



FATIGUE IN EMS

Phase 2 Experimental Study – EMS Sleep Health

Learning Objectives

DESCRIPTION: Funded by the U.S. Department of Transportation, National Highway Traffic Safety Administration in cooperation with the University of Pittsburgh and supported by a systematic review and meta-analysis of the literature, the project team will evaluate important outcomes germane to patient and shift-worker safety, personnel performance, acute fatigue, sleep quality, burnout/stress and indicators of long-term health through an experimental study. The study's two primary outcomes of interest include: [1] sleep quality as measured by the Pittsburgh Sleep Quality Index (PSQI); and [2] fatigue as measured by the Chalder Fatigue Questionnaire (CFQ). Data collection has been approved through rigorous processes of the White House Office of Management and Budget (OMB Control Number 2127-0742) and an academically based Institutional Review Board. EMS agency participants will join in a series of ten educational modules with several learning objectives as outlined in the chart below and upon completion of a course evaluation are eligible to receive approximately 2 CECH by the Commission on Accreditation for Prehospital Continuing Education (CAPCE.) Fifteen peer reviewed manuscripts, including [Effect of fatigue training on safety, fatigue, and sleep in Emergency Medical Services personnel and other shift workers: A systematic review and meta-analysis](#), were published by Prehospital Emergency Care in 2018 and can be accessed for free through our website at www.emsfatigue.org.

Course Modules:

I. HAZARDS OF FATIGUE

1. The dangers of fatigue in EMS and first response
2. Differences and similarities in fatigue and sleepiness
3. Common causes of fatigue and sleepiness in EMS

II. SLEEP PHYSIOLOGY

1. Basics of sleep physiology and stages of sleep
2. Biological processes that determine sleep cycles
3. Commonly reported sleep patterns among EMS clinicians



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III. SLEEP HEALTH

1. Sleep health/hygiene
2. Dimensions of sleep health and sleep quality

IV. WORK RELATED STRESS, JOB BURNOUT, & CHRONIC FATIGUE

1. Work related stress and its association with sleep
2. Job burnout and its association with sleep
3. Similarities and differences between occupational chronic fatigue, chronic fatigue syndrome, and myalgic encephalomyelitis

V. SLEEP DISORDERS

1. Signs and symptoms of sleep disorders, such as insomnia, sleep apnea, narcolepsy, restless leg syndrome, and shift work disorder
2. Common diagnostic approaches and treatment options for select sleep disorders

VI. FATIGUE RECOGNITION

1. Common approaches to fatigue recognition and etiology of fatigue
2. Common indicators, signs, and symptoms of problems with sleep
3. Commonly used tools for fatigue recognition / fatigue assessment

VII. ADEQUATE SLEEP

1. The average amount of sleep reported by adults and the duration of sleep as recommended by nationally recognized sleep professionals
2. Traits and behaviors that often impact the duration and timing of sleep
3. Napping and to describe how napping is supported by evidence to help mitigate fatigue



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VIII. DIET, EXERCISE, & SLEEP

1. Shift work and sleep impact diet and exercise
2. Hormones that impact diet/appetite
3. Exercise and physical activity

IX. ALERTNESS STRATEGIES

1. Evidence-based strategies that impact alertness and performance
2. Caffeine as a fatigue countermeasure and alertness

X. FATIGUE IS MANAGED, NOT ELIMINATED

1. Managing fatigue
2. Responsibilities of employee and employer

For more information, please contact NASEMSO's Project Manager, Kathy Robinson via robinson@nasemsso.org or call 1.703.538.1799, Ext. 1894.