Study Question
What are the key predictors of poststroke recovery of bimanual hand use?

What Is Known and What This Paper Adds
The recently developed Adult Assisting Hand Assessment Stroke (Ad-AHA) is a valid and reliable measure of poststroke recovery of bimanual hand use. This investigation’s results show that shoulder abduction and finger extension measured with the corresponding Fugl-Meyer Assessment (FMA) items (FMA-SAFE) predicts Ad-AHA outcomes.

Methods
For this prospective longitudinal study, the investigators recruited 89 survivors of first-ever stroke events with arm paresis (74% male; mean age, 52.3 ± 9.4 years) through a neurorehabilitation clinic affiliated with a Swedish university hospital. The participants underwent assessments at 3 weeks, 3 months, and 6 months after stroke onset. The investigators assessed bimanual activity performance with the Ad-AHA and unimanual motor impairment with the FMA. The participants underwent MRI scans for measurements of weighted corticospinal tract lesion load (wCST-LL) and resting-state interhemispheric functional connectivity. Stepwise regression analysis was used to test candidate predictors of Ad-AHA outcomes, with FMA-SAFE being such a candidate. The primary outcomes were the predictors of Ad-AHA outcomes.

Results and Study Limitations
Initial Ad-AHA performance was poor but improved over time, and Ad-AHA scores positively correlated with FMA scores at all timepoints. In patients with moderate-to-severe initial FMA scores, FMA-SAFE scores were the strongest predictors of Ad-AHA outcomes ($r^2 = 0.81$) and the degree of recovery ($r^2 = 0.64$). Repeated analyses without FMA-SAFE scores identified wCST-LLs, sensory and cognitive impairment as additional outcomes predictors, with wCST-LLs >5.5 cm³ strongly predicting low-to-minimal FMA/Ad-AHA recovery. This study provides Class I evidence that the FMA-SAFE predicts bimanual recovery after stroke. The present study’s limitations include its unsuitability for evaluating age as a predictor of recovery outcomes and a relatively small patient sample given the number of independent variables tested.

Registration, Study Funding, and Competing Interests
This study was funded by the Promobilia Foundation, STROKErfsförbundet, NEURO Sweden, and Lars Hedlund (Karolinska Institutet Dnr 2-1582/2016) and was registered at ClinicalTrials.gov (NCT02878304). Dr. Lindberg owns shares in the company Aggero MedTech AB and has patented a method for measuring manual dexterity. Go to Neurology.org/N for full disclosures.
I read with great interest the article by Bensken et al.\(^1\) Although the burden of epilepsy is all-pervasive, an important facet is missing in nearly all outcome-based data—the effect of epilepsy on sleep parameters. Seizure outcomes infrequently assess subjective and objective sleep measures. The limited data that exist suggest that there is widespread disruption of both self-reported and polysomnography-derived sleep parameters among persons with refractory epilepsy,\(^2\) and there is suggestion that this improves with successful epilepsy surgery.\(^3\) The influence of epilepsy on sleep architecture has also been investigated and may be more important for temporal lobe epilepsies.\(^4\) Considering this reciprocal relationship between sleep and epilepsy, it is surprising that there is limited focus on this relationship, especially in burden-of-disease measurements. Although there is no doubt about the omnipresent influence of epilepsy burden in physical and psychosocial terms, let us not ignore the effects related to sleep.

Author Response: Burden of Chronic and Acute Conditions and Symptoms in People with Epilepsy
Wyatt P. Bensken (Cleveland)
Neurology® 2022;98:341. doi:10.1212/WNL.0000000000013285

Thank you for your thoughtful comment on our article.1 We agree that there is an important relationship between epilepsy and sleep. Sleep quality may even affect some of the conditions we examined, such as anxiety and mood disorders. Unfortunately, large health care data, which were used in this study, often do not prioritize these important aspects of health. The points raised here are certainly an important direction for future work and highlight the multifaceted health needs and priorities for people with epilepsy.


CORRECTIONS

Recovery and Prediction of Bimanual Hand Use After Stroke
Neurology® 2022;98:341. doi:10.1212/WNL.00000000000127117

In the Research Article “Recovery and Prediction of Bimanual Hand Use After Stroke” by Plantin et al.,1 the Outcome–Ad-AHA–R2 column of eTable 1 contained incorrect values. A corrected version is available at doi.org/10.5281/zenodo.5054068 as Version 2. The authors regret the error.

Reference

High Prevalence of Neutralizing Antibodies After Long-term Botulinum Neurotoxin Therapy
Neurology® 2022;98:341. doi:10.1212/WNL.0000000000013258

In the article “High Prevalence of Neutralizing Antibodies After Long-term Botulinum Neurotoxin Therapy” by Albrecht et al.,1 the third sentence of the Conclusions paragraph in the Abstract should read: “However, in addition to avoiding booster injections and extending the interval between injections, reducing the individual injected doses may diminish the risk of NAb induction independently of the indication for which BoNT/A is used.” The authors regret the error.

Reference