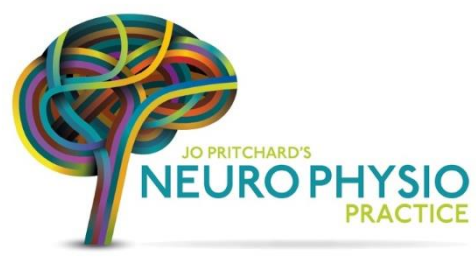


# An Assessment of Physiotherapy-led Neurological Rehabilitation Pilates Classes in the Community Setting



Joanne Pritchard BSc (Hons), MSc, MCSP, HCPC reg.  
Neurological Physiotherapist & Certified APPI Pilates Instructor



## Background

- **Our Neurological Rehabilitation Pilates classes:**
- Were initially set-up at the request of the Retford District MS Society Support Group, and to support the local community in the rural town of Retford, North Nottinghamshire.
- Cater primarily for Multiple Sclerosis, but also accept clients with other Neurological conditions, including but not limited to Parkinson's Disease, Stroke, Motor Neurone Disease and Peripheral Neuropathy.
- Have no strict inclusion / exclusion criteria as we aim to make our classes accessible to all in the community regardless of disability.
- Were not started with the intention of using data for a research project, therefore many limitations and variabilities will be evident in this report.
- In 2017, funding was received from the Retford Rotary Club to reassess each class member.

## Objectives

- To re-assess current members of our Neurological Rehabilitation Pilates class to determine:
  - The benefit of our classes for each individual.
  - The effectiveness of the service as a whole for the local community.



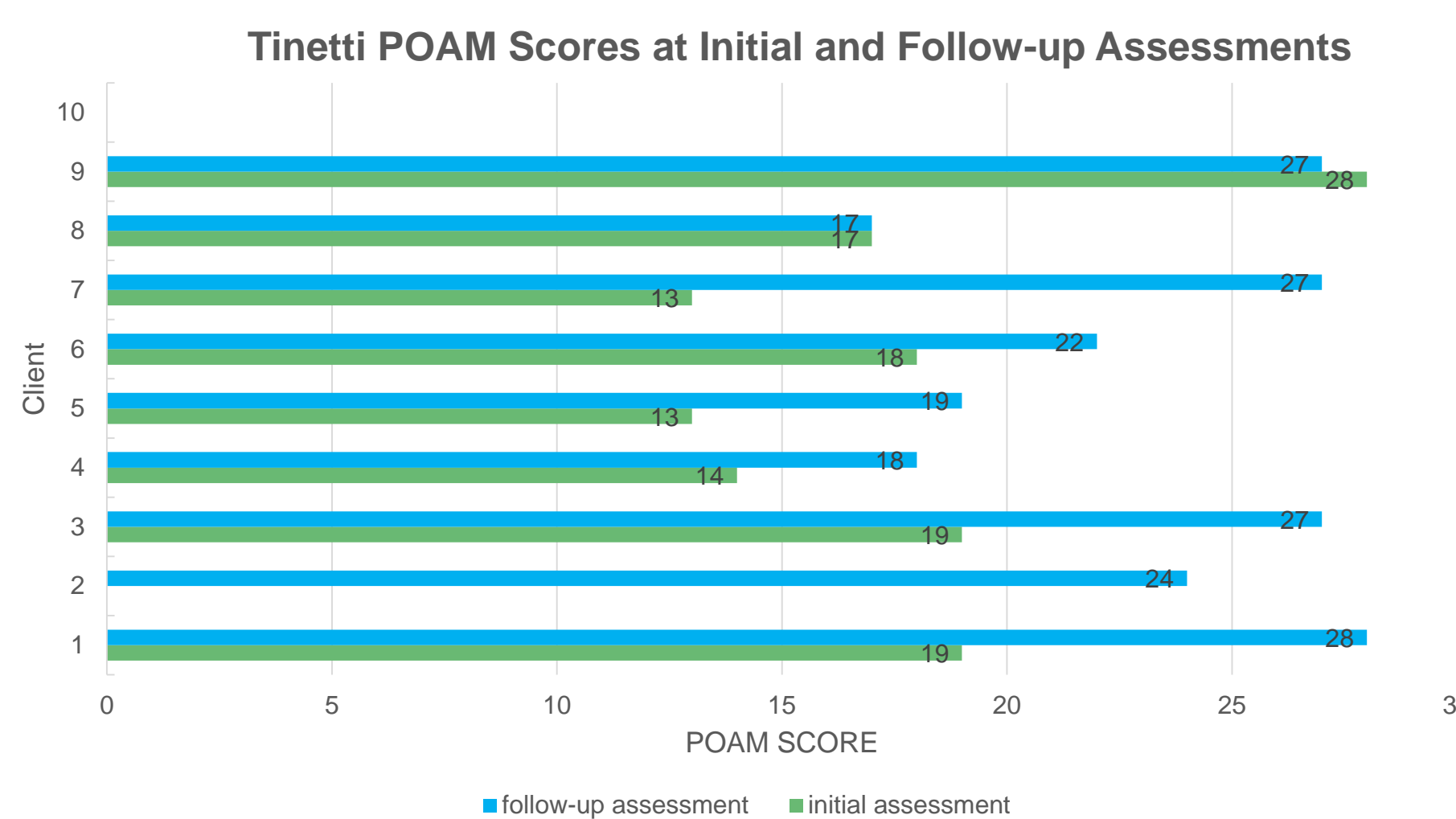
## About The Classes

- All classes are run by Joanne Pritchard, an experienced Neurological Physiotherapist with certification in the APPI Pilates method.
- Classes consist of a warm-up and cool-down in sitting, and a circuit of 10 modified Pilates exercises tailored to benefit the Neurological client.
- Circuit exercises are either performed in standing to challenge balance and leg strength, or in sitting for those less able.
- For safety, volunteers assist with the class each week. This also provides the opportunity for 1:1 assistance for some exercises, and the ability to tailor exercises to the needs of each individual member.
- As each member performs a different exercise at any one time, no-one feels isolated or less able than the other class members, and each participant is challenged to achieve their full potential in a safe environment.

## Methods

- **Subjects:** 8 members with Multiple Sclerosis (MS), and 2 members with Parkinson's Disease (PD).
- **Initial Assessment:** All members received a Physiotherapy assessment prior to their first class.
- **Outcome measures** used at initial assessment varied between individuals, depending on their clinical presentation. These included the "Tinetti Problem Orientated Assessment of Mobility" (POAM) and the Timed up-and-go (TUAG) for most subjects.
- **Intervention:** Members attended one 45-60 minute Neurological Rehabilitation Pilates classes each week.
- Length of time attending the classes varied from 3 months to 28 months.
- **Follow-up Assessment:** In addition to subjective feedback, all outcome measures used at initial assessment were repeated for each individual

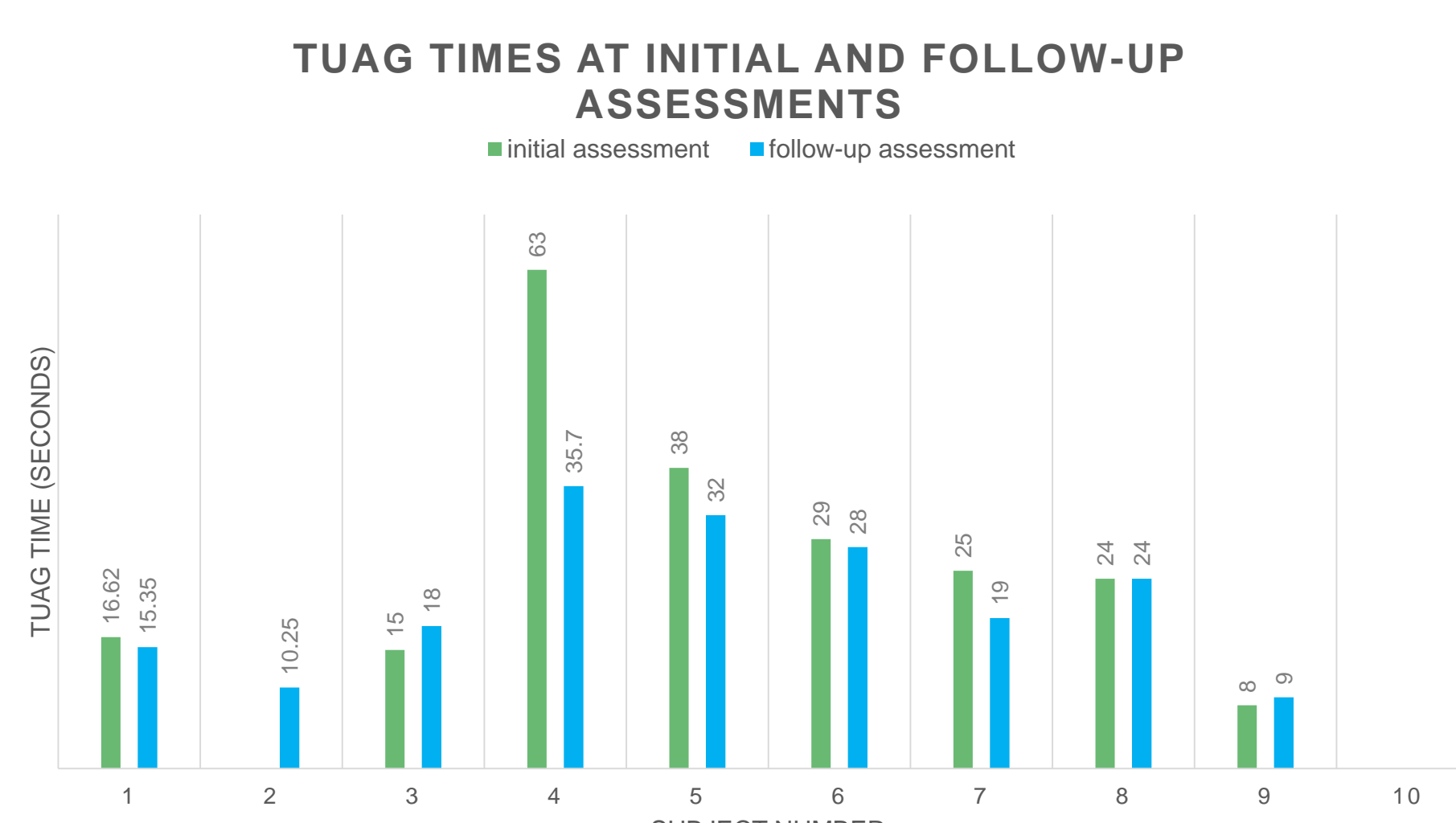
## Results: POAM & Falls Risk



- Average score on the POAM improved from **17.6/28** with 5 at high risk, 2 at moderate risk and 1 at low risk of falls, to an average score of **23.2/28** with 2 at high risk, 2 at moderate risk and 5 at low risk of falls\*.
- \*Removing subject 2 gives an average score of 23.1
- **These results indicate an overall shift from High risk of falls to Moderate risk of falls.**

## Results: TUAG

- Individual TUAG improvements varied from -20% to +43%, with an **average individual improvement of 8%**.
- The average TUAG score was 27.32 seconds at initial assessment, and 21.25 seconds at reassessment; with an **average overall improvement of 22%\*\***
- \*\*Removing subject 2 gives an average overall improvement of 17%.



## Results: Additional Results

- Subject 10 presented with Parkinson's Disease and started with 1:1 Physiotherapy. Lindop mobility scores were 13/18 at initial assessment and 9/18 at follow-up. His Parkinson's rapidly deteriorated shortly before the reassessment and he then moved away to be close to his family. He felt included as he could participate in our classes and enjoyed attending.
- Subject 2 started with 1:1 Neurological Physiotherapy treatment and transferred to the classes at a later date. Range of movement and muscle strength were assessed in more depth and posture was analysed with photography; all had improved (but this may be partly due to the 1:1 Physiotherapy element).
- Subjectively, all members reported a positive experience. Comments included:
  - "improved my posture", "improved my strength", "improved control of my weaker leg", "I'm having less falls than before", "improved my body awareness", "attending the classes keeps me going", "improved my overall confidence", "I love the company and comradery - I can manage my condition better".*

## Conclusions & Limitations

- **Subjects attending Neurological Pilates rehabilitation classes at Pilates Clinic Retford have shown improved walking speed, improved balance, reduced risk of falls and improved overall confidence.**
- **Similar Rehabilitation classes in YOUR city, town or village are likely to be of considerable benefit to your local neurological community.**
- **Limitations:**
  - These classes were not started with research in mind so there was no research protocol in place.
  - As the same Physiotherapist conducted the initial assessments, 3 of the re-assessments and taught all the classes, there was no blinding and bias was possible.
  - Some subjects also received other intervention at some point during their class attendance, including changes to medication, other forms of exercise at home and in the community, and NHS or private Physiotherapy rehabilitation.
  - The variability in time attending classes (3 to 28 months) could also affect the results.

## Recommendations & Acknowledgements

**Further research is required to determine the validity of these results. The extent to which strict inclusion / exclusion criteria and treatment protocol would dilute the effectiveness and accessibility of client-centered Physiotherapy-led rehabilitation classes in a rural town (and similar communities) would be debatable. The most appropriate research methodology for future studies would therefore need careful consideration.**

With thanks to Patricia Richardson, Physiotherapist at Pilates Clinic Retford, and Stan Holec, Physiotherapy student at Sheffield Hallam University, for their regular voluntary assistance with these rehabilitation classes, and for conducting 7 of the 10 reassessments.

Thanks also to the Retford Rotary Club for providing funding to make these reassessments possible, and to Retford District MS Support Group for funding the initial assessment and first course of 6 classes for their members.

*Pilates Clinic Retford subsidises initial assessments and class fees to make ongoing neurological rehabilitation in the community non-profit making and affordable for members.*