

## Sleep Hygiene

### Why is sleep so essential?

Sleep is an opportunity for your body to repair itself, both physically (e.g., repairing muscles) and psychologically (working through anxiety). When factors such as anxiety (physiological hyper-arousal), depression (emotional distress and worry), or poor sleep habits interfere with sleep patterns, the natural ability of the body to repair itself becomes disrupted. If sleep is disrupted for an extended period of time it can lead to:

- Increased emotional distress and irritability
- Increased clumsiness and poor coordination
- Decreased work performance and memory lapses
- Difficulty concentrating

Sleep can be divided into 5 distinct stages on the basis of brain-wave patterns called EEG (electroencephalography). Each sleep cycle (which last about 100 minutes) is divided up into physically repairing sleep and psychologically repairing sleep. When we first fall asleep, more time is spent in physically repairing sleep, later on during the night more time is spent in psychologically repairing sleep. Age influences the balance between these two types of sleep. Older adults spend more time in physically repairing sleep because their bodies are more vulnerable to damage.

The first four stages are called non-REM (rapid eye movement) sleep while the 5th stage is called REM sleep.

**Stage 1** A transitional stage between waking and sleep where alpha waves disappear slowly, and theta waves move in; body muscles relax, heart beats slower.

**Stage 2** Theta waves prominent, with intermittent sleep spindles and K-complexes (bursts of faster activity and higher amplitude activity, respectively)

**Stage 3** Appearance of large slow delta waves, dominant in stage 4 (this is deep sleep).

**Stage 4** Delta waves dominate. The sleeper breathes deeply and has slowed heart rate and lowered blood pressure (this is deep sleep).

**Stage 5** Characterized by REM, absence of muscle tone, mixed frequency EEG. Called paradoxical sleep because EEG activity is typical of an aroused nervous system, while the responsiveness of the sleeper to the environment is very low.

### Normal Cortisol Rhythm - A Key to Better Sleep

Cortisol is a hormone produced by the adrenal glands, which helps regulate many body functions including blood sugar regulation and is also a strong determinant in how rejuvenating sleep will be. Cortisol is produced in a 24-hour cyclic fashion (circadian rhythm) with the highest levels being released in the morning and the lowest at night. An abnormal circadian rhythm can adversely affect multiple critical functions in the body, including energy production, immune surveillance, and can result in fatigue, infection, osteoporosis, low sex drive, infertility, migraine headaches, and either low or high blood pressure.

### Diet and lifestyle tips to improve sleep

- **Keep Blood Sugar Levels Balanced:** Cortisol is also used to regulate blood sugar and the stress response, which are the body's most primary functions. To prevent cortisol and the circadian rhythm being disrupted, try to: Eat 3 balanced meals (inc. breakfast) and healthy snacks in between (if necessary) that are low in sugar, high in protein, vegetables and fibre.
- **Protein** contains the sleep-promoting amino acid (AA) Tryptophan that is converted to produce the more system-calming neurotransmitter serotonin. **Sources:** include eggs, lean meats, low fat cheeses, milk, white fish, soya and pulses.
- **Carbohydrates** make tryptophan more available to the brain. Always choose healthy complex carbohydrates, but not eaten too near bedtime. See 'ingestion' for snack ideas.
- **B Vitamins** are used for the synthesis and release of neurotransmitters and hormones involved with sleep and the circadian rhythm. **Sources:** wholegrains, leafy greens, mushroom, avocados, tuna, bananas, lentils and lean meats such as chicken and turkey.

# HEALTH MATTERS!

- **Calcium** a natural relaxant has a calming effect on the body's nervous system. **Sources:** nuts, green leafy vegetables, salmon, sardines & dairy foods.
- **Zinc** deficiency is linked to insomnia. **Sources:** almonds, oysters, eggs, mushrooms, sunflower & pumpkin seeds & leafy greens.
- **Iron** deficiency can cause symptoms similar to restless leg syndrome. **Sources:** meats, soya, egg yolks, dark green vegetables, apricots & chickpeas (veg sources + vitamin C).
- **Magnesium** calms nerves, relaxes muscles and relieves stress and anxiety. **Sources:** soya, nuts, leafy greens, avocados, bananas, apples & wholegrains.

## Ingestion:

- Caffeine (a stimulant) should be discontinued 6-8 hours before bedtime.
- Nicotine (a stimulant) should be avoided near bedtime, or if you wake at night. Do not smoke if you cannot sleep or drink tea (except a calming herbal tea).
- Alcohol (a depressant) may initially promote sleep onset but will cause awakenings.
- Beware of certain medications that contain caffeine.
- A light snack (such as half a banana and a brazil nut) may be sleep inducing but a heavy meal too close to (< 3hrs) bedtime might interfere with sleep.
- Milk (tryptophan) taken warm before bed with a little honey may help induce sleep.

## Timing:

- Establish a pattern to your sleep by going to bed at the same time each evening and getting out of bed at the same time every day, even on weekends regardless of how much you slept.
- Avoid taking naps but if you do nap, make it no more than about 25 minutes. If you have problems falling asleep at night then you should not take naps.

## Sleep Behaviour:

- Establish a pre-sleep ritual to give your body cues that it is time to slow down (e.g., taking a bath or reading a 5-10 minutes before bed – a book that isn't stimulating).
- Use your bed only for sleep or for sex (not as a desk, eating, or watching TV).
- If you are unable to sleep after more than 15 minutes then get out of bed. Engage in a quiet un-stimulating (boring) activity and return to bed when sleepy.
- Restrict the amount of time you spend in bed to your usual amount of sleep (e.g., 7 hours) even if you did not sleep as well as you would have liked. Do not try to sleep-in, in the morning feeling frustrated - it will not help.

## Bedroom Environment Tips:

- Sleeping is associated with a decline in core body temperature from a state of relative warmth. You can raise this by taking a warm bath 20 minutes before bed and as your temperature cools it will signal your body that it is time to sleep.
- Fluctuations in room temperature disrupt the dream state so maintain a steady temperature throughout the night. A cool room is more conducive to sleep.
- Eliminate illuminated wall clocks or other sources of light.
- Spray Lavender aromatic water around bedroom.
- Ensure bedroom is dark to induce melatonin production.
- Write down thoughts before bed.
- Bath with Epsom salts before sleep.
- Meditate on the breath - induce stillness of mind.

**Please Note:** This handout should only be used as a guide to help inform you of the diet and lifestyle modifications that **may** help to help to stabilise blood sugar levels. It **should not** be used as definitive guide to blood sugar management. If you think you may have issues with your blood sugar levels then please contact a medical doctor, or a qualified nutritionist.