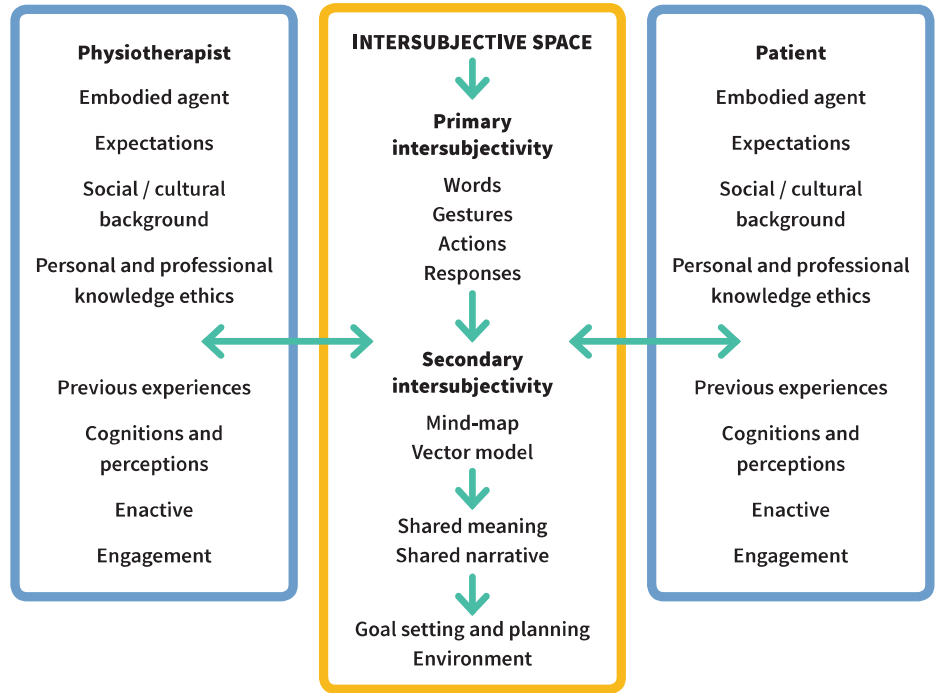


FIGURE 3: Summary of intersubjectivity interaction through intersubjective space

Continuing with Lisa's story highlights how clinicians might bring together the totality of the evidence (figure 3).

Concerns, preferences and expectations

Lisa believed that her spinal canal had narrowed due to the wear and tear that had taken place over her years of work as a nurse, and this was causing the pain in her back and her legs. She was concerned that she might be disabled in the future because of this. Her symptoms preoccupied her thoughts and she felt generally anxious. Lisa had discussed an epidural injection with colleagues but realised, following discussion with me, that the likelihood of it helping would be limited as her leg symptoms had resolved. Lisa was worried about

the unpredictability of the pain and started to feel that it was becoming uncontrollable and unmanageable. She was feeling guilty that she was not fully at work and anxious about her future in her workplace.

However, despite the challenges, Lisa was open to my suggestions, comments and ideas. She recognised both the positive and negative effects that those around her might have on her pain and disability, whether by being overly protective, or providing frightening or unhelpful information, despite their good intentions.

PHYSICAL EXAMINATION

On examination, Lisa came within normal descriptions of sagittal and

coronal balance, with no features of peripheral muscle atrophy or spinal deformity. Her neurological examination was normal with normal power, sensation and reflexes of the lower limb and down-going plantars. Her movements were braced and associated with grimacing and breath holding, she used her arms to steady herself during movements. She described constant central low back pain that was worse in the mornings and lasted for at least 30 minutes. Although Lisa had a mildly raised erythrocyte sedimentation rate (ESR) her C-reactive protein (CRP) was normal, as were other blood test results including full blood count. Lisa's fasting glucose was slightly elevated. Her raised ESR could be explained by the fact she now smoked and her increased body mass and may have been indicative of a mild degree of systemic inflammation.

Lisa's trunk movements were limited in all directions and her hip movements were full but causing low back pain at the end of range of movement. Repeated movements of the trunk demonstrated little insight due to pain-related distress and no clear centralisation or peripheralisation phenomenon. Neurodynamic testing of the lower limb was negative. Palpation revealed pain provocation of the local L4/5 region with

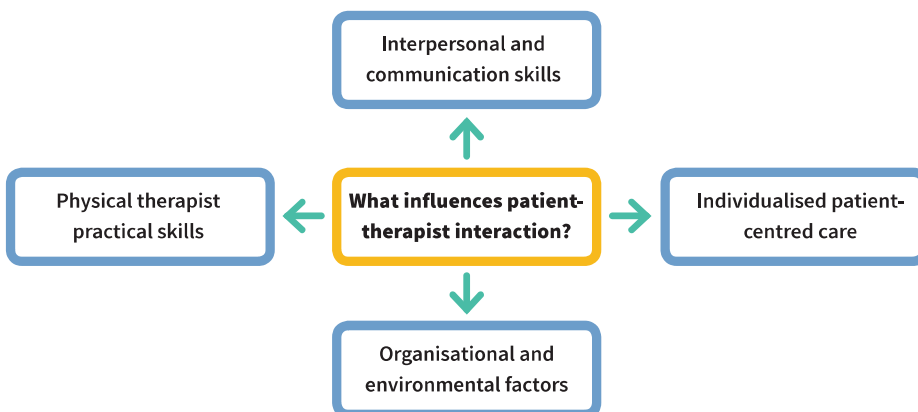


FIGURE 2: Patient / therapist interaction (O'Keefe *et al* 2016)

some reproduction of symptoms into both of her posterior thighs. Sacroiliac pain provocation testing was also negative. Light touch of the lumbar spine and surrounding areas demonstrated no clear features of allodynia. Lisa's STarT Back risk assessment tool revealed a high-risk score despite previously being a medium risk in her previous episode of care. This highlights the natural variation that the risk assessment tool has due to changes in context and circumstance.

Reflections on the tension between the normative and the narrative encounter

One of the most challenging tasks in health and social care may be in how to manage each encounter so that it continually meets both the narrative (humanistic) and normative (scientific) demands. This means recognising the equal legitimacy of the patient's need to express themselves, as well as our own need to conclude the clinical reasoning process, take action with consideration and adherence to guidelines, plan, and obtain closure. The challenge is to satisfy these needs at every point in the consultation in order to bring the normative questions and statements into the conversation at moments that fit with the natural flow of the patient's story. The tension that exists in this process grows owing to the constraints of time pressures on appointments, but when patients are given the space to talk, often with guidance, they reveal significant information that informs the normative account (Launer 2018).

My experiences and how they inform the situation

Having worked positively with Lisa in the past I was optimistic about her psychological flexibility (Kashdan 2010) in the context of her openness and in her ability to be reflective and reframe her thinking. If, during the examination, both Lisa and I could make sense of, and be able to predict and change her symptoms, it would significantly enhance Lisa's recovery. A key aspect of this was to identify what we both felt were modifiable causal factors. Looking

at figure 3, the previous medical history (figure 1, box 1) includes a number of conditions amenable to exercise as a treatment (Pederson & Saltin 2015), namely hypertension, pre-diabetes, increased body weight, depression, anxiety, hypercholesterolemia, systemic inflammation (Dimitrov *et al* 2017; Woods *et al* 2012), and knee osteoarthritis (Fransen *et al* 2015). However, as much as these conditions are treated with exercise, from a social and emotional context many are barriers to exercise. Lisa had become fearful of activity because of the pain and felt little confidence in exercise, particularly in environments surrounded by healthy individuals. Exercise was clearly, therefore, a clinical goal but first we needed to establish a level of activity through methods that Lisa felt comfortable with in order to gradually build her confidence. The mind-map may provide a pathway for cognitive reassurance, but this alone was not going to be sufficient to enable change; Lisa needed to experience it.

By altering her movement behaviours using verbal and / or visual feedback, or by facilitating movement through the therapeutic sense of touch, Lisa might see that her symptoms could be altered which would give her a sense of control. It was important that Lisa should be able to do this herself as soon as possible as it would help to reduce her anxiety levels and the unpredictability of her symptoms. If we could find reproducible movements and / or postures to provide a consistency and control of her symptoms, the prognosis of her outcome was more likely to be favourable.

Lisa's workplace appeared to be very supportive and by contextualising our mutual understanding of her symptoms in relation to lifting loads we made them less threatening and less painful. Ensuring that her colleagues and family members were also aware of this change in perception would greatly enhance Lisa's outcome.

In this regard, significant amounts of time and effort were required to change

“WHEN PATIENTS ARE GIVEN SPACE TO TALK, THEY REVEAL SIGNIFICANT INFORMATION THAT INFORMS THE NORMATIVE ACCOUNT”

Lisa's perspective on manual handling. She had lived by a rule-driven system grounded in a biomechanical context and so, at some stage, it was likely that she would benefit from behavioural experiments, mimicking lifting, carrying and twisting with loads that she might be exposed to in the reality of the workplace. She might also need to consider other components of movement strategies, including strength and capacity for load, recovery strategies including sleep, hygiene, diet, and ensuring that she could move a variety of ways.

Finally, at the point when she was in a position to reduce her pain levels and gain control over her symptoms, Lisa's medication could be reduced in the long-term (figure 1, box 2). This would be an achievement not only for Lisa's health and wellbeing, but also is an often unrecognised benefit to our health economy.

Considering NICE guidelines

The NICE guidelines (2016) suggest the following for patients with LBP +/- sciatica:

- Provide information tailored to their needs and capabilities to help them self-manage, including the nature of low back pain and sciatica, and encouragement to continue with normal activities.
- Consider a group exercise programme taking specific needs, preferences and capabilities into account and consider manual therapy as a part of a treatment package (e.g. with exercise) with or without psychology. 🔄

“WHEN EVALUATING THE EVIDENCE, ASK YOURSELF: ‘HOW DOES THIS STUDY RELATE TO MY PARTICULAR PATIENT AT THIS PARTICULAR TIME?’”

- Consider psychological therapies using a cognitive behavioural approach but with exercise with or without manual therapy.

There is, however, considerable scope for more detail. There appears to be no additional guidance on what clinical information is or is not helpful, or indeed what the group exercise would entail, or what would be most effective. This is not due to the approach of NICE, but more to do with the generally questionable quality of research, and the low statistical powers required to judge confidence in treatment effects. Common sense may have already directed us to suggest that Lisa’s cognitive, affective, behavioural, social and work components indicate that she will respond to a psychologically informed approach, underpinned by an exercise component, with or without manual therapy to facilitate her recovery.

Reflections on evidence-based physiotherapy

On searching and evaluating the clinical research with low back pain +/- sciatica there is a dearth of literature, and the quality of what there is in the context of evidence-based physiotherapy (EBP) has been based upon a hierarchy of evidence originating from the model created by our medical colleagues. The original evidence-based medicine (EBM) movement was devised from the field of clinical epidemiology (Guyatt 1992). Here, randomised controlled trials (RCTs) are the gold standard and, from a perspective of internal validity

in comparison to other methodologies, quite rightly so. Rigorous RCTs reduce the risk of bias by controlling for confounders through the use of specific exclusion criteria. This creates a risk of poor external validity, in other words the research is difficult to generalise, or infer the results outside of the study itself.

So, when evaluating the evidence, one must ask oneself, how does this study relate to my particular patient at this particular time? With increasing multi-morbid contexts that are growing in number in the MSK patient population, the likelihood of patients who have been through RCTs being excluded or not being representative of the patient in your clinic is pretty high!

In Lisa’s case, she had a number of co-morbidities (figure 1, box 1). It appears that the majority of clinical research, even in the large size RCTs where the numbers of subjects may provide a greater match to a statistical average, do not reflect in any way what Lisa may respond to. What appears clear is that population level research outcomes are no constitutive of understanding causation, but merely symptomatic of it. The real causal matter arises from the individual case. Population data may serve as a map but it does not describe the terrain.

So, here is a paradox, as Roger Kerry (2017) explains here through quoting Pearce (2015):

“RCTs are designed to reduce, as much as possible, the biases found in traditional knowledge sources, e.g. expert judgment. Thus EBP de-emphasises the role of expertise as a source of evidence of therapeutic effectiveness.”

“RCTs provide the best evidence of therapeutic effectiveness in the trial sample population, but this is a different concern to treatment effect in the target population, e.g. patients outside the trial (Cartwright 2007, 2011). Thus, additional evidence is required to inform clinical decision making in this population. This process necessitates

expert subject knowledge to make judgements about external validity, as well as experience and expertise in integrating multiple sources of evidence... Thus, after de-emphasising expert judgement in its pursuit for unbiased data, such judgement is necessarily reintroduced in the social application of such data.”

Reflections on Louis Gifford’s shopping basket approach

Using Louis Gifford’s shopping basket approach (2003) is an extremely useful way to unpack the clinician’s knowledge and understanding of the presenting case. The shopping basket covers a huge amount of ground, including the biomedical, psychological, social, cultural and experiential components of the clinical encounter. Fusing both the shopping basket approach and a dispositional account (Low 2017) with the vector model may provide opportunities for greater insight, understanding and collaborative treatment.

A dispositional clinical approach is underpinned by a philosophical view of causation, by which I don’t mean a simple concept of necessary and sufficient conditions that can be measured by how frequently an effect is observed. Causation makes far more sense if causal powers have a direction and strength towards, or away from an effect and that it occurs in non-linear ways.

With permission from Lisa, I drew a mind-map (figure 4) of her circumstances and contexts as I saw them and asked her to tell me if there was anything missing, or indeed, if she felt anything could be added. This then informed the vector model, which created a co-constructed account of how much each of the causal factors were felt to contribute to or counteract her symptoms.

I encourage further reading on the work of Rani Lil Anjum and Stephen Mumford (2011), both of whom engage exceptionally well with our community of healthcare professionals. Their fusion of the perspectives of the humanities with the sciences encapsulates

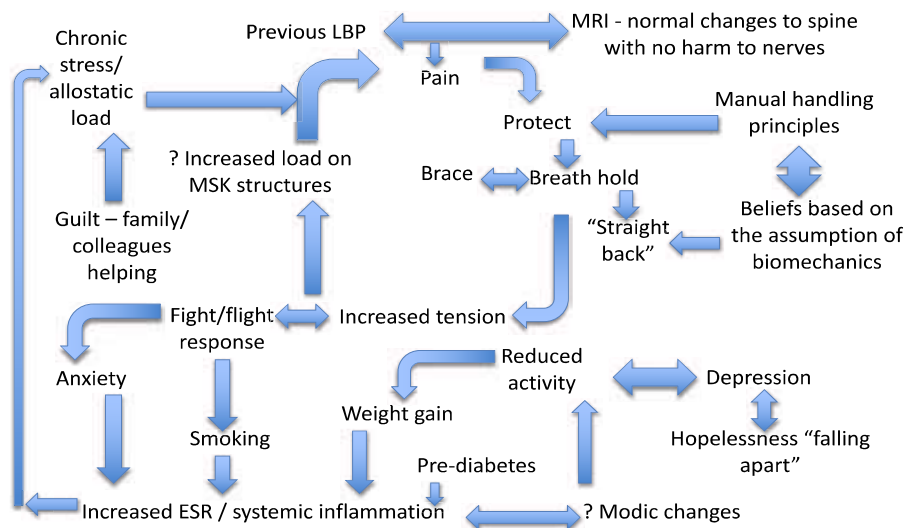


FIGURE 4: The patient mind-map

biomedical, psychological and social contexts under a canopy of integrated biology. Their vector model (figure 5) and underlying philosophy view causation as an inherently context-dependent and dynamic process that values uniqueness over the current narrow view of the observed frequency of symptomatic effects. This may provide us with a broad framework that balances the normative and narrative examinations, and methods of understanding causation in the context of person-centred care and management, that can be implemented in a clinical setting.

Treatment, management and action

By using the vector model with Lisa and producing a hypothesis on the interaction of the identified causal components through the mind-map, it allowed a discussion to emerge on what she felt to be more amenable to change.

I evaluated her movement behaviours, choosing three specific movements involved in bending, sitting to standing and walking. First of all, movements into painful directions were facilitated in offloaded positions. For example, the act of bending was practised in side lying with passive assistance and verbal feedback was given to recognise her instinctive bracing behaviours. Lisa started to recognise this and allowed herself to “sink into bending”, her pain started to ease in this position. Then she

practised seated bending, all the time trying to reproduce the same sensations as when side lying. Initially, with cervical and thoracic flexion, then a relaxed exhalation, allowing the movement of gravity to assist her downwards rather than resist the speed of the movement. This was initially repeated 10 times, with a short rest period and with Lisa making the effort not to brace or hold her breath. Lisa was immediately able to perform this previously painful movement with less pain, and she could see that her symptoms were modifiable. This was repeated numerous times to confront her anxiety and fear of flexion.

We used exactly the same pattern and method of cueing in standing. Firstly with the legs in abduction to increase the base of support and allow Lisa to be closer to the end position. Again, Lisa could flex repeatedly and with feedback, if she felt her back tighten up, I encouraged her to reset, breath and relax and repeat. From sit to stand, Lisa was reminded of the same movement patterns, cervical flexion, thoracic flexion and to take the trunk forward and stand up. If the patterns of cervical or thoracic extension started to occur I provided manual feedback to facilitate the movement. Initially the central key points used in neurological rehabilitation were the most helpful, and within a short period of time I could feedback with minimal use of touch and then with feedback from video footage recorded on her phone.

During walking I encouraged Lisa to swing her arms to allow her chest to drop an inch to facilitate an element of flexion and rotation in the trunk, following which I asked her to quicken her step and to increase her stride length. This exercise appeared to allow Lisa to cover more ground and be in less discomfort.

Within a week of starting these movement patterns, Lisa began to feel ▶

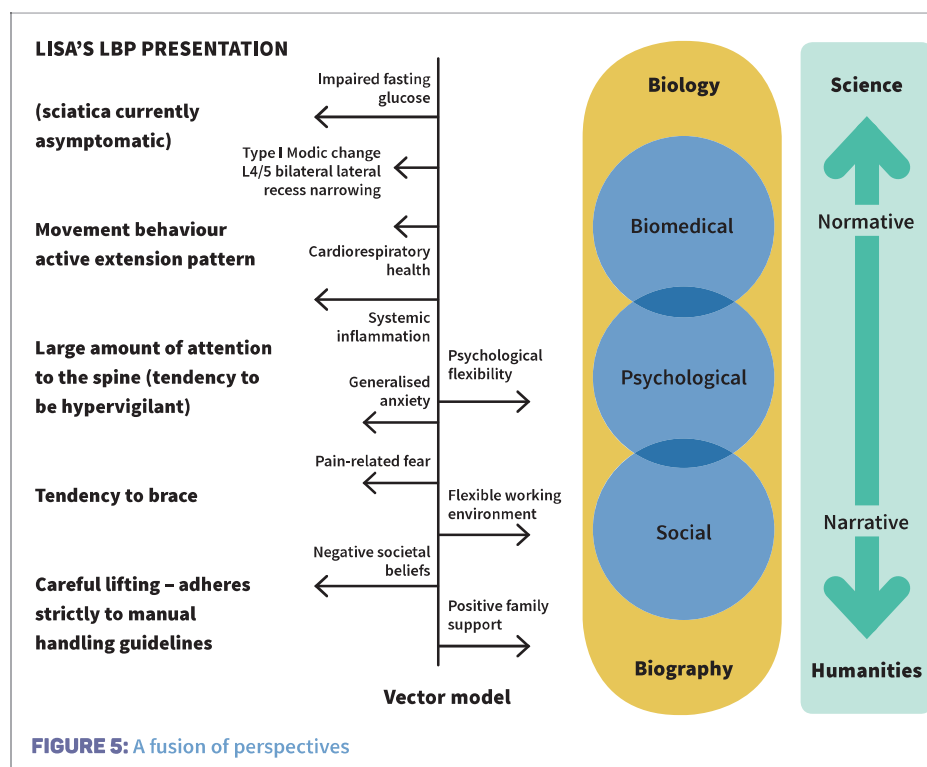


FIGURE 5: A fusion of perspectives

that progress was being made. Her pain, although still present, had lessened and she was starting to exercise with more confidence. Occasionally, her symptoms would flare up, but she was reassured to know that if she adopted the relaxed and more flexed positions, she could control them. Lisa reported that her symptoms had become more predictable which enhanced her self-efficacy.

We identified that the factors Lisa felt most empowered to change were a calorie-controlled diet and concentrate on movements modified to break the negative cycle in response to pain. I uploaded the Live Well Dorset website (www.livewelldorset.co.uk) which enabled me to give Lisa access to their one-off, 12-week dietary support plan with Weight Watchers or Slimming World.

The website also provides support and information on how to stop smoking and how the user can access local opportunities for becoming more physically active.

Lisa had a static bike at home that was being used as a clothes rack so I suggested that she try a static bike in the therapy department to see how she responded to the activity. We discussed cycling positions and the general concepts of seat height and resting positions on the bike. I made sure that Lisa felt that she could adjust the bike to her own comfort and that she was aware that there was no specific or absolutely "correct way". This reassured her that she could start using her static bike at home.

Access to Slimming World and using her static bike every day meant that Lisa began to lose weight and, three months on, her repeat fasting blood glucose levels had improved, as had her symptoms, and she was back to full time work.

At this stage Lisa joined a local gym and took part in Zumba and gentle body pump classes. She created a new narrative with regard to manual handling. She now believed that she should be stronger and fitter to work

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with manual handling rather than keep her biomechanical postures correct. She altered a few of the exercises in the classes to suit her preferences and, over a six-month period, Lisa felt that she was, on the whole, pain free. Occasionally, her symptoms would return but she felt in control of her pain and could refer to her version of the vector model and make self-adjustments. Lisa started with increasing her levels of physical activity and ended with regular planned exercise over the recommended 150 minutes a week. She felt more positive and less anxious and developed new friendship groups at her local gym.

Final reflections and conclusion

This case resulted in a positive outcome and Lisa was a pleasure to support. Other cases may present with many causal elements that appear uncontrollable and have very challenging prognoses. Perhaps a vector model approach with a greater emphasis on the causal contexts that the patient feels that they can control, with greater dosage and perhaps greater effect or counteraction may be of benefit in such cases.

In Lisa's situation the therapeutic alliance allowed for sense-making, reflexivity and context dependent decision-making that drew on the totality of the evidence and not clinical research in isolation. The treatment plan resulted from conversations that were immersed in curiosity, engaged in the complexity of context, recognised Lisa's challenges that were treated with caution to her ideas and preferences, and with the utmost care for Lisa as a person.

About the author

Matt is a Consultant Physiotherapist at a Foundation NHS Trust on the South Coast. He qualified from Southampton University in 2003 and has worked in the

NHS since. He is an accredited Clinical Educator (ACE) from the University of Brighton and has been a member of the Musculoskeletal Association of Chartered Physiotherapists (MACP) since 2010. He also works as an Extended Scope Practitioner (ESP) in back pain.

Matt has lectured and examined at local universities and teaches undergraduate and postgraduate physiotherapists on topics such as motor control, spinal manipulation and clinical reasoning skills. He completed his MSc in Neuromusculoskeletal Physiotherapy and has interests in compassionate person-centred care, the theory of causation in medically unexplained symptoms, philosophy, reflective practice and critical thinking skills.

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Useful websites

ARMA

<http://arma.uk.net/musculoskeletal-networks/network-resources/>

National Back Pain Pathway
<https://www.england.nhs.uk/blog/charles-greenough/>

NHS England

<https://www.england.nhs.uk/ourwork/ltc-op-eolc/ltc-eolc/our-work-on-long-term-conditions/si-areas/musculoskeletal/>

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