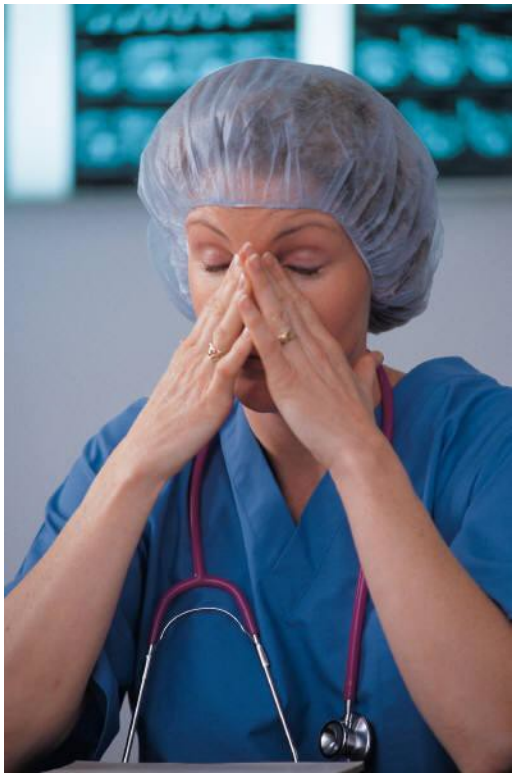
SLEEP DEPRIVATION



American Academy of Sleep Medicine

Learning Objectives

1. List factors that put you at risk for sleepiness and fatigue.
2. Describe the impact of sleep loss on residents' personal and professional lives.
3. Recognize signs of sleepiness and fatigue in yourself and others.
4. Challenge common misconceptions among physicians about sleep and sleep loss.
5. Adapt alertness management tools and strategies for yourself and your program.

The problem of sleepiness and fatigue in residency is underestimated.

- **Physicians know relatively little about sleep needs and sleep physiology.**
- **There is no "drug test" for sleepiness.**
- **Most programs do not recognize and address the problem of resident sleepiness.**
- **The culture of medicine says:**
  - **"Sleep is "optional" (and you're a wimp if you need it)"**
  - **"Less sleep = more dedicated doc"**

Myth: "It's the really boring noon conferences that put me to sleep."

Fact: Environmental factors (passive learning situation, room temperature, low light level, etc) may unmask but **DO NOT CAUSE SLEEPINESS.**

Sleep Needed vs Sleep Obtained

- **Myth:** "I'm one of those people who only need 5 hours of sleep, so none of this applies to me."
- **Fact:** Individuals may vary somewhat in their tolerance to the effects of sleep loss, but are not able to accurately judge this themselves.
- **Fact:** Human beings need 8 hours of sleep to perform at an optimal level.
- **Fact:** **Getting less than 8 hours of sleep starts to create a "sleep debt" which must be paid off.**

The Circadian Clock Impacts You

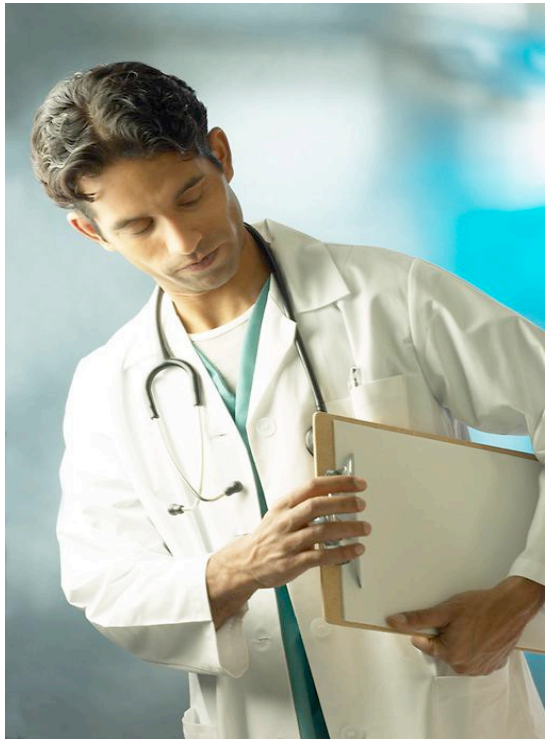
- It is easier to stay up later than to try to fall asleep earlier.
- It is easier to adapt to shifts in forward (clockwise) direction (day → evening → night).
- Night owls may find it easier to adapt to night shifts.

- Surgery: 20% more errors and 14% more time required to perform simulated laparoscopy post-call (two studies) Taffinder et al, 1998; Grantcharov et al, 2001
- Internal Medicine: efficiency and accuracy of ECG interpretation impaired in sleep-deprived interns Lingenfelser et al, 1994
- Pediatrics: time required to place an intra-arterial line increased significantly in sleep-deprived Storer et al, 1989

Sleep Loss and Fatigue: Safety Issues

- 58% of emergency medicine residents reported near-crashes driving.
  - -- 80% post night-shift
  - -- Increased with number of night shifts/month

  Steele et al 1999
- 50% greater risk of blood-borne pathogen exposure incidents (needle stick, laceration, etc) in residents between 10pm and 6am. Parks 2000



- **Myth:** "If I can just get through the night (on call), I'm fine in the morning."
- **Fact:** A decline in performance starts after about 15-16 hours of continued wakefulness.
- **Fact:** The period of lowest alertness after being up all night is between 6am and 11am (e.g., morning rounds).

Drive Smart; Drive Safe

- AVOID driving if drowsy.
- If you are really sleepy, get a ride home, take a taxi, or use public transportation.
- Take a 20 minute nap and/or drink a cup of coffee before going home post-call.
- Stop driving if you notice the warning signs of sleepiness.
- Pull off the road at a safe place, take a short nap.

Adapting To Night Shifts

- **Myth:** "I get used to night shifts right away; no problem."
- **Fact:** It takes at least a week for circadian rhythms and sleep patterns to adjust.
- **Fact:** Adjustment often includes physical and mental symptoms (think jet lag).
- **Fact:** Direction of shift rotation affects adaptation (forward/clockwise easier to adapt).

In Summary…

- Fatigue is an impairment like alcohol or drugs.
- Drowsiness, sleepiness, and fatigue cannot be eliminated in residency, but can be managed.
- Recognition of sleepiness and fatigue and use of alertness management strategies are simple ways to help combat sleepiness in residency.
- When sleepiness interferes with your performance or health, talk to your supervisors and program director.

"Patients have a right to expect a healthy, alert, responsible, and responsive physician."

January 1994 statement by American College of Surgeons

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