Sleep
Alertness, and
Fatigue
Education in
Residency
ACGME Common Program Requirements 2017

• Programs must:

• educate all faculty members and residents to recognize the signs of fatigue and sleep deprivation;

• educate all faculty members and residents in alertness management and fatigue mitigation processes; and,

• encourage residents to use fatigue mitigation processes to manage the potential negative effects of fatigue on patient care and learning.
The REAL requirement

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

*January 1994 statement by American College of Surgeons
Re-approved and re-issued June 2002*
Humans Need Adequate Sleep

- **Older Adult** (≥ 65 years): 5-6 hours, 7-8 hours, 9 hours
- **Adult** (26-64 years): 6 hours, 7-9 hours, 10 hours
- **Young Adult** (18-25 years): 6 hours, 7-9 hours, 10-11 hours
Sleepiness in residents is equivalent to that found in patients with serious sleep disorders. Mustafa and Strohl, unpublished data. Papp, 2002
Sleep deprivation is hazardous to others

Work Hours, Medical Errors, and Workplace Conflicts by Average Daily Hours of Sleep

*Work Hrs/wk
*% Reporting Serious Medical Errors
*% Reporting Serious Staff Conflicts

*Baldwin and Daugherty, 1998-9 Survey of 3604 PGY1,2 Residents
• **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 residents 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 (needlestick, laceration, etc) in residents between 10pm and 6am.
  Parks 2000
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.
“Alertness management” strategies

Caffeine
Exercise
Light
Napping
Medication
And watch out for these

- Microsleeps
- Sleep inertia
- Circadian lows
- Isolation
- Self-deception
- High risk jobs
How To Survive Night Float

• Protect your sleep.
• Nap before work.
• Consider “splitting” sleep into two 4 hour periods.
• Have as much exposure to bright light as possible when you need to be alert.
• Avoid light exposure in the morning after night shift (wear dark glasses driving home from work).
Preventive measures

• Sleep ahead:
• Optimize your sleep environment
  – Cool, dark, quiet
• Practice good sleep hygiene
  – Presleep relaxation, reduce alerting stimuli, make bed a cue for sleep
In Summary...

- Sleepiness and fatigue can’t be eliminated in residency, but can be managed.
- Recognizing sleepiness and fatigue in yourself and your colleagues is the 1st step.
- Practice alertness management strategies regularly.
- Don’t overlook recovery periods.
- If self-management isn’t working, talk to your seniors and/or program director.