

Clinical trials' review finds only exercise to prevent low-back problems

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(PhysOrg.com) -- Low-back pain continues to impose a huge burden on industrialized societies, in terms of symptoms, medical costs, productivity, and work absence. Annual costs related to back pain in the United States alone may run as high as \$100 billion per year.

But a systematic review of the literature for high-quality scientific trials published in the February issue of *The Spine Journal* finds exercise in workplace and community settings effective in preventing new episodes of low-back problems. "Strong and consistent evidence finds many popular prevention methods to fail while exercise has a significant impact, both in terms of preventing symptoms and reducing back pain-related work loss," said Dr. Stanley J. Bigos, UW professor emeritus of orthopaedic surgery and environmental health.

Bigos and his colleagues assessed methodological quality and potential for bias of clinical trials in preventing episodes of back problems. The researchers found 20 controlled trials to be high-quality according to Cochrane Collaboration Back Review Group criteria. Seven of the eight high-quality trials promoting various exercise programs were found effective, but other common and popular methods failed including: reduced lifting programs, back or ergonomic educational interventions, lumbar supports, shoe inserts and stress management.

"Passive interventions such as lumbar belts and shoe inserts do not appear to work," Bigos said. "And eight trials found ergonomic interventions, of either reducing lifting, or back or ergonomic training

sessions to be ineffective in preventing back problems."

The new review does not, however, discredit popular ergonomic innovations, said Dr. John Holland, a co-author and UW clinical professor of environmental and occupational health sciences.

"Ergonomic interventions may increase productivity, product quality, and work comfort. There are many reasons why such research should continue," said Holland.

The authors suggest that due to the varied and unreliable results of lower quality studies, resources for prevention of back problems should be devoted to interventions already found to be effective in high-quality trials, or to support well-designed research to investigate promising new approaches.

"The new review also supports one additional important conclusion. Ten years ago, some critics suggested we rely upon lower level studies. They maintained that it was not possible to perform high-quality clinical trials on preventive interventions for low-back problems in the workplace. However, our review demonstrates the viability of the growing number of high-quality trials providing more reliable evidence to guide back problem prevention efforts," said Bigos.

Bigos chaired the Acute Low Problems in Adults, the world's first major set of evidence-based clinical guidelines on the management of low-back problems, published by the U.S. Department of Health and Human Services' Agency for Healthcare Policy and Research, now known as the Agency for Healthcare Research and Quality.

Provided by University of Washington

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