

Editors' Note: In reference to “Randomized trial of deep brain stimulation for Parkinson disease: Thirty-six-month outcomes” by Dr. Weaver et al., Dr. Montgomery notes the need to take into account patient preferences and clinical judgment when deciding on stimulation targets. The authors agree and express the hope that their report may help providers in their decision-making. Dr. Pressman discusses the relationship between alcohol and nocturnal wandering in response to “Prevalence and comorbidity of nocturnal wandering in the US adult general population” by Dr. Ohayon et al.

Megan Alcauskas, MD, and Robert C. Griggs, MD

RANDOMIZED TRIAL OF DEEP BRAIN STIMULATION FOR PARKINSON DISEASE: THIRTY-SIX-MONTH OUTCOMES

TURNING TABLES: SHOULD GPi BECOME THE PREFERRED DBS TARGET FOR PARKINSON DISEASE?

Erwin B. Montgomery, Jr., Birmingham, AL: Weaver et al.¹ and Tagliati² mistakenly infer clinical equivalence between globus pallidus interna vs subthalamic nucleus deep brain stimulation based on failure to demonstrate statistically significant differences.³ A clinically meaningful—not statistically significant—difference in outcome should be decided a priori, after which the sample size necessary to have a reasonable probability of detecting the difference could be determined.⁴ Fortunately, the study by Weaver et al. had sufficient sample size to demonstrate a 1-point difference in motor outcomes. However, such comparisons presume optimal management so as not to produce a “ceiling effect” that would obscure differences.

While probably unintended, Tagliati may be undervaluing personal preference,⁵ which ideally reflects the necessary reasoned judgment experts use toward the diverse factors that influence potential outcomes for their individual patients. This includes factors beyond those mentioned in the study by Weaver et al., such as the relative ease and safety of surgical approaches when microelectrode recordings are used for target localization. There is no simple calculus to address all these factors, and even if there were, application to an individual patient would be problematic.⁵ In the end, personal preference—if it is

reasoned expert judgment—will always trump statistical inference.

Author Response: Matthew B. Stern, Philadelphia; Kenneth A. Follett, Omaha; Frances M. Weaver, Chicago: While our study did not infer that globus pallidus interna and subthalamic nucleus deep brain stimulation were clinically equivalent, we concluded that motor outcomes were comparable.¹ Furthermore, we did not hypothesize a priori that one target was superior to the other. We observed some subtle differences in nonmotor outcomes including medication requirements and neuropsychological assessments. These findings underscore our conclusion that many factors should be considered in selecting a target for an individual patient. Most importantly, we did not recommend a particular target and agree with Dr. Montgomery that in individual patients, an informed decision by an experienced clinician based on numerous factors will “trump statistical inference.” We concluded this in an earlier study, stating that “(target) selection can also depend on the goals of deep-brain stimulation (e.g., medication reduction) and the physician’s preference for a target on the basis of experience or technical considerations associated with preoperative radiographic and intraoperative electrophysiological target localization and postoperative programming and management.”⁶ Our report provides additional information about deep brain stimulation outcomes that can be used by health care providers in their efforts to achieve proper balance between evidence-based and preference-based selection of therapies for their patients.¹

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Randomized trial of deep brain stimulation for Parkinson disease: Thirty-six-month outcomes; Turning tables: Should GPi become the preferred DBS target for parkinson disease?

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