Identifying genetic diagnoses for neurological conditions with a considerable hereditary component, such as autism spectrum disorder (ASD), intellectual disability, and epilepsy, is critical to providing proper medical management for these patients and their families. However, many patients with these conditions are not tested appropriately or receive no genetic testing at all. The current study was designed to characterize the genetic testing practices of the providers most likely to evaluate or order genetic testing for these patients: pediatric neurologists, geneticists, and genetic counselors. The study identified significant variance between the testing strategies reported by neurologists compared to those of geneticists and genetic counselors. Overall, the results of this study support the need for further education for pediatric neurologists regarding genetic testing and updated guidelines that are consistent across specialties and readily accessible by the primary providers for patients with these conditions. Further, the continued integration of genetic counselors into pediatric neurology clinics would improve utilization of genetic testing while reducing the burden on neurologists.