

Letters to the Editor

Effectiveness of Manual and Mechanical Techniques

To the Editor:

First, I would like to congratulate Mr DeRosa and Mr Porterfield on their article entitled "A Physical Therapy Model for the Treatment of Low Back Pain" published in the April 1992 issue of *Physical Therapy*. I think the article discussed many excellent concepts that physical therapists should keep in mind when examining and treating patients who have low back pain.

I would like to comment, however, on two of these concepts. The first concept I would like to comment on is

Many manual and mechanical techniques may be effective as adjuncts to modalities that promote analgesia, but we believe that the natural course of the low back condition will probably not be altered.

The phrase "natural course" is rather broad. I would like to be more specific in my letter and refer to the clinical symptoms and signs of pain, lumbar mobility, and dural mobility (neck flexion, straight leg raising, and femoral nerve stretch). I am confident that research will eventually prove that manual and mechanical techniques do diminish the duration of clinical symptoms and signs. Unfortunately, many research studies to date have not been well designed. An excellent piece of literature on this topic is Winer's chapter entitled "A Survey of Controlled Clinical Trials of Spinal Manipulation" in the textbook *Aspects of Manipulative Therapy* published by Churchill Livingstone Inc.¹ Certainly, some patients during their sessions of physical therapy undergo a period of instability and need to receive additional treatments. In spite of this clinical problem, I am sure that manual and mechanical techniques do more than simply temporarily alter positive findings on clinical examination. Admittedly, the tremendous value of manual and mechanical techniques does appear to be more evident in cervical and thoracic problems that, in my experience, have shorter periods of instability.

The second concept I wish to comment on is

A change may occur in a patient's movement pattern or in the lumbar or pelvic posture immediately following any of the lumbar techniques. We believe, however, that it is obvious that no chemical bonds have been broken in the connective tissue and that no bones have been "put back in place." What has occurred, in our view, is that a new and different resting tension (set) has been afforded the muscle, which in turn results in a change in the passive or active movement patterns that alters the forces directed into and absorbed by the injured tissues.

I appreciate the concept that manual techniques may have a neurophysiological effect on muscle. I also believe that mechanical models such as those developed for the treatment of disk lesions or facet lesions are valuable. I believe that manual and mechanical techniques are in many cases altering a mechanical derangement. I have personally experienced episodes of low back pain that fit well into a mechanical model. It does truly feel like something is blocking my mobility. After manipulation, this feeling of pain and blocked motion is dramatically relieved. I have had many other people report the same experience to me. Certainly, the exact anatomical nature of the mechanical derangement is not as important as identifying those patients who have a mechanical derangement and those who may have an active disease. The important thing right now is to promote better research on the effectiveness of manual and mechanical techniques without being overly concerned with the anatomical nature of the derangement.

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References

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Response:

We would like to express our appreciation to Mr Woodman for furthering the discussion regarding the development of a physical therapy standard for the treatment of low back pain. We agree that manual and mechanical techniques diminish clinical symptoms, and certainly some signs as well. Their real benefit, however, appears to be the facilitation of early activity by the patient. Looking at the techniques as "rehabilitation" lessens their real value. When viewed as adjuncts to reactivation of the patient, which is

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really the goal of treatment for low back disorders, they have an effective role. We also agree with Mr Woodman that identifying the exact anatomical structure involved is of little importance.

The second point Mr Woodman raises concerns the use of manual or mechanical techniques to alter "mechanical derangements," particularly in regard to the disk and facets. The example that he uses in regard to such problems limiting mobility certainly follows the patterns seen in peripheral joints when bony or cartilaginous entrapments are encountered. From an anatomical perspective, this phenomenon certainly seems more plausible at the apophyseal joints than within the spinal canal via the disk. If entrapment ("mechanical derangement") occurs, it is most likely associated with a degeneration ("active disease") of the joint structure. The degenerative state of these tissues cannot be reversed or changed, only stabilized. Therefore, manual techniques without a thorough antigravity functional assessment (ie, determining the etiological diagnosis [nociceptive biomechan-

ics])¹ is treating the symptom and not the cause of the symptom. We should also recognize that it is unreasonable to think that any mechanical treatment technique effects its action at only one specific location. Therefore, the result of a manual technique is multivariate (ie, an alteration to the musculoskeletal and neural physiology).

With the current level of knowledge regarding the degenerative process, the only rational treatment programs are exercise programs that promote nondestructive movement patterns, via trained and improved muscular action, and improved nutrition of the joint by mechanical activity.² Thus, we are back to the all-important treatment goal—reactivation of the patient³ and education for self-management. The role of the clinician is to direct the treatment program, but it will ultimately be the responsibility of the patient to establish activities that maintain or improve his or her musculoskeletal health, resulting in the management of the patient's low back pain syndrome.

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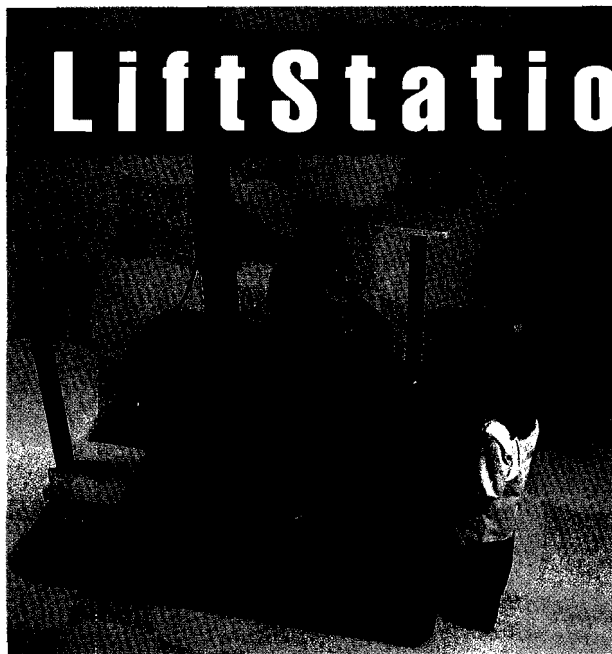
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