The Power of Sleep

Sleep is essential ‘nourishment’ for both your body and mind and a vital part of the health equation. This excerpt, adapted from my book The Stress Cure[link] may help you get a good night’s sleep.

According to the 100% Health Survey, which is the UK’s largest-ever study into the connection between dietary habits and markers for health, 55 per cent of the population has difficulty sleeping or has restless sleep, while 43 per cent wake up feeling tired. In the Sleep Council’s 2013 Great British Bedtime survey, only 30 per cent of men and 22 per cent of women said they sleep very well. Almost half (47 per cent) said that stress and worry keep them awake at night. The majority also report getting five to six hours of sleep a night, with only 22% having the recommended seven to eight hours.

Problems sleeping are often referred to as insomnia, which can mean different things to different people. It is commonly defined as experiencing regular periods where you:

• Have difficulty falling asleep (on average taking more than 30 minutes to nod off).
• Wake up frequently during the night and have difficulty getting back to sleep.
• Wake up too early in the morning and are unable to return to sleep.
• Wake up tired or exhausted, which can persist through the day making you feel irritable, anxious or depressed.

Not only does a lack of sleep make you more prone to stress, but long term it increases your risk of poor health. For example, research shows that you’re more than twice as likely to feel anxious and depressed.[i] Your blood may also begin to clot abnormally, putting you at raised risk of heart attack or stroke.[ii] A chronic sleep debt also almost doubles your chances of being obese[iii] and it’s linked with diabetes too.[iv] As if this wasn’t enough, lack of sleep triggers the stress response and increases an inflammatory marker called CRP, which is a strong predictor of heart disease.[v] Your mental health can also suffer.

Clearly, if sleep is a problem for you, it needs addressing if you want to reduce your stress, improve your health and decrease your risk of disease. But before we look at ways to enhance your slumber, let's first understand the different stages of sleep and why it's so valuable.

The stages of sleep

We spend just under a third of our lives asleep, but far from being unproductive downtime, sleep encompasses different stages that are vital for keeping our bodies in a good state of repair and helping our brains to process and assimilate the activity we experience in the day.

If you follow an undisturbed sleep pattern, when you first drift off, you enter a period of light sleep which deepens as you become disengaged from your surroundings. Your body temperature starts to drop a little and your brain waves slow down. All being well, after about 30 minutes, you enter a period of deep sleep when your heart rate slows, your blood pressure drops and your breathing becomes slower. This is the most restorative stage when tissue repair and regeneration occurs. After around 90 minutes, you then shift to a period of REM (rapid-eye-movement) sleep, which is when most dreaming occurs – this stage is believed to be particularly important for your psychological health and wellbeing. Then you move back and forth between deep sleep, lighter sleep and REM, with the REM stage ideally accounting for around 25% of your overall sleep time.

In terms of how much sleep is optimal, statistically the amount that correlates with the longest lifespan is between seven and nine hours a night. Particularly as we get older, there is a higher correlation between too few (less than five) and too many (more than nine) hours of sleep and increased mortality. Seven hours sleep a night is linked to the lowest death rate.[vi]

Just as important is the quality of sleep – many people, as they age, have more fragmented and lighter sleep and don't spend enough time in deep or

REM sleep. As well as causing day-time fatigue, this can impact your mood make you more prone to depression and anxiety.

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Why an eight-hour sleep may not be natural

Good news for night risers – nocturnal waking is not necessarily unnatural, nor bad for you. The American historian Roger Ekirch spent 16 years studying the sleeping habits of our ancestors and uncovered many references to segmented sleeping patterns comprising of a first and then second sleep, with a period of activity in between.[vii] His research suggests that it was commonplace for people to get up in the middle of the night for an hour or more to read, write, pray, have sex or talk to companions. However, this practice started to die out during the late seventeenth century, when the advent of street lighting made socialising at night safer and more fashionable, so people were no longer confined to their homes or had the time to spend so long in bed during the hours of darkness.

Many sleep psychologists concur that waking at night can be a natural part of human physiology, and that not everyone will be able to sleep concurrently for seven or eight hours. If you believe this is the case for you, then the key is not to become anxious but to engage in some sort of relaxing or calming activity until you feel ready to go back to sleep again. Ekirch uncovered many accounts of people using the time to meditate on their dreams, for example. Reading, writing a journal or doing a HeartMath exercise (we will teach you this) could also be a positive use of your time.

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Sleep and repairing the body

During the night, and especially during the deep and REM sleep phases, your brain produces higher levels of growth hormone. This hormone helps with the repair and regeneration of your body’s tissues. When you’re stressed, the subsequently high levels of the stress hormone cortisol suppress growth hormone, diverting energy away from repair into coping with the energy

demands of a stressful situation. This impedes tissue repair, effectively speeding up the ageing process.

Sleep experts recommend you aim to reduce stress before you go to bed. For example, the Sleep Foundation recommends “a regular, relaxing bedtime routine such as soaking in a hot bath or listening to soothing music”. So if you tend to work late, argue with your partner or watch thrillers or crime dramas before bed, you may want to assess if these activities are really helpful, especially if you then have problems sleeping.

Throwing a few handfuls of magnesium-rich Epsom Salts into a warm bath and wallowing for 20 minutes, or using calming essential oils such as lavender, can really aid relaxation. These Epsom salts are really good - https://newton-wood.co.uk/ - but they’re widely available in pharmacies.

Sounds of sleep

New York psychiatrist Dr Galina Mindlin uses ‘brain music’ – rhythmic patterns of sounds derived from recordings of patients’ own brain waves – to help them overcome insomnia, anxiety and depression. The recordings sound something like classical piano music and appear to have a calming effect similar to yoga or meditation. A small double-blind study from 1998, conducted at Toronto University in Canada, found that 80 per cent of those undergoing this treatment reported benefits.[viii]

Another study found that especially composed music induced a shift in brain wave patterns to alpha waves, associated with the deep relaxation before you go to sleep, and that this induced less anxiety in a group of patients going to the dentist.[ix]

Many of our clients have also reported excellent results with John Levine's Silence of Peace downloable CD. It induces alpha brain waves, which help to quiet the mind and induce restful sleep. Go to www.silenceofmusic.com and you'll find 'Silence of Peace Vol1' in the shop. Put it on your smart phone, for example. It's fantastic to play quietly if you wake up in the night, to get back to sleep.

Avoid your second wind

If you feel very stressed and fatigued but find your exhaustion lifts around 10 or 11pm in the evening, as you get a second wind, don't be tempted to start doing all those chores you felt too tired to do earlier in the evening. The extra energy is usually the result of a burst of cortisol, as your body struggles to function and regulate energy to keep you going in what it perceives is an emergency situation. However if this continues long term, you are fast-tracking yourself to burn-out and exhaustion. So go to bed before this hits and save your adrenal glands from extra work they really don't need.

Once in bed, spending a few minutes doing a simple meditation or relaxation technique (we are going to teach you these shortly such as Heartmath's Quick Coherence Technique) that can help to bring your body into a calm state where a good night's sleep is more likely to follow.

If you find you frequently wait between 2 and 3am with a pounding heart or in a sweat, you may be experiencing a blood sugar low. Try having a small protein-rich snack (eg an oatcake spread with nut butter) before you retire to see if this alleviates the problem.

How you wake up in the morning is important too. Normally, cortisol and adrenalin levels are lower during the night. Consequently, your pulse rate and blood pressure should be lower when you wake up and increase once you get up. If you wake with a fast pulse rate or high blood pressure, and, then when

you stand up there is no further increase, this is indicative of high cortisol levels during the night. (To test this, you need a blood pressure monitor to hand – bloodpressureuk.org has a section on how to choose the right monitor for home use under Home Monitoring.)

This kind of 'desynchronisation' does occur in some people and is thought to be part of the dynamics of seasonally-affected disorder (SAD) and other depressions. Under these circumstances, it is best to see a nutritional therapist who can run a 24-hour salivary hormone test to find out what's out of sync and make recommendations to bring you back into balance.

Another cause of high blood pressure and increased pulse rate on rising is a condition called sleep apnoea[x], which is thought to affect between two and four per cent of people. This is when a person's breathing pattern becomes disturbed during the night, resulting in the improper exhalation of carbon dioxide and a deficiency of oxygen. Apnoea is more common in people who snore and can be brought on by going to sleep after drinking alcohol. Stress may also contribute to this condition which, in turn, is associated with less REM phases and therefore a less restorative sleep. There can be other factors that contribute to the condition – from being overweight to suffering with a food or chemical sensitivity – and these can vary from person to person. If sleep apnoea is an issue for you, the guidance below may help to alleviate it. But if not, seek further investigation and a tailored programme from a nutritional therapist.

Sleep and the mind

As far as the mind is concerned the most critical phases of sleep are bursts of REM sleep. These tend to last for about 30 minutes, occurring on average between three to five times a night. If a person is deprived of REM sleep, they don't feel fully rested on waking and are more likely to get depressed. When they do get a chance to sleep they have longer periods of REM sleep, all of which suggests that our minds need to have this time while we're asleep to process what's been happening in our lives. Most dreams occur during REM sleep, and it's believed that are important for mental and emotional health.

Once again, high levels of the adrenal hormone cortisol result in less REM sleep. Some anti-depressants also have the effect of suppressing REM sleep, potentially creating a vicious cycle of poor quality sleep leading to low mood, with low mood then creating further need for antidepressant drugs.

Nutritional solutions to sleep problems

Much of the advice in this book will help you to address the common biochemical imbalances that can underpin insomnia and sleep issues. But there are also some specific actions outlined here that can help you to dramatically improve both your quality and quantity of sleep (if sleeping for less than seven hours a night).

Nutrients play a key role in producing the hormones that aid sleep, and also ensuring the body is able to calm down.

The main sleep hormone is melatonin, which your body makes from another hormone called serotonin. Natural sources of melatonin include porridge oats, sour cherries (eg as the juice concentrate Cherry Active), bananas, peanuts, grape skins, walnuts and liquorice. It is also concentrated in herbs such as St John's wort, sage and feverfew. Avoiding caffeine, at least after midday, is a no brainer because caffeine suppresses melatonin for up to ten hours.[xi] We recommend none after midday, and that includes green tea, if you have difficulty getting to sleep.

You can buy melatonin as an over-the-counter medicine in the US, or on prescription from a doctor in the UK. But you can supplement 5-HTP, an amino acid which your body uses to make melatonin. There's evidence that supplementing 200mg of 5-HTP half an hour before bed improves sleep.[xii]

Several minerals and vitamins are also involved in good sleep. Calcium and particularly magnesium are calming and aid muscle relaxation. Being highly

stressed or eating a lot of sugar lowers magnesium levels. Magnesium is found in seeds, nuts, green vegetables and seafood; calcium is in these foods and also in dairy produce. Most supplements contain both. Try supplementing 600mg of calcium and 400mg of magnesium before bed. This is especially helpful if you wake in the night with stiff muscles.

A 2014 study from Oxford University has also found that higher levels of omega 3 (an essential fat found in oily fish) in the diet are associated with better sleep, at least in children.[xiii] Those with higher levels of the omega 3 fat DHA experienced less resistance to going to sleep, fewer parasomnias (eg disorders such as night terrors, sleep walking or restless leg syndrome) and total sleep disturbance. This correlation increased where the DHA ratios where higher in relation to Arachidonic Acid – a fat found in meat and dairy products. While studies have yet to explore if a similar pattern can be identified in adults, there is a significant body of research on the benefits of omega 3 fats on reducing anxiety and improving mood, memory and brain health.

If you are overweight, this too may impact your sleep quality. A Finnish study tracked overweight sufferers of sleep apneoa between 2004 and 2013, and found that those who were able to sustain a moderate amount of weight loss (5kg) were able to prevent the apnoea worsening and – even cure it, in some cases.[xiv] Research also shows that those who go to bed late and sleep less are more likely to gain weight than those to don't.[xv]

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The better alternative to alcohol
Many people use alcohol to relax, which promotes release of the neurotransmitter GABA, switching off adrenalin. But alcohol only works for an hour or so. When the effect wears off, you want another drink. If you go to sleep under the influence of alcohol it disturbs the normal sleep cycle which can promote low moods. The net consequence of regular alcohol

consumption is GABA depletion, which leads to more adrenalin, anxiety and emotional oversensitivity and less good quality of sleep. One study found that men who drank more increased their risk of sleeping problems by 25 per cent.[xvi] The less sleep you get, the more potent and dangerous are the effects of alcohol; not only does it suppress dreaming REM sleep, but it also decreases deep sleep, which is when the beneficial growth hormone is released.[xvii]

In the US and outside the UK you can buy GABA in 500mg capsules. Taking one to three an hour before bed helps promote a good night's sleep. The combination of GABA and 5-HTP is even better. In a placebo-controlled trial, supplementing GABA and 5-HTP cut the time taken to fall asleep from 32 minutes to 19 minutes and extended sleep from five to almost seven hours.[xviii] Taking 1,000mg of GABA, plus 100mg of 5-HTP is a recipe for a good night's sleep. GABA is made from two amino acids – taurine and glutamine. Some sleep formulas include these helpful nutrients.

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Why not sleeping pills?

If you can't sleep and you go to your doctor, the chances are that you will be prescribed sleeping pills, also known as hypnotics. Despite having a long charge sheet of side-effects[xix], these drugs still regularly feature in the top 20 most-prescribed drugs both in the UK and the USA. Not only that, but they aren't actually very useful, according to a report in the British Medical Journal which concluded that there is plenty of evidence that they cause "major harm" and that there was "little evidence of clinically meaningful benefit".[xx] Just how marginally effective they are was vividly illustrated by a 2007 study by the American National Institutes of Health, which found that the newer drugs like

Ambien (zolpidem) made you fall asleep only 12.8 minutes faster than with a fake pill and sleep for just 11 minutes longer.[xxi]

Good Sleep Tips

Keep your bedroom quiet and dark, wear comfortable night clothes, don't have a big meal before bed, avoid coffee and alcohol and exercise regularly but not within three hours of bedtime. It's worth knowing too that certain prescription medications can cause insomnia, such as steroids, bronchodilators (used for asthma) and diuretics. And if you do drink caffeinated drinks, research shows that consumption within six hours of bedtime can have significant disruptive effects on sleep.[xxii]

Keep artificial light to a minimum in the bedroom because being exposed to bright light can turn off production of the sleep hormone melatonin, which peaks at around 1am. If you need to get up in the night, only use low wattage bulbs.

There is also a growing body of evidence that suggests electro-magnetic radiation from mobile phones and wireless internet connections (ie wi-fi) can interfere with melatonin production. For example, in one small study, melatonin levels were 44% lower at 2am in those exposed to mobile phone signals, compared to those who weren't.[xxiii] So it may be worth experimenting to see if turning off your mobile and any wi-fi modems at night aid your sleep quality.

If all else fails, having a nap in the day may help to reduce some of the health risks of poor sleep. Scientists from the University of Athens and the Harvard School of Public Health studied 23,681 healthy adults aged between 20 and 86 for an average period of six years. They found that those who nap at least 30 minutes three times a week or more have a 37 per cent lower risk of coronary mortality than those who did not sleep during the day.[xxiv]

Summary

To help yourself get a good night's sleep:

• Prioritise relaxing activities in the few hours before you go to bed, so you reduce your stress levels and get your body into a calm state ready for sleeping.
• Avoid alcohol before bed, and limit any caffeine intake after midday (and preferably avoid completely).
• Aim to follow a soothing bedtime routine, such as having a warm bath with Epsom Salts and lavender or listening to soothing music such as Silence of Peace.
• Once in bed, do some simple relaxation exercises to get yourself ready for sleep.
• If you have difficultly sleeping, supplement 400mg of magnesium before bed, or experiment with 200mg of the amino acid 5-HTP half an hour before bed or a sleep formula containing all these, plus GABA or GABA precursors
• Follow good sleep hygiene, ensuring your bedroom is quiet and dark and you are comfortable. Also turn off mobile phones and wi-fi connections at night.

For more guidance on how to reduce stress and sleep well read The Stress Cure[Piatkus], by Patrick Holford & Susannah Lawson.

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