

## **Positioning Problems You Hope to Never Encounter**

**2016**

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Dr. Alan Schwartz: Hello. This is Alan Jay Schwartz, Editor-in-Chief of the American Society of Anesthesiologists' 2016 *Refresher Courses in Anesthesiology*, the latest research and education information. The focus of the new online format of the *Refresher Courses in Anesthesiology*'s CME program, and the modules featured, is to educate learners on current developments in the science and clinical practice of the specialty of anesthesiology, critical care medicine and pain management. For the first time ever, we will be speaking directly with individual authors to learn about their expertise, perspective and insight regarding their featured module.

Today, we are pleased to present the following one-on-one conversation with Dr. Rebecca Johnson, and will be highlighting the module titled, "Positioning Problems You Hope You Never Encounter."

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Dr. Alan Schwartz: Dr. Johnson, thank you for talking with us today. You and your co-author, Mary Ellen Warner, have written a wonderful review of morbidity associated with positioning problems during anesthesia patient care. Since this is an often-underappreciated concern, what key lessons do you want our clinical colleagues to learn from your Refresher Course module?

Dr. Rebecca Johnson: Dr. Schwartz, thank you so much for your kind introduction, and for this opportunity to speak on this topic. Positioning a patient for procedures is often a working balance between obtaining the surgical exposure necessary to see the anatomy, and yet balance what extreme positions that can be structurally and physically tolerated by your patient. Anesthesiologists are expected to accept or share responsibility for modifying the surgical position in such a way that allows surgical exposure; however, allows for – match the needs of your particular patient’s concerns.

Another key aspect, I think, of importance, is the causes of perioperative positioning-related injuries are often not clear. While there are potential anatomic and neurophysiologic reasons, such as prolonged compression and stretch associated with injury, there is also data produced at Mayo Clinic to suggest that perioperative inflammation, resulting in microvasculitis, may also be an important contributing factor. Stretching of nerves 5% or greater beyond their resting length may kink feeding arterials and promote venous congestion, both resulting in ischemia within nerve tissues. Padding provided by any number of different materials, such as gel or foam pads or blankets, should be used to widely disperse point pressures on body parts and soft tissues, and our patients should be placed in positions that are comfortable while they are awake.

Data does exist that the likelihood of injury is higher for operations lasting five and a half hours or longer, but less likely to occur for those lasting four hours or less. The entire surgical team, including anesthesia, should take measures to reduce the duration of surgery, considering the strong association with central and peripheral neuropathies.

There are several unique and catastrophic positioning-related problems, such as vision loss in patients positioned prone, or spinal cord ischemia and paralysis associated with excessive flexion or extension, that stand out probably most in our minds. However, it’s far more common to encounter sensory and motor

neuropathies of the extremities, such as ulnar neuropathy and soft tissue injuries, that can also be devastating for our patients.

Lastly, position-related injuries should be reported. If your patient sustains an injury in the perioperative period, the case may be confidentially referred to the Anesthesia Incident Reporting System, which is a repository of cases maintained by the ASA's Anesthesia Quality Institute, and can be reported on at [www.aqihq.org](http://www.aqihq.org). These cases are reviewed by colleagues, and the lessons learned are aggregated and disseminated in order to provide anesthesiology education for us all.

Dr. Alan Schwartz: Thank you, Dr. Johnson, for your insights about safely positioning patients during anesthesia, and for this education for ASA members. And thanks to the audience for participating in this insightful conversation with this month's featured author. Be sure to join us for next month's one-on-one author interview, presented in this new, exciting format.

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