



## Sleep Disorders, Work Shifts and Officer Wellness

by Beth Pearsall

Two recent studies examined the impact of sleep and work schedules on the health and safety of law enforcement officers.

Police work is inherently risky. Law enforcement officers face the constant threat of being attacked, wounded or even killed when confronting suspects or handling other dangerous situations in the line of duty. And the risk of being injured during routine traffic stops or roadside emergencies is all too real.<sup>1</sup> In fact, law enforcement officers have one of the highest rates of on-the-job injury and illness.<sup>2</sup>

But one of the greatest dangers to officers and their overall performance on the job is often overlooked — fatigue.

Law enforcement officers work demanding schedules characterized by long hours, frequent night shifts

and substantial overtime. Insufficient rest or irregular sleep patterns — coupled with the stress of the job — can lead to sleep deprivation and possibly sleep disorders. The result can be severe fatigue that degrades officers' cognition, reaction time and alertness and impairs their ability to protect themselves and the communities they serve.

So how common are sleep deprivation and sleep disorders among law enforcement? And what role do demanding work schedules play?

There is a small but growing body of research examining the effects of sleep disorders and shift schedules on police officer health, safety and performance.<sup>3</sup> Two recently



released studies funded by NIJ make important additions to this research effort. The first study examines sleep disorders among law enforcement officers, and the second explores the impact of shift length on officer wellness. The findings from both have critical implications for law enforcement officers and agencies across the nation.

### Sleep Disorders Common Among Officers

Sleep disorders, which are typically associated with poor health, performance and safety outcomes, are twice as prevalent among law enforcement officers compared to the general public — and a new study suggests that they remain largely undiagnosed and untreated.<sup>4</sup>

Researchers at Brigham and Women's Hospital examined sleep disorders and how they affected the health and safety of 4,957 state and local law enforcement officers in the United States and Canada. Using online and onsite screenings and monthly follow-up surveys, the researchers found that just over 40 percent of participating officers had at least one sleep disorder, most of which had not been previously diagnosed.

The most common sleep disorder was obstructive sleep apnea, affecting more than one-third of the officers (33.6 percent or 1,666 of 4,957 respondents). Moderate to severe insomnia came in second (6.5 percent or 281 of 4,298 respondents), followed by shift work disorder (defined as "excessive wake time sleepiness and insomnia associated with night work," affecting 5.4 percent or 269 of 4,597 respondents).

"These findings illustrate the necessity of having proper screening instruments available to detect sleep-related problems among police officers," said Brett Chapman, a social science analyst in NIJ's Office of Research and Evaluation. "Not only is this a health and wellness issue, it is also an issue that can lead to performance problems over the course of their careers."

Having any type of sleep disorder was linked to an increased risk of physical and mental health conditions, including diabetes, depression and cardiovascular disease. The

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researchers also found that officers with sleep disorders were more likely than their peers to make serious administrative errors or safety violations, fall asleep while driving, and experience "uncontrolled anger" toward suspects.

But the potential risks to officers — and the general public — due to fatigue are even more common than these findings suggest. According to the researchers, excessive sleepiness is common among police officers, whether they have sleep disorders or not. In fact, almost half of all participants (45.9 percent) reported having fallen asleep while driving. Approximately one-quarter

(26.1 percent) reported that this occurs one to two times per month.

"This [finding] is despite police officers apparently recognizing the dangers associated with drowsy driving," the researchers wrote. "In a survey of North American police officers, almost 90 percent regarded drowsy driving to be as dangerous as drunk driving."

### What Role Does Shift Length Play?

Long hours and demanding work schedules have often been cited as major contributors to officer fatigue and health problems. Traditionally, most police departments placed officers on a 40-hour workweek; officers worked 8-hour shifts for five consecutive days, followed by two days off. In recent years, however, an increasing number of agencies have moved to a compressed work schedule in which officers work, for example, four 10-hour shifts or three 12-hour shifts.

But despite the popularity of this trend, few — if any — rigorous scientific studies have examined the advantages and disadvantages of compressed work schedules for officers and agencies.

"It's clear that agencies of all sizes are increasingly departing from the traditional 40-hour workweek and implementing some type of compressed work schedule," said Karen Amendola, Chief Operating Officer at the Police Foundation. "But what's not clear is the scientific basis for these changes."

"Most of the evidence concerning the benefits — and drawbacks — of a compressed work schedule has

been anecdotal up to this point,” Amendola added. “The few studies that have been conducted either have methodological flaws or were designed in a way that precludes conclusions about cause and effect. Consequently, agencies are scrambling for information.”

To help bring some scientific evidence into the scheduling discussion, Amendola and her colleagues at the Police Foundation conducted a randomized controlled experiment that examined how shift work affects officer performance, safety, health, quality of life, fatigue and extra-duty employment.<sup>5</sup> The researchers randomly assigned 275 officers in Detroit, Mich., and Arlington, Texas, to work three types of shifts for six months: five consecutive 8-hour days, four consecutive 10-hour days and three consecutive 12-hour days. The work included day, evening and midnight shifts.

The researchers found that 10-hour shifts offered numerous benefits over the traditionally used 8-hour shifts: Officers get more sleep, report a significantly higher quality of work life and work less overtime.

**Sleep and Fatigue.** Officers working 10-hour shifts got significantly more sleep per night (more than a half hour) than those working 8-hour shifts, according to the researchers.

“This unique advantage to the 10-hour shift was surprising,” admitted Amendola. “Getting a half hour more of sleep a night translates into gaining over 150 hours of sleep a year. This has tremendous implications for police officers’ health and on-the-job safety.”

Officers working the 12-hour shifts reported greater levels of sleepiness and lower levels of alertness at work than those assigned to 8-hour shifts. The researchers noted that because people often underestimate their level of fatigue and because previous research has shown that risk for accidents increases with number of hours worked, caution should be used when considering adopting 12-hour shifts.

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Although there were significant differences in the amount of sleep officers got across the three shifts, the researchers found no significant differences in the quality of sleep or in reported sleep disorders.

**Quality of Work Life.** The data revealed no significant differences in the quality of officers’ personal lives among the three shifts. However, officers working 10-hour shifts reported significantly higher quality of work life than those on 8-hour shifts. No quality of work life benefits resulted from the 12-hour shifts.

**Overtime.** According to the researchers, officers on 8-hour shifts worked more than five times as much overtime as those on

10-hour shifts, and more than three times as much as those on 12-hour shifts. Reduced levels of overtime for officers working compressed schedules could lead to possible cost savings for agencies.

**Additional Outcomes.** The results revealed no significant differences among the three shift lengths on work performance, health or work-family conflict.

### More Research Needed

Law enforcement officers will continue to face dangerous and stressful situations in the line of duty. Many risks are obvious — for example, gun violence and vehicle accidents. But other dangers — like fatigue — remain hidden. These all-too-common dangers can greatly hinder performance and threaten the safety of both officers and the public.

“We are all trying to keep officers and our communities safe,” said Amendola. “These studies mark a good step in that direction. The findings have broad implications for law enforcement officers and agencies across the country.”

“But at the same time, a lot more research is needed,” she continued. “There are still questions concerning schedules and officer safety that need to be examined.”

The researchers at Brigham and Women’s Hospital agree. In their sleep disorder study, they call for additional research “to determine whether sleep disorder prevention, screening and treatment programs in occupational settings will reduce these risks.”

“Both studies represent NIJ’s continued commitment to officer safety, performance and wellness,” said Chapman. “It is our hope that the findings from this research will provide practitioners with information that will allow them to make informed decisions that are beneficial to the health and well-being of their officers.”

About the author: Beth Pearsall is a freelance writer and frequent contributor to the *NIJ Journal*.

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To learn more about police shift work, visit NIJ’s topic page at <http://www.nij.gov/nij/topics/law-enforcement/officer-safety/stress-fatigue/shift-work.htm>.

## Notes

1. For more information, see Pearsall, Beth, “Keeping Officers Safe on the Road,” *NIJ Journal* 265 (2010): 10-15, available at <http://www.nij.gov/nij/journals/265/officers.htm>.
2. Bureau of Labor Statistics, *Occupational Outlook Handbook, 2010–11 Edition*, Washington, D.C.: U.S. Department of Labor, Bureau of Labor Statistics, available at <http://www.bls.gov/oco/ocos160.htm>.
3. See, for example, Vila, Bryan, “Tired Cops: Probable Connections Between Fatigue and the Performance, Health and Safety of Patrol Officers,” *American Journal of Police* 15 (1996): 51-92; Vila, Bryan, Gregory B. Morrison, and Dennis J. Kenney, “Improving Shift Schedule and Work-Hour Policies and Practices to Increase Police Officer Performance, Health and Safety,” *Police Quarterly* 5 (March 2002): 4-24; Vila, Bryan, and Dennis Jay Kenney, “Tired Cops: The Prevalence and Potential Consequences of Police Fatigue,” *NIJ Journal* 248 (2002): 17-21, available at <https://www.ncjrs.gov/pdffiles1/jr000248d.pdf>.
4. Rajaratnam, Shantha M.W., Laura K. Barger, Steven W. Lockley, Steven A. Shea, Wei Wang, Christopher P. Landrigan, Conor S. O’Brien, Salim Qadri, Jason P. Sullivan, Brian E. Cade, Lawrence J. Epstein, David P. White, and Charles A. Czeisler, “Sleep Disorders, Health, and Safety in Police Officers,” *JAMA* 306 (2011): 2567-2578, available at <http://jama.ama-assn.org/content/306/23/2567.full>.
5. Amendola, Karen L., David Weisburd, Edwin E. Hamilton, Greg Jones, and Meghan Slipka, *The Shift Length Experiment: What We Know About 8-, 10-, and 12-Hour Shifts in Policing*, Police Foundation, December 2011, available at <http://www.policefoundation.org/shiftexperiment>.