

The effect of [anesthesia](#) type in terms of [asleep](#) vs. [awake deep brain stimulation \(DBS\)](#) surgery on [therapeutic window](#) (TW) has not been investigated so far. The objective of a study of Senemmar et al. was to investigate whether asleep [DBS](#) surgery of the [subthalamic nucleus \(STN\)](#) improves TW for both [directional](#) (dDBS) and [omnidirectional](#) (oDBS) stimulation in a large single-center population.

A total of 104 consecutive patients with [Parkinson's disease](#) (PD) undergoing STN-DBS surgery (80 asleep and 24 awake) were compared regarding TW, therapeutic [threshold](#), [side effect](#) threshold, [improvement](#) of Unified PD Rating Scale motor score ([UPDRS-III](#)) and degree of levodopa equivalent daily dose (LEDD) reduction.

Asleep DBS surgery led to significantly wider TW compared to [awake surgery](#) for both dDBS and oDBS. However, dDBS further increased TW compared to oDBS in the asleep group only and not in the awake group. Clinical efficacy in terms of UPDRS-III improvement and LEDD reduction did not differ between groups.

The [study](#) provides first [evidence](#) for improvement of therapeutic window by [asleep surgery](#) compared to [awake surgery](#), which can be strengthened further by dDBS. These results support the notion of preferring asleep over awake surgery but needs to be confirmed by [prospective trials](#) ¹⁾.

¹⁾

Senemmar F, Hartmann CJ, Slotty PJ, Vesper J, Schnitzler A, Groiss SJ. Asleep Surgery May Improve the Therapeutic Window for Deep Brain Stimulation of the Subthalamic Nucleus [published online ahead of print, 2020 Jul 13]. *Neuromodulation*. 2020;10.1111/ner.13237. doi:10.1111/ner.13237

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