FOR REHABILITATION PROFESSIONALS

Clinical evidence packet

Every peer-reviewed study behind FitMi, MusicGlove, and the CT Speech & Cognitive App — with the measures, the comparisons, the populations, and the results that did not reach significance. Plus the independent literature on whether rehabilitation delivered at home holds up at all.

How to read this packet. Each device section states what was studied, in whom, against what comparison, and at what dose. Nothing here is written to be quoted out of context: where a primary endpoint was null, it is printed in the same table as the endpoints that were not.

At a glance

Headline randomized findings. Populations differ and are not interchangeable.

Device	Result	Measure	Population
FitMi	8.0 vs. 3.0 pts (p = 0.029)	Upper Extremity Fugl-Meyer	Subacute stroke, n = 27, RCT
MusicGlove	466 gripping movements/day; MAL QOM p = 0.007	Motor Activity Log; Box & Blocks (null)	Chronic stroke, n = 17, RCT
CT Speech & Cognitive App	+6.43 pts vs. workbooks	WAB Aphasia Quotient	Chronic post-stroke aphasia, n = 32, RCT
Remote delivery third-party	Non-inferior at matched dose	Pooled function & cognition	Stroke and TBI; 15 studies

FitMi

Two wireless motion-sensing pucks and software guiding forty upper-extremity exercises, with repetition targets, real-time feedback, and automatic difficulty progression.

Studied indication

A home-based upper-extremity exercise program for adults in the **subacute** phase after stroke, discharged home with motor impairment, as an adjunct to a plan of care established by a licensed clinician. The randomized evidence is subacute — it should not be generalized to chronic populations or to other diagnoses.

Prescribed dose in the trial

Approximately 20 minutes per day, at least 3 hours per week, over 3 weeks, with per-exercise repetition targets. Independent after setup.

Outcomes

Measure	Change vs. control	Timepoint
Upper Extremity Fugl–Meyer	8.0 +/- 4.6 vs. 3.0 +/- 6.1 pts (p = 0.029)	3 weeks
Modified Ashworth (spasticity)	No increase	3 weeks
Pain ratings	No increase	3 weeks

Comparison group performed a content-matched paper home exercise program — not usual care and not an untreated control.

> **Safety and screening.** No intervention-related serious adverse events were reported, and neither spasticity nor pain increased relative to control. Standard screening still applies: not for use during acute medical instability or where active movement is contraindicated. Patients with impaired safety awareness or significant shoulder pain should be positioned and supervised for early sessions.

MusicGlove

A sensed glove paired with a rhythm game that cues functional grip and pinch. Its demonstrated strength is repetition volume and patient-reported hand use; the home trial's primary dexterity endpoint did not separate from conventional exercise.

Studied indication

Self-guided home hand therapy for adults with **chronic** stroke and moderate hand impairment, with additional home feasibility evidence in chronic spinal cord injury. Requires enough active grasp to trigger the sensors. Adjunct to skilled therapy.

Prescribed dose in the trials

Approximately 30 minutes per session, 5–7 days per week, over 2–3 weeks. Trial participants averaged 466 gripping movements per day. Independent after fitting.

Outcomes

Measure	Change vs. control	Timepoint
MAL quality of movement	Greater than control (p = 0.007)	1 month
MAL amount of use	Greater than control (p = 0.04)	1 month
Box & Blocks – lab crossover	+3.21 +/- 3.82 vs. −0.29 +/- 2.27 (p = 0.010)	2 weeks
9-Hole Peg Test – lab crossover	+214 +/- 2.98 vs. −0.85 +/- 1.29 pegs/min (p = 0.055)	2 weeks

> **Safety and screening:** Requires minimal active grasp to register repetitions — patients with flaccid hands will not benefit without prior facilitation. Screen skin integrity and sensation before daily glove wear, and reassess positioning if new joint or wrist pain is reported. For planning: the demonstrated benefits are repetition volume and patient-reported hand use, not dexterity on the primary home endpoint.

CT Speech & Cognitive App

A tablet and mobile digital therapeutic (Constant Therapy) delivering individualized speech, language, and cognitive exercises that adapt to performance. The most heavily studied product in our range, including a virtual RCT and analyses of thousands of real-world users.

Studied indication

Adults with **chronic** post-stroke aphasia and broader language and cognitive deficits, practicing at home or in the clinic, as an adjunct to skilled speech-language pathology services. It is not a diagnostic tool.

Prescribed dose in the trials

20–40 minutes per session, at least 5 days per week, over 10 weeks, using adaptive exercise sets. Benefit tracks with practice frequency; occasional use has not been shown to work.

Outcomes

Measure	Change vs. comparison	Timepoint
WAB Aphasia Quotient	+6.43 pts vs. paper workbooks, adjusted for age and time since stroke	10 weeks
Verbal fluency	Significant improvement	10 weeks
Quality of life (SAQOL)	Communication and energy domains improved	10 weeks
Days to task mastery, home vs. clinic	6 vs. 12 days ($p < 0.001$), similar session count	Retrospective, n = 3,686

> **Safety and screening**. Not a substitute for skilled speech-language pathology assessment. Patients with severe comprehension deficits or significant visual impairment may need caregiver support to use it independently. Screen for fatigue in the early subacute phase. The published benefit is tied to consistent practice — around five days a week or more.

Remote Recovery

Whether recovery can continue at home, at a dose that matters, is a question with its own literature. Fifteen independent studies establish what remote delivery does and does not achieve.

Finding	Source and design	Qualifier
Non-inferior to in-clinic therapy	Stroke ICT review; systematic review of cognitive telerehab	Only at matched intensity, duration, and frequency
99.6% adherence, 95% retention, acceptability 4.4/5	Stroke telerehab feasibility trial	Feasibility only; authors call for RCTs
Mean NIHSS 5.6 → 2.7	VAST-rehab pilot, young and underserved survivors	Descriptive pilot, no control; 12 of 20 completed
Self-management self-efficacy SMD 0.22 (95% CI 0.02–0.42)	Meta-analysis, 17 telehealth studies, n = 3,158 TBI	Neurobehavioural and depression CIs cross zero

The counterweight. Telerehabilitation carries higher dropout than in-clinic care, particularly where there is cognitive impairment, and most patients still prefer in-person therapy when they can access it. Remote delivery is a genuine access solution and a dose multiplier — not a replacement for in person neuro therapy.

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FDA listed, Class I exempt devices from a registered establishment. Not a substitute for skilled therapy or medical advice.

References — by product

FitMi

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MusicGlove

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CT Speech & Cognitive App (Constant Therapy)

5. Braley M, Sims Pierce J, Saxena S, et al. A virtual, randomized, control trial of a digital therapeutic language, and cognitive intervention in post-stroke persons with aphasia. *Frontiers in Neurology: 2021,12:626780.*

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Remote rehabilitation — third-party category evidence

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10. Telerehabilitation for post-stroke motor function disorders: a review. — Concludes telerehabilitation is feasible and improves clinical outcomes for post-stroke patients. PMC9464491.

11. ICTs and interventions in telerehabilitation and their effects on stroke recovery. *Frontiers in Neurology: 2023;14:1234003. — Non-inferior to usual care and in clinic therapy at matched intensity, duration, and frequency; higher dropout than traditional programs.*

12. Jeon H, Kim DY, Park SW, Lee BS, Han HW, Jeon N, et al. A systematic review of cognitive telerehabilitation in patients with cognitive dysfunction. *Frontiers in Neurology: 2024;15:1450977. — More effective than usual care for global cognition; not inferior to face-to-face cognitive treatment.*

13. Functional cognitive rehabilitation as a primer to activity-based stroke telerehabilitation: feasibility, acceptability, and engagement. 2025. — Retention 95%, adherence 99.6%, acceptability 4.4/5, digital barriers infrequent. PubMed 4144095.

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15. Suarilah I, Zulkarnain H, Saragih ID, Lee BO. Effectiveness of telehealth interventions among traumatic brain injury survivors: a systematic review and meta-analysis. *Journal of Telemedicine and Telecare*. 2024;30(1) — 17 studies, N = 3158; significant effect on symptom-management self-efficacy (SMD 0.22, 95% CI 0.02–0.42); neurobehavioural and depression CIs cross zero.

Remote rehabilitation — third-party category evidence (continued)

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