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Surgical management of synucleinopathies

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Synucleinopathies represent a diverse set of pathologies with significant morbidity and mortality. In this review, we highlight the surgical management of three synucleinopathies: Parkinson's disease (PD), Dementia with Lewy Bodies (DLB), and multiple system atrophy (MSA). After examining underlying molecular mechanisms and the medical management of these diseases, we explore the role of Deep Brain Stimulation (DBS) in the treatment of synucleinopathology. Further, we examine the utility of Focused Ultrasound (FUS) in the treatment of synucleinopathies such as PD, including its role in Blood-Brain Barrier (BBB) opening for the delivery of novel drug therapeutics and gene therapy vectors. We also discuss other recent advances in the surgical management of MSA and DLB. Together, we give a diverse overview of current techniques in the neurosurgical management of these pathologies.

References

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Biography

Brandon Lucke-Wold was born and raised in Colorado Springs, CO. He graduated magna cum laude with a BS in Neuroscience and distinction in honors from Baylor University. He completed his MD/PhD, Master's in Clinical and Translational Research, and the Global Health Track at West Virginia University School of Medicine. His research focus was on traumatic brain injury, neurosurgical simulation, and stroke. At West Virginia University, he also served as a health coach for the Diabetes Prevention and Management program in Morgantown and Charleston, WV, which significantly improved health outcomes for participants. He was an active member of the Gold Humanism Honor Society and Alpha Omega Alpha Honor Society. He is currently a member of the Young Neurosurgeons' Committee. He is married to Noelle Lucke-Wold, and has a toddler daughter named Esme. As a family, they enjoy running with their dogs, rock climbing, and traveling the world. In his spare time, Brandon frequently runs half marathons and 10ks together with his wife. Brandon also enjoys reading and discussing philosophy and playing chess. He is excited to join the neurosurgery residency program at University of Florida.

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