


**FUNCTIONAL ELECTROMYOGRAPHY: PROVOCATIVE MANEUVERS IN ELECTRODIAGNOSIS.** 2011. By Lorne M. Fishman, Allen N. Wilkins. Published by Springer, New York. 171 pages. C\$190 approx.

Rated 

This is a strange little book. The core of the book is an attempt to show that electrophysiologic "provocative techniques" can provide tests to confirm the diagnoses of thoracic outlet syndrome (TOS) and piriformis syndrome (PS), and others. Provocative techniques consist of a standard electrophysiologic measure (e.g. motor stimulation from Erb's point to an arm muscle, or an H reflex from the tibial nerve to a distal leg muscle), then repeating the measure following a change in the limb posture. In the case of TOS, this consists of abducting the arm and extending it backwards (the Adson or Allen test). In the leg, the knee and hip are flexed, adducted internally, and the hip rotated (the FAIR position). Prolongation of the responses recorded are interpreted as evidence for position-dependant compression of the nerves involved.

The first two chapters are an unnecessary review of the history of the biology of electricity (even quoting the bible) and development of electrodiagnostic techniques. The third and fourth chapters are basically waffle to build the case for extending standard nerve conduction techniques into provocative types of testing.

Regarding TOS: The authors make no attempt to define the syndrome except to say they are not discussing the vascular type. Gilliat's seminal work in this syndrome is ignored. Wilbourn's valiant efforts to unscramble the confusion regarding various conditions (including an alleged condition) are likewise omitted except for one comment that misquotes him. The data presented seem not to have been previously published in a peer-reviewed journal and is presented in such a simplistic way that it is entirely unconvincing. The same is true of their data regarding treatment with botulinum toxin in the scalene muscles.

Regarding PS: This is another controversial area and the term has been applied to different conditions by various authors. The most difficult to define is the patient with pain in the buttock that may be accompanied by pain radiating down the leg. These patients have no neurological abnormalities and imaging studies show neural or skeletal damage to account for the symptoms. The alleged cause is compression of the proximal sciatic nerve by the piriformis muscle. The risk factors for developing PS, the frequency, the symptoms and the signs described in this book are all open to debate. The fairly recent literature of MR neurography as a diagnostic test (not critically discussed here) has its flaws and needs to be replicated. The authors' own provocative test - prolongation of the H reflex latency in the FAIR position, is presented. This has been criticized elsewhere, and has never been replicated.

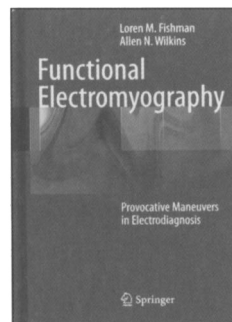
Chapter 8 moves on to lumbosacral spine disease and alleges to produce data to distinguish the "main pain generator" of

radiculopathy versus spinal stenosis by means of "evocative electrodiagnosis". The technique was to do H-reflex latencies with the patient lying flat then repeated with the patient extending their back every 30 seconds up to three minutes. This data seems never to have been published in a peer-reviewed journal, and as presented in this book has many flaws (as indeed the authors state), so it is of little value at this time.

The final chapters include a series of clinical anecdotes purporting to show the potential value of provocative electrodiagnostic testing. These are rambling, poorly told stories that reflect some of the inadequacies of the U.S. medical system, and the clear message (but not the author's) is that a good history, clinical examination, and judicious use of even plain radiographs and more-so CT (instead of waiting for an MRI) would have made the diagnosis expeditiously. Standard electrodiagnostic testing could have been helpful, too, in some cases. The usefulness of provocative/evocative electrodiagnostic testing is unconvincing.

This book is written in a casual, flippant, sometimes condescending style, with a tinge of evangelical zeal. Many sentences are so turgid that their meaning is unclear. There are confusing neologisms, some typographic errors, poorly labeled illustrations. There are many, many repetitions. Much of the important literature is not cited. But the deepest problems are the lack of critical analysis of the clinical conditions being discussed, a similar disregard for contemporary trial design and statistical analysis, and presenting data from studies that have not gone through the all-important channel of peer review and publication in a reputable journal.

Unfortunately, I cannot recommend this book.



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