

Get a Good Night's Sleep

7 Practical Steps



Yinka Thomas MSc



Contents

Introduction	4
The 7 Steps:	
1. Your bedroom	15
2. Your Lifestyle	25
3. Stress and worry	31
4. Diet and supplements	39
5. Exercise	51
6. Relaxation and other therapies	55
7. Hormonal balance	63

Yinka Thomas MSc RNutr.

With contributions by:

- Sleep expert Professor Chris Idzikowski
- Sleep expert Dr Craig Hudson
- Kathleen MacGrath of the Insomnia Helpline
- Financial expert Jasmine Birtles

Introduction

The mystery of sleep

It's where our brains travel to every night, it's out of our voluntary control, and we often complain that we don't get enough of it. Sleep is the mysterious shift in consciousness that our bodies require every day. It's vital for our health and wellbeing but its importance goes far beyond that, sleep is something that we can't live without. Not only do we function worse when we don't get enough quality sleep, but it can lead to long-term health problems. That's why if we're having sleep problems it's important we do all that we can to rectify these difficulties and restore quality sleep into our lifestyles.

How are we sleeping?

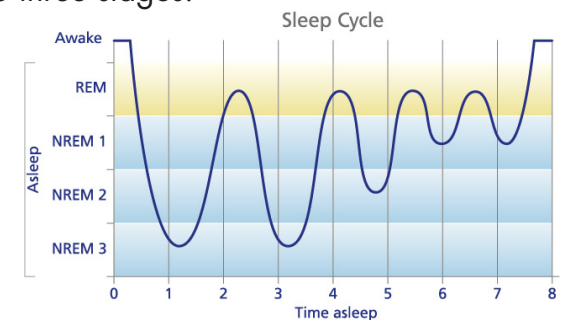
If you're experiencing sleep problems, you're not alone. A 2012 survey by Premier Inn found that money worries are keeping 37% of us awake at night, a 2011 survey by IKEA and Which? Found that 7 in 10 feel they aren't getting enough sleep, and the NHS spends over £50 million on sleeping pills alone (The Independent, 2012). But there's no need to suffer in silence if you are experiencing sleeping difficulties, there is plenty that you can do to restore quality sleep into your life.

What happens when we sleep? The Sleep Cycle

During sleep our heart rate drops, our body temperature falls and we experience complex changes in brain activity. An EEG (electroencephalogram) gives us an insight into the brain's electrical activity when we sleep:

- » When we first fall asleep we enter non-rapid eye movement (NREM) sleep.
- » NREM is divided into three stages:

- › NREM1
- › NREM2 and
- › NREM3, each stage becoming progressively 'deeper'.



- » Stages 1 and 2 are light stages of sleep from which we can be easily roused
- » Stage 3 is a deeper stage of sleep from which we're more difficult to rouse, and some may feel disorientated if woken from this stage of sleep
- » Generally, after going through the NREM stages, we enter stage 4 which is known as rapid eye movement (REM) sleep, which the EEG shows as being similar to wakefulness or drowsiness. It is during the REM stage of sleep that we dream.
- » Each cycle lasts around 1 ½ hours and we need to experience all four stages in order to wake up rested
- » A good night's sleep consists of five or six cycles, whereas disturbed sleep consists of far fewer

What controls sleep?

Sleep is largely controlled by sleep pressure, and the circadian rhythm, or our body clock, which is a 24 hour cycle that regulates all our biological and physiological processes. It anticipates environmental changes around us so that our bodies can adapt to them.

In ideal situations, the circadian rhythm will naturally rise in the early morning, promoting wakefulness and alertness, and will reach a peak in the evening. After a waking period of around 15 hours the pressure to sleep becomes greater and greater, in other words, we get tired. With the onset of darkness, the circadian rhythm drops to the lowest level and helps to maintain sleep.

Our body clocks may be disrupted in a number of ways. For example, when you travel to a different time zone your body clock will be out of sync for a while as it experiences a different time for daylight and darkness to what it's used to – something we commonly know as 'jet lag'. Also shift work disrupts your body clock by making you stay awake when it's dark and your body is saying 'go to sleep', sleeping in daylight you're your body wants to be awake.

Constant disruption of your body clock or circadian rhythm through night shift work and frequent travelling across time zones can detrimentally affect your health, and has been linked to obesity, type 2 diabetes, depression, peptic ulcers, heart disease and cancer.

Certain body chemicals have an effect on our sleep patterns, including: growth hormone releasing hormone (GHRH), growth hormone, prolactin, and adenosine, which all cause sleepiness as levels build.

However the most important brain chemical that is associated with sleep is melatonin – a hormone which is produced by the pineal gland. As daylight fades and night falls, levels of melatonin increase, giving the body the signal that it's time to sleep. It is produced in the body from protein foods, and is fundamental to achieving good sleep and feeling rested and refreshed. We'll look at melatonin in depth in step 4.

Sleep and your health

As mentioned, lack of sleep can contribute towards many health problems, and this has been shown in studies involving night-shift workers. In the Harvard Medical School Nurses Study, which involved 78,000 nurses, it was found that those nurses who worked the night-shift for thirty years or more had a 36% increased risk of breast cancer than their day-shift colleagues. And in 2009 the Danish government began paying compensation to women who developed breast cancer after working night-shifts.

The risks for heart disease and type 2 diabetes are also high, and there's a growing body of evidence showing that poor sleep patterns are directly linked to overweight and obesity. There are a number of reasons for this, including low serotonin and consequently melatonin levels (more about these chemicals in step 4), which make you more likely to eat more sugary foods and refined carbohydrates because these foods increase levels of serotonin. Lack of sleep has also been shown to increase levels of the hunger hormone ghrelin, that stimulates appetite and makes us feel hungry, and it decreases levels of the satiety hormone leptin, which gives us that satisfied feeling after eating that prompts us to stop eating. Furthermore being tired in itself can also lead to overeating because sometimes we eat in the belief that we need food to supply the energy we lack.

How much sleep do you need?

On average most adults seem to need around 7-8 hours sleep per night though this can vary from person to person. As we grow older our sleep patterns change and as we go through our life stages we tend to get less and less sleep. Older adults tend to sleep less, not because they need less sleep, but because we're more likely to experience disturbed sleep as we grow older.

On average

- » New-born babies sleep up to 18-21 hours per day
- » 3-5 year olds sleep 11-13 hours per day
- » Pre-teens need 11 hours
- » Teenagers need 9-11 hours

On average women are more likely to experience insomnia and sleep disturbances than men.

What is insomnia?

Insomnia is simply being awake when you want to be asleep. It can be defined as the following occurring three or more times per week on a regular basis:

- » Taking more than 30 minutes to fall asleep despite being tired – known as Sleep Latency Insomnia or Onset Insomnia
- » Waking up frequently during the night and not getting back to sleep easily – known as Sleep Interruption Insomnia, Sleep Maintenance Insomnia or Middle Insomnia
- » Waking up in the early hours and finding it difficult to get back to sleep – known as Terminal Insomnia

And in addition:

- » Relying on sleeping pills or alcohol to fall asleep
- » Waking up feeling tired and un-rested from the night's sleep

All of the above can result in daytime drowsiness, fatigue, or irritability

Don't be too bothered by interrupted sleep

Often we perceive a good night's sleep to be seven or eight hours of uninterrupted sleep, waking in the morning refreshed, rested, and ready to face the day. However there's a growing body of evidence, from recent study and historical evidence, that shows that it can be perfectly natural to sleep for around four hours, wake for an hour or two, then go back to sleep. Historian Roger Ekirch published numerous papers and a book called *At Night's Close*, drawn from 16 years of research, in which he revealed a wealth of evidence that we used to sleep in two distinct chunks: a first sleep which began about two hours after dusk, followed by waking period of one or two hours and then a second sleep. During the gap, we would get up, use the toilet, visit neighbours, read, pray or make love.

Many sleeping problems may have their roots in the human body's natural preference for segmented sleep, and this could be the linked to sleep interruption insomnia, where people wake during the night and have trouble getting back to sleep, or terminal insomnia, when they wake in the early hours and cannot get back to sleep.

So if we do wake during the night it's important that we don't become anxious, worried that we won't get back to sleep and will therefore suffer with tiredness and fatigue the next day. What we may be experiencing is a throwback to the bi-modal sleep pattern of ages past. So rather than seeing it as a problem, look upon it differently, don't panic, relax and you may soon drop off back to sleep. It's only a problem when it happens frequently and you fail to get back to sleep.

Why can't you sleep?

Sleeplessness is often something that creeps up on you. Sometimes you can pinpoint exactly when you first started to experience sleep disturbances, and sometimes you suddenly realise that the good nights' sleep that you've always taken for granted, is now elusive and disturbed sleep is now the norm.

In order to pinpoint the problem and focus in on the right solution, it's important to try to find out why exactly you're not sleeping.

Start by asking yourself these questions:

	Yes	If yes, see Step:
Are there lights outside your bedroom that bring light into the room?		1
Do you have a television or computer in your bedroom?		1
Have you had the same bed for over 10 years?		1
Is your sleep environment noisy?		1,2
Are you feeling under a lot of stress?		3
Are you worried or concerned about an emotional issue?		3
Are you worried or concerned about finances?		3
Are you worried or concerned about any other issue?		3, 6
Do you drink coffee, fizzy drinks or energy drinks?		4
Are you very overweight or obese?		4,5
Are you menopausal or peri-menopausal?		7
Are you pregnant?		7
Are you in your forties or above?		7
Are you a teenager?		7

Other reasons for suffering from insomnia for which you may have to see a doctor or medical professional (*although following steps 1, 2, 4, 5, and 6 may also help*):

- » Suffering from chronic pain
- » Suffering from respiratory diseases
- » Suffering from sleep disorders such as narcolepsy, sleep apnoea, restless leg syndrome
- » Suffering from a hormone disorder
- » Suffering from bruxism (grinding of teeth)
- » Suffering from heart disease
- » Suffering from neurological disease such as Parkinson's disease
- » Suffering from other medical disorders or illnesses
- » Taking certain prescribed medications including medicines for:
 - › High blood pressure and hypertension
 - › Asthma
 - › Pain relief
 - › Depression
 - › Epilepsy
 - › Inflammation (non-steroidal anti-inflammatory drugs)
 - › ADHD

Some of these medicines can cause sleep problems – DO NOT stop taking them but go to your GP for advice or visit your pharmacy and see the pharmacist for a medicines review – perhaps you can be recommended alternatives.

Once you've come closer to identifying the possible reasons for your difficulties in sleeping, you can try incorporating the suggestions in this book into your lifestyle, as well as paying particular attention to the issue that may be most relevant to you.



1. Your bedroom

If you're having difficulty sleeping one of the first things to look at is your bedroom. You need the right environment to get a good night's sleep and that means a bedroom that's pleasant, inviting and welcoming.

Keep it dark

One of the most important features of your bedroom that's conducive to a good night's sleep is that it should be dark. This is because the all-important sleep-inducing hormone melatonin is extremely light-sensitive, and may not be produced optimally unless it's completely dark.

City dwellers in particular have become accustomed to light pollution, and are often unaware that health issues can arise from bright lights inside and outside the home late at night. Electric lights have contributed to disrupting the body clock as bright lights signal to the brain that it's time for wakefulness and activity. Even the smallest amount of light in your bedroom whilst you're trying to sleep can have an adverse effect on the ability of the pineal gland to produce melatonin, causing difficulty sleeping.

One way to discover if there's too much light in your bedroom is to perform a simple light audit:

1. Turn out all the lights in your bedroom at night
2. Allow your eyes to adjust for a few minutes
3. Check to see if you can identify objects and check for 'light leaks'.

If you can identify objects and see light streaming in from an outside source, you'll need to 'light proof' your room. You can do this by applying blackout lining to your curtains to keep out light from outside, and avoiding all LED lights from electrical devices such as phones and clocks. If you keep your bedroom door open, switch off other lights in the house that may stream light into your room. Keep in mind that reducing the amount of light will help but it is better to try to eliminate it as much as possible.

Another simple and much cheaper solution is to purchase a high quality sleep mask. A good quality sleep mask is light and comfortable and yet thick enough in the front panel to block out all light. A small flap of material at the bottom of the mask around that area of the nose is also necessary to block out light. The sleep mask may fall off at night (remember you are only paralyzed during REM sleep) if you do have a snug fit at the back with either an overlapping straps that secure with Velcro tabs or a double elastic band. When purchasing a sleep mask check for these simple attributes and then put it on in the store to ensure that it is comfortable.

If you have to get up during the night, try not to turn on the light. The reason is that even a small amount of light can be enough to suppress the melatonin production for that night. Blue wavelength light in the light spectrum of household bulbs, is the light that specifically suppresses melatonin. This makes sense in light of the fact that during the day there is a lot of blue light, which basically tells the brain and the body that it's daytime.

If you're worried about bumping into things if you do need to get up during the night, a solution is to use a red light bulb in a small night light that can be used to show you the door, landing or stairs if you have to get up during the night. Dr Russell Reiter, who has conducted research into light and melatonin production, recommends red light bulbs as they do not affect the production of melatonin but still enable you to see.

The right temperature

Temperature is also important when trying to get a good night's sleep, as a room that is too hot will prevent your core temperature from going down, which is essential for switching on the 'sleep mechanism'. When you sleep, your body's temperature drops to its lowest level, which usually occurs around 3-4 hours after you fall asleep, so keeping your bedroom cool may lead to better sleep.

If you can, and it is safe to do so, leave a window slightly open when you sleep so that air can circulate around the room. If you're on the ground floor, consider a security grill on the window. Try not to leave a heater or the central heating on as this can be dehydrating and wake you up. Instead go for a warmer duvet.

A room that is too cold can also hinder sleep, and can be a danger for the very young or very old. It's a good idea to get a room thermometer to ensure the right temperature range in which to sleep. Ideally your bedroom should be around 18-21 degrees Celsius.

Keep your extremities warm

Although your bedroom should be cool to induce restful sleep, your hands and feet shouldn't be. Thermoregulation is the body's heat distribution system, and lying down redistributes heat to the extremities, ie your hands and feet. Studies have found that cold hands and feet are associated with sleeplessness. If you find that you suffer from cold feet, increase the temperature of your cold feet by using a hot water bottle, rather than bed socks.

Clear clutter

To optimise good sleep your room should be tidy, clean and free from clutter. Clutter is a great energy drainer. You know it's there, even though you might ignore it, and it takes up room. It's a reminder of your inadequacy in dealing with it and it looks ugly. Clearing clutter adds organisation, and being organised is good for achieving peace of mind, which aids restful sleep. Regular vacuuming and damp dusting may seem a chore, but night time asthma and allergies spoil many a good night's sleep.

Also clutter doesn't have to be material; it can also be the stuff you carry around in your head, either worrying about something or negative thoughts concerning yourself or others.

Plants in the room can also help with air quality, and contrary to popular myth, they will not give out harmful amounts of carbon dioxide, in fact the amount of carbon dioxide gas your plant produces during the night is extremely small and will cause no harm.

Get rid of the gadgets

It's important that your bedroom is associated only with sleep and sex. That means moving the television, computer, work area, pile of books and magazines, and anything else that may distract you from sleep. A radio is fine for the morning, telling you the time and what the traffic's like etc, but try to keep it off at night time, where it engages your brain and activates the mind. There's also the danger that you may fall asleep with the radio on, and it may wake you up during the night whilst you're in one of the lighter sleep cycles.

Use of electronic gadgets with a back-lit display such as computers, mobile phones, tablets and televisions, for two hours before bed have been found to cause a significant suppression of melatonin, causing sleep disturbances.

The 2012 study from the Lighting Research Center (LRC) at Rensselaer Polytechnic Institute in New York, found that two hours of exposure caused a 22 percent suppression in melatonin production. They also found that teenagers are particularly susceptible.

Drown out noise

If you're unfortunate enough to live in a noisy area, ear plugs are a good idea. As is double or secondary glazing, which will help to block out noise. You can also get a machine or CD that plays 'white noise' that can also block out exterior noises. Loudly ticking clocks should be put in a bedside drawer, and carpets can block noise if you live above a restaurant or bar.

Your bed

The foundation of good sleep is a comfortable bed. The right mattress can make the difference between a restorative night's sleep and poor quality sleep resulting in tiredness and fatigue. Lack of support from a mattress reinforces poor sleeping posture and can prevent you from getting a good night's sleep.

If you sleep better in a hotel or other bed away from home, it may be time to change your bed. With the vast variety of beds on the market, choosing the right one can be difficult. Here are some tips to help you choose the best mattress for both support and comfort.

Let value and quality rule over price: Hand-made mattresses with more coils, pocket springs, natural padding, and quality components will be higher quality and thus more expensive than others. Shop around, look for sales and offers, save up, but don't compromise on quality when looking for the right mattress.

A mattress that provides both comfort and back support will help, allowing the structures in the spine to rest and rejuvenate during the night. A mattress that's too hard or too soft can be uncomfortable and cause sleep problems. Your mattress needs to be firm enough to support your body's weight, but must also conform to your body's contours.

Try before you buy: When shopping for a mattress, you should lie on it for several minutes to decide if it's a good fit. If two people will be sleeping on the mattress, both should test it at the same time to make sure they have enough space and are both comfortable on the same style of mattress. Some of the better quality hand-made mattresses will make a mattress with two different levels of firmness.

You move 40 to 60 times a night, so spend at least ten to 15 minutes on each mattress. If the mattress is too soft, you will take lots of effort rolling over; if it's too firm, your hips and shoulders will be uncomfortable.

Know about the components of the mattress: The coils or inner springs of a mattress provide the support. Different mattresses vary in their number and arrangement of coils. The main types of mattress are natural fibre, pocket-sprung and memory foam. Natural fibres, such as horsehair, flax, wool, cotton and down are best if you get hot at night. Synthetic memory foam can become hot and may not absorb moisture efficiently so look for products that combat this if it's an issue. To maintain the best possible sleeping environment you should consider replacing a mattress in normal use after around 7- 8 years.

Innovations that help you sleep – 'Smart Fibres'

Tests have shown that 24% of people are allergic to house dust mites (1), and research conducted by Allergy UK in 2011 found that 59% of allergy sufferers said that their symptoms are worse in the bedroom – the likely cause of which is house dust mites. These microscopic creatures love mattresses because our bodies help create the moisture that they need to survive, and the average mattress can contain over three million house dust mites. They feed on dead skin, and their droppings dry out and become airborne, triggering a variety of symptoms such as runny noses, sneezing, wheezing, coughing, snoring and headaches, all of which can disturb sleep. They are also a serious irritant to those suffering from asthma.

Reactions to the allergens found in house dust mite droppings increase during autumn and winter when windows are closed and central heating comes on, creating a breeding ground and further disturbing sleep. Apart from ensuring the bedroom gets plenty of fresh air and proper ventilation, look out for technological innovations which provide an effective defence against house dust mites and bed bugs, such as Smart Fibre technology. Smart Fibres include Purotex microcapsules which release probiotic friendly bacteria into the fabric of the mattress to reduce mould, moisture and house dust mite allergens, and Smart Fibres are also effective at reducing infestations of bed bugs.

1. Reference:

Prof. Philippe Gevaert of Ghent University, tested 2320 randomly chosen people (using a skin prick test) for allergies and found that 24% had house dust mite allergy, more than those suffering a pollen allergy (23%).

Smart Fibre mattresses are recommended by Allergy UK, and other suggestions from Allergy UK to cut the number of mites living in your home include:

- » Wash bedding once a week at 60°C or higher. Allergy UK's research revealed that 16% of people wash bed linen every three weeks or less, and 58% wash bedding at 30 or 40 degrees, enabling house dust mites to breed.
- » Steam clean carpets and curtains at least twice a year
- » Replace your mattress every 7-8 years
- » Use allergen-proof barrier covers

Bedding

If you become either too hot or too cold during the night, you'll probably wake up, so it's important to check your bedding or duvet. The warmth or heaviness of a duvet is measured in togs – the lower the tog the lighter and cooler the duvet, and the higher the tog, the heavier and warmer the duvet. You can buy all-season duvets which combine a lightweight and medium duvet that you can separate for the warmer months and join together for cold winter months. If you share a bed with a partner, consider having a duvet larger than the size of your bed, or even two separate duvets, especially if you have a preference for different levels of warmth.

Probably as important to your comfort as tog, is the composition of your duvet. Natural materials such as cotton, wool and down will guarantee you a better nights' sleep than polyester, nylon and other man-made fibres. You will pay a little more, however the investment will be worth it and they'll probably last longer. Your pillow should also be made of natural fibres so it doesn't become too hot and will absorb moisture.

Summary

- » Keep your room completely dark, if necessary use blackout curtains or an eye mask.
- » Make sure your room isn't too hot or too cold, keep it slightly cool around 16-18°C (60-65°F).
- » Keep clutter out of your room – put the laundry basket in the spare room, bathroom or the landing
- » Avoid having a television or computer in the bedroom
- » Turn off your mobile phone and anything with an LED display (including clocks).
- » Don't treat your bedroom as an extension of your living room or a study. Use it for sleeping and sex only
- » Adorn your bedroom with beautiful things such as photographs of loved ones, artwork that you like, plants and flowers. It will help you feel more connected to the room and look forward to going to bed
- » Try to avoid bright colours such as reds which are less restful and quite stimulating, and less conducive to a good nights' sleep. Use muted and pastel colours, which are a lot more calming.
- » Some smells can affect your mood, making you more relaxed and calm. Sprinkle a pot pourri with essential oils of lavender or geranium, though never use during pregnancy or in children's rooms.
- » Take a long hard look at your room and see what it says about you and understand that you have a duty to care for yourself, your sleep area and your general health and wellbeing – you're worth it!



2. Your Lifestyle

Our twenty first century lifestyles are fast-paced and full of stimulation. Often from the moment when we wake up and check our smart phones, life is fast paced and non-stop. We put on the radio or television to be given the news as it happens and when it happens, we check our emails constantly throughout the day; we sit at our computers and/or watch television late into the evening. It barely stops and it can be difficult to switch off and wind down so it's small wonder that many of us have trouble sleeping.

Until about 100 years ago, we worked hard physically, went to bed when it got dark and got up when it was light. In this way we went to bed unconfused by changes in our body clock, and physically rather than mentally exhausted. Our worries centred more on the health and lives of our families and putting food on the table rather than some of the more complex issues that keep us up. Often, when we should be winding down the brain is still active and stimulated so it becomes difficult to rest and relax. This can lead to 'lifestyle insomnia', where sleeping difficulties result from a full, busy and stressful lifestyle.

We'll look at dealing with stress, emotional and financial pressures in the next chapter, but here we'll look at how you can change your lifestyle and habits to optimise good sleep. Outside of your bedroom there are other environmental factors that can be taken into account that may make a difference in the quality of sleep you enjoy.

Innovations that help us sleep – Low blue lights

The importance of a dark bedroom is mentioned in the last chapter, however light intensity in the evenings is also important. The brightness of the lights in your bedroom and your home can have an effect on your sleep quality, as was found in a study that showed that the evening light we are exposed to in an indoor environment affects our biological clock and can disrupt sleep quality.

Researchers at the Surrey Sleep Research Centre at the University of Surrey found that the ordinary, artificial indoor-light we are exposed to in the evening suppresses the rise of melatonin, making us feel less sleepy, and thus more inclined to delay bedtime. This is because most lights contain a high amount of blue light; however the researchers found that when they altered the colour of light, reducing blue light and increasing the red and yellow, the disruptive effects of the light were minimised. (Luc Schlangen, Nayantara Santhi, Derk-Jan Dijk, *Journal of Pineal Research* Nov. 2011).

Their research follows the discovery of a blue-sensitive photoreceptor which specifically targets the body's circadian rhythm.

It is now possible to buy low-blue light bulbs for the home, and glasses that can reduce blue light exposure from computer screens, tablets and smart phones which all contain high amounts of blue light which can impair our production of melatonin and disturb sleep.

See Resources for stockists of low blue light bulbs and glasses.

The researchers in the above study also found that reducing overall light intensity was also able to minimise the disruptive effects. So if you don't have them, try to fit dimmer switches to your lights and reduce light intensity in the hours before bedtime. You can also reduce light intensity by using low wattage bulbs, energy saver bulbs, and using lamps instead of ceiling lights.

Bedtime Routine

Bedtime routine is important and is frequently not taken seriously enough. Just as a child needs a routine to promote a good nights' sleep, so do we. We might not require a bed time story, but we need to relax and unwind. That means reducing electronic and intellectual stimulation that keep the mind active and busy and just letting go. Don't go to bed too early or too late. If you are unable to fall asleep and find yourself lying in bed for more than 30 minutes, get up and go to another room. Keep the lights as dim as possible and don't do anything too stimulating. Try listening to soft music until you start to feel sleepy, then go back to bed. This will enforce the association between bed and sleep rather than bed and wakefulness.

Also try to maintain a regular sleep pattern so try to avoid long lie-ins on your day off or at the weekend. This will help to enforce a routine. Try to determine what your optimal amount of sleep is. You may function at your best with nine hours sleep or six hours sleep. You can then regulate your bedtime in order to try to get the right amount of sleep for you.

Avoid Alcohol

Often that means a glass or three of wine, or some other alcoholic drink, but this can be counter-productive and actually make your sleeping difficulties worse. By all means enjoy a responsible and jolly social life but never use alcohol as a sleep aid. You may drop off but within an hour or so you will be padding to the loo and most likely have a nasty headache. Remember alcohol tends to "knock you out" like some medicines, and you won't get normal restorative sleep as a result.

Avoid late night use of technology

We mentioned the use of electronic equipment in the bedroom section, however there is increasing evidence that late-night use of mobile phones is more disruptive to sleep than watching television.

Neuroscientist Dr Paul Howard-Jones of Bristol University found that staring at a small bright screen, especially under the covers when the lights are off, can disrupt the secretion of melatonin, which of course regulates our sleep cycle. And this disruption was stronger than watching television late at night. This can particularly affect teenagers who spend a lot of time texting on their mobile phones.

Dr Howard-Jones also found that teenagers who text after lights out are four times more likely to experience daytime drowsiness, and has found studies that have linked playing video games, even early in the evening, with loss of sleep.

Avoid napping

Try to avoid day-time naps, especially if you are getting older – take some gentle exercise and keep active – you will sleep better and longer at night. Naps during the day often incorporate the deeper stage 3 sleep, which can result in more stage 1 and 2 sleep at night. This can be a problem because stage 1 and 2 sleep is lighter and you are more easily awoken. Try to restrict sleep to bed time only; the more tired you are the more likely you are to enjoy a restful sleep when you follow all the steps. Finally the toughest suggestion of all, however little you have slept, set your alarm and get up at the same time each day – no lie-ins to compensate. A little sleep deprivation will soon get you back into a better sleep routine.

Summary

- » Reduce the intensity of light in your home in the evenings by using dimmer switches or lamps with low wattage bulbs
- » Have a bedtime routine and maintain a regular sleep pattern
- » Use a hot water bottle if you get cold feet
- » Empty your bladder before going to bed
- » Avoid alcohol
- » Avoid use of technology in the hours before bedtime including computers, mobile phones and televisions
- » Avoid napping during the day

Top Tips

You are in control of how you approach sleep, you need to understand its benefits and also learn the 'skill' of good sleep. Many of the habits you had as a child will affect your sleep throughout life – think back on when you had your best sleep and try to replicate the routine (as far as practical). If you slept badly as a child you may need to completely re-educate yourself back to good habits. Finally don't be concerned about HOW much sleep you get, measure your success by how alert and rested you feel during the day and can cope (or not) with day time activities.



3. Stress and Worry

Life today is stressful. Modern technology means that we pack more and more into our lives, going to and fro and barely stopping to rest and reflect. Pressures of work and the burden of responsibility often lead to a lack of civility in society and pressures bubble just below the surface. With so much going on in our lives it's little wonder that many of us have trouble switching off and getting a good night's rest at the end of the day.

Worry is a thief and steals you of your joy. Basically, all of our worries come down to two things: that we won't get what we need, or that we'll lose what we've got, and this keeps us awake at night. Some of the major problems that we may face in life can cause us emotional or mental tension that can lead to insomnia. Here we will outline some basic practical solutions for dealing with stress and worry, depression and financial uncertainty.

Scientists have found a direct link between anxiety and rhythm of sleep. When a person has anxious thoughts, their heart rate goes up and in turn the mind starts to 'race'. This causes the brain to become alert and stimulated and start producing beta waves. This happens to someone who worries about something when they're trying to get to sleep – instead of being calm and subdued, their brains are too aroused to sleep. And to make matters worse, once their brain is stimulated in this way, other worries are activated, making sleep even harder to achieve. As a pattern sets in, sleep becomes a thing of anxiety.

To overcome this various techniques can be used to stop these thoughts and calm the heart rate, cognitive behavioural therapy being one of them. This is a psychological treatment that helps people 'unlearn' the thought processes that block a good night's sleep.

One way to manage and slow your heart rate is to place your hand on your heart and quiet yourself so that you can hear it beating. Then breathe in deeply and slowly for three or four –seconds, then breathe out for three or four seconds. Repeat this until you feel your heart rate slowing down. This will then slow the busy brain activity.

A technique to stop the worrying thoughts that cause your heart to race in the first place is to speak positive thoughts instead. Speaking overrides thinking and will stop the negative thoughts in their tracks. To explain how to do this, start thinking the alphabet in your head. When you reach 'J' start counting out loud.

What happened to the alphabet? You stopped thinking it in your head because your speaking overrode your thoughts. Do this when you start worrying about something when you're trying to sleep. Instead of thinking 'the mortgage is due and I don't have the money to pay it', say aloud 'I don't know where it will come from but I'll need to get creative to find the money for the mortgage and I will find it.' Instead of thinking 'my teenage daughter is going off the rails' say aloud 'my teenager's a strong willed girl and she will succeed in whatever she does'.

Speak softly in your partner's sleeping beside you, but speak over any negative thoughts. Soon you'll be able to override negative thoughts with positive thoughts, but until you do, speak them.

Financial worries

Financial worries have become a real and significant problem for many individuals, especially since the global economic crisis of 2008 and all its repercussions since then. Jobs have been lost, wage increases have been frozen, household disposable incomes have fallen, debt have increased, public services have been cut, and most of us have felt the pinch.

Consumerism is at an all-time high and a tolerance of high levels of debt has replaced the tendency, or ability to save money. For some of us the monthly pile of bills and expenses exceeds the amount of income, leading to mounting debts and a threat to our homes and security. This can cause sleepless nights.

The way that we handle these financial challenges can determine not only whether we can sleep through the night, but also how we can get through the difficulties we're experiencing. In a 2011 survey of 2000 adults who had sleeping difficulties, the top reason cited was money worries at 37%, and second on the list was work issues at 30%.

We sleep better when we have the feeling that we're in control of our lives rather than at the mercy of circumstance, so it's necessary to take control and get creative.

If your worries are over financial matters, here are some practical tips on how to overcome them:

1. Open all bills and statements. It may be scary, but facing up to debt is the first step to getting on top of the situation and taking control.
2. Write down everything you spend in a diary or notebook. Unless you do this you can't tackle the problem effectively. Include everything and go through your bank statement to make sure you don't forget anything. Always get receipts so you can write things down when you get home.
3. Paying off debt is the biggest money saver because the more you pay off, the more cash you will save. If you can't clear balances, switch to a lower charging card. If you owe £2,500 on an average credit card you'll be paying 18.6 per cent in interest, yet charges could be cut to zero with a 0 per cent balance transfer deal. However you need to look closely at arrangement fees to ensure the savings add up.
4. Contact the National Debtline (0808 808 4000, nationaldebtline.co.uk) or Payplan (0800 2802816 payplan.com) to talk through your options and work out a repayment plan with your creditors. Payplan will write to inform all your creditors that you are seeking help and ask them to freeze interest and charges. Most lenders will agree based on recognition that your debt is unmanageable. Never pay for this service as organisations like Payplan offer it free.
5. Know the difference between a bargain and a promotion. Something that's half price because it expires today is a bargain.

You can usually put it in the freezer for later. Buy two for £5 is not a bargain but a sales promotion designed to make you spend more. If you regularly take up such offers, make sure that you use what you've bought otherwise you're not buying what you need but what you're being sold.

6. Refusing to accept the renewal quote for insurance can also mean savings. Homeowners, for instance, could be wasting an average £132 per household by sticking with their existing home insurance provider instead of shopping around for a better deal
7. Devote a day switching to a cheaper phone/internet/utilities provider. Look on www.energyshop.com or www.uswitch.com
8. Learn how to use Skype and instant message to save on phone bills.
9. Sell stuff you don't need any more for free on local classified ad sites such as Gumtree or on 'free insertion days' on eBay (though you pay when you sell the item). You can sell on that old desk or artwork for up to £6,000 without triggering any capital gains tax.
10. Swap unwanted items with others on Free-cycle, where people give away their old things. Go to uk.freecycle.org
11. Find the cheapest petrol prices in your area by typing your postcode into www.petrolprices.com
12. Get the latest money-off vouchers at www.my-vouchercodes.co.uk
13. Find out about supermarket prices and offers at www.mysupermarket.com and www.hotukdeals.com

Get money-saving tips and advice at www.moneymagpie.com

1. If you have an empty spare room, you could rent it out for up to £4,250 a year, about £354 a month, and have no tax to pay on the rental income. Checking out one of the house share websites, such as www.spareroom.com, will give you an idea of the going rate for rooms in your area and also how to market your room plus how it affects your insurance, mortgage, council tax etc.
2. You could work as a supporting artist (extra) for up to £150 a day. But you must be prepared to spend hours waiting on set or location until you are needed for shots. Go to www.equity.org for more information on getting started and finding an agency.
3. Try market research where you can earn by telling research companies what you think. Go to www.Valuedopinions.co.uk to find out more. Also, Yougov.com pays you £1 when you register and then tops up your account intermittently. When you hit £50, you will receive a cheque in the post.
4. If you do end up out of work, there are more opportunities than ever to start a business as a consultant, find flexible part-time work, or set up an online business. Do your research and get creative.



4. Diet

Diet is an important factor that can determine whether or not you get a good night's sleep, and often sleep problems can be eliminated by simple dietary changes. Many of the sleeping medications that are available come with poor results and significant risks, some of which were only recently identified, so changes to your diet are a simpler and less invasive alternative.

The notion that certain foods may induce restful sleep has been accepted for many generations. Often we've heard that a cup of hot milk may help, which surprisingly has some merit. It has only been in the past ten years that a determination of which foods and most importantly, which combination of foods has been proven to be efficacious in the treatment of chronic insomnia.

What promotes good sleep?

There are three substances that are key to understanding how nutrition can affect the brain chemistry that promotes good sleep:

- » Tryptophan,
- » Serotonin, and
- » Melatonin

What is tryptophan? All protein foods are composed of amino acids and tryptophan is one of them. It is the rarest of the amino acids, and is found in foods like turkey, steak, chicken and pumpkinseeds, and to a lesser extent in peanuts, sunflower seeds, beans and milk. Tryptophan is important because when it reaches the brain, it converts to an important chemical called serotonin.

What is serotonin? You may have heard of serotonin because of its connection to drugs such as Prozac, which are known as selective serotonin reuptake inhibitors (SSRIs). Serotonin is actually a chemical that carries messages between brain cells (neurones) and other cells. Decreased serotonin levels can lead to anxiety, depression, and increased cravings for carbohydrate foods. At night-time, serotonin undergoes two metabolic changes to become melatonin, the chemical that induces sleep.

What is melatonin? Melatonin is a hormone that helps to regulate the body's circadian rhythm and promotes restful sleep. It is produced from serotonin in the evening to help us sleep.

The best way of ensuring optimal melatonin production is to sleep in as dark an environment as possible. As we have mentioned, even low amounts of ambient light will suppress the production of melatonin which will affect not only sleep but have other health consequences as well.

Eating Tryptophan-rich foods is not the entire answer

If you're having difficulty sleeping, it's important that you increase the level of tryptophan in your diet; however it's not that straightforward.

Natural food source tryptophan does not exist in isolation. Tryptophan belongs to the family of amino acids all of which bind together to form proteins. Various proteins vary in how much tryptophan is present. Research by Dr Craig Hudson has determined that gourds seeds (pumpkin and marrow or squash seeds) contain one of the

highest sources of tryptophan known. Eating more of these seeds, however, will not increase your brain tryptophan levels because of what is known as the 'tryptophan paradox' in that eating protein foods rich in tryptophan will decrease rather than increase your brain tryptophan levels.

The reason behind the Tryptophan Paradox is something called the Blood-Brain-Barrier (BBB), a shield that protects the sensitive brain from noxious substances that are in the blood whilst allowing certain nutrients into the brain. In the case of tryptophan, access to the brain happens across a transporter that recognizes the tryptophan molecule and then facilitates its absorption into the brain.

The problem with tryptophan is that it shares this transport site with other amino acids which are far more abundant and better able to "stick" to the transporter. The result is that a high protein food contains tryptophan but also contains many more of the other amino acids that will out-compete tryptophan for access to the brain transporter site. Consequently, when you eat protein foods your blood tryptophan levels go up but your brain levels go down. Competition between tryptophan and other amino acids at the BBB transport site is the reason behind the tryptophan paradox.

This is the primary reason why high-protein diets cause you to become more anxious, irritable and experience difficulty sleeping.

Innovations that help us sleep - Zenbev

For more than a decade the Tryptophan Paradox effectively eliminated the use of protein source tryptophan as a way of building brain tryptophan levels, however Dr Hudson discovered that you could allow high protein source tryptophan to access the brain by suppressing the blood levels of the other competing amino acids by combining it with a carbohydrate food.

The addition of a carbohydrate is important because it increases serum insulin levels and when insulin is released into the bloodstream, it suppresses all amino acid levels except for tryptophan. Because it is important that just the right amounts of carbohydrate are combined with the protein-source tryptophan he developed a food – Zenbev, which is taken with milk in the evening and has been shown to aid a good night's sleep as it gives the body the building blocks it needs to produce melatonin.

See Resources for more information about Zenbev

Food Combinations that Promote Sleep

Turkey and roast potatoes is an example of a protein-carbohydrate combination that is thought to make us sleepy. We only need to think of Christmas dinner and its sleepy aftermath as an example. Turkey is indeed very rich in tryptophan but if eaten on its own, brain tryptophan levels will decrease as explained earlier. It is actually the high-carbohydrate foods eaten with the turkey (potatoes, Brussels sprouts, Christmas pudding) that have the effect of getting the tryptophan into the brain.

Choosing the right protein food is actually quite challenging initially.

Many people are aware that milk is rich in tryptophan but may not be aware of how tryptophan is required to induce sleep. Milk contains approximately 40mg of tryptophan per glass. In chronic insomnia people may require 2000mg or more of tryptophan, which would require rapidly drinking 50 glasses of milk to get the required tryptophan, however it would result in their tryptophan levels decreasing!

So it's important to combine protein-rich foods with a fairly high glycaemic index carbohydrate to increase insulin levels and increase tryptophan-serotonin-melatonin levels.

High Glycaemic Index Carbohydrates

Some carbohydrates, referred to as high glycaemic carbohydrates, break down quickly into glucose in the body, inducing a rapid rise in insulin levels which speeds the increase in brain tryptophan levels.

Normally it is advisable to avoid high glycaemic carbohydrates since it is usually better to have a lower, more gradual increase in insulin levels, especially for those who suffer from diabetes or for weight control. However because the ideal way of eating your way to better sleep is consuming a high glycaemic carbohydrate combined with a high protein food, it's important to know the best combinations in order to avoid weight-gain . That way, the carbohydrate has a chance to shunt the competing amino acids away in favour of tryptophan, allowing it to get into the brain to trigger sleep.

Best food sources of tryptophan

	Serving Size in g	Tryptophan in mg:
Turkey	85	184
Sirloin Steak	85	157
Chicken	85	156
Pumpkin Seeds	20	114
Peanuts	20	70
Sunflower Seeds	20	50
Beans	50	32
Milk	250ml	19

Best combinations

Tryptophan-rich food	High glycaemic index carbohydrate
Turkey or chicken slices	Slice of bread
Pumpkin or sunflower seeds	Yoghurt
Or zenbev with milk (see resources)	

Other Benefits? Appetite Regulation with Tryptophan-rich Foods

When someone is depressed they crave carbohydrate foods, and the tryptophan paradox may explain why. In a depressed phase, the brain inherently recognizes the paucity of serotonin and compensatory mechanisms take place to drive the tryptophan brain levels up. Eating carbohydrates increases insulin levels which, in turn allow tryptophan access to the transport sites into the brain. When we are satiated with tryptophan we no longer crave carbohydrates and we inherently choose a balanced diet. This knowledge can be used to manage your diet to reduce carbohydrate cravings and maintain weight.

Be careful if taking melatonin

Why not avoid all of this mess and just take melatonin supplements. Although they may be beneficial for short periods of time such as treating jet lag when crossing time zones, long-term, high dosage melatonin is not recommended. It may disrupt your own natural melatonin production and potentially suppress your ability to produce this important hormone.

Aside from being an unlicensed medicinal product in the UK, you should also be wary of melatonin because it has a very short half life, which is the time it takes to metabolise and rid itself of half the circulating amount. This short half life of only 30-50 minutes means that its effect is lost in the presence of light. And finding the right dosage is also difficult. Too little and you may wake up in the middle of the night, and too much and you may feel hungover the next day.

Cherries can promote good sleep

Cherry juice has been shown in studies to help people sleep longer due to its ability to help the body produce melatonin. In a study it was found that drinking 30ml of a sour cherry juice twice a day led to an increase in circulating melatonin, providing improvements in sleep amongst healthy adults. The study used Montmorency cherry juice but if you can't find this variety in health food stores, Acerola cherry juice is also a sour variety which may be as effective.

(Dr Glyn Howatson, School of Life Sciences at Northumbria University Nov 11/ Dr Wilfred Pigeon, University of Rochester in New York, Journal of Medicinal Food)

What can hinder sleep?

Caffeine

The ability of caffeine to hinder sleep is well documented. It stimulates the nervous system, increases alertness and wards off sleepiness. Caffeine is found in: coffee, tea, chocolate, cola and energy drinks, so all of these are to be avoided, especially in the afternoon and evening.

Alcohol

Despite alcohol being used to 'knock you out' after a long day, supposedly putting you into a drowsy stupor so that you sleep like a log till morning, this is not actually the case. Alcohol may seem to make it easier to drop off, but you are more likely to experience poor quality sleep and become dehydrated. You will also wake frequently to urinate because alcohol is a diuretic, and acts on the kidneys to make you pee more than you take in. So not only is your sleep disturbed by having to get up to urinate, as you're urinating more you'll start to feel dehydrated which may wake you, and as you drink water to relieve the dehydration it may cause you to get up to relieve yourself of the excess water. Alcohol in the evening can definitely hinder sleep.

Sugar

Only eat a sugary snack before bed if combined with a tryptophan-rich protein food.

Summary

- » Always combine a protein food with a low to medium glycaemic index carbohydrate food to optimise tryptophan levels.
- » Avoid stimulants such as caffeine and cigarettes
- » Avoid sedatives such as sleeping pills and alcohol to help you sleep. The effects are usually short-term, they can have counter effects, and sustained use can lead to dependency.
- » Do not stop taking sleep medications suddenly. The best approach is to speak to your doctor and develop a strategy to slowly wean yourself off them.
- » Avoid buying melatonin supplements from the Internet (they are only available on prescription in the UK). Taking them may disrupt your own natural melatonin production and potentially suppress your ability to produce this important hormone, ultimately making sleep problems worse.
- » Changes in diet can help you sleep but it takes a little longer than the quick fix pill. Fill in a sleep diary and note what you've done on days when you've slept well or badly.



5. Exercise

We all know that there are a multitude of reasons why we should exercise – the benefits are well-documented: it improves heart health and blood pressure; it builds and strengthens bone and muscle; it helps combat stress; it helps improve mood; and it helps you look and feel better, it can also help you sleep.

Sometimes sleeplessness can be caused simply because we have not been active enough during the day. This was shown by scientists at Northwestern University in America, who studied 23 sedentary adults, mostly women aged 55 years and older who had a hard time falling asleep or staying asleep. The participants were randomly placed in either a group who exercised for two 20-minute sessions four times a week, a second group who did a 30-40 minute workout four times a week, and a control group who did not exercise. After 16 weeks both of the exercise groups reported that their sleep quality had improved, that they had more vitality, less depressive symptoms, and felt less sleepy during the day.

Another study showed that the perception that we have of exercise improving sleep may also be a factor in helping us sleep.

For the study, 862 Swiss college students were asked to record how much they exercised, how fit they believed themselves to be, and how well they slept. More than 16 percent of the students who rated themselves low on the fitness scale actually exercised the most. In other words, they worked out more than many of the other students but felt they weren't doing enough.

Those students who perceived that they weren't exercising enough

also tended to report sleeping less well, even though they were exercising more than some of the other students. In the end, the researchers found almost no correlation between how much students exercised and how well they slept. What mattered was whether they believed that they were being active enough. Those students who perceived that they were fit slept well, those who didn't, did not.

Body Temperature

Another reason that exercise may improve sleep is that there is a link between a good night's sleep and lower body temperature.

Our body temperature goes up slightly during the day, and goes back down at night, reaching its lowest point just before dawn. This lowering of body temperature is another signal to the body that it's time to sleep. Exercise can raise the body temperature, and the temperature will stay up to two degrees higher than normal for around four to five hours, before it drops to lower than it would be if you hadn't exercised.

This lower body temperature is considered to be a factor in promoting better sleep in that it signals to the body that it's time to sleep, and helps you enjoy a longer, more restful sleep.

Reference:

Gerber, Markus; Brand, Serge; Holsboer-Trachsler, Edith; Pühse, Uwe; Fitness and Exercise as Correlates of Sleep Complaints: Is It All in Our Minds? *Medicine & Science in Sports & Exercise*: May 2010 - Volume 42 - Issue 5 - pp 893-901

Summary

- » Exercise can help you enjoy better quality sleep and lower body temperature which also induces better sleep
- » Don't overdo it. Wearing yourself out physically is not particularly likely to induce sleepiness. In fact it can be counter-productive and lead to wakefulness and alertness when trying to sleep.
- » Though it's widely believed that working out too close to bedtime can disturb sleep, there isn't evidence that backs this argument, so it's better to exercise in the evening than not at all.
- » The important thing is to exercise because it makes you feel fitter and better, and if you are experiencing sleeping difficulties, the more you exercise, the more likely you are to improve your sleeping patterns.



6. Relaxation and other therapies

Relaxation can help you overcome the tension and anxiety often felt as a consequence of insomnia. Those experiencing disturbed sleep have trouble unwinding sufficiently to get a good night's rest, and for many, excessive mental activity and racing thoughts prevent them from getting off to sleep, or wake them up frequently or too early. Therefore it's important to know how to properly relax.

And you may have heard about how Cognitive Behavioural Therapy (CBT) can help resolve your sleep problems. CBT is simply a programme of psychological treatment that when applied towards sleep can correct mistaken ideas and negative thoughts that can cause sleeplessness, and make it worse. It actually treats the cause of the insomnia – and not just the symptoms, and can help by changing negative thoughts about sleep, and learning more accurate information in order to replace the negative thoughts with more positive thoughts and beliefs.

The most common forms of CBT are:

- » Stimulus Control
- » Sleep Restriction
- » Sleep Hygiene

First let's look at some relaxation techniques.

Relaxation and Breathing

Stressful lifestyles, working late, and watching intense television shows or the news, are some of the factors that can contribute to the mind racing and being unable to wind down. It's important to know the importance of being relaxed before bed, and to have the knowledge of effective relaxation techniques to apply in order to experience deep, restful sleep.

Relax your Body

This can be done in bed and works by relaxing separate groups of muscles. It is also effective to visualise each set of muscles being relaxed as you go through the exercise:

1. Tense a muscle by contracting and flexing for 7-10 seconds. Don't strain the muscle.
2. Visualise the muscle being tensed and feel the build up of tension
3. Release each muscle abruptly, then relax, allowing the body to go limp before going on to the next muscle.
4. Keep other muscles relaxed whilst working on a particular muscle.

How to relax each muscle group:

Feet

- » Relax your feet by bending and flexing your toes, then moving both feet so that your heels are pointing away from you.

Legs and buttocks

- » Flex your calf muscles by pulling your toes towards you, then releasing. Do each calf muscle separately.
- » Tighten your thigh muscle, then relax, squeezing each muscle from your hip down to your knee.
- » Pull your buttocks together, then release

Stomach and back

- » Flex your stomach muscles by sucking your stomach in so that your navel gets as near to your back as possible. Hold, then release.
- » Flex your lower back muscles by arching your back, though don't do this exercise if you suffer from lower back pain

Arms and chest

- » Tighten your chest muscles by flexing your chest, hold for up to 10 seconds, and then release.
- » Flex your biceps, one at a time, then release.
- » Tighten your triceps by extending your arms out straight, one at a time, and locking your elbows. Hold, then relax.
- » Clench your hands into a fist, hold for 10 seconds and then release for 20 seconds.

Shoulders and neck

- » Flex the muscles in the back of your neck by pulling your head way back, then relaxing. You can also rotate your head (sit up to do this).
- » Flex your shoulders by raising them up as if you were going to touch your ears. Hold, then relax.
- » Flex the muscles around your shoulder blades by pushing your shoulder blades, hold then relax.

Face

- » Raise your eyebrows as far as you can, hold then release.
- » Open your mouth as wide as you can. Hold, then relax.

Finally, imagine a wave of relaxation spread throughout your body from the soles of your feet to the top of your head. Sink into the bed as you feel this wave of relaxation.

Breathe

The effects of deep breathing are largely psychological but it can bring about a physiological response in the body. It can normalise the heart and respiration rate and calm you.

An exercise:

As well as relaxing you before bed, you can use this breathing exercise whenever anything upsetting happens, and before you react. It can be done anywhere because you don't have to lie on your back:

1. Sit up with your back straight and place the tip of your tongue just behind your upper front teeth, and keep it there throughout the entire exercise.
2. Practice exhaling with your tongue in this position. It will be easier if you purse your lips.
3. Now close your mouth and inhale through your nose for 4 seconds (counting one one thousand, two one thousand etc)
4. Hold your breath for 7 seconds then exhale through your mouth, taking 8 seconds to exhale completely
5. Repeat 3-4 times and try to be accurate with the counting
6. Do this every evening before bed

Cognitive Behavioural Therapy (CBT)

CBT helps you identify the negative attitudes and beliefs that hinder your sleep, and replaces them with positive thoughts, effectively 'unlearning' the negative beliefs.

A typical exercise is to set aside 30 minutes in which you do your day's worrying. During the worry period you keep a diary of the worrying thoughts because the act of writing them down is believed to reduce them. You're now banned from worrying at any other time of the day other than this 30 minutes. And before going to bed you write down the worries you might have in bed then set them aside. When in bed you close your eyes and imagine these worries floating away in a balloon, leaving your mind free and unencumbered by these worries.

Stimulus Control – 20 minute rule

When you suffer from insomnia you may come to dread bedtime, expecting to toss and turn for hours. Bedtime and even your bed as well, are causing you to have a negative response, so this method teaches you to use the bed only for sleep and for sex. You are not allowed to read, do some work on your laptop, watch television, text or even speak on the phone.

You go to bed when you're fatigued, and if you're not asleep after 20 minutes, you get up and do something else such as listen to relaxing music or the breathing and muscle relaxing exercises. Bear in mind not sitting in bright lights, as mentioned in the Lifestyle section earlier.

When you feel sleepy again, then you return to bed. The idea of this is to build a strong association between bed and sleep, and eventually you'll be able to fall asleep soon after getting into bed and not dread bedtime.

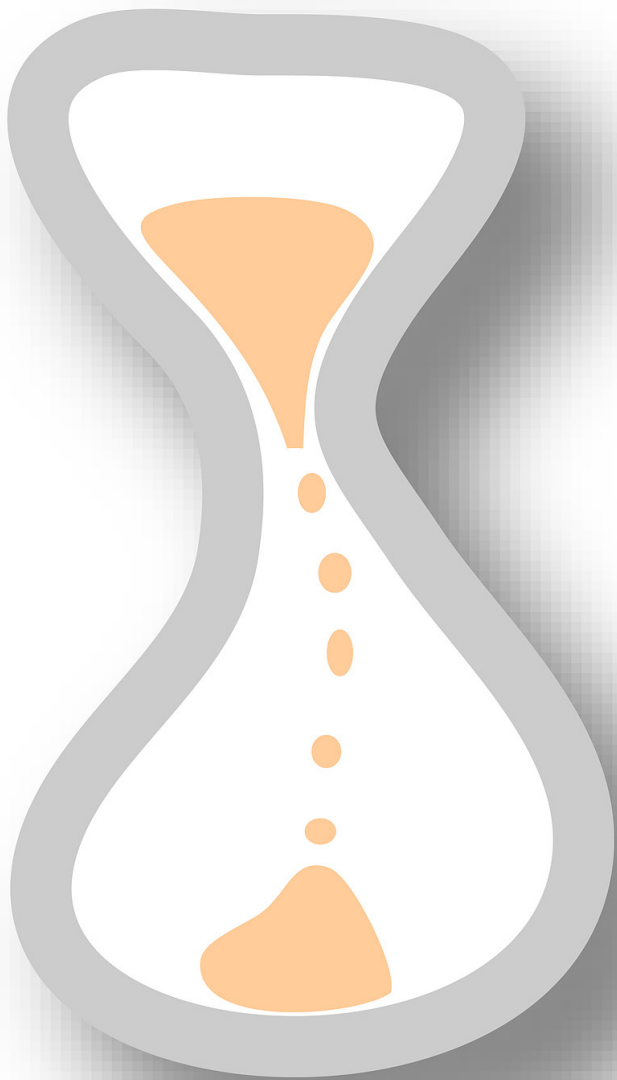
Sleep Restriction

This method involves only spending the amount of time in bed that equates to the average number of hours that you sleep. For example, if you only get five hours of sleep per night, even though you spend seven hours in bed, you limit yourself to five hours in bed at night.

This method may make you more tired at first, but it can also help you fall asleep faster and wake up fewer times. However it's not suitable if you're only getting a couple of hours sleep, and should be supervised by a qualified CBT Sleep Practitioner.

Sleep Hygiene Training

Basically means following the first 6 steps in this book to ensure that you're following the lifestyle habits that ensure a good night's sleep. Disturbed sleep is often caused by a number of factors, so if you cover all areas diligently, you're more likely to eliminate the factors that are causing you disturbed sleep.



7. Hormonal balance

Many people think they are not sleeping well because of stress or other reasons, but it may be because of your hormones. Changes in hormone levels as we age can cause sleep disturbances, and sleep disturbances can alter hormone levels, turning into a vicious cycle.

Sleeplessness can affect around 10 different hormones, and shifts in these hormones can cause changes in appetite, mental wellbeing, cardiac health and even fertility.

Melatonin has already been mentioned earlier regarding its importance in getting a good night's sleep, but there are other hormones that can also affect how we sleep.

Sex hormones

Out of balance oestrogen and progesterone levels can cause disturbed sleep, and this can occur just before a period, in the years before menopause known as perimenopause, and during and after menopause.

It's not surprising that in many sleep surveys, twice as many women as men were found to have sleep problems, and further analysis may have shown that many of these women are 40 or over. This is not only because of social reasons such as having children, but because the changes in hormone levels in the years before menopause can cause insomnia as well as many other symptoms.

Whether or not the increased rates of insomnia as we grow older are due to hormonal changes is yet to be proven, however there are many factors that support this.

- » Progesterone levels drop dramatically during perimenopause and low levels of progesterone can cause insomnia
- » Serotonin is converted in the body into melatonin, the hormone that induces sleep. Serotonin levels decrease during perimenopause and menopause
- » Deep sleep is associated with release of human growth hormone (HGH) and as we grow older we produce less HGH

Remedies for perimenopausal and menopausal insomnia:

- » Progesterone and oestrogen levels need to be checked by your GP, and if low discuss natural remedies to increase levels of these hormones such as progesterone creams or pessaries (you'll have to be quite insistent with your GP, and don't settle for a prescription for sleeping pills)
- » Eat tryptophan-rich foods to boost serotonin levels, though in the presence of carbohydrates to boost absorption (see step 4)
- » Avoid alcohol, caffeine and sugar which lower dopamine levels (like serotonin, dopamine is another neurotransmitter important in regulating the sleep cycle).

Other ways that hormones that can affect sleep:

Thyroid

An overactive thyroid can cause excess thyroid hormone which can speed up your metabolism, making you overactive and restless during the day, and can also make it difficult to settle down to sleep at night. An underactive thyroid leads to decreased levels of thyroid hormones which can cause fatigue, weakness, lack of energy and sleepiness during the day. You can check your thyroid by a simple blood test at your GP's surgery.

Cortisol

Cortisol levels start to rise in early morning and continue to rise into the early morning and early waking hours. The peak in cortisol is about 9am, and as the day continues levels decline gradually. With the onset of sleep cortisol continues to decline, however a stressful lifestyle can keep cortisol levels high, which can inhibit sleep.

Puberty and adolescence

The combination of increased hormone levels, growth spurts, secondary school, active lifestyles, homework, social activity and late nights can all combine to interfere with the body clock and cause disturbed sleep. Around 11 percent of adolescents experience insomnia, but the good news is that making some of the changes recommended in this book, in particular to the bedroom and lifestyle, can go a long way to alleviating the problem and achieving better sleep.

Good diet and an active lifestyle are also important in ensuring that a teenager and young adult enjoys quality sleep.

Summary

- » Hormonal fluctuations in the years before menopause can cause disturbed sleep, low progesterone levels can cause sleeplessness, and an overactive thyroid can cause sleep problems so if you're menopausal or perimenopausal get your hormone levels checked by your GP (and don't settle for a prescription for sleeping pills)
- » A stressful lifestyle can keep cortisol levels high and cause sleeplessness
- » Adolescents and young adults need to follow good sleep guidelines with regard to bedroom and lifestyle to help prevent disturbed sleep

Resources

Low blue lights

visit www.ronfellshop.com

Zenbev

visit www.zenbev.co.uk

The Sleep Council

visit www.sleepcouncil.org.uk

Allergy UK

visit www.allergyuk.org

