



## Is It Time to Pull the Plug on 12-Hour Shifts?

### Part 3. Harm Reduction Strategies if Keeping 12-Hour Shifts

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*This article is part 3 of the series "Pulling the Plug on 12-Hour Shifts." In part 1 (March 2010), the authors provided an update on recent evidence that challenges the current scheduling paradigm and supports the lack of safety of long work hours. Part 2 (April 2010) described the barriers to change and challenges for the nurse executive in moving away from the practice of 12-hour shifts. This article presents strategies for mitigating the effects of 12-hour shifts for nurses who continue to work 12-hour shifts despite the potential risks to their health and to patient safety.*

In our previous articles in this "Pull the Plug" series, we presented evidence showing that 12-hour shifts increase the risk

for adverse outcomes for both nurses and patients. However, because some nurses are highly satisfied with this schedule, many nurse executives are reluctant to change back to shifts of shorter duration. Although we do not agree with this position, we present some harm reduction strategies that may be used to protect nurses. These include finessing the schedule, reducing fatigue during work hours, adding protections for night shift nurses, and making policy changes.

#### ***Finessing the Schedule***

Work schedules are a key element in a nurse's intent to remain in a position, and the negotiation of a nurse's schedule involves a delicate balance as unit staffing needs are matched to the nurse's desired schedule. Fatigue is common in 12-hour shift nurses. There is a well-developed science of scheduling to reduce fatigue risk, along with commercially available fatigue risk-management software. This software is being used successfully in other safety-sensitive industries to identify the most extreme fatigue-producing schedules and avoid them (eg, too

many consecutive 12-hour shifts, risky patterns of shift rotation, too many early start times). Extra caution must be exercised to ensure that nurses at increased risk for harm are not given schedules that overtax their abilities. These include nurses with chronic medical conditions, nurses taking medications that vary in effectiveness by time of day, older workers, pregnant nurses, or nurses who have long commutes.

Respect for days off is essential because lack of time away has been shown to be related to nurse injuries.<sup>1</sup> There need to be policies that prevent nurses from being called in on days off or vacation days. Although some administrators discount this, saying that nurses are allowed to say no, when nurses are repeatedly called and asked to come back in, it sends an unhealthy message that if you are dedicated, you will ignore your physiologic needs for sleep and rest and place the job ahead of these needs. Employees who readily volunteer for additional shifts are often exhausted and sleep deprived despite their willingness to do extra work. We have heard from 12-hour shift nurses who have grave concerns

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## Spotlight On

about their overall quality of life and health. These nurses describe being socially isolated and lacking family time and adequate sleep opportunity. At a talk wherein we presented about work hours at a nursing specialty conference, some nurse attendees reported that they were unable to get the day off to attend and were therefore going to be working 12 hours after finishing the day at the conference. This constitutes a 20-hour day and should not be considered something that nurses just have to endure. Because nursing is a safety-sensitive position, it is incumbent upon nurse executives and managers to promote healthy work limits. We have the public trust and respect, and part of keeping that is promoting safe practice.

When nurses are working 12-hour shifts, they should be leaving work on time 100% of the time. Shift overruns are one reason why nurses like 12-hour shifts—they have to extricate themselves only 2 to 3 times per week instead of 4 to 5 times. Leaving on time must become a guarantee rather than an unlikely occurrence. Facilities need to collect data by unit to see when nurses actually leave and rectify problems causing late departures. Remedies may include reducing handoff and end-of-shift sign-out tasks, moving activities occurring at shift change to other times of day, and others. Staff meetings should never be held at 7:30 AM, asking night shift nurses to extend their duty time; this is extremely unsafe. Human factors engineers can assist organizations to tailor their work schedules to the production needs of units while reducing risk for workers; a consultation would be money well spent.

### ***Reducing Fatigue During Work Hours***

Fatigue prevention during 12-hour shifts is a challenge because extended hours strain the limits of concentration and physical endurance for many nurses. However, fatigue countermeasures such as taking breaks are important for productivity and to relieve stress. Because these breaks are mandated by the Occupational Safety and Health Administration, it is reasonable and humane to ensure that nurses are able to take them. Workplaces need to make it a part of the cultural norm to take completely relieved breaks, which we define as a time when the nurse turns over responsibility for her/his patients for the duration of the break. However, many facilities have limited or no coverage to allow their staff to take their requisite meal and other breaks during the workday.

Nurses can be hired for shorter periods, such as for 4 hour shifts, to provide coverage for nurses taking breaks. In addition, this shorter schedule might appeal to mothers with school-aged children. These nurses have become disenfranchised from many nursing workplaces because of the exclusive use of 12-hour shifts. By supporting nurses' efforts to reduce their fatigue, take breaks, and eat properly, workplaces convey that nurses are valued employees, which also can increase job satisfaction. This can improve worker health—one study showed that when fair treatment by supervisors increased, employee cardiovascular risk decreased significantly.<sup>2</sup> Caring for nurses can affect their health and longevity as employees.

The physical environment also causes fatigue in nurses. When

nurses are fielding numerous interruptions during tasks that require concentration or are having to work in environments with excessive extraneous noise, this saps mental energy. Nurses can spot ways to organize supplies and equipment or adjust the layout of the work environment to reduce the physical burden of work. Needless to say, a no-lift environment reduces physical fatigue and the risk for injury.

### ***Added Protections for Night Shift Nurses***

The night shift is of special concern because it produces fatigue in both 8- and 12-hour shift nurses, but at more dangerous levels in those on 12-hour shifts, as their quantity of sleep between shifts drops to dangerously low levels. Both rotating and permanent night shift workers have difficulty remaining alert during the body's circadian nadir (2-4 AM), so tasks requiring concentration should not be scheduled during that period. If necessary, a "buddy" system should be used, with nurses working together to check on one another to reduce the risk of errors. Planned napping can be extremely beneficial and is much safer than the unplanned naps that already take place during the night shift. We strongly support this harm reduction strategy. Both laboratory and workplace studies have confirmed (by electroencephalogram) that a brief 15- to 20-minute nap during a workshift confers additional alertness, especially for workers with partial sleep deprivation.<sup>3</sup> A nap of 20 minutes reduces the risk for sleep inertia (grogginess upon waking). Creating appropriate conditions for napping will be needed to make these breaks effective, including controlling noise. It is also essential to



convey to employees that they need to speak up when they are tired so measures such as naps can be implemented. Nurses must be able to admit that they are exhausted without being adversely judged, or they will be reluctant to disclose this reality. Manipulating light intensity levels can increase alertness, although one may need to consult a human factors engineer to determine how to dose and time the light administration without interrupting patient care or disturbing patients.

Night nurses also need nutritious healthy food options to be available as they are for daytime workers. Vending machines should not be the primary food source during nighttime hours. In addition, appropriately timed ingestion of caffeine can increase alertness. A ready supply of caffeinated beverages should be offered up to 11 PM, but none after that (to prevent sleep fragmentation during daytime sleep).

For nurses new to the night shift, training must be provided to ensure that they learn how to protect their health during night shift work. This includes limiting the number of night shifts worked in a row, modifying the daytime sleep environment to improve the quantity and quality of sleep, using blue-light blocking sunglasses upon leaving work to prevent triggering circadian alerting from daylight, proper timing of caffeine to im-

prove alertness but prevent later sleep disruption, and, in limited cases, judicious use of medications if needed to sustain sleep.

### Policy Needs

Policies and procedures should examine all aspects of scheduling to ensure compliance with American Nurses Association guidelines on responsibility of the employer and employee.<sup>4,5</sup> Facilities that offer 12-hour shifts only should consider offering other schedules, to provide an alternative to and reduce the number of positions requiring 12-hour shifts.

Drowsy driving is a special problem for fatigued nurses, and motor vehicle near misses or collisions are common on the way home from night shifts. There have been nurse fatalities attributable to driving drowsy after working shift work. Some hospitals put aside an “on-call” room for nurses to nap before departing; however, most nurses just want to leave at the end of their shift. We are aware of one hospital that maintains a cab voucher program so that if a staff member is too fatigued to drive home, he/she can take a cab home and then back to work, no questions asked. Although it is not used frequently, it has probably saved lives.

There is no doubt that nurses are fatigued when working consecutive 12-hour shifts, and “presenteeism” is endemic. Given the

need for vigilance in nursing, calling out “fatigued” must become just as valid as calling out sick. Just as excessive requests for additional hours must be eliminated, fatigue risk software can be used to provide scientific support for rational scheduling decisions. Careful attention to safer schedules for nurses and appropriate strategies to minimize fatigue are essential to ensuring a healthy nursing workforce.

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