The Bottom Line

The Bottom Line is a translation of study findings for application to clinical practice. It is not intended to substitute for a critical reading of the research article. Summaries are written by invitation of the Editor in Chief.

[Macedo LG, Maher CG, Latimer J, McAuley JH. Motor control exercise for persistent, nonspecific low back pain: a systematic review. *Phys Ther*. 2009;89:9–25.]

What problems did the researchers set out to study, and why?

The authors of the study sought to investigate the current literature examining the effectiveness of motor control exercises on pain, disability, and quality of life at short term, intermediate, and long-term follow-up periods for patients with persistent, nonspecific low back pain (LBP). Despite widespread use clinically, the effectiveness of motor control exercises for persistent LBP remains unclear. Previous systematic reviews exhibited weaknesses in their method of analysis, limiting the ability to draw conclusions about this topic.

Who participated in the study?

The researchers performed an extensive literature search that ultimately resulted in the inclusion of 14 randomized or quasi-randomized clinical trials investigating the use of motor control exercises for the management of patients with persistent LBP, which was defined as subacute, chronic, or recurrent LBP lasting longer than 6 weeks.

What new information does this study offer?

The results of this analysis provide evidence that motor control exercises, alone or in conjunction with other interventions, are effective in reducing pain and disability for patients with persistent, nonspecific LBP. Motor control exercises were not found to be superior to manual therapy, other forms of exercise, or lumbar surgery.

How did the researchers go about this study?

The 14 studies were grouped into 4 treatment contrasts: (1) motor control versus minimal intervention, (2) motor control versus manual therapy, (3) motor control versus other forms of exercise, and (4) motor control versus lumbar fusion surgery. Data were pooled whenever possible, and analysis was performed according to the Cochrane Group guidelines for systematic reviews.

How might the results of this study apply to physical therapist practice?

Physical therapists often use motor control exercises in the management of patients with persistent nonspecific LBP. This study provides evidence to support this intervention, and physical therapists can feel confident that this intervention will offer a benefit to their patients.

What are the limitations of the study, and what further research is needed?

There was wide variation among trials included in this study, due in part to the lack of a standard definition of motor control exercises among clinicians. It is possible that studies were not included in the analysis that might have altered the conclusions. Future research is needed to determine the optimal method to administer motor control exercises. Additional research is also needed to better determine whether there is a subgroup of patients with decreased motor control who might experience greater benefit from this form of exercise than the general population of patients with persistent LBP.

Eric K Robertson

EK Robertson, PT, DPT, OCS, is Assistant Professor, Department of Physical Therapy, Medical College of Georgia.

