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Fatigue: the facts

"Fatigue is the subjective feeling of the need to sleep, an increased physiological drive to fall asleep and a state of decreased alertness."¹

1. Restorative sleep

Most adults require 7-8 hours of uninterrupted restorative sleep per night.



2. Sleep debt

A sleep debt occurs after restricted sleep for 2 or more nights.



3. Sleep restriction

Moderate sleep restriction to 6 hours per night for 2 weeks impairs performance equivalent to one night of complete sleep deprivation.



4. Wakefulness

Cognitive function is impaired after 16-18 hours of wakefulness.



5. Dangerous driving

17 hours of wakefulness can cause impairment of performance equivalent to a blood alcohol level of 0.05%.



6. Age

Sleep patterns are altered and the ability to recover from lack of sleep is reduced by age.



7. Microsleeps

Fatigue induces sleep lapses or microsleeps, which are spontaneous, uncontrolled and often go unrecognised.



8. Recovery

2 consecutive nights of restorative sleep are needed to recover from sleep loss.



The AAGBI guideline *Fatigue and Anaesthetists* 2014¹ includes information about good sleep habits and recommendations for individuals and departments about how they can mitigate the effects of fatigue.

Reference

¹. Association of Anaesthetists of Great Britain and Ireland. *Fatigue and Anaesthetists* 2014. London: AAGBI, 2014 <https://www.aagbi.org/sites/default/files/Fatigue%20Guideline%20web.pdf>



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Useful tips to aid sleep

In order for sleep to occur, there needs to be deep relaxation. Focus on this first. Deep relaxation is very restorative. Sleep should follow, but if it doesn't, don't worry. Here are some tips that might help improve your sleep.

Unchallenge your brain

- The absence of light stimulates melatonin release; invest in an eye mask and blackout blinds or curtains.
- Avoid using electronic devices for 30-60 min before bed.
- Eliminate unwanted sound with earplugs.
- Consider listening to a podcast or hypnosis audio on a gentle volume to help you fall asleep.



Have a hot bath

- The drop in temperature the body undergoes after a hot bath or shower aids the onset of sleep.
- Bed socks encourage peripheral vasodilation and can help optimise body temperature. Keep your room cool and your bed warm.



Sleep in a way that works for you

Before the existence of artificial light, natural sleep was in two distinct phases, with a break of several hours in-between. Not everyone manages to sleep for a solid **8 hours**; it's what's right for you that matters.



Be prepared

Here are some suggestions to help reduce anxiety and cognitive load, facilitating relaxation.

- Exercise regularly, but not too close to bedtime.
- Download a yoga nidra or meditation audio and use it.
- Write a 'to do' list rather than inevitably thinking of one as you try to sleep.
- Accept help with tasks you can delegate.



References

www.sleepcouncil.org.uk

Murphy PJ, Campbell SS. Nighttime drop in body temperature: a physiological trigger for sleep onset? *Sleep* 1997 Jul; 20 (7): 505-11

Miguel Cervantes, Don Quixote (1615)

Farquhar M. Fifteen-minute consultation on problems in the healthy paediatrician: managing the effects of shiftwork on your health. *Arch Dis Child Educ Pract Ed* 2016; 0: 1-6



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I'm safe

A checklist adapted for clinicians to assess fatigue and fitness to work.

Illness

- Have you been unwell or suffering from symptoms of pregnancy?
- Has your health been put at risk by clinical work; e.g. needle-stick injury, or risk of exposure to infectious disease?
- Do you need to talk to the Occupational Health team?



Medication

- Are you taking prescribed or over-the-counter medication that might be affecting you?



Stress

- Are there work or non-work related factors that might affect your performance?
- Do you need to speak to someone before going on or off shift?
- Does the team need to debrief / give feedback?



Alcohol

- Could there still be alcohol in your system?
- Consider your consumption in the last 24 hours, not just the last 8 hours.



Fatigue

- Have you had restricted sleep* in the last 2 weeks?
- Do you have a sleep debt*?
- Have you had trouble speaking coherently or keeping your eyes open?
- Would a short sleep make you safer?



*Please see 'Fatigue: the Facts' poster for more information about these.

Eating

- Have you had something to eat or drink? Do you need to?



References

"Flight Fitness: The "I'm Safe" Checklist". FAA Medical Certification. Pilot Medical Solutions, Incorporated. Retrieved 20 Dec 2011



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Fatigue tool

Make sure your colleagues get home safely.

- S** Do they feel **SLEEPY**?
- L** Has it been a **LONG** shift?*
- E** Are they relying on caffeine or **ENERGY** drinks to stay awake?
- P** Do they need a **POWER** nap?
- T** Do they look **TIRED**? Are they finding it hard to concentrate?

If the answer to any of these is "YES" Take Action! Don't let them NOD off!

- N** **NAP** before driving home; miss rush hour & feel more alert.
- O** Are there **OTHER** ways to get home than driving? Train, taxi, bus, tram, walk, get a lift?
- D** **DRIVING** when tired is **DANGEROUS!**

*Remember to make a report using your facility's risk management system if work hours exceed 12 hours.



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Working well at night

Before nights

- Make sure you usually have a good sleep routine.
- Get extra sleep before your shift. An afternoon nap is ideal as it reduces the length of time you have been continuously awake. A lie-in is an alternative.
- Plan how you will get home. Is there an option other than driving?
- Will you need to rest before driving home?



During nights

- Keep well hydrated and eat healthy snacks. Calories on nights DO count; they contribute to the adverse health effects of night working.
- Maximise exposure to bright lights in non-clinical areas.
- Breaks are essential: work as a team to cover each other for these.
- A **15-20 min** nap can significantly improve alertness.
- Longer naps may result in sleep inertia.
- Be vigilant for the 04:00 dip: your lowest physiological point.
- Work as a team to check calculations and be aware of the effects of fatigue on decision making.
- If you can, a consistent routine during shifts can help.



Between nights

- If you are too tired to drive, have a short nap before leaving work.
- Have a snack before sleeping so you don't wake up hungry.
- Go to bed as soon as possible to maximise the amount of sleep you will get.
- Do not plan deliveries or daytime activities for the days between night shifts. Warn your housemates that you need to sleep.



Recovery after nights

- Have a short sleep in the morning and then get up.
- Aim to go to bed at your usual time; avoid a long lie in the next day.
- You'll need at least 2 normal nights sleep to reset your sleep routine.





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On shift rest facilities

The on-shift rest facilities available are:

.....

Location, keys, details of access codes:

.....

Upkeep of the facilities is the responsibility of:

.....

Please appraise both your own fatigue levels and those of your colleagues on a regular basis.

If you are in any doubt as to your ability to drive home, please do NOT take the risk with your life and that of others. Remember that driving when fatigued has similar physiological legal consequences to driving when drunk.

The recommended taxi number is:

Post shift rest facilities

The post-shift rest facilities available are:

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Instructions for access, time limits for use:

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Upkeep of the facilities is the responsibility of:

.....



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A rested doctor is safer

1. Arrange pager cover
2. Consider a caffeinated drink before you rest
3. Find a quiet, dark room to lie down in
4. Set your alarm
5. Close your eyes
6. Just rest...*

* even if you can't sleep, resting is still beneficial



**“The perfect nap:
sleeping is a mix of
art and science.”**

The Wall Street Journal. September 2013

10 - 20 MIN NAP (IDEAL)

Early stages of non-rapid eye movement sleep. This is optimal to improve mental alertness and ensure you wake up feeling sharper.

30 - 40 MIN NAP

Restorative BUT may result in sleep inertia (feeling groggy and slowed-down) upon waking before improved mental alertness is apparent.

60 MIN NAP

Recall of facts and faces improves. It includes the deepest type of sleep BUT you may feel groggy when you wake up.

90 MIN NAP

This constitutes a full sleep cycle. Your memory will be greatly improved and you'll avoid feeling groggy BUT it may impair your sleep post-shift.