



FATIGUE

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FATIGUE AND IMPAIRMENT

Fatigue and lack of sleep can impair a physician's attention, judgment, and reaction time; in turn, impairment in these areas can compromise patient safety and lead to medical errors.

- Even moderate levels of fatigue produce higher levels of impairment than proscribed blood levels of alcohol intoxication.

Dawson D, Reid K. Fatigue, alcohol and performance impairment. *Nature* 1997;388(6639):235.

Impairment occurs across all specialties, including surgery, medicine, pediatrics, and anesthesiology.

- **Surgery:** 20 percent more errors and 14 percent more time to perform simulated laparoscopic procedures

Taffinder NJ, McManus IC, Gul Y, Russel RC, Darzi A. Effect of sleep deprivation on surgeon's dexterity on laparoscopy simulator. *Lancet* 1998;352:1191.

Grantcharov TP, Bardram L, Funch-Jensen P, Rosenberg J. Laparoscopic performance after one night on call in a surgical department: prospective study. *B Med J* 2001;323:1222–1223

- **Medicine:** ECG interpretation impaired

Lingenfelter T, Kaschel R, Weber A, Zaiser-Kaschel H, Jakober B, Kuber J. Young hospital doctors after night duty: their task-specific cognitive status and emotional condition. *Med Educ* 1994;28:566–572

- **Pediatrics:** increase in time required to place an arterial catheter and to intubate

Storer JS, Floyd HH, Gill WL, Giusti CW, Ginsberg H. Effects of sleep deprivation on cognitive ability and skills of pediatrics residents. *Acad Med* 1989;64:29–32

- **Emergency Medicine:** decreased reduction in comprehensiveness of physical assessment and documentation; reported toll on cognition, family life, and personal and professional relationships

Smith-Coggins R, Rosekind MR, Hurd S, Buccino KR. Relationship of day versus night sleep to physician performance and mood. *Ann Emerg Med* 1994;24: 928–934

Bertram DA. Characteristics of shifts and second-year resident performance in an emergency department. *N Y State J Med* 1988;88:10–15



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FATIGUE AND IMPAIRMENT (CONT'D)

- Family Medicine: inservice training exam scores correlated with pre-test sleep amounts
Jacques CH, Lynch JC, Samkoff JS. The effects of sleep loss on cognitive performance of resident physicians.
J Fam Prac 1990;30:233–229.
- Anesthesiology: residents reported sleeping an average of 6.5 hours/day; 20 percent indicated sleepiness prevented them from performing clinical duties; 12 percent attributed errors to fatigue
Howard SK, Healzer JM, Gaba DM. Sleep and work schedules of anesthesia residents: a national survey.
Anesthesiology 1997; 87: 932A.
Denisco RA, Drummond JN, Gravenstein JS. The effect of fatigue on the performance of a simulated anesthetic monitoring task. *J Clin Monit* 1987;3: 22–24.
Taffinder NJ, McManus IC, Guy Y, Russell RC, Darzi A. Effect of sleep deprivation on surgeon's dexterity on laparoscopy simulator.
Lancet 1998;352:1191.
Howard SK, Keshavacharya S, Smith BE. et al. Behavioral evidence of fatigue during a simulator experiment. *Anesthesiology* 1998;89:1236A.