Title	**A Comparison of Compensatory and Restorative Approaches to Memory Rehabilitation Post-Stroke**
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Summary	Cognitive impairments post-stroke are common, reported in up to 91.5% of patients with stroke pathology. Memory impairments are one of the most common cognitive sequelae, yet help with this impairment continues to remain a high unmet need within the community. Both restorative and compensatory approaches have been used to remediate memory difficulties post-stroke. Despite decades of research, there is no clear consensus as to which approach is more effective in rehabilitating memory deficits following stroke. This study aimed to explore and contrast the effectiveness of restorative and compensatory approaches to memory rehabilitation post stroke.
Outcomes	One-hundred and thirty-six individuals responded to advertisement (30% recruited via AuSCR). Seventy-one individuals were excluded from participation (52% exclusion). The remaining 65 individuals consented to participate and were randomised into one of three treatment arms (waitlist control (WC), memory skills group (MSG) or computerised cognitive training (CCT)). Participants in the intervention groups (MSG or CCT) received six weeks of a memory intervention. The primary outcome measure was attainment of individualised, functional memory goals, assessed using Goal Attainment Scaling (GAS). Secondary outcomes explored change on objective, neuropsychological measures of memory, subjective ratings of forgetfulness and use of internal and external memory strategies. Participants completed outcome assessment at three time points: baseline, post intervention and at a six week follow-up. Findings suggested that participants allocated to the MSG reported significant improvement in goal attainment above WC participants following intervention. These gains were maintained at a six week follow up, with participants showing significant improvement beyond CCT and WC participants. While participants in the CCT group described some increase in goal attainment, performance did not improve beyond WC at any time point. Regarding secondary outcomes, findings did not provide support for the sustained effects of either intervention on objective measures of memory. There were short term effects of both CCT and MSG training on subjective ratings of forgetfulness, but these were not maintained at follow up. Finally, while all participants reported a significant increase in internal strategy use over time, improvement was only maintained for participants allocated to the MSG. This interaction was not seen for external strategy use. These Phase II data indicate MSG rehabilitation was effective in improving functional goal attainment and internal strategy use. Importantly, gains were maintained and consolidated by six weeks. In contrast, CCT did not result in a significant improvement on functional, objective or subjective measures of memory.
Publications	1. Withiel TD, Wong D, Ponsford JL, Cadilhac DA, New P, Mihaljcic T, Stolwyk RJ **Comparing memory group training and computerized cognitive training for improving memory function following stroke: a phase II randomized controlled trial.** *Journal of Rehabilitation Medicine* 2019 51(5) 25-33 doi: 10.2340/16501977-2540 2. Withiel TD, Wong D, Ponsford JL, Cadilhac DA, New P, Mihaljcic T, Stolwyk RJ **Comparing Compensatory and Restorative Memory Rehabilitation Following-Stroke: A Phase II Randomised Controlled Trial** *International Journal of Stroke* 2018 13 (S1) 5.

3. Withiel et al., (June 2017). **A comparison of compensatory and restorative approaches to memory rehabilitation post-stroke: A phase II randomised controlled trial.** *Australasian Society for Brain Impairment (ASSBI), Melbourne Australia.*
4. Withiel et al., (July, 2017). **A comparison of Restorative and compEnsatory approacheS To memOry Rehabilitation post-strokE (RESTORE): A Phase II Randomised Controlled Trial.** *International Neuropsychology Society (INS), Cape Town South Africa.*