



Episode 5.03 Show Notes

Sleep

Presented by: Dr Jo Preston, Dr Iain Wilkinson, SJ Ryan

Faculty: SJ Ryan, Wendy Grosvenor, Edda Hensler

Broadcast Date: 20th February 2018

Episode admin:

The first 3 sections are to help us organise the infographics / social media around the episode. They will not remain in the show notes which will be published on the website as well as in a pdf format.

Infographic Points

Please place here 5 points that you would like the infographic to have on it. They need to be short to fit. The aim is to give people a practical aide memoir they could put up in the office whilst making them want to listen for more!

1. Determine cause of sleep problem and initiate specific treatment
2. Limit naps to 1 h in the early afternoon
3. Adjust medications
4. Avoid all caffeine
5. Improve environment



The Hearing Aid Podcasts

#MDTeaClub

We are running a twitter discussion alongside each episode over a week or two around it coming out. These are managed by Dan Thomas by you are more than welcome to help facilitate during this time too just let us and Dan know.

Please leave here any questions and/or links resources that may stimulate discussion in addition to those below e.g. charitable sites, guidance, papers, comment pieces.

Social Media / Website

<https://twitter.com/skipbidder/status/957798665577431043> pain in german hospitals

Any resources you would specifically like us to include on the website. We will be looking to summarise the #mdteaclub discussions and add any additional resources generated to the website too.

<https://sleepcouncil.org.uk/>

<http://www.sleepeducation.org/news/2013/08/07/sleep-and-growing-older%20Obstructive>



The Hearing Aid Podcasts

Main Show Notes:

Learning Outcomes

Knowledge:

- To understand the basics of normal sleep architecture and how this is affected with increased age.
- To recall some of the common conditions affecting sleep
- To understand how poor sleep can affect older adults

Skills:

- To recognise when sleep may be affected older adults function
- To be able to ask questions to identify the problem
-

Attitudes:

- To appreciate that disrupted sleep is not a part of normal ageing
- To appreciate that each person may have a different cause for the sleep disruption

Definitions:

The resting state in which the body is not active and the mind is unconscious.

Cambridge Dictionary

Key Points from Discussion

Normal physiology of sleep & changes with age.

Conventional wisdom says we should be getting 8 hours of sleep a night but NHS guidance says most people need between 6 and 9 hours to feel refreshed and function well both physically and mentally.



The Hearing Aid Podcasts

The Great British Bedtime Report 2013 by the [Sleep Council](#)

Decreased ability to sleep is less a function of age and more a function of other factors that accompany aging, such as medical and psychiatric illness, increased medication use, advances in the endogenous circadian clock and a higher prevalence of specific sleep disorders.

Sleep Disorders in the Older Adult - A Mini Review. Niekrug & Ancoli-Israel, [Gerontology 2010](#)

In a large epidemiological study of sleep, Foley et al. found that over 50% of older adults had complaints of insomnia, but that chronic sleep disturbances were associated primarily with indications of poor health. At follow-up 3 years later, of the 2,000 survivors with chronic insomnia at baseline, about 50% had no symptoms and improved sleep was associated with improved health

Foley et al in Sleep [1995](#) and [1999](#)

A secondary analysis of a study into an Alzheimer's population, which used rigorous exclusion criteria for physical and psychiatric conditions (so labelled healthy), found that sleep complaints were rare with two cohorts totalling nearly 3000 participants showed a prevalence of around 2%.

*Sleep complaints cosegregate with illness in older adults: clinical research informed by and informing epidemiological studies of sleep. [Vitiello et al](#), *Journal of Psychosomatic Research* 2002*

Its topical, with Researchers at University of Surrey are doing research on sleep in older adults. SomnIA is a four year NDA Collaborative Research Project (CRP) which addresses practice and policy relevant issues arising from the nature, impact and management of the sleep-wake balance in later life. It will extend and 'join up' strategically targeted areas of sleep research relevant to understanding and improving autonomy, active ageing, and quality of later life.

<http://www.somnia.surrey.ac.uk/>



The Hearing Aid Podcasts

Sleep Architecture

Changes in sleep architecture do occur with age but are considered normal age related neural degeneration rather than pathological.

A large meta-analysis of 65 overnight studies representing 3,577 subjects across the entire age spectrum reported that, with age the percentage time of rapid eye movement (REM) sleep decreased while the percentages of light sleep (stage 1 and stage 2 sleep) increased.

When only reviewing studies of elderly participants, slow wave sleep remained constant after age 60 with no significant continued change with age.

Meta-analysis of quantitative sleep parameters from childhood to old age in healthy individuals: developing normative sleep values across the human lifespan. [Ohayon et al.](#) Sleep 2004

Circadian Rhythms

These control normal variations in things like hormone levels, sleep wake cycles and core body temperature and generally operate on a 24 hour loop. They usually depend on two things

1. Endogenous clock: Hypothalamic suprachiasmatic nucleus
2. External stimuli such as light

With age, circadian rhythms become weaker, desynchronised and decrease in amplitude e.g. increased frequency of night time waking and daytime sleepiness.

Nocturnal secretion of melatonin decreases with age potentially leading to reduced sleep efficacy and increasing circadian related sleep disturbance. Melatonin can be attempted to reset this. No convincing studies on its use but can be useful and relatively few side effects so may be worth a try.

Phase Advance of circadian rhythm is common > Fall asleep earlier (7-8pm) and wake up 8 hours later (3-5am).



The Hearing Aid Podcasts

- Going to bed later doesn't reset this.
- Bright light therapy early evening can as it is the strongest cue for circadian rhythm.
- Avoid bright lights in the morning.
- Light box works for both healthy and institutionalized older adults.

External cues may be weaker or missing entirely. Healthy older adults usually get about 60 minutes of bright light per day. A person with Alzheimers living at home may only get 30 minutes and those in a nursing home may not get any.

The ability to get the needed sleep can change with age though, many reasons for this including

- Medical or psychiatric illnesses
- Life changes (e.g. retirement, bereavement, decreased social interactions)
- Environmental changes (e.g. including placement in a nursing home)
- Polypharmacy.

Older couples are less likely to share a bed, with 13% those over 55 likely to sleep alone. This increased with certain conditions:

- Heart disease 19%
- Heart problems 15%
- Arthritis 15%
- Depression 15%
- Back Pain 11%

The Great British Bedtime Report 2013 by the [Sleep Council](#)

Men are more likely to snore than women, with half of men snoring by time they reach middle age. Potentially related to this is more women are affected by their partners affecting their sleep (31%) compared with men (19%).

The Great British Bedtime Report 2013 by the [Sleep Council](#)



The Hearing Aid Podcasts

A study of adults over 65 found that 13 percent of men and 36 percent of women take more than 30 minutes to fall asleep.

Complications of poor sleep

Not sleeping well can lead to a number of problems. Older adults who have poor night-time sleep are more likely to have a depressed mood, attention and memory problems, excessive daytime sleepiness, more night-time falls, and use more over-the-counter or prescription sleep aids. Poor sleep is also associated with a poorer quality of life.

Many people believe that poor sleep is a normal part of aging, but it is not. In fact, many healthy older adults report few or no sleep problems. Sleep patterns change as we age, but disturbed sleep and waking up tired every day are not part of normal aging. If you are having trouble sleeping, see your doctor or a sleep specialist. There are treatments that can help.

The association between sleep complaints and cognitive decline disappears once depression is controlled for, raising the question of whether poor quality of sleep leads directly to poor cognitive function, or whether poor sleep causes an increase in depressive symptoms which then results in cognitive decline [22]. This finding highlights the importance of accounting for the effects of other variables, such as depression, on sleep and cognitive function when interpreting various study results and potentially contradictory conclusions.

Sleep and Cognition, Chapter 1, Sleep and it's disorders affect on society.

Sleep Disorders

The most common primary sleep disorders among older adults are Insomnia, sleep-disordered breathing (snoring to sleep apnea) and movement disorders, such as restless legs syndrome and

The MDTea Podcast provides Education on Ageing for all healthcare professionals working with older adults
Find us on Twitter: [@MDTea_podcast](#), [Facebook.com/MDTeapodcast](#), [Stitcher](#) and [iTunes](#)
Visit www.thehearingaidpodcasts.org.uk/mdtea for more information, to listen on the web and to sign up to our mailing list.





The Hearing Aid Podcasts

periodic limb movements disorder (PLMD).

Insomnia

Insomnia affects almost half of adults 60 and older.

Taking a long time -- more than 30 to 45 minutes -- to fall asleep

Waking up many times each night

Waking up early and being unable to get back to sleep

Waking up feeling tired

If insomnia lasts longer than a month, it is considered chronic.

Sleep disordered breathing

Sleep apnoea and snoring are two examples of sleep-disordered breathing -- conditions that make it more difficult to breathe during sleep. When severe, these disorders may cause people to wake up often at night and be drowsy during the day.

Snoring is a very common condition affecting nearly 40 percent of adults. It is more common among older people and those who are overweight. When severe, snoring not only causes frequent awakenings at night and daytime sleepiness, it can also disrupt a bed partner's sleep.

Snoring is caused by a partial blockage of the airway passage from the nose and mouth to the lungs. The blockage causes the tissues in these passages to vibrate, leading to the noise produced when someone snores.

As many as two-thirds of older adults (65 years and older) experience mild to severe symptoms of sleep apnoea, a sleep related breathing problem where the airway collapses during sleep thus making it difficult to breathe.

The MDTea Podcast provides Education on Ageing for all healthcare professionals working with older adults

Find us on Twitter: [@MDTea_podcast](#), Facebook.com/MDTeapodcast, Stitcher and iTunes

Visit www.thehearingaidpodcasts.org.uk/mdtea for more information, to listen on the web and to sign up to our mailing list.





The Hearing Aid Podcasts

Two kinds of sleep apnoea: obstructive sleep apnoea and central sleep apnoea. Obstructive sleep apnoea occurs when air entering from the nose or mouth is either partially or completely blocked, usually because of obesity or extra tissue in the back of the throat and mouth. If these episodes occur frequently or are severe, they may cause a person to awaken frequently throughout the night. This may disrupt their sleep and make them sleepy during the day. Central sleep apnoea is less common. It occurs when the brain doesn't send the right signals to start the breathing process. Often, both types of sleep apnoea occur in the same person.

Obstructive sleep apnoea can increase a person's risk for high blood pressure, stroke, heart disease, and cognitive problems. The most effective and popular treatment for sleep apnea is nasal continuous positive airway pressure, or CPAP - keeps air passages open by supplying a steady stream of air pressure through the nose while person sleeps. This is often tolerated better than expected and its use has good outcomes in older adults.

Risk Factors for Sleep Disordered Breathing

- Age
- Obesity
- Male gender
- Sedating medications
- Alcohol and tobacco use
- Family history

Effects on daytime functioning and slowing of psychomotor function worse than with insomnia alone.



The Hearing Aid Podcasts

Neurological conditions

Parkinson's Disease / Movement Disorders

Two movement disorders that can make it harder to sleep include restless legs syndrome, or RLS, and periodic limb movement disorder, or PLMD. Both of these conditions cause people to move their limbs when they sleep, leading to poor sleep and daytime drowsiness.

RLS (Restless Legs Syndrome)

Restless legs syndrome is a common condition in older adults and affects more than 20 percent of people 80 years and older. People with RLS experience uncomfortable feelings in their legs such as tingling, crawling, or pins and needles associated with the urge to move to alleviate it.

Four Qs to diagnose RLS

1. Do you experience the urge to move your legs (and/or other parts of your body) accompanied or caused by an uncomfortable and/or unpleasant sensation in the body part affected?
2. Does the urge to move or the uncomfortable/unpleasant feeling start and/or worsen during periods of rest, relaxation or inactivity?
3. Is the urge to move or uncomfortable/unpleasant feeling partially or totally relieved by movement?
4. Does the urge to move or the uncomfortable sensation worsen in the evening or at night (as compared to the daytime), or does it only occur in the evening or at night?

It is unclear exactly causes restless legs syndrome, it has been linked to a variety of conditions. Some of these conditions include iron deficiency, kidney failure and dialysis, pregnancy, nerve abnormalities, and movement disorders. CHECK FERRITIN



The Hearing Aid Podcasts

PLMD (Periodic Limb Movement Disorder)

Periodic limb movement disorder, or PLMD, is a condition that causes people to jerk and kick their legs every 20 to 40 seconds during sleep. As with RLS, PLMD often disrupts sleep -- not only for the patient but the bed partner as well. One study found that roughly 40 percent of older adults have at least a mild form of PLMD. Most people develop restless legs syndrome after age 45. Women are nearly twice as likely as men to develop the disorder. If you have a family member with restless legs syndrome, you are more likely to develop the symptoms before you are 45 years old. More than half of people with restless legs syndrome have a pattern of it in their family, as the risk is about three to six times greater.

Both RLS and PLMD can be treated with dopamine agonists such as pramipexole or ropinirole.

REM Sleep Disorder

More common in men over the age of 50. 50% may develop PD or MSA within 3-4 years

REM sleep, or rapid eye movement sleep, is the most active stage of sleep where dreaming often occurs. During normal REM sleep, the eyes move back and forth beneath the eyelids, and muscles cannot move. In more severe forms of REM sleep behaviour disorder, the muscles become quite mobile and sufferers often act out their dreams.

Dementia / Delirium

19-44% complain of sleep disturbance, which includes abnormal night time behaviours such as confusion, agitation and walking around. This can lead to excessive daytime sleepiness which is linked to carer strain and increased rates of institutionalisation.

In care homes, severity of dementia is seen to correlate with severity of sleep disordered breathing.

The MDTea Podcast provides Education on Ageing for all healthcare professionals working with older adults
Find us on Twitter: [@MDTea_podcast](https://twitter.com/MDTea_podcast), [Facebook.com/MDTeapodcast](https://www.facebook.com/MDTeapodcast), [Stitcher](https://www.stitcher.com/podcast/mdtea) and [iTunes](https://www.apple.com/itunes/podcasts?id=1444444444)
Visit www.thehearingaidpodcasts.org.uk/mdtea for more information, to listen on the web and to sign up to our mailing list.





The Hearing Aid Podcasts

Increased exposure to bright light shown to reduce agitation

Tips for improving sleep in the nursing home

1. Determine cause of sleep problem and initiate specific treatment
2. Limit naps to 1 h in the early afternoon
3. Adjust medications
4. Avoid all caffeine
5. Improve environment
 - a. Keep the environment dark at night
 - b. Keep the environment bright during the day
 - c. Keep the environment quiet at night
 - d. Match roommates

Example of staff wearing pyjamas at night on a ward... [Star and garter homes](#).

Factors influencing sleep associated with increased age

Nocturia

Many factors can cause insomnia. However, the most common reason older adults wake up at night is to go to the bathroom. Prostate enlargement in men and continence problems in women are often the cause. Unfortunately, waking up to go to the bathroom at night also places older adults at greater risk for falling.

Timing of carers

For those who are dependent on others to get in and out of bed.



The Hearing Aid Podcasts

Many older people also have habits that make it more difficult to get a good night's sleep. They may nap more frequently during the day or may not exercise as much. Spending less time outdoors can reduce their exposure to sunlight and upset their sleep cycle. Drinking more alcohol or caffeine can keep them from falling asleep or staying asleep.

Reduced Exercise

Regular exercise is recognised to contribute to a good night's sleep.

The Great British Bedtime Report 2013 by the [Sleep Council](#)

A small study of 17 people looked at sleep hygiene with (10) and without (6) exercise and found significant improvements in quality of sleep and daytime function.

*Aerobic exercise improves self reported sleep and quality of life in older adults with insomnia.
Reid et. al Sleep 2010*



The Hearing Aid Podcasts

Management Options

Investigations

Helpful to keep a sleep diary for a week

Overnight sleep study, also called a polysomnogram, and/or a sleepiness, or a nap test - measures brain waves, heart rate, breathing patterns and body movements.

A common sleepiness test is the multiple sleep latency test. During this test, the person has an opportunity to nap every two hours during the daytime. If the person falls asleep too quickly it may mean that he or she has too much daytime sleepiness.

Sleep Hygiene

The term "sleep hygiene" refers to a series of healthy sleep habits that can improve sleep. These habits are a cornerstone of cognitive behavioural therapy, the most effective long-term treatment for people with chronic insomnia. CBT can help address the thoughts and behaviours that prevent person from sleeping well. It also includes techniques for stress reduction, relaxation and sleep schedule management. Benefits of CBT maintained at 3, 12 and 24 months compared with sedating medications.

Medications

Review medications may contribute including

- Antihypertensives: alpha and beta blockers
- Respiratory drugs like theophylline
- Hormone treatments like steroids
- Psychotropic medications



The Hearing Aid Podcasts

- Antidepressants such as SSRIs and atypicals

No evidence of effectiveness of medications to improve sleep overall and there is concern for harm e.g. falls.

Curriculum Mapping:

This episode covers the following areas (n.b not all areas are covered in detail in this single episode):

Curriculum	Area						
NHS Knowledge Skills Framework	Suitable to support staff at the following levels: <ul style="list-style-type: none">• Personal and People Development: Levels 1-3• Service Improvement: Level 1 - 2						
Foundation curriculum	<table border="1"><thead><tr><th>Section</th><th>Title</th></tr></thead><tbody><tr><td>2.1</td><td>Patient as centre of care</td></tr><tr><td>2.2</td><td>Communication with patients</td></tr></tbody></table>	Section	Title	2.1	Patient as centre of care	2.2	Communication with patients
Section	Title						
2.1	Patient as centre of care						
2.2	Communication with patients						
Core Medical Training	Neurology (Sleep)						
GPVTS program	Section 2.03 The GP in the Wider Professional Environment <ul style="list-style-type: none">• Core Competence: Managing medical complexity Section 3.05 - Managing older adults <ul style="list-style-type: none">• Core Competence: Clinical management• Core Competence: Managing medical complexity						
ANP (Draws from KSF)	Section 9: CGA						
Geriatric Medicine Training Curriculum	Presentations of other illnesses in older adults						

The MDTea Podcast provides Education on Ageing for all healthcare professionals working with older adults

Find us on Twitter: [@MDTea_podcast](https://twitter.com/MDTea_podcast), Facebook.com/MDTeapodcast, Stitcher and iTunes

Visit www.thehearingaidpodcasts.org.uk/mdtea for more information, to listen on the web and to sign up to our mailing list.





The Hearing Aid Podcasts

Feedback

We will add feedback to this as we receive it! The website will have the most up to date version always available: www.thehearingaidpodcasts.org.uk/mdtea

Find Us!

To listen to this episode head to our [website](#), [itunes](#) or [stitcher](#).

Give us feedback by [emailing us](#), via [twitter](#) or [facebook](#).

Check out our cool infographic *A sip of...* on the website page for this episode, summarising 5 key points on this topic. It's made for sharing!

The MDTea Podcast provides Education on Ageing for all healthcare professionals working with older adults

Find us on Twitter: [@MDTea_podcast](#), [Facebook.com/MDTeapodcast](#), [Stitcher](#) and [iTunes](#)

Visit www.thehearingaidpodcasts.org.uk/mdtea for more information, to listen on the web and to sign up to our mailing list.



