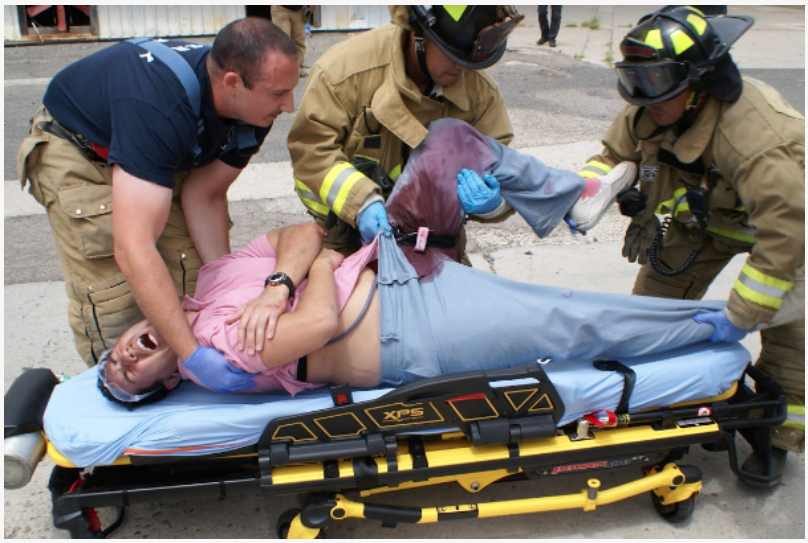
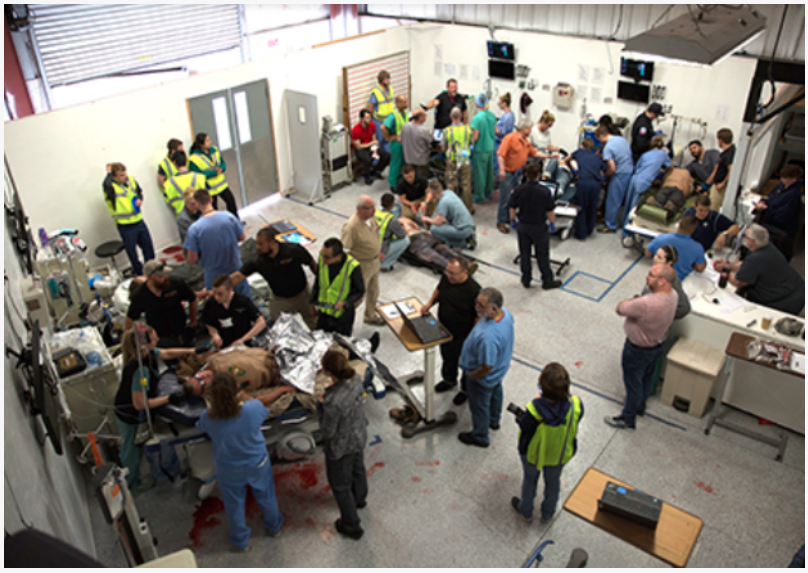
# Understanding Fatigue and Sleep Deprivation: Physicians, Nurses, and Other Safety-sensitive Occupations

*Insufficient sleep and fatigue in healthcare personnel can lead to medical errors and mistakes that compromise patient care.*



Pre-hospital and Triage



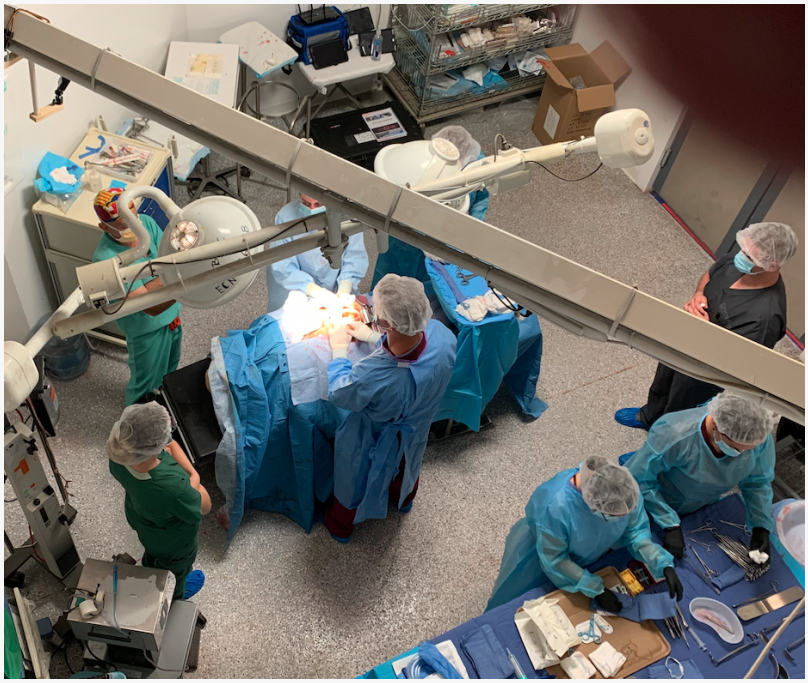
Emergency Room

SCOTTSDALE, ARIZONA, US, September 6, 2023 /EINPresswire.com/ -- ZXEREX Corporation was launched by Arizona State University (Skysong Innovations) and the Barrow Neurological Institute (Common Spirit) to research and commercialize its impairment screening capabilities. The company's research led to the development of a non-invasive, real-time brain-based rapid screening to identify impairment related to the use of drugs, including opioids and marijuana.

Using the same technology, ZXEREX has developed objective biomarkers of fatigue and sleep deprivation that can be used in positive ways. The company is pleased to announce an upcoming publication that will appear in the journal, Surgery, entitled, "Start-of-day oculomotor screening demonstrates the effects of fatigue and rest during a total immersion training program."

This report describes research conducted by Rocky Vista University College of Osteopathic Medicine (http://www.rvu.edu) and ZXEREX during a week-long multidisciplinary hyper-realistic and immersive surgical training simulation for medical and nursing students entering military service after graduation. This is the first in a series of reports on better ways to identify fatigue,

sleep deprivation, and stress. In a simulated austere combat environment, we evaluated fatigue that students encountered in a highly realistic surgery and trauma skills training event held at Strategic Operations in San Diego, CA (https://www.strategic-operations.com).


Operating Room

Providing patient care is demanding and depends upon the individual provider's ability to work as a team and perform well under stress, both cognitively and physically. Our shared goals are to mitigate the risk of mishaps and injuries and to provide feedback that can enhance personal performance in prehospital, ER, operating room, and hospital environments.

Using ZXEREX's eye tracking and AI to further study the role fatigue plays in medical practice and personal performance, the company continues to refine its biomarkers to deliver reliable, real-time, objective indicators of fatigue that will reduce risk through greater self-awareness.

Given the demands of safety-sensitive occupations, especially in healthcare, biomarkers such as these can be used to reduce risk, especially during 12-hour and alternating shifts so prevalent in healthcare and public safety.

The demands of medical practice can be overwhelming at times. Physicians and nursing personnel are not immune to fatigue or sleep disturbance and are just as susceptible as anyone else. It is well known that sleep deprivation hampers our ability to make good decisions and perform at peak levels. Being able to better identify the early signs and symptoms of fatigue will go a long way to improving patient safety.

ZXEREX understands and strongly supports the value of experiential learning in medical education and is pleased to see how this research opportunity can add to the quality of hands-on training and the safe delivery of care.

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