

Fatigue Risk Management Info Sheet: How sleep changes as we get older: for adults 26-64 years old



Why read this?

As we age, sleep becomes more fragile and we are more likely to encounter difficulty sleeping. As part of the normal ageing process our body changes and this can impact sleep. In addition, juggling work and family responsibilities can affect how much, and how well, we sleep. This information sheet will help you to understand how sleep changes as we progress from our 20s to our 60s. Tips are provided for how to maintain good sleep health as we age.

How does sleep duration change with older age?

The National Sleep Foundation (NSF) in the United States has published guidelines on the average amount of sleep we need over our lifespan.¹ The ideal sleep duration range is between seven and nine hours per night for adults 26–64 years old, and seven to eight hours for adults older than 64 years (Figure 1). Some will need less sleep and others will need more (as illustrated in the ‘may be appropriate’ sleep duration ranges for adults and older adults). That said, the NSF recommends that we seek support if we consistently obtain less than 6 hours sleep, or more than 10 hours sleep per night (adults) and less than 5 hours sleep or more than 9 hours sleep per night (older adults).

What is clear is that by the time we reach adulthood (26 years) our sleep need seems to stabilise and only changes slightly at age 65+.

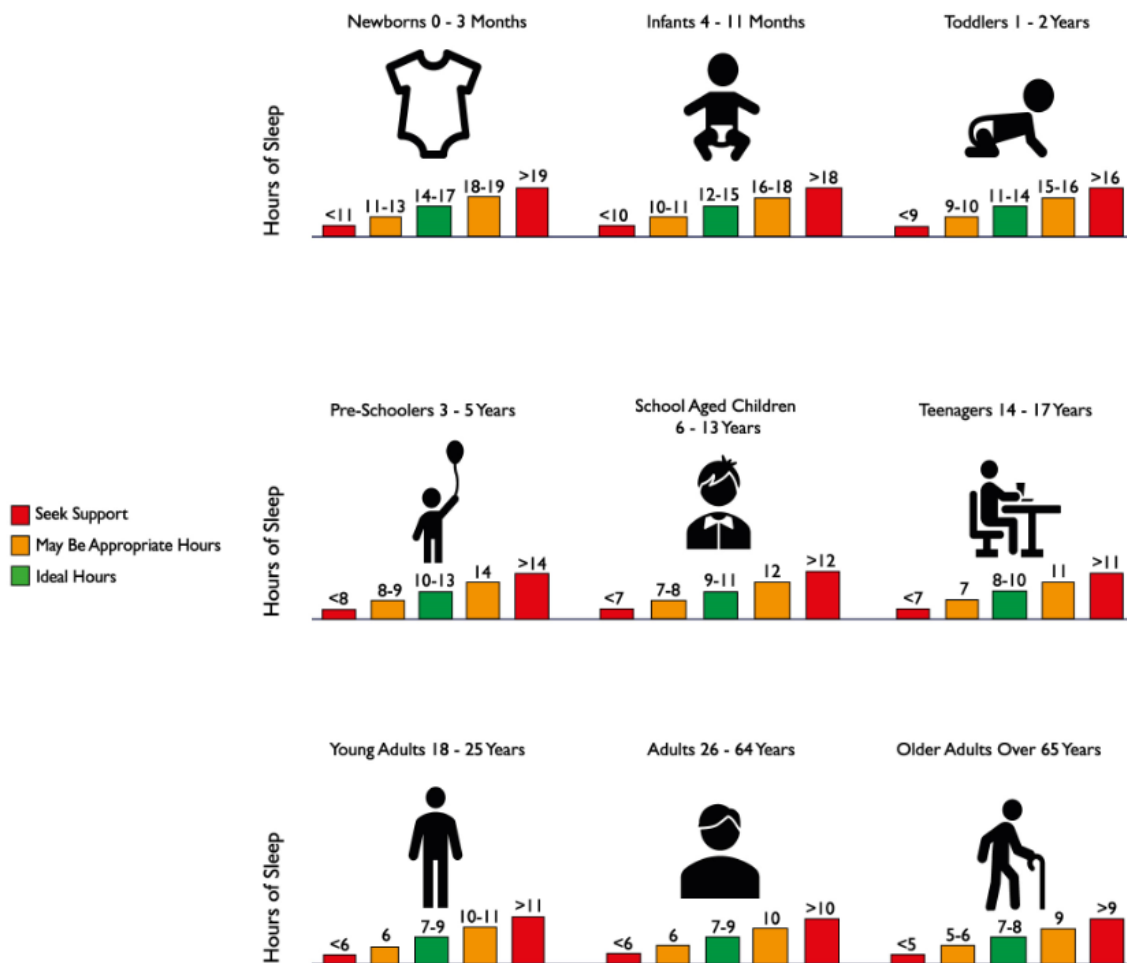


Figure 1. National Sleep Foundation¹ Sleep duration recommendations: 'Ideal', 'may be appropriate' and 'seek support' sleep durations per night by age

Sleep becomes lighter and more difficult to obtain

While the amount of sleep we need does not change dramatically as we age, we are more likely to have difficulty sleeping. As we grow older, sleep becomes lighter and more easily disturbed by light, noise or discomfort. Amongst older adults struggling to get to sleep, and remaining asleep, are common complaints. Older adults also find it more difficult to cope with jet lag and to obtain adequate sleep when working shifts.²

How does the timing of sleep change?

There is a 24-hour body clock in our brain that keeps our body in sync with daytime and night-time and prepares our body for activity during the day, and sleep at night. As we age, the timing of the body clock shifts and becomes gradually earlier, i.e. we become more of a 'morning-type'² than we used to be. Consequently, older adults tend to go to sleep and wake-up relatively early. This pattern is encouraged by increased napping in the afternoon in older adults which reduces the amount of sleep needed at night. Consequently, we still fall asleep at 9 pm but wake up at 4 am.

What other changes occur during the lifespan?

Most of the age-related changes in sleep, e.g. earlier sleep timing, increased awakenings at night, or a decrease in deep sleep, take place between young and middle adulthood.² Otherwise, sleep remains generally unchanged among healthy older adults, e.g. over 65 years old.

That said, there are other changes across the lifespan that can impact sleep. Our physical health may change, through illness or as part of the normal ageing process, e.g. menopause. Moreover, at different stages of our life we are likely to go through changes to roles, responsibilities and lifestyle that can limit sleep opportunity. Changes include becoming a parent, having a career, becoming a caregiver, coping with adult children leaving home, the loss of a parent, or adjusting to retirement.³ These changes can potentially be sources of sleep disruption through stress, anxiety and pain (e.g. illness), particularly when two or more changes occur at the same time.

Age-related changes to physical health that can impact sleep

Nocturia

Nocturia, waking up once or more in the night to go to the bathroom to pass urine, is the leading cause of disturbed sleep affecting adult men and women.⁴

As we grow older, nocturia becomes more frequent. For example, 28% to 62% of women in their 70s and 80s are affected by two or more nocturia episodes per night. Similar ranges are reported in men, 29% to 59%.⁴

However, nocturia can affect younger adults too. The proportion of adults in their 20s and 30s with 2 or more nocturia episodes per night is 4% to 18% for women and 2% to 17% for men.⁴

There can be many different causes of frequent urination at night including medication and, particularly in older men, an enlarged prostate³. Nocturia is not only inconvenient because it disrupts your sleep, it can have effects on health too. Being woken frequently at night interrupts deep restorative sleep and leads to waking up feeling unrefreshed. Over time, through sleep loss, nocturia can impact blood-sugar regulation, and is associated with chronic conditions such as diabetes, and high-blood pressure.⁴

If you are getting-up to pass urine frequently at night, don't explain this away as 'just part of getting older', speak to your doctor.

Menopause

Between 45 and 55 years old, most women commence peri-menopause, when gradually over a period of time, production of oestrogen and progesterone by the ovaries declines. From peri-menopause through to post-menopause, women commonly experience poor sleep quality, sometimes linked to hot flushes, anxiety and depression.⁵

Hot flushes are unexpected feelings of heat all over the body, accompanied by sweating, which last for around 3 minutes. Hot flushes at night cause women to wake-up frequently during sleep, which results in fatigue the next day. For some women, sleep problems are severe and impact their ability to focus and their quality of life, with long-term consequences for mental and physical health.⁵

Around menopause, there is also an increased risk of developing long-term sleep problems such as breathing-related sleep disorders, e.g. sleep apnoea and sleep related movement disorders such as restless leg syndrome.⁶



Other health issues

There are many other health difficulties that can disrupt sleep which we are more likely to encounter in older age, including pain and the side effects of medication.²

Age-related changes to social roles

Caring responsibilities

We are most likely to juggle increasing work and family demands between our 40s and 50s. This may include caring responsibilities, for children, other family members and friends. The impact of these responsibilities on sleep can be dramatic. For instance, research suggests that 9 in 10 individuals in their 50s caring for a family member with dementia experience poor sleep, wake frequently during the night and sleep for less than six hours per night.⁷ Depression, unhelpful sleep habits, feeling burdened, and the disrupted sleep of family members with dementia were factors that contributed to poor sleep in caregivers.⁷

How to cope with age-related changes that can impact sleep

As we get older, sleep becomes more fragile and harder to obtain, but if we take some relatively simple steps, it is still possible to maintain good sleep. The following tips can help you to sleep well as you grow older.

1. Reduce your intake of caffeine, nicotine and alcohol^{8,9}

Caffeine, nicotine and alcohol all disrupt our sleep quality. Cutting down on these substances is initially difficult and you may feel worse in the short-term. In the longer-term though, you may be surprised at just how much your sleep improves and how much more alert you are during the day.

2. Embrace your earlier sleep time

Rather than worrying about why you feel tired early in the evening and are the first one awake in the morning, if possible, embrace your earlier lifestyle by adjusting your schedule. For example, move the time you exercise and socialise from the evening to the morning, which is when you are at your best.

3. Address health issues and symptoms associated with changes related to ageing such as nocturia and menopause by talking to your doctor. It is important not to ignore these symptoms, particularly when they are severe as they can lead to worry and unhelpful sleep habits. In turn this can make sleep worse and, over time, cause insomnia. For menopause, hormone replacement therapy may help to alleviate symptoms.⁴ In addition, a well-balanced diet may also help the body adjust to hormonal changes as suggested here > <https://www.marilynglenville.com/womens-health-issues/menopause/>

4. Seek professional help if a sleep problem has become chronic. Sleep can be improved by changing sleep habits and the way we think around sleep, and how we manage stress related to not sleeping well. The first line of treatment for insomnia, or a chronic lack of sleep, is CBT-I (Cognitive-behavioural therapy for insomnia).¹⁰

5. Help children to sleep better

If you are caring for a child, helping them to sleep better can improve your sleep too.¹¹

6. Get the support you need

Research shows that social support is important for our mental well-being which is associated with better sleep. If you are a carer, talk to your manager, or your own doctor about support options for flexible working.

To summarise

It's a myth that older people need less sleep. As we age, sleep becomes more fragile. Moreover, as we grow older, we go through changes in our physiology, e.g. menopause, and we are more likely to take on additional roles, such as caring for older family members. Such changes require a period of adjustment during which sleep disruption may be experienced. This means that we may need to work a bit harder to protect our sleep by following some simple but effective tips to maintain sleep health.

What should I read next?

You can read more about how to improve sleep in the information sheets 'How to help young children with sleep'¹¹, 'Am I getting enough good quality sleep?'¹², 'How to adjust my daily patterns of light exposure, meals and exercise to improve sleep'¹³ and 'How to cope with insomnia'.¹⁰

About the author:

Cristina Ruscitto

Senior Researcher

Dr Cristina Ruscitto is a Senior Researcher at Baines Simmons. She specialises in the psycho-behavioural predictors of jet lag and fatigue in the aviation sector. Her role involves fatigue management training, the development of fatigue surveys and survey analysis, the scientific study of roster patterns to quantify fatigue risk as well as writing evidence-based recommendations to improve sleep in different operational settings. Cristina is a Chartered member of the British Psychological Society and an Associate Fellow of the Higher Education Academy.

About the reviewers:

Dr Alexandra Holmes

Research Director

Dr Alexandra Holmes is Research Director at Baines Simmons, specialising in scientific safety cases and the implementation of Fatigue Risk Management Systems (FRMS) in aviation. With a PhD exploring the health effects of sleep loss and shift work, Alex is a current member of the ICAO Helicopter Fatigue Management Task Force and assists the UK CAA and Irish CAA to evaluate FRMS applications and safety cases.

Sarah Booth

Research Manager

Sarah Booth is a Research Manager at Baines Simmons. A specialist in human performance in the aviation and aerospace environments, Sarah has worked with aviation operators to develop and implement Fatigue Risk Management Systems (FRMS) across multiple regulatory environments. A regular speaker at both academic and industry conferences, Sarah is also a trainer, delivering to operators in the implementation of Fatigue Risk Management, as well as courses in the use of biomathematical modelling.

For further information on our Fatigue Risk Management Research, Training and Consultancy services contact + 44 (0) 203 805 7792, hello@bainessimmons.com

www.bainessimmons.com

References

1. Hirshkowitz, M., Whiton, K., Albert, S. M., Alessi, C., Bruni, O., DonCarlos, L., & Neubauer, D. N. (2015). National Sleep Foundation's sleep time duration recommendations: methodology and results summary. *Sleep Health, 1*(1), 40-43.
2. Vitiello, M. V. (2006). Sleep in normal aging. *Sleep Medicine Clinics, 1*(2), 171-176.
3. Ruscitto, C., & Holmes, A. How to improve sleep in adults aged 65 or over. London.
4. Weiss, J. P. (2012). Nocturia: focus on etiology and consequences. *Reviews in urology, 14*(3-4), 48.
5. Shaver, J. L., & Zenk, S. N. (2000). Sleep disturbance in menopause. *Journal of women's health & gender-based medicine, 9*(2), 109-118.
6. Baker, F. C., Lampio, L., Saaresranta, T., & Polo-Kantola, P. (2018). Sleep and sleep disorders in the menopausal transition. *Sleep medicine clinics, 13*(3), 443-456.
7. Peng, H. L., Lorenz, R. A., & Chang, Y. P. (2019). Factors associated with sleep in family caregivers of individuals with dementia. *Perspectives in psychiatric care, 55*(1), 95-102.
8. Ruscitto, C., & Holmes, A. (2019) What is the impact of caffeine and nicotine on sleep? London.
9. Ruscitto, C., & Holmes, A. (2019) What is the effect of alcohol on sleep? London.
10. Ruscitto, C., & Holmes, A. (2019). How to cope with insomnia. London.
11. Ruscitto, C., & Holmes, A. (2019). How to help young children with sleep. London.
12. Ruscitto, C., & Holmes, A. (2019). Am I getting enough good quality sleep?
13. Ruscitto, C., & Holmes, A. (2019). How to adjust my daily patterns of light exposure, meals and exercise to improve sleep. London.