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Back Pain as a Distraction Pain Syndrome

A Window to a Whole New Dynamic in Integrative Medicine

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Abstract

One of the most intractable and expensive problems facing modern medicine today is chronic, nonspecific back pain. The current approach, which attributes the pain to structural problems, is invasive, expensive and not very effective. Based on this fact, along with a growing body of clinical and circumstantial evidence, we believe that it may be time for a paradigm shift in diagnosis and treatment, in which the problem is treated in an integrative fashion as more psychosomatic than structural. Although, in our conception, the pain is both real and 'physical', in the sense that it is experienced physically and may involve functional alterations in the affected tissues, we present a rationale that melds the purely 'physical' and purely 'psychological' conceptions of pain into an integrated model that is clinically significant. We believe that the ultimate reason for the persistence of the pain is in the mind/brain or subconscious. This creates or perpetuates the pain in order to distract attention from emotions that are too threatening for the individual to address consciously, such as anger, rage, grief or anxiety, hence the term 'distraction pain syndrome'. We further suggest that a well controlled clinical trial, coupled with brain imaging studies, could corroborate or refute the promising results of the retrospective clinical studies we have conducted to date.

1. Introduction to Distraction Pain Syndrome (DPS)

Integrative medicine means different things to different people. For some, it means integrating herbal medicine or traditional East Asian medical practices with Western technology. However, to others it involves what is often called 'holistic' medicine, or healthcare that involves treating the whole human being, including both body and mind, and, for some, the 'spirit as well. Scientific investigation into this second meaning of integrative medicine has been led by a new science called 'psychoneuroimmunology', born of the discovery that the nervous, endocrine and immune systems all interact. With some exceptions, research in mind-body medicine has not focused on chronic back and other forms of musculoskeletal pain, and neither mainstream medicine nor integrative medicine has fully captured the power of the mind-body relationship in chronic pain.

However, although recent imaging research and clinical intuition suggest that psychosocial factors correlate more closely with chronic lower back pain than structural abnormalities,^[1-5] there has been little serious investigation into the hypothesis that back pain may often be a psychosomatic condition. The hypothesis itself is

not new. Since the 1970s, John Sarno, MD, of New York University's Rusk Institute, has been successfully treating back pain as a psychosomatic condition he called 'tension myositis syndrome' (TMS).^[6,7] In this article, we present the term 'distraction pain syndrome' (DPS) because we believe it may describe the aetiology of chronic pain more clearly. According to the theory of TMS or DPS, much chronic back pain originates not with structural problems in the back, but with emotions in the mind/brain. Accordingly, the prescribed treatment is not medication, surgery or physical therapy, but education and psychotherapy, to address the underlying emotional issues. This article describes a theory of DPS based on what we have learned from over 15 years of clinical practice and some formal research.

2. What is Distraction Pain Syndrome?

A DPS has psychological, physiological and neurological components. On the purely psychological side, distraction pain is a psychosomatic condition, but it is not a conversion disorder, such as false pregnancy, in which expressed or repressed emotions express themselves symbolically as physical symptoms. Nor is it

the type of malingering disorder that disappears upon termination of a worker's compensation or disability claim. Although the pain does serve a psychological purpose, it is not the stereotypical 'secondary gain' of revenge or monetary compensation. Instead, it is a type of 'cover-up', a distraction of attention away from emotions, such as anger, rage or anxiety, that are too distressing for the mind/brain to confront consciously, hence the term 'distraction pain syndrome'.

From a neuroscience perspective, a possible mechanism for this distraction is that pain stimulates brain activity in the anterior cingulate cortex, the brain structure that deals with attention and where brain imaging scans of people in pain show high levels of activity.^[8] In some individuals, this localised increased activity, or attention to the pain, may explain the transition between acute and chronic pain. Acute pain may be characterised by a more peripheral or structural aetiology (e.g. muscle spasm) and chronic pain by a more central or mind/brain aetiology (e.g. psychological distraction). However, this is speculative at this point, and we do recommend (and are now planning) brain imaging studies to identify the neurological correlates of distraction pain.

On the physiological side, distraction pain may still have a significant peripheral component, in that the descending neurological pathways may be affecting the function of local tissue such as nerve and muscle, as evidenced by tender or trigger points on palpation of an affected area. In that sense, the pain is both 'physical' and 'real'. However, the specific tissue conditions that immediately give rise to the pain could vary greatly. For example, with respect to back pain, Sarno believed that the mind/brain induced vasoconstriction in the affected areas, which caused painful tissue ischaemia and the accumulation of waste products.^[9] From our experience, however, the painful conditions the brain induces are typically benign, and disappear completely, without any residual damage, after effective treatment. In any case, the exact physiological mechanism by which the brain creates the painful stimuli is irrelevant to the clinician, because the treatment approaches the problem from the psychological side, where the problem most fundamentally originates.

3. Evidence Supporting the DPS Theory

Unfortunately, to date there have been no treatment studies of DPS that would qualify for publication as a controlled clinical trial. Such a trial is in the planning stages and certainly presents several complexities regarding selection criteria, treatment protocol, control group, randomisation, etc. Having said that, there is a body of clinical data, circumstantial evidence and related research, along with some contextual, logical arguments, to suggest that such a study is quite likely to demonstrate significant results.

3.1 Contextual Arguments for the Possibility of 'Real' Psychosomatic Pain

Ever since the 17th century French scientist and philosopher René Descartes theorised that sensory nerves were analogous to pull-cords, the prevailing view of pain has been that 'real' pain must stem from either tissue or nerve damage.^[10] By this concept, psychogenic pain is often misclassified as delusion or outright fraud. However, nothing straddles the line between the mental and physical more completely or inextricably than the experience of pain, which is really not intelligible at all without reference to both categories. In a conscious, awake human being, pain is always physical and yet always psychological. There are the nociceptive processes in the tissues and nervous system, and there is the psychological experience in the mind/brain, both of which combine to produce the experience we call 'pain'. We know that the brain is quite capable of modulating pain, and, although neither science nor philosophy has reached a consensus on what the relationship is between the mind and brain, it appears that education and life experience do (for better or for worse) affect brain activity.^[11,12] Accordingly, we maintain that it is certainly plausible – and very likely probable – that an educationally based treatment programme can modulate 'real' physical pain.

Furthermore, scepticism about the mind's ability to modulate pain would be better justified if contemporary, structurally based interventions had a successful track record, but this is not the case. In fact, in a 1996 keynote address, British back pain specialist Gordon Waddell said, "Medical care certainly has not solved the everyday symptom of low back pain [LBP] and even may be reinforcing and exacerbating the problem".^[13] He concluded: "Back pain is a 20th century healthcare disaster. There is wide agreement that most current healthcare for nonspecific LBP is inappropriate and ineffective. We need a fundamental change in clinical management of LBP in line with recent clinical guidelines".^[13]

For these and the reasons that follow, we agree with Pruitt and Von Korff^[14] that it is time for a 'paradigm shift' in primary-care treatment of chronic back pain, and possibly also for headaches, repetitive stress syndrome, fibromyalgia and other complex regional pain syndromes.

3.2 Circumstantial Evidence

One of the problems is that most of the time physicians are attempting to treat symptoms without any definitive diagnosis. White and Gordon^[15] argued that up to 85% of back pain cases are physiologically idiopathic. There are also more specific arguments, as follows.

- Psychosocial factors appear to be better predictors of chronic lower back pain than structural problems shown in x-rays and other imaging diagnostics.^[1-4]
- Disc degeneration, minor herniations and abnormal curvatures, which are the most common structural diagnoses of pain, are equally prevalent in the general population as among those in pain.^[3-5]
- Back pain often migrates from place to place, which is atypical and inexplicable for pain caused by structural problems, which do not likewise move.
- Back pain does not get progressively worse as we age, but peaks at midlife and is relatively rare among the elderly, as it is among young adults.^[16]
- Back pain is more common in developed countries than it is in underdeveloped ones, in spite of the fact that people in developed countries are less often in occupations that involve hard labour and the risk of serious back injury.^[1]

3.3 Clinical Evidence

Sarno has been treating pain as TMS for 30 years, and has written three successful books about it.^[17-19] Data from his practice suggest a 70–90% success rate among patients willing to accept this diagnosis. In fact, one of the authors of this article (Dr Schechter) is among his success stories. During the stressful first year of medical school, he went to see Sarno at the Rusk Institute, expecting to get some physical therapy for his case of runner's knee. What he got instead was a seminar, an unexpected diagnosis and an equally unexpected rapid and permanent recovery. The knee pain quickly disappeared, and he soon returned to jogging and playing basketball without pain. After that, he became not only a believer but also a research assistant in TMS, and has successfully used similar methodology in his own practice for 15 years while pondering its significance and ultimate explanation.

Academic medicine has remained much less impressed. Critics argue that Sarno's success can be attributed to the fact that most back pain (80–90%) resolves spontaneously on its own within 3 months without any intervention at all.^[20] However, this argument is seriously weakened by the fact that most patients who are willing to consider a psychosomatic diagnosis and a mind-body intervention already have chronic back pain. Many have tried just about everything else, including surgery, to no avail. Also, the recovery seems to be long lasting. Sarno's outcome data, some of which were long term, were never published in peer-reviewed medical journals, but not because they were clinically insignificant. Instead, academic medicine ignored them partly because Sarno never conducted a properly controlled trial, but also because it had a strongly held *a priori* conviction that real back pain must

have a structural aetiology, and any data that suggested otherwise must somehow be anomalous.

However, by the turn of the millenium, this mind-set had begun to shift, and government and philanthropic grants began to flow into mind-body medical research. Beginning in 2003, the Seligman Medical Institute has supported our efforts to conduct research, publish and raise awareness of this approach. So far, we have conducted three retrospective studies, begun another, and have drafted research proposals for both brain imaging studies and a randomised controlled trial. The three retrospective studies are as follows.

- We surveyed 215 respondents who had ordered patient self-care materials from our Website. Of the 37 patients who responded, 33 (89%) said the materials helped them heal and 28 (76%) found them generally helpful. Although the response rate was too small for these results to be statistically significant, they are definitely significant economically. Even if we assume that the treatment did not help any of those who did not respond, and we distribute their costs among the successful patients, we were able to 'cure' about 30 patients at an average cost of \$US450 per patient.^[21]
- We surveyed 85 patients treated in Dr Schechter's office from 1995 to 2000, who had been diagnosed as TMS. Of those patients, >60% fell into the A and B outcome groups, which were respectively defined as 'essentially pain free' and 'significantly improved' in terms of pain, mobility and medication use. When broken down into chronic and acute patients, 11 (85%) of the 13 acute patients fell into groups A and B, while 41 (57%) of the 72 chronic patients had the same successful outcomes. This evidence was published in the online version of *Psychosomatic Medicine* (abstract only) and presented at the 2005 meeting of the American Psychosomatic Society.^[22]
- The third retrospective study was of patients seen in Dr Schechter's office in 2002 and 2003 (Schechter D. et al., unpublished data). In this case series study, we included only those patients who had been in unremitting pain for at least 6 months. Patients in this study, whose mean duration of pain prior to treatment was 9 years, achieved clinically and statistically significant improvement in pain intensity (as measured by pre- and post-treatment visual analogue scales), medication use, activity levels and well-being (as measured by the SF-12[®] questionnaire^[23]).

Because these were all retrospective studies of patients treated by a single physician (or, in the first example, *not* treated), none of them qualify as 'proof' that this approach works according to contemporary standards of evidence-based medicine. However, we do believe that they justify conducting further studies of the type that would qualify as proof, especially since the treatment is

completely non-invasive, non-pharmacological and very inexpensive. To give an idea of the economics, the money saved in avoiding just 20 spinal fusion operations would fund a million-dollar research project. Accordingly, we believe that shifting our approach to back pain from the structural to the psychological could be just what is needed to end the stalemate in our struggle to control nonspecific back pain.

4. How We Treat Patients Diagnosed as DPS

The treatment itself is completely psychological and educational, but the first step is physical diagnosis by a qualified physician. *This must be made by a qualified physician, who can definitively rule out more serious structural problems, such as fractures, tumours, infections, rheumatoid arthritis, severe disc herniations or other major structural problems.* Ideally, the physician should also be familiar with DPS, but this is not likely. Only a few dozen physicians worldwide have been trained in this approach. Ruling out more serious conditions is the most important aspect of diagnosis, because misdiagnosing and failing to treat them is the only real risk posed in the entire treatment programme. However, DPS is not merely a negative diagnosis, or an exact synonym for nonspecific back pain. It also has identifying symptoms of its own, such as personality factors, stress, tender points, pain that tends to move from place to place, non-responsiveness to conventional treatments and the absence of any serious structural problems appearing in imaging results. Note that minor structural problems that are equally prevalent in the general population, such as degenerative or mildly herniated discs, do *not*, by themselves, rule out a diagnosis of DPS. A key criterion for diagnosing DPS is the patient's response to conventional treatment methods. However, if they have not responded well to conventional treatment, have imaging that is not specific for a pain locus, have certain characteristic personality factors, etc., then they are candidates for diagnosis and treatment as DPS.

Not everyone diagnosed as DPS will respond to treatment. In both Sarno's and our own experience, the treatment usually fails those who steadfastly reject the psychosomatic diagnosis and continue to insist that their problem is structural. Education is futile when the student does not believe the teacher. We suspect that active drug users, people who have open litigation claims and other patients who really are seeking 'secondary gain' will typically exclude themselves from the treatment programme by maintaining this position. Similarly, those who need the psychological defence mechanisms that the pain maintains, i.e. who cannot or will not face the underlying emotional factors, may also be untreatable in the short term. However, in our experience, some of them eventually find themselves able to take the necessary steps.

Once the patient has been diagnosed as DPS and has indicated a willingness to consider the psychosomatic diagnosis seriously, the treatment consists of the following four parts.

- Teaching the patients to think psychologically, as opposed to structurally, about the origins of their pain.
- Encouraging the patient to be as active as possible and to discontinue the safety behaviours aimed at protecting their 'damaged' backs and avoiding 're-injury'.
- Encouraging the patient to use as little medication as bearable or as required to function.
- Bringing to consciousness the repressed or latent emotions that are driving the pain.

For many patients, the diagnosis itself effects the cure. Once the patient becomes convinced that the problem is basically psychological, the pain usually diminishes significantly or goes away altogether fairly rapidly, as do the fears of pain and re-injury. Like any other ruse, it loses its purpose once it has been exposed, and the mind/brain gives it up. Many people have recovered completely just from reading one of the available books on this subject, or listening to an audio programme. Others have recovered from a combination of a book, a lecture and a little introspection. We have found that structured journaling, in the form of a workbook,^[24] is an effective way to uncover the repressed emotions, if accepting and applying the diagnosis itself has not worked. In some cases, psychotherapy is needed to uncover the repressed emotions, especially for those who developed the coping strategy of DPS under extreme duress, for example victims of child abuse.

5. Suggestions for Future Research

Further research on DPS should attempt to answer all of the following questions.

5.1 Which Population Should Be Included?

Although we believe that the percentage of nonspecific back pain patients who have DPS is probably very high, we see no point in testing the treatment mode on patients who do not have it. We would normally exclude patients with clearly defined structural, infectious, malignant or autoimmune conditions, whom we would never treat as psychosomatic, except possibly for comparison in some of the brain imaging studies. However, we would include patients with structural problems that are equally prevalent in the general population, such as subluxations, degenerative discs and mild disc herniations. We might also exclude patients for whom conventional, structurally based interventions have been successful, unless problems such as addiction or other unpleasant adverse effects are motivating the patient to seek a different treatment. The

assumption here is that if structurally based interventions provide long-term relief, the pain probably has a structural aetiology.

Furthermore, at this stage, we could also restrict the study to patients experiencing nonspecific chronic back pain. Although we believe that acute back pain is very often DPS, testing it with these patients would require a long-term study, as the effects would have to be measured by the permanence of cure, or the lower frequencies and intensities of recurrence over an extended period. Therefore, only a long-term study could rule out the normal tendency of back pain to resolve on its own as the source of relief.

We could also extend the study to other distraction pain syndromes, such as tension headaches, repetitive stress injury (RSI) [upper extremity pain], fibromyalgia, temporomandibular joint pain and other complex regional pain syndromes. However, we recommend postponing these studies until we have studied chronic back pain as a form of DPS, primarily on account of our experience and treatment success with it, along with time and monetary constraints.

The most problematic question in this area is how to address the issue of individuals who, based on the inclusion criteria above, are likely to have DPS, but who after diagnosis refuse to accept the psychosomatic diagnosis. There is likely to be a high treatment failure rate among these patients, and many may not even comply with the programme. This issue of accepting the diagnosis needs to be reflected in our data.

Finally, differences in age, race, sex, religion, national origin and other demographic factors would have to be taken into account in setting up a proper randomised controlled trial.

5.2 What Measurements Should Be Used?

If DPS originates in the brain, as we are suggesting, it might also generate a pattern of brain activity that is recognisable on functional magnetic resonance imaging brain scans. These images may eventually provide a means of definitively diagnosing DPS, and distinguish the effects of the DPS mind-body treatment from those of a placebo, hypnosis or other psychologically based treatments, as well as conventional care. What these images might tell us is yet unknown, but distraction pain syndromes could reveal a common pattern of brain activity among those experiencing DPS. We would also need to identify pre- to post-diagnosis and treatment changes in brain activity and see how they correlate with the relief of pain symptoms and improved scores on emotional awareness tests, such as the Levels of Emotional Awareness Scale.^[25]

5.3 Do the Mind-Body Treatment Methods Used to Treat DPS Work Better Than Placebo or Doing Nothing at All?

Comparing the treatment with doing nothing at all could be addressed in a randomised controlled trial by using a 'wait list' control group, i.e. a group of patients receiving no treatment at all but put on a waiting list to be treated. The role of the placebo trial requires special consideration in dealing with mind-body interventions, because, like the placebo, the interventions themselves work via the thoughts, beliefs and attitudes of the patient. Unlike the clinical trial of a new drug, we are not asking whether the active ingredient in this situation is chemical or psychological. We assume it is the latter. Nevertheless, there is a sense in which a placebo trial (of sorts) could be used to determine whether the DPS approach to treatment works by revealing repressed emotions, as opposed to other psychological factors.

5.4 Do the Interventions Work by Uncovering Repressed Emotions, as the Theory of DPS Suggests?

The success achieved in our retrospective studies could be due to the time, attention and healing interaction the patient receives. To control for this, we would have to introduce other control groups, in which the patients receive comparable time, attention and care but do not reveal repressed emotions or change the way they think about the aetiology of their pain. An example would be conventional back pain coaching and instruction, in which they learn to care for their backs with proper exercise, posture and lifting techniques.

6. Conclusion

Chronic, nonspecific back pain is one of the most intractable problems facing modern medicine. Current approaches are often invasive, expensive, addictive and not all that effective. We believe there is a growing body of clinical evidence that suggests nonspecific back pain may be primarily a mind/brain or psychosomatic problem, as opposed to a structural one, and the frustration in treating it may be due to the fact that it is being routinely and systematically misdiagnosed. The new model suggested in this article is that the mind/brain generates or perpetuates pain, as a diversionary tactic to prevent repressed, threatening emotions from coming before consciousness. The treatment is to expose the ruse, so that the mind/brain will give it up, and the pain will disappear without leaving any residual tissue damage. While retrospective outcomes studies have been favourable (Schechter D. et al., unpublished data),^[21,22] an adequate testing of this hypothesis would consist of a randomised controlled trial, possibly with multiple control groups, along with brain imaging studies. Together, such studies could both identify the population on which this

approach is likely to be effective and determine if the benefits of treatment found in our retrospective studies are really due to exposure of repressed emotions.

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