21st Century Falls Prevention- FallsTalk Behavioral Intervention & FallScape Multimedia Intervention

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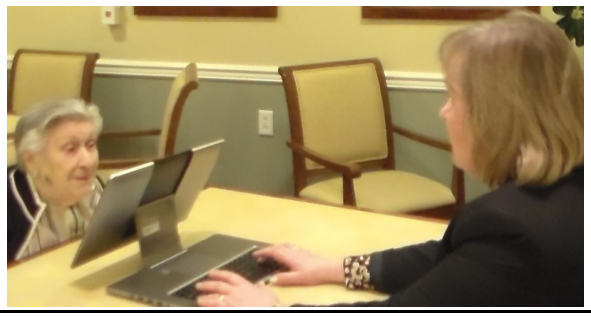
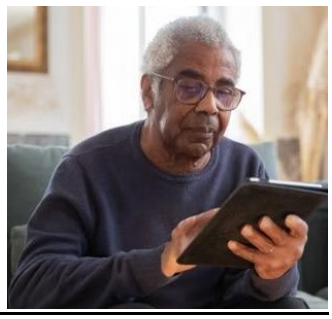
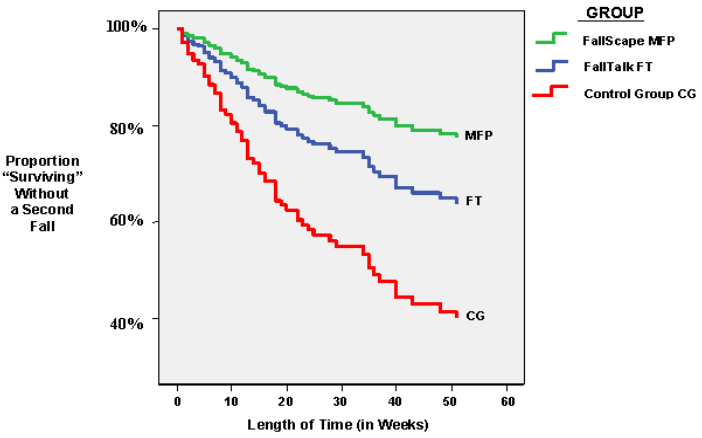
Falls are the leading cause of hospital admissions, disability and injury deaths in older adults. Both FallsTalk and the FallScape Multimedia Falls Prevention (MFP) interventions are designed to address the needs of seniors ranging from active community dwellers to individuals with dementia. The FallScape System includes easy-to-administer, portable interventions, tailored to suit each individual's needs. Our goal is to maximize seniors' functional independence, wherever they reside, encouraging proactive falls prevention measures using customized evaluation and personalized intervention.





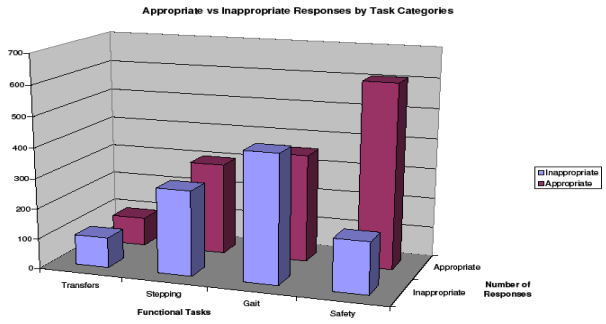


The FallScape System has been tested in over 400 seniors aged from 62- 98. The first implementation of FallScape was used in research conducted in Senior Centers in 5 counties in 2 states. Based on Situated Cognition theory from the Educational Psychology domain, extensive research with at-risk seniors clearly demonstrated that these unique behavioral interventions (with and without multimedia) help individual's to recognize the personal circumstances that may cause them to fall[1] (fall threats), result in increased falls prevention behaviors[2] and actually prevent falls[3]. In a randomized-controlled trial, improved fall threat recognition was seen within one month, falls were significantly reduced in 3 months compared to a control group ($p<.001$); and by 6 months, those who had MFP training (FallScape- MFP green) were even significantly less likely to fall compared to those who had the behavioral intervention without multimedia (FallsTalk- FT blue). One year later both groups (MFP and FT) 'survived' without a second fall ($p<.0001$) compared to the control group (CG-red), though the influence of the multimedia FallScape training was still highly significant.



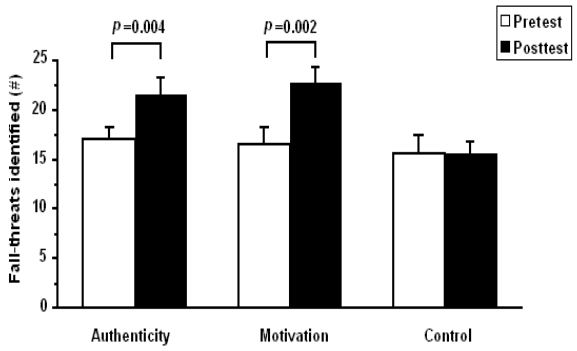
Among individuals who participated at least 12 weeks (n=171), those who had Multimedia Fall Prevention (MFP, n=110) survived longer without a second fall during the follow-up period compared to the FallsTalk group (FT, n= 61, the behavioral intervention without multimedia training, p=0.016). Mobility study controls (CG, n=41) experienced a second fall significantly sooner than either of the other two groups (p < .0001).

Falls are a key quality indicator in every clinical setting (e.g. Medicare PQRS, Oasis-C). FallScape has also been tested in various clinical settings to support functionally-based evaluation and care planning. The FallsTalk software produces customized Client materials that can be used for patient education, improving motivation and compliance. The FallScape multimedia evaluation was utilized in subacute care for outcomes measurement and objectively documented patient safety awareness for goal setting, treatment planning and assessment of discharge readiness from short term rehabilitation[4].

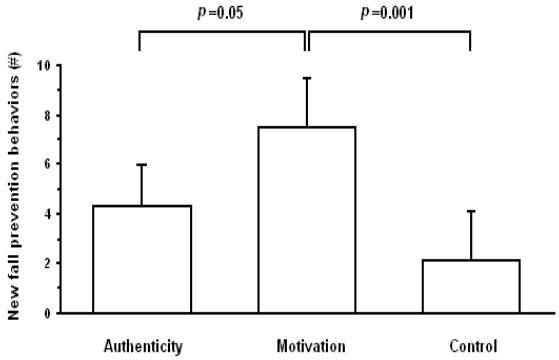


Functional tasks with the highest proportion of inappropriate responses as observed in a consecutive group of patients (n= 195) entering SubAcute care. Tasks (examples) were: Gait (walking) in the home and driveway; Stepping (stairs in the home) and Transfers (in/out of the car). These results suggest that a FallScape multimedia evaluation can be used to assess SubAcute patient's readiness to return to the community setting, in turn facilitating care and discharge planning.

The FallScape System has been used in diverse community settings. Research with residents of an Assisted Living Facility identified that as many as 41% were at-risk for falls by PQRS criteria, but as few as 26% were actually receiving assisted living care services[5]. In another study[6], active community dwellers recruited from area senior centers received FallScape multimedia training that was customized using educational tailoring that emphasized either authenticity or motivation and compared to a control group who received only a FallsTalk interview (no multimedia). Both MFP groups recognized significantly more fall threats in novel situations than the Control group[a], but the Motivation group (self-selected relevance) subsequently reported significantly more new falls prevention behaviors[b].



a- Pretest and posttest fall threats knowledge for three treatment groups. Authenticity and Motivation groups, but not Control show significant increases compared to pretest.



b- Number of new falls prevention behaviors for three treatment groups. The Motivation group reported significantly more new behaviors than the Authenticity or Control groups, which did not significantly differ.

FallScape has also been tested with individuals diagnosed with mild to moderate dementia[7]. Participants enjoyed the multimedia training, which was divided into three or four <15 minute sessions. Three weeks later, they were able to recognize the relevant fall threats in completely novel situations. Individualization begins with a FallsTalk interview, which can incorporate functional and clinical parameters. Clinical software modules offer assessment, documentation and plain language patient reports. The FallScape evaluation offers safety assessment tools and an extraordinary intervention approach that has been developed and tested to accommodate even those patients with significant dementia.

FallsTalk and FallScape interventions are recognized by the **Adminstration on Aging, Adminstration for Community Living** as meeting the highest tier of Evidence-Based Community Health Promotion/Disease Prevention programs. The FallScape System was been developed and tested with support from the National Institute on Aging starting in 2004, it has won awards from the American Geriatrics Society, American Physical Therapy and American Occupational Therapy Associations. The interventions function independently in a community or non-clinical setting, or they can be used to complement medical or rehabilitation interventions. Changes to behavior and recognition of fall threats have always been difficult to achieve. Structural Equation Modeling[8] shows that the key long-term outcome of preventing falls is realized through prevention behaviors, as well as fall threat recognition. This completely new intervention approach encourages each individual to understand their personal and unique fall threats, enabling them in the moment, to identify aspects of their actions or environment that could cause a fall. Finally, the significant research evidence shows that both FallsTalk and FallScape participants do undertake new falls prevention behaviors, resulting in successful long-term outcomes.

References

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