

Randomized Trial Demonstrates Superior Motor Recovery in Chronic Stroke Survivors with IpsiHand's BCI Therapy

The BCI-REHAB Trial: A randomized trial of an at home brain computer interface therapy compared to standard exercise therapy for chronic upper extremity motor deficit after stroke

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Introduction

New methods of at-home stroke rehabilitation for survivors in the chronic phase of recovery are needed to supplement limited clinical resources and perceived lack of efficacy of at-home exercise programs. This study compared an at-home brain computer interface therapy system (IpsiHand® Upper Extremity Rehabilitation System) versus an at-home exercise program for improving upper extremity function in chronic hemiparetic subcortical stroke patients.

Methods

Study Population:

Adults aged 18–85, ≥6 months post-stroke, with right or left upper extremity hemiparesis/hemiplegia

Intervention:

Contralesionally controlled BCI therapy using the IpsiHand System, 5 days a week for 12 weeks

Control Group:

Standard at-home upper extremity exercise program

Primary Outcome Measure:

Upper Extremity Fugl-Meyer (UEFM)

Key Results

2.2

Number Needed to Treat (NNT) with IpsiHand to provide a meaningful upper extremity functional improvement for one patient

55.5%

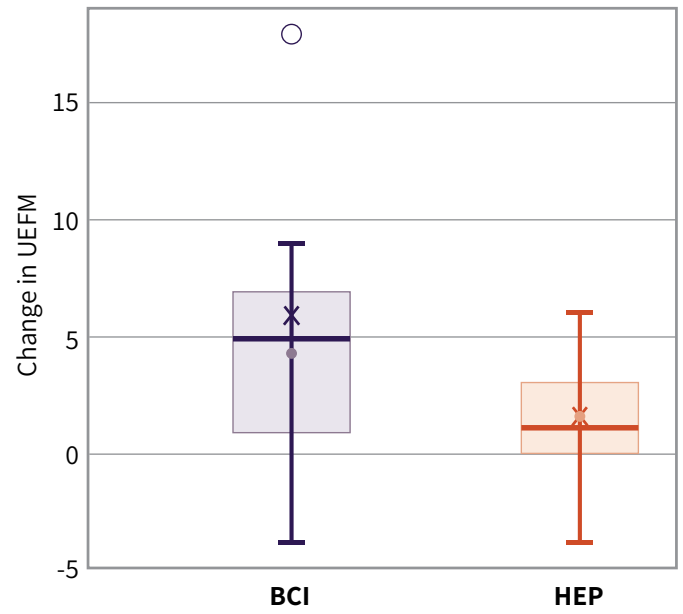
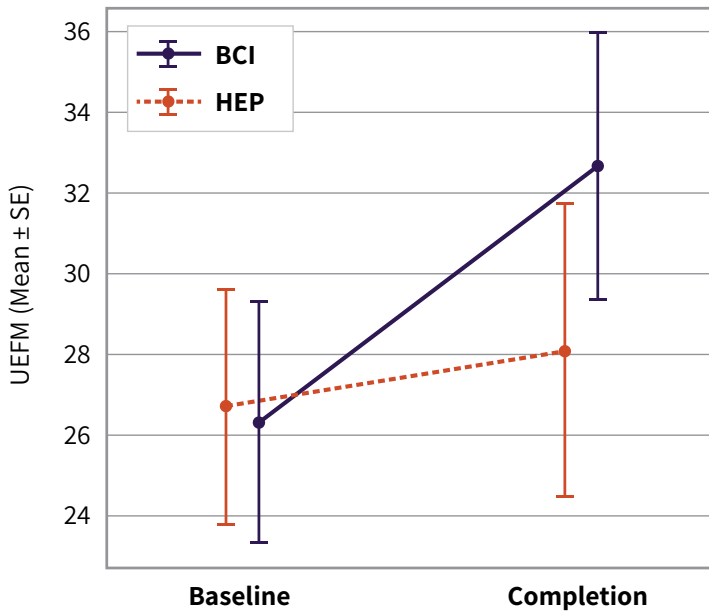
response rate in BCI group*

6.0
(CI 3.9 - 8.1)
points

mean increase in UEFM score for BCI group**

*vs 9.6% in control group

**vs 1.5 (CI -0.1-3.1) points for control group

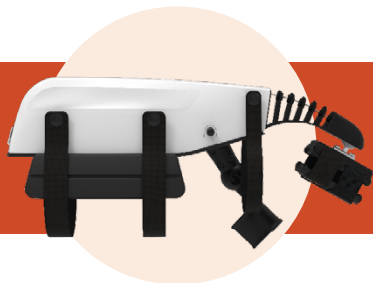


BCI – Brain Computer Interface
 HEP – Home Exercise Program

Conclusion

At-home BCI therapy with the IpsiHand System produced significantly greater and clinically meaningful improvements in upper extremity motor function compared with standard at-home exercise in patients with chronic stroke. These findings support BCI therapy as an effective rehabilitation option well beyond the traditional 12-week post-stroke recovery window.

Scan to learn more about IpsiHand:



To learn more about prescribing IpsiHand contact us at: providerinfo@kandu.com

International Stroke Conference, American Heart Association, 2026, Late-Breaking Abstract Presentation.

IpsiHand® is manufactured by Neuroolutions, a Kandu, Inc. company.

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