

STRONG CHILDREN'S RESEARCH CENTER

Summer Research Scholar

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ABSTRACT

Title: Examining Brain Death Exams: The Pediatric Registry of Brain Death Practices (PROBE) Project

Background: Brain death is defined as the “irreversible cessation of all functions of the entire brain.”¹ While it is a clinical and legal definition of death, it is a morally complex topic and can be contested legally. A pediatric brain death exam typically consists of two physical exams, two apnea tests, and sometimes ancillary tests to establish if a patient is brain dead or not.² These exams are largely standardized across the United States; however, there are details that vary in administering the exam across institutions.

Objective: The PROBE project is an international study examining the differences in administering pediatric brain death exams across institutions. Their goal is to identify the best practices for administering pediatric brain death exams to make the process safer, more reliable, and more efficient. They also want to explore the epidemiology of pediatric patients that receive brain death exams, characterize patients that “fail” brain death exams, and study the management and contestation of brain death. Golisano Children’s Hospital at UPMC is one of approximately 50 pediatric centers that were invited to participate in this study.³

Results: From January 1, 2016, to December 31, 2022, 212 patients passed away in the Golisano Children’s Hospital PICU. Of these 212 patients, 51 patients received at least one brain death exam, and 39 of these exams led to a diagnosis of brain death. For the patients who underwent at least one brain death exam, information about their background, medical history, brain injury, brain death exam(s), and post-death management was recorded in a temporary database (n=51). This information will soon be transferred to the official PROBE database for future examination and comparison. Trends of high organ donation rates and low brain death contestation rates were observed within this sample.

Conclusion: The rate of brain death exams observed at Golisano Children’s Hospital was on par with the expected number of brain death exams: 50 (average 10 exams per year, over 5 years). Patient data was successfully recorded and is ready for entry in the PROBE database. Golisano’s contribution to the PROBE project will help improve pediatric brain death exam standardization in the future.

Bibliography

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3. Kirschen, M. Pediatric Registry of Brain Death Practices (PROBE). Powerpoint presented virtually at Study Start Up Meeting; February 28, 2023.