

Examination of Timed 25-Foot Walk Performance in Ambulatory Patients with MS Utilizing Intrathecal Baclofen Therapy: A Retrospective Study

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Introduction and Purpose

- Multiple Sclerosis (MS) commonly results in physical disability and decreased ambulation abilities. Ambulation can be impacted significantly by lower limb spasticity.
- Intrathecal Baclofen (ITB) has been shown to be an effective treatment for spasticity in patients with MS.
- Disease progression may play a factor in overall disability and deterioration of ambulation quality and speed.

Purpose:

Examine the correlational relationship and stability of Timed 25-Foot Walk (T25FW) and duration of ITB therapy in ambulatory patients with MS.

Methods

Design:

Post-hoc chart analysis of T25FW performance of patients with multiple sclerosis who received and ITB pump and were ambulatory at the time of pump implantation. All measurements were part of standard of care and examination procedures. All patients included were diagnosed with MS and identified as ambulatory at time of ITB pump placement.

Subjects:

- Twelve patients were identified (female 50%, mean age 51 years).
- T25FW measurements were recorded during regular visits following ITB pump placement for up to 24 months (730d).
- Average length of ITB therapy was 10 months (304d).
- Patients were seen between 2012 and 2016.

Statistical Analyses:

- Data analyzed by individual trend lines and regression analysis to include Pearson's r .
- Statistical significance was defined as a p value <0.05 using Microsoft Excel.

Results

At 24 months, individual trend lines demonstrate stable T25FW for subjects following ITB pump placement. (Fig.1). Regression analysis of all subjects reveals significant improvement in T25FW times of the course of the study ($p=0.047$) (Fig 2).

References

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Otero-Romero S, et al. Pharmacological management of spasticity in multiple sclerosis: Systematic review and consensus paper. *Multiple Sclerosis Journal*. 2016; 22(11): 1386-96.

Disclosures

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T25FW Speed

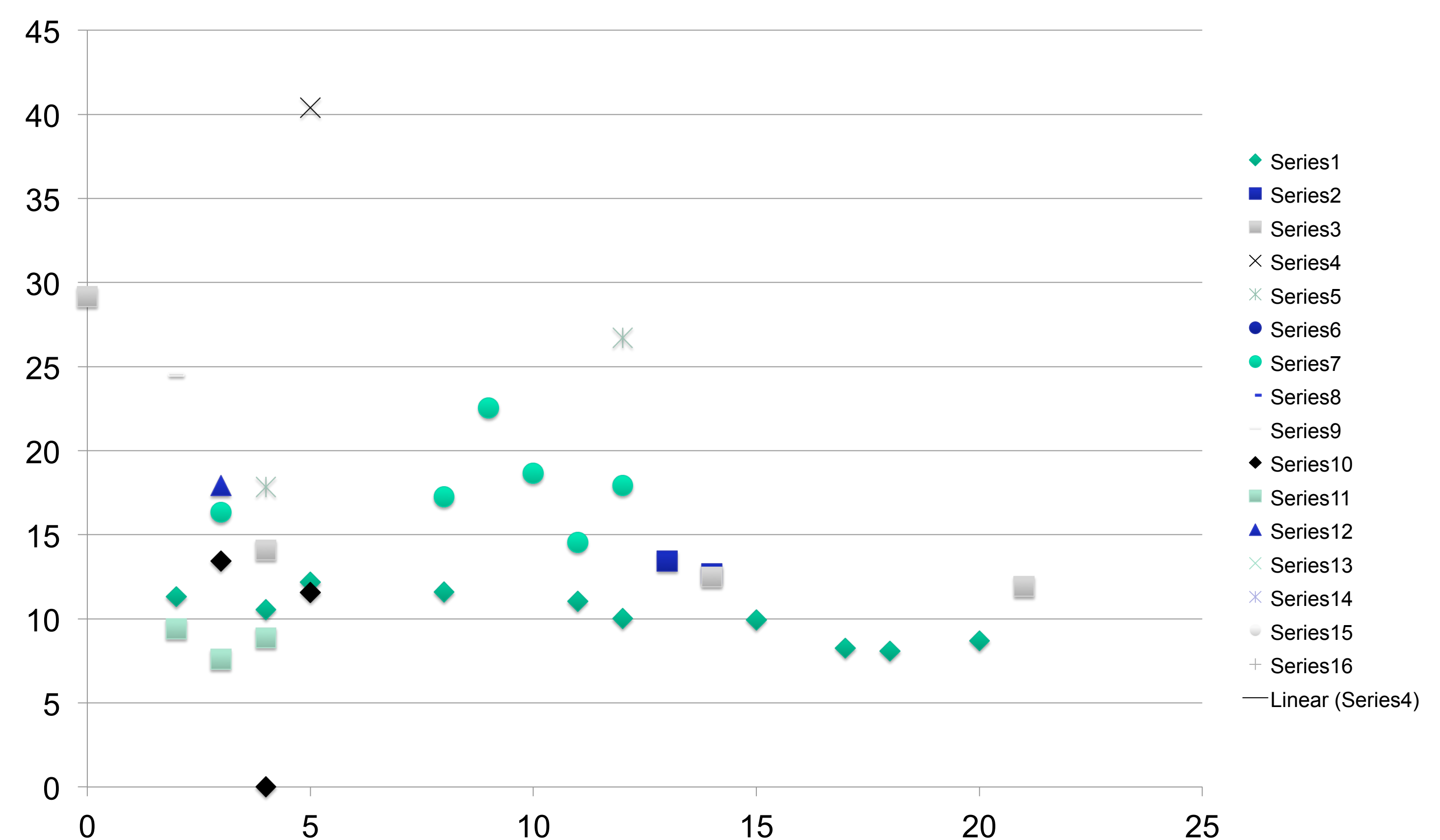


Fig. 1

T25FW Speed Change

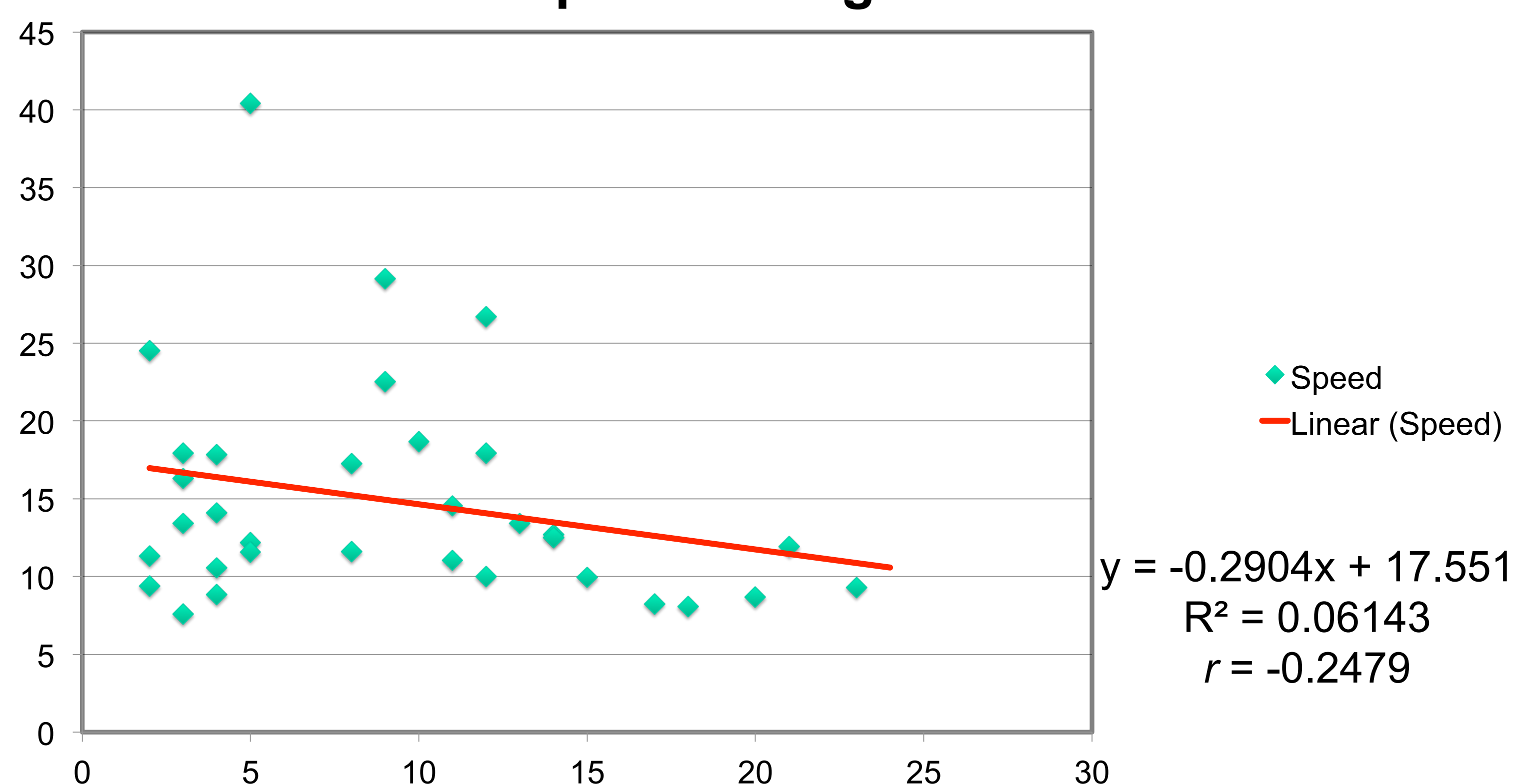


Fig. 2

Discussion

Ambulatory patients with spasticity as a symptom of MS may benefit from ITB therapy. Ambulation as measured by the T25FW remained stable or improved. These findings are consistent with current research in the area of ITB therapy in the MS population.

Limitations of the study include small sample size, varying times of ITB therapy use, and use of single measure of ambulation status.

Conclusions

- Ambulatory patients with MS and spasticity may benefit from ITB therapy, as evidenced by the stability of T25FW performance. This correlation data can be used to help identify potential outcomes for patients considering ITB therapy.
- Depending on severity, the disease progression inherent with MS can confound the ambulatory abilities of patient with and without ITB therapy over longer time durations. Patients using ITB therapy require continued monitoring for function.
- Functional status of MS patients using ITB therapy should be researched further and used more extensively as a means to improve functional independence and quality of life in MS patients.