

How to Sleep Better

The Secrets of Sleep from the World's Leading Sleep Experts

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Sleep and Insomnia

Do you have insomnia?

That seems like a fair question. But it also sounds like a question that implies a disease or disorder, like “do you have pneumonia”? Although “insomnia” is a single word, it is not a disease in the normal sense. “Insomnia” is not a specific problem, but can be a range of problems with a range of different causes. It is a complex problem that involves all aspects of our being (biological, mental, and social). In general, insomnia is the inability to get adequate sleep despite enough opportunity in bed.

The sleeping difficulty you experience may be that you take a long time to fall asleep first thing at night. The difficulty can be with many and long awakenings across the night. It can be waking earlier than intended and not being able to get back to sleep. Or it can be a combination of these difficulties.

But the most important indication that your sleep is not adequate is when you feel exhausted, tired, irritable, and may have trouble concentrating or remembering things. If you have these troublesome daytime symptoms as well as difficulty getting to sleep and staying asleep, this book is for you.

Are you alone with this difficulty? How many people experience insomnia?

- ▶ Although it may seem like you suffer insomnia alone, there are a lot of you.
- ▶ Scientifically conducted surveys find that up to 50% of the whole population would have experienced at least a short bout of sleeping difficulty and tiredness during any one year. Some of these individuals go on to develop chronic and severe insomnia with unrelenting impairments to their daytime feelings and functioning.
- ▶ It is perhaps not surprising that these same surveys find that 5-10% of the whole population suffers this more chronic, severe insomnia.
- ▶ In concrete terms this means that there are at least 1 million chronic insomnia sufferers in Australia, the equivalent of ten full-to-capacity Melbourne Cricket grounds, the entire city of Adelaide, or every 15th person in your street.
- ▶ So some night when you are lying awake in bed feeling you're the only person in the world

with this problem, you could go out into the street and yell, “anybody else can’t sleep”, and you are very likely to find another insomnia sufferer.

- ▶ Sleeping difficulty is the third most frequent problem (behind stomach problems and headaches) reported to general medical practitioners.
- ▶ Another indication of how common insomnia is comes from surveys of the use of sleep medications. Again, about 5% of the population regularly takes prescribed drugs to help sleep with a lot more using alcohol and over-the-counter remedies promising better sleep. So are the 5% taking sleeping pills cured of their insomnia and not the same as the 5%-10% who presently have chronic insomnia? No, most of those taking sleeping tablets still have insomnia! As we will see later in Chapter 15 sleeping pills usually offer only partial symptomatic improvement and only while they are being used. They do not address the causes of the insomnia and are not a cure.

Are there better ways to treat insomnia?

Yes. It is now clear that non-drug therapies provide better long-term improvement of sleep and daytime feelings. This conclusion comes from substantial scientific medical research and increasing clinical experience.

? Questions?

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What Is A Good Night's Sleep?

"How did you sleep last night?" This is a common question asked by family members, friends or work colleagues. What would you call a 'good' sleep? Most likely you would say you slept well if you fell asleep quickly and didn't wake at all during the night. A very common misconception is that good sleep is one long deep valley of unconsciousness until the morning when you awake. Our own research found that almost everybody, when asked to draw a picture of the typical sleep of a good healthy young adult, drew a long deep curve with hours of uninterrupted deep sleep across the middle part of the night. As you will see shortly this concept of normal sleep is totally incorrect.

So it is not surprising that most people would say that their sleep was 'bad' if they had any awakenings during the night. Even our language reflects our strongly held concept of a good sleep when we refer to sleep with an awakening during the night as 'broken' as if sleep were damaged by the awakening.

Yet up until only the last couple of centuries, before recent industrialisation and artificial lighting, it was common to have a long wakeful period in the middle of the night between the 'first sleep' and 'second sleep'. This 1-3 hour wakeful period was often used for quiet meditation, recreation, or more productive activities. It wasn't considered an indication of poor sleep or an impediment to the following day's feelings or activities.

But what is a 'good' sleep? How often do we hear the phrase "You should get eight hours of solid sleep"? We might have heard it from our parents or doctor. We certainly hear it in the media. Therefore, it is easy to see how this relatively modern concept of 'good' sleep has arisen and repeatedly strengthened.

However, the technology to measure actual sleep has shown that sleep is not "solid" but more like a roller-coaster ride of several 'ups' and 'downs' across the night.

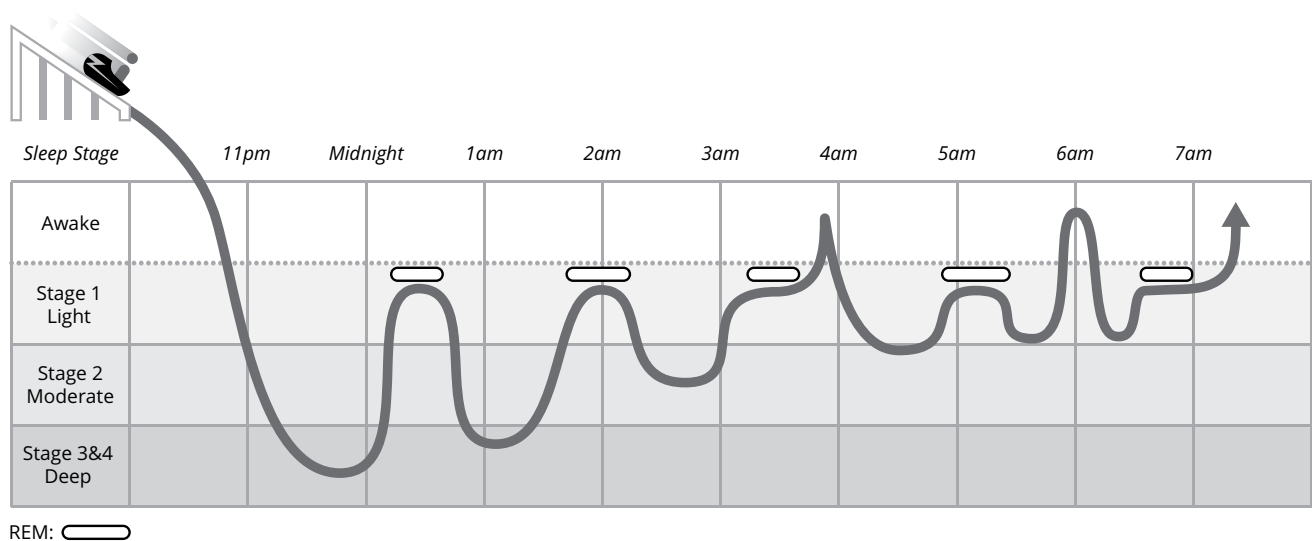
The 'Roller-coaster Ride' of Sleep

Sleep is like a roller-coaster ride not in the sense that it is an exciting event. It is like a roller coaster in that it consists of a series of valleys of deeper sleep alternating with peaks of light sleep and awakenings. The peaks are spaced about 90 minutes apart defining 90 minute sleep cycles.

Let's take a trip on this sleep 'roller coaster' ride that is mapped out in the diagram.

- ▶ When you first fall asleep at night you enter light sleep for a few minutes. This is named Stage 1 sleep and is considered light sleep because it is easy to wake the person. If you awake from Stage 1 sleep you will probably still feel alert and may doubt that you had been asleep. But you were. Have you ever denied your spouse's claim that you fell asleep while watching TV? Can you remember the content of the program? Were you aware that you were snoring? Even though you can quickly awake from Stage 1 sleep, you actually had lost contact with the external world - you were asleep. If sleep continues, you will then descend into intermediate Stage 2 sleep for about 20 to 30 minutes.
- ▶ Then about 40 minutes after falling asleep you descend further to the deep stages 3 and 4 of sleep - the deepest valley of the first sleep cycle. This is when your sleep is working most effectively to rejuvenate you for the next day. It is most rapidly, paying off your sleep debt accumulated during your 16-18 hours of being awake across the day. It is more difficult to awaken you from deep sleep than at other times during the night. But if awoken, you will feel confused and groggy and definitely know that you had been asleep. However, because deep sleep is protected from being disturbed, we rarely awaken from deep sleep to experience it directly. This is often true of people we treat for insomnia who claim they never have deep sleep. Yet they do have these deep sleep stages, they just don't awaken from it and have no direct experience of it.
- ▶ After a time in this deepest sleep, your brainwaves then start to show lighter sleep. You are on the "up-slope" to the first hill of the roller-coaster ride. Then a few minutes later, about 90 minutes after falling asleep, the brain waves change to an active pattern similar to someone who is awake with eyes darting about – this is Rapid Eye Movement (or REM) sleep. REM sleep is typically when dreaming events occur and for that reason is sometimes referred to as Dreaming sleep.
- ▶ You are now at the top of the first hill in the roller-coaster ride. This is the end of the first 90-minute sleep cycle. If you awaken now, you will feel alert – the body and brain are geared for action and emotion. It may take a while to get back to sleep because of these processes which are part of normal REM sleep.
- ▶ The first episode of REM sleep is usually brief, lasting only 5 to 10 minutes. It is then followed by another sleep cycle with the gradual descent into deeper sleep and then ascent into the second REM period after another 90 minutes – now about three hours after you first fell asleep. However, this second dip of the 'roller coaster' ride is usually not as deep as the first.
- ▶ Towards the end of the night the difference between dips and peaks decreases just as the thrill of a roller coaster ride tends to diminish with decreasing dips and peaks towards the end of the ride. Also, each dip of the roller coaster ride has progressively less deep sleep and each peak has progressively more REM sleep. After about five of these 90-minute sleep cycles, you

complete your usual night of sleep (end of the 'roller-coaster ride'). This usually adds up to a total of about seven to eight hours of sleep for an average young adult.



The typical sleep pattern of a normal, healthy adult.

Some interesting facts about REM sleep

- ▶ REM stands for Rapid Eye Movement. That is because during this stage of sleep, with your eyelids still closed both of your eyes flick from side to side or up and down, as they would if you were watching a movie – your dream.
- ▶ Some people say they never dream. This is probably not so – approximately 25% of our sleep is REM sleep. However, we don't become aware of our dreams or remember them unless we actually wake up out of REM sleep. It is more likely that people who can't recall dreams simply do not wake up from REM sleep. Also, unless we think about our dream immediately upon awakening, we usually forget the content by the morning.
- ▶ As our REM sleep episodes become longer and contain more rapid eye movements toward the end of the night, our dreams become more vivid and bizarre. Some people can get concerned about the weirdness of their dreams and worry about whether the dream has some unconscious meaning. What we do know is that these fantastic dreams are a normal part of REM sleep and that fantastic and bizarre dreams most commonly occur in psychologically healthy people.
- ▶ There are also other biological changes in REM sleep: there are increases in our heart rate, breathing rate, blood pressure, and blood flow to the brain. That is why you may sometimes wake up feeling alert. You may wake at 3 a.m. but feel so alert that you actually think it is time to get up. That is a result of waking out of REM sleep and not a sign that you have had enough sleep for the night.

- ▶ The biological effects of REM sleep mimic what is called the “Fight-or-flight” response. This is the body’s response to prepare it for action when we perceive some threat to our welfare. This may be a real danger as would be a car that swerves into a collision course with your own car. Or it could be a worry that you may not be able to complete a commitment you made to someone important and thereby damage your reputation or sense of self, or a worry that you have been awake for a long time and will suffer tomorrow for loss of sleep. It is paradoxical that we are still asleep and out of contact with the world despite this activated body physiology.
- ▶ If you wake up from REM sleep not only will you feel alert but you might feel agitated and perhaps worried. This is due to the body’s Fight-or-flight response which is a normal component of REM sleep. However, during this time you may be especially vulnerable to focusing on events in your life that could cause some worry. In other words the brain is searching for reasons that you feel worried even though the ‘worry’ is only part of the REM physiology and not really a response to your practical concerns. Have you had this experience but then looked back on it the next day to wonder why you were so worried in the middle of the night? This happens to most of us on occasion. It happens more frequently in those with insomnia. It can be helpful to comfort yourself that the feeling of worry was likely to be a by-product of normal REM sleep rather than an issue that justifies such a strong feeling of worry.
- ▶ Interestingly, during REM sleep your large body muscles are paralysed. The loss of muscle activity is a good thing because REM is the stage of sleep during which our most active dreams occur. This REM sleep paralysis effectively stops you from acting out your dream experiences. A common experience in dreams is feeling somewhat paralysed when trying to run from a threat or jump out of harm’s way. This is the REM sleep paralysis in action.
- ▶ So, isn’t sleep walking and talking related to dreaming? No, strangely enough, they actually occur in deeper non-REM sleep.
- ▶ In REM sleep our body’s temperature regulating mechanism temporarily stops working. If your bed is a bit too warm for you, the loss of temperature control means that your body temperature starts rising. Following a longer REM sleep period towards the end of the night our temperature regulating mechanism (sweating) starts working again to cool us down and we can wake up hot and sweaty. If this happens frequently, try reducing your total amount of bed cover.
- ▶ Studies in normal, healthy males and females show that sexual arousal occurs in REM sleep. Men may wake from REM sleep with an erection and for both men and women, REM sleep can be associated with sexual dreams.

The old saying “your best sleep is before midnight” is probably referring to the fact that our deepest sleep occurs during those first three hours or the first two 90-minute sleep cycles. But, there is nothing magical before midnight - no matter what time you go to bed, you will have deep sleep in the first few sleep cycles.

Have you ever experienced a jolt or big body twitch as you are falling asleep – as if you have been startled if you trip over something? This is called a hypnic jerk (or sleep start) and can occur sometimes during light stage 1 sleep, but is considered harmless. Its causes are unknown but insufficient sleep, caffeine and nicotine might increase them.

Awakenings during normal sleep?

- ▶ It is very important to be aware that awakenings are a normal part of the sleep cycle. Although good sleepers may feel that they have had a ‘solid’ sleep through the night, normal sleep usually contains several brief awakenings. Sometimes you are aware of these awakenings and other times you may just roll over or change your sleep position and not remember the awakenings in the morning.
- ▶ Awakenings usually occur out of lighter sleep (Stage 1, 2, and sometimes REM) – about every 90 minutes across the night. If the awakenings are brief (less than 2 to 3 minutes) and do not involve getting out of bed, they are usually forgotten. Awakenings are more frequent and generally longer towards the end of the night when sleep is lighter.
- ▶ Wouldn't it be better to stay asleep even though awakenings usually occur out of light sleep? It has been shown that light Stage 1 sleep produces little or no benefit in “paying off sleep debt” and how you feel the next day. Since most brief periods of wakefulness across the night mainly interrupt Stage 1 sleep, they are no loss to the sleep period. There is no difference between Stage 1 sleep and brief wakening in terms of how you feel the next day.
- ▶ If you're spending a longer time in bed than normal, you will be aware of more awakenings and more time awake. This will not necessarily affect you during daytime hours unless you spend that time worrying or feeling anxious, especially about being awake.

Why is sleep like a roller coaster ride? This sleep pattern is experienced by all humans, mammals, birds, and most other species. We can only speculate about this question but some have suggested the awakenings serve to “check out” the environment for any possible dangers. But aren't we vulnerable during the deep sleep periods of the night and in danger then? Yes, but throughout most of human existence our ancestors typically slept at night in family groups. Individual bedrooms are a modern creation. In sleeping family groups, particularly those with older adults as you will see later, it would almost be automatically guaranteed that someone would be awake or in light sleep. This would automatically provide an inbuilt sentry system to protect the family from possible dangers during the night. If this is the reason that awakenings were built into the sleep period, then we should think more kindly towards those awakenings. If our ancestors did not have them for protection, they may not have survived and we, personally, may not have existed. Think about it.

Mental activity ('thinking') during sleep

Have you ever had a night full of thinking? In the morning you recall that your mind seemed to be active a lot, although you cannot remember very much. Most people would say that was not a good night of sleep. Some would even say they didn't sleep at all. How does this occur and does it mean you had a bad sleep?

It appears from research studies that mental activity is occurring most of the time you are asleep. When people are awoken from sleep they usually recall mental activity that had been taking place just before being awoken. It is usually only a few seconds worth of 'thinking'. Therefore, it appears that mental activity is present almost all the time, it lasts for only a few seconds and then fades out of memory. So if you do not awake, there is no experience of this mental activity and no memory of it having occurred.

The nature of the mental activity depends on the stage of sleep and how long you have been asleep. Only in the deepest sleep stages early in the sleep period do awakenings fail to get reports of much mental activity. However, awakening out of intermediate stage 2 or lighter stage 1 sleep will almost always reveal mental activity. It may be a simple visual scene, a snippet of other sensory effect, or experience of a simple incident in your life. Awakening out of REM sleep will usually recall a more vivid, bizarre, story-like experience we call a dream.

Since awakenings across the night usually occur out of the lighter stages of sleep containing this mental activity, several brief awakenings across the night can give the impression of a night full of mental activity. This impression is heightened by the fact that sleep is a period of no memory

of this mental activity. Thus you would be comparing many snippets of memories in contrast with the nothingness of sleep making it likely that the impression of wakefulness was much more prominent than your sleep. Sleep leaves no impression.

How is this relevant to the development of insomnia?

If you have a few brief awakenings across the night maybe accounting for only 15 minutes of total wake time, this is a common example of normal, satisfactory sleep. However, your estimate of the amount of wake time is likely to be much longer than 15 minutes given the contrast of the memory of this mental activity with nothing from the actual sleep time. Thus your estimate of time awake is likely to be much more than 15 minutes, perhaps 30 minutes to an hour. You have underestimated how much sleep you got. This might lead to concern or worry about your estimated 6 hours of sleep in the context of being told you should get 7-8 hours of sleep per night. If these experiences occur frequently, the worry can intensify, the awakenings become longer, and insomnia may develop.

The underestimation of sleep length is magnified by another process related to awakenings during the night. Our research has shown that awakenings from sleep are often mistaken as continuous wakefulness, not an awakening from sleep. This might be due to mistaking that sleep mental activity for being awake. In good sleepers this happens about 30% of the time, but very often (70%) in people suffering chronic insomnia. Then if a person has a couple of brief awakenings (say an hour apart), if the second awakening is not seen as an awakening out of sleep but instead as a continuation of the first awake period, they would miss that intervening sleep and underestimate their sleep by an hour.

People with chronic insomnia typically underestimate their sleep by 1-2 hours and guess their total sleep to be 4-5 hours whereas it may actually have been 6-7 hours, closer to the normal amount. The reason for this honest mis-judgement is likely to come from perceiving an awakening from sleep as simply continuous wakefulness from the previous wake period.

Now with this new information about the nature of sleep mental activity, you may be able to re-assess what is happening to you across the night.

❓ Questions?

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Sleep Across The Life Span

How much sleep do I need?

- ▶ How often have you heard or read the advice “you should get 8 hours of sleep at night” as if we all required the same amount of sleep? Many things determine how much sleep will satisfy our individual needs for sleep.
- ▶ Sleep need varies between individuals just as other physical characteristics such as height and hair colour. Some people need only 6 hours sleep to feel fine during the day, however someone else may need 9 hours.
- ▶ Also there are normal changes to sleep as we age just as there are in other biological respects such as the decrease in resting metabolic rate, resilience of skin, and hair colour. Amount of sleep changes across our life time reducing from about 16 hours at birth, to 10 hours in children, 9 hours in adolescence, about 8 hours in early adulthood and 6-7 hours in older people.
- ▶ Our sleep, to some extent, is flexible and responds to the demands and obligations in our lives and this may vary from time to time. During busy periods sleep is likely to be shorter but without noticeable detriment to our productivity during the day.
- ▶ Are you getting enough sleep? The best guide is how you feel and function during the day. If that is good, then even if your sleep is shorter than average or interrupted with awakenings, your sleep is adequate and you do not have insomnia. However, if you are having regular difficulty getting to sleep or with long nocturnal awakenings and you experience daytime impairments such as fatigue, irritability, mild depression, or memory difficulties, then you are experiencing insomnia.

Sleep in adolescents

- ▶ Research suggests that adolescents need 9 hours sleep on average. However, anyone with a teenager in the household knows that they rarely get that amount of sleep, especially on a school night.
- ▶ Adolescents typically experience changes to their sleep and waking patterns that can cause problems. They tend to become more ‘evening types’, usually going to bed at least 2 hours later than pre-adolescents. During the school week when they have to wake early, they typi-

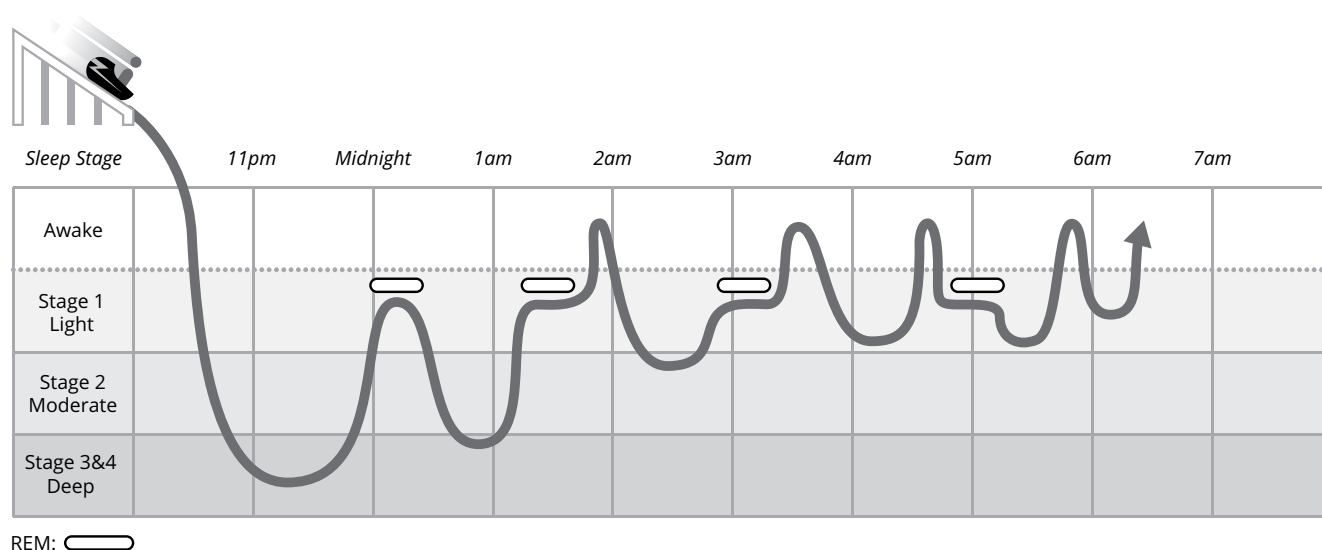
cally get an insufficient 7 hours sleep. It is difficult to get then up in the morning, and they can feel very sleepy until mid-morning. To catch up on this lost sleep, teenagers often sleep-in late on weekends. However, this practice actually causes a further delay of their sleep pattern that will then lead to more difficulty falling asleep at night and feeling sleepy in the morning.

- ▶ These changes may be partly biological. It is suggested by some researchers that during adolescence the body clock stretches out in time leading to a tendency to not feel sleepy until later at night and thus delay bedtime. With a fixed wake-up time for school or work, sleep is lost and increasing daytime tiredness results. This can have detrimental effects on learning and healthy personality development.
- ▶ Other contributing factors to reduced sleep are increased academic and social pressures. Teenagers have more homework and perhaps after-hours sport or even part-time work competing for their time. Also they are very likely to have electronic devices (smart phones, tablets, computers) that keep them occupied on the internet with social networks and computer games in their bedroom that are often used late into the night. Today's teenagers have historically record levels of demands and attractions competing for their time against their need for sleep. Chapters 7, 9, 11 and 12 are relevant to this problem.

Sleep in the older person

- ▶ It has recently been scientifically confirmed that the need for sleep in healthy individuals declines with age. Between the age of 20 and 70 years the sleep normally obtained by healthy, active people declines from an average of 8 hours to 6.5 hours. Therefore, sleep need drops about one and a half hours across this age range with no detrimental effect in the older age group.
- ▶ Besides changes in the amount of sleep that an older person needs, there are also changes in their sleep pattern. As you can see from the diagram below, deep sleep reduces as we get older. At the same time there are increases in light sleep stages and this tends to produce more and longer awakenings. Therefore, awakenings are a normal part of the older person's sleep pattern.
- ▶ Many older people also have an early-timed body clock. That is, they can feel very sleepy in the early evening and may doze off in front of the television. When they finally go to bed they fall asleep quickly. However with an early timed body clock there is an early timed morning awake zone that may start as early as 4 a.m. This can wake them too early without getting sufficient sleep. (See the diagram for Early Timed Body Clock in Chapter 4).
- ▶ If older people are not aware that these changes are normal, they can worry and become anxious, and this anxiety can actually lead to insomnia. The prevalence of insomnia and the use of sleeping pills is greater in the older population. This may be partly due to the misun-

derstanding of the normal changes of sleep with aging. Therefore, a better understanding of the normal sleep pattern of healthy older people could help to reduce insomnia and drug use.



The typical sleep pattern of a normal, healthy older adult.

Menopause and sleep

Large surveys show that up to 64% of menopausal and postmenopausal women have poor quality sleep. Their main sleep problems are difficulty initially falling asleep and night-time awakenings. The awakenings may be often associated with hot flushes. Although these may be uncomfortable, most of them last only a short time. However, any regular disturbances from sleep, including those associated with hot flushes, can lead to the development of insomnia that prolongs the difficulty getting back to sleep. Chapters 9 and 10 will be helpful in this case. Menopause may also be associated with snoring and daytime sleepiness – symptoms of Sleep Apnoea (refer to Chapter 16).

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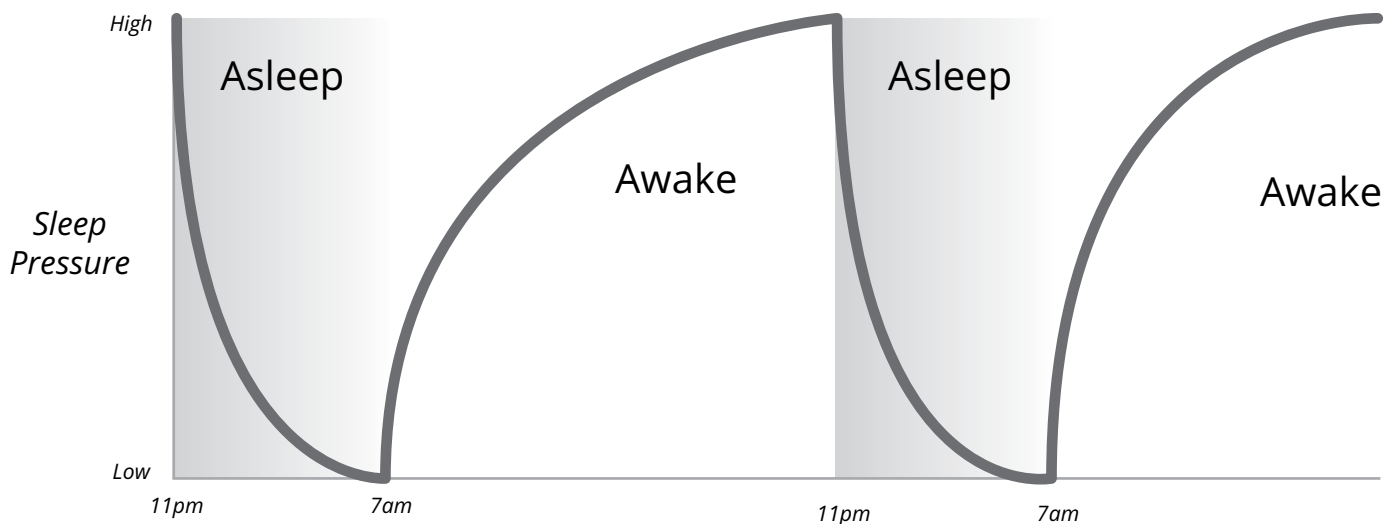
Why Do We Sleep At Night?

Now that you know what actually happens across the sleep period, let's look at what determines when we sleep. There are two biological determiners of sleep, sleep pressure and circadian rhythms.

Sleep Pressure

One process that makes us sleep operates like other biological drives – the longer you go without it, the stronger the pressure to get it. Just as the longer you go without food the hungrier you get, the longer without sleep the sleepier you will get. This is true for good sleepers as well as those with insomnia. Therefore, this sleep pressure mechanism is used in some of the therapies we describe later for Sleep Onset and Sleep Maintenance Insomnia (Chapters 10,11).

The Sleep Pressure mechanism can be illustrated in the drawing below:



If you have adequate sleep, it means that sleep pressure or drive has reduced to a very low level or close to zero. When you wake up and stay awake, sleep pressure steadily increases across the time you are awake (such as from 7am until 11pm for a typical sleeper). Then when you sleep for the period from 11pm to 7am sleep pressure decreases. The decrease is rapid at first indicating

the effectiveness of the deeper sleep stages 3 and 4 in the early part of the night and less rapidly towards the end of the sleep period containing mainly lighter sleep.

The Water Bucket Model of Sleep Pressure

- ▶ The build up of sleep pressure the longer you stay awake is like the filling of a bucket with a dripping tap. When you wake in the morning, you have no sleep pressure, that is, you have emptied your 'sleep pressure' bucket. But as the day progresses sleep pressure builds as if a slowly dripping tap is steadily filling the water bucket.
- ▶ As you stay awake the water level gets higher and so does the water pressure at the bottom of the bucket equivalent to your getting sleepier.
- ▶ When you finally fall asleep, it is like opening a valve at the bottom of the bucket to release the water. With a full bucket (after a long day awake) the water spurts out of the bottom with a large force. This represents the deeper sleep in the first few hours of sleep. However, as the bucket empties over the sleep period, the water pressure reduces and the water escapes with less force through the valve at the bottom of the bucket. The water level drops more slowly, until the last bit of water just dribbles out of the bucket. This represents the lighter sleep of the last hour or two of the sleep period.

Sleep Deprivation Experiments

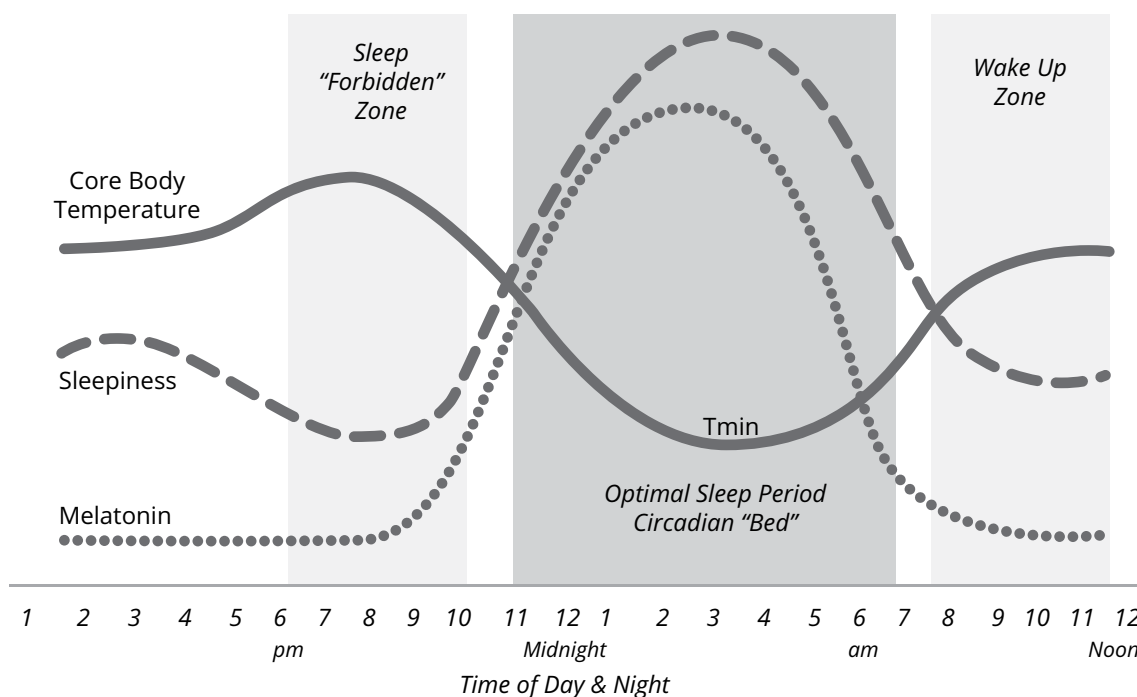
A lot of research experiments on healthy, good sleepers have been carried out to deprive them of sleep for one, two, and up to six days and nights. In fact the Guinness Book of Records lists Randy Gardner with eleven days and nights without sleep. Most of these studies have showed some detriments in mental performance tests that become more pronounced the longer the deprivation. However, these tests tend to be long and boring and require continuous attention to the test to score well. All of these performance losses can be attributed to loss of attention and micro-sleeps that are due to the increasing sleep pressure from the sleep deprivation. The obvious and pronounced effect of sleep loss is an increase in sleepiness and sleep pressure. After recovery sleep all of these effects disappear and performance returns to normal. Even Randy Gardner could still play exciting computer games at normal levels after many days of sleep loss. His recovery only required a few nights of extra sleep, much less (about 9 hours) than the amount he "lost" (90 hours).

People with insomnia also react to sleep loss in the same way. One of our own experimental studies required total sleep loss for 36 hours (from one morning to the beginning of the second night). Even though they reported an average of an hour to get to sleep before the experiment, during the sleep deprivation the time taken to fall asleep reduced down to about five minutes. Their recovery sleep on the second night was long, robust, and refreshing. Although we are not recommending this procedure since it is still experimental, we mention it to illustrate that even people with insomnia have a sleep mechanism that builds up sleep pressure with sleep loss and a subsequent recovery sleep.

Circadian Rhythms

The second biological process has an equally strong effect on our sleepiness and alertness.

- ▶ We all have a biological clock situated in our brain that influences the timing of all our bodily rhythms. Functions such as hormonal secretions, heart rate, and body temperature as well as our sleepiness and alertness vary regularly (up and down and up again) completing one cycle over a period of 24-hours. Therefore, these regular rhythms are called circadian (circa=about, dian=day) rhythms. The figure below shows the circadian rhythms of core body temperature, melatonin levels, and sleepiness across the 24-hour day for a person with a typical sleep period from 11pm to 7am.



asleep easily at about 11p.m. and sleep until about 7a.m. (as in the figure above). If you are trying to sleep at a time that is not compatible with your internal body clock, this can cause a sleeping difficulty that could develop into insomnia.

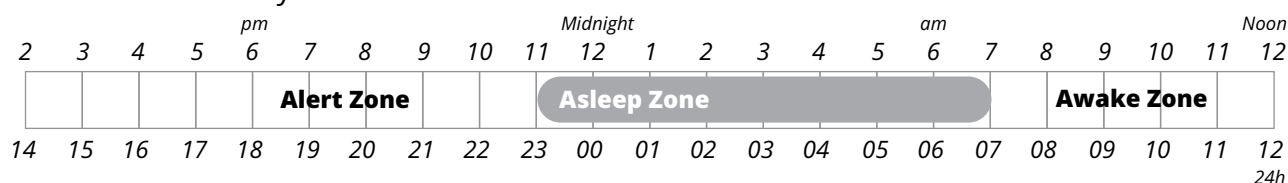
- Some people have a late timed (delayed) body clock and may sleep best between, for example, 2 a.m. and 10 a.m. (as in the figure below). This can cause problems if they try to go to bed at 11 p.m. They would be trying to sleep in their later timed alert or 'Sleep Forbidden' zone, making it difficult to fall asleep. Getting up at 7 a.m. in time for work or school will also be difficult as they have only had 5 hours sleep plus they will still be in their circadian sleep zone.

On the other hand, some people have an early timed (advanced) body clock. They feel very sleepy in the early evening and usually fall asleep in front of the television. When they finally go to bed (still at an early hour), they fall asleep quickly. However, they will wake early (e.g. 3-4 a.m.) in their 'Awake' zone. They too may suffer insufficient sleep.

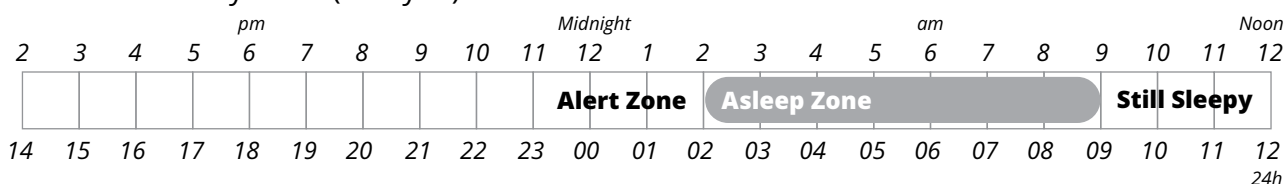
- Others who experience difficulties with the timing of their body clock are overseas travellers who experience jet lag and night shift workers who can have difficulty sleeping during the day because their attempted day time sleep period is 'out of sync' with their circadian body clock.

Graphical representation of the sleep patterns of a normally timed, late timed, and early timed body clock

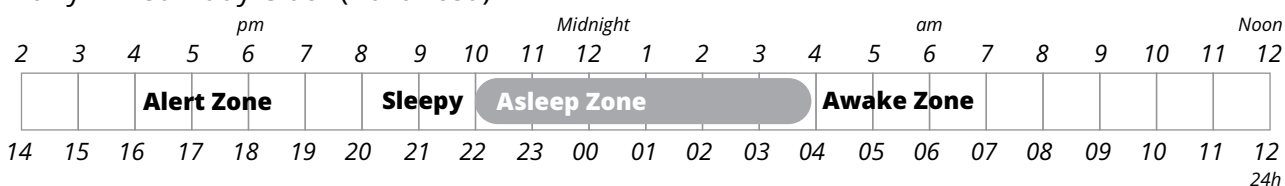
Normal Timed Body Clock



Late Timed Body Clock (Delayed)



Early Timed Body Clock (Advanced)



'Owls' and 'Larks'

Not all biological clocks are set to the same time.

People who have clocks timed later are evening types, or 'owls'. Most owls enjoy the evenings when they feel the best. Perhaps that explains why they like to stay up even later - to prolong this good feeling. When attempting to get to sleep at an earlier, more conventional time, owls can find themselves lying awake for a long time before falling asleep. However, in the mornings owls tend to be lethargic and sleepy and only become gradually more alert and energetic later in the day. People with a late body clock may have Delayed Sleep Phase (see chapter 7 – Sleep Onset Insomnia). This is particularly a problem for those who wish to fit into the 9 a.m. to 5 p.m. daytime schedule but find it very difficult to do so. The owl is consulting with friends on his Wi Fi screen device late at night with the likely result it will delay his body clock even further.

People with a clock that has an early setting are called 'larks' or morning types. They have the opposite experience. They tend to feel most alert and energetic in the morning soon after waking. However, they get sleepy and lethargic in the evenings and enjoy going to bed early. They may have a sleep problem of waking earlier than intended and not get sufficient sleep. These individuals may have Advanced Sleep Phase (see chapter 8 – Early Morning Awakening Insomnia).

❓ Questions?

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5

Insomnia

Short-term insomnia

About 50% of the population experience short-term insomnia in any one year. Short-term insomnia can last from a few nights to a few weeks and usually arises from an event that causes some distress, anxiety or excitement. You can have shorter and lighter sleep before any important event such as before an exam, starting a new job, your wedding or even before a holiday. This is the body's normal response to some life disturbance or stress and is therefore perfectly normal. In fact, the decrease of sleep you experience during this period will build up sleep pressure that will help bring sleep back to normal when the stressful life event is fixed or passes.

However, it is not surprising that during these events, you might worry about this interruption to your sleep and how this may affect the way you cope during the day. You might attempt to get more sleep by spending more time in bed. Unfortunately, this is likely to result in more time awake in bed worrying. A better response would be instead to spend less time in bed to match this shorter sleep, and spend the extra time awake dealing with the problem or the extra demands in your life.

Long term (Chronic) insomnia

In some cases, even after the original source of stress has passed, the insomnia can linger on and develop into a more chronic insomnia. How can this happen?

During a period of short term insomnia, the bedroom environment starts to become associated with poor sleep. The 'bedroom environment' includes the bed, bed clothes, the bedroom, lying down, darkness, closing your eyes, the time of night, your intentions to sleep, your bed partner, etc. Get the idea? It can be anything that is associated with your frustrated attempts to sleep.

Instead of your bed environment being conducive for sleep and feeling relaxed, it can become a trigger for feelings of frustration and anxiety. This process occurs when there are numerous occasions when the bedroom environment is associated with wakefulness, worry and frustration. Worry and frustration lead to alertness that will decrease your ability to fall asleep.

Eventually, after many of these associations, just going to bed can trigger feelings of alertness. For example, you may be sitting quietly watching television and be feeling very sleepy. However

when you go to bed and as soon as your head hits the pillow, you feel wide awake and are less able to fall asleep than when you were earlier watching TV when you were not intending to fall asleep. The triggering of alertness when you go to bed has become a habit, not by choice, but simply as a result of this association process.

The same thing can happen after an awakening in the middle of the night and leads to difficulty getting back to sleep. All patterns of chronic insomnia, no matter what the initial cause, probably contain a component of conditioned or learned (habit) insomnia. This process of changed responses through conditioned learning has been comprehensively researched and understood by the field of scientific psychology over the last century. Its application to insomnia and its treatment has been over the last 40 years.

Faced with these difficulties people with insomnia often attempt to compensate by spending longer in bed. However, this usually results in more time awake in bed feeling anxious about being awake which strengthens the association of bed and worry, and intensifies the insomnia. Thus some of these attempts to compensate for poor sleep (e.g. spending more time in bed) can be counterproductive and become a bad habit, a habit that can be changed by the behavior therapies described in Chapters 10 and 11.

Types of Insomnia

There are different types of insomnia. Some people have difficulty falling asleep at the start of the night while others fall asleep quickly but wake after an hour or so. It is important for you to identify what pattern of sleep disturbance you have in order to determine the appropriate treatment.

We have described some typical insomnia patterns below. You may have that one problem alone, or you may find your insomnia fits into more than one category. For example, some people experience difficulty falling asleep as well as long night-time awakenings.

Sleep Maintenance Insomnia – this means difficulty maintaining sleep, in other words, the experience of long or many night-time awakenings. Some people experience a lot of awakenings during the night or one long wakeful period. Night-time awakenings are part of the normal sleep pattern, particularly in older adults, however, these awakenings are usually brief. If the awakenings are prolonged and associated with daytime tiredness, this is called sleep maintenance insomnia.

Sleep Onset Insomnia – this means difficulty falling asleep at the beginning of the night. Difficulty falling asleep is a common problem. It is often a symptom of conditioned (learned) insomnia. Some individuals have difficulty falling asleep but have no difficulty waking at an early time in the morning. However, others have trouble going to sleep at night and also find it difficult to wake up in the morning. This last combination of difficulties may indicate a delayed body clock as the problem or part of the problem (See also Chapters 7 and 12).

Early morning awakening insomnia – this means being unable to fall back to sleep after waking early in the morning. You may fall asleep easily in the evening however you may wake too early in the morning (between 3 to 5 a.m.) and be unable to fall back to sleep without getting sufficient sleep (See also Chapters 8 and 12).

What type of insomnia do I have?

To assess which type of insomnia you have it is important now for you to complete the one-week sleep/wake diary attached at the end of this book.

You may think you have a particular sleep problem however by completing the sleep diary each night and morning over a week you will have a better awareness of your actual sleep pattern. You will also see the variability of your sleep from night to night. Also, you will become aware of other things you do during the day that can affect your sleep.

The Sleep Diary

- ▶ On the sleep diary, each day is represented by a graph.
- ▶ Each graph starts at 9 a.m. and finishes at 9 a.m. the next day, that is, 24 hours (the example below is a condensed version of the graph – it goes from 3 p.m. to 10 a.m.).
- ▶ The sleep period will normally occur near the middle of the graph.

For example, you may start on a Monday – the first graph will be Monday morning, Monday night's sleep and your awakening on Tuesday morning. The second graph will be Tuesday daytime, Tuesday night's sleep and Wednesday morning's awakening and so forth.

During the day

- ▶ Using the letters below, record the following activities.

C – caffeine – one C for each cup or glass of caffeine containing drinks

(coffee, tea, cola, Red Bull etc.)

A – alcohol – one A for each standard alcoholic drink

F – food, usually a meal

E – exercise

When you go to bed

P – if you used a sleeping pill, place a P at the time you took the pill.

Place a 'down' arrow ↓ at the time you go to bed

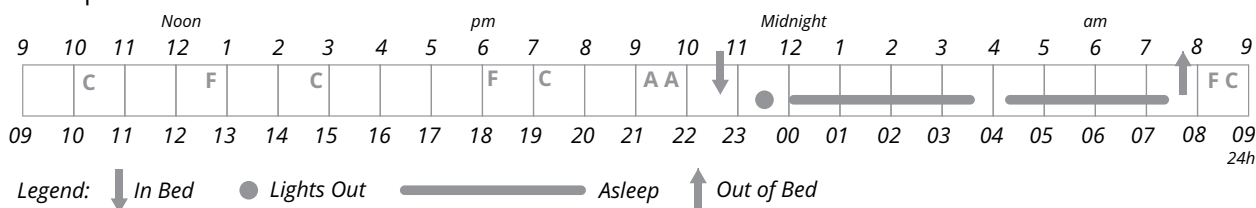
Place a big dot ● at the time you turn your lights out. For those who read or watch TV in bed, this will be later than the down arrow indicating bed time.

When you get up in the morning

- ▶ Draw a line across the graph for the time you think you were asleep
- ▶ Leave gaps when you think you were awake
- ▶ Mark the time you got out of bed with an 'up' arrow ↑

⚠ Don't 'clock watch' – just estimate times!

Example



i Don't forget to now fill out your sleep diary for a week!

See the end of this book for your Sleep Diary worksheet.

? Questions?

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<http://re-timer.com/about/contact-us/>

6

Sleep Maintenance Insomnia

Many people experience a lot of awakenings during the night or one long wakeful period. If the awakenings are prolonged and associated with daytime tiredness, this is called sleep maintenance insomnia.

One common cause of night-time awakenings is conditioned insomnia described in chapter 5. An awakening triggers an alerting response. Worrisome thoughts of not being able to fall back to sleep as well as thinking about how you will cope the next day tend to increase your alertness.

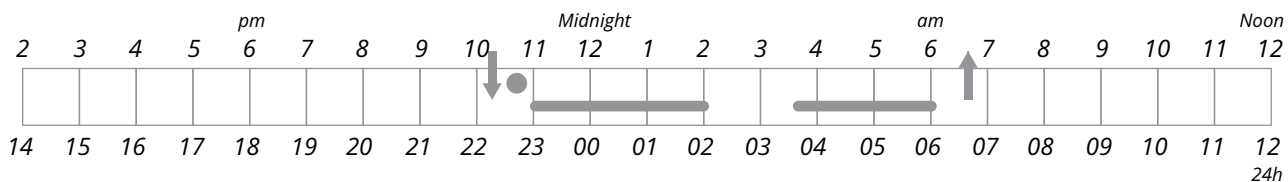
Roger is a 63 year-old man who is semi-retired. He likes to go into the office once or twice a week.

Roger has had insomnia for many years. He remembers experiencing long awakening in the night when he first started his job. He would lie awake and worry about things that happened at work and things he needed to remember for the next day.

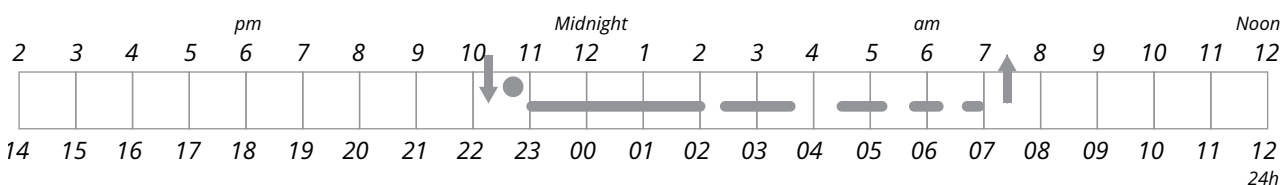
Roger usually has no trouble falling asleep. He goes to bed at 10:30, reads for about 15 minutes until drowsy and turns out his light about 10:45 p.m. He is usually asleep within 5 minutes. However, after about three hours, Roger wakes. He goes to the toilet and then goes back to bed. He then feels he is awake for hours. He eventually falls back to sleep about 4 a.m. but wakes just after 6 a.m. and although he stays in bed until 7 a.m., he is unable to fall back to sleep. During the day he feels tired and has difficulty concentrating.

When he wakes in the morning he starts to worry about how he will cope at work. Sometimes he decides not to go to work following a poor sleep.

Below is a typical night sleep for Roger. Although Roger is in bed for 8.5 hours, he is only getting about 5 hours sleep. Therefore, Roger is asleep for only about 60% of the time he is in bed. A 'good sleeper' is asleep for about 90% of the time spent in bed. For a 'good sleeper' bed is associated with sleeping, however for Roger, bed is associated with worrying and thinking.



Another type of Sleep Maintenance Insomnia involves many shorter awakenings as shown in the sleep graph below. In this example, the person is again in bed for 9 hours but is only getting about 6 hours sleep.



Suggested Therapy

To improve his sleep pattern, Roger followed a regime of Bedtime Restriction described in chapter 11 and tried to change his thoughts about sleep (Chapter 13).

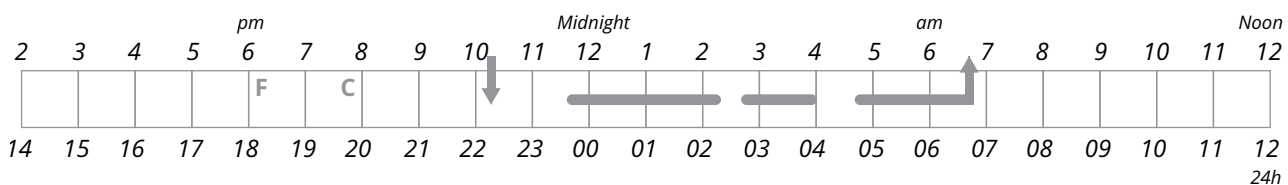
Sleep Maintenance and Sleep Onset insomnia

A very common sleep problem is not only night-time awakenings but also difficulty falling asleep at the beginning of the night.

Nicole is a 47-year-old woman with two adult children (18 & 20 years old) who still live at home with her. She works full-time as an Administrative Officer. Nicole used to be a good sleeper but felt her sleeping difficulties started after the birth of her first child. Each night she felt she was ‘on alert’. Most nights Nicole has difficulty falling asleep. Although she feels sleepy when she is watching TV in the evening, as soon as she goes to bed and turns out her light (around 10:30 p.m.) she becomes alert. Her mind is active – she can’t seem to ‘switch off’. She thinks about her work, what happened during the day and what she has to do the next day. When her children go out she worries about them until they come home.

She sometimes gets up if she is not asleep within an hour, goes to the toilet and then may make herself a cup of tea before going back to bed. She eventually falls asleep by about midnight. However usually she is awake again at 2 a.m. and takes about 30 minutes to fall back to sleep. She often wakes a couple of times during the night. Nicole sets her alarm for 6:30 a.m. to get ready for work. She only gets about 5.5 to 6 hours sleep most nights. She feels exhausted during the day and finds she gets quite irritable at little things. She feels cheated by the loss of sleep and hopeless that there seems to be nothing she can do to improve her sleep.

Nicole's sleep pattern



Suggested Therapy

Nicole also spends a lot of time in bed compared to the time she is asleep. Bedtime Restriction (Chapter 11) will help her to fall asleep quickly and consolidate her sleep. Nicole should also learn a relaxation technique (see Chapter 14) and replace her night time cups of tea with a non caffeine drink (see Chapter 10).

Other causes of Sleep Maintenance Insomnia

Night-time awakenings can also be associated with Sleep Apnoea and Periodic Limb Movements in Sleep (see Chapter 16). If you have clinical symptoms of these disorders, it would be advisable to get these checked by referral to a Sleep Disorders Centre (see information link in Chapter 16). In the meantime the suggested therapies above will still be helpful.

Symptoms, Diagnosis, Therapies

On the next page is a complete diagnosis and treatment plan for all the types of insomnia. We have indicated the symptoms that Roger has with arrows pointing to the most likely diagnosis and therapies or actions that are appropriate for his type of insomnia. In the later examples only the relevant boxes will be shown.

Symptoms

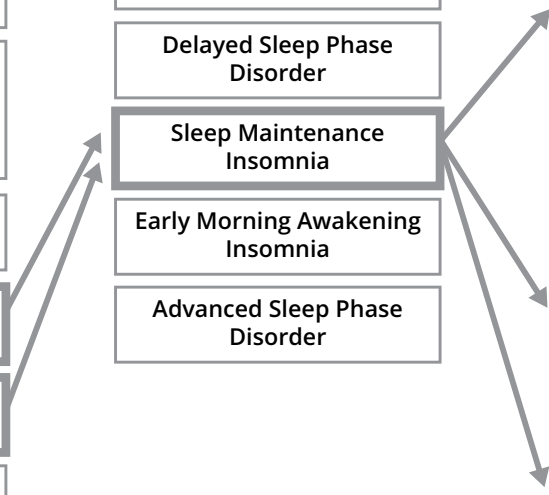
Difficulty falling asleep at any time
Difficulty falling asleep at conventional times but much less difficult at later times
Able to sleep late in the morning
Long / many night-time awakenings
Daytime fatigue & exhaustion
Waking too early before intended wake-up time
Falling asleep before conventional bedtime
Heavy snoring and lapses of breathing in sleep
Overweight especially around the neck and chest
Unable to keep still for long, strong urge to move legs
Frequent (every 20-30 sec) twitching of legs during sleep
Excessive daytime sleepiness

Diagnosis

Sleep Onset Insomnia
Delayed Sleep Phase Disorder
Sleep Maintenance Insomnia
Early Morning Awakening Insomnia
Advanced Sleep Phase Disorder
Obstructive Sleep Apnoea
Restless Leg Syndrome
Periodic Limb Movements in Sleeps
Narcolepsy, sleep attacks, cataplexy
Inadequate Sleep opportunity

Therapies or Actions

Sleep Education & Good Sleep Practices Chapter 10
Stimulus Control Therapy
Morning Bright Light Therapy
Bedtime Restriction Therapy Chapter 11
Relaxation Training
Cognitive Therapy Chapter 13
Evening Bright Light Therapy
Referral for sleep recording at sleep clinic
Extended time in bed consistently



7

Sleep Onset Insomnia (Delayed Sleep Phase)

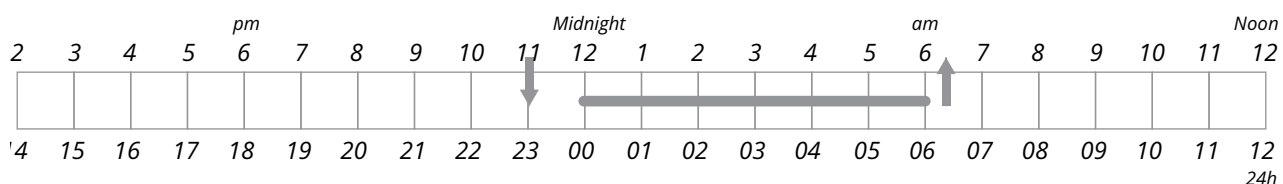
Sleep onset insomnia can have two main causes, conditioned insomnia (see Chapter 5) and a late timed body clock (delayed circadian rhythm) (see Chapter 4).

For some people the body clock delay is the biggest problem but for others it is the conditioned insomnia. It is important to work out what problems may be contributing to the insomnia in order to include the appropriate treatments.

Below are two examples of clients who experience sleep onset insomnia but due to different 'causes'. The main contributor to Lisa's sleep onset difficulty is conditioned (learned) insomnia whereas Michael's main difficulty is a Delayed Sleep Phase due to a delayed body clock.

Lisa is 32 years old, married with a 5-year old and a 7-year old child. She works part-time. Lisa is a typical busy woman. After she picks her children up from school, she tries to spend some time with the children while cooking the evening meal. After dinner, she washes the dishes then she and her husband get the children off to bed. Lisa spends the rest of the evening preparing for the following day – preparing school lunches, ironing, even doing a washing load. She feels exhausted but not sleepy when she sits down in front of the TV for a hour before bed.

Lisa's weekday sleep pattern

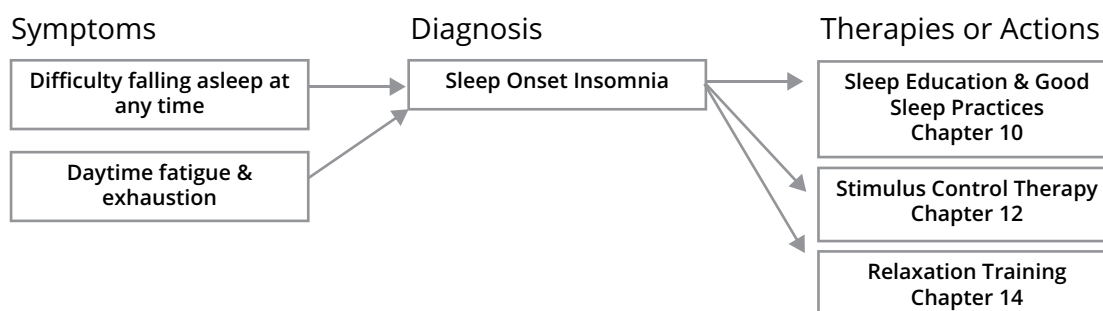


Lisa and her husband go to bed about 11 p.m. Lisa's husband falls asleep quickly but she starts to feel quite alert. She starts to think about things – no particular worries, just things such as what she needs

to do the next day. She feels very frustrated that her husband can sleep but she feels wide awake. She thinks this may be due to the greater number of responsibilities she takes on for the family, and she may feel some resentment at this. She tosses and turns in bed. Lisa finally falls asleep after about an hour. She gets up at 6 a.m. so she has time to get the children ready for school. On weekends, Lisa can sleep in a little later but is usually up between 7-7:30 a.m. On weekdays, Lisa only gets about 6 hours sleep and about an hour more on weekends. Because she feels fatigued and exhausted most of the time she would love to get more sleep. But Lisa doesn't feel she would be able to sleep-in or sleep during the day. She feels quite alert at 7:30 a.m.

Suggested Therapy

Lisa has conditioned insomnia. She should follow Stimulus Control Therapy instructions described in Chapter 12 and learn a Relaxation Technique (see Chapter 14) that she can practice in the evening before bedtime or in bed after turning out the lights.



Michael also experiences Sleep Onset Insomnia however the main cause of his insomnia is a delayed circadian rhythm (body clock) and with conditioned insomnia contributing to some extent. Michael is trying to sleep in his 'alert zone'.

Michael is a 28-year-old accountant who works full time in the city. He catches a bus to work and usually falls asleep on the bus in the morning and on the way home.

Michael complains of difficulty trying to fall asleep at night. No matter what time he goes to bed, he can't fall asleep until about 1 to 2 a.m. In the evening he doesn't feel sleepy and often works on his computer or plays computer games until about 11:30 p.m. when he goes to bed and 'tries to fall asleep'. He gets very frustrated and starts to worry if he will wake up in the morning on time and how

he will cope with his busy day. The longer it takes to fall asleep, the more worried he becomes knowing he will get even less sleep before he has to get out of bed in the morning to get to work. This pattern indicates some conditioned insomnia.

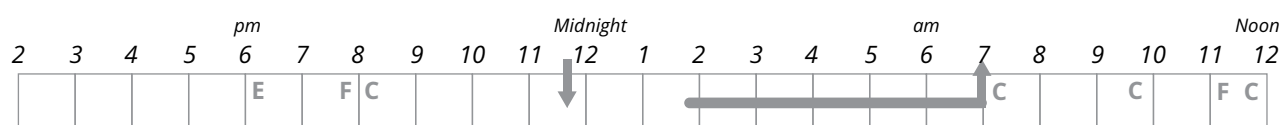
On weekdays, he sets his alarm for 7 a.m. but often sleeps through it. In desperation he actually sets 2 alarms, the second one on the other side of his bedroom so he has to get out of bed to turn it off. He gets about 5 to 6 hours sleep on week nights.

Generally Michael doesn't have time for breakfast, but he doesn't feel like eating anyway. He needs a strong cup of coffee 'to get him going' in the morning and feels he is not fully awake until about 10 a.m., after another cup of coffee. During the day, he feels fatigued and sometimes has difficulty concentrating. He also experiences difficulty staying awake in meetings, especially those in the late afternoon.

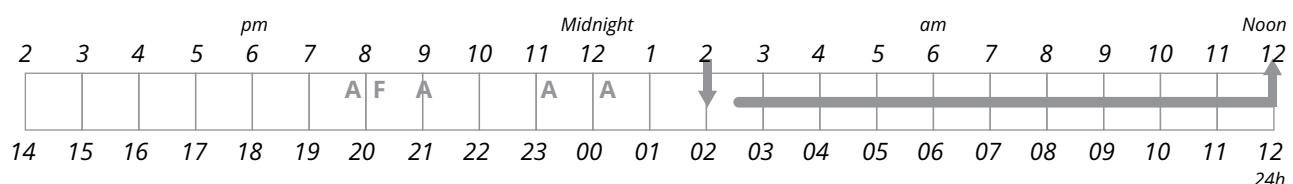
After work, he feels really fatigued and has to really 'push himself' to go to the gym at least 3 times a week.

On weekends Michael stays up later on Friday and Saturday nights and enjoys a sleep in, especially on Sunday morning. He often does not get out of bed until midday. On weekends he feels better as he has been able to 'catch up on sleep'. However, he then finds it very difficult to get to sleep on Sunday night thereby repeating the pattern of insufficient sleep on weeknights. This pattern indicates a delayed circadian rhythm contributing to his sleep onset difficulty.

Michael's typical weekday sleep pattern

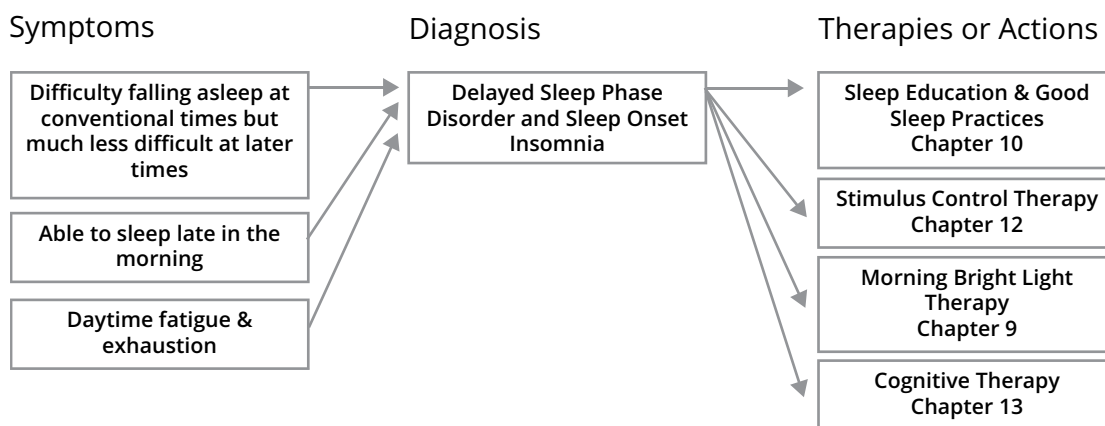


Michael's typical weekend sleep pattern



Suggested Therapy

Michael has Sleep Onset Insomnia and Delayed Sleep Phase. He should follow Stimulus Control Instructions (Chapter 12), Morning Bright Light (Chapter 9) and Cognitive therapy.



◀ Click image to play a video of Professor Leon Lack

Other causes of Sleep Onset Insomnia

Another reason some people have trouble falling asleep is because they have Restless Legs Syndrome, or a breathing disorder that disturbs them as they are going off to sleep (see Chapter 16). If your symptoms suggest these disorders, they should be investigated at a Sleep Disorders Centre in addition to following the suggested therapies discussed above.

❓ Questions?

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8

Early Morning Awakening Insomnia (Advanced Sleep Phase)

If you fall asleep easily but wake too early in the morning and are unable to fall back to sleep, you may have an early timed body clock (advanced circadian rhythm). Your 'body clock' sleep time may be programmed, for example, between 9 p.m. and 4 a.m. You may not want to go to bed this early because the rest of the family is still up and you will miss your favourite television programme. So, you try staying up for 1 to 2 hours later, feeling quite sleepy. You sleep well in the first part of the night but wake early – you are now in your awake zone. You feel frustrated because it is still dark, everyone else is asleep and you have only had about 5 hours sleep.

Margaret is a 68-year-old woman who retired from her part-time nursing position five years ago.

Margaret feels her sleeping difficulties worsened during menopause when she would wake at night with hot flushes. Although these are no longer a problem she still has problems waking too early.

Each evening after dinner, Margaret sits down to watch TV, however it is not long before she is feeling very sleepy and 'nods off' missing her TV show or only catching snippets of it. She eventually goes to bed about 10 p.m. and usually falls asleep within 5 minutes.

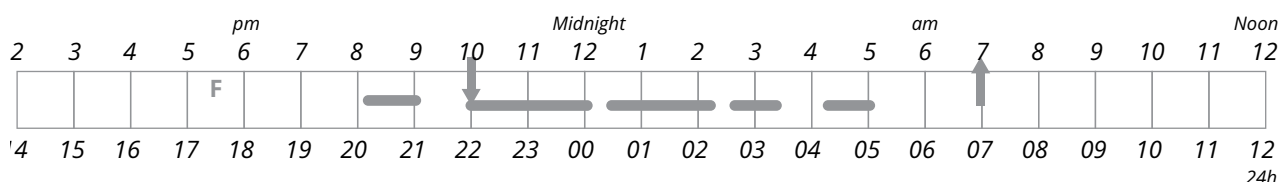
Although she has no difficulty falling asleep, Margaret wakes after 3 hours for about 20 to 30 minutes.

Margaret's final awakening is about 4:30 a.m. and she is unable to fall back to sleep despite staying in bed until 6:30 a.m. This pattern indicates an early timed circadian rhythm contributing to her early morning awakening insomnia.

During this time awake in bed she can worry about feeling tired the next day because of too little sleep. This period of worry can contribute to conditioned insomnia. Most nights, Margaret is in bed for more than 8 hours although she is only asleep for about 5 hours (only 63% of the time in bed). She

stays in bed in the morning hoping to fall back to sleep or at least get some rest. But this is usually not successful resulting in a lot of time in bed ‘trying’ to fall back to sleep.

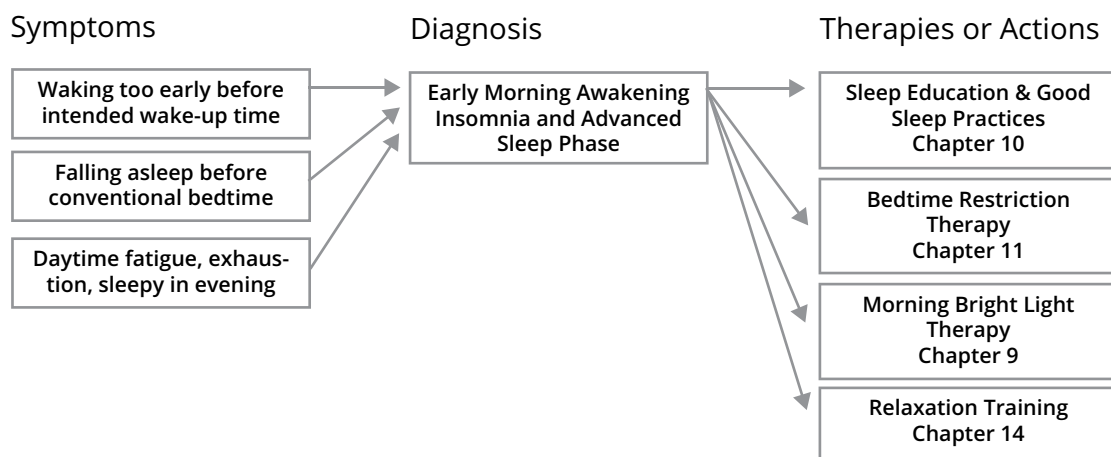
After she starts her day in the mornings, Margaret feels better. However, after lunch she often falls asleep if she sits down to read the newspaper. She feels exhausted most days.



Margaret has Sleep Maintenance Insomnia due to some conditioned insomnia and Early Morning Awakening Insomnia due to an Advanced or Early timed body clock.

Suggested Therapy

Margaret should carry out the Bedtime Restriction regime (Chapter 11) and Evening Bright Light therapy (Chapter 9).



Other causes of early morning awakening insomnia

In a few cases, early morning awakening insomnia may also be related to depression. If you think you have depression speak to your healthcare professional.

Did you have trouble identifying your sleep pattern?

Your sleep difficulty may not consistently fit any of the above examples.

A combination of sleep onset and sleep maintenance insomnia is very common in long term chronic insomniacs. Some people may experience different difficulties at different times of their lives. For example, you may have experienced Sleep Onset Insomnia for many years but notice that you now fit the pattern of Sleep Maintenance and perhaps Early Morning Awakening Insomnia. Treatment should be directed to your present sleeping difficulty.

You may also have symptoms of another sleep disorder as well as insomnia. For example, you may have symptoms of Sleep Onset and Sleep Maintenance Insomnia but also snore heavily. During the day you experience fatigue and are very sleepy. You may have a combination of Insomnia and Sleep Apnoea that has been shown by recent research to be fairly common (about 40% of those with one sleep disorder also have the other disorder). In these cases, beside the appropriate treatment for your insomnia, you may also need assessment involving a sleep recording at a sleep disorders centre (see Chapter 16) to check for the other disorder.

❓ Questions?

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<http://re-timer.com>

9

Bright Light Therapy

Late Timed Body Clock – Delayed Circadian Rhythm

If you think you may have a late timed body clock, that is, you are unable to fall asleep earlier than midnight and you have difficulty getting up in the morning, there are some further strategies in addition to Good Sleep Practices (Chapter 10) and Stimulus Control Therapy.

Morning bright light therapy

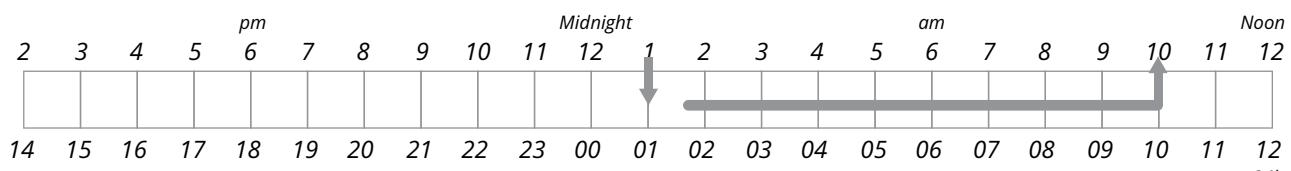
It is possible to adjust your body clock to an earlier schedule through repeated exposure to bright light appropriately timed in the morning. But to determine the most appropriate timing of morning light, follow the next steps.

Step 1

You will need to choose a week when you can be flexible about when you start the day (e.g. on holidays, long weekend).

Step 2

Determine what time you would wake spontaneously, that is, without an alarm. This is not the time you have to wake for work, but the time you ‘naturally’ wake up. Note this time as a starting point. In the example below, the person’s natural wake up time is 10 a.m.

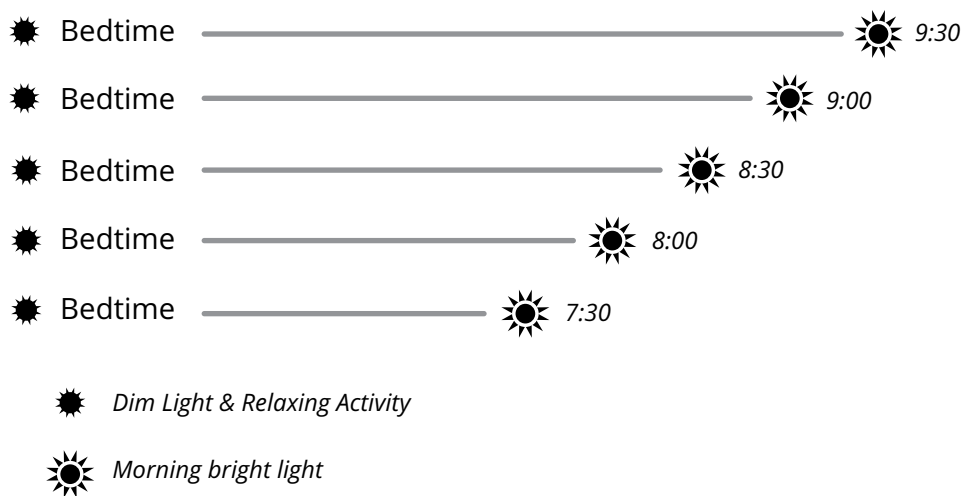


Step 3

For the following week get up about 30 minutes earlier each day and head to a place where there is bright light.

Using the above example, the next morning get up at 9:30 a.m., then next morning 9:00 a.m., then 8:30 a.m., then 8:00 a.m. until you reach your required wake-up time. If you find this diffi-

cult, then for two mornings, you may get up at perhaps 9:30, and then shift to 9:00a.m. on the next morning.



An example of morning bright light protocol

Don't be tempted to get up at 7 a.m. on the first morning to 'hurry' things along. In fact, this can have the opposite effect and delay your body clock even more. You need to gradually advance your wake up time and morning light exposure to earlier times.

Higher intensity visual light stimulation is more effective so avoid wearing dark glasses. Certainly do not look directly at the sun. The longer in the bright light the more effective it will be, so try to get at least 30 minutes of bright light on each occasion.

⚠ Note

If you do not have 30 – 60 minutes each morning, or there is insufficient sunlight available, you might consider purchasing a portable light device such as Re-Timer. Re-Timer provides a UV-free light source which is portable and allows you to undertake activities in the morning (reading, eating breakfast) whilst obtaining your morning light. Information about the device is online at: www.re-timer.com

Step 4

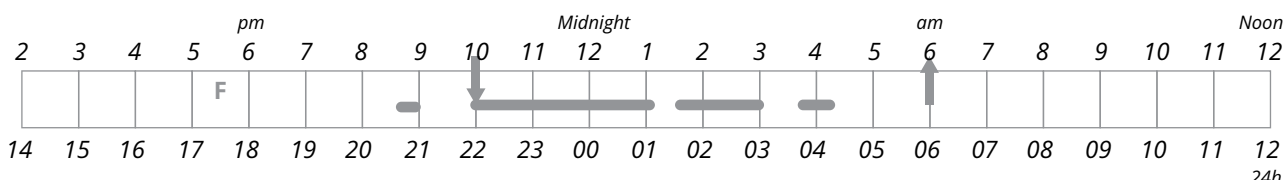
At the same time you will find that you gradually start to feel sleepier and are falling asleep a little earlier each night. However just because you are getting up 30 minutes earlier does not mean that you will immediately fall asleep 30 minutes earlier. Your sleep pattern will gradually get earlier over a week or two of light therapy. But remember, if you go to bed but don't fall asleep within about 15 minutes, then get out of bed and do something relaxing.

Step 5

Once you have re-set your body clock it is important to avoid sleeping-in, no matter what time you go to bed. You will not get morning light if you sleep in and that will cause your clock to delay again. So even if you go out one night until 1 a.m., still get up at about the same time in the morning and get some bright light exposure.

Early timed body clock – Advanced Circadian Rhythm

Remember, people with an early timed body clock feel sleepy in the early evening, can find themselves falling asleep in front of the TV, have no difficulty falling asleep when they go to bed BUT they wake early in the morning and are unable to fall back to sleep. They have a typical sleep diary like that below.



Evening bright light therapy

The most effective way to re-time your body clock to a later time is by obtaining bright light visual stimulation in the evening.

- ▶ Do something active in the evening, for example, in summer go for a walk or work in the garden while there is still sunshine.
- ▶ Keep lights on in the evening as late as possible while working in the kitchen, study, reading or watching television.

A bright light therapy device is more effective, particularly in the winter months when natural sunlight is less available in the evenings. Bright light boxes have been commercially available for several years. These can be found on the internet under 'bright light therapy' or similar search terms. Your body clock and sleep pattern will delay a small amount (10-20 minutes) on each light exposure. The delay will be greater:

- ▶ the later the exposure continues (e.g. until midnight instead of 10 p.m.)
- ▶ the longer the period of exposure (e.g. 60 mins instead of 20 mins)
- ▶ the greater the intensity

When you carry out this therapy it's also very important to avoid bright light in the mornings. So if you go outside in the mornings, for example travelling to work, working in the garden or going for

a walk, you should wear sunglasses for the first couple of hours.

Advanced circadian rhythms, early morning awakening insomnia

The other circadian rhythm problem is when the body clock is timed too early, causing problems of waking too early and not being able to get back to sleep. In the section above this was treated with evening bright light therapy. Melatonin can also help this condition. But the timing of melatonin, in this case, needs to be in the early morning towards the end of the sleep period (perhaps at one of your typical early awakenings). This will help to delay the circadian rhythms and allow a later and longer sleep. Bright light before bedtime will tend to 'push' the sleep later while melatonin taken towards the end of sleep will tend to 'pull' the sleep later.

10

Some Good Sleep Practices For All Types Of Insomnia

There are some common lifestyle habits that may have an effect on sleep and should be mentioned in case they apply to you. This is a good time to look at your sleep diary.

Caffeine

How many times across the day did you have caffeine and at what times?

- ▶ Caffeine is a powerful stimulant that increases your alertness. The 'half-life' of caffeine is about 6 hours in healthy individuals (longer for older people and people with insomnia). Therefore, if you have a cup of coffee at 4 p.m., half of the maximum stimulating effect is still there at 10 p.m.
- ▶ Therefore, it is best to avoid caffeine from the mid afternoon. That cup of tea or coffee after your evening meal will reduce your ability to fall asleep that night or, if it doesn't stop you from falling asleep, it may still lighten your sleep later in the night.
- ▶ It's easy to underestimate how much caffeine you actually have over a day. Don't forget that caffeine isn't only in the tea and coffee you drink but also in soft drinks such as colas, "energy" drinks, and certain over-the-counter medications. Chocolate and chocolate-flavoured drinks also have some caffeine.
- ▶ Reduce your overall caffeine intake and avoid it from mid afternoon onwards. However be aware that suddenly stopping caffeine intake can produce withdrawal symptoms such as headaches and lethargy. Gradually cutting back by one drink a day, starting with your last caffeine drink of the day, is the best way to do it.
- ▶ If you still prefer a hot drink, herbal infusion teas that specify no caffeine can be used as a pleasant alternative to caffeine drinks.

Alcohol

- ▶ Alcohol has the opposite effect of caffeine – it tends to have a sedative effect. Some people may use alcohol to help them fall asleep. However, after a few hours this effect wears off and withdrawal symptoms occur leading to disturbed sleep in the second half of the night.
- ▶ Alcohol also tends to suppress REM sleep in the early part of the night that can lead to vivid

dreams and sometimes nightmares in the second half of the night. Awakening from these vivid dreams can then be associated with anxiety and make it difficult to get back to sleep and actually contribute to the development of conditioned insomnia.

- ▶ Alcohol in the evening can also make you snore even if you don't usually snore and produce some sleep apnoea in those who normally snore.
- ▶ Overall, excessive alcohol (more than two standard drinks) is detrimental to your sleep.

Nicotine

Nicotine is also a stimulant and therefore may affect your sleep pattern. Avoid smoking just before bedtime or during a night-time awakening.

Food

- ▶ Avoid a heavy meal within about three hours of your bedtime. If you do suffer from gastric reflux/heartburn at night, also avoid spicy meals.
- ▶ On the other hand, if you have an early evening meal, you may enjoy a light snack before bed rather than going to bed feeling hungry. Best to avoid sugar and chocolate in the snack.

Exercise

- ▶ What time of the day do you normally exercise? Regular aerobic exercise (e.g. walk, jog, bike, swim), particularly in the late afternoon or early evening, can promote better quality and deeper sleep as well as provide many other health benefits.
- ▶ But avoid vigorous exercise just before bedtime.
- ▶ Instead, relaxing exercise such as yoga or stretching before bed may be beneficial.

⚠ *Before you go to bed at night:*

✓ *Establish a Routine before bedtime*

- ▶ Having a relaxing routine before bed will encourage a better sleeping pattern. In the evening before going to bed, have an hour of relaxing activity under dim lighting – no bright lights, no computers.
- ▶ Within that hour before bedtime, avoid doing work related activities or exciting activities such as playing computer games. Reading or watching television is recommended but remember – no bright light (the only exception is for those with early morning awakening insomnia – Chapter 8).
- ▶ Some people find that a hot bath before bed is not only relaxing but can ease them into a

deeper sleep. After the hot bath, our body temperature will then fall more rapidly which in turn promotes deeper sleep.

✓ *Bedroom environment*

- ▶ Usually no bedroom can be entirely free of noise or light. Most good sleepers aren't usually bothered by mild levels of noise and discomfort. Loud and unpredictable noises however can disturb your sleep. If external noises cannot be reduced (snoring partner, road noises, etc.), some comfortable earplugs can be helpful.
- ▶ A supportive mattress and pillow will ensure you are comfortable in bed. If you use an electric blanket to take off the winter chill, it may overheat you and disturb your sleep if you leave it on during the night. It is best to turn it off when you go to bed.
- ▶ What about a TV in the bedroom? It is a good idea to remove televisions or computers from the bedroom. Remember, we want to strengthen the association between bed and sleeping, not bed and watching TV or working on a computer or playing computer games. Also, these can be arousing, as can taking work or arguments to bed.
- ▶ Reading in bed? Many people find it is relaxing to read in bed. In fact, being unable to read that last sentence because your eyes are closing or you can't concentrate is often a cue to turn out your lights. However if you are the type of person who gets really engrossed in a book and can't put it down, then reading in bed is not a good idea for you.
- ▶ If you do read for a short while after going to bed, don't forget to use a dim 'reading' light. A bright reading light every night can delay your body clock and make it take longer to fall asleep.
- ▶ What about the bedroom clock? Constantly checking the time during the night can trigger worry and concern about 'still being awake'. This anxiety will inhibit sleep. If you tend to do this, turn the clock face away from you.

Can I nap during the day?

In some cultures people traditionally have a sleep (1-2 hours) during the day and the culture accommodates to that practice by shutting down commerce during that 'Siesta' period. However, people in those cultures also stay up late and do not expect to get as much sleep at night. Their total sleep requirement is no different than in single nocturnal sleeping cultures, it is simply split between an early afternoon long nap and late nocturnal sleep. There is obviously nothing harmful about such a practice. However, if you are spending over 8 hours in bed at night hoping for solid sleep in that period, you are likely to be frustrated with periods of wakefulness in that 8 hour bed period if you are also obtaining 1-2 hours of sleep during the day.

But what about a brief 'power' or 'nana' nap during the day? Will that affect your nocturnal sleep. If you are feeling very sleepy during the day, a brief nap of approximately 10-15 minutes can reduce that sleepiness for a few hours and make it easier to get through the rest of the day without decreasing your sleep pressure for night time sleep. It can also give you a bit of reassurance, if you are awake in the middle of the night, that you can have a brief nap the next day to help rejuvenate you. However, avoid daytime naps longer than 20 minutes. These can actually make you feel "groggy" and more tired for a while after the nap. A long daytime nap can also interfere with your sleep that night. So long daytime naps are not a good idea for people with insomnia. They may be contributing to your night time insomnia.

Our Response to Noises in the Night

The heavy snoring from one partner often affects the other. Snoring can sometimes be relieved by changing position from lying on the back to the side. If you think your partner may have Sleep Apnoea (Chapter 16) then a referral from your GP to a sleep clinic should be encouraged.

Sometimes we emotionally react to noises – we build up indignation and annoyance and even anger. You may feel that your annoyance and anger is justified for concern of the detrimental effects of the noise on your sleep and subsequent daytime tiredness. However, it is not so much the noise itself that affects our sleep, it is our reaction to the noise that has a greater detrimental effect. This reaction will trigger off the 'flight-or-flight' biological response that will, in turn, increase alertness and prevent sleep. But in addition to the loss of night time sleep, feeling fatigued the next day also arises from activation of the 'fight-or-flight' reaction during the night. It 'uses up' our emergency response mechanism and the feelings of fatigue comes from the loss of that 'back-up' mechanism.

When your 'awake-in-the-middle-of-the-night' brain blames a noise for being awake, recognise that is happening. Try to avoid wasting your emotional energy on something you can't control. Cognitive therapies (Chapter 13) and a relaxation technique (Chapter 14) will help distract you from becoming frustrated and angry. .

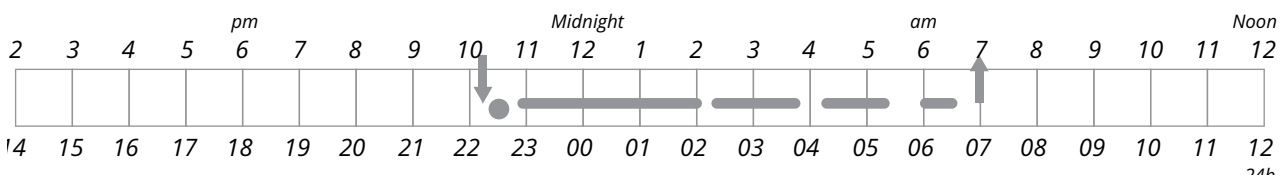
Specific strategies

Now, apart from the life style issues mentioned above, the specific strategies below (Chapters 10-14) are most important for overcoming your type of sleeping difficulty and therefore improve the quality of your sleep and daytime feelings.

Bedtime Restriction Therapy (Restricting Time in Bed)

This therapy is very effective for Sleep Maintenance Insomnia but may also be used for those with some sleep onset difficulties as well as awakenings across the night.

People who experience time awake during the night often extend their overall time in bed in an attempt to get more sleep or to catch up on lost sleep. However, spreading the time in bed over too long a period will lead to shallow, fragmented sleep and more time awake in bed worrying about sleep and will strengthen your insomnia. Instead, by restricting the amount of time spent in bed, sleep pressure will increase (see Chapter 4). This will consolidate your sleep and you will spend less time in bed awake. This effect will increase the association of the bed environment with sleep rather than alertness and help to reduce the insomnia response.



Step 1

From your one-week sleep diary, work out the total amount of sleep you get each night. After the week, add these up and divide by 7 to get your overall average amount. As you will notice, you may get more sleep on some nights than others so it is important for this step that you work out your average over the entire week. In the example above, the total sleep time for that night is about 6 hours. However, you will notice that the total time spent in bed was 8.5 hours!

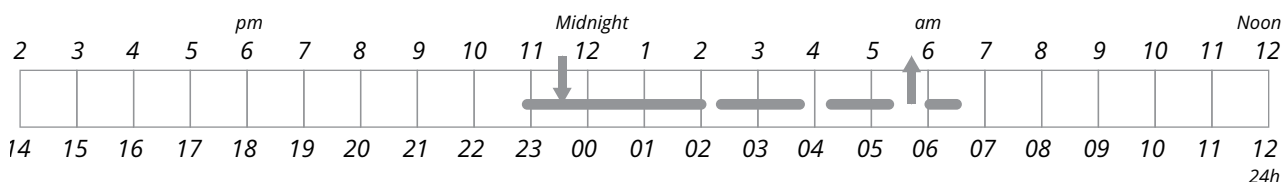
Step 2

Plan to stay in bed for only the average length of time you sleep. For example, in the sleep pattern above, the person felt they only had about six hours of sleep. The plan, therefore, will be to stay in bed for no more than six hours.

Step 3

Choose the times that you will go to bed and get out of bed - for example, between 11:45 p.m. and 5:45 a.m. This means going to bed later or getting out of bed earlier than normal, or both.

You could choose the times 11:30 p.m. to 5:30 a.m. or perhaps 12:30 a.m. to 6:30 a.m. The main point is that your time in bed needs to be restricted to a total of 6 hours in this example. You can choose the actual bed times and out-of-bed times that are most convenient for you as long as the total period is 6 hours. From our clinical experience it is unnecessary to restrict anybody's time in bed to less than 5 hours even if they report on their diaries less than 5 hours sleep on average.

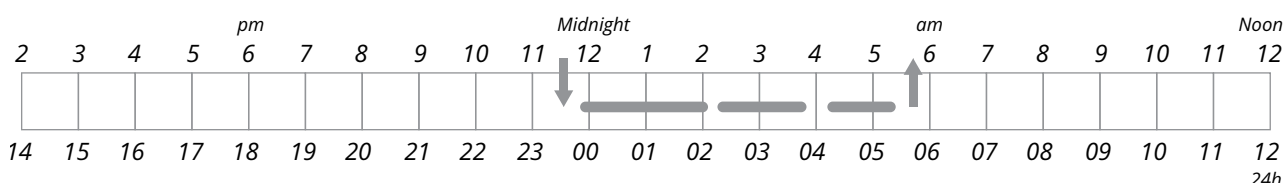


Maintain this new bed every night for a week, even on week ends.

Step 4

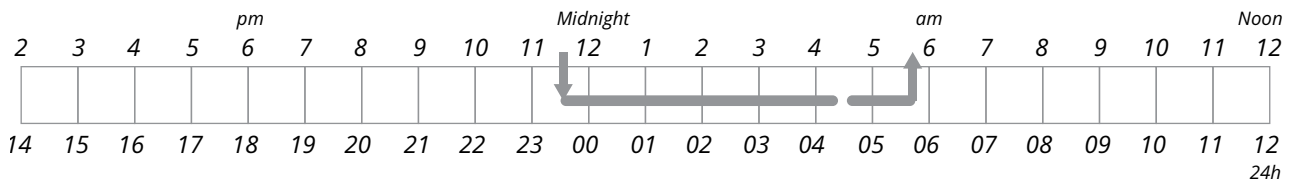
Keep a sleep diary during this week. You can use the sleep diaries at the end of this book that include calculations.

On the first few nights you will still experience some awakenings – therefore your actual total sleep time will be quite a bit less than usual (see the example below). Don't be concerned at that sleep loss, it will help to make you sleepier. (See Sleep Deprivation Experiments in Chapter 4) and on later nights help to fill up your bed period with sleep.



Step 5

At the end of the week, again work out the average time you were asleep. If you are still awake for more than 45 minutes on the average, then maintain this fixed bed period for another week. Typically we find that by the end of the first or second week that sleep is occupying almost all the time you are in bed as shown in the example below.



Step 6

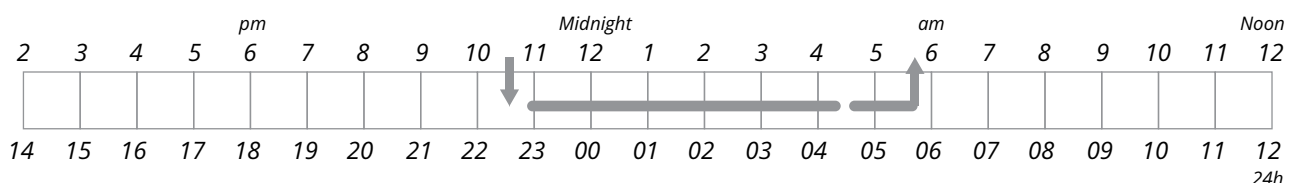
If your sleep quality has improved, that is like the example above, and you are awake for less than 45 minutes, the difference between your time in bed and time asleep, then you can extend your time in bed by 30 minutes for the next week. Using the above example, when the sleep time is nearly 6 hours for 6 hours time in bed (or less than 45 minutes awake), then you can extend your time in bed by 30 minutes, either going to bed at 11:30 and getting up at 6:00 or perhaps keep getting up at 5:45 a.m. but go to bed earlier – 11:15 p.m.

Step 7

Continue working out your average time in bed and average actual sleep time at the end of each week. If the amount of time you slept that week is close to the time you spent in bed (difference of less than 45 minutes), then you can again extend your bedtime by 15 to 30 minutes for the next week.

Step 8

Continue this progressive gradual lengthening of time in bed on a weekly basis as long as your sleep continues to be reasonably consolidated until you feel you are getting adequate sleep. Then don't increase time in bed any more. If you extend time in bed to the point where you are spending more than 45 minutes of time awake, then reduce your time in bed by 30 minutes until this difference decreases below 45 minutes. Hold your time in bed at that point for a week or two. If you are still experiencing strong sleepiness during the day, then extend your time in bed again by 30 minutes. The aim is to find the right balance between minimising your time awake in bed with getting enough total sleep to feel reasonably refreshed and alert during the day.



While sleepiness increases over the first few weeks of restricted bedtime, and this is the aim of the therapy, sleepiness then decreases as the bed period gradually is lengthened. In the end (after 3-6 weeks) your sleep quality and length will be improved and you will feel more energetic and happier during the day. Below is a typical diary of the sleep pattern at this final stage.

⚠ Note

At first, this technique won't be easy to follow. You'll need to develop extra activities to occupy your time in the evening before you go to bed such as watching TV, DVD movies, reading, or quiet hobbies. In the morning, if you get up earlier have a nice leisurely breakfast, cup of tea and read the paper in peace!

During the initial therapy period you will probably experience some daytime and evening sleepiness. This increased sleep pressure will help you will fall back to sleep more quickly during the night after awakenings.

If you are feeling very sleepy during the day, a 10-15 minute nap will improve your alertness for 2-3 hours and may help you get through the rest of the day. You will need to set an alarm to ensure you sleep no longer than 15 minutes. And this brief nap should only be used during the day, many hours before your intended bedtime.

Bedtime restriction therapy, after a week or two, almost always produces strong sleepiness in the hour or two before the agreed bed time. You should take reasonably measures to avoid falling asleep during that period! Do not nap then! It will reduce the sleep pressure we are trying to build up with this therapy. Remember, the sleepier you are at night, the more likely you are to fall asleep quickly and back to sleep quickly after an awakening. You may need to set an alarm for the time you have agreed to get out of bed because after a week or two your sleep pressure will be stronger and you are likely to sleep past your agreed time out of bed without an alarm.

The overall aim of this bedtime restriction therapy is not to eliminate awakenings. That would be unrealistic and unnecessary. Remember, brief awakenings are a normal part of the sleep period and will not impair your feelings or functioning the following day. The aim is to help you fall asleep more quickly, have fewer and shorter night-time awakenings which will increase the time you spend asleep in bed and reduce your time awake.

You will get increasingly confident that the normal pattern after awakenings is that you will fall back to sleep quickly on almost all occasions. Even good sleepers have an occasional long night time awakening. However, these do not usually result in a poor daytime experience. That is what our clients also tell us after their sleep has improved consistently. They now find that the occasional longer night time awakening no longer affects them badly as it had before treatment.

You will also spend less time worrying about sleep, particularly at night because you have less time awake to worry. You will have more energy during the day mainly from the reduced time spent worrying or feeling frustrated.

This is not an easy therapy to follow. It requires changing your habits about your bed period, changing your desire about trying to get as much sleep as possible, and experiencing a few weeks of increased sleepiness. Interestingly, our patients often report reduced fatigue as their sleepiness increases. It was fatigue and exhaustion that was most annoying and the major motivation to seek treatment. Sleepiness feelings are typically not common in the insomnia patients and when sleepiness increases during the therapy, it can actually be reassuring that their sleep mechanism does respond appropriately to the reduction of sleep during therapy and the increased sleepiness is associated with better quality sleep.

From many research studies and our own extensive clinical experience, we have found this therapy to be very effective. But it is essential to follow the instructions conscientiously for it to be effective. Those who have had insomnia for many years will have a strong insomnia habit. You should expect it to take at least a few weeks to reverse this strong habit. It's worth the investment of a few weeks of effort to obtain a long-term improvement in sleep and daytime feelings.

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Stimulus Control Therapy

This therapy is particularly effective if your main sleep difficulty is Sleep Onset Insomnia. The aim of Stimulus Control Therapy is to have you falling asleep within about 10 to 15 minutes of going to bed. Your bed and bedroom will again be associated with falling asleep rather than with feeling anxious about being awake.

Some helpful advice:

✓ *Schedule some worry time into your day*

If you are often bothered by worrisome thoughts while lying in bed a surprisingly effective strategy is to schedule a 'worry time' in the evening before bedtime.

- ▶ Set aside about 15 minutes in the evening to think over any problem or concerns about the following day.
- ▶ Write down any issues that are currently worrying or bothering you.
- ▶ Decide how you can deal with these issues or decide that you will deal with them tomorrow. Simply deciding to do something about a troublesome issue can reduce concern and be relaxing.
- ▶ Write down anything you need to remember for the next day. Let the list be your reminder so that you can now clear it from your mind.
- ▶ While in bed, worry should be avoided. If you find your mind wandering back to these thoughts when you're in bed, remind yourself that you have already dealt with that problem. Trying to deal with it in bed will only disturb your sleep. Remember, bed should only be associated with sleep, not thinking or worrying. Relaxation therapies, described later, will help here.

✓ *Bed is only for sleep.*

Remember, the aim of this therapy is to associate bed more strongly with sleeping.

- ▶ Do not lie in bed thinking about your problems, or work, or about your life. Especially avoid working on your laptop computer, tablet or 'surfing the web' on your mobile phone or having conversations or arguments with a bed partner. These non-sleep activities will only weaken the association of the bed with sleep. While you have a sleep problem, it is also a good idea

to remove the television from the bedroom (Chapter 10).

- ▶ Then what about sex in bed? This is the one exception! Many people find that the physical and psychological satisfaction of sexual activity may actually help them relax and benefit sleep. Do avoid that clichéd post coital cigarette. Nicotine is a stimulant and fire is a danger.
- ▶ Many people get into the habit of frequent tossing and turning in bed. They convince themselves that they may fall asleep if they can just get more comfortable. They then find themselves changing their body position every few minutes. However, each 'toss and turn' increases alertness and will take another few minutes to settle back down. You may wish to change to a comfortable position occasionally throughout the night but avoid frequent tossing and turning. Most people change position across the night only 4 to 8 times usually once after each 90 minute sleep cycle. Your body is quite happy staying in the same position for more than an hour. Don't be convinced by the little mischievous voice in your head that you are still awake after 10 minutes because you need to change to a more comfortable position.

✓ *Don't have a fixed, early bedtime*

You may have seen the prescription to maintain a fixed bed period and hoped that if you went to bed at the same time every night, it would help you fall asleep more quickly. This usually does not work!

- ▶ Often people will choose an early fixed bedtime in the hope of getting more sleep. However, with sleep onset insomnia an early fixed bedtime will more likely lead to a lot of wakefulness before eventually falling asleep and that will strengthen the insomnia habit.
- ▶ Also remember that if you have a late timed body clock but try to go to bed early you will be going to bed in your alert zone. The resulting wakefulness, tossing and turning, and frustration will perpetuate the insomnia.

Stimulus Control Therapy Steps

Step 1: Go to bed only when you feel sleepy

It is important to wait to feel 'sleepy' before going to bed. Feeling fatigued or exhausted is different from feeling 'sleepy'. Feeling exhausted is not an indicator that you're ready to fall asleep.

- ▶ What if you feel 'tired'? Tired is a tricky word, it can mean sleepy or fatigued. We are suggesting that you go to bed only when you feel 'sleepy' tired not 'fatigued' tired. Many people with insomnia feel so fatigued and exhausted in the evening that they want to lie down and are lured to bed before feeling at all sleepy.

- ▶ You know when you are feeling sleepy – your eyes feel droopy, you find yourself yawning, nodding off or struggling to stay awake. These sleepy feelings will be an indication that sleep pressure is high and that your body clock is now set for sleep.

If are concerned that you never feel sleepy a good guide as to when you are likely to be starting to feel sleepy is from your one week of sleep diary. Look at your diary and see what time you think you usually fall asleep. This is probably the time you will start feeling sleepy.

Step 2: Don't stay in bed if you do not fall asleep quickly!

Waiting to go to bed when you are sleepy will increase your chances of falling asleep quickly but will not guarantee it.

- ▶ So if you go to bed feeling sleepy, but you are not asleep within about 15 minutes (guess – don't use the bedroom clock), get up, go into another room, and do something relaxing until you feel sleepy again.
- ▶ This is not an easy instruction to follow, especially if it is warm and comfortable in bed and cold out of bed. You might find yourself thinking "if you just stay in bed another few minutes I might fall asleep". But don't cheat, stick to the quarter-hour rule.
- ▶ In the colder months, keep another room warm and have something warm ready to put on when you need to get out of bed after a quarter hour of wakefulness.
- ▶ Fully expect to be getting out of bed perhaps several times in the first few nights of therapy. Don't worry about these instructions – just do them!
- ▶ When you do get up, do some relaxing activity such as reading, watching television or listening to music but always under dim lighting. Avoid eating, smoking, alcohol, or caffeine drinks. The idea is to allow sleepiness to build up again.

Step 3: Return to bed when sleepy again.

- ▶ Once you feel sleepy again, go back to bed. If you still can't sleep, keep repeating the process until you fall asleep within a quarter hour. You will eventually fall asleep quickly at some point during the night.
- ▶ Gradually over several nights you will become sleepy earlier, you will have to get out of bed on fewer times on subsequent night, and you will fall asleep earlier and get more sleep.
- ▶ This can take some perseverance over a week or so. But stick with it, following these instructions produces improvement. The investment of some effort in the short term will be worth it in the long term.
- ▶ If you have a bed partner, tell them what you will be doing so in case they wake up they

understand why you are getting out of bed. It should be helpful for them to know that this is a therapy that will help your sleep but that it may take a week or two before getting out of bed is no longer necessary.

Step 4: Do have a fixed getting-up time.

Getting up at the same time every day is probably one of the most important things you can do to help regulate your sleep pattern and help you to get to sleep earlier.

- ▶ Choose a consistent getting up time that will be suitable for you in the long term considering all your daytime commitments and life style.
- ▶ It is even more effective if you can get sunshine or other bright light soon after getting up. It then helps to keep your body clock set at the right time and stops the tendency to drift later (Chapter 4). If you tend to have a later timed body clock, this early light exposure helps to re-set your body clock to an earlier time.
- ▶ In the first days or weeks of Stimulus Control Therapy with a consistent 'out-of-bed' time you will get less sleep than usual. This will increase sleep pressure (Chapter 4) and help you gradually get to sleep earlier, get more sleep and feel more alert and energetic during the day. Some initial sleep loss and increased sleep pressure is central to the effectiveness of this therapy. Don't worry about the 'loss', it will only make you a bit sleepy. It will also strengthen the link between going to bed and falling asleep quickly.
- ▶ Many people look forward to the weekend to catch up on sleep. But during the first weeks of therapy it is most important to keep the same wake-up time. Don't sleep-in late on the weekend! 'Sleeping-in' will reduce that sleep pressure and reduce the effectiveness of the therapy.
- ▶ Furthermore, the weekend sleep-in can delay the body clock and again make it difficult to get to sleep for the next few nights. Instead, on Sunday morning go for that morning walk you never have time for, or get up early and read the newspaper before the rest of the family, or meet friends for breakfast (ideally al fresco in the sunshine).

Step 5: Do not sleep during the day.

- ▶ Even though you will get less sleep in the first week or two of this therapy and may start to feel sleepy at times during the day or in the evening (such as when watching TV), avoid falling asleep. Stand up and stretch or become active doing something.
- ▶ As mentioned above the increasing sleep pressure in this therapy is important for it to work. Welcome the sleepiness, it will help you.
- ▶ Although a brief nap of less than 15 minutes should not undermine the sleep pressure, in may be difficult to ensure the nap is only brief. Better to avoid taking a daytime nap until your insomnia has resolved.

13

Cognitive Therapy

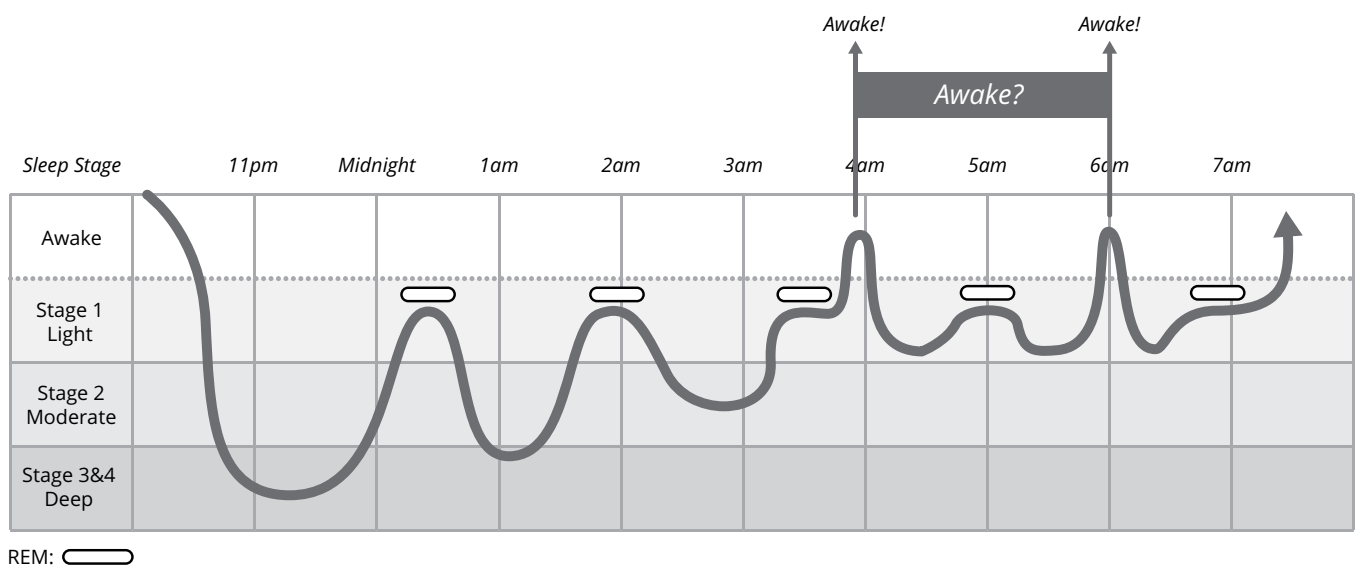
Cognitive just means thoughts. Cognitive therapy aims to change your thoughts and beliefs about your sleep that will, in turn, help you feel more confident and less anxious and sleep better.

Correct your Understanding of Sleep

- ▶ Just being aware of what is a normal sleep pattern for your age can help.
- ▶ The first thing to understand is that awakenings are a normal part of the sleep period. They repeat about every 90 minutes. Some people become frustrated and anxious about these awakenings. It is unrealistic and unnecessary to get rid of them in order to feel fine during the day. The aim is not to get rid of them but to be able to get back to sleep within a few minutes.
- ▶ As we age we need less sleep in total and less deep sleep. It is normal to experience more and longer awakenings as we age.
- ▶ Another way to think about those brief awakenings is that if you had remained asleep instead, it would only have been very light sleep and of not more benefit than being awake.
- ▶ It is likely that the 90 minute sleep cycles with light sleep and awakenings occurring regularly across our night time sleep period acted as “sentries” in our sleeping environment and, thus, played an adaptive role to ensure the survival of our ancestors and thus our own existence. Therefore, we should feel more kindly and less annoyed at these awakenings.
- ▶ Sleep bounces back after sleep loss. Many people with insomnia feel their sleep is very fragile. Some also say they think they have forgotten how to sleep as if it is something that requires learning to do it. We saw that negative learning (conditioned insomnia) can interfere with the normal sleep mechanism. But rest assured, the sleep mechanism is robust and cannot be ‘forgotten’. Can you forget to be hungry if you go without food? Sleep is a biological process that just gets stronger the longer it is deprived. Remember the sleep pressure ‘water bucket’ analogy in Chapter 4? Several research studies have shown that the ‘bounce back’ of recovery sleep after sleep loss works as well for people with insomnia as it does for people without sleeping difficulties. The therapies in Chapters 10 & 11 rely on that fact.

Difficulty in perceiving sleep

- ▶ Another important point is that it is very difficult to correctly recognise an awakening from sleep, particularly towards the morning when it is common to wake up from light sleep. Research, including some of our own, has shown that good sleepers assume they have been awake already when awoken out of sleep on about 30% of awakenings. However, people with insomnia perceive over 70% of awakenings as simply a continuation of being awake. That is, two separate brief awakenings can be seen as one long awakening with the conclusion that you were awake a long time across the night. For example, in the Roller Coaster Sleep diagram below there are two brief awakenings, one at about 4 a.m. and one at 6:00 a.m. If you did not recognise the awakening at 6:00 a.m. as an awakening from sleep, you might think that you had been awake since the previous awakening at 4 a.m. In other words, you'd perceive being awake for over two hours rather than two brief awakenings. This is a very common mistake that people make.



This may worry you and lead to anxiety about the loss of sleep and the anticipated detrimental effects the next day. If this occurs frequently, it can lead to insomnia. Therefore, correctly perceiving an awakening from sleep can help protect against insomnia.

- ▶ A good test of whether you just woke up or had been lying there awake for some time is to try to remember what you had been thinking about. If you cannot remember much, you can tell yourself that you just woke up and had not been awake for very long.
- ▶ If what you remember was just a snippet of more mundane mental activity, it was the mental activity of non-REM sleep almost always present during your sleep. However, if what you remember was a somewhat bizarre story-like experience it was a dream, indicating that you just woke from REM sleep.

Worrisome thoughts

- ▶ Some people, during the day or even on waking first thing in the morning, have already started to worry about whether they will be able to fall asleep the next night.
- ▶ Negative or worrisome thoughts about sleep itself can lead to feelings of anxiety, tension and helplessness. These thoughts and feelings can lead to behaviours that, in fact, increase sleeping difficulties. For example, you may be watching TV in the evening thinking “I MUST get enough sleep tonight as I have so much to do tomorrow”. You will start to feel anxious and tense.
- ▶ These worrisome thoughts interfere directly with sleep because they trigger the ‘fight-or-flight’ mechanism that temporarily increases alertness.
- ▶ Furthermore, the frequent triggering of this ‘fight-or-flight’ mechanism will lead to daytime exhaustion and fatigue. Worry triggers the ‘fight or flight’ hormones. Frequently triggering these hormones depletes our body’s capacity to respond and leaves you with no reserve energy. It feels like your emergency ‘fuel tank’ is running on empty.
- ▶ You may also go to bed earlier that night or stay in bed longer in the morning in an attempt to get more sleep. However, this will lead to more time awake in bed that will result in more anxiety. And so the cycle continues to exacerbate the insomnia.
- ▶ To stop worrying about sleep is difficult for the person with long-term insomnia. But it will help to remember the following:
 - ▶ The natural sleep pattern is like a roller coaster with 90-minute cycles in and out of deep and light sleep with several brief awakenings spaced across the normal sleep period.
 - ▶ Sleep naturally gets shorter and lighter with age with no harmful consequences.
 - ▶ Individual sleep needs are different for different people. They also vary over time, depending on circumstances (deadlines, etc.) with no negative consequences.
 - ▶ You can function quite well with less sleep on occasions. Tell yourself that the worse that can happen if you sleep less than normal is that, although you will be sleepier the next day, you’ll still be able to do the things you need to do. And you’ll most likely recover some of this missed sleep on the next night. Sleep bounces back after loss.
 - ▶ Don’t cancel appointments or planned activities after a lighter night’s sleep – go about your normal daytime routine. You may surprise yourself at how well you manage. Cancelling appointments as a ‘back-up’ for every ‘bad’ sleep can become a habit and more disruptive to your life than any impact that your sleep may have.
 - ▶ Cancelling appointments also confirms the belief that good sleep is absolutely critical to

your life and well-being. This belief makes you susceptible to worry when you are lying awake in bed. So you can see how these beliefs can play a role in perpetuating insomnia and, therefore, working to reduce these beliefs can be therapeutic.

- ▶ Changing unrealistic thoughts and expectations about sleep will reduce your anxiety about sleep that in turn will help you fall asleep quicker.
- ▶ With most challenges in life, the harder you try to meet that challenge, the more likely you will be successful. However, this strategy is not effective when trying to sleep - the harder you try to do it, and the more anxious you become about it, the more elusive it becomes. 'Trying hard' increases your level of activation and alertness, and therefore, inhibits sleep. Many people with insomnia try too hard to control their sleep. Failure to get good sleep with these attempts also has the detrimental effect of creating feelings of helplessness and mild depression. Sleep is a basic biological mechanism that will operate best if we stop trying to force it.
- ▶ Also, keep in mind that, just as you should allow a gradual transition into sleep at night by engaging in quiet, relaxing activities before bed, allow yourself a gradual transition out of sleep in the mornings.
- ▶ Don't prejudge the rest of your day or the quality of your sleep based on how you feel in those first 15-30 minutes after awakening. Often, when people look back at the end of their day, they find it has been productive and satisfying, despite feeling very tired in the first half hour after awakening. Your grogginess might have been no more than the natural sleep inertia experienced upon awakening from sleep. Awakening from deeper sleep produces a stronger feeling of sleep inertia. Therefore, if you experience this early morning grogginess of sleep inertia you can tell yourself you were probably having some deeper sleep that will be beneficial to you throughout that next day.

Some people may find it useful to think about or to actually write down some of their sleep-related anxiety producing thoughts. These thoughts are sometimes called 'automatic thoughts' – they are thoughts that just come into our mind, even when we are doing something else, like watching TV.

For example:

<i>Situation</i>	<i>Automatic Thought</i>	<i>Feeling</i>
Sitting watching TV in the evening	"I must get enough sleep tonight as I have so much to do tomorrow"	Anxious, tense

These thoughts can make you feel anxious, helpless or annoyed. However, If you can change these thoughts to more positive thoughts, you will feel less anxious and more confident about your sleep.

For example:

<i>Alternative Thought</i>	<i>Feeling</i>
"I have a full day tomorrow and I am really looking forward to it"	More in control, confident, relaxed

For more examples, see the 'Automatic Thought Record' sheet on the next page. Further thought record sheets are at the end of the book. You may like to write down some of your negative thoughts and then practice coming up with an alternative, more positive thought.

It is not easy changing the automatic thoughts since they happen without your intentions. However, if you recognise them as soon as they occur, changing your thoughts to be more positive can avoid most of the worry and physiological 'fight-or-flight' reaction.

Automatic thought record example

<i>Situation</i>	<i>Automatic Thought</i>	<i>Feeling</i>	<i>Alternative Thought</i>	<i>Feeling</i>
Sitting watching TV in the evening	"I must get enough sleep tonight as I have so much to do tomorrow"	Anxious, tense	"I have a full day tomorrow and I am really looking forward to it"	More in control
Awake in bed in the middle of the night	"I won't be able to function tomorrow if I can't fall back to sleep"	Anxious, helpless	"I can still function after a poor night's sleep." "I may be a little tired but I will be OK"	Less Anxious
Difficulty carrying out a task during the day	"I knew this would happen after my poor sleep last night"	Irritable, annoyed	"Instead of blaming my sleep, I will just concentrate on working out how to do this"	Calmer

i See the end of this book for your Automatic Thought Record worksheet.

Relaxation Therapy

If you feel tense or stressed in the evening, you may want to use a relaxation technique. There are many techniques but all have a common element. They all focus attention on a non-provocative process, such as breathing, a pleasant or neutral image, an internalised word, etc. This focus of attention prevents other intrusive thoughts from entering your consciousness, thus avoiding worry about these thoughts and allowing relaxation and sleep. Your body and mind relax.

It is important to choose a technique or focus of attention you feel comfortable with. Some techniques include:

- ▶ Deep Breathing (focusing attention on breathing)
- ▶ Progressive muscle relaxation
- ▶ Visualisation (mental imagery)
- ▶ Meditation
- ▶ Self-hypnosis

Mindfulness meditation

- ▶ Many people say that they have tried a relaxation technique but it didn't work. But many try only once or twice. Learning how to relax is a skill, just like learning to ride a bike is a skill. It takes practice to become good at it. You need to keep trying, even after falling off the bike a few times. Likewise, relaxation is a mental skill that needs practice to become skilled and maintain the attention focus for longer periods of time.
- ▶ At the beginning, while you are relaxing, you will probably be aware of intrusive thoughts that automatically come into your consciousness. When this happens, recognise they are there, don't react to them, and then simply re-focus on your non-provocative image or process. Thoughts are likely to intrude into your consciousness many times while trying to maintain a relaxed state. Expect this – don't be discouraged by it. Be mindful of them, just recognise that it has occurred and regain your focus of attention.
- ▶ Relaxation techniques to help you get to sleep should be well practised before using them at night. Try to find about 10 minutes each day to practise before trying to use the technique at night to help you sleep. Without practice the technique will not work very well and you may

easily be discouraged or even conclude that “yet another treatment doesn’t work with me”. With practice the length of time you can maintain your focus without intrusive thoughts will get gradually longer and longer. That will allow your alertness to drop steadily until you cross the threshold into sleep.

- ▶ Once you feel confident that you can keep your focus of attention for long periods during the relaxation process you may use them at night while attempting to fall asleep after going to bed or after waking up during the night. Some meditation classes recommend not using relaxation to fall asleep. However, they may be seeking other goals for the relaxation. In fact, relaxation techniques and meditation are very helpful for falling asleep and can be used for that purpose.
- ▶ You can learn these techniques on your own or by using a CD/DVD/audio download, attending classes (meditation, yoga) or consulting a psychologist or therapist. It is best to listen to these audio lessons out of bed rather than when you are attempting sleep. Learn them to the point of being able to hear the instructions in your mind while you are in bed.
- ▶ If you also have a “worry time”, it would be helpful to follow it with relaxation as the last thing before bed.

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Sleep Medication

Sleeping pills

Sleeping pills or prescribed hypnotic drugs, if used at all, should only be recommended for short-term use. Many sleeping pills have some benefit for a few weeks at the most. People then find they have to either increase their dose to get the same effect or have to change to another type of sleeping medication.

If they try to quit, they may experience a 'rebound' effect for several nights including feelings of anxiety and poor sleep that can be as bad or worse than before they started taking the pills. It is an indication of some physiological dependence.

For this reason some practitioners recommend medications on alternate nights only. The patient then experiences better sleeps on pill nights and poor sleeps on non-pill nights. Of course the poor sleep on non-pill nights will increase sleep pressure and help to ensure better sleep on the next night and add to the effect of the pill. Although this alternating pattern might reduce physiological dependence, the strong association of good sleep with the pill and poor sleep without may produce psychological dependence.

Some longer acting sleep medications have a less noticeable rebound effect during withdrawal. However, because they can carry over into the next day, they can produce a range of daytime side-effects such as drowsiness, dizziness, fatigue, memory loss, reduced ability to concentrate and confusion. These side effects, and an increased risk of falls make them problematic particularly for older adults.

The ideal medical model, for example, the curing of a bacterial infection with an appropriate antibiotic drug, does not apply to the use of sleeping pills to try to "cure" insomnia. The pills can provide some temporary symptomatic relief just as aspirin can reduce the fever and make you feel better during a bacterial infection but it won't stop the infection.

Sleep medications mask the insomnia symptoms and do not cure the insomnia because they do not address the causes of the insomnia. Therefore, they are not a long-term solution for chronic insomnia.

Research has shown that the strategies for changing your behaviours and thoughts, as described in this book, provide more effective long-term improvement of sleep for people with chronic

insomnia.

If you wish to stop taking your sleeping tablets you must consult your doctor who will supervise a gradual withdrawal to reduce rebound insomnia effects. Remember that this is due to the withdrawal of the drug and doesn't mean that you can't sleep without sleeping pills. During the withdrawal time, use other non-drug methods as described above (such as Bedtime Restriction Therapy) for helping to get to sleep and maintain sleep thus minimising the drug withdrawal effects.

Herbal remedies

There are many herbal remedies available that promise improved sleep for those with insomnia. Some are taken as tablets and some in the form of herbal teas.

The few scientific studies to investigate these over-the-counter preparations have not shown convincing benefits. In contrast, the therapies and techniques in this book have considerable scientific support and are more effective than prescribed medications.

Other Sleep Disorders

Some people who have insomnia symptoms such as difficulty falling asleep, or night-time awakenings may have another sleep disorder that affects their ability to get a good night's sleep. If you think you have one or more of these disorders, you should consult your doctor. You may need to be referred to a Sleep Disorders Centre or Clinic for an overnight sleep recording for diagnosis and appropriate treatment.

Sleep apnoea and snoring

It's quite a common disorder, and it particularly affects middle-aged, overweight men but is also common in women after menopause. One of the main symptoms of sleep apnoea is loud snoring. It's more likely to occur if you lie on your back and if you have had some alcohol before bed.

Upon falling asleep the airways can collapse partially or completely and prevent breathing. After several seconds this will cause an arousal to a lighter stage of sleep or even to full consciousness that opens the airways and re-starts normal breathing – often with a snort – although you may not be aware of this. This can occur hundreds of times throughout the night, resulting in non-restorative sleep and daytime sleepiness.

Individuals with sleep apnoea may also experience sleep maintenance insomnia. For example:

Colin is 56 years old and works full time in the Public Service. He sits at a desk all day and often feels sleepy and exhausted. Sometimes he actually sits in his car after lunch for a nap. Colin is overweight but feels too tired to do any exercise.

While watching TV in the evening, he falls asleep and usually wakes himself up with a loud snore. His wife often nudges him awake.

Colin goes to bed about 10:30 p.m. and has no difficulty falling asleep, however he wakes a few times

during the night, especially later in the night. He snores loudly, especially when lying on his back and his wife has noticed he sometimes stops breathing.

He wakes at 6:30 a.m. often with a headache and feeling very unrefreshed. He feels like he could sleep longer at that time in morning but must get up for work.

Colin has sleep maintenance insomnia as well as the signs of sleep apnoea.

Colin should be referred to a Sleep Disorders Centre for an overnight sleep study to determine the presence and severity of his sleep apnoea and insomnia and establish the appropriate treatment. This would include treatment for his apnoea **and** his insomnia.

Treatments for Sleep Apnoea

- ▶ Lifestyle changes
 - ▶ Losing weight with diet and exercise can improve symptoms
 - ▶ Avoiding alcohol or other medication that relax the muscles of your throat and lead to snoring
 - ▶ Sleeping on your side may help especially if you tend to snore mainly on your back. There are some devices becoming available to signal when you are on your back and encourage you to shift to your side. These may be indicated if your sleep apnoea is almost exclusively associated with sleeping on your back.
- ▶ CPAP (Continuous Positive Airway Pressure) is usually very effective for moderate to severe Sleep Apnoea. The CPAP machine uses a mask that fits over your nose. The pump gently blows air into your throat to keep your upper airway passages open. This promotes more normal sleep and better daytime alertness and energy.
- ▶ Dental (oral) appliances. A device fitted by a dentist may be suitable for mild to moderate sleep apnoea. The device can bring your lower jaw forward and reduce obstruction to airflow during sleep.
- ▶ Surgery. There are different types of surgery than can widen your airway.

Periodic limb movements in sleep (PLMS)

Some people, especially older adults, experience involuntary jerky leg movements during sleep (lasting 2 to 3 seconds each time). These Periodic Limb Movements in Sleep (PLMS) can occur every 20 to 40 seconds and up to hundreds of times a night. These jerks are often associated

with a very short awakening of which you may not be aware, but which is enough to disturb your sleep (and that of a bed partner).

Restless legs syndrome (RLS)

If you experience an unpleasant creeping, crawling, or tingling sensation in your legs then you may have Restless Legs Syndrome. These unpleasant feelings occur more commonly in the evening when you are resting such as sitting while watching TV or at the theatre or lying in bed trying to fall asleep. These unpleasant feelings can usually be relieved, but only temporarily, with exercising the muscles. Many people with RLS also have PLMS.

Moderate to severe RLS can make it difficult to get to sleep or get back to sleep after night-time awakenings. This difficulty can lead to the development of conditioned insomnia as well. In addition to the restless legs feelings if you also experience an over active mind and feelings of frustration or worry while attempting sleep, you are likely to have sleep onset and /or sleep maintenance insomnia and benefit from Chapters 9, 10,11.

If you suspect that you have PLMS or RLS and have daytime symptoms of fatigue or sleepiness, referral to a sleep disorders centre for diagnosis and treatment would be advisable.

What happens during an overnight sleep recording?

During a sleep recording, your brain waves, breathing and movements are recorded. Small electrodes (sensors) are attached to your head, and face (near your eyes, chin) to monitor your sleep stages or whether you are awake. Since the main concern in the recording is to measure breathing and limb movements during sleep, it doesn't require much sleep time to get an accurate diagnosis. So don't worry about having more difficulty sleeping under these conditions. You will probably be surprised that you get more sleep than you expect.

Nightmares or sleep terrors?

Nightmares are common in children and then start to decrease after about 10 years of age. However, many adults report experiencing a nightmare once in a while. They are vivid and disturbing dreams that occur in REM sleep and therefore tend to occur in the later part of your sleep – near the morning. You wake up, feeling alert and perhaps anxious and you can clearly recall what the dream was about.

On the other hand, sleep terrors arise from deep sleep and most often occur in the first third of the night. Sleep terrors are more common in children. The child may sit up in bed, scream, become agitated and look scared with wide eyes. This is more distressing to the parent than the child. However, despite the intensity of these episodes, there is no evidence that they indicate any deep seated psychological disturbance. They are considered relatively benign events for the child.

Because sleep terrors occur in deep sleep, it is hard to wake the child. Once awake the child will be confused and, the next day, not remember what happened. While these are fairly common in children aged 5-10 years, only about 1 in 50 adults ever experience sleep terrors.

Because these occur in deep sleep and sleep is deeper if there is greater sleep pressure from earlier insufficient sleep, extending your sleep can help both conditions. If they occur frequently and you are concerned, seek help from your doctor.

Sleep walking

Sleep walking also occurs during the deeper sleep stages, most often in the first third of the night. Since normal sleep walking arises from deep sleep, not REM sleep, it is not an acting out of a dream. Remember, our bodies are effectively and temporarily paralysed during REM sleep.

Again, sleep walking is more common in children but if you are one of the 4% of adults who sometimes sleep walk and it causes a problem, that is, you are at risk of injury, then seek help from your doctor.

Grinding teeth (Bruxism)

Grinding or clenching your teeth during sleep, if frequent and severe, can lead to jaw pain, worn teeth enamel or even earache. It has been associated with stress, anxiety, caffeine, smoking, alcohol before bed, and Sleep Apnoea. Stress reduction may reduce Bruxism as well as all strategies mentioned in Good Sleep Practices (Chapter 10). To protect your teeth, a dentist may recommend an oral appliance such as a mouth guard.

Narcolepsy

Narcolepsy is a rare disorder that causes excessive daytime sleepiness. In severe cases the person can fall asleep involuntarily – sleep attacks - at inappropriate times of the day (when talking to someone), and with little warning. Other symptoms can include

- ▶ Sudden muscle weakness (cataplexy) usually triggered by emotions such as laughing, anger, surprise.
- ▶ Hypnagogic hallucinations which are dream-like hallucinations occurring in that transition

period between wakefulness and sleep.

- ▶ Sleep paralysis which is that feeling of not being able to move for a few minutes when falling asleep or after awaking.
- ▶ Disturbed sleep at night such as tossing and turning and awakenings, nightmares.

Narcolepsy can be managed with medication and scheduled naps throughout the day.

Your doctor will refer you to a Sleep Disorders Unit for diagnosis and treatment. For further information and support, you may like to contact the group NODSS:

Narcolepsy and Overwhelming Daytime Sleepiness Society of Australia

Phone : (03) 9761 9767

Fax : (03) 9761 9727

Website: www.nodss.org.au

Email: info@nodss.org.au

There are also local State branches.

Shift Work Survival

More than 20% of the workforce has to work some schedule of shift work different from the normal 9:00 to 5:00 work day. Working the night shift seems particularly difficult for most people. In addition to the disruption to family and social life, working the night shift has other negative consequences arising from the work/sleep schedule being 'out-of-sync' with our circadian rhythms.

Trying to function across the night as we go through our circadian low around 4:00 to 6:00 a.m. is almost impossible to be efficient and is fraught with mistakes and danger. Research has found that people's performance at that time (3:00 to 6:00 a.m.) is as impaired as it would be with a blood alcohol level high enough to make it illegal to drive a car.

The personal cost to the night shift worker can be high.

- ▶ Daytime sleep during the circadian alert phase is usually shorter and lighter than nighttime sleep.
- ▶ Therefore, there is an accumulation of sleep debt and sleep pressure over a succession of work shifts at night.
- ▶ This increased sleep pressure contributes to the still present circadian sleepy phase in the early morning hours (3:00 to 6:00 a.m.).

- ▶ Caffeine is often consumed during this time to try to stay awake until the end of the night shift and on the way home. However, since caffeine stays in the body for many hours, it will tend to lighten the day sleep even more.
- ▶ The insomnia-like symptoms of daytime sleep and the worry about the negative impact of insufficient sleep on both work performance and family life can lead to the development of conditioned insomnia and a chronic sleep problem even after stopping shift work.

Unfortunately, there is no easy solution to this 'out-of-sync' problem. One alternative is to limit the number of successive night shifts to no more than two before allowing days off and return to day shift. However, individual workers usually have little control over shift work scheduling.

Some hints for the night shift worker

For permanent night shift workers with many (more than three) successive night shifts, it can help to partially adjust their circadian phase so they are more alert during the night shift and also get better quality sleep during the day.

- ▶ This could be achieved with the use of bright light during the late evening or the first part of the night shift for a couple of nights.
- ▶ In addition try to avoid bright light on the way home before bed.
- ▶ This would delay the circadian rhythm to the point where the circadian low would occur after the night shift and in the early part of the daytime sleep.
- ▶ This should reduce the hazard of impaired performance on the night shift and improve the quality of sleep to reduce the accumulation of sleep debt.
- ▶ Minimize the potential disturbances to your daytime sleep, blacking out daylight from windows, take the phone off the hook or put your mobile phone on silent mode, make it clear to family and friends that you will be sleeping between certain hours and should not be disturbed.
- ▶ Night shift workers also find it useful to catch another nap in the early evening before work to help reduce the sleep debt and to improve alertness on the job.
- ▶ However, remember that on "days off" the preferred sleep period would then be delayed somewhat (for example, 2:00 a.m. to 10:00 am) but not unlike an evening type person.
- ▶ Also, remember to avoid caffeine in those early morning hours.

In Conclusion

In this book we have explained the process of sleep and what can go wrong. There are many kinds of insomnia and different things that contribute to it. Therefore, in order to be effective,

the treatment should be tailored to your specific sleep problem.

You may have had insomnia for many years so it can take many weeks to re-establish a better sleep pattern. Remember, the important thing is how you feel during the day – that is the best indication of the quality of your sleep.

If your insomnia should return at any stage in your life, at least you will now have the knowledge and skills to tackle the problem and again improve your sleep and the way you feel during the day. You can tame the insomnia tyrant, get a better quality sleep, feel better during the day, and improve your quality of life.

Useful contacts

Sleep disorder centres now exist in all states of Australia and New Zealand as well as most countries around the world. Access to these centres is through a referral from your doctor.

For a list of sleep centres and sleep therapists in Australia and New Zealand or information about sleep, contact:

The Australasian Sleep Association

Website: <http://www.sleep.org.au/>

Phone: (0)2 9920 1968

Email: admin@sleep.org.au

If your insomnia is associated with a distressing event, anxiety or depression, you may wish to seek counselling. For a list of psychologist who can help in these circumstances contact:

The Australian Psychological Society

Website: <http://www.psychology.org.au>

Toll Free: 1800 333 497

Email: contactus@psychology.org.au

Finding a sleep disorders center in the United States of America via the web:

American Academy of Sleep Medicine <http://www.aasmnet.org>

For those in the United Kingdom:

British Sleep Society <http://www.sleeping.org.uk/>

For other European countries:

European Sleep Research Society http://www.esrs.eu/cms/front_content.php?idart=255

About the Authors

Leon Lack is a Professor in Psychology at Flinders University in South Australia. Since 1980 he has conducted basic and clinical sleep research with the frequent support of the Australian Research Council and National Health and Medical Research Council of Australia. He has numerous research publications in the areas of circadian rhythms, bright light therapy, insomnia, and its treatment. Dr. Lack is often invited to speak about sleep and treatments of insomnia to medical practitioners, psychologists and the general public. Since 1990 he has also conducted an insomnia treatment clinic in the multidisciplinary sleep unit, Adelaide Institute for Sleep Health. He was a founding member, past president, and continues active involvement in the Australasian Sleep Association.

Helen Wright was a Research Fellow at Flinders University, South Australia and a Psychologist working in insomnia treatment programs in hospital based Sleep Units. She has been involved with basic and clinical sleep research since 1990, and has co-authored articles on sleep, insomnia, circadian rhythms and bright light therapy. With Professor Lack, she has developed the Insomnia Management Kits that have been used extensively by GPs throughout South Australia.

Dr Lack and Dr. Wright hold national and international patents as co-inventors of the Re-timer.

Afterword

In 1975 Professor Wilse B. Webb, one of the outstanding early sleep researchers and collaborator with Professor Lack, published a book titled “Sleep the Gentle Tyrant” in which he used the first two decades of sleep research to make sense of many of the mysteries of sleep to a large, general and non-technical readership. The point of his title was to emphasize that sleep is generated by strong and lawful forces that, once understood, can be used to live with this ‘tyrant’ in peace. This book adds the last forty years of basic sleep and clinical research to provide the best evidence-based and understandable approach to improving sleep in those suffering from insomnia.

Acknowledgements

The first version of this book published in 2003 was based on an earlier book by Dr. Helen Bearpark. Her tragic death in 1996 shocked the sleep community worldwide. Since 1978 Helen worked as a researcher and psychologist specializing in sleeping disorders. She was an extraordinarily generous and enthusiastic person and had many friends and colleagues in Australia, North American and Europe. She was a founding member and past secretary of the Australasian Sleep Association.

We would also like to acknowledge the thousands of people we have seen with insomnia and other sleep disorders. Their often thoughtful evaluations of their problems and condition have given us ideas to pursue in research which in turn has furthered our scientific understanding of insomnia and improved our ability to treat it. Our clinical observations and comments from clients are referred to as anecdotal evidence and not considered reliable enough upon which to base clinical practice. However, we have been in the fortunate position to have the resources of Flinders University and external granting bodies to support the scientific testing of some of these ideas and establish their general validity and effectiveness. Therefore, with our dual roles of University academics and practicing clinicians we have been able to test ideas and observations from clinical practice that have then fed back to improve clinical practice. Therefore, we acknowledge the support of the School of Psychology, Faculty of Social and Behavioural Sciences, and Flinders University of South Australia in general.

We also acknowledge research support from:

Australia Research Council

1998, Is afternoon sleepiness part of the sleep/wake cycle?

2005, Brief naps as a countermeasure to fatigue.

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2012, Biological and Behavioural Rhythms of Delayed Sleep Phase Disorder

National Health and Medical Research Council

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2008, Comparing light and cognitive-behaviour therapies for the treatment of sleep maintenance insomnia in older adults.

2012, Randomised Controlled Trial of Melatonin for Delayed Sleep Phase Disorder.

2013, Treating insomnia co-morbid with obstructive sleep apnoea: a randomized controlled clinical effectiveness trial.

Appendices

On the next page, you can find blank worksheets to help you implement the exercises in this book.

Please refer to Chapter 5 for more information on using the Sleep Diary worksheet.

Please refer to Chapter 13 for information on the Automatic Thought Record worksheet.

eReader users: If you cannot view this worksheet in your eReader, please download a PDF version of this eBook at www.re-timer.com.

Sleep Diary Worksheet

[illegible]

Automatic Thought Record Worksheet

<i>Situation</i>	<i>Automatic Thought</i>	<i>Feeling</i>	<i>Alternative Thought</i>	<i>Feeling</i>