Resident Sleep & Fatigue
Jennifer L. Peel, Ph.D.
Graduate Medical Education

Effects of Sleep Loss and Fatigue

• Voluntary and involuntary sleep latencies shorten
• Microsleeps intrude into wakefulness and cause lapses in attention
• Time-on-task decrements
• Learning and recall deficits
• Working memory and related executive functions decline
• Decreased ability to estimate your own ability to function

The sleepier you are, the less accurate your perception of degree of impairment. Studies show that sleepy people underestimate their level of sleepiness and overestimate their alertness.

Recognizing Fatigue (in others)

Difficulty:
• appreciating a complex situation while avoiding distraction
• Keeping track of the current situation and updating strategies
• Thinking laterally and being innovative
• Assessing risk and/or anticipating consequences
• Maintaining interest in outcomes
• Controlling mood and avoiding inappropriate behavior

Recognizing Fatigue (in yourself)

• Falling asleep in conferences
• Feeling restless and irritable with staff, colleagues, family, friends
• Having to check your work repeatedly
• Having difficulty focusing on the care of your patients
• Feeling like you really just don't care

Strategies to Combat Fatigue

• Naps
• Caffeine
• Good sleep habits
• Other drugs and light therapy
The Art of Taking Naps

- Planned naps can improve subsequent alertness and performance
  - Allow up to 45 minutes for sleep (reduces the likelihood of awakening in REM and experience sleep inertia)
  - Don't take a nap too close to a planned sleep period
  - Allow a 15 minute wake-up period following a nap

Caffeine

- The strategic use of caffeine involves ingestion at times that will promote alertness and performance during periods of vulnerability.
- A significant performance and alertness boost can be obtained from 200 mg of caffeine, with positive effects at doses ranging from 100 to 600 mg.

Good Sleep Habits

- Use a pre-sleep routine to provide cues for relaxation and sleep
- Avoid negative sleep cues in the bed and bedroom
- Have a light snack or drink if hungry or thirsty
- Avoid caffeine intake at least 3 hrs before bed
- Avoid exercise within 2-3 hrs of bedtime
- Follow a 30-min “toss-and-turn” rule such that if you are unable to fall asleep in 30 min, get out of bed, engage in some sleep promoting activity, return to bed when ready
- Use relaxation techniques
- Try to get 8 hrs of sleep in every 24 hr period (consider a supplement nap)
- Limit intake of ethanol or nicotine-containing products close to bedtime

ACGME Duty Hours Standards

- Duty hours must be limited to **80 hours per week**, averaged over a four-week period, inclusive of all in-house call activities.
- In-house call must occur no more frequently than **every 3rd night**, averaged over the last four weeks.
- Residents must be provided with **1 day in 7 free** from all educational and clinical responsibilities, averaged over a 4-week period, inclusive of call.
- Continuous on-site duty must not exceed **30 consecutive hours**.
- Adequate time for rest and personal activities must be provided, consisting of a **10-hour** time period between all daily duty periods and after in-house call.
- No **new patients** may be accepted after 24 hours of continuous duty (the definition of a “new patient” varies by specialty).
References


