Shift Work, Sleep Health And Safety

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What is the Scope of Insufficient Sleep:
80 million in US have insufficient sleep
-12 million shift workers
  • Impaired performance
  • Health risk
  • Safety risk

Shift work

- 4.7% night
- 3.8% rotating
- 3.3% irregular
Sleep is a necessary brain process

- remodeling
- toxin clearance
- improved performance
- balances mood
Brain Remodel at Night
You don’t know you are impaired
Night shift: 4-5x increased accidents driving home
10-50% of us have sleep apnea

N = 2290 CPAP

5.8

14.7

3x accident risk

ESS < 11

ESS > 11

ESS baseline

ESS 6 months
Economic cost of sleep loss

Map showing economic costs of insufficient sleep across five OECD countries

Jess Plumridge/RAND Europe
Sleep Well

- Regularly scheduled 7-8 hours timed to your natural rhythm
- No more than 3 caffeine and none within 6 hours bedtime
- No alcohol within 2 hours bedtime
- If you are nodding or using an alarm clock, something is wrong
Shift work: what should we offer?

- Sleep health coaching to improve brain performance, safety, mood
- Use evidence-based principles to optimize sleep duration and performance
- Leverage virtual care and objective measures for continuing care
Tools to optimize sleep duration and performance
Use evidence based principles to optimize sleep duration and performance

- Assessment of intrinsic sleep disorders, rhythm, and flexibility

- Preference setting: optimal sleep timing & duration > countermeasures > job change

- Use of light, melatonin, countermeasures [naps/alerting medications], culture, ?sleep promoting agents
Evaluation Phase

- Comprehensive sleep evaluation
- ESS, MEQ, electronic sleep diary, shift work schedule, actigraphy* [baseline and implemented]
- Education and preference negotiation
What should we offer?

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Shift Workers
Educational Tools
Our Role

• Help to provide a supportive culture of adherence to the solutions
• Support methods to limit fatigue
• Recognize and protect those who become affected
Your Role

• Know you can be impaired and not know it.
• Be part of the cultural change in understanding the role of sleep in tuning your brain function.
• Know and adhere to duty hour rules
• Use countermeasures at appropriate times-naps, caffeine.
• Respect sleep need at work and at home.
Choose Night Shift Wisely

- If you are naturally and early bird you may want to avoid night shifts
- If you don’t tolerate shift work, you shouldn’t do it
- If you have a sleep disorder you may want to avoid night or rotating shifts
Choose Rotating Evening/Night Shifts Wisely

• Rotate at least 3 weeks on fixed schedule of evening or nights

• Rotate schedules clockwise

• Fixed protected sleep time 8am to noon
Use safe Practices and Countermeasures for regular night work

• 1 hour nap before work-long sleep period after work

• Caffeine/modafinil before driving to work

• Bright light during the first half of night shifts, no light after work
Respect your sleep rhythm

- Dim light in work areas for the last few hours of the night
- Use sunglasses for trip home before sleep if the sun is up
When you return home from Night Shift

• Your family should understand that you need to sleep 7-8 hours a day
• The phone should be off, blinds pulled down and nothing on your schedule to do until you have slept
Some Precautions

• Know that you may be impaired if you have been awake for more than 16 hours or if you are sleepy

• If you are too tired to drive, nap before leaving work in the morning or call a taxi for the trip home