

# Examination of *Free from Falls*: A National MS Society Comprehensive Fall Prevention Program

# FREE FROM FALLS

A COMPREHENSIVE FALL PREVENTION PROGRAM FOR PEOPLE WITH MS

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## Abstract

*Free From Falls* (FFF) is one of the few MS-specific comprehensive fall-prevention programs being offered across the country for ambulatory persons with MS. *Free From Falls* participants showed significant improvement in balance, gait and psychological impact of falls at post program. Impact was sustained at 6-months post as analyses revealed significant improvement in confidence, decrease in activity curtailment due to fear of falling, and implementation of strategies learned. Overall, results provide evidence of program success in physiological, psychological and satisfaction outcomes with qualitative feedback of gaining benefit from group support.

## Background

➤ Fall-induced injuries have commonly been recognized as a serious health concern in older adults, however also at risk are individuals diagnosed with a chronic illness such as Multiple Sclerosis (MS).

➤ Fall incidence for Persons with MS (range from 50 - 64% in the past year (e.g., Cattaneo et al., 2002) with injuries being associated with loss of independence and increased use of health care services. Individuals who have suffered a fall report increased risk of future falling, loss of confidence, social isolation and significant curtailment of activities (Finlayson et al., 2010).

➤ With over 2 million individuals affected by MS world-wide and fall rates ranging from 50 - 64% in the past year (e.g., Cattaneo et al., 2002) programs should be tailored to this at-risk group.

➤ In 2011, the National MS Society developed the *Free From Falls* (FFF) curriculum. This eight week program was developed with guidance from CDC program materials and adapted from the *OASIS Free From Falls* program.

### Free From Falls Goals:

- Increase awareness of prevalence of falls and factors that may contribute to falls
- Identify strategies to prevent falls & develop a fall prevention action plan
- Engage in and develop a fitness plan aimed at reducing fall risk
- Increase fall prevention & management confidence
- Identify additional community resources related to fall prevention



*"That was the best class ever! I had fallen 3 times before the class and I haven't fallen since taking the class more than a year ago. I do the exercises every day and it makes a difference."*  
FFF Participant

## Method

### ➤ Pilot Study

- Pre, post & 6-month data assessment
- The comprehensive curriculum addresses medical (e.g., MS symptoms), behavioral (e.g., fear of falling) and environmental (e.g., home and office hazards) factors by including fitness and learning/awareness components. Conducted in a group setting with one-on-one assessments with a physical therapist, or other health care professional.
- Post Assessments: Activities-specific and Balance Confidence scale (Powell & Myers, 1995); Berg Balance Scale (Berg et al., 1989); 8-Foot Timed Up and Go test (Podsiadlo & Richardson, 1991); Confidence Regarding Falls (developed by NMSS); satisfaction & qualitative feedback
- 6-month Assessments: Self-reported participation in physical activity, number of falls, fall concern & activity curtailment, strategies used, confidence regarding falls, qualitative feedback

### ➤ Procedure

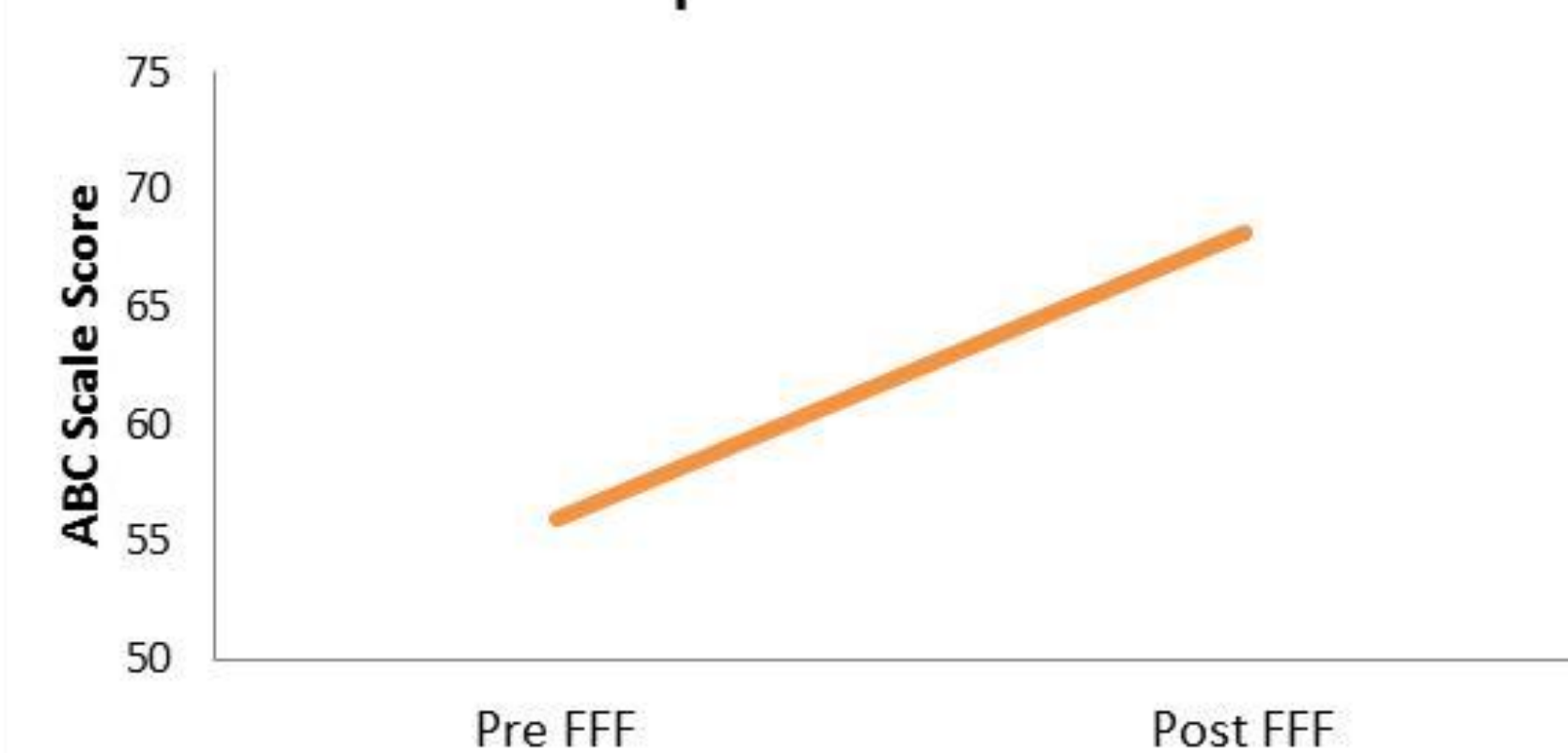
The National MS Society developed the *Free from Falls* (FFF) curriculum--an 8-week, 2-hours/week program for ambulatory people with MS (adapted from CDC guidelines & *OASIS Free From Falls* program). Society chapters piloted the program at over 20 sites across the US. Informed consent was required for program completion. Data consist of 143 and 115 participants surveyed at post program and at 6-months, respectively.

Free From Falls Demographics
57% 55 + years of age; 77% Women
76% fell at least once in the past year
69% fell at least once in the past 6 months
99% are concerned about falling
71% have stopped doing things they like to do due to fear of falling

## Results

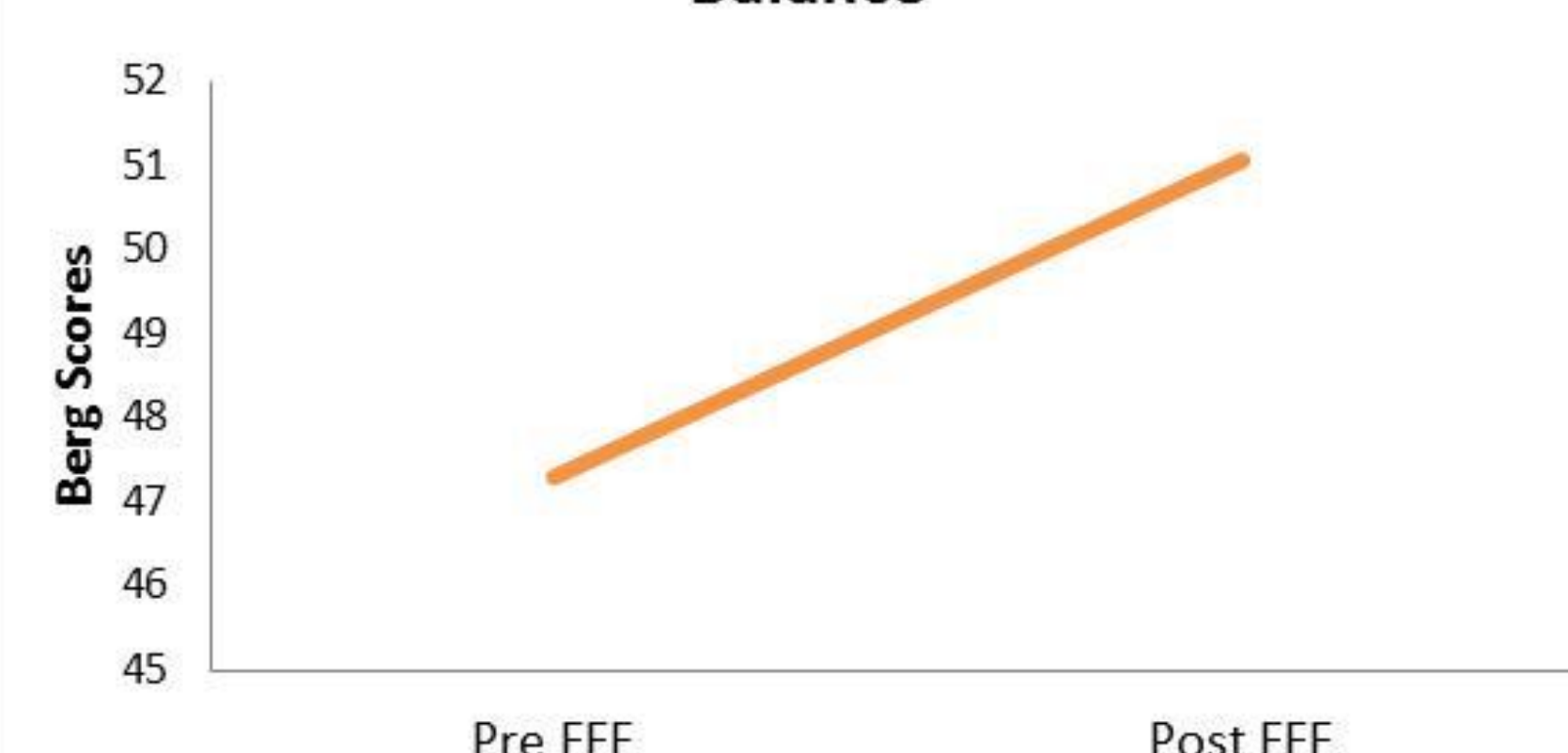
**Post Outcomes:** Repeated Measures ANOVA's were run on pre- and post responses

**Fig 1: Improvement in Psychological Impact of Falls**



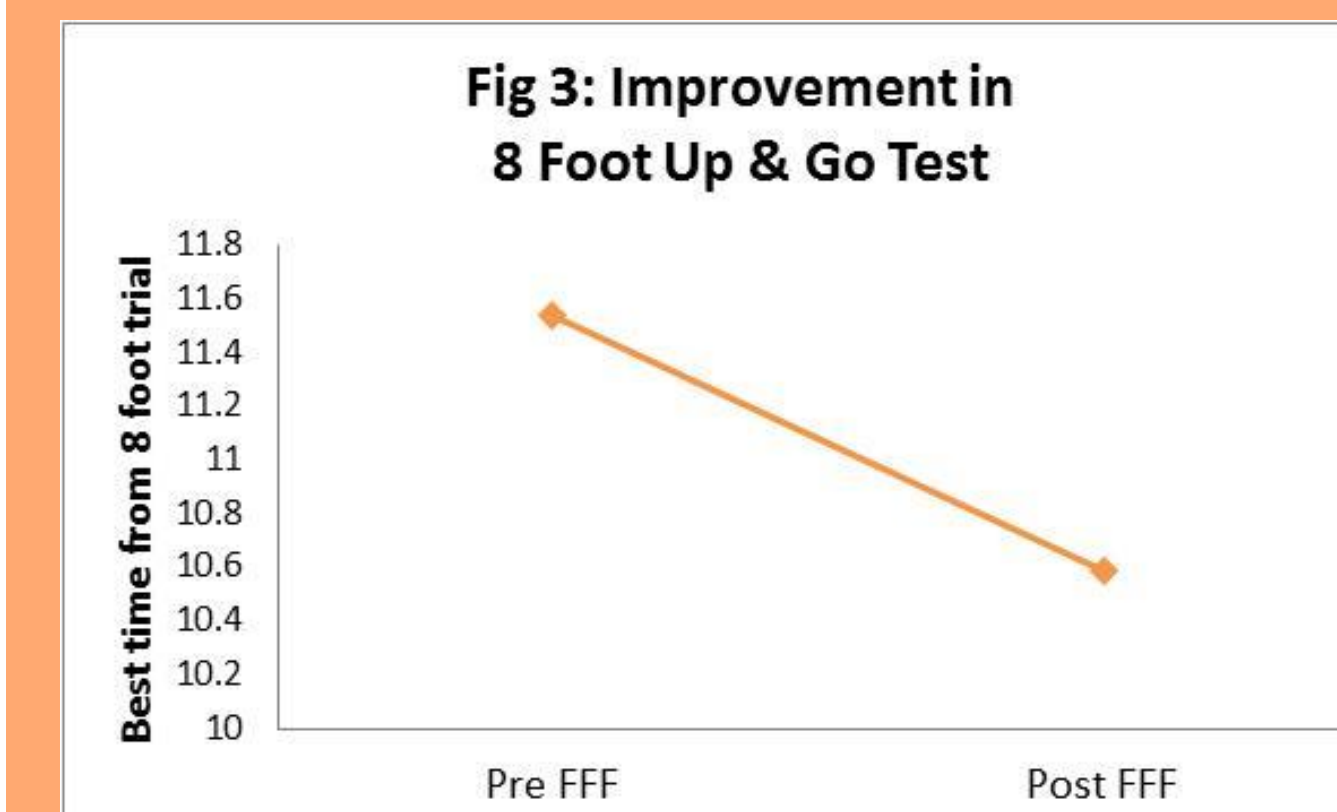
- Significant increase in Activities-specific and Balance Confidence scale
- $F(1,77) = 59.71, p < .05, \text{Eta}^2 = .44$
- Increase from pre (M = 55.96; SD = 19.66) to post (M = 68.14; SD = 17.09) FFF

**Fig 2: Improvement in Participants Balance**



- Significant increase in Berg Balance scale
- $F(1,76) = 64.86, p < .05, \text{Eta}^2 = .46$
- Increase from pre (M = 47.30; SD = 7.30) to post (M = 51.06; SD = 5.29) FFF

### Post Outcomes (cont...):



- Significant improvement in 8-Foot Timed Up and Go test measuring gait ability
- $F(1,89) = 12.45, p < .05, \text{Eta}^2 = .12$
- Improvement from pre (M = 11.54; SD = 5.72) to post (M = 10.59; SD = 5.27) FFF

### Additional post findings:

- 88 - 100% of participants reported finding value and usability in FFF topics such as managing energy, staying safe at home, building better balance, and recovering safely from a fall

### 6-month Outcomes:

- Significant improvement in confidence regarding falls compared to pre-program ( $p < .05$ ; t-test)
- Significant decrease in concern about falling compared to pre-program ( $p < .05$ ; chi square)
- Significant change in activity curtailment ( $p < .05$ ; chi square)
  - 33% decrease in reporting of activity curtailment due to fear of falling
- Decrease in Falls: 12% increase in reporting of zero falls in previous 6 months
- 91% are more conscious of hazards & environmental risks
- 65% are engaged in regular exercise program
- 44% made modifications to their homes
- 39% are using mobility device more regularly/effectively

## Conclusions

➤ Results demonstrated strong evidence of program success and sustained outcomes. Specifically, improvements in gait ability, balance and confidence were found from pre- to post-program.

➤ Although causal interpretation is not possible due to lack of a control group, impressive is the lasting outcomes found as 6-month surveys showed continued improvements in confidence and behavioral fall prevention changes. In addition participants reported gaining value and use of strategies learned.

➤ One-on-one attention and length of programing allowing for relationship building is believed to contribute to success. Also, proper instruction of mobility devices may be vital for improvements in physiological outcomes as people with MS who use a walking aid are at higher risk of falling (Cattaneo et al., 2002).

➤ Complete elimination of falls is unrealistic, however by achieving the objectives of the FFF program participants received significant improvements in fall-related outcomes with impacts on their physical and mental health.

*"Because of FFF, I am learning how to strengthen my core which as helped me to avoid two to three falls; I couldn't be more pleased with the program!"*  
FFF Participant