SNACC

SOCIETY FOR NEUROSCIENCE IN ANESTHESIOLOGY AND CRITICAL CARE

ARTICLE OF THE MONTH

Medical Error Avoidance in Intraoperative Neurophysiological Monitoring: The Communication Imperative

J Clin Neurophysiol 2017;36(6):477-83.

Welcome to the June 2018 edition of SNACC's article of the month!

This month's topic addresses communication within the neurosurgical operating room, in this case, within the context of intraoperative neuromonitoring. Communication within the team is described here as an integral part of the neuromonitoring system that must function smoothly in order to maintain safety.

Commentary is provided by Dr. Laura Hemmer of Northwestern University Feinberg School of Medicine. Dr. Hemmer is an associate professor of anesthesiology and neurological surgery, sits on the board of directors of the American Society of Neurophysiological Monitoring, and serves on the SNACC neuromonitoring subcommittee of the education committee. Her academic interests include intraoperative neuromonitoring and perioperative safety.

We invite SNACC members to further discuss this topic on **Twitter** feed or on **Facebook**.

~ Adrian Pichurko, MD, Oana Maties, MD, and Nina Schloemerkemper, MD

Commentary

Laura B. Hemmer, MD

Particularly since the report "To Err Is Human: Building a Safer Health System" in the year 2000, there has been a myriad of literature regarding the impact of poor communication on medical errors.[1] Dysfunctional communication is reported to be the main cause of sentinel events and exceeds medical errors caused by incorrect or deficient medical care.[2] In the article selected for this commentary, Skinner *et al.* summarize the subject of error avoidance in the operating room, especially as applied to intraoperative neuromonitoring (IONM) and communication of its results by the IONM team.[3]

As noted by the authors, there are two main human error-reduction concepts relevant to IONM: 1) forgiving system design, as signal loss may indicate a correctable issue before permanent neurological injury; and 2) intentional redundancy of multimodality IONM (where each modality independently assesses the same structure),

which reduces the number of false positive alarms. These two characteristics of IONM make interaction between operating room team members particularly important in influencing error rates as pertaining to IONM. As a basic example, in the event of an IONM signal loss, it is imperative that the neurophysiologist initiates clear communication to the surgeon and anesthesiologist in attempt to avoid, or at least mitigate, permanent neurologic injury. The surgeon (and anesthesiologist) must be receptive and without cognitive bias to this input to act on it appropriately. The authors discuss the need for open and trusted communication between team members and discuss the role of checklists in reducing errors and promoting communication and situation awareness. Checklists have been developed that work toward these goals in spine surgery and include IONM.[4,5] The review also addresses some other possible hindrances to effective communication including the traditional hierarchical operating room structure and utilization of offsite IONM professionals.

This review targets those who interpret and communicate IONM recordings, and, as neuroanesthesiologists, most of us are not officially interpreting IONM recordings. However, communication is enhanced through teamwork and team familiarity.[6,7] Just as understanding the surgical procedure is necessary for delivering an optimal anesthetic, understanding IONM can improve situational awareness and foster patient care. Patient care is facilitated when all intraoperative team members have a basic understanding of what the other team members are doing and when teams communicate effectively. This concept is perhaps also implied in the article through the array of its authors' specialties — neurology, neurophysiology, anesthesiology, and neurological surgery. Clearly, neuroanesthesiologists should have a solid understanding of IONM in order to play an active team role when neuromonitoring problems/changes occur to help ensure the best outcome for our neurosurgical patients.

References:

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