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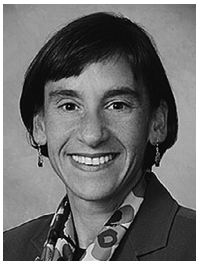
Editorial



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Exercise wins yet again

The annual John Morley award was given to Jennifer Hewitt a physical therapist and researcher from Australia, for her work testing the impact of progressive resistance and balance training for falls prevention in nursing homes.[1] This was a very well done randomized controlled trial that included 221 residents from 16 long term care facilities. Her goal was to show that residents in long term care settings could do a higher level of physical activity than is normally done or provided during therapy or exercise programs and in so doing there would be a reduction in falls. She included residents who were 65 years of age or older, were long stay residents, and spoke English. Residents were excluded if they were terminal or unstable medically, or were deemed unable to participate safely in a group gym based exercise program (e.g., were bedbound, or wheelchair-bound, had advanced Parkinson's disease or were cognitively impaired with a Mini-Mental State exam of less than or equal to 15). The intervention, referred to as the Sunbeam Program, was 25 weeks long and included an individually prescribed progressive resistance training and balance exercise program performed for one hour twice a week for 50 weeks. The residents used pneumatic resistance equipment and were guided by physical therapists through a series of exercise activities during the hour class. An individualized approach was used and residents were progressed as they were able. There was one leader, or therapist, for 5 residents. Balance exercises were also included as part of the program and included static and dynamic exercises performed with close supervision. At the end of the 25 weeks, there was a period of 6 months of maintenance where group exercise sessions were held by trained facility staff. Those randomized to the control group received usual care and activities within the setting.

In terms of fall reduction, the results were amazing. There was a 55% reduction in the rate of falls for those in the Sunbeam Intervention with an incidence rate ratio of 0.45. There was a 60% reduction in falls during the intervention period and a 40% reduction in falls during the maintenance period. Those in the Sunbean group had a significant reduction of 54% in the rate of injurious falls in the intervention group and there were a similar number of fractures in each group.

Yet again an exercise intervention has been shown to decrease falls. This was done even though the participants only engaged in a mean of 31.6 h of (SD=14.3) exercise rather than the proposed and planned for 50 h. As is normally the case attendance started out high at 80% but decreased to 60% during months 4 and 5 and then during maintenance attendance was 31–51%. Thus exercise can work but only if you do it!

How many studies are needed and how long will it take before we believe that exercise is beneficial for fall prevention and before nurses stop saying, "don't get up you might fall" and start saying instead "let's get up and go for a walk"? How long and how many more studies will it take until families and residents believe that remaining sedentary and lying in a bed will *NOT* prevent falls. Rather sedentary behavior only increases the risk of falling once the individual attempts to get up.

Certainly, exercise is not the only intervention that can help prevent falls. There are many contributing factors to a single fall including potential resident level factors such as evidence of frailty (e.g., muscle weakness, gait and balance disorders), cognitive impairment, use of an assistive device, visual and hearing impairment, depression, and the use of certain medications (antidepressants, anxiolytics, antipsychotics, diuretics or any medication that can cause orthostatic hypotension).[2–4] At the environment level, factors contributing to falls include tortuosity of paths, cluttered areas, slippery areas, and problems with assistive devices.[2] All potentially contributing factors to falls should be addressed. Exercise, however, is the one thing that may help strengthen the individual so that he or she can overcome environmental changes such as getting around clutter or catching him or herself on a slippery surface.

It is all about motivation

Why was it that only about half of the recruited residents in the Sunbeam study participated in the exercise classes? Quite simply they refused/declined to attend.[1] Only 30% of adults engage in the

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Table 1
Motivation techniques to encourage residents to exercise.

Encouragement
Taking the individual to exercise class and exercising with him or her
Praising the individual for exercising
Making it fun
Building in rewards
Matching the exercise to identifiable outcomes
Getting rid of the unpleasant sensations associated with exercise such as pain, fear of falling or getting hurt, feeling hot and sweaty.
Being a role model for physical activity
Building the "exercise" into routine daily life
Giving individuals exercise buddies

recommended amount of 30 min daily of moderate level physical activity despite all the known physical and psychological benefits to this level of activity. Further when adults do exercise they generally don't work to their full potential. Our focus, therefore, should be on first motivating residents to engage in exercise activities and then increasing the level of what they do to assure it will be beneficial and result in a reduction of falls, prevention of injuries, and improved sense of wellbeing.

Motivation can be done using some simple techniques as shown in Table 1. The encouragement to exercise needs to be consistent and provided by all individuals that interact with the resident. That means direct care staff, housekeeping staff, administrators, social services, activities, family, friends and other residents all need to support engagement in exercise activities. The culture has to change from the definition of helping a resident meaning that you give them a push to the front desk of the building in a wheelchair to encouraging them to walk with you to the front desk, even if the first time it is only a few steps and then they sit back down and self-propel. This may take you a few minutes longer but it won't take you as long as it does to intervene following a fall with regulatory paperwork, telephone calls, and the weeks of pain management the resident may endure.

Let's learn from Dr. Hewitt's study and challenge yourself this week to encourage one resident to engage in a higher level of physical activity than he or she normally does. Check out the www.functionfocusedcare.com webpage for additional Tidbits which provide examples of specific activities you can do with residents to engage them in function and physical activity throughout the day.

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