

The Emergency Department Stopping Elderly Accidents, Deaths, & Injuries Study

Kaley Miller
DeSales University

Follow this and additional works at: <https://scholarlyworks.lvhn.org/research-scholars-posters>

Let us know how access to this document benefits you

Published In/Presented At

Miller, K., (2014, July, 25) *The Emergency Department Stopping Elderly Accidents, Deaths, and Injuries Study*. Poster presented at LVHN Research Scholar Program Poster Session, Lehigh Valley Health Network, Allentown, PA.

This Poster is brought to you for free and open access by LVHN Scholarly Works. It has been accepted for inclusion in LVHN Scholarly Works by an authorized administrator. For more information, please contact LibraryServices@lvhn.org.

The Emergency Department Stopping Elderly Accidents, Deaths, & Injuries Study

Kaley J. Miller

Mentor: Dr. Marna R. Greenberg

Department of Emergency Medicine Research

Lehigh Valley Health Network, Allentown, Pennsylvania

Background

Alarming, falls are one of the leading causes of fatal and nonfatal injuries among older adults.¹ Each year, 1 in 3 adults age 65 and older falls.² 20% to 30% of people who fall suffer moderate to severe injuries, including lacerations, hip fractures, and head traumas.³ These injuries make it extremely difficult for the aging to live independently and can increase risk of premature death. In 2011, 2.4 million nonfatal fall injuries among older adults were treated in emergency departments, and more than 689,000 of these patients were hospitalized.¹ Furthermore, it has been reported that falls account for 10% of all emergency department visits.⁴ Additionally, gender has been found to have a clear impact on fall risk. Men are more likely to die from a fall; however, women have been found to be 58% more likely than men to suffer a nonfatal fall injury.¹

Goals

- To determine if a bedside decision aid used in the ED for mechanical fall prevention can increase patient participation in management options that decrease their fall risk
- To determine if there are gender differences in patient choices of fall prevention management options chosen using the bedside decision aid
- To determine if there are gender differences in accomplished goals inspired by the decision tool

Hypotheses

- The use of a bedside decision aid for fall prevention will increase patient participation in management options that decrease their fall risk.
- Men and women will select different management options listed on the decision aid.
- Men and women will accomplish different goals by using the decision aid.

References

- Web-Based Injury Statistics Query and Reporting System. (2014a, July 10). *Centers for Disease Control and Prevention*. Retrieved July 13, 2014, from <http://www.cdc.gov/injury/wisqars>
- Tinetti, M. (2003). Preventing Falls in Elderly Persons. *New England Journal of Medicine*, 348(18), 42-48.
- Sterling, D. A., O'Connor, J. A., & Bonadies, J. (2001). Geriatric Falls: Injury Severity Is High and Disproportionate to Mechanism. *The Journal of Trauma: Injury, Infection, and Critical Care*, 50(1), 116-119.
- Owens, P. L., Russo, A., Spector, W., & Mutter, R. (2009, October 1). Emergency Department Visits for Injurious Falls among the Elderly, 2006. *Healthcare Cost and Utilization Project*. Retrieved July 13, 2014, from <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb80.pdf>
- STEADI (Stopping Elderly Accidents, Deaths & Injuries) Tool Kit for Health Care Providers. (2014b, February 19). *Centers for Disease Control and Prevention*. Retrieved July 13, 2014, from http://www.cdc.gov/homeandrecreationsafety/Falls/steadi/index.html?s_cid=tw_injdir154

Acknowledgements

The research scholar would like to thank Dr. Marna R. Greenberg, Bernadette Porter, Dr. Anita Kurt, Lauren Semler, the Department of Emergency Medicine Research, and the Lehigh Valley Hospital Cedar Crest Emergency Department.

Data & Results

Inclusion Criteria	
65 years of age or older	
Discharged home from the ED	
Able to speak English	
Competent and able to give consent	
Has a mechanical fall risk defined by one of the following:	
Reports to having fallen in the last year	
Reports worrying about falling	
Admits they feel unsteady when standing or walking	

Table 1. Inclusion Criteria. This table presents the inclusion criteria for enrolling patients in the ED-STEADI study.

Enrollment Distribution		
Total Screened	120	
Screened Who Did Not Enroll	113	94.2%
Enrolled	7	5.8%

Table 2. Enrollment Distribution. This table presents the number and percentages of those who declined or were ineligible to enroll and of those who enrolled in the ED-STEADI study.

Gender Distribution		
Total Screened (n=120)		
Male	51	42.5%
Female	69	57.5%
Enrolled (n=7)		
Male	5	71.4%
Female	2	28.6%

Table 3. Gender Distribution. This table presents the relative percentages of males and females for both total patients screened and those who enrolled in the ED-STEADI study.

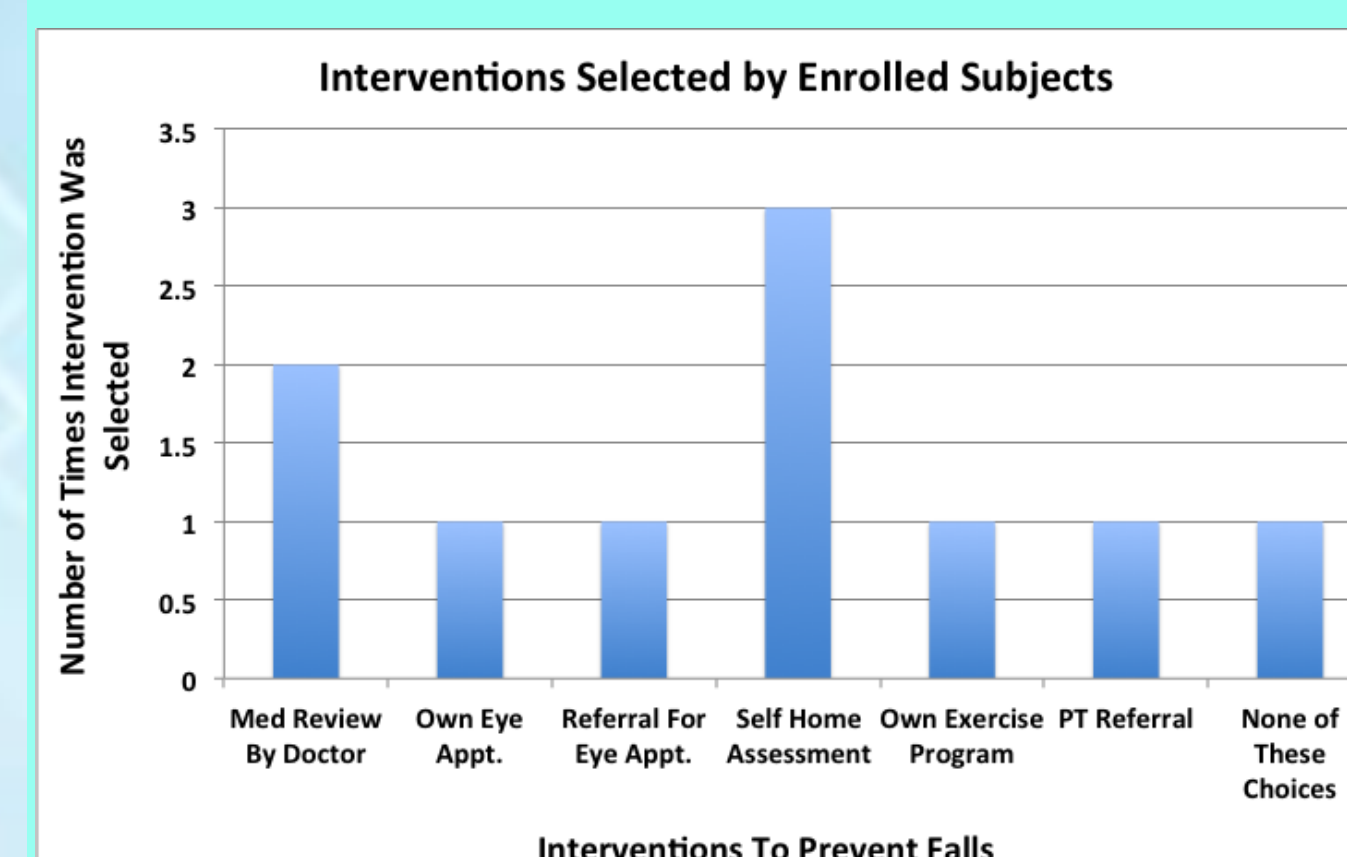


Figure 1. Interventions Selected by Enrolled Subjects. This figure refers to the frequency of interventions for fall prevention selected by the 5 patients in the intervention study arm when using the bedside decision aid. Note: none of the 5 subjects enrolled in the intervention arm selected to have his/her medication reviewed by a hospital pharmacist, to receive a referral for occupational therapy, or to have the ED decide which interventions to select. (n=5)

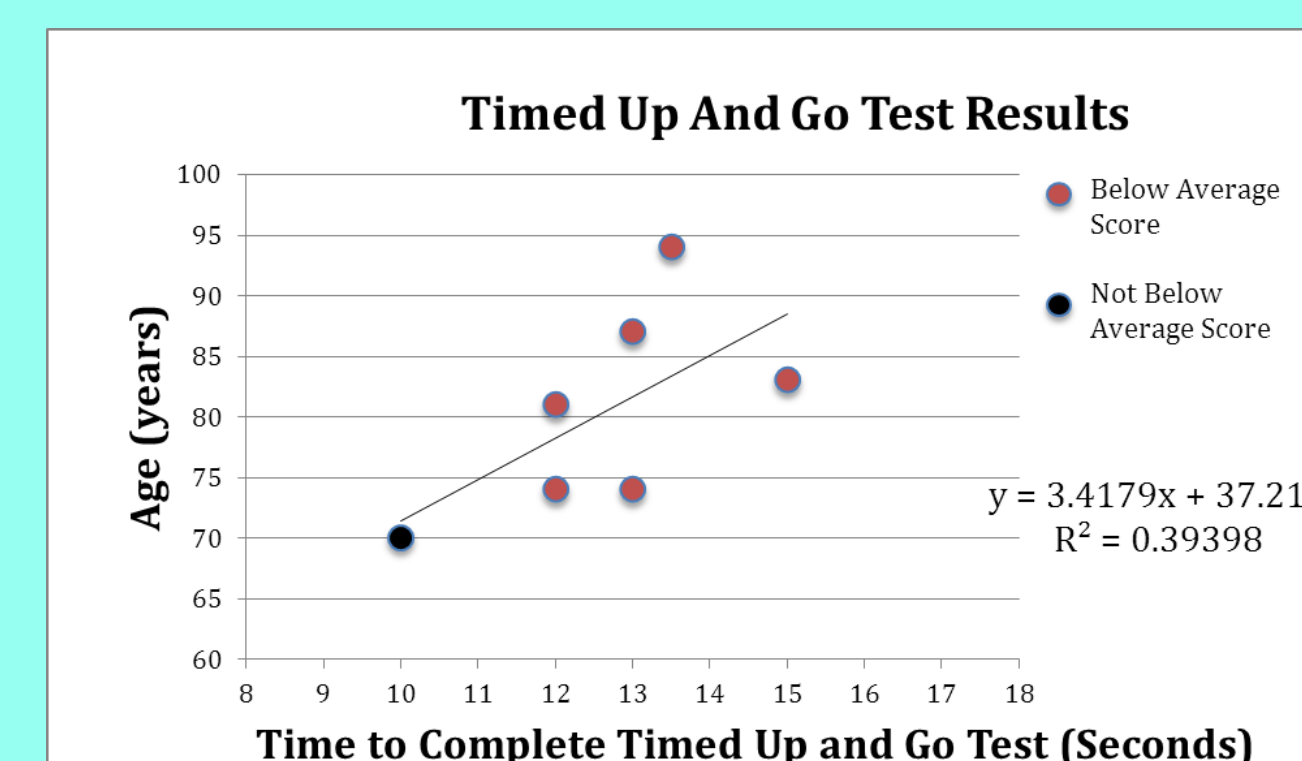


Figure 3. Timed Up And Go Test Results. This figure refers to the time in seconds that it took for the 7 patients enrolled in the ED-STEADI study to complete the Timed Up and Go Test. An older patient who takes 12 or more seconds to complete the TUG test is at high risk for falling and is represented as a red data point on the graph.⁵ (n=7)

Primary Reasons Patients Did Not Enroll By Age Group	
Ages 65-69	
Intense Pain	
Not A Fall Risk	
Ages 70-74	
Not A Fall Risk	
Ages 75-79	
Admitted	
Mobility Restricting Health Issues	
Intense Pain	
Not A Fall Risk	
Ages 80-84	
Admitted	
Ages 85-89	
Mobility Restricting Health Issues	
Not Interested	
Memory/Psych Issues	
Ages 90-94	
Admitted	
Ages 95-99	
Memory/Psych Issues	
Doctor Did Not Consent	

Table 4. Primary Reasons Patients Did Not Enroll By Age Group. This table presents the most common reason(s) that individuals declined or were ineligible to enroll in the study, categorized by age group. (n=113)

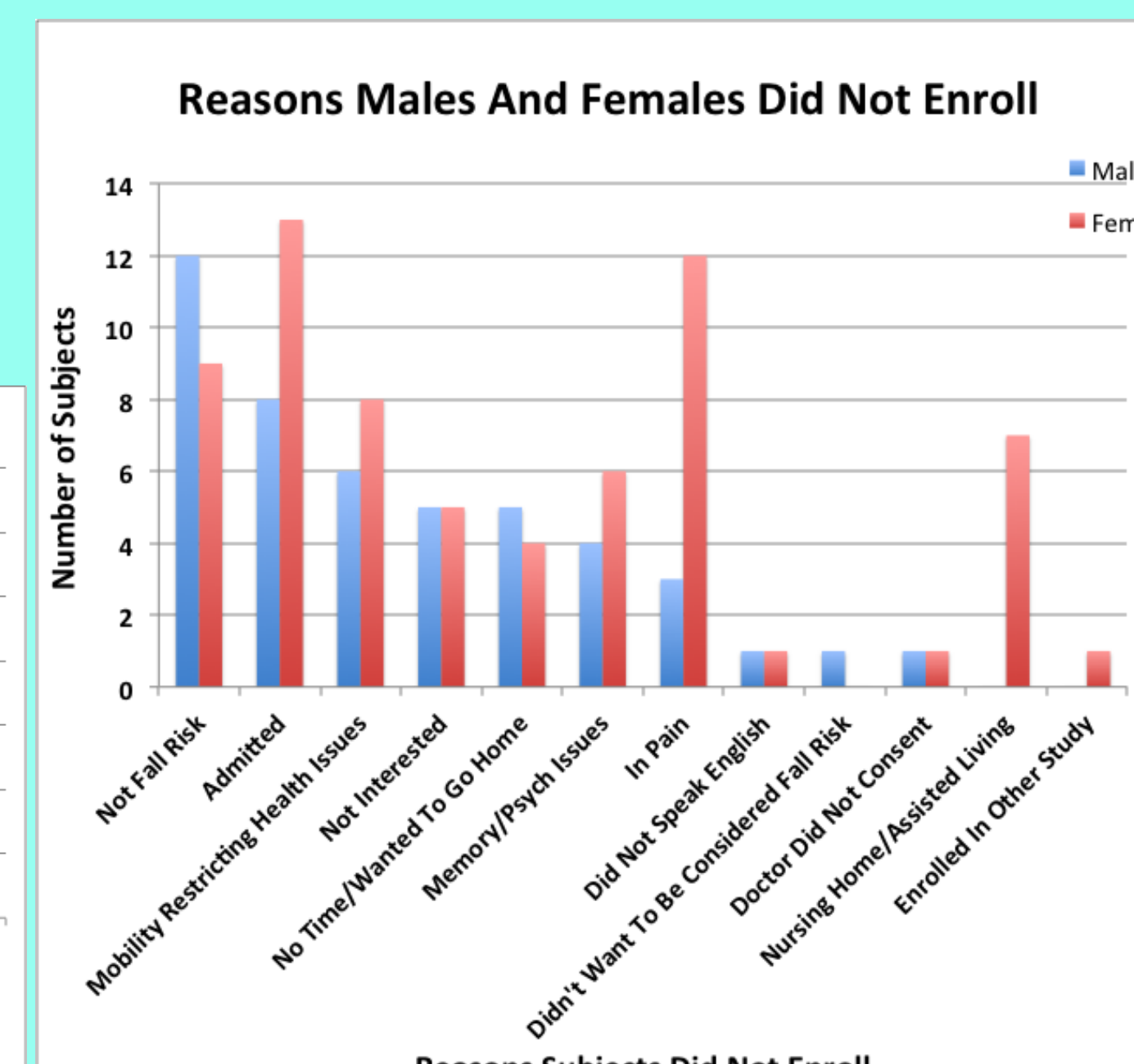


Figure 2. Reasons Males And Females Did Not Enroll. This figure refers to the specific numbers of males and females who declined or were ineligible to enroll in the ED-STEADI study. (n=113)

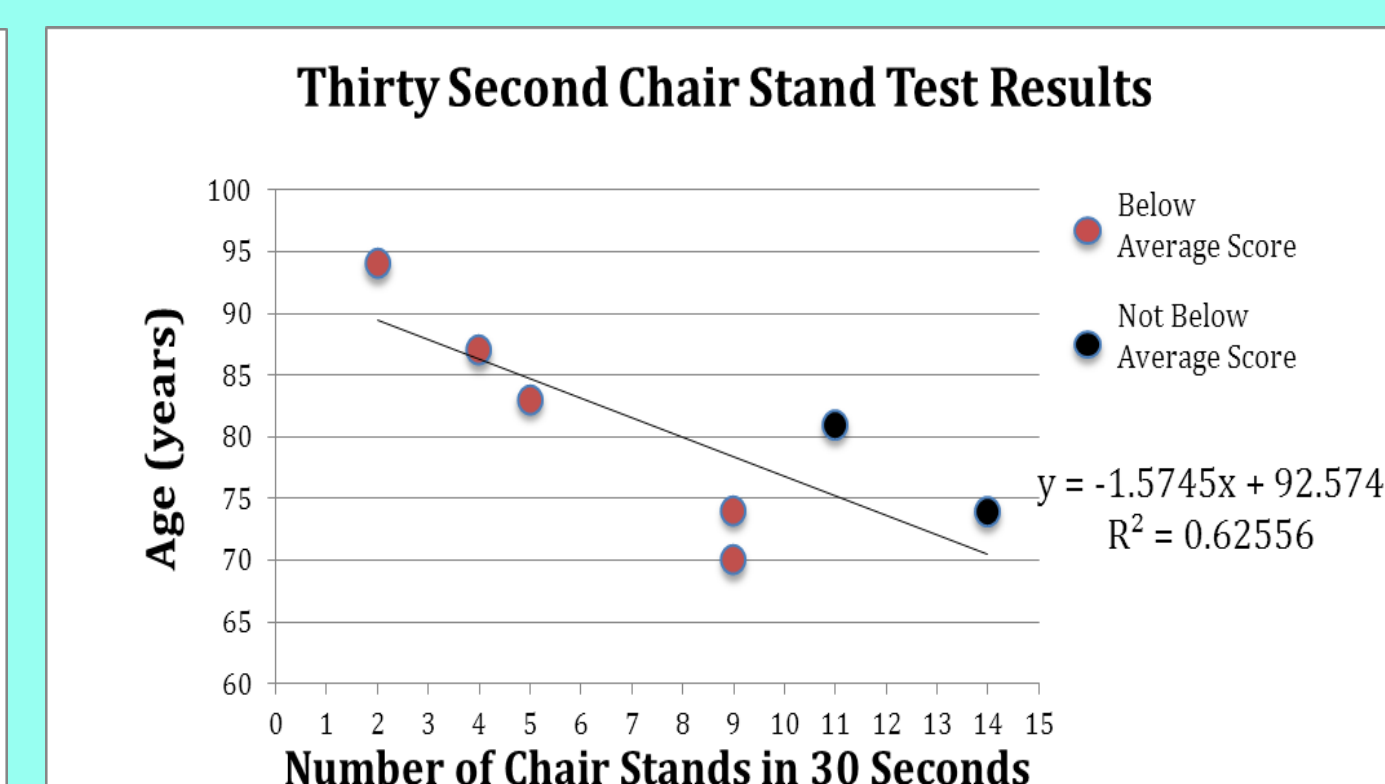


Figure 4. Thirty Second Chair Stand Test Results. This figure refers to the number of chair stands completed in 30 seconds by the 7 patients enrolled in the ED-STEADI study during the 30 Second Chair Stand Test. A below average score indicates a high risk for falling and is represented as a red data point on the graph.⁵ (n=7)

Methods

Eligible patients were approached by a member of the research team, and interested patients were consented and randomly assigned to either control or intervention study arms. All subjects in both the control and intervention arms took an initial survey and performed the Timed Up and Go (TUG) Test and the 30 Second Chair Stand Test. Those in the control arm were then given the brochure "What YOU Can Do To Prevent Falls."⁵ Those in the intervention arm instead completed a bedside decision aid worksheet and selected fall prevention management options most valuable to them. Both arms will have follow-up phone calls at 6 weeks, 3 months, 6 months, 9 months, and 12 months after discharge to collect self-reported data about goal completion and fall history. Logistic regression models will be used to determine if use of the bedside decision aid for fall prevention increased patient participation in management options that decreased their fall risk, to determine if men and women selected different fall prevention management options listed on the decision aid, and to determine if men and women actually participated in different management options.

Discussion & Conclusion

Between 6/4/2014 and 7/10/2014, 120 people were screened at the Lehigh Valley Hospital Cedar Crest Emergency Department, and 7 of these 120 screened patients (5.8%) enrolled. 78.4% of those enrolled were male, while only 28.6% were female. The high rate of male enrollment, in contrast to the considerably higher number of women screened, may have been due to the fact that men were less likely to be admitted, have health or mobility issues, have memory or psychological problems, or be in intense pain as compared to women.

As evident by the trends seen in the primary reasons that people did not enroll for each age group, many of those ages 65-74 may have decided against enrollment because they did not yet view themselves as a fall risk, while those age 75 and older may have declined or been ineligible to enroll due to more serious medical issues that they suffered from. Interestingly, a notably higher number of males did not enroll because they stated they were not fall risks, while a significantly higher number of females did not enroll because they were in intense pain or eventually admitted.

Overall, the two most common interventions chosen to prevent falls using the bedside decision aid included the utilization of a checklist which provided patients with the information necessary to make their homes safer on their own, followed by medication review by the patients' own doctors. The home modification checklist may have been selected most often because it allowed patients to easily make their homes safer at their own convenience without needing to find a ride to an appointment or being charged a copay, and was an easier goal to achieve than doing an exercise program or working with a physical therapist, especially for those who had limited mobility or already had a fear of falling. Others may have preferred to have their medications reviewed by their own doctor because an established relationship already existed between the patients and their doctors, and the patients may believe that their own doctors may better be able to review their medications, as these physicians best know the patients' medical history.

The coefficients of determination for the TUG Test and 30 Second Chair Stand Test were 0.39 and 0.63 respectively; however, only 7 patients were enrolled, and thus graphically represented. As anticipated, the time to complete the TUG test increased as age increased, and the number of chair stands performed in 30 seconds during the 30 Second Chair Stand Test decreased with age.