



Nature, Nurture, and Deep Brain Stimulation

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This August's issue of *Psychiatric Annals*, guest-edited by **Darin D. Dougherty, MD, MSc**, features a review of the latest research on deep brain stimulation (DBS). Why would we devote an entire issue to such an experimental treatment? The answer, as one can read in this series, is because this treatment is showing increasingly positive effects both acutely and in longer-term follow-up (up to 2 years!) in the movement toward the resolution of a multitude of treatment-resistant psychiatric disorders.

DBS for obsessive-compulsive disorder (OCD), reviewed by **Andrew K. Corse** and colleagues (see page 351), shows positive effects to this disorder involving similar circuits. The article on the use of DBS for treatment-

resistant depression by **Navneet Kaur** and colleagues (see page 358), highlights the significance of the various brain circuits underlying depression, emphasizing the importance of circuits relating to

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specific neuro-anatomic structures of the brain. Experimental use of DBS for other disorders such as anorexia nervosa, a very difficult to treat disorder, as well as Tourette's syndrome, and even Alzheimer's disease are reviewed by **Amanda R. Arulpragasam** and colleagues (see page 366).

When we consider the effects of DBS, it raises so many questions: just how does stimulating various circuits in the brain remove the

thoughts and feelings that are part of clinical depression or OCD? Are these circuits affecting chemical levels that have somehow gone askew? Were these aberrant circuits created by response to experiences, social forces and stresses or something else entirely? What is being normalized as depression lifts, often within the first week of stimulation? The very fact that brain stimulation dramatically changes a person's entire outlook on life challenges us to understand this phenomenon. How can we account for this effect? The fact that it is sometimes only partially successful, raises further questions — if it is normalizing brain circuit function, why doesn't DBS always work? The fact that this marvelous brain generates a consciousness that is affected by life experiences, gene expression, neurochemicals, and electrical circuits presents us with both opportunities and wonder. How will we ever synthesize this amazing brew?

The mystery of human brain function and its interaction with experience and learning continues. What a wonderful mystery it is.

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