Thomas W. Buford, PhD, is an assistant professor in the Department of Aging and Geriatric Research at the University of Florida College of Medicine. He is also director of the Health Promotion Center at the University of Florida Institute on Aging. His research focuses on sarcopenia and age-related functional decline, sources of variability in responsiveness to exercise, and methods to enhance the efficacy of exercise on functional outcomes.

ElderBranch interview Dr. Buford to discuss his recently published study, “Optimizing the Benefits of Exercise on Physical Function in Older Adults,” which he wrote with Dr. Stephen Anton, Dr. David Clark, and Dr. Torrance Higgins of the University of Florida and Dr. Matthew Cooke of Australia’s Victoria University.

What led you to conduct a review of alternative strategies incorporating exercise as a means of improving older adults’ physical function? Why is this important?

As the average age of the population continues to increase, the health and well-being of older adults is increasingly capturing the attention of scientists and public health officials. Maintaining one’s ability to
carry out their daily activities is a central aspect of quality of life and is also a key factor in protecting older adults against adverse health events.

To date, physical exercise is the only intervention consistently shown to improve physical function among older persons. However, there is variability in how well older adults respond to exercise – even when adherence is high. Thus, standard exercise interventions may be suboptimal for many individuals. As such, there is a need to improve upon the current standards for exercise prescription.

Please describe your literature review. What were your key findings?

This review was written as a “narrative review,” which means we thematically reviewed the literature to synthesize it in a summary format. We looked at a variety of interventions that include exercise but propose to improve upon standard regimens in some way. These interventions range from pharmacologic interventions such as testosterone supplementation to nutritional interventions such as increasing dietary protein intake.

We also reviewed several interventions that attempt to modify the exercises performed in some way. Overall, several interventions – including angiotensin-converting enzyme inhibitors, dehydroepiandrosterone (DHEA), and creatine monohydrate appear to have potential utility as interventions that support improvements in function as a result of regular exercise.

What are the implications of your findings?

Indeed, several of these interventions appear to hold promise for enhancing the benefits of exercise for at least some older adults. These interventions could allow persons who are “low responders” to exercise to make greater improvements in physical function in response to training.

However, insufficient evidence regarding the efficacy of many of these interventions precludes drawing firm conclusions and making clinical practice recommendations.

What are the next steps to further work in this area?

Future research in this area is needed using well-controlled, larger-scale studies that can make an impact on clinical practice. Such research is critical to the development of clinical practice recommendations, which will have a lasting impact in maintaining the health and independence of the rapidly increasing number of older adults.

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