ESTABLISHing better sleep

Healthy Sleep Habits Resource

Thank you for agreeing to take part in the ESTABLISH trial.

This resource provides practical techniques to help support healthy sleep habits.

You have already completed a sleep diary, worn an actigraphy watch, and completed the study questionnaire pack. Thank you for completing these assessments.

You will be asked to repeat these assessments twice more, 6 and 10 weeks after you receive this resource. This will allow us to monitor any changes and other information collected as part of the study.

We really appreciate the time you are giving to the ESTABLISH study. Your contribution will help us understand how best to support people living with secondary breast cancer to improve their sleep. We hope that you find this resource helpful.

If you have any questions please contact the research team:
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What is the purpose of this resource?

Sleep difficulties can occur at any time, but are often experienced during periods of stress, worry or uncertainty, such as:

- Following a diagnosis of secondary breast cancer
- When starting or changing treatment
- During periods of significant life stress or worry (e.g. bereavement or divorce)

Changes in sleep are a common response to stress, worry and uncertainty, and for many people, sleep improves as they adjust to these experiences. However, sleep difficulties can sometimes become more persistent, and some people may have experienced sleep problems for much of their lives.

This resource provides practical strategies that you can try at home to support your sleep. You may already be familiar with some of the advice, while other strategies may be new to you. Everyone is different, so we encourage you to explore the suggestions and find what works best for you.

How to use this resource

You can choose how you wish to engage with this resource, whether that means reading through it in one go or working through it gradually at your own pace - whatever works best for you.

The first two sessions introduce sleep and explore how sleep works. The following sessions focus on some of the practical strategies to support better sleep health.

We recommend working through the resource over the next 5 weeks, introducing changes gradually and giving yourself time to explore what works best for you and your sleep.

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Session 1: What is sleep & why is it important?

Sleep is a natural, recurring state which is crucial for survival.

Sleep isn't just a passive break — it's an active process where the brain and body work to restore, repair, and recharge, even though we become less aware of the world around us.

Sleep is a central pillar of health



Affects everything Impacts physical, mental, and emotional health and wellbeing

Early warning sign Poor sleep is often one of the first indicators that the body or mind may be experiencing stress

Important for recovery Sleep supports healing, energy, immunity, and overall well-being

Last priority Despite its importance, sleep is often the last thing people focus on fixing

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Session 1: What is sleep & why is it important?

What happens when we sleep?

We have 4 different stages of sleep and each one has a very unique & important role:

Stage 1: transition between being awake and sleep. It is easy to waken up during this stage and it often feels like we are drifting in and out of sleep.

Stage 2: the body begins to slow down further. Heart rate and breathing become more regular, and body temperature drops. This is where we spend a large proportion of the night.

Stage 3: This is the deepest and most restorative stage. It is much harder to wake someone from this stage. Deep sleep is important for physical recovery, immune function, and feeling refreshed the next day.

Rapid-eye movement (REM): brain activity becomes more active, while the body remains relaxed and still. REM sleep plays an important role in memory, learning, and emotional processing. This is the stage where most dreaming occurs.

Throughout the night, we move through all 4 stages of sleep in repeating cycles.

On average, we complete around five sleep cycles per night, with each cycle lasting roughly 90 minutes.

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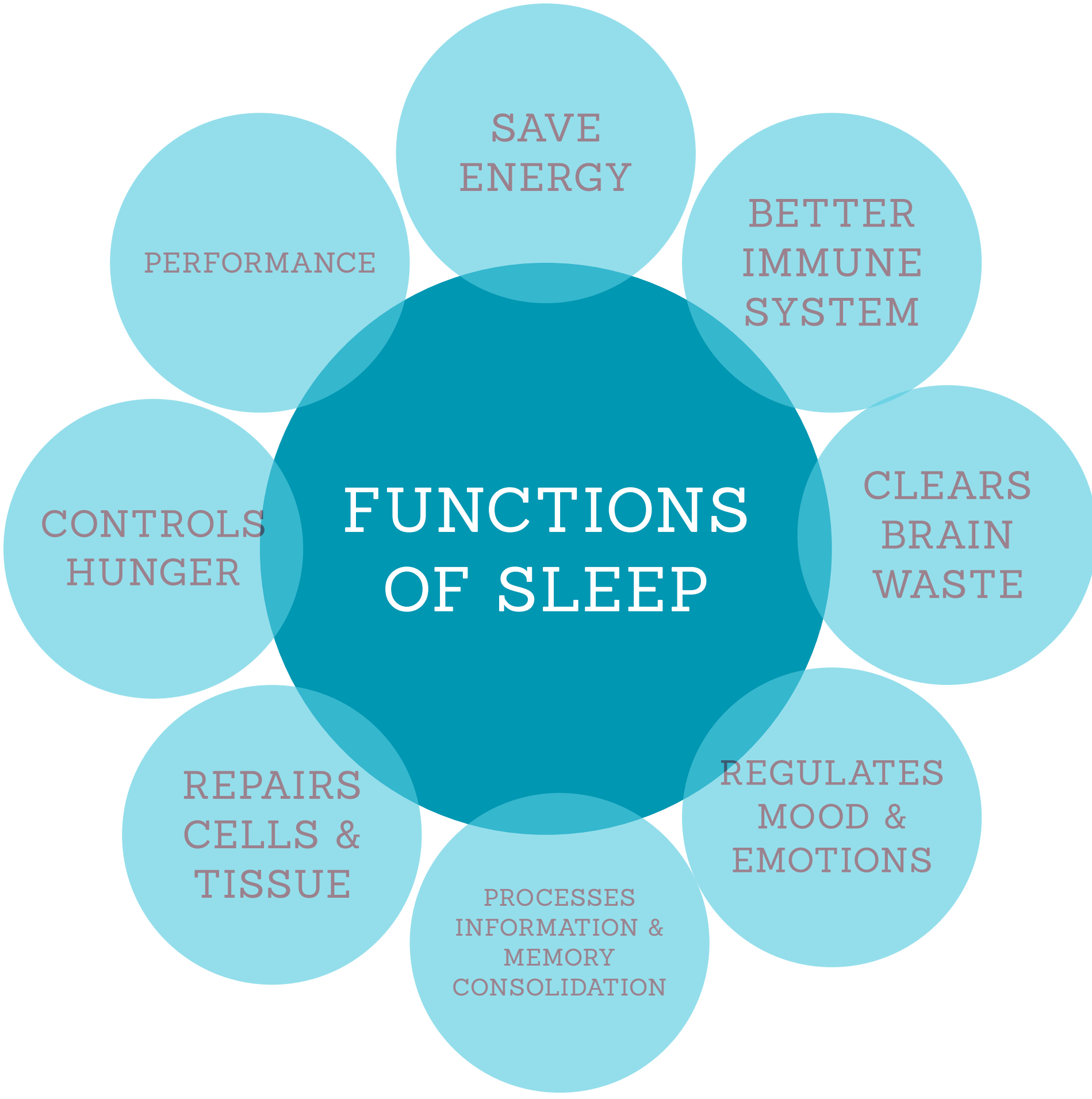
Session 1: What is sleep & why is it important?



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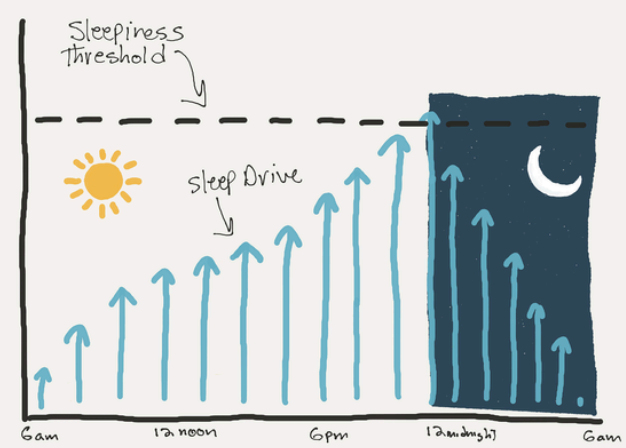
Session 2: How do we sleep & factors that affect sleep

Before we start putting any strategies in place to improve sleep, it is helpful to first put things into context. There are 2 key systems that are important in the regulation and timing of sleep:

- **Process S** - the sleep drive
  - It can be helpful to think of this as "sleep pressure" that gradually builds in the brain the longer we stay awake.
  - It works in a similar way to hunger, the longer we go without food, the hungrier we become. The longer we are awake, the sleepier we become.



- **Process C** - the circadian rhythm
  - This is your body's internal 24-hour clock.
  - It helps regulate when you feel alert and when you begin to feel sleepy.
  - It is influenced by signals from the environment, particularly light and darkness, which help keep your body clock aligned with the day-night cycle.



These 2 systems work together to control when we feel sleepy, when we feel alert, and how long we sleep for.

But sleep difficulties can occur when these two systems become out of sync.

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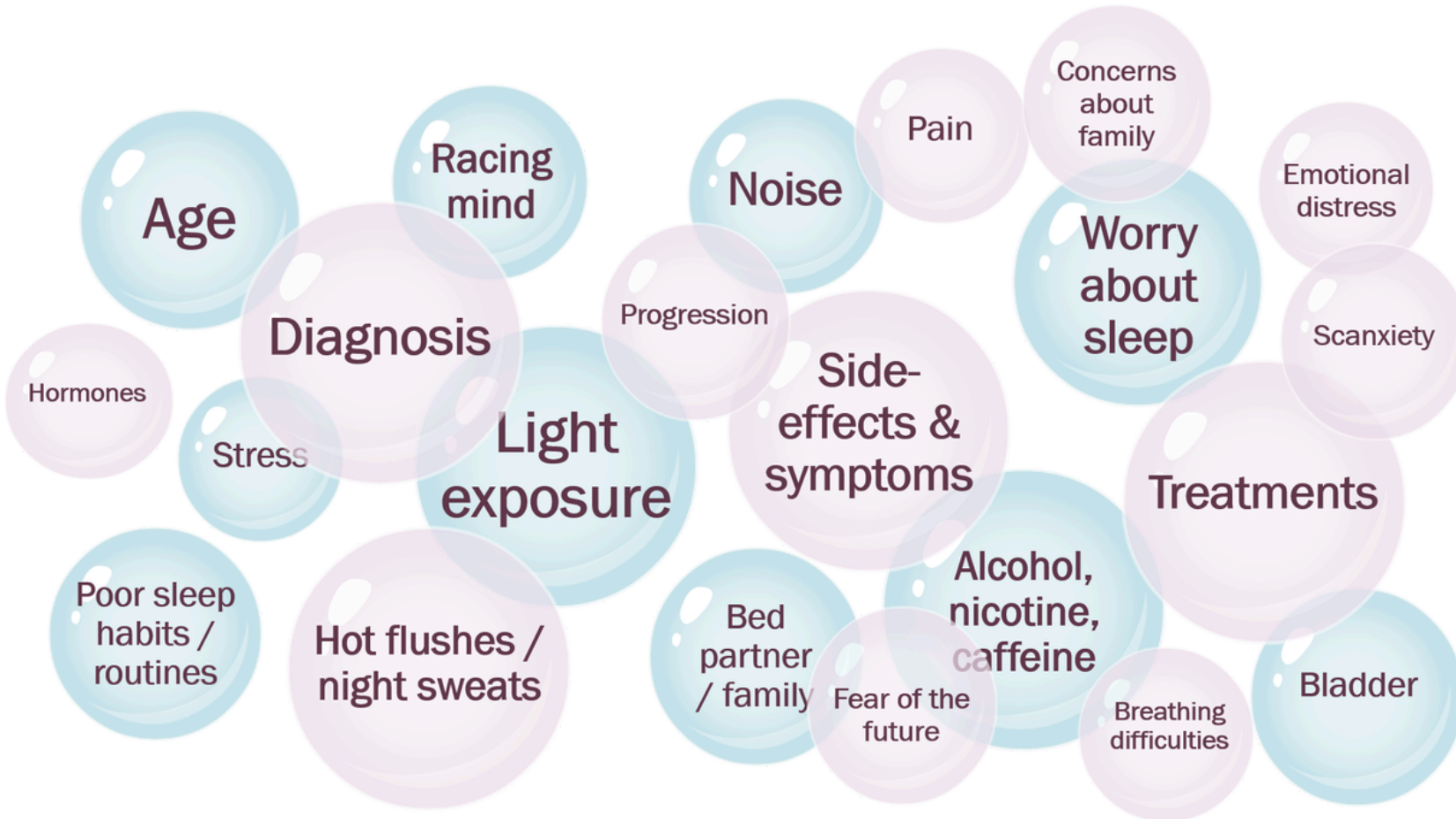
Session 2: How do we sleep & factors that affect sleep

Many factors can affect sleep...



How much sleep do we actually need?

There is no one-size-fits-all amount of sleep. While around 8 hours is often recommended for adults, some people naturally need more or less sleep to feel well rested and able to function during the day.

It is important to remember that sleep needs may change from time-to-time due to different factors such as treatment, symptoms, pain, fatigue, anxiety, medication, or changes to your routine.

Rather than focusing on a specific number, instead think about **how much sleep you need to feel refreshed and function well** during the day.

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Session 2: How do we sleep & factors that affect sleep

Tiredness vs. Fatigue

We often use these words interchangeably, but they describe quite different experiences...

Similarities

- Lack of energy and reduced motivation
- Can affect concentration and mood
- May be influenced by activity levels, stress, or sleep
- Can make daily tasks feel more challenging

Differences

- Tiredness is typically improved with rest or sleep, whereas fatigue can occur even after rest or sleep
- Fatigue is a recognised symptom of cancer and its treatment(s). It has been described as - 'Feeling drained all the time'

Research has shown that regular movement is one of the most effective ways to manage fatigue.

Even gentle movement, such as a short walk or some light stretching, can be beneficial.

The key is to choose activities that feel manageable for you and build up gradually when you can.

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Session 3: Lifestyle factors

There are lifestyle changes we can make to help improve our sleep. There are certain foods, drinks, substances and behaviours that can interfere with sleep. This session will provide tips and tricks for small changes you could make to improve your sleep.



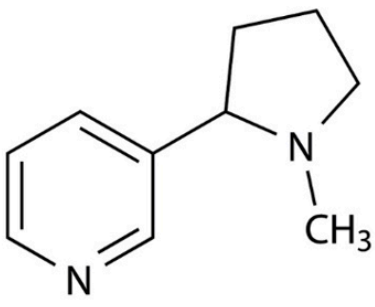
Caffeine is a stimulant that negatively affects sleep by making it harder to fall asleep initially, and by causing nightime awakenings. Many products contain caffeine including coffee, tea, cola and chocolate. Both the timing and amount of caffeine we consume is important. For adults, the recommended safe daily limit is 400mg of caffeine & it is best to avoid caffeine around 4-6 hours before bed.

Try switching to decaffeinated or low caffeine alternatives, and avoid consuming any caffeine after lunch.

Alcohol is a depressant and many people report that alcohol helps them feel sleepy and fall asleep more quickly. However, alcohol often results in more fragmented and poorer sleep quality. It can also cause dehydration, which will increase the likelihood of waking you during the night.

If you wish to have an alcoholic drink, it is best to have your last drink at least 4 hours before bedtime.





Nicotine found in cigarettes, e-cigarettes, and other tobacco products, is a stimulant drug. It has similar effects on the body as caffeine and is disruptive to sleep.

We recommend avoiding nicotine completely, or reducing intake, before bed.

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Session 3: Lifestyle factors



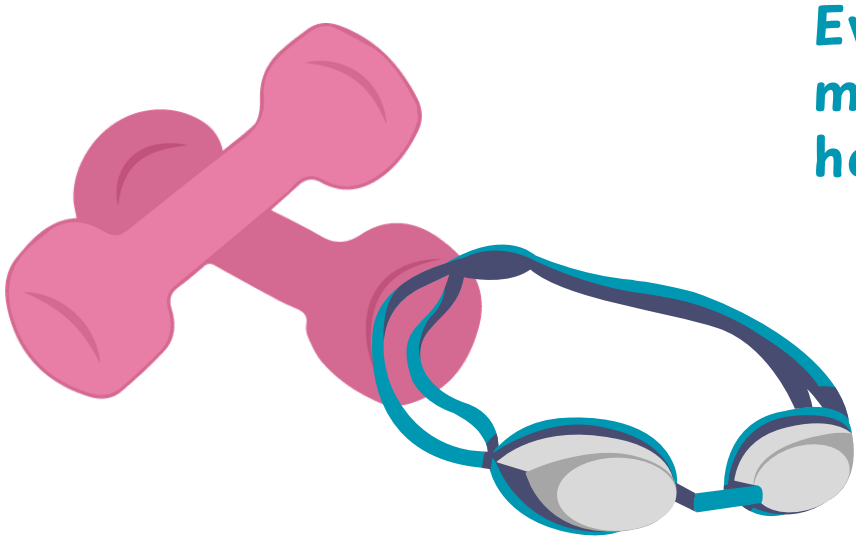
What and when we eat can have an impact on our sleep.

Hunger causes wakefulness, so a light snack before bed will help stop night time awakenings. But going to bed with a full stomach means that your body will be digesting food during the night, which will disturb your sleep quality. Getting up to go to the toilet during the night is disruptive to sleep.

We recommend you aim to have your main evening meal at least 4 hours before bed, and consider limiting your liquid intake in the 2-hour period before going to bed.

Movement & exercise is really important for overall health but also sleep. If you are not used to exercising, even making small changes to your activity levels during the day will benefit your sleep.

Any aerobic exercise that increases your heart rate is useful, but this doesn't have to mean running a marathon! A brisk walk, yoga, dancing, swimming, or any activity that raises your heart rate, will improve your sleep and your mental health. The key is consistency.



Even as little as 10 minutes of moderate to vigorous activity per day has been shown to have an impact.

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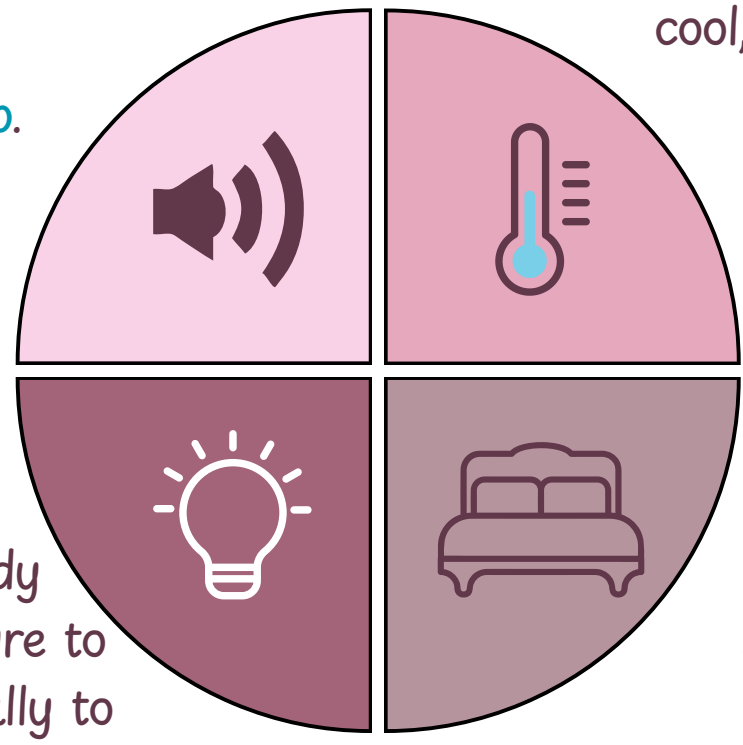
Session 4: Optimising your environment

It is also important to consider the environment where we sleep. Creating a sleep-friendly environment doesn't mean buying new things. Small, simple changes to your surroundings can make a difference and help support better sleep.

Noise can affect sleep, but the 'right' amount or type of noise will vary from person to person. Some people sleep best in silence, while others find gentle, consistent background noise helpful. The key is to find what works best or you and avoid noises that disturb your sleep. If you sleep best in silence, try wearing earplugs to block out noise.

The best **temperature** is largely based on individual preference, but in general, it is best to sleep in a cool space at around 18-21°C. This is because our body temperature lowers to help us fall asleep. To keep yourself cool, try using lighter layers. If you need to heat up, using warmer clothing, blocking drafts or a heater can be helpful.



Light is one of the strongest regulators of our internal body clock and we can use exposure to light and darkness intentionally to improve our sleep. It's best to maximise light exposure as early in the day as possible (going outside, using bright lights), then in the evening, begin creating a darker environment (dim lights). If you need to get up during the night, using a small lamp rather than a bright overhead light will minimise disruption to your sleep.

Making your space as **comfortable** as possible can support good sleep. This might mean trying different pillows, blankets, or other small changes, to your environment, depending on what feels comfortable and is practical for you.

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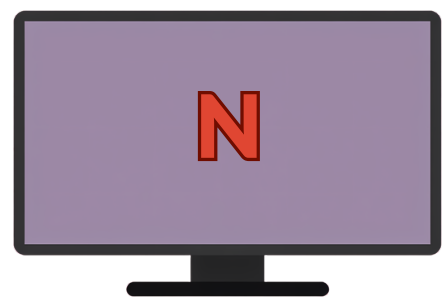
Session 4: Optimising your environment





Research consistently shows that higher levels of screen use are associated with later bedtimes and reduced sleep duration.

For many years, concerns have focussed primarily on blue light emitted from screens. But more recent research suggests the relationship is more complex.

Although bright light in the evening can delay melatonin release, the light emitted by most phones and tablets may not be strong enough to have a major biological effect in many adults. Instead, the content we engage with can often play a larger role in disturbing our sleep.

There are certain activities that can make it harder for the brain to transition into sleep, This includes activities such as reading upsetting news, searching for information about health conditions, watching emotionally intense content, or "doomscrolling", which can increase cognitive and emotional arousal.

Our recommendations

These recommendations are designed to support you to wind down and prepare for sleep, by reducing stimulation from electronic devices before bed.

- Lowering screen brightness
- Using night mode settings
- Applying warm colour filters
- Using blue-light-blocking glasses
- Consider the content you engage with at least 1 hour before bed
- Avoid using devices where you sleep
- Mute notifications overnight
- Avoid checking during the night

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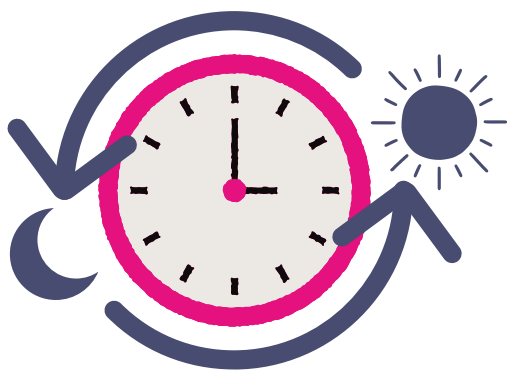
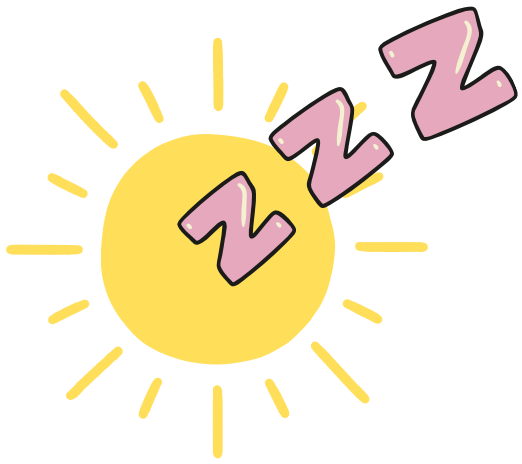
Session 5: Good Sleep Habits



Maintaining a regular sleep and wake schedule can help support your body's internal clock and overall sleep health. Where possible, aim to go to bed and wake up at around the same time each day, within about 30–60 minutes, including at weekends. An alarm clock can be helpful if needed.

A relaxing **evening routine** can help signal to your brain that it is time to sleep. Aim for a 30–60 minute wind-down period with calming activities such as stretching, breathing exercises, reading, or journaling. Keeping a notepad nearby can also help you note down thoughts. Where possible, avoid mentally stimulating activities (e.g. work) during this time.





Your sleep pressure increases during the day. Daytime **napping** can reduce that pressure, making it harder to fall and stay asleep at night. We recommend that you avoid daytime naps if possible. But if you feel that a nap is needed, try to keep it to the morning or early afternoon (before 2pm) and limit it to no more than 20 minutes. Setting an alarm can help keep naps brief.

Sleep is a natural process, so try to **trust the process rather than forcing it**. If you find yourself tossing and turning or becoming frustrated, it may help to get out of bed and do something relaxing, such as reading, until you feel sleepy again. Avoid checking the clock during the night, as this can increase stress and alertness. Where possible, keep clocks out of view from your sleeping space.



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Key takeaways

- Sleep is important for **overall health and wellbeing**, supporting physical health, emotional wellbeing, concentration, memory and daily functioning.
- We all have different **individual sleep needs** and this may change at different times in our lives.
- What we do both **during the day and evening can affect our sleep.** Having consistent routines, intentional exposure to light and darkness, making good lifestyle choices and taking time to wind down before bed, can make it easier to fall asleep and stay asleep.
- **Small, realistic changes** to daytime and evening habits can help support healthier sleep patterns.
- Everyone's circumstances are different, so it is important to **consider what changes are realistic, accessible and sustainable** for you.

Resources

Strathclyde Sleep Centre - Access more information & resources about sleep and relaxation.

Breast Cancer Now - Free confidential phone and web-based support and information service delivered by breast cancer nurses for people diagnosed with breast cancer throughout the United Kingdom.

Make 2nds Count - Provides information resources, a support hub, and community events for people living with secondary breast cancer.

Local GP - You may wish to contact your GP to discuss any concerns and obtain information about local support services.

NHS 24 - Urgent health advice when your GP practice is closed. Telephone: 111.

If you have any questions please contact the research team:
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