

An investigation of falls in people with Multiple Sclerosis

Gunn, Marsden, Haas, Freeman
School Health Professions, Plymouth
University, UK

Falls in MS

- Incidence of falls ranges from 52 to 63%
- A significant number of individuals experience multiple falls
- Fear of falling (63.5%) and associated activity curtailment (82.6%) is common

(Peterson 2007, Cattaneo 2002, Nilsagard 2007)

Risk factors for falls in MS: existing literature

Self
report

Phone
Postal



Objective
Measure

e.g. Berg
Timed up and go

(Finlayson 2006 , Peterson 2007,
Cattaneo 2002, Nilsagard 2007)

Gunn et al RIMS 2012

**RESEARCH
WITH
PLYMOUTH
UNIVERSITY**

Risk factors for falls in MS: existing literature

General risk factors

- “balance and walking”
- “use of a walking aid”
- Impacted on by multiple impairments
- Targeting interventions challenging
- Do specific impairments ↑ risk?
- Inform future interventions?

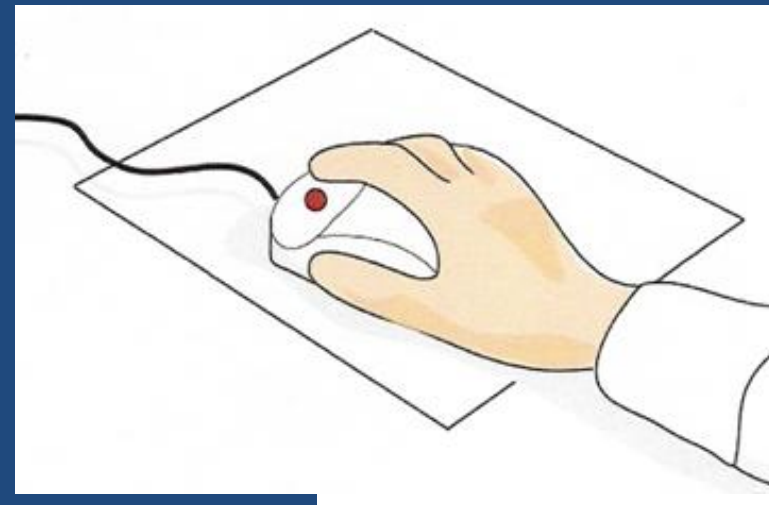
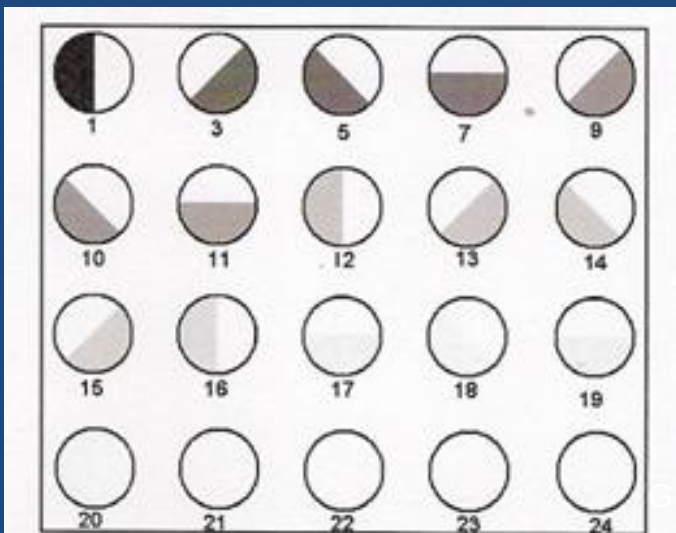
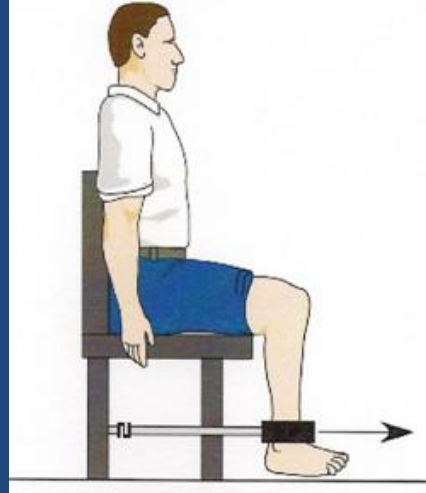
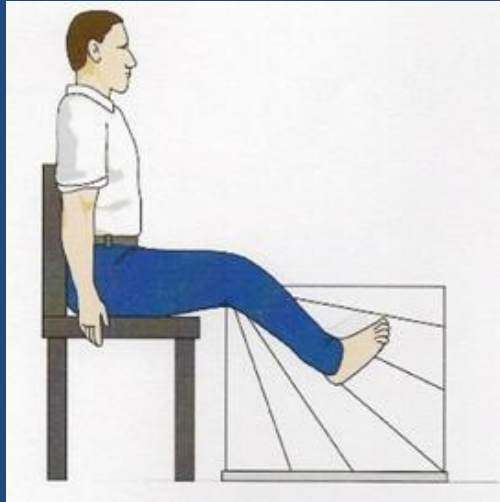
Methodology

- Quantitative cross-sectional
- Sample size =150
- Ambulant individuals (EDSS 3.5-7.0)
- Objective assessment
- Prospective falls diary 3 months

Outcome Measures

- Demographics
- Lying/ Standing Blood Pressure
- Dual Task 10m walk (serial 7 subtractions)
- Falls Efficacy Score (International)
- Ashworth Scale
- Short Form Physiological Profile Assessment (PPA)*
- Brief Ataxia Rating Scale (BARS)
- Symbol Digit Modalities Test
- Static/ Dynamic Visual Acuity

Physiological Profile Assessment



Progress and preliminary results

- 151 participants recruited
- 147 tested to date
- 29 testing venues
- 93 participants completed 3 months diary return
- 3 no diary returns- excluded from analysis
- Falls diary return rate (completed) 84.7%

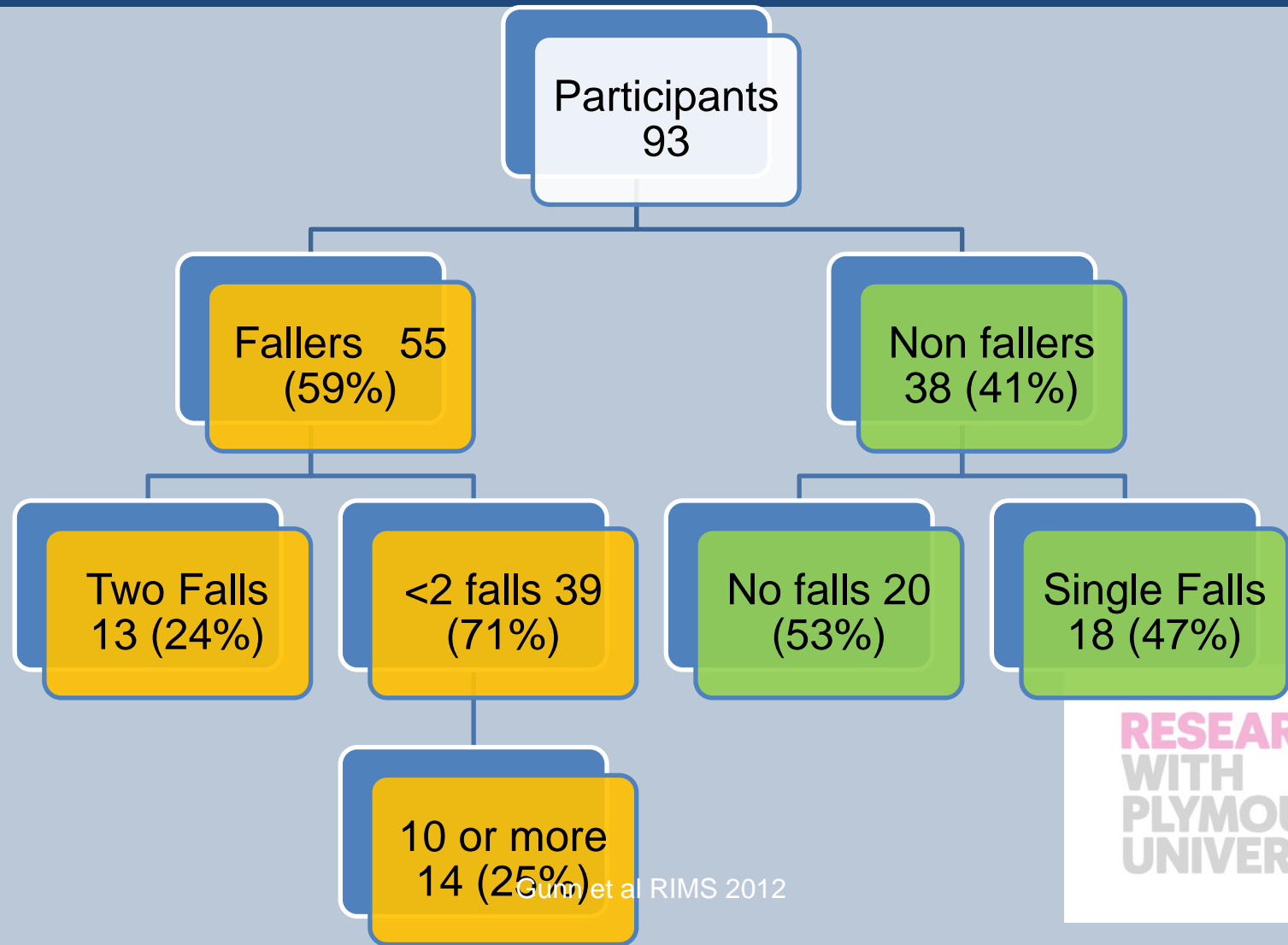
Participant Characteristics (n=93)

Sample representative of ambulant individuals:

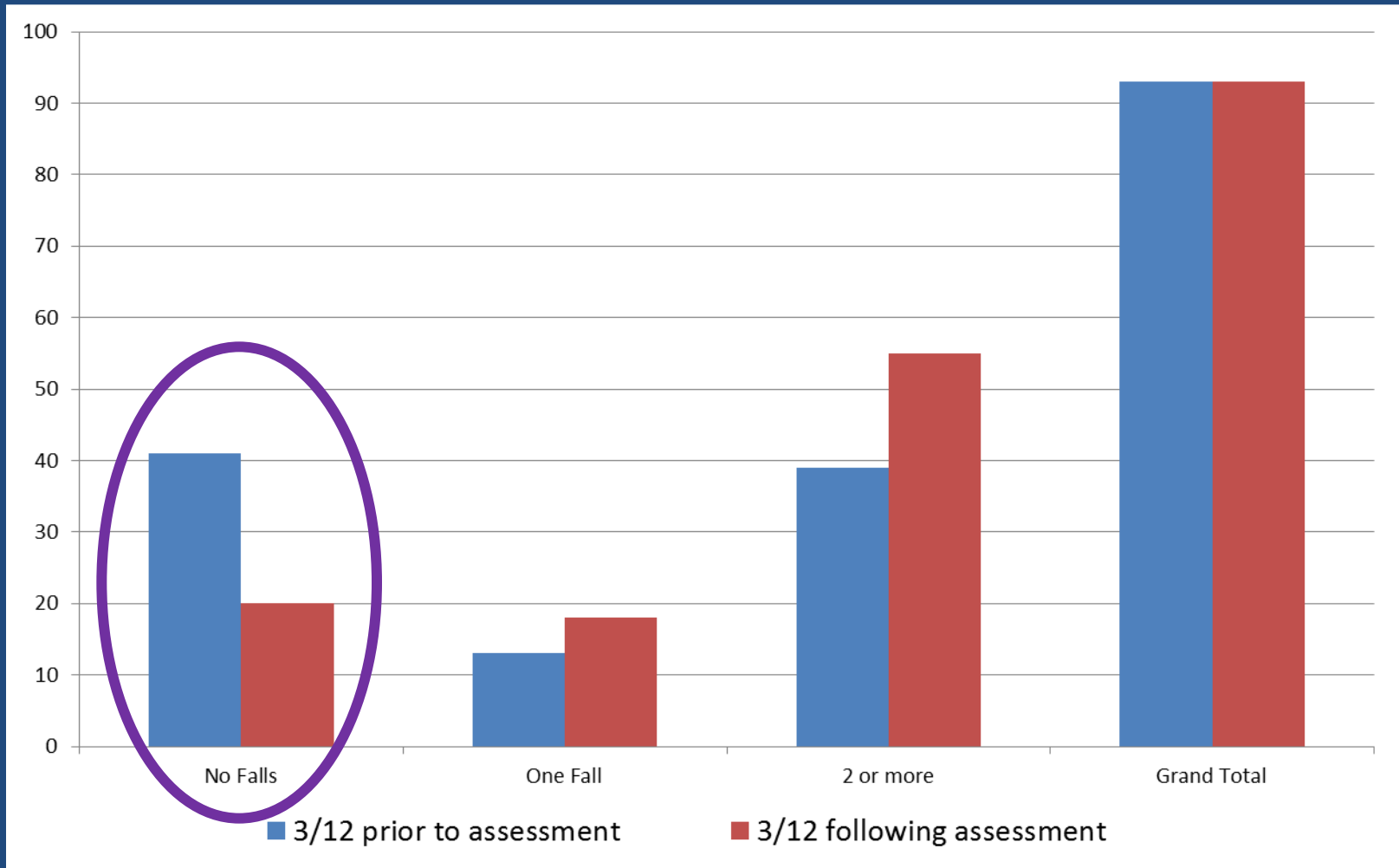
- EDSS range: 3.5 – 6.5
- MS sub-types:
 - Primary Progressive 28%
 - Secondary Progressive 45%
 - Relapse Remitting 26%
- F:M ratio: 3.1

Falls Rates, completed participants

N=93 (%)



Comparison of prospective and retrospective falls reports



MS Status

Current MS Status	OR (95% CI)
Deteriorating	0.91 (0.39-2.10)
Static	0.78 (0.29-2.05)
Variable	1.46 (0.45- 4.69)
Improving	2.11 (0.084-5.34)

Mobility Characteristics

	Odds Ratio (95% CI)
Walking Aid Use:	0.90 (0.34-2.41)
Wheelchair Use:	0.72 (0.24-1.77)
Orthotic Use:	0.74 (0.27-2.01)

Summary

- Good rate of participation and diary returns
- High rates of falls, especially multiple falls
- Discrepancy between prospective and retrospective reporting of falls.
- Complete data September 2012

Thank you for listening

Acknowledgements

- Project funded by Chartered Society of Physiotherapy, Physiotherapy Research Foundation
- Research Team, South West Impact of MS (SWIMS) Project