

Ageing Well Public Talk Series 2022/23

Talk 8. Let's talk about Sleep

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Slide 1: Five Pillars Facilitating Ageing Well

- Nutrition
- Hydration
- Physical stimulation
- Social stimulation
- Cognitive stimulation

Slide 2: Contents

- Why is sleep important?
- What do we mean by sleep?
- How much sleep is needed across the lifespan?
- Some common problems with sleep
- Best practice for restful sleep (sleep hygiene)
- Some psychological approaches to improve sleep
- Please note: this information covers general concepts, not advice for specific cases

Slide 3: Why is sleep important?

- 36% of your life is spent asleep!
- If you live to 90 then 32 years will have been spent asleep
- [TED Talks-Why do we sleep?](#)
- Essential for wellbeing
- [What's the limit to how long a human can stay awake? And why we don't monitor the record](#) stopped monitoring in 1997 due to the known dangers of sleep deprivation
- Good news- The record holder at the time was Robert McDonald, who went 18 days 21 hours 40 minutes without sleeping in 1986!

Slide 4: Why do we sleep?

- No consensus!
- Restoration hypothesis (back to Aristotle): restore, replace and rebuild in the night. Evidenced by genes that only turn on when we sleep
- Brain processing & memory consolidation: threefold advance in novel problem solving after a night's sleep. Neural connections are linked and strengthened

Slide 5: [The Effects of Sleep Deprivation on Your Body](#)

- Memory Issues
- Trouble with thinking and concentration

- Mood changes
- Accidents
- Weakened immunity
- High blood pressure
- Risk of diabetes
- Weight gain
- Risk of heart disease
- Low sex drive
- Poor balance

Slide 6: Changes in thinking and concentration

- Poor memory
- Increased impulsiveness
- Poor judgement
- Decreased creativity and problem solving

Slide 7: Essential for safety

[Work-related Fatigue](#) – Estimated annual injury incidence

Slide 8: The role of the brain

- Your brain does not shut down when you sleep- some areas are more active
- It doesn't arise from one area but a network
- Areas in the brainstem and the hypothalamus send arousal signals to the cerebral cortex in the form of neurotransmitters
- When arousal areas are active, we stay awake and when arousal signals are inhibited (shut down) we sleep
- Transitions can occur quickly (within seconds)

Slide 9: Our internal biological clock

- The suprachiasmatic nucleus, made up of 50,000 brain cells
- Receives light signals via the optic nerve
- Light sets the clock to a day-night cycle
- The clock then regulates the timing of internal functions including temperature, hormone release, sleep and wakefulness

Slide 10: [Nature.com](#)

Slide 11: [What do we mean by sleep?](#)

- Stage 1 : Stage 1, also called N1, is essentially when a person first falls asleep. This stage normally lasts just one to seven minutes.
- Stage 2: During stage 2, or N2, the body enters a more subdued state including a drop in temperature, relaxed muscles, and slowed breathing and heart rate.

- Stage 3: Stage 3 sleep is also known as N3 or deep sleep, and it is harder to wake someone up if they are in this phase.
- Stage 4: REM. During REM sleep, brain activity picks up, nearing levels seen when you are awake.
- [National Sleep Foundation](#) – Sleep duration recommendations

Slide 12: Sleep deprivation is very common

- Average sleep time has decreased since the 1950s by 1.5-2 hours per night
- Certain groups struggling more: teenagers, older people, shift workers

Slide 13: Why does sleep change in later life?

- Changes in our internal bodily clock
- Circadian rhythms can become disrupted
- Influenced by less daylight
- Change in production of hormones- less melatonin
- Increased medication side-effects
- Pain, physical + mental health conditions, lifestyle

Slide 14: How does sleep change in later life?

- Phase advance”: circadian rhythms shift forward, go to bed earlier and wake up earlier
- Increased time in the lighter stages of sleep = more easily disrupted, fragmented, less restful sleep
- Daytime napping: 25% older adults compared to 8% young people
- Longer time needed to recover from changes in sleep cycle

Slide 15: Medical support for sleep

- Excessive daytime drowsiness is not expected
- Prolonged and severe difficulties with sleep are not expected
- Best to get these checked out

Slide 16: [NHS self-assessment for sleep](#)

Slide 17 Sleep hygiene

- Same as dental hygiene, everybody needs the basics in place
- Many things that we see as common sense- but how often do we do them all?
- Light, routine, heat, nutrition & hydration

Slide 18: Light - Daytime

- Our night's sleep doesn't start from our evening routine- it starts from when we wake
- Need natural daylight as early as possible
- 20 minutes outside early on if possible
- You probably need more than you think- office lighting = 50 LUX but natural daylight = 10,000 LUX!

Slide 19: Light- Night time

- As dark as possible
- Side lights, black out blinds, eye masks
- Dim lights 2 hours before sleep
- Put down electronic devices- mobiles, tablets and laptops emit blue light which influences sleep
- Sleeping with the light on causes fragmented sleep
- But! Need a well-lit path and trip free route to the bathroom

Slide 20: Routine

- Consistent routine- same time every day, including weekends, to reinforce your sleep-wake cycle
- Physical activity, but finish at least one hour before bed
- Lifestyle factors- boredom, isolation

Slide 21: Heat

- Body temperature will drop as you sleep
- Ideal bedroom temperature is 18 degrees Celsius (range 15.6 to 22 degrees Celsius)
- Think cosy bed but cool bedroom

Slide 22: Nutrition

- Have breakfast- start your body clock
- Avoid large meals within a couple of hours of bedtime- main meal at lunchtime
- Don't go to bed hungry- light tea and healthy snack
- Avoid caffeine after lunchtime
- Avoid nicotine (stimulant- includes e-cigs, vapes, patches and gum)
- Don't drink large amounts of liquid for the last 3 hours before bed

Slide 23: Will a small amount of alcohol affect my sleep

- Low amounts of alcohol decreased sleep quality 9.3%
- Moderate amounts of alcohol decreased sleep quality 24%
- High amounts of alcohol decreased sleep quality 39.2%

Slide 24: Naps: friends or foe?

- General advice is to avoid naps if possible
- However, if necessary, be strategic! 20 minutes (n1 or n2) or 90 minutes (all 4 stages)
- If you wake in n3 or deep sleep, you will feel groggy
- Don't nap in the last 4 hours before bed as these decreases sleep pressure

Slide 25: Problems with sleep

Insomnia

- Difficulty falling asleep at night
- Waking up during the night
- Waking up too early
- Not feeling well-rested after a night's sleep
- Daytime tiredness or sleepiness
- Irritability, depression or anxiety
- Difficulty paying attention, focusing on tasks or remembering
- Increased errors or accidents
- Ongoing worries about sleep

Slide 26: What could be medical factors affecting sleep?

- Pain
- Night time urination (Nocturia)
- Daytime drowsiness
- Restless leg syndrome
- REM sleep disorder
- Sleep apnoea

Slide 27: Sleep Apnoea – STOP BANG

- S Snoring
- T Tired
- O Observed apnoea (stopping breathing or gasping)
- P High blood Pressure
- B BMI (higher than 35)
- An Age (over fifty)
- N Neck size (greater than 16 inches)
- G Gender (male)

Slide 28: Psychological factors related to poor sleep

- Stress
- Anxiety (over 8 million people in the UK)
- Depression (10% of the UK pre-covid)
- PTSD including nightmares (3% of the UK)
- Psychosis, bipolar etc

Slide 29: Medications (see GP for more information)

- Medications typically only prescribed for 2-4 weeks at smallest dose
- Temporary solution for severe insomnia
- Just mask the symptoms

- Side effects including drowsiness and increased falls risk
- Risk of developing tolerance and dependence
- Melatonin is slightly different, regulates the sleep cycle

Slide 30: Psychological support for sleep

- Sleep clinic referral
- CBT-I
- Self-help

Slide 31: Sleep clinic referrals – commonly seen conditions

- Sleep apnoea and other sleep disordered breathing
- Narcolepsy and other hypersomnia
- Parasomnias – Sleep walking, REM sleep behaviour disorder, nightmares and night terrors
- Restless Leg Syndrome
- Circadian Rhythm disorders (including delayed sleep phase disorder)

Slide 32: Motivational Systems (Emotional Regulation Systems)

- Drive System-Purpose: Motivates us towards resources
- Soothing System-Purpose: Allows social connectedness, bonding and management of distress
- Threat System-Purpose: Threat detection and protection
- [The Worry Tree](#)

Slide 33: Mindfulness

[Bedtime meditation](#)

[Mindful breathing exercise](#)

Slide 34: CBT-I – The vicious cycle of poor sleep

- Negative emotions
- Negative behaviour -Behavioural techniques
- Negative thoughts -Cognitive techniques

Slide 35: Acknowledgements

- Thank you to Dr Jill McGarry, Consultant Clinical Psychologist at Sleep Better Doctor

Thank you for joining today & questions

Summary of related resources to The Ageing Well Public Talk Series

Podcasts

- Vseteckova J & King J (2020) COVID-19 Interview podcast for The Retirement Café: 'Ageing Well Under Lockdown'
- Vseteckova J & Broad E (2020) Podcast – Open University & The Parks Trust Keep Me Walking - researching with people living with dementia and their carers -
- Vseteckova J (2020) Podcast - Areas of research with The Open University
- Broad E, Methley A & Vseteckova J (2021) Podcast OU & The Parks Trust & Northamptonshire Healthcare NHS Foundation Trust - **Spotter sheet and mindful walking.**
- Vseteckova J, Methley A, Broad E (2021) Podcast OU & The Parks Trust & Northamptonshire Healthcare NHS Foundation Trust **Preventing brain decline while ageing**
- Methley A, Broad E, Vseteckova J (2021) Podcast OU & The Parks Trust & Northamptonshire Healthcare NHS Foundation Trust **Walking therapy**
- Vseteckova J, Methley A, Broad (2021) Podcast OU & The Parks Trust & Northamptonshire Healthcare NHS Foundation Trust **Understanding our memory**
- The above podcasts can be also seen on The Parks Trust YouTube Channel

Further information on nutritional needs while ageing

- Nutrition roadshows MK
- Diabetes UK
- British Heart Foundation
- Health watch
- WHO – World Health Organisation

Next Talk 9. Series 2022/23 – Health inequalities and ageing – Sonal Mehta - Ageing Well Series 22/23 - Berrill Stadium (open.ac.uk) - Andreas Vossler 17th May 2023

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Podcasts

[Vseteckova J & King J \(2020\) COVID-19 Interview podcast for The Retirement Café: 'Ageing Well Under Lockdown'](#)

[Vseteckova J & Broad E \(2020\) Keep Me Walking - researching with people living with dementia and their carers - Podcast – Open University in collaboration with The Parks Trust](#)

[Vseteckova J \(2020\) Podcast - areas for research with The Open University](#)

[Broad E & Methley A & Vseteckova J \(2021\) Podcast OU & The Parks Trust & Northamptonshire Healthcare NHS Foundation Trust - Spotter sheet and mindful walking.](#)

[Broad E & Methley A & Vseteckova J \(2021\) Preventing brain decline while ageing](#)

OpenLearn Resources:

[Vseteckova J \(2020\) Ageing Well Public Talk Series](#)

[Vseteckova J \(2019\) 5 reasons why exercising outdoors is great for people who have dementia](#)

[Vseteckova J \(2019\) Depression, mood and exercise](#)

[Vseteckova J \(2019\) Five Pillars for Ageing Well](#)

[Vseteckova J \(2020\) Ageing Brain](#)

[Vseteckova J \(2020\) Ageing Well Public Talks Series II. Plan for 2020 – 2021](#)

[Vseteckova J \(2020\) Walking the Parks with The OU and The Parks Trust](#)

[Vseteckova J, Borgstrom E, Whitehouse A, Kent A, Hart A \(2021\) Advance Care Planning \(ACP\) - Discuss, Decide, Document and Share Advance Care Planning \(ACP\)](#)

[Vseteckova J, Methley A, Lucassen M \(2021\) The benefits of mindfulness and five common myths surrounding it](#)

[Vseteckova J, Broad E, Andrew V \(2021\) The impact of walking and socialising through 5 Ways Café on people living with dementia and their carers: A volunteer's perspective](#)

[Vseteckova J, Methley A, Lucassen M \(2021\) The benefits of mindfulness and five common myths surrounding it](#)

[Methley A, Vseteckova J, Broad E \(2021\) Outdoor Therapy: The Benefits of Walking and Talking](#)

[Vseteckova J, Methley a, Broad E \(2021\) What happens to our brain as we age and how we can stop the fast decline](#)

[Methley A & Vseteckova J & Jones K \(2020\) Green & Blue & Outdoor spaces](#)

COVID-19 related

[Vseteckova J, How to age well, while self-isolating \(2020\)](#)

[Vseteckova J, \(2020\) SHORT FILM - Ageing Well in Self-Isolation](#)

[Vseteckova J, \(2020\) ANIMATION - Keeping healthy in Self-Isolation](#)

[Vseteckova J et al \(2020\) COVID-19 The effects of self-isolation and lack of physical activity on carers](#)

[Taverner P, Larkin M, Vseteckova J, et al. \(2020\) Supporting adult carers during COVID-19 pandemic](#)

[Robb M, Penson M, Vseteckova J, et al. \(2020\) Young carers, COVID-19 and physical activity](#)

[Penson M, Vseteckova J et al. \(2020\) Older Carers, COVID-19 and Physical Activity](#)

[Vseteckova J & Methley A \(2020\) Acceptance Commitment Therapy \(ACT\) to help carers in challenging COVID-19 times](#)

['Ageing Well Public Talks' Series 2021/2022 repository on ORDO Collections](#)

['Ageing Well Public Talks' Series 2020/2021 repository on ORDO Collections](#)

['Ageing Well Public Talks' Series 2019/2020 repository on ORDO Collections](#)

[OpenLearnCreate Course on 'Ageing Well' 2019/2020](#)

[Home exercise no equipment – no problem \(Blog\)](#)