

## PAIN

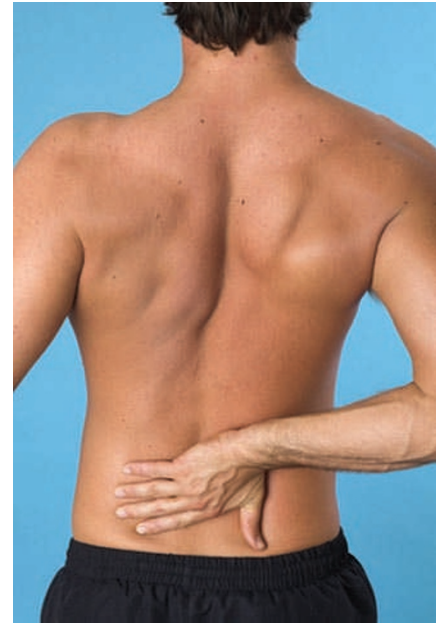
### Towards individualized therapy for low back pain?

Pain is a multifaceted phenomenon that can vary even among patients with the same disease pathology, reflecting differences in underlying pain mechanisms. Current methods of clinical pain assessment fail to account for these differences, resulting in inadequate pain relief in the vast majority of patients. A group of researchers from the US and Europe have developed and validated a simple diagnostic tool that can be used in the clinic to discriminate between different types of low back pain (LBP), with the aim of targeting therapy and improving outcomes.

Using a comprehensive battery of over 80 physical tests and interview questions, the investigators first identified 8 distinct association patterns of pain-related symptoms and signs (pain subtypes) in 187 patients with a range of neuropathic and non-neuropathic conditions. Following a “classification tree analysis”, the initial assessment was refined to include 6 interview questions and 10 physical examinations that can be performed at the bedside, and took just 10–15 minutes to complete. The investigators then attempted to validate this new assessment tool, which they called “Standardized Evaluation of Pain (StEP)”, in 137 independent patients with either radicular (neuropathic) or axial (non-neuropathic) LBP. Using

StEP, the investigators distinguished the two types of LBP with more than 90% sensitivity and specificity, which was substantially better than spinal MRI. “This has obvious importance for the diagnosis and therapy of these two conditions,” says lead investigator Joachim Scholz. “Such an evidence-based clinical approach to diagnosing and monitoring LBP should help standardize the assessment of a patient with LBP.” The investigators found that physical examination, such as the reaction to pinprick or response to a cold stimulus, was much more valuable than patients’ descriptions of their pain symptoms in distinguishing radicular from axial LBP. “We believe this will profoundly change the field of pain assessment, which is currently dominated by questionnaires that rely largely on interview questions exploring the sensory quality of pain and do not include physical tests,” explains Scholz.

In the future, a similar approach to pain assessment could help differentiate subtypes of pain in other rheumatic conditions, such as osteoarthritis. The researchers now plan to investigate whether subtypes of pain correlate with treatment response. “If, as our data suggest, pain-related symptoms and signs reflect underlying pain mechanisms,” says Scholz, “classifying pain by subtypes could



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be used to develop treatment strategies targeted at specific pain mechanisms. This would constitute critical progress toward a personalized medicine approach to pain management.”

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