

Hospital Staff Nurses' Work Hours, Meal Periods, and Rest Breaks

A Review From an Occupational Health Nurse Perspective

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ABSTRACT

Registered nurses are the largest group of health care providers in the United States. To provide 24-hour care, hospital staff nurses often work long hours and consecutive shifts, without adequate meal or rest breaks. Serious declines in functioning related to provider fatigue can lead to safety issues for patients and nurses alike. The occupational health nurse can assess the effects of nurses' work hours and break periods on employee health, educate staff on the importance of sleep and deleterious effects of fatigue, and implement programs to improve the work environment. This article examines nurses' work hours, break and meal period laws and regulations, and the role of the occupational health nurse in caring for this group of employees. Overall findings suggest that the expertise of an occupational health nurse in the hospital setting could significantly improve the health and safety of staff nurses.

Almost 3 million registered nurses (RNs) practice in the United States, representing the backbone of the American health care system (U.S. Department of Health and Human Services, Health Resources and Services Administration, 2010). In the hospital setting, RNs, or staff nurses, provide direct care to patients on a 24-hour basis. As such, staff nurses typically work long hours with infrequent meal periods or rest breaks, frequently resulting in fatigued providers (Rogers, Hwang, & Scott, 2004; Rogers, Hwang, Scott, Aiken, & Dinges, 2004; Scott, Rogers, Hwang,

& Zhang, 2006; Trinkoff, Geiger-Brown, Brady, Lipscomb, & Muntaner, 2006). The purpose of this article is to describe the current trends in nurses' work hours, meal periods, and rest breaks in the hospital setting and, using an occupational health nursing lens, to explore measures that could improve the quality of nurses' work environments. Because occupational health nurses are often charged with addressing complex health and safety issues that affect employees, nurses represent a unique group of clinicians who can deliver care to hospital-based RNs.

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NURSES' WORK HOURS AND SCHEDULES

Most nurses in the United States are employed in hospitals (U.S. Department of Health and Human Services, Health Resources and Services Administration, 2010) and are directly responsible for the safety of their patients (Kane, Shamliyan, Mueller, Duval, & Wilt, 2007). To supply this around-the-clock care, staff nurses traditionally rotated among three 8-hour shifts (i.e., day, evening, night). A nursing shortage in the late 1970s and early 1980s prompted a change in shifts to 10 or 12 hours (Josten, Ng-A-Tham, & Thierry, 2003). Today, the 12-

hour shift is most common, generally starting at 7 (a.m. or p.m.) and ending at 7 (p.m. or a.m.). A 2009 American Nurses Association (ANA) poll of more than 14,000 nurses indicated that 59.4% of the nurses worked 12-hour shifts, with 20.7% working straight 12-hour nights (ANA, 2009).

The data regarding nurses' working hours are limited; however, available statistics indicate that nurses work long hours, with few breaks or meals, and frequently do not have enough time to rest between consecutive shifts (Rogers, Hwang, & Scott, 2004; Scott et al., 2006; Trinkoff et al., 2006). The Nurses Worklife and Health Study, a longitudinal survey of 2,273 RNs, found that almost one third of the sample reported working 12 hours or more per day. One third (33.2%) of the total sample reported working more than 40 hours per week. Almost half (46.2%) of the hospital staff nurses ($n = 1,020$) reported working between 4 and 7 days each week. Further, 29% of the sample reported working six or more consecutive shifts at least once in the past 6 months (Trinkoff et al., 2006). A national study of staff nurses' work hours reported that all participants ($N = 393$) worked longer than their scheduled shift at least once in the past 28-day period and almost two thirds of the sample worked overtime 10 or more times during that period (Rogers, Hwang, Scott, Aiken, et al., 2004). A 2009 study by Kalisch and Lee that focused on nurse staffing, schedules, and teamwork ($N = 1,758$) showed that 1,283 (72.9%) of the nurses had worked at least 1 hour of overtime in the previous 3 months. Further, 621 nurses reported working 12 hours or more of overtime during the same period (Kalisch & Lee, 2009).

MEAL BREAKS AND REST PERIODS

Few national studies have focused on hospital staff nurses' meal break and rest period patterns, although data from other industries have suggested that periodic breaks may improve short-term performance and fatigue (Dababneh, Swanson, & Shell, 2001; Faucett, Meyers, Miles, Janowitz, & Fathallah, 2007; Galinsky, Swanson, Sauter, Hurrell, & Schleifer, 2000; Rogers, Hwang, & Scott, 2004; Tucker, Folkard, & Macdonald, 2003). One study exploring the effects of breaks on staff nurses showed that in 10% of the shifts worked, nurses reported having no opportunity to sit down for a break or meal. In another 43% of the shifts, nurses reported having the time for a break or to eat a meal but not being relieved of patient care responsibilities (Rogers, Hwang, & Scott, 2004). Similarly, Trinkoff et al. (2006) found that 11% of nurses reported taking no breaks during their shifts. A large survey ($N = 13,515$) conducted by the ANA (2009) found that 35% of the nurses reported taking a meal break rarely or never. Another study examining the prevalence of breaks by smoking status concluded that nurses who did not smoke were less likely to take breaks than their smoking counterparts (Sarna et al., 2009). Collectively, these results demonstrate that nurses across care settings are not only working long hours, but also often sacrificing break or meal opportunities to care for patients.

PROBLEMS ASSOCIATED WITH LONG HOURS AND SHIFT WORK

Other safety-sensitive industries, such as aviation, nuclear power, and commercial truck driving, have specific limitations on the number of hours employees can work per day. This is part of an effort to reduce errors and omissions related to fatigue. The National Transportation Safety Board (2009) lists "reducing accidents and incidents caused by human fatigue" as one of its priority safety improvements for 2009-2010. Moreover, in July 2003, the Accreditation Council for Graduate Medical Education (2002) mandated restrictions on hours worked by resident physicians. Remarkably, to date, no national restrictions have been placed on the number of hours or shifts that nurses work despite the large number of nurses at risk (Bureau of Labor Statistics, 2009). With abundant evidence that correlates shift work, overtime, and long work hours with errors, emotional disturbances, and occupational injury, nurses may be compromising patient and personal safety and quality of care they are providing patients and families (Clarke, 2007; Rogers, Hwang, Scott, Aiken, et al., 2004; Scott et al., 2006; Trinkoff et al., 2006; Trinkoff, Le, Geiger-Brown, & Lipscomb, 2007).

Errors

Although fatigue has been defined and conceptualized in varying ways for decades, Aaronson et al. (1999) offer the following definition: "The awareness of a decreased capacity for physical and/or mental activity due to an imbalance in the availability, utilization, and/or restoration of resources needed to perform activity" (p. 46). Fatigue, whether related to long work hours, inadequate recovery, or sleep deprivation, is strongly associated with cognitive, psychomotor, and behavioral impairment. Some types of decline documented in laboratory and hospital settings include slowed reaction time, lapses of attention to critical details, errors of omission, compromised problem solving, reduced motivation, and decreased vigor for successful completion of required tasks (Banks & Dinges, 2007; Barger et al., 2006; Dinges et al., 1997; Gravenstein, Cooper, & Orkin, 1990; Jewett, Dijk, Kronauer, & Dinges, 1999; Kahol et al., 2008; Lim & Dinges, 2008; Van Dongen, Maislin, Mullington, & Dinges, 2003; Van-Griever & Meijman, 1987). Nurses who work extended shifts or have limited recovery time between shifts may experience similar deficits.

In their landmark study, Rogers, Hwang, Scott, Aiken, and Dinges (2004) systematically described the work hours of hospital staff nurses to determine if an association existed between the occurrence of errors and the work hours of nurses. They found that hospital staff nurses made more errors when they worked more than a 12.5-hour shift with or without overtime. The results indicated that working 12.5 hours or longer in a 24-hour period increased the likelihood of making an error by three times (odds ratio [OR] = 3.29, $p = .001$) when compared to an 8.5-hour shift (Rogers, Hwang, Scott, Aiken, & Dinges, 2004). In a similarly designed study, critical care nurses working beyond 12.5 hours had a significantly increased

probability of making an error or near error (Scott et al., 2006).

A study by Rogers, Hwang, and Scott (2004) examined work breaks and errors in a sample of hospital staff nurses. They found a 10% decrease in the odds of making an error when nurses had an additional 10 minutes for their meal and break periods ($OR = .90, p = .02$). Although no significant difference in the number of errors made by nurses working 8.5- versus 12.5-hour shifts was found, these results still indicate that nurses should take their scheduled breaks and meals.

Affect

Research has associated sleep deprivation and shift work with altered emotional states. Specifically, researchers have found an increase in emotional lability and mood dysregulation and some evidence suggesting an increase in depressive symptoms, particularly when working the night shift (Bara & Arber, 2009; Dinges et al., 1997; Franzen, Siegle, & Buysse, 2008; Haack & Mullington, 2005). Because sleep deprivation-related cognitive and mood detriments share similar brain regions, it is possible they are related (Franzen et al., 2008). A cross-sectional study completed by Ruggiero (2003) examined the differences in anxiety, depression, and sleep disturbances among day and night shift critical care nurses. The results indicated that night shift nurses reported more depression than their day shift counterparts (Ruggiero, 2003). Staff nurses suffering from mental health problems (e.g., depression) may not be performing optimally, which can impact patient care.

Occupational Injury

Long work hours (Clarke, 2007) and evening/night shifts have been associated with an increased risk of needlesticks among nurses. In a national study of more than 2,000 nurses, working 12 or more hours per shift or any shift other than day shift was associated with a 68% increased likelihood of a needlestick (Trinkoff et al., 2007). In a larger study of more than 11,000 nurses in Pennsylvania, Clarke (2007) found a smaller yet significant increase in the odds of a needlestick with longer work hours ($OR = 1.16$ [confidence interval, 1.10, 1.23], $p = .001$). In addition to the emotional cost of needlesticks, the direct cost associated with this injury is considerable. In Washington State, compensation for needlestick injuries among health care workers totaled nearly \$1 million during a 5-year period. Not unexpectedly, nurses accounted for the largest (29%) proportion of health care workers with needlestick injuries (Shah, Bonauto, Silverstein, & Foley, 2005).

Due to the physical demands of the profession (e.g., twisting, bending, lifting), staff nurses are at increased risk for musculoskeletal injuries. Work schedules, including working more than 13 hours per day, have been associated with neck, shoulder, and back musculoskeletal disorders (Lipscomb, Trinkoff, Geiger-Brown, & Brady, 2002; Trinkoff, Le, Geiger-Brown, Lipscomb, & Lang, 2006). Limited recovery time coupled with increased exposure make extended work hours risky for this occupational group. Similar to needlestick injuries, the costs associated

with treating musculoskeletal injuries are significant, ranging from about \$50,000 to \$100,000 per nurse (Nelson et al., 2006).

WORK HOUR, MEAL BREAK, AND REST PERIOD REGULATION

Federal Regulations

Although nurses' shift length and workload and patient acuity have increased throughout the past three decades (Lucero, Lake, & Aiken, 2009), no evidence suggests a simultaneous proportionate increase in rest breaks or meal periods. Furthermore, the Code of Federal Regulations (CFR) pertaining to meal periods or rest breaks does not require either one (U.S. Department of Labor, 1961a, 1961b). However, if an individual employer provides the opportunity for employees to have short breaks, from about 5 to 20 minutes, the federal law views this break time as paid work time. That is, this time should be included in the total hours worked during the week as well as when determining if overtime has been worked. If the employer explicitly communicates other stipulations about work break length, such as a 10-minute break for every 4 hours worked, and the break is extended, then the employer's rules must be followed and the time is not compensable (U.S. Department of Labor, 1961a). Meal periods are regulated under a different section of the CFR. Meal periods, usually about 30 minutes long, are viewed as nonworking, noncompensable time (U.S. Department of Labor, 1961b):

Bona fide meal periods (typically 30 minutes or more) generally need not be compensated as work time. The employee must be completely relieved from duty for the purpose of eating regular meals. The employee is not relieved if he/she is required to perform any duties, whether active or inactive, while eating.

State and Local Regulations

In addition to federal laws regarding meal breaks and rest periods, some states have their own regulations. As of March 2010, fewer than half of the states had laws regarding these two issues (Table). Currently, only 20 states have legislation that provides workers with the legal right to a work break or meal period, under normal working conditions. Many large states with some of the densest populations follow the federal regulations (e.g., Florida, Ohio, Pennsylvania, and Texas) (U.S. Census Bureau, Population Division, 2009). However, if no state laws exist, then the federal regulations must be obeyed. With this disparity in working environments across the country, it is understandable how these issues could prove problematic in some settings. Organizations or companies may also implement rules, further complicating the situation for employees.

Typical Problems

Foreseeable problematic situations can arise due to the relatively loose federal regulations. One common situation occurs when employees are not completely relieved of

Table

State Meal and Rest Break Laws: Updated 2010

California	An employer may not employ an employee for a work period of more than 5 hours per day without providing the employee with a meal period of not less than 30 minutes, except that if the total work period per day of the employee is no more than 6 hours, the meal period may be waived by mutual consent of both the employer and the employee. A second meal period of not less than 30 minutes is required if an employee works more than 10 hours per day, except that if the total hours worked is no more than 12 hours, the second meal period may be waived by mutual consent of the employer and the employee only if the first meal period was not waived. www.dir.ca.gov/dlse/FAQ_MealPeriods.htm
Colorado	Employees are entitled to a compensated 10-minute rest period for each 4 hours of work or major fractions thereof. Employees are entitled to an uninterrupted and duty-free 30-minute unpaid meal period when their work shift exceeds 5 consecutive hours. The employee must be completely relieved of all duties for the meal period. www.colorado.gov/cs/Satellite?blobcol=urldata&blobheader=application%2Fpdf&blobkey=id&blobtable=MungoBlobs&blobwhere=1251603607574&ssbinary=true
Connecticut	No person shall be required to work for 7½ or more consecutive hours without a period of at least 30 consecutive minutes for a meal. www.ctdol.state.ct.us/wgwkstnd/laws-regs/statute31-51ii.html
Delaware	All employees must receive a meal break of at least 30 consecutive minutes if the employee is scheduled to work 7.5 or more hours per day. www.delawareworks.com/industrialaffairs/services/LaborLawEnforcementInfo.shtml#b1
Illinois	Provides for employees a minimum of 24 hours of rest in each calendar week and a meal period of 20 minutes for every 7½-hour shift beginning no later than 5 hours after the start of the shift. www.state.il.us/agency/idol/laws/law140.htm
Kentucky	Employer shall require any employee to work without a rest period of at least 10 minutes during each 4 hours worked except those employees who are under the Federal Railway Labor Act. This shall be in addition to the regularly scheduled lunch period. www.labor.ky.gov/NR/rdonlyres/CE6C7FF3-8327-4D61-B853-B62F4C8C85CA/0/WageandHourLaws.pdf
Maine	In a business with three or more employees working at one time, employees have the right to a 30-minute break after 6 hours of work unless there is a written agreement otherwise. www.maine.gov/labor/labor_laws/publications/employeerightsguide.html
Massachusetts	No person shall be required to work for more than 6 hours during a calendar day without an interval of at least 30 minutes for a meal. www.mass.gov/legis/laws/mgl/149-100.htm
Minnesota	An employer must allow each employee adequate time from work within each 4 consecutive hours of work to use the nearest convenient rest room. An employer must permit each employee who is working for 8 or more consecutive hours sufficient time to eat a meal. www.revisor.mn.gov/statutes/?id=177.254
Nebraska	Employers in assembling plants, mechanical establishments, and workshops are required to provide a 30-minute lunch period. For all other businesses, such lunch periods are given solely at the discretion of the employer. www.dol.nebraska.gov/nwd/employers/bsp/left%20side/labor%20laws.pdf
Nevada	Rest periods are based on the total hours worked daily at the rate of 10 minutes for each 3½ hours worked. An unpaid meal period of 30 minutes of uninterrupted time shall be authorized for an employee working a continuous period of 8 hours. www.laborcommissioner.com/faqs.htm
New Hampshire	An employer may not require an employee to work more than 5 consecutive hours without granting him a half-hour lunch or eating period, except if it is feasible for the employee to eat during the performance of his work, and the employer permits him to do so. http://gencourt.state.nh.us/rsa/html/XXIII/275/275-30-a.htm

New York	Every person employed for a period or shift starting before 11 a.m. and continuing later than 7 p.m. shall be allowed an additional meal period of at least 20 minutes between 5 p.m. and 7 p.m. Every person employed for a period or shift of more than 6 hours starting between the hours of 1 p.m. and 6 a.m. shall be allowed at least 60 minutes for a meal period when employed in or in connection with a factory, and 45 minutes for a meal period when employed in or in connection with a mercantile or other establishment or occupation coming under the provision of this chapter, at a time midway between the beginning and the end of such employment. www.labor.state.ny.us/workerprotection/laborstandards/employer/meals.shtm
North Dakota	A minimum 30-minute meal period must be provided in shifts exceeding 5 hours when there are two or more employees on duty. Other breaks (such as 15-minute “coffee” breaks) are not required by law, but must be paid breaks if they are offered by the employer. www.nd.gov/labor/publications/docs/posters/min-wage-072008.pdf
Oregon	Meal periods of not less than 30 minutes must be provided to non-exempt employees who work 6 or more hours in one work period. No meal period is required if the work period is less than 6 hours. Additional meal periods are required to be provided to employees who work 14 hours or more. Oregon law requires an employer-paid rest period of not less than 10 minutes for every segment of 4 hours or major part thereof (2 hours and 1 minute through 4 hours) worked in one work period. This time must be taken in addition to and separately from required meal periods. www.oregon.gov/BOLI/TA/T_FAQ_Meal_and_Rest_Period_Rules.shtm
Rhode Island	A 20-minute meal period must be given during a 6-hour shift, and a 30-minute meal period must be given during an 8-hour shift. This does not include health care facilities or companies employing fewer than three employees at one site during a shift. www.dlt.ri.gov/lis/faqs.htm#Whatisthelawregardinglunchesandbreaks?
Tennessee	State law requires that each employee scheduled to work 6 consecutive hours must have a 30-minute meal or rest period. www.tn.gov/labor-wfd/title50-2-103.htm
Vermont	An employer must provide its employees with “reasonable opportunity” to eat and use toilet facilities to protect the health and hygiene of the employee. www.labor.vermont.gov/Workers/Employed/CanmyEmployerdoThat/tabid/253/Default.aspx
Washington	Workers must be allowed a paid rest break of at least 10 minutes for each 4 hours worked. The rest period must be allowed no later than the end of the third hour of the shift. If more than 5 hours are worked in a shift: Workers must be allowed at least a 30-minute meal period. Workers must be at least 2 hours into the shift before the meal time can start. The meal time cannot start more than 5 hours after the beginning of the shift. www.lni.wa.gov/WorkplaceRights/Wages/HoursBreaks/Breaks
West Virginia	During the course of a workday of 6 or more hours, all employers shall make available at least 20 minutes for meal breaks, at times reasonably designated by the employer. This provision shall be required in all situations where employees are not afforded necessary breaks and/or permitted to eat while working. Rest periods of short duration, running from (5) to (20) minutes, must be counted as hours worked. www.wvlabor.com/newwebsite/Pages/Wage_Hour_factsheet_Break_Requirements.html

their duties during a meal period, yet do not have the time counted and paid as compensable hours. For example, if a staff nurse stayed on the unit and ate lunch at the nurses’ station while remaining available to respond to patients’ needs (e.g., answering call bells), this would be considered compensable time. Anecdotally, this is the norm on many units (Stefancyk, 2009). Nurses often do not get paid for this time, nor might they realize that they should be compensated. Another example might be if a patient experiences cardiac arrest, becomes unstable, or needs to be transferred to a higher level of care during the typical

lunch hour. The nurse may be unable to take the scheduled break, thus increasing the total hours worked and possibly increasing the nurse’s risk for errors or injury.

ROLE OF THE OCCUPATIONAL HEALTH NURSE IN ADDRESSING EMPLOYEES’ WORK HOURS, MEAL PERIODS, AND REST BREAKS

Occupational health nurses, the largest group of health care providers serving the worksite, are uniquely positioned to educate and counsel workers and promote and restore their health and wellness (American Associa-

tion of Occupational Health Nurses, Inc., 2010; Strasser & Thompson, 2010; Thompson, 2006). Due to the dynamic nature of occupational health nursing, nurses are constantly changing and adapting their practice to meet the needs of employees (Rogers, 2003). As such, occupational health nurses are well positioned to assess the effects of nurses' hours of work. The occupational health nurse's core skills of surveillance, screening, and education are essential to address employees' work environments and safety. Development of programs that foster a healthy work environment (e.g., work hours and breaks) draws on another skill set of the occupational health nurse (Hood & Larranaga, 2007; Papp & Miller, 2000).

Assessment and Surveillance

Surveillance in an occupational setting focuses on targeting high-risk workers and collecting data to identify potentially harmful effects of the workplace (Papp & Miller, 2000). As described earlier, staff nurses are at risk for all of the effects of long work hours, including fatigue and physical and psychological harm. The occupational health nurse can begin surveillance by partnering with the patient safety officer, human resources manager, and nurse executive to analyze aggregated work hours, overtime, absences, and workers' compensation claims using administrative data. Overall trends in workplace accidents or patient errors could be identified and high-risk employees could be screened, educated, and tracked for improvement.

Screening

Screening, in contrast to surveillance, focuses on the person level and attempts to detect disease or dysfunction before an individual seeks health care (Papp & Miller, 2000). The purpose of screening is to identify employees requiring further attention before overt signs or symptoms of disease occur. In this context, screening may reveal nurses with an underlying sleep disorder or work-related fatigue. One tool that may be useful in screening nurses at risk for occupational fatigue is the Occupational Fatigue Exhaustion Recovery (OFER) scale, developed and refined using a sample of more than 510 Australian hospital nurses. The short tool has three subscales to determine acute fatigue, chronic fatigue, and intershift recovery; each has robust psychometric properties (Winwood, Lushington, & Winefield, 2006; Winwood, Winefield, Dawson, & Lushington, 2005). For employees suspected of having a sleep disorder, such as obstructive sleep apnea or shift work sleep disorder, referral to a sleep clinic for more in-depth screening and testing is appropriate.

Education

Education of staff nurses is a key intervention for the occupational health nurse to use when promoting a healthy work environment. It is likely that a knowledge gap regarding federal, state, and local regulations about meal and work breaks exists in many health care organizations; the occupational health nurse can fill this gap. It is part of occupational health nurses' responsibilities to employees to remain current on all laws that affect occupational health practice so they can educate staff on laws

affecting their jobs (Thompson, 2006). Posting federal regulations in break rooms, locker rooms, and bathrooms is one passive way to educate staff. Holding brief information sessions at the end of the work shift or during the shift may be useful, as well as providing written information via the intranet or in hard copy.

Similar techniques can be used to educate staff nurses about the harmful effects of long work hours, multiple consecutive shifts, and shift work. Sleep hygiene, caffeine use, scheduled naps, and optimal scheduling are all topics that the occupational health nurse can address to increase staff knowledge. Education, coupled with periodic surveillance, is critical to identify nurses who may be working long hours or consecutive shifts or consistently missing meal breaks.

Sleep Hygiene

Sleep hygiene is a combination of conditions, routines, and practices that promote effective and continuous sleep in an appropriate environment (Billows et al., 2009; Thorpy, 2010). The occupational health nurse can educate front-line nurses and nurse managers on the basics of sleep hygiene. Most adults require 7 to 8 hours of sleep per night for optimal functioning (Banks & Dinges, 2007). Extra sleep cannot be stored for use in a time of sleep restriction. Maintaining a consistent routine eliminates a harmful sleep debt (i.e., build up of sleep pressure from too little sleep); however, a consistent routine is a challenge when working shifts. Nurses should avoid caffeine, nicotine, and alcohol close to bedtime, as well as strenuous exercise and large meals. Finally, keeping the bedroom dark, quiet, and associated only with sleeping (i.e., not watching television or reading) is extremely helpful (National Sleep Foundation, 2003). If a nurse is still having difficulty sleeping, over-the-counter sleep aids should be used cautiously. The occupational health nurse can refer employees who are having difficulty sleeping to a sleep clinic or a physician who specializes in sleep disorders.

Caffeine Use

Caffeine, the most commonly self-prescribed stimulant, can be used strategically to fight the effects of long work hours by inhibiting neurons associated with sleep (Biggs et al., 2007; Porkka-Heiskanen et al., 1997). However, caffeine should be consumed in moderation. Many nurses are unaware of the amount of caffeine that they consume and the negative effects of high doses. The body becomes tolerant of increased doses of caffeine, which may also provide a false sense of alertness, allowing individuals to overestimate their ability to function (Biggs et al., 2007). Also, caffeine can cause disrupted sleep if consumed near the end of a shift (Boivin, Tremblay, & James, 2007; Kushida, 2006). The occupational health nurse can assess nurses' daily caffeine use and assist nurses in reducing dependence on caffeine through counseling and behavioral interventions.

Scheduled Naps

Scheduled naps is a strategy that has been used in other industries, including transportation and aviation. A re-

cent meta-analysis of 12 studies that used naps as a fatigue countermeasure revealed that naps can be a useful method for temporarily reducing fatigue during periods of extended wakefulness. The researchers found that performance improved after longer naps and, as expected, the effects deteriorated after longer post-nap intervals (Driskell & Mullen, 2005). Few studies have examined the use of napping in nursing literature; however, these results are promising. In one randomized controlled trial, nurses and physicians were given a 40-minute nap opportunity at 3 a.m. during a 12-hour night shift. Participants who received the nap opportunity had significantly better performance and fewer subjective reports of fatigue than those without the nap opportunity (Smith-Coggins et al., 2006). The occupational nurse should be aware of these emerging data and advocate for scheduled naps as appropriate.

Scheduling

The occupational health nurse can also serve as a consultant to nurse managers on optimal scheduling techniques for staff members who rotate shifts. Scheduling decisions should incorporate several factors: the recovery time between shifts, the shift start time, and the direction of the shift. Short turnaround time, 8 hours or less, either between a night shift and a day shift or back to back shifts, often results in inadequate sleep time. Finally, because it is easier to phase delay than to phase advance, rotating shift workers should progress in a clockwise (forward) manner (e.g., days to evenings to nights) (Monk, 2000).

Interdisciplinary Collaboration

Occupational health nurses do not work in a silo; they are vital in developing collaborative relationships to care for employees (Garrett, 2005). One example of how the occupational health nurse could address nurses' work hours and breaks would be to work with managers who play a role in developing and implementing policies. The occupational health nurse is well qualified to function as an expert in situations where practice meets policy. Occupational health nurses must routinely develop solutions to complex problems that often include issues beyond employees' health (Salazar, Kemerer, Amann, & Fabrey, 2002). Moreover, using current research from business and health care literature concerning the high costs of occupational injury, errors, and omissions in health care settings may influence management's decision to implement policies to improve the work environment, including work hours and breaks (Marinescu, 2007).

Examples of Success

Emerging evidence suggests that increasing meal periods and work breaks in various occupational settings relies heavily on changes in organizational culture (Taylor, 2005). The occupational health nurse can facilitate change in an organization through previously described assessment and surveillance, screening, and education of employees.

The first example of success in increasing nurses' off-unit meal periods was reported by the Massachusetts General Hospital as part of their Transforming Care at

IN SUMMARY

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- 1** Hospital staff nurses are often working long hours without breaks or meal periods to care for patients. Federal law does not require employers to provide work or meal breaks, and fewer than half of all states have laws requiring meal periods and rest breaks.
- 2** Extended work hours and shift work have been associated with numerous deleterious cognitive, psychomotor, and behavioral effects, including errors, emotional disturbances, and occupational injury.
- 3** The occupational health nurse is in a unique position to assess, promote, and restore health related to the effects of long work hours among nurses employed in hospitals.

the Bedside (TCAB) initiative. Developed by the Robert Wood Johnson Foundation and the Institute for Healthcare Improvement, TCAB was created to improve care on medical-surgical units, including programs to increase retention and satisfaction of nurses. The unit profiled in the article describes a typical, busy medical-surgical floor in which most nurses never took meal periods that were truly a break (i.e., relieved from patient care duties). An occupational health nurse could work with nurse managers to implement similar strategies to increase off-unit meals, as described by the author (Stefancyk, 2009).

The second example of success related to work breaks used a health promotion perspective. Taylor (2005) developed the idea of "booster breaks," short time periods in which health-promoting activities can be performed. Ranging from stretching exercises to mindful meditation, these short, frequent breaks are aimed at relieving work-related stress. Due to the high stress of many bedside nursing positions, these booster breaks could foster a sense of relaxation and refresh the nurse before returning to work.

The occupational health nurse could also provide education (e.g., best practices on lifting and turning patients) during booster breaks. Given the high number of musculoskeletal injuries related to lifting (Brown et al.,

2005), these short information sessions may reduce strain and the severity of injuries.

Although promising, research including larger randomized controlled trials is needed to evaluate the effectiveness of these methods for increasing nurses' work and meal breaks and reducing occupational stress.

CONCLUSION

As the well-documented nursing shortage intersects with the increased demand for health care services, largely driven by a rapidly aging population (Robinson & Reinhard, 2009), hospital staff nurses will continue to face the demands of long work hours. The occupational health nurse is ideally suited to support the health and productivity of nurses employed in hospital settings through efforts to promote health and prevent the ill effects of long work hours. Using the core occupational health nursing skills of assessment, surveillance, and education, the occupational health nurse can lead an interdisciplinary approach to improve nurses' work environments and ensure a healthy and rested nursing work force.

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