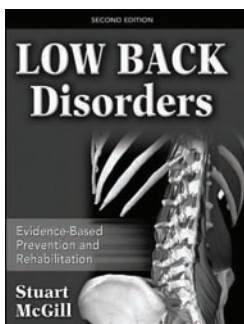


Book Review Editor:

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For this edition we have reviews of two books relating to spinal stability. I would like to thank the reviewers for their time and effort in providing such detailed commentaries on the value of the books. Finally, if any members are aware of new books which they would like to have reviewed, please let me know.



Low Back Disorders. Evidence Based Prevention and Rehabilitation (2nd edition) by Stuart McGill. Human Kinetics, 2007. 311 pages. ISBN 100736066926. €48.65.
Reviewer: David Sainsbury, MISCSP, M Manip Ther, Practice Education Coordinator, University of Limerick. email: david.sainsbury@ul.ie

Stuart McGill is an internationally respected author on the topic of low back

pain and rehabilitation, and sets out with this textbook to provide the best available evidence to optimise injury prevention and rehabilitation efforts.

As a professional group we are becoming more aware of the importance of sub grouping of patients with chronic low back pain disorders such that the treatments we prescribe match the disorder. Patients with lumbar segmental instability is a proposed subgroup of patients with low back pain who are more likely to respond to a specific stabilising program and McGill re-iterates the importance of this concept early within the text.

From the outset McGill sets out to challenge pre conceived beliefs with regards to the rehabilitation of chronic back injury and the prevention of back injury. Some of these are at a basic and fundamental level known to most clinicians (bed rest, for example, does not encourage co-contraction of the spine musculature, hence predisposing the spine to instability). Others are at a more complex level, challenging our understanding and beliefs about the stabilising role of certain spinal muscles.

The first part of the text provides the scientific foundation for the prevention and rehabilitation of LBP. There are excellent chapters on functional anatomy and pathoanatomy of the spine. He presents some very detailed research (based on many in vivo and in vitro studies) and evidence on trunk muscle morphology, function based on fibre direction, composition, cross sectional area and neural involvement.

Chapters that follow with more biomechanical and kinematic considerations are equally engaging and detailed. The text presents a detailed collection of normal and injury kinematic scenarios based on tissue loading and muscle activity. These early chapters evolve well into the presentation of the concept of "spine stability" and the importance of coordinated co-contraction of the global muscles and the small intrinsic muscles during functional activity to ensure spinal stability. Detailed and evidence based descriptions are given as to how the spine is vulnerable to instability at low load when muscle compressive and bracing forces are low, such that segmental shear and over rotation can occur.

The latter sections of the text are centred on using this anatomical and kinematic knowledge to prevent and rehabilitate low back pain. Practical and useful advice is given, intended to reduce tissue load in many occupational and functional tasks.

In the rehabilitation of the low back, McGill describes his 5 stage approach to back training. The first 3 stages are presented in this

book (correction of perturbed motion patterns, building the appropriate stability, and the development of endurance).

A series of exercises are described in detail, and careful consideration is given to the correct execution of these. Such exercises include curl ups, side bridges, and leg and arm extensions. Progressions to more advanced exercises are also given.

Clinicians involved in the more "higher level" rehabilitation of athletes could find limitations in this book. Later stages of rehabilitation (building of strength and Development of speed power and endurance) are described in another of McGill's texts: Ultimate back fitness and Performance (2006).

There is a useful chapter devoted to screening and evaluating patients with low back pain, however the validity of a number of the tests described are yet to be determined.

In attempting to quantify the demands of exercise and tissue loads, McGill uses a mechanical loading model for the diagnosis and classification of chronic low back pain disorders. Proponents of other models could disagree with some of the content of the book. Also, some groups would place greater emphasis on the teaching of co-contraction of deep stabilisers (multifidus, transversus abdominus). Although clearly observed changes in morphology firing and function of these muscles are reported, McGill points out that other muscles are just as important - they are just less researched. Others would equally place more emphasis on the evidence that chronic low back pain can exist where maladaptive movement and motor control impairments exist resulting in aberrant segmental movements and ongoing tissue loading.

Overall it is a well written, thought provoking and very detailed text book. Based on the kinematic and anatomical data presented it will challenge the clinician to critique their own exercise prescription and advice to patients with spinal instability. The use of frequent "clinical relevance" windows and clear and frequent illustrations are helpful for the reader to grasp difficult concepts or put things into a clinical context. There are also a number of "handouts" at the back of the book intended for careful and considered patient use. Advanced practitioners who are striving to incorporate a deep and detailed understanding of muscle function, morphology and fibre alignment could find it a very useful adjunct to their practice. Also, for this reason it would be a good clinical resource for a department.