



EDITORIAL

Are systematic reviews always accurate?

Ernst and Canter (2006) have placed osteopathic and chiropractic manipulation methods under a spotlight, when following a systematic literature review they found them wanting in regard to treatment of neck and back pain.

Writing in the *Journal of the Royal Society of Medicine* they claim that the data gave “little evidence” of effectiveness despite many individual studies that do show benefit. (Assendelft et al., 2003).

The Ernst and Canter article is very similar to one that appeared in 2005 in the *Wiener Klinische Wochenschrift* (in this instance, Canter and Ernst, 2005) and to some extent it is also a rehash of information that appeared in a paper by Ernst (2004).

At that time, in a comprehensive review evaluating the evidence base for use of a variety of therapeutic approaches to ‘musculoskeletal conditions’, Ernst highlighted the usefulness of massage (which not many may know he practised as a medical student many years ago), but questioned spinal manipulation’s value in treatment of back pain: “For acute back pain, spinal manipulation (high velocity thrust—HVL) was superior to sham therapy and to treatments known to have detrimental effects on back pain. Spinal manipulation generated no advantage over general practitioner care, analgesics, physical therapy, exercise or back school. For chronic back pain, the results proved to be similar.”

Unpicking this quoted statement brings sharply into focus the danger of relying on such evidence:

- ‘Acute back pain’ may have a wide variety of causes, ranging from biomechanical to pathological, psychological and functional, possibly involving intervertebral disc problems, facet joint dysfunction, hypermobility, muscular and/or ligamentous imbalances, sacro-iliac restrictions, trigger points and disturbed emotion/somatisation (among others), making it a virtual certainty that ‘acute back pain’ will not respond to a single intervention, whether HVL manipulation or anything else.
- Professor Ernst and his co-author may or may not be aware that categorisation of problems such as back pain can predict, with some accuracy, which forms of back pain will, and which will not, respond to manipulation (DeLitto et al., 1995; Fritz et al., 2003). There is no indication as to which, if any, of the studies in their systematic review used categorisation in selection of patients to receive manipulation.
- The term ‘spinal manipulation’ may mean HVL, or it might refer to employment of mobilising articulation, or soft tissue methods such as muscle energy technique, or combinations of these, or use of chiropractic ‘activator’ adjustments. And even where HVL is the specified intervention, there are a wide range of possibilities as to how, and where this was applied, making evaluation of ‘manipulation’ for ‘acute back pain’ a virtually meaningless exercise, or at best a questionable one—unless each patient (irrespective of etiology) received precisely the same manipulative attention, at precisely the same spinal region.
- Similar variables exist in other words/terms used in Ernst’s quoted text. What for example can it be assumed that ‘general practitioner care’, ‘physical therapy’ and ‘exercise’ actually mean, emerging as they do from a systematic review of numerous research papers in which untold variations of each of these areas of care might have been included?
- Leaving aside the difficulty of applying systematic review to so many variables it may be useful to reflect on examples of the denseness of the fog surrounding much research. Consider that many research studies emerging from osteopathic medicine describe manual interventions

as osteopathic manipulative treatment (OMT). When the content of 'OMT' is broken down, it is sometimes stated to include HVLT, myofascial release, ligamentous balancing, muscle energy and strain-counterstrain techniques (amongst others) (Yates et al., 2002). To those unfamiliar with these methods it is necessary to say that there can hardly be more diverse methods of modifying tissue status, or mobilising joints, than those listed. There is frequently therefore no uniformity in application of OMT, apart from the fact that one or other, or a combination of these methods were employed. This is not a criticism of the use of OMT in this way, since a selection of diverse methods is essential if patients are to receive individualised attention. However, it is a criticism of reviewers who attempt to homogenise outcomes where actual treatment—uniformly listed as OMT—might have involved all or any of the methods mentioned.

- To be sure, in some studies, precise descriptions are offered as to which elements of OMT have been utilised. For example, in a study of the use of OMT in treatment of chronic asthma (Bockenbauer et al., 2002), it is clearly stated that four methods (balancing ligamentous tension in the upper cervical and upper thoracic junctions; normalisation of elevated first rib; mobilisation of lower rib exhalation restrictions; diaphragmatic release) were employed, sequentially, in each patient (by the same practitioner). When the positive outcomes (increased upper thoracic and lower thoracic forced respiratory excursion) that emerged from this OMT intervention are compared with sham treatment, credible, useful and potentially reproducible information is the result.
- The generalised content of the term 'OMT' is no more confusing than use of terms such as 'physical therapy' (a.k.a. physiotherapy). A recent study (Mehling et al., 2005) compared 'gold standard physical therapy' with breathing rehabilitation (also not clearly defined), in treatment of chronic low back pain. Both approaches produced good to excellent results—however, since the reader is left with the mystery as to what 'gold standard physical therapy' is, and just how breathing rehabilitation is achieved, the chances of reproducing the results remains questionable.

JBMT's position is that for these (and other) reasons Ernst and Canter's controversial finding that osteopathic and chiropractic manipulation have little value in treatment of back and neck

pain, is itself of little value, flying as it does in the face of the clinical experience of the chiropractic and osteopathic professions, where manipulation, *when appropriately applied, to match the specific needs of the individual*, appears to offer clear benefit in a range of back and other problems.

This highlights the need in published studies to carefully describe both generic and specific use of modalities, methods and techniques—not least massage and manipulation (HVLT). And it raises the question as to the credibility of systematic reviews applied in this way.

Other opinions are supportive of JBMT's stand:

1. The National Council for Osteopathic Research has accused Professor Ernst of working with out-of-date data.
2. The General Osteopathic Council, in a press release in response to the Ernst, Canter paper state:

[There is] good evidence to support spinal manipulation for low back pain, particularly when combined with exercise guidance—this is typical osteopathic management. This suggests that Professor Ernst is out of date with this review, a recognised problem when researching secondary data. In summary, the research design/methodology is not a recognised systematic review, it is limited in terms of scientific value, and the data presented does not support the conclusions made.

It behoves us all to be as precise as possible in our descriptions of methods, modalities and techniques, as well as in the way we search for evidence of efficacy of the use of these in general, and in specific, settings.

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