How Do Clinical Test Results Differentiate Chronic and Subacute Low Back Pain Patients from “Non-Patients”?

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Eighty to ninety percent of patients who are evaluated and treated by physical therapists for their low back pain (LBP) have a non-specific or mechanical LBP problem¹. We have seen tremendous growth in the evidence available to assist clinicians who are evaluating and managing patients with non-specific LBP complaints. Yet despite the tens of thousands of papers published on this topic over the past several decades, large variations in clinical practice among physical therapists persist. Many believe this treatment variation is one reason for more costly and ineffective therapy interventions. One solution for improving management of patients with LBP is to identify methods of classifying patients into relevant homogeneous subgroups. Classification methods permit clinicians and researchers to evaluate the efficacy of classification-based treatments designed to optimize patient outcomes and quality of care.

The study by Paatelma and colleagues highlights the importance of classifying patients with non-specific LBP. The authors successfully argue that subgrouping patients by pain-duration classifications (acute, subacute, and chronic), as presently recommended by current clinical practice guidelines², may not be optimal or diagnostically accurate for understanding patients with chronic or subacute LBP problems. Consistent with previous work³⁻⁵, Paatelma et al recommend that categorizing patients with

LBP should be based on the patient's history, symptoms, and physical examination tests versus the number of days since onset of pain. The authors investigated 31 clinical tests divided into function, inspection, mobility assessment, muscle tightness, neurological, and pain provocation groups. One of the study's primary findings was the identification of three clinical test groups, i.e., function, neurological, and pain provocation, which differentiated patients experiencing chronic versus subacute LBP. The authors also reported that the tests investigated in their study are “commonly used during clinical examinations of LBP” and their results provide important “information about the usefulness of the clinical tests for improving back pain physiotherapy.” However, specific clinical insights, scientific rationale, or discussions by the authors as to why these particular 31 clinical tests were included in their study and how these tests could improve the classification process to optimize patient treatment and management were lacking.

As demonstrated by this study and others⁶, not all clinical tests are equally reliable, valid, or useful. To decrease practice variation with examination methods, physical therapists interested in evidence-based practice are encouraged to select clinical tests supported by the best research evidence available. For example, the prone instability test and aberrant trunk movements combined with

the patient's age, SLR, and lumbar segmental mobility test results were important in developing a clinical prediction rule to identify patients with LBP who would respond to a stabilization program⁷. Classification and management of patients with acute, subacute, or chronic lumbar impairments based on centralization of symptoms⁵ observed during repeated end-range trunk movement testing appear important because classification results have been used to successfully direct treatment^{8,9}. Centralization consistently predicts good short- and long-term outcomes^{10,11} and is the key finding for many classification methods for directing treatment strategies^{5,12,13}. Sacroiliac joint provocation tests for chronic LBP populations have also been recommended based on acceptable reliability and validity data¹⁴. Paatelma et al did not appear to consider other evidenced-based clinical tests previously recommended for examining, classifying, and treating patients with non-specific LBP syndromes.

Paatelma et al limited their investigation for the classification of patients with LBP by analyzing physical examination tests only. Although the authors concluded that future research is required to explore the interplay between physical, social, and psychological factors to improve classification methods, integrating these three factors was not the aim of their study. However, I believe that the authors' concluding statement calling for

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future research exploring interaction between biopsychosocial domains is a very important point, which deserves further comment. Traditionally, clinicians have interpreted LBP using physical examination and imaging test results¹⁵. Use of a biopsychosocial model and multi-level patient classification methods that concurrently consider physical, psychological, and social domains to evaluate and manage patients with non-specific subacute or chronic LBP syndromes has gained widespread acceptance^{2,16}. Quantifying the interaction between physical and psychosocial constructs may improve clinical assessment of the patient's rehabilitation potential or prognosis and assist clinicians who are prescribing treatment strategies to achieve optimal patient outcomes during rehabilitation¹⁷. For instance, levels of fear-avoidance beliefs of physical activity may be an important factor influencing outcomes during rehabilitation for patients demonstrating non-centralization of symptoms during the initial evaluation or for patients classified into a stabilization treatment subgroup^{7,18}.

The study by Paatelma and colleagues is worthy of consideration and provides another step in the research efforts related to treatment-directed patient classification. The study contributes to our understanding of differences between patients with chronic and subacute LBP. Future research is needed to understand the quality of care rendered by physical therapists and those examination, classification, and intervention factors that enhance outcomes related to patient care.

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