

Under and Over: Findings from a remote study in people with Multiple Sclerosis

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Introduction

Remote assessments and interventions are gaining prominence in clinical settings. However, little is known about the efficacy of home-based, upper limb rehabilitation for people with advanced MS (PwMS) as this group is underrepresented in research.

Objective

Evaluate the efficacy of repeated use of the Under and Over (U&O) tool alongside patient experiences.

Method

The U&O study is a waitlist controlled, remote upper limb rehabilitation study for PwMS with an Expanded Disability Status Scale (EDSS) >6.0. Participants were randomised into three groups with different 12-week rehabilitation programmes:

- (1) U&O tool 5 times a week for 30 mins, following specific patterns;
- (2) U&O tool 5 times a week for an unspecified time, choosing any pattern;
- (3) cardboard 9 Hole Peg Test (c9HPT) 5 times a week.

Participants were asked to complete questionnaires about their experience at the end of the study. Outcome data were analysed using linear regression controlling for age, gender and EDSS. Descriptive statistics were used for other analyses.

Results

105 PwMS (mean age 54 years (SD 9); 77 women; median EDSS 6.5), participated. At 3 months, participants randomised to c9HPT 5 times a week showed a significant improvement in times compared to those using the U&O tool ($p < 0.001$). There was no effect of age, gender, or EDSS. At 6 months, there was no significant difference in c9HPT times between groups.

40 PwMS responded to the questionnaire. 89% had a positive experience of participating in the study and 61% managed to stay motivated. 7% felt face to face would have been preferable. Videos, visually tracking progress, daily reminders and peer support were suggestions to improve motivation within future remote studies.

Conclusion

There is a significant learning effect of the c9HPT.

Although accessible and engaging, there are clear suggestions as to how to maintain and improve motivation throughout remote studies.

COI (past 3 years):

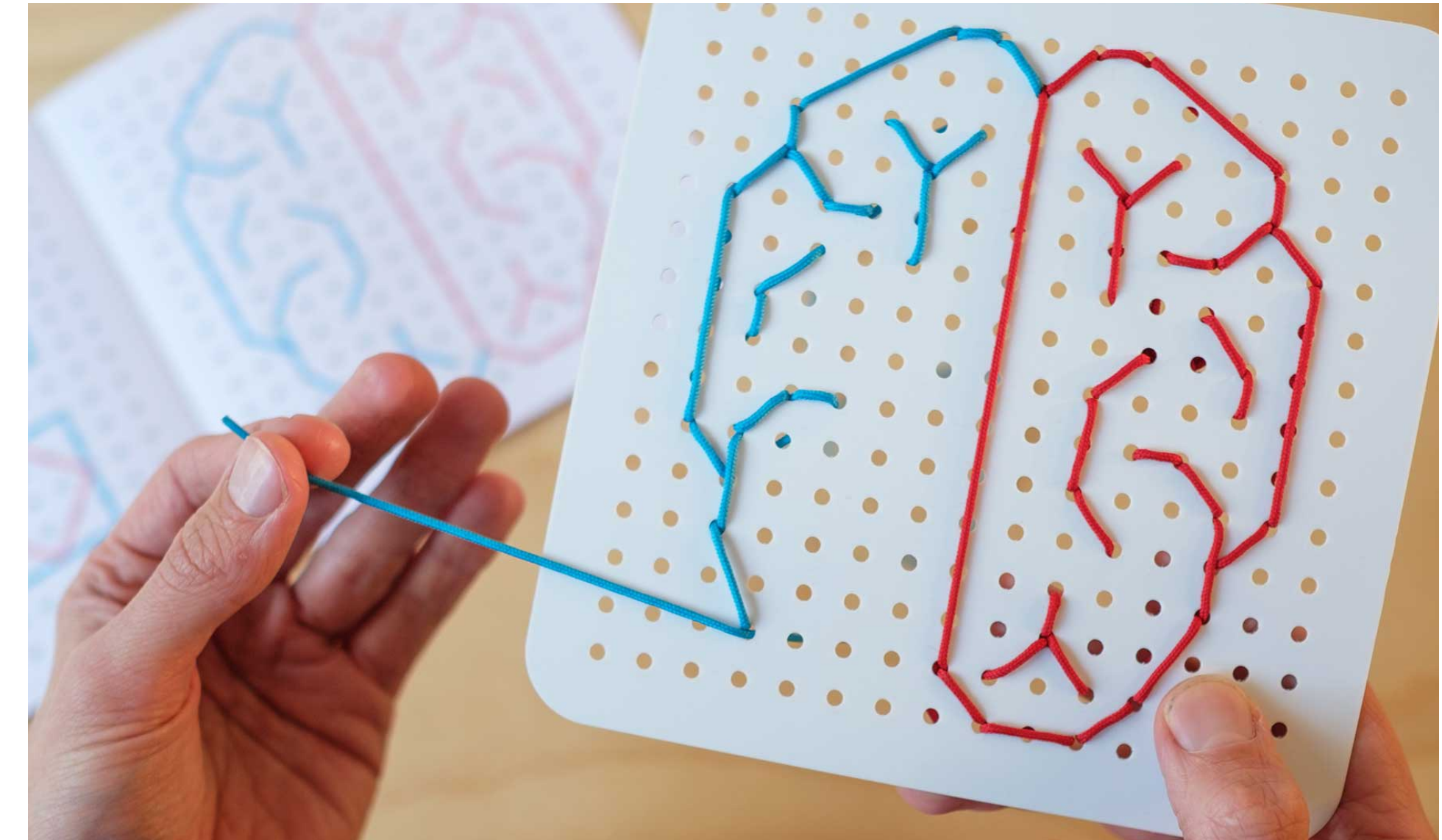
AT: AT has received a speaker honoraria from Novartis and grant support from Roche.

AS: None

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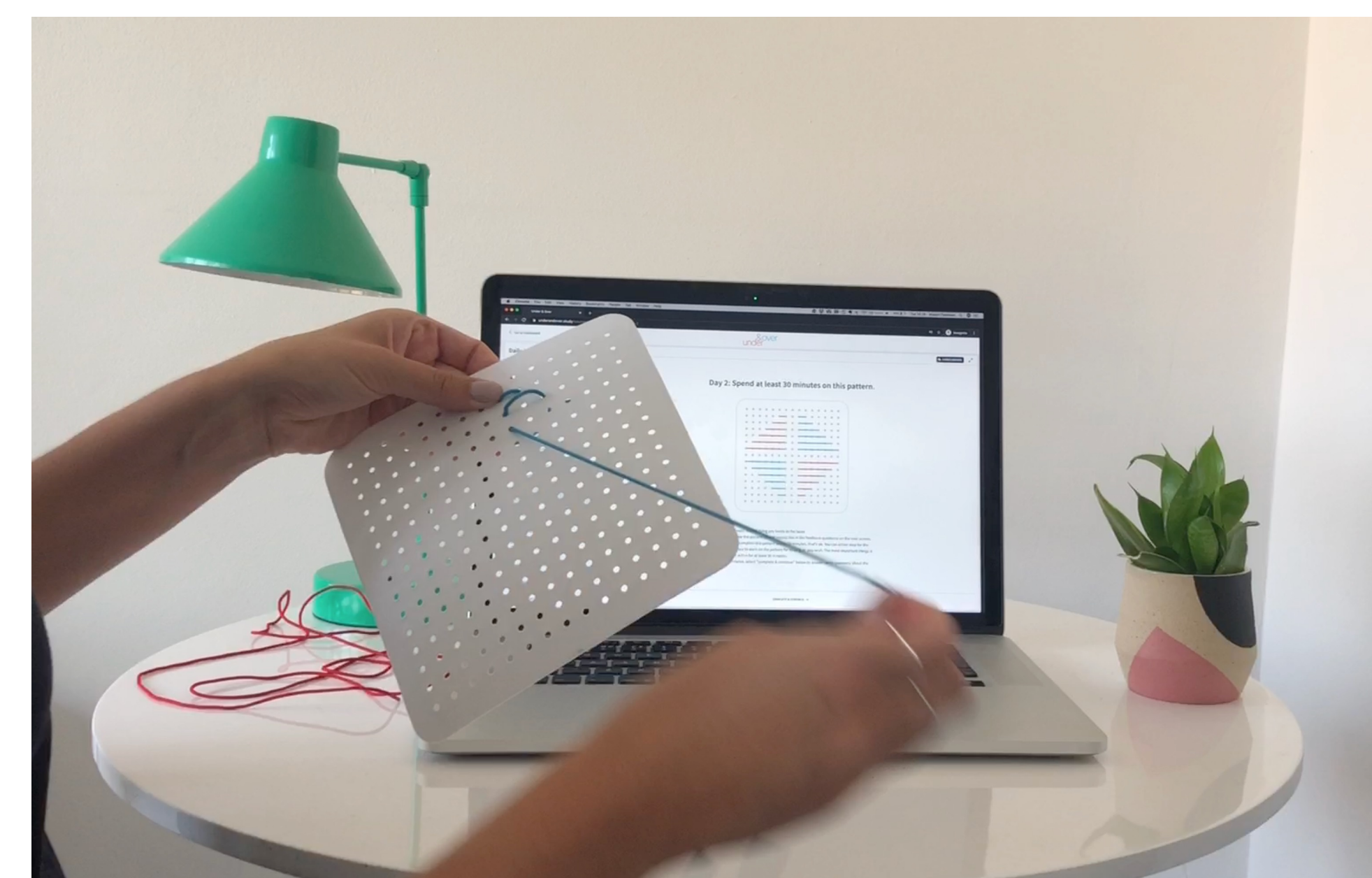
GG: In the last 5 years, Gavin Giovannoni has received compensation for serving as a consultant or speaker for or has received research support from AbbVie, Aslan, Atara Bio, Biogen, BMS-Celgene, GlaxoSmithKline, GW Pharma, Janssens/J&J, Japanese Tobacco, Jazz Pharmaceuticals, LifNano, Merck & Co, Merck KGaA/EMD Serono, Novartis, Sanofi, Roche/Genentech and Teva.



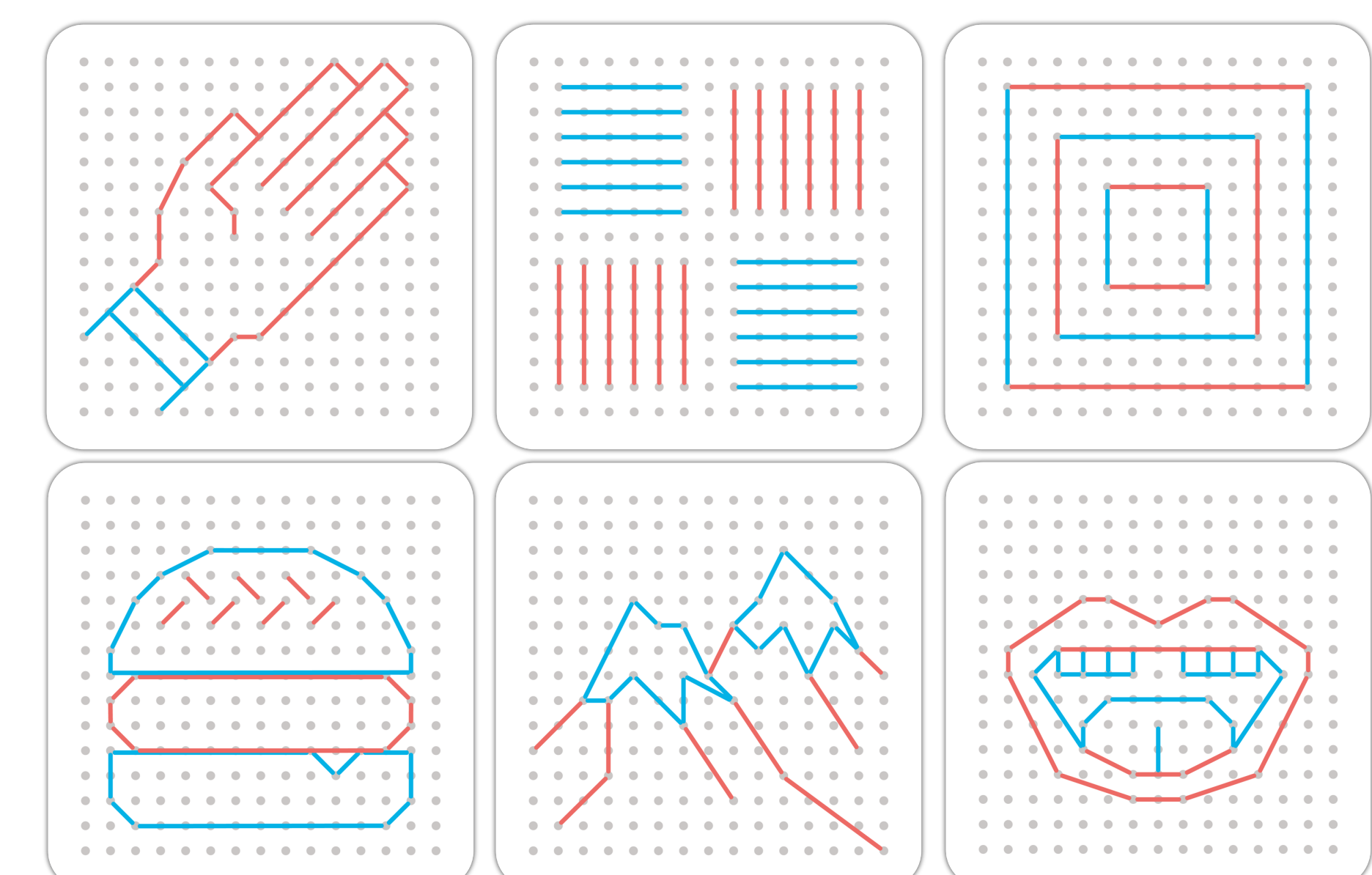
Participants were posted a cardboard 9 Hole Peg Test and the U&O tool (a plastic board and two threads).

"I have taken a picture of the pattern and the addition to it, an option to show the photos would be a good idea."

Patient input on the design of the platform and techniques for communication when using the tool were invaluable.



An online platform hosted the study and the 12-week rehab programme. Technical support videos were created by the study team to demonstrate how to use the tool and the platform.



Study participants had the choice of 60 patterns to complete throughout the programme and one study sub-group had the opportunity to create their own and share these within their group.