

A 24-Hour Shift in the Neurosurgeon's World : Decompressive Hemicraniectomy during the Night

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To the editor,

At midnight in the hospital, the tired eyes of neurosurgery residents and consultants reveal the anticipation of a busy period. The serenity of night shifts is frequently illusory, disrupted by the sudden arrival of a patient experiencing a critical stroke or bleeding. During the twilight hours, the harsh truth of medicine becomes apparent—the urgent need for a decompressive hemicraniectomy, an operation that determines whether one will survive or suffer severe neurological consequences or even death¹.

For the neurosurgeon, weariness is a significant challenge that is just as formidable as the medical conditions they treat. Every decision carries a greater significance during the quietness of the night, when the bustling of daytime commotion has receded into a distant recollection. However, the operating room at night holds a hallowed atmosphere where concentration is heightened, interruptions are minimized, and the connection among surgical team members is often intensified, formed through their common dedication to life-saving procedures during unconventional hours.

The nocturnal ambiance of the hospital does not mirror the tumultuousness experienced during the day, yet for the neu-

rosurgical team, the arrival of night does not bring tranquility. The resident, possibly bracing against the chilly wall in a rare moment of calm, is suddenly propelled into motion upon receiving a call—an unmistakable type of notification that triggers a spike of adrenaline through their veins. A patient is arriving with a critical condition of either cerebral hemorrhage or ischemic stroke that has surpassed the point where medical treatment can be effective and now requires a decompressive hemicraniectomy. The task at hand continues with unwavering urgency, unaffected by the darkness of the night. The question arises as to whether the neurosurgery team's proficiency in overcoming the difficulties encountered during nighttime and effectively carrying out decompressive hemicraniectomies has an impact on the patient.

In the stillness of the night, the demands of the procedure are heightened as the team must navigate the complexities of the human brain with unwavering precision. The scrutiny of every move in the dimly lit operating room underscores the magnitude of the task at hand. The attention to detail and the cohesive synergy among team members are not merely professional requirements; they are the pillars on which the hopes of patients and their families rest.

The underlying association between nightfall, lower alert-

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ness, and cognitive performance is dictated by the innate circadian rhythm of the human body. Multiple studies have repeatedly demonstrated that cognitive function, decision-making skills, and manual dexterity are markedly impaired during the night, which could have crucial consequences for surgical results^{2,3}. An instance of such a complication arises when the operation is conducted on the incorrect side of the skull. This phenomenon can arise as a result of diminished cognitive function and poorer decision-making capabilities at night. Moreover, the diminished hand skills observed during these hours could heighten the likelihood of surgical errors.

The increased probability of weariness and sleep loss within the surgical crew during night shifts must not be disregarded. Extended periods of being awake and inconsistent sleep schedules can result in compromised decision-making, delayed response times, and reduced focus on specific tasks, all of which are crucial in the high-pressure environment of a surgical operation. It is crucial to thoroughly evaluate the potential consequences of reduced cognitive and physical abilities on the accuracy and safety of decompressive hemicraniectomies.

To maintain the highest level of patient safety and surgical outcomes, it is crucial to carefully consider the need for prompt care while also taking into account the potential negative effects of nighttime weariness on surgical performance. To limit the hazards associated with sleep deprivation and assure optimal surgical abilities, it is advisable to implement techniques such as shift rotations, mandated rest times, and fatigue management programs⁴.

AUTHORS' DECLARATION

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No potential conflict of interest relevant to this article was reported.

Informed consent

This type of study does not require informed consent.

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