Medical error

- COSMOS: Interrater and Intrarater Reliability Study of a Novel Outcome Measure
- Generalized unscented transformation for forecasting non-Gaussian processes
- Revisiting sylvian fissure dissection - A preliminary investigation into surgical process modelling for evaluating surgical proficiency
- Comparison of sodium fluorescein and sodium fluorescein with intraoperative ultrasonography Efficacy in glioblastoma resection
- The Orbital Grading system yields higher precision than the Matsushima grading system in assessing angiographic outcomes after EDAS for Moyamoya disease: an interrater reliability analysis
- Efficacy of a theoretical-practical course for the ultrasound measurement of the optic nerve diameter in different healthcare operators
- Automated labeling using tracked ultrasound imaging: Application in tracking vertebrae during spine surgery
- Performance and adaptability comparison between medical students and experienced neurosurgeons using a robotic exoscope with a head-mounted display

Hospital medical errors are the third leading cause of preventable deaths in the United States. Furthermore, a joint study conducted by the Mayo Clinic and the American Colleges of Surgeons revealed that 8.9% of surgeons who participated in the study reported that they were likely to have made a major medical error within the three month period preceding the study [1)].

It is therefore imperative that all levels of the perioperative team including frontline nurses, surgeons, anesthesiologists, advanced practice nurses and unlicensed assistive personnel, sustain a practice environment that supports evidence-based care, deliberative collaborative practice, interprofessional teamwork, communication, safety, quality outcomes and patient and staff satisfaction.

Studies of error and adverse events in medicine have brought a growing awareness of the extent of harm to patients. The psychology of human error strongly suggests that individual liability to error is strongly influenced by the conditions and organisation of the working environment and the nature of the task, in particular the complex and inherently uncertain judgements frequently made in medicine. Research into accidents in medicine and other high risk areas has lead to a much broader concept of causation, with less focus on individuals and more on pre-existing organisational factors. These ideas have been adapted to practical use in healthcare in the analysis of adverse events and in working towards developing safer systems of care [2)].

The magnitude of medical errors in neurosurgery and the lack of focused research emphasize the need for prospective categorization of morbidity with judicious attribution. Ultimately, we must raise awareness of the impact of medical errors in neurosurgery, reduce the occurrence of medical errors, and mitigate their detrimental effects [3)].

Impact

Morbidity and mortality due to preventable medical errors are a disastrous reality in medicine.

Litigation

During the last 2 decades, there has been a shift in the U.S. health care system towards improving the quality of health care provided by enhancing patient safety and reducing medical errors. Unfortunately, surgical complications, patient harm events, and malpractice claims remain common in the field of neurosurgery. Many of these events are potentially avoidable. There are an increasing number of publications in the medical literature in which authors address cognitive errors in diagnosis and treatment and strategies for reducing such errors, but these are for the most part absent in the neurosurgical literature [4].

Types

Surgical error

Preventable medical error

see Preventable medical error.

1)
Shanfelt T, Sinsky CA, Swensen S 2017 Preventable deaths in American hospitals Available from: http://catalyst.nejm. org/medical-errors-preventable-deaths/ [Accessed May 2018]
2)
Vincent C. Principles of risk and safety. Acta Neurochir Suppl. 2001;78:3-11. PubMed PMID: 11840727.
3)
Rolston JD, Zygourakis CC, Han SJ, Lau CY, Berger MS, Parsa AT. Medical errors in neurosurgery. Surg Neurol Int. 2014 Oct 13;5(Suppl 10):S435-40. doi: 10.4103/2152-7806.142777. eCollection 2014. PubMed PMID: 25371849.
4)
Fargen KM, Friedman WA. The science of medical decision making: neurosurgery, errors, and personal cognitive strategies for improving quality of care. World Neurosurg. 2014 Jul-Aug;82(1-2):e21-9. doi: 10.1016/j.wneu.2014.03.030. Epub 2014 Mar 17. Review. PubMed PMID: 24650488.