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LETTER TO THE EDITOR

Re: The Fall of the postural-structural-biomechanical model in manual therapy: Exemplified by lower back pain. A response to reviewers and further thoughts.

“The Fall of the PSB model” was first published on CPDO’s Online Journal in March 2010 (Lederman, 2010). This article raised much interest and JBMT’s editor invited me to submit it in a shortened version for publication. The JBMT version (Lederman, 2011) contains only some of the main points from the original article. Following the reviewers’ published feedback I was given a limited right to reply. Hence, providing a counter-argument for all the specific issues raised by each reviewer is beyond the scope of this letter.

The reason for writing the “Fall of PSB model” article is for ‘the love’ of manual therapy. It seeks to revitalize and modernize it. In the last two decades the effectiveness of manual therapy has been questioned, in particular as a clinical tool for treating common musculoskeletal conditions, such as LBP. There is a serious paradigm shift out there. A five hundred year-old view of the body as a mechanical entity, where disease, health and musculoskeletal conditions are ruled by biomechanics, is rapidly changing. We can either integrate the new knowledge gained from the sciences, evolve or become marginalized.

My original professional orientation was firmly within the boundaries of a PSB model. For many years I have worked as a structural osteopath. First doubts emerged when I started my PhD research at King’s (1991), looking at the effects of manual therapy techniques on movement control. My drift away from a PSB model was slow (and painful) as my initial knowledge base was severely challenged. It has taken fifteen years to research, come to terms with the upheavals of change and to finally write about it. This period was also spent looking for an alternative approach that can integrate traditional manual therapy with current and changing scientific trends. This has led to the development of a Process Approach. This model values many ‘hands on’ therapeutic skills and practices but places them within the context of biological processes such as repair and adaptation, pain processes, motor learning and psychosocial and behavioral sciences.

The main principle of a Process Approach is to co-create with the patient environments in which their recovery can be optimized. For that we need to look at the patient’s underlying processes and match the intervention according to these needs. For example, tissue repair processes are optimized by movement, passive or active. Hence, an intervention after injury or surgery could include passive manual approaches and/or active movement rehabilitation. Neuromuscular processes are optimized by active movement (but not passive) as well as psychological, cognitive and behavioral factors. Hence, active interventions such as exercise therapy or active manual techniques, functional rehabilitation and cognitive-behavioral approaches are useful to regain control of movement. In the psychological-behavioral dimension change occurs through the psychological, cognitive, behavioral and relational aspects of the contact with the patient. In this dimension passive manual techniques can play an important role as well as active manual/exercise approaches.

In a Process Approach the focus is on the patient’s needs and away from particular techniques or our vocational boundaries. The patient is involved, proactive and empowered and not a detached recipient of health. A Process Approach does not aim to adjust, correct, fix, balance, manipulate into place, passively switch off pain, turn on-off particular muscles, or mold the patient into some idealized structure or into a preconceived function (core stability). It does aim to be creative, experimental and to minimize being prescriptive by using what the patient already knows. In a Process Approach we acknowledge and work within the uncertainty and complexity of health care.

I have spent over twenty years researching and describing the different body-mind processes, the dimensions in which they reside and identified the interventions required to promote a change. A Process Approach was analyzed and described in *Fundamentals of Manual Therapy* (Lederman, 1998) and expanded in a later edition, *The Science and Practice of Manual Therapy* (Lederman, 2005). A Process Approach is well-researched, malleable and a logical alternative to the PSB model. But work is still in progress; I am currently writing a paper on a Process Approach which will be published in 2012.

Postural-structural-biomechanical and functional asymmetries are the norm not a pathology. Natural selection provided the greatest asymmetry of them all – *side dominance*. This involves movement behavior and postures that

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are side preferential and associated with profound, unilateral imbalances in motor control and tissue loading. Do individuals develop their conditions due to these imbalances? Are their conditions related to a weaker or stronger side or the side more coordinated? Furthermore, there is a competition in adaptation which is behaviorally driven. Any attempt to “correct” structure or motor control will be overridden by the default, asymmetrical, dominant use.

Concerning the reviewers’ responses, imagine a courtroom drama in which each side presents their contending evidence for a PSB model. There is no right or wrong but a ruling is reached by weighing the *balance of evidence*. I believe that in the “Fall of PSB” article the case for moving away from a PSB model was made clearly and robustly. I value the reviewer’s feedback; however they offer little scientific evidence to refute the conclusions of this article. Read the full article before making up your mind; it clarifies several of the issues raised by the reviewers. It can be downloaded from: <http://www.cpdo.net/jour/jour1.html>.

References

- Lederman, E., 1998. *Fundamentals of Manual Therapy: Physiology, Neurology and Psychology*. Churchill Livingstone, Edinburgh.
- Lederman, E., 2005. *The Science and Practice of Manual Therapy*. Elsevier, Edinburgh.
- Lederman, E., 2010. The fall of the postural-structural-biomechanical model in manual and physical therapies: exemplified by lower back pain. CPDO Online Journal March, 1–14. http://www.cpdo.net/Lederman_The_fall_of_the_postural-structural-biomechanical_model.pdf.
- Lederman, E., 2011. The fall of the postural-structural-biomechanical model in manual and physical therapies: exemplified by lower back pain. JBMT 15 (2), 130–152.

Eyal Lederman*

CPDO Ltd., 15 Harberton Road, London N19 3JS,
United Kingdom

*Tel.: +44 207 263 8551.

E-mail address: cpd@cpdo.net