EDITORIAL

Acute stress impacts psychomotor performance**Bob Carter, MD, PhD**

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SIGNIFICANT intraoperative bleeding can be a stress-inducing event for neurosurgeons. Most neurosurgeons will undoubtedly recall dealing with a ruptured aneurys

sure using patties, coagulation, and/or clipping of vessel structures and the use of hemostatic techniques. The removal of patties, like the initial event, can be associated with hemorrhage resulting in hypotension, bradycardia, and cardiac arrest in the patient. Our study explored how bimanual psychomotor performance in an acutely stressful simulated tumor bleeding scenario followed by the need to immediately perform simulated microsurgery differs between experts and novices. Ericsson and Charness define expert performance as a laboratory technique used to assess expertise in a simulated environment under controlled conditions that should mimic the real task as closely as possible.²

The NeuroTouch virtual reality simulator with haptic feedback was utilized in an attempt to recreate, or mimic, the sense of touch provided by applied forces, vibrations, and motions for the operator, as well as the appropriate instrument sounds and heart beat. These initial scenarios are indeed “limited,” and we are working diligently to develop more realistic scenarios involving a greater number of participants, which could address some of our present shortcomings. For complex neurosurgical scenarios involving lesions adjacent