

Patients with schizophrenia have favorable surgical risk for neurosurgical interventions like deep brain stimulation

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A study published in *Frontiers in Surgery* finds that people with schizophrenia (SZ) and schizoaffective disorder (SAD) have overall lower surgical risk than people with Parkinson's disease, which is reassuring when considering potential surgical interventions such as deep brain stimulation (DBS) for the treatment of SZ and SAD.

DBS, a procedure that implants electrodes in the deeper structures of the brain connected to generators in the chest, is rare in treating SZ and SAD; there are only 13 published cases. While most of these patients saw resolution of psychotic symptoms, one experienced hemorrhage and infection post-operation.

Researchers at the University of Colorado Anschutz Medical Campus sought to gauge the ethics of DBS in patients who have not responded to other [treatment](#) by comparing surgical risk to disorders such as Parkinson's in which DBS is commonly used as treatment.

"Our goal was to assess potential surgical risk in light of potential effectiveness of DBS for SZ and SAD patients to be fully transparent with patients seeking the highest levels of treatment," says Judith Gault, Ph.D., associate research professor of neurosurgery at the University of Colorado School of Medicine and corresponding author. "Twenty percent of SZ and SAD patients are treatment-refractory. It's our responsibility to ensure these novel and advance therapeutics are available to populations who feel they have run out of options, as is our duty to ensure clinicians, patients and caregivers make informed ethical decisions when considering DBS as a new experimental treatment option."

Researchers utilized a browser-based statistical analysis software called TriNetX Live to directly compare adverse surgical outcomes for procedures to treat SZ and SAD against Parkinson's diseases cases. The analysis assessed over 35,000 records, from 48 U.S. states, spanning 19

years to determine postsurgical morbidity and mortality.

Results indicate that patients with SZ and SAD had lower postsurgical mortality than those with Parkinson's, suggesting that DBS is an ethical and reasonable option for treatment-refractory SZ and SAD [patients](#). Ultimately, candidate selection is done on a case-by-case basis with comprehensive consideration of factors relevant to DBS success.

"We were not sure what results this study would yield, so this good news brings us one step closer to having another, potentially life-changing, treatment option when all other measures have failed them," says Rachel Davis, MD, associate professor of psychiatry at CU School of Medicine. "Neurosurgical intervention is something that requires scrupulousness, transparency and trust at every level of the decision-making process. These results provide a foundation for moving forward with larger-scale [clinical trials](#) and potential treatment options."

More information: Judith M. Gault et al, Postsurgical morbidity and mortality favorably informs deep brain stimulation for new indications including schizophrenia and schizoaffective disorder, *Frontiers in Surgery* (2023). [DOI: 10.3389/fsurg.2023.958452](https://doi.org/10.3389/fsurg.2023.958452)

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