Resident work hour regulations are a major concern in residency training programs. Previous studies have noted the risks inherent in daytime sleepiness during the post-call period, including potential adverse patient outcomes.

Residents' self-perceptions of their degree of physiologic sleepiness were poor and that levels approached those of clinical sleep disorders.

Additional studies have shown the negative impact of sleep deprivation and the effects on decision making and memory.

Due to these concerns, the American College of Graduate Medical Education (ACGME) has mandated limits for resident work hours.

A night float system has been implemented in many institutions to address these concerns and to help in achieving this goal.

The daytime physicians are relieved by a night team that admits patients and takes care of patientrelated tasks. The day team then returns the following day to continue the care of the patients. Thus, the extended hours of the post-call day are avoided.

Although NF is a potential solution, it has generated a number of concerns. Residents feel that NF does not provide adequate teaching and view the rotation as more of a "service" rotation rather than as a learning opportunity.

Another concern is the discontinuity of care, which may result in poor patient satisfaction and adverse outcomes.

Many studies examining the perceptions of residents towards the NF system have been limited by small sample sizes ranging from 10 to 24 residents, brief surveys consisting of 10 to 30 questions, experiences of a group of residents in a single hospital or a single post-graduate year, and a lack of comparison between a NF and a non-NF system.

Many neurosurgical training programs have moved from a 24-hour resident call system to a night float system, but the impact on outcomes is unclear.

Davis et al., compare length of stay (LOS) for neurosurgical patients admitted before and after initiation of a night float system at a tertiary care training hospital.

The neurosurgical residency at the University of Alabama at Birmingham transitioned from 24-hour call to a night float resident coverage system in July 2013. In this cohort study, all patients admitted to the neurosurgical service for 1 year before and 1 year after this transition were compared with respect to hospital and ICU LOSs, adjusted for potential confounders.

A total of 4619 patients were included. In the initial bivariate analysis, night float was associated with increased ICU LOS (p = 0.032) and no change in overall LOS (p = 0.65). However, coincident with the transition to a night float system was an increased frequency of resident service transitions, which were highly associated with hospital LOS (p < 0.01) and ICU LOS (p < 0.01). After adjusting for resident service transitions, initiation of the night float system was associated with decreased hospital LOS (p = 0.047) and no change in ICU LOS (p = 0.35).

This study suggests that a dedicated night float resident may improve night-to-night continuity of

care and decrease hospital LOS, but caution must be exercised when initiation of night float results in increased resident service transitions  $^{1)}$ .

## 1)

Davis MC, Kuhn EN, Agee BS, Oster RA, Markert JM. Implications of transitioning to a resident night float system in neurosurgery: mortality, length of stay, and resident experience. J Neurosurg. 2016 Jul 8:1-9. [Epub ahead of print] PubMed PMID: 27392266.

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