



**National
Association of
Neonatal
Nurses**

The Effect of Staff Nurses' Shift Length and Fatigue on Patient Safety

Position Statement #3054

NANN Board of Directors
July 2011

The incidence and effects of fatigue are critical to every nurse's professional practice. As the professional voice of neonatal nurses, the National Association of Neonatal Nurses (NANN) recommends that education about fatigue be incorporated into nursing curricula, that healthcare employers implement guidelines to minimize staff fatigue, and that staff nurses maintain awareness of their own fatigue levels so that the quality and safety of care delivered to neonatal patients are not compromised.



Association Position

The quality and safety of care delivered to neonatal patients are compromised when caregivers are working in a state of fatigue and sleep deprivation. Education about fatigue should be incorporated into nursing curricula, and all healthcare employers should implement guidelines to minimize staff fatigue. Because nurses are ultimately responsible for their own practice, all staff nurses should maintain awareness of their own fatigue level and make appropriate decisions about their work schedules on the basis of that awareness.

Background and Significance

The effects of fatigue and sleep deprivation have been studied in a variety of nursing environments throughout the world. The American Nurses Association (ANA) has established guidelines for nurses working in all professional areas. The ANA position statement “Assuring Patient Safety: The Employers’ Role in Promoting Healthy Work Hours for Registered Nurses in All Roles and Settings” takes into account extensive research that links human fatigue with error for both nurses and nonnursing professionals such as truck drivers and airline pilots (ANA, 2006b). In addition, the ANA position statement details the responsibility of nurses to guard against working when they are fatigued.

In 2005, the Association of periOperative Registered Nurses (AORN) surveyed its members regarding on-call hours and their effects on the delivery of patient care (Kenyon, Gluesing, White, Dunkel, & Burlingame, 2007). Among respondents, 77% routinely took on-call assignments, 68% said they had experienced sleep deprivation, 58% reported feeling unsafe while delivering patient care, and 13% reported making patient-care mistakes related to their fatigue (Kenyon et al.). Muecke (2005) published a study reviewing the impact of fatigue on nurses working in critical-care environments. Fatigue problems were categorized as disturbance of circadian rhythms, physical and psychological issues, or disruption to family life. The study described *sleep debt* as a condition that occurs when a person gets a decreased amount of sleep for multiple days.

The Minnesota Nurses Association (2007) found that nurses are three times more likely to make errors if they work shifts that are longer than 12 hours per day or 60 hours per week. In addition to being more prone to making medical errors, nurses who work longer shifts experience more neck, shoulder, and back injuries than nurses who work 8-hour shifts (Minnesota Nurses Association). The Arizona Nurses Association (2007) published research indicating that fatigue can cause physiological changes, including impaired concentration, slowed reaction time, and reduced problem-solving abilities.

Research on nursing fatigue clearly identifies the need to protect both nurses and patients from the effects of bedside nurses’ fatigue and sleep deprivation. We concur with our colleagues who represent other nursing organizations in recognizing the need for a healthcare culture that supports the prevention of

fatigue and sleep deprivation for nurses, including those who, like our members, provide care for fragile patients in neonatal intensive care units.

Recommendations

A number of risk-reduction strategies to decrease nurses' fatigue and sleep deprivation will improve the safety of patients and nurses alike.

For Employers and Nursing Managers and Directors

1. Promote a culture that recognizes nurse fatigue as an unacceptable risk (Kenyon et al., 2007).
2. Schedule sensibly. If an employee works both a day and night shift in the same week, it is recommended that he or she work the day shift first, followed by the night shift. After one night shift on duty, one day of rest is recommended before the nurse returns to the work environment (McGettrick & O'Neill, 2006).
3. Implement guidelines to limit the number of patient-care hours a nurse can provide. Limitations for safe patient care include a maximum of 12 hours in a 24-hour period and no more than 60 hours in a 7-day period (Institute of Medicine, 2004). In emergency situations, it may be necessary for a staff nurse to remain on duty for a longer period of time, but this should be an exception required by unusual circumstances, such as severe weather.
4. Provide a sufficient number of off-duty hours to allow an uninterrupted sleep cycle of at least 8 hours (Kenyon et al.).
5. Implement preplanned arrangements to relieve a staff nurse if he or she is scheduled to be on call for the next consecutive shift to allow time for a minimum of 8 hours of sleep. The number of on-call shifts in a 7-day period should be incorporated into the staff nurse's total scheduled hours (McGettrick & O'Neill, 2006).
6. Incorporate orientation to being on call as a part of new-hire orientation at all healthcare organizations (Kenyon et al.).
7. Consider using permanent shift assignments, which may lessen fatigue effects, instead of rotating shift assignments (Muecke, 2005).

For Bedside Registered Nurses

1. Uphold the ethical responsibility of nurses to arrive at work adequately rested and prepared to provide patient care.
2. Consider the finding that multiple workloads and work settings affect nurses' fatigue levels (ANA, 2006a).
3. Limit the number of hours worked to a maximum of 12 hours in a 24-hour period (except in emergency situations) and to no more than 60 hours in a 7-day period (Kenyon et al., 2007).

Conclusions

A given institution's ability to support these recommendations will be affected by the amount and quality of its resources, along with other factors. The

recommended strategies should nevertheless be given high priority because of their link with patient safety.

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