Treating for Balance: It Must be Functional!

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Geriatric Function

Our class participants often tell us that Medicare insists that treatments and evaluations be functional. This article will give you some evidence-based functional treatments for several problems commonly seen in older people: gait and balance, stroke, and hip fracture/joint replacement.

The first study is by Shimada and it showed the specific effects of balance and gait exercises on physical function among frail older people.[1] The program used in this study was a 40-minute group session led by a therapist two to three times a week for 12 weeks. The outcomes showed that the balance group improved on the functional reach test and the gait group performed better on the Tinetti test. This is an excellent example of specificity of intervention.

If you work on gait, gait will improve, but balance may not. Hence, if gait is the issue, a specific intervention that focuses on gait will be required.

VanSwearingen looked at two forms of therapeutic activity to improve walking in older adults with slow and variable gait.[2] She found that implementing a program of timing and coordination training was better than walking, balance, endurance and progressive resistive training programs. Her program was conducted twice a week for 12 weeks.

In yet another study examining purposeful and vestibular interventions for balance problems in older people,[3] Cohen found that both vestibular and purposeful activity (PA) improved outcomes. The purposeful activities were playing Frisbee and catch, doing housework and reading signs.

In the area of stroke rehabilitation, we identified two interesting studies. The first is one by Boyne and looks at speed-dependent body weight supported sit-to stand (STS) training in patients with chronic symptoms as a result of strokes.[4] In this study, patients performed speed-dependent, bodyweight supported sit-to-stand training three days a week for 45 to 60 minutes until they were able to perform the activity independently.

This functional intervention requires equipment but may be modified using common rehab equipment. Participants improved in gait velocity, STS and general mobility, with muscle soreness the only side effect. Most participants became independent in STS in eight to 11 sessions. Program progression is outlined as 10 STS followed by rest, then repeat with increasing speed, and use less arm support and chair support as the patient progresses.

A study by Winstein looked at both functional and strength training in patients with strokes compared to standard care.[5] She found that both functional and strength training had better results than standard care.

Lastly, two studies looking at functional interventions for the hip were reviewed. We included one functional study for hip fracture and one for total hip replacement (THR). The first looks at weight bearing versus non-weight bearing exercises for patients post hip fracture.[6]

This RCT showed that weight-bearing exercises are much better than usual care or non-weight bearing exercises in terms of outcomes. The weight-bearing program involves STS from chairs of different heights; lateral step-ups; and foot taps while supporting weight on the other foot, then decreasing support, and increasing repetitions and step height as the patient progresses.

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The final study uses the Carr and Shepard model, which is functional for patients with THR.[7] This six-week outpatient program uses task-specific training. All subjects improved on all functional tasks. The researchers used biomechanical models in their treatment design. This process entails watching the patient attempt to perform the functional task. The therapist identifies the missing component and has the patient practice the missing component, with the final step incorporating the missing component into the functional task approach. It took a neurological approach to an orthopedic condition with excellent results.

References are available at www.advanceweb.com/pt.

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