

THE SURGEON'S ROLE IN IOM

Jack M. Kartush, MD

June 7, 2014

At this time next year, in 2015, we will be celebrating the 25th Silver Anniversary for the American Society of Neurophysiological Monitoring.

As founders of the Society, one of our guiding principles was proper monitoring is dependent on all the team's members being well trained. Therefore, the Society should be multidisciplinary: including surgeons, technologists, neurophysiologists, neurologists and anesthesiologists. Regrettably, over the years, surgeon participation in the ASNMM has dwindled to nearly zero. This is unfortunate not only because our Society suffers by not having surgeons' input into Society matters, but more importantly, surgeons and their patients may suffer because they and their surgical societies have not kept up with monitoring-specific education that is required to make the most of intraoperative neurophysiologic data.

I have often been asked by both plaintiffs and defendants to provide expert opinion on cases where patients have been injured during surgery. It is interesting to note that over the years, no longer is the allegation of "Failure to monitor" the most common complaint – instead, it is now "Failure to monitor *correctly*". This allegation of malpractice is routinely directed against the entire team: surgeon, technologist, neurologist and monitoring company/department.

Technologists and neurophysiologists have seen increasing opportunities for monitoring training and certification. But with the logarithmic growth of monitoring over the last 30 years, there has not been a concomitant growth in *surgeon* education. Typically, when complex new surgical technology or procedures are introduced (e.g. lasers, endoscopes, robotic assistance), universities and surgical departments will establish formal protocols and a core curriculum to assure proper training and reduce the risk of patient injury. In contrast, the adoption of nerve monitoring has mostly seen cursory OJT – on-the-job training – often a senior surgical resident showing the junior resident how to set up the monitor as the patient is being prepped.

This is of particular importance with certain types of monitoring often performed solely by the surgeon, without any technical assistance. Common examples include facial and laryngeal nerve monitoring. Under these circumstances, the surgeon must have specific knowledge and training of both the technical and interpretive aspects of these modalities. Because these single modality procedures (often providing instantaneous feedback to the surgeon through auditory display of the EMG response) are some of the simplest to understand and monitor, a well-trained surgeon does indeed have the potential to provide stellar service to the patient both on technical and interpretive sides.

However, therein lays the ultimate question: *are* surgeons well-trained in the specifics of neurophysiologic monitoring? As a surgeon who frequently lectures around the country on monitoring, I must regrettably reply that the answer for the majority of surgeons is "No". And with the advent of surgeon-directed spine monitoring using multiple modalities (EMG and MEP's), even greater demands are being placed on surgeon knowledge and experience.

Surgeons have a tremendous potential to properly perform both the technical and interpretive components of monitoring based on their many years of intense training that far surpasses the training of any other individual in the operating room. Such training includes anatomy (including cadaver dissections), physiology, pharmacology, anesthesia and surgical technique. Only the surgeon is precisely aware of how each surgical maneuver they perform is correlated to the neurophysiologic responses in real time. This would seem to give the surgeon a great advantage - but there are two problems.

First and foremost, surgeons typically lack monitoring-specific training. Despite having a formidable foundation in medicine and surgery, proper monitoring is best served by the surgeon having training that is specific to both the *modality* used and the *procedure* performed. Just as for technologists and neurophysiologists, failure to have such specific training can compromise the quality of monitoring and, in turn, patient safety. Second, depending on the complexity of surgery and the complexity and need for multi-modality monitoring, it may simply be impossible for the surgeon to operate and monitor at the same time. Consequently, there is an undeniable need for technical and interpretive assistance dependent upon 1) the modalities used, 2) the procedure performed, and 3) the IOM training of the surgeon.

Thus, if our patients are to be best served, it is essential that every member of the operative monitoring team have training specific to the modality used and the procedure performed. Surgeons and their surgical societies have an obligation to ensure that this training is part of their core curriculum. Surgical societies could very well create such core curricula and Clinical Practice Guidelines on their own. Unfortunately, the reality is that this has rarely occurred. Therefore surgical societies must either develop these training programs on their own - or take advantage of the one multidisciplinary society in the nation that is dedicated to intraoperative neurophysiological monitoring: the ASNM.

With this column, we hope in future issues to have surgeons share their viewpoints in the "Monitor" newsletter. Furthermore, we hope to engage surgeons to become co-authors in a new series of Clinical Practice Guidelines that are procedure-specific. In so doing, these surgeons can act as ambassadors to bring these critical matters back to their respective fields – so all may benefit.