



Managing Sleep in Occupational Medicine

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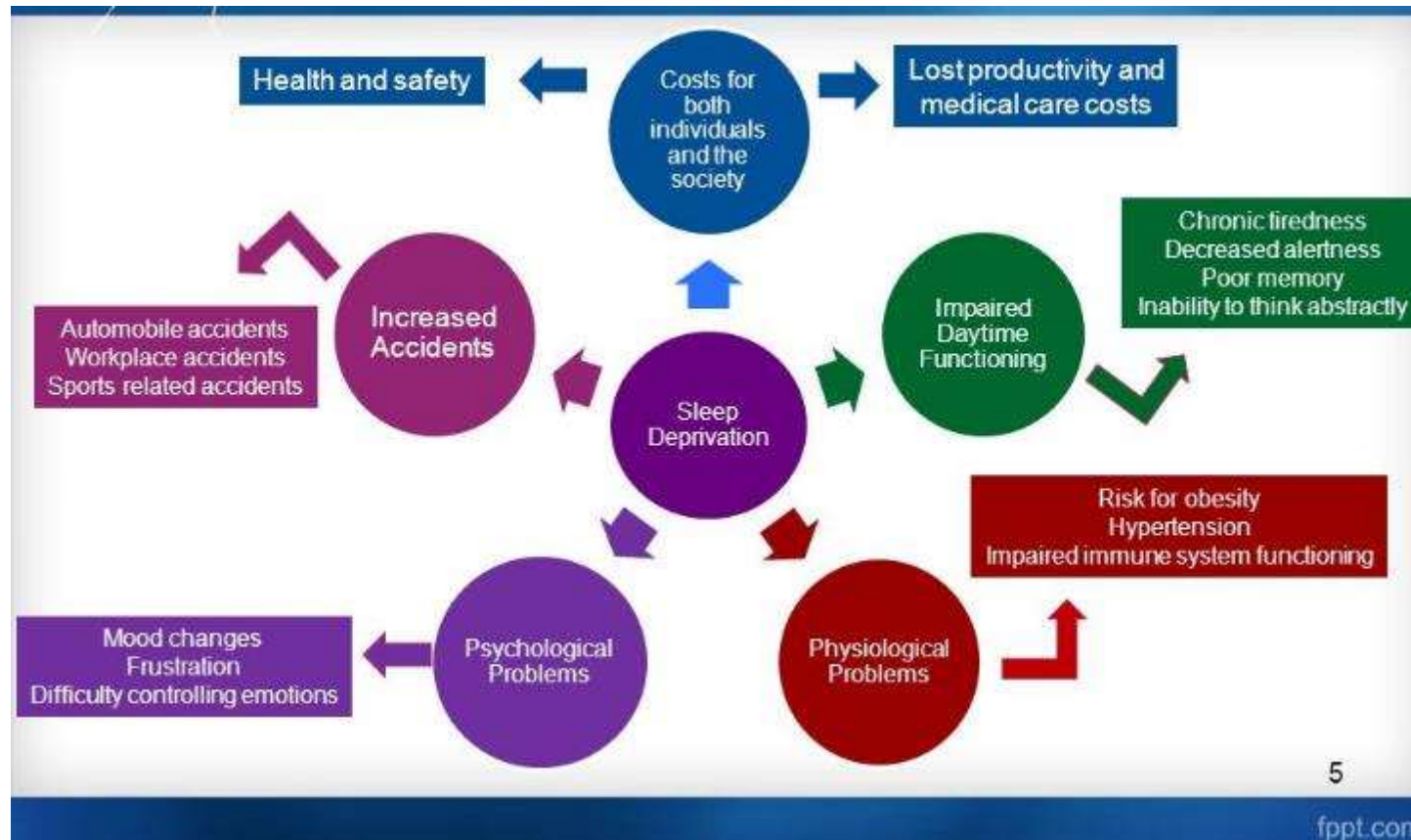
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How do you
feel when an
employee
complains
about their
sleep?

The cost of poor sleep



SPOT

Noticing clues that point to a sleep condition

Most likely sleep presentations

People rarely report sleep as a primary concern

SCREEN

Making the right diagnosis

- History
- Questionnaires
- Tests

SUPPORT

Interventions to improve sleep

- Lifestyle and sleep hygiene
- Education
- Behavioural techniques
- Medication

SIGNPOST

Next steps

- Onward referral
- CBT for Insomnia
- Other resources/support



A 4-step framework to address sleep conditions



SPOT

- ▶ *“Do you have trouble sleeping at night on a regular basis?”*
- ▶ *“Do you have trouble staying awake during the day on a regular basis?”*

“If the driver of the truck that killed my nephew had been diagnosed and referred for fast track treatment of OSA when he visited his GP to complain about being tired all the time, Toby would still be with us”.

Seb Schmoller, uncle to Toby Tweddell who was killed in August 2008 by a truck whose driver had fallen asleep at the wheel.



Is it insomnia
or something
else?



Delayed Sleep Phase Disorder

Delayed Sleep Phase

- ▶ Younger adults and ‘Night owls’
- ▶ Sleep timing issue
- ▶ Very difficult to wake up
- ▶ ASK: “When would you naturally fall asleep and wake if you didn’t have to get up for work/school?”

Treatment: CBT for Insomnia, light therapy, melatonin

Guidelines:

Auger, R. R., Burgess, H. J., Emens, J. S., Deriy, L. V., Thomas, S. M., & Sharkey, K. M. (2015). Clinical Practice Guideline for the Treatment of Intrinsic Circadian Rhythm Sleep-Wake Disorders

<https://pmc.ncbi.nlm.nih.gov/articles/PMC4582061/>



“I'm just so tired in the day. I don't have any trouble falling asleep but in the morning I feel like I've been hit by a truck”



A cartoon illustration of Homer Simpson in bed, snoring loudly with his mouth wide open. He is wearing a light blue shirt and is tucked under a blue blanket. The background shows a purple wall with framed pictures and a blue headboard.

Obstructive Sleep Apnoea

- ◀ Airway closes repeatedly throughout the night
- ◀ **Prevalence** - 10-30% population but 80% undiagnosed
- ◀ **Consequences** - Untreated leads to heart, metabolic, mental health and driving safety complications
- ◀ **Symptoms** - Snoring, waking gasping/choking, observed breath holds, daytime sleepiness
- ◀ **Clues** - treatment resistant HTN, nocturia, morning headaches, fragmented sleep, bruxism, women - low mood, fatigue
- ◀ **Risk factors** - Obesity, smoking, alcohol, male, aging, menopause



Treatment

- ← Lifestyle measures
- ← Continuous Positive Airway Pressure
- ← Mandibular Advancement Device
- ← Positional therapy
- ← Surgery - hypoglossal nerve stimulation



“I just feel so restless in the evening. I get into bed and can't stop moving my feet”

Restless Leg Syndrome

4 criteria

- U = Urge to move the legs, usually associated with unpleasant leg sensations
- R = Rest induces symptoms
- G = Getting active (any movement e.g. walking, stretching) brings relief
- E = Evening and night make symptoms worse

ASK: When you try to relax in the evening or sleep at night, do you ever have unpleasant restless feelings in your legs that can be relieved by walking or movement? (100% sensitivity and 96.8% specificity (European Journal of Neurology))

Affects 2-15% adult population (more common in women, pregnancy or middle age)

Potential causes - ferritin less than 75ng/l, medication SEs

RLS treatment

- ▶ Iron supplementation
- ▶ Review meds re side effects
- ▶ Lifestyle measures
- ▶ Medication - gabapentin and pregabalin

Guidelines:

- ▶ <https://cks.nice.org.uk/topics/restless-legs-syndrome>
- ▶ <https://jcsn.aasm.org/doi/10.5664/jcsn.11390>



“I’m exhausted during the day. I fall asleep the moment my head hits the pillow”





Insufficient Sleep Syndrome

- ▶ Inadequate time in bed
- ▶ Sleepy (not just tired)
- ▶ Multiple jobs, baby, Revenge Bedtime Procrastination
- ▶ Resolved by extending sleep opportunity across the week

“I can’t sleep! I’m nodding off on the sofa but once I get to bed, it’s like my mind switches on”

“People keep telling me to take a nap, if only I could”



Insomnia

- ▶ 10% population prevalence
- ▶ Difficulty falling or staying asleep in spite of opportunity
- ▶ Tired but wired (not sleepy) during the day

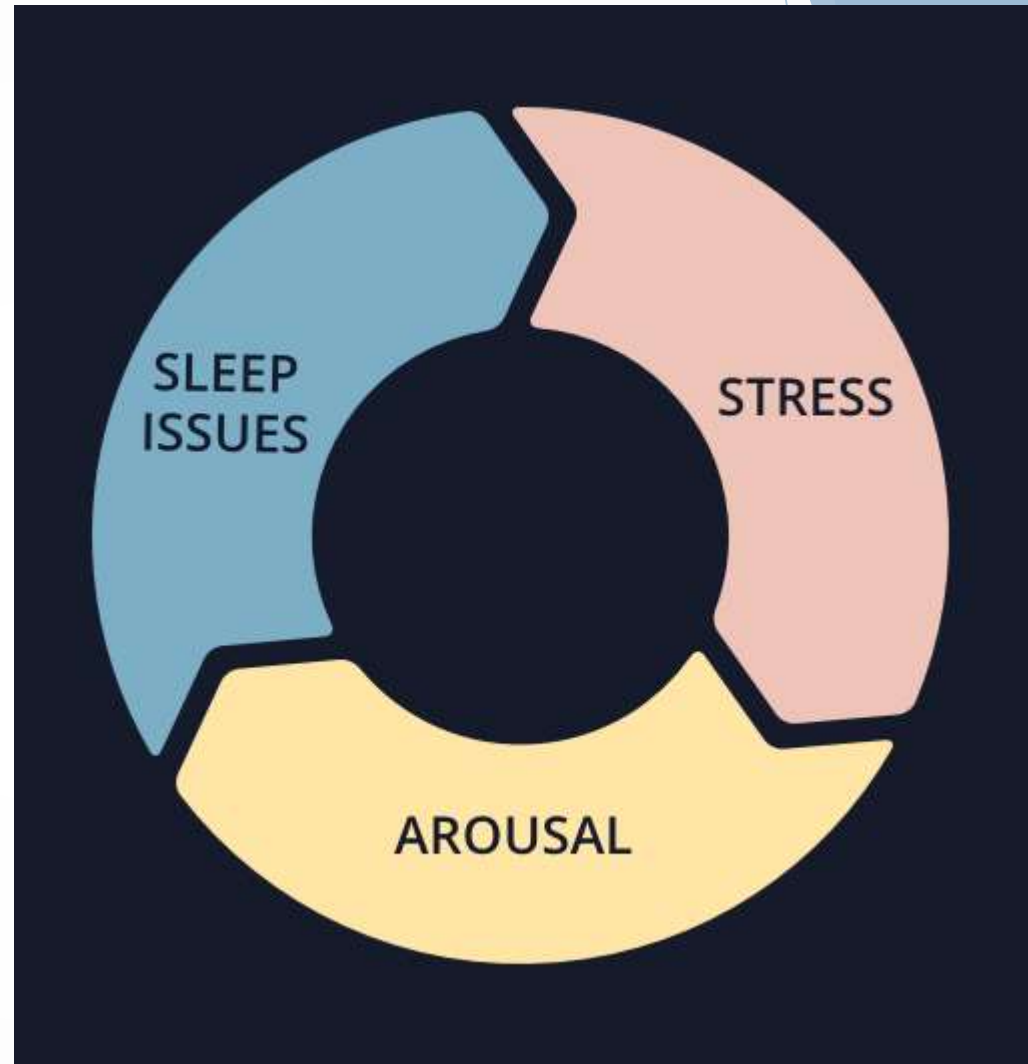
Acute

- ▶ Usually caused by stress
- ▶ Lasts few days or weeks

Chronic

- ▶ 3 x per week, 3 months
- ▶ Causing daytime distress/dysfunction
- ▶ Hyperarousal vicious cycle

Often say, “It’s like a get into the bedroom and my mind switches on” “I get really worried about whether I’ll sleep” “My sleep makes me depressed” “I’m tired but wired” “I’m a light sleeper” “I can’t nap, even if I want to”



Insomnia treatment

Often not addressed as assumed to be secondary

CBT for Insomnia (CBT-I) - Gold standard

- Riemann, D., Espie, C. A., Altena, E., Arnardottir, E. S., Baglioni, C., Bassetti, C. L., ... & Spiegelhalder, K. (2023). The European Insomnia Guideline: an update on the diagnosis and treatment of insomnia 2023. *Journal of sleep research*, 32(6), e14035.
<https://onlinelibrary.wiley.com/doi/full/10.1111/jsr.14035>

Sleep hygiene alone not effective

Medication (2nd line)

- Benzo/Z drugs
- Off licence antihistamines/antidepressants
- Melatonin
- Daridorexant



SCREEN

Digging deeper

Insomnia or something else?

- Obstructive Sleep Apnoea
- Delayed Sleep Phase Disorder
- Restless Leg Syndrome
- Insufficient sleep

Sleep history

- Main complaint/symptoms
- Sleep routine (inc. daytime naps)
- Daytime function
- Lifestyle factors/sleep hygiene
- Check for co-morbid conditions/exclude other causes
- Medication (check for SEs that interfere with sleep)



Examination and further screening

- ▶ Bloods (FBC, TSH, HbA1c, ferritin)
- ▶ BMI
- ▶ Blood pressure
- ▶ “What does your partner say about your sleep?”
- ▶ Snore app to record sleep



Screening tools

Insomnia

- ▶ Insomnia Severity Index
- ▶ Sleep Condition Indicator

Early bird or night owl?

- ▶ Morningness-Eveningness Questionnaire

Please rate the **CURRENT** (i.e. **LAST 2 WEEKS**) **SEVERITY** of your insomnia problem(s).

Insomnia Problem	None	Mild	Moderate	Severe	Very Severe
1. Difficulty falling asleep	0	1	2	3	4
2. Difficulty staying asleep	0	1	2	3	4
3. Problems waking up too early	0	1	2	3	4

4. How **SATISFIED/DISSATISFIED** are you with your **CURRENT** sleep pattern?

Very Satisfied Satisfied Moderately Satisfied Dissatisfied Very Dissatisfied
0 1 2 3 4

5. How **NOTICEABLE** to others do you think your sleep problem is in terms of impairing the quality of your life?

Not at all
Noticeable A Little Somewhat Much Very Much Noticeable
0 1 2 3 4

6. How **WORRIED/DISTRESSED** are you about your current sleep problem?

Not at all
Worried A Little Somewhat Much Very Much Worried
0 1 2 3 4

7. To what extent do you consider your sleep problem to **INTERFERE** with your daily functioning (e.g. daytime fatigue, mood, ability to function at work/daily chores, concentration, memory, mood, etc.) **CURRENTLY**?

Not at all
Interfering A Little Somewhat Much Very Much Interfering
0 1 2 3 4

Screening tools

STOP-BANG Score	
S	SNORING LOUDLY?
T	TIRED IN THE DAY?
O	OBSERVED APNOEA?
P	HIGH BLOOD PRESSURE?
B	BMI >35
A	AGE >50
N	NECK CIRCUMFERENCE >40CM
G	GENDER (MALE)

STOP Bang - 90% sensitivity for detecting moderate to severe OSA (Hwang et al., 2022)

EPWORTH SLEEPINESS SCALE	
How likely are you to doze off or fall asleep during the following situations?	
0 = would never doze	2 = moderate chance of dozing
1 = slight chance of dozing	3 = high chance of dozing
	Score
1. Sitting and reading	0 1 2 3
2. Watching TV	0 1 2 3
3. Sitting, inactive in a public place	0 1 2 3
4. As a passenger in a car for an hour without a break	0 1 2 3
5. Lying down to rest in the afternoon when circumstances permit	0 1 2 3
6. Sitting and talking to someone	0 1 2 3
7. Sitting quietly after a lunch without alcohol	0 1 2 3
8. In a car, while stopped for a few minutes in the traffic	0 1 2 3
Total	_____

Epworth ≥ 10 excessive daytime somnolence

Sleep diary

TWO WEEK SLEEP DIARY

SleepEducation.org

AASiM American Academy of SLEEP MEDICINE™

INSTRUCTIONS:

(1) Write the date, day of the week, and type of day: Work, School, Day Off, or Vacation. (2) Put the letter "C" in the box when you have coffee, cola or tea. Put "M" when you take any medicine. Put "A" when you drink alcohol. Put "E" when you exercise. (3) Put a vertical line (|) to show when you go to bed. Shade in the box that shows when you think you fell asleep. (4) Shade in all the boxes that show when you are asleep at night or when you take a nap during the day. (5) Leave boxes unshaded to show when you wake up at night and when you are awake during the day.

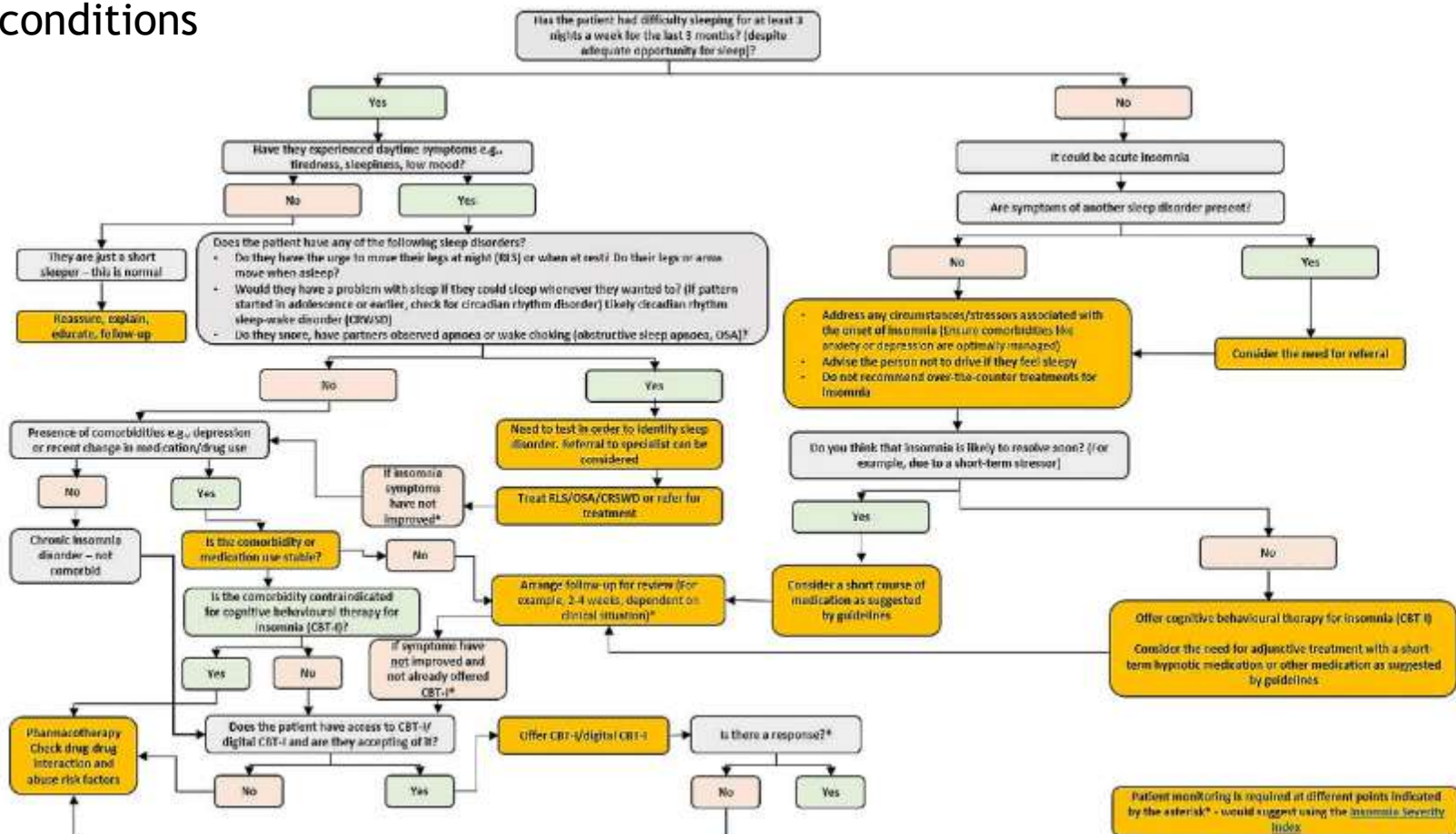
SAMPLE ENTRY BELOW: On a Monday when I worked, I jogged on my lunch break at 1 PM, had a glass of wine with dinner at 6 PM, fell asleep watching TV from 7 to 8 PM, went to bed at 10:30 PM, fell asleep around Midnight, woke up and couldn't get back to sleep at about 4 AM, went back to sleep from 5 to 7 AM, and had coffee and medicine at 7 AM.

Date	Day of the week	Type of Day (Work, School, Day Off, Vacation)	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Midnight	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM
sample	Mon.	Work		E					A													C	M			

week 1

<https://sleepeducation.org/docs/default-document-library/sleep-diary.pdf>

Clinical decision making tool for differentiating insomnia from other sleep conditions



Selsick, H., Heidbreder, A., Ellis, J. *et al.* Assessment and management of chronic insomnia disorder: an algorithm for primary care physicians. *BMC Prim. Care* 25, 138 (2024). <https://rdcu.be/efbFf>

Support



Educate

Bust myths

- Waking briefly is normal!
- We can't control sleep, only create the right conditions and effort makes sleep worse
- Although many people need 7-8 hours sleep, many need more or less
- Sleep hygiene is like dental hygiene

Reduce anxiety

- Stress induced sleep disruption is unpleasant but normal and temporary
- Trackers do not provide accurate sleep staging
- There is hope/treatable



Address sleep hygiene

SLEEPER

- **S** - Substances (limit caffeine, alcohol, and meds that disrupt sleep)
- **L** - Light exposure (maximise natural light esp. after waking, minimise at night)
- **E** - Environment (safe, dark, cool, calm, quiet)
- **E** - Exercise (get moving)
- **P** - Pause (moments of pause in the day, calming activities before bed)
- **E** - Eat wisely (regular meal timings and avoid food in 3 hours before bed)
- **R** - Regularity (ideally sleep and wake within a 1-hour window)

Behavioural measures for insomnia

	Systems regulating sleep	Evidence based interventions
A	sleep Appetite	Go to bed once sleepy not just sleepy Get up same time everyday Reduce time in bed Nap wisely (early/short/not at all) Avoid caffeine Exercise
B	Body clock	Get up same time Bright mornings/dark nights Regular mealtimes and avoid food before 3 hours before bed Temperature
S	Stress system	Wind down before bed Breathing/PMR Worry time Stop chasing sleep - Get up when can't sleep



Other lifestyle measures

▶ OSA

- ▶ Weight management
- ▶ Sleep on side
- ▶ Nasal dilators/sprays
- ▶ Chin strap

▶ RLS

- ▶ Compression socks, massage, heat, stretching, weighted blanket





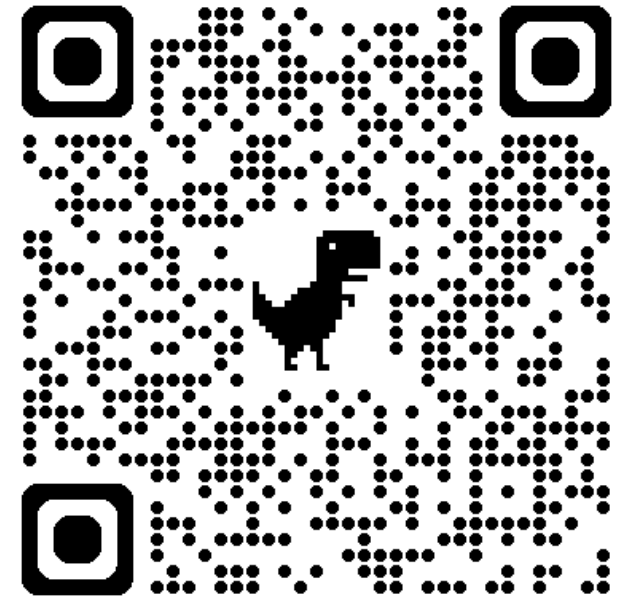
Signpost

For someone with insomnia



Free 30-minute talk (podcast) based on CBT for Insomnia techniques

- ▶ Can't sleep no matter how hard you try? Listen to this free 30-minute talk for powerful insights and science-backed steps to get you sleeping well.
- ▶ <https://www.royalsurrey.nhs.uk/saygoodnight/>



For someone with insomnia

Direct towards CBT-Insomnia (CBT-I)

Apps

- ▶ Sleepstation/Sleepio/Sleepful (free)

Books

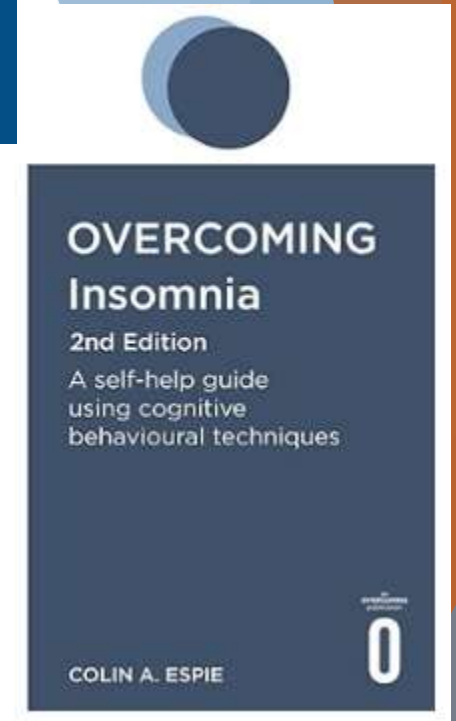
- ▶ Overcoming Insomnia by Colin Espie

Podcast

- ▶ Mind, body, sleep <https://www.bethkendall.com/podcast>



Sleepio



Onward referral



- ▶ **Sleep clinic for further assessment/sleep study**
 - ▶ Insomnia service for therapist led CBT for Insomnia (CBT-I) or delayed sleep phase treatment
 - ▶ Royal Surrey, Guildford
<https://www.royalsurrey.nhs.uk/insomniaclinic>
 - ▶ UCLH, London
 - ▶ QVH, East Grinstead
 - ▶ ? Hereford Sleep Clinic
 - ▶ Some IAPT services
 - ▶ Respiratory sleep clinic - suspected sleep apnoea
 - ▶ Neurological sleep clinic - severe treatment resistant RLS, things that go bump in the night
- ▶ Mental health services

General sleep advice



- ▶ Sleep helpline <https://thesleepcharity.org.uk/national-sleep-helpline/>



Free sleep brochure/ebook (beautifully presented and very comprehensive)
<https://thesleepcharity.org.uk/information-support/adults/adult-sleep-ebook/>



Amazing free interactive learning about sleep and the body clock
<https://www.reuters.com/graphics/HEALTH-SLEEP/mopakyjmnpa/>



Free Circadian Rhythm Challenge <https://thecrdchallenge.com/>



Revenge Bedtime Procrastination <https://www.sleepfoundation.org/sleep-hygiene/revenge-bedtime-procrastination>



Support groups

- ▶ RLS-UK <https://www.rls-uk.org/>
- ▶ British Snoring and Sleep apnoea Association
<https://britishsnoring.co.uk>
- ▶ Hope2sleep (sleep apnoea)
<https://www.hope2sleep.co.uk/>
- ▶ Circadian Rhythm Disorders Network
<https://www.circadiansleepdisorders.org/>
- ▶ Narcolepsy UK
<https://www.narcolepsy.org.uk/>

Baby/kids/teens sleep

Babies

- Pediatric sleep council <https://www.babysleep.com/>
- Dr Craig Canapari website <https://drcraigcanapari.com/sleep-training/>

School age

- Book: “Helping Your Child with Sleep Problems: A self-help guide for parents” by Rachel Hiller, Michael Gradisar, Peter Cooper, Polly Waite. Start reading it for free: <https://amzn.eu/4oX3SMk>
- Free ebook: <https://thesleepcharity.org.uk/information-support/children/childrens-sleep-ebook/>
- Podcast (babies and kids): <https://drcraigcanapari.com/podcasts/the-sleep-edit/>

Teens

- Dr Craig Canapari website <https://drcraigcanapari.com/teen-sleep-information-page/>
- Teen sleep hub. Be sure to download the teen sleep ebook! <https://teensleephub.org.uk/>
- App: <https://www.scientia.global/dr-colleen-carney-the-doze-app-a-unique-approach-to-overcoming-sleep-problems-in-young-adults/>

Shiftwork

- ▶ Coping better with night work (interactive web tutorial)
http://formations.ceams-carsm.ca/night_work/
- ▶ Shiftwork guidance
<https://stacks.cdc.gov/view/cdc/5177>
- ▶ Minimising jet-lag - app
<https://www.timeshifter.com/the-shift-work-app>

COPING BETTER WITH NIGHT WORK
Interactive web tutorial

Learning for clinicians!

▶ Courses/training

- Royal Society of Medicine - sleep medicine section (events through the year)
<https://www.rsm.ac.uk/sections/sleep-medicine-section/>

▶ CBT for Insomnia training

- Oxford University/Sleep charity/Sleep Consultancy Limited

▶ Great free sleep learning/resources for clinicians:

- <https://www.sleepcentral.org.au/>
- <https://mysleepwell.ca/clinicians/>
- <https://www.bitc.org.uk/toolkit/sleep-and-recovery-toolkit/>
- <https://www.reuters.com/graphics/HEALTH-SLEEP/mopakyjmnpa/>
- Intrabalance YT channel <https://www.youtube.com/@IntraBalance>
- Sleep webinars <https://aasm.org/professional-development/choose-sleep/webinars/>

The image features two black silhouettes of hands, one on the left and one on the right, holding the word "HOPE" in large, bold, capital letters. The background is a soft, glowing light blue and white gradient, suggesting a bright sky or sun. The overall composition is clean and motivational.

HOPE

Key take-aways

- ▶ Sleep conditions are widespread and have serious consequences, yet they are often neglected, misdiagnosed or inadequately treated
- ▶ Employees with sleep difficulties are likely to feel anxious and helpless about their sleep, which makes sleep worse
- ▶ There is no one size fits all
- ▶ We can help employees by spotting, screening, supporting and signposting
- ▶ Improving sleep is life changing - don't underestimate the power of listening, offering reassurance and suggesting a few actions

