

# Why we sleep and how to get more of it

#### **Patient Information**

**Community React Team** 



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# Why?

# Although almost every animal sleeps no knows exactly why. A few leading theories are:

- Protecting and developing the nervous system
- Facilitation of learning and memory
- Improving and supporting cognition
- Repair and regrowth of body tissues
- Clearing waste in the brain and body
- Supporting the immune system
- Problem solving
- Future prediction

#### However

Everyone agrees that sleep is essential for the healthy running of all body systems. Six hours or less of sleep per day has been linked to increase risk of nearly all acquired disease/illness and injury including:

- Cardiovascular disease
- Heart attack
- Stroke
- Cancer
- Diabetes
- Obesity
- Stress
- Depression and anxiety
- Osteoarthritis
- Falls
- Injuries
- Osteoporosis
- Dementia and Alzheimer's
- Parkinson's disease

#### What happens when we sleep?

# Sleep is split into two distinct sections which cycle around every 90 minutes:

N-REM (non-rapid eye movement) sleep takes up around 75% of the sleep cycle and is associated with:

- Memory consolidation including procedural or "muscle" memory
- · Repair and regrowth of muscle tissue
- · Strengthening of the immune system
- Waste clearance
- · Pruning of unwanted neural pathways

REM (rapid eye movement) sleep takes up around 25% of the sleep cycle. This is when we dream, and the brain is highly active during this stage increasing its metabolism around 20%.

It is associated with:

- Improved social connections and social cohesion
- Future prediction and preparation
- · Problem solving

#### Main sleep drivers

#### **Circadian rhythm**

- The body's internal clock develops in the first few months of life
- · Tells us to sleep and wake at different times of the day

 Changes when we age so that when we are younger we sleep and get up later and when we age we sleep earlier and get up earlier

#### Adenosine build up

- Adenosine is a by-product of energy production
- · As adenosine builds up it binds to receptors in the brain
- This creates "sleep pressure", making us feel drowsy and tired

# The big 5

#### 1 Regular sleep and wake time

Waking up and going to sleep at the same time every day within an hour. This is the most important!

#### 2. Stimulation

No stimulants or naps after 15:00 including caffeine and nicotine

#### 3 Temperature

Your body needs to drop by 0.5-1C to fall asleep. Try having a bath/shower or splashing yourself with water before bed or sticking your hands and feet out of the covers if you feel too hot.

#### 4. Light

White and blue lights, like screens (including TVs, Tablets and Phones) and conventional bulbs, keep up awake as they are akin to midday sun. Orange and red lights help us sleep as they are akin to a setting sun. Also try reducing the amount of light throughout the evening and getting as much natural light as possible throughout the day

#### 5. Association

It is important to build an association with sleep time (see point one) and place. Programme your brain so that bed = sleep. This means not doing anything else in bed apart from sleeping

# Other useful tips

# Exercise

Multiple studies have shown that regular cardiovascular exercise helps you fall asleep and stay asleep due to energy expenditure and better hormone control

#### Routine

Doing the same things in the same way at the same place, just prior to bedtime

#### Sleep apps

Sleep stories, headspace, smiling minds and ASMR

#### Mindfulness meditation

Shown to improve sleep whether it is done in bed to help you fall asleep or practised during the day

#### · Breathe

Slowing your breathing down, counting each breath and ensuring your breathing out is longer than your breathing in. This can stimulate your "rest and digest" nervous system helping us feel tired

#### · Alcohol

Although it can make us feel drowsy, alcohol disturbs our sleep throughout the night. Avoiding alcohol in the hours before bed can ensure we get a full restful night's sleep

#### Appetite

Don't go to bed too hungry or too full

#### • Worry

Leave your worries at the door. If you worry in bed, it might be useful to create a list of what you are worrying about and come up with a plan for each one

#### Environment

Ensure you sleeping environment is cool, dry, dark, comfortable and away from daily stressors

# **Useful tips continued**

# • Metronome lights

Regular pulsing red/orange lights which you breathe along to, have been shown to help you sleep

#### • Do not snooze

Snoozing gives you cardiovascular system a big shock when you wake up - to give yourself several of these shocks every morning is not going to help your sleep pattern. It also ruins the first and most important rule about waking up at the same time every day and primes your body to be stressed when you wake up

#### • Distraction

If you find you go to bed and have anxiety-provoking thoughts, it may be helpful to distract yourself with more positive or neutral narratives. The classic example of this is counting sheep, but people use other ideas like: go through the alphabet thinking about as many words as you can for each letter; go through your favourite stories or music; count down from 100-1.

# What if you struggle to stay asleep

• All the previous tips will help, but this is more difficult to tackle

• If in bed awake for more than 20 minutes, get up and do something that is not stimulating until you feel tired, then go back to bed

• While this may seem counterproductive at first as you may get less sleep, it will help build the association that bed means sleep

# **Further information**

- · World sleep society
- · "Why we sleep" book by Mathew Walker
- Headspace App
- Smiling minds App
- · Search "sleep hygiene" on any search engine

COVENANT

# **Comments, Compliments or Complaints**

The Patient Relations/Patient Advice and Liaison Service (PALS) Department provides confidential on the spot advice, information and support to patients, relatives, friends, and carers.

# **Contact Us**

Tel: 01942 822376 (Monday to Friday 9am until 4pm)

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# **Ask 3 Questions**

Become more involved in decisions about your healthcare. You may be asked to make choices about your treatment. To begin with, try to make sure you get the answers to three key questions:

- 1. What are my options?
- 2. What are the positives and negatives of each option for me?
- 3. How do I get support to help me make a decision that is right for me?

# How We Use Your Information

For details on how we collect, use, and store the information we hold about you, please see patient information leaflet, Ref. **Corp 006** How we use your information, this can be found on the Patient Information Leaflets page on the Trust website, see details on the front cover.

This leaflet is also available in audio, large print, Braille, and other languages upon request. For more information, please ask in the department/ward.

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