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# SHORT REST SOLUTIONS IN HEALTH CARE SETTINGS

Long shifts are still the main practice within healthcare organizations across the country, with 37.9% of physicians working over 60 hours per week, and trainees in residency averaging 80 hours.<sup>1</sup> Unsafe working hours have been identified as one of the main causes of burnout, and impose a significant toll on practitioners' mental and physical wellbeing as well as affecting the safety of the patients in their care.<sup>2</sup> To minimize these risks and better care for their employees, many organizations have started implementing programs tackling the symptoms and root causes of fatigue. Among these, the provision of appropriate rest facilities and encouraging staff to take short naps during and after long shifts have been proven to be particularly effective.

## Sleep deprivation and mental wellbeing

Burnout constitutes a real public health crisis in the US, affecting 1 in 2 physicians and 1 in 3 nurses.<sup>3</sup> A Medscape report found a strong correlation between the number of hours worked and the level of exhaustion and stress. While the burnout rate was 26% for those working between 30 and 40 hours per week, it more than doubled for their counterparts working 71 hours or more (57%). A rate of 69% was observed among medical students, who are regularly working up to 80 hours and are subjected to significant stress. For reference, the rate for the general population is 27.8%.<sup>4</sup> One fifth of doctors reported their burnout to be so severe that they were considering leaving medicine altogether, and 30% of the respondents to the Medscape study expressed their willingness to give up \$20,000-\$50,000/year to work fewer hours.<sup>5</sup>

**51%**

doctors experiencing burnout in the US

**1 in 5**

doctors reporting burnout so severe they are considering leaving medicine

11% of US physicians feel consistently depressed, and acknowledge that their mental state affects their work in a variety of ways. In particular, they feel more easily exasperated with patients, less motivated to be careful with note-taking and express frustration more often. Persistent low mood and high levels of stress in medical

staff often leads to suicide: it is estimated that each year 3-400 physicians take their own lives.<sup>6</sup> In one study, 9.4% of medical residents reported having suicidal thoughts in the previous two weeks, and 43.2% exhibited depressive symptoms.<sup>7</sup> Disparities also exist among genders, with female doctors being more likely to be emotionally exhausted with a suicide rate up to 130% higher than the general population, compared to 40% for their male counterparts.<sup>8</sup>

**1 a day**

physician taking their own life

**130%**

higher rate of suicide for female doctors compared to the general population

In addition to having an effect on staff and patients, burnout costs the economy \$4.6 billion per year through higher turnover and reduced clinical hours. For each organization, the burden has been estimated as \$7600 per physician per year.<sup>9</sup> Moreover, a study conducted over 3 years found the overall loss of productivity due to burnout to be the equivalent of eliminating the graduating classes of 7 US medical schools.<sup>10</sup>

## Sleep deprivation and medical errors

Fatigue can also pose a threat to patients' safety through impaired performance and alertness of practitioners. A study conducted among nightshift workers, for instance, found staff to be slower at psychomotor and cognitive tasks.<sup>11</sup> Similarly, the American Association of Critical Care Nurses identified a link between fatigue, impaired decision making and risk taking.<sup>12</sup> The risk of medical errors has been found to be three times higher during shifts lasting 12.5 hours or longer, and the consequences can be fatal for patients.<sup>13</sup> Medical errors are the cause of over 250,000 deaths per year in the US, ranking as the 3rd leading factor behind heart disease and cancer.<sup>14</sup> Additionally, studies reported attention failures to occur at more than double the rate during extended night shifts, and decision regret to be prevalent in nurses working long hours.<sup>15 16</sup>

**2x**

attention failures during extended shifts

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**3x**

higher risk of making clinical errors during shifts lasting 12.5 hours or longer

### **Sleep deprivation and road safety**

Sleep deprivation can be dangerous for medical staff due to a higher risk of road accidents or 'near misses' following long shifts<sup>17</sup>, which increases by 9.1% per month with extended shifts.<sup>18</sup>

### **Benefits of short rest**

These risks can be drastically reduced by enabling and encouraging staff to rest in the workplace. Short naps of as little as 20 minutes have been found effective to improve mental states by increasing feelings of relaxation, and relieving stress even after a disrupted night sleep.<sup>19 20</sup> Similarly, naps were found to increase attention to detail and promote better decision making in physicians and nurses working in the Emergency Department.<sup>21</sup> In a pilot study conducted at the **Department of Veteran Affairs Medical Center-Northport** among first-year residents, taking a midday nap reduced attention failures by 30% as well as omissions and hit reaction time performing the tasks assigned, highlighting the potential of short rest in preventing errors and enhancing patient safety.<sup>22</sup>

**30%**

reduction in attention failures following a 20-minute nap

The cognitive effects of short rest have been measured further in a preliminary study conducted by the **Brooklyn Medical Centre**. After a nap, participants reported improved performance across all the tasks they were assigned (memory recall, visual vigilance and impulse control), with accuracy in the working memory test increasing by 24%. Similarly, participants were equally accurate but 20% faster in the task measuring impulse control.<sup>23</sup> Further research on the impacts of short rest is currently being undertaken. Lastly, less drowsiness as well as less need for recovery sleep after work has been reported when driving home after a night shift if a nap has been taken.<sup>24</sup>

### **The EnergyPod**

The EnergyPod represents an alternative solution to more traditional strategies such as on-call rooms, chairs or mattresses. Due to its innovative and compact design it

enables the conversion of virtually any space into a rest area by providing the user with privacy and quiet. It does not require linen changes and is highly hygienic as it can be wiped after each use.

Multiple healthcare organizations across the country have successfully adopted the EnergyPod as part of their welfare strategies. The **Brooklyn Medical Center** installed 3 devices in 2019 in the context of a multi-facet program aimed at improving physicians' physical and mental well-being, and research on the benefits of power naps is currently being carried out. During the COVID-19 pandemic, the pods have been used to help over-tired and over-worked hospital staff, especially those suffering from PTSD, insomnia and depression exacerbated by the circumstances.

Similarly, the **University of Florida Health** acquired a device for its newly built Neuromedicine Hospital, the Southeast's most advanced home for the care of patients with neurological illnesses. 2 units have also been installed at the **University of California - San Francisco Medical Center** who proceeded to purchase them following a successful 6-month trial in 2014.

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