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Back at You: Treatment Myths and Evidence

▶▶ A long time ago in a faraway land, all physical therapists believed back pain could only be alleviated with William's Flexion Exercises or spinal surgery. So therapists treated every patient the same way. This myth is one we will never tell our children, patients or peers. Yet myths still exist in treating back pain for older people.

Thirty-one percent, or 34 million people, in the U.S. have complaints of back pain at any given time. Over age 65, the number declines to 20 million.[1] On most days, one-quarter of elders complain of back pain.[2] In addition, there is evidence that in the older population symptoms of back pain are associated with functional limitations. These limitations are greatest for standing for more than 15 minutes, pushing or pulling large objects and walking half a mile or more.[3]

A study done in the *Archives of Physical Medicine and Rehabilitation* showed no relationship between a person's fitness level and back pain symptoms. In other words, being fit does not protect one from back pain.[4] A study published in the *Journal of the American Geriatric Society* showed that lower concentrations of vitamin D are associated with low-back pain in elders.[5]

No One Answer

Saying surgery is bad for every patient is as bad as saying surgery is the answer for every patient. Instead, let's look at this randomized control published in 2005.[6] This study found that an intervention group who received surgery and a control group (no surgery) reported reductions in disability during two years follow-up with no statistical difference between groups. The patients received physical therapy five days per week for three weeks. The components of the PT intervention were vaguely described, but included stretching, strengthening, endurance and stabilization exercises as well as water therapy and relaxation training.

A few studies that have been published since 2005 look at successful exercises for low-back pain. Kofotolis conducted a four-week program on women with chronic low-back pain.[7] This study compared three groups, all which received different exercise programs. One group received rhythmic stabilization exercises, another isotonic exercise, and the control received no specific exercise. The training groups improved in mobility, endurance and function as compared to the control. The focus of the exercises was for the therapists to administer manual resistance to the trunk, either isotonically, or in rhythmic PNF stabilization patterns.

Another exercise program study with positive outcomes found that a general exercise program reduced disability to a greater extent than a stabilization-enhanced approach.[8] This includes partial sit-ups, prone extensions, bridges, leg slides, "mermaid" (four-point kneeling with extension), side planks, abdominal pulses, alternate arm and leg movements with four-point kneeling, Swiss Ball, curls pushups and single-leg bridging.

Pointed Plan for Treatment

Herbert found that decreased lumbar multifidus (LM) muscle activation, but not transverse abdominus (TrA) activation, is associated with success in a stabilization exercise program.[9] There are sources that advocate and diligently teach the importance of transverse abdominus activation. This study says it might be more important to look at other factors. For example, the role that decreased activation of the lumbar multiifidus plays on back pain. So how do we do this? Quieroz published a study in 2010 that has an answer.[10] It was found that a retroverted pelvis with the trunk flexed increased external obliques and gluteus maximus activation, whereas an anteverted pelvis with trunk extension increased LM activity and a neutral pelvis resulted in lower activity of all muscles.

What does this mean clinically? It means therapists must work constantly with patients to get them in the best positions for the best exercises to strengthen their backs so they will not need surgery. The studies are there to support our efforts. Don't send us back to a place a long time ago in a faraway land. Instead, bring the most current evidence to the treatment of patients today. ■

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