The science

behind Constant Therapy

FEATURED RESEARCH

Comparison of therapy practice at home and in the clinic: A retrospective analysis of the Constant Therapy platform data set

Godlove, J., Anantha, V., Advani, M., Des Roches, C., Kiran, S. (2019 January)

HIGHLIGHTS

METHODS

- Constant Therapy Health analyzed data from 3,686 Constant Therapy users—patients with post-stroke aphasia—who completed cognitive and language tasks in the Constant Therapy app between 2013-2017. Two types of users were analyzed: home users who worked independently and clinic users who worked under the guidance of a clinician.
- The study compared improvement rates for home and clinic users who were initially struggling with a task (less than 60% accuracy) but eventually mastered it (more than 90% accuracy).

RESULTS

- Home users took less time to master tasks than users who only practiced in the clinic. While both home and clinic users required roughly the same amount of practice to master cognitive and language tasks, users who had on-demand access to therapy on their tablet mastered tasks in a median of six days, while those with only in-clinic access mastered tasks in a median of 12 days.
- Home users practiced therapy more frequently than clinic users. Users who had access to digital therapy on their own terms took advantage of practicing at home at least every two days, while clinic users practiced just once every five days.
- Improvements are possible long after a stroke has occurred. Thousands of people in the study, regardless of where they practiced, showed significant gains in language and cognitive skills even though their stroke occurred long ago, on average two years for home users and on average of 1.6 years for clinic users.

FIGURE 1
Days needed to master the task

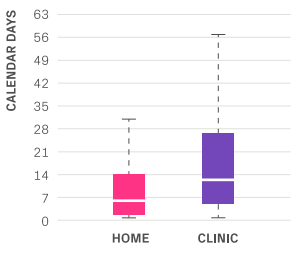
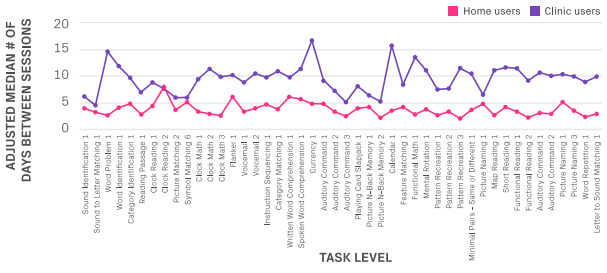


FIGURE 2
Adjusted median # of days between sessions by task



Research published using Constant Therapy

Godlove, J., Anantha, V., Advani, M., Des Roches, C., Kiran, S. **Comparison of therapy practice at home and in the clinic: A retrospective analysis of the Constant Therapy platform data set.** *Frontiers in Neurology.* doi: 10.3389/fneur.2019.00140

Des Roches, C., Mitko, A., Kiran, S. **Relationship between self-administered cues and rehabilitation outcomes in individuals with aphasia: understanding individual responsiveness to a technology-based rehabilitation program.** *Frontiers in Human Neuroscience.* 11(17). doi:10.3389/fnhum.2017.00007.

Mallet, K., Shamloul, R., Corbett, D., et al. **Recover Now: Feasibility of a mobile tablet-based rehabilitation intervention to treat post-stroke communication deficits in the acute care setting.** *PLOS ONE.* doi:10.1371/journal.pone.0167950.

Glynn, P., Eom, S., Zelko, F., Koh, S. **Feasibility of a mobile cognitive intervention in childhood absence epilepsy.** *Frontiers in Human Neuroscience.* 10(575). doi:10.3389/fnhum.2016.00575.

Postman, W. **Computer-mediated cognitive-communicative intervention for residents with dementia in a special care unit: an exploratory investigation.** *Perspectives of the ASHA Special Interest Groups,* 1 (SIG 15) 68-78. doi:10.1044/persp1.SIG15.68.

Mark, J., Onaral, B., Ayaz, H. **Evaluating neural correlates of constant therapy neurorehabilitation task battery: an fNIRS pilot study.** *Foundations of Augmented Cognition: Neuroergonomics and Operational Neuroscience,* 9743, 231-241.

Kiran, S. **How does severity of aphasia influence individual responsiveness to rehabilitation? Using big data to understand theories of aphasia rehabilitation.** *Seminars in Speech & Language* (pp. 48-59) doi:10.1055/s-0036-1571358.

Des Roches, C., Balachandran, I., Ascenso, E., Tripodis, Y., Kiran, S. **Effectiveness of an impairment-based individualized rehabilitation program using an iPad-based software platform.** *Frontiers in Human Neuroscience.* doi:10.3389/fnhum.2014.01015.

Kiran, S., Des Roches, C., Balachandran, I., Ascenso, E. **Development of an impairment-based individualized treatment workflow using an iPad-based software platform.** *Seminars in Speech & Language,* 35(1), 38-50. doi:10.1055/s-0033-1362995.

Kiran, S. **Detecting small and large scale fluctuations in language and cognitive performance: a longitudinal rehabilitation case study.** *International Journal of Physial Medicine and Rehabilitation,* 1-12. doi:10.4172/2329-9096.1000203.