

CBT for Insomnia



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CBT for Insomnia is an evidence based set of interventions effective in the treatment of Insomnia and sleep problems.

This workbook can be used either alone or with the support of your Psychological Wellbeing Practitioner.

How to use this workbook.

Cognitive Behavioural Therapy for Insomnia is a series of independent interventions for treating sleep difficulties.

The parts can be used either individually, as a stand alone treatment intervention, or in sequence.

Only move on to the next part of Cognitive Behavioural Therapy for Insomnia once you are comfortable with using each part.

It can take some time for each intervention to become effective and to show some improvement in your sleep. It is important to allow enough time for each intervention to be effective before moving on to the next part.

Evidence of Effectiveness;

<http://jama.jamanetwork.com/article.aspx?articleid=203083>

Helpful Resources;

An online calculator for sleep efficiency: <http://sinkintosleep.com/SleepTest/SleepCalc4.html>

CBTi Service: <https://sleepstation.org.uk/>

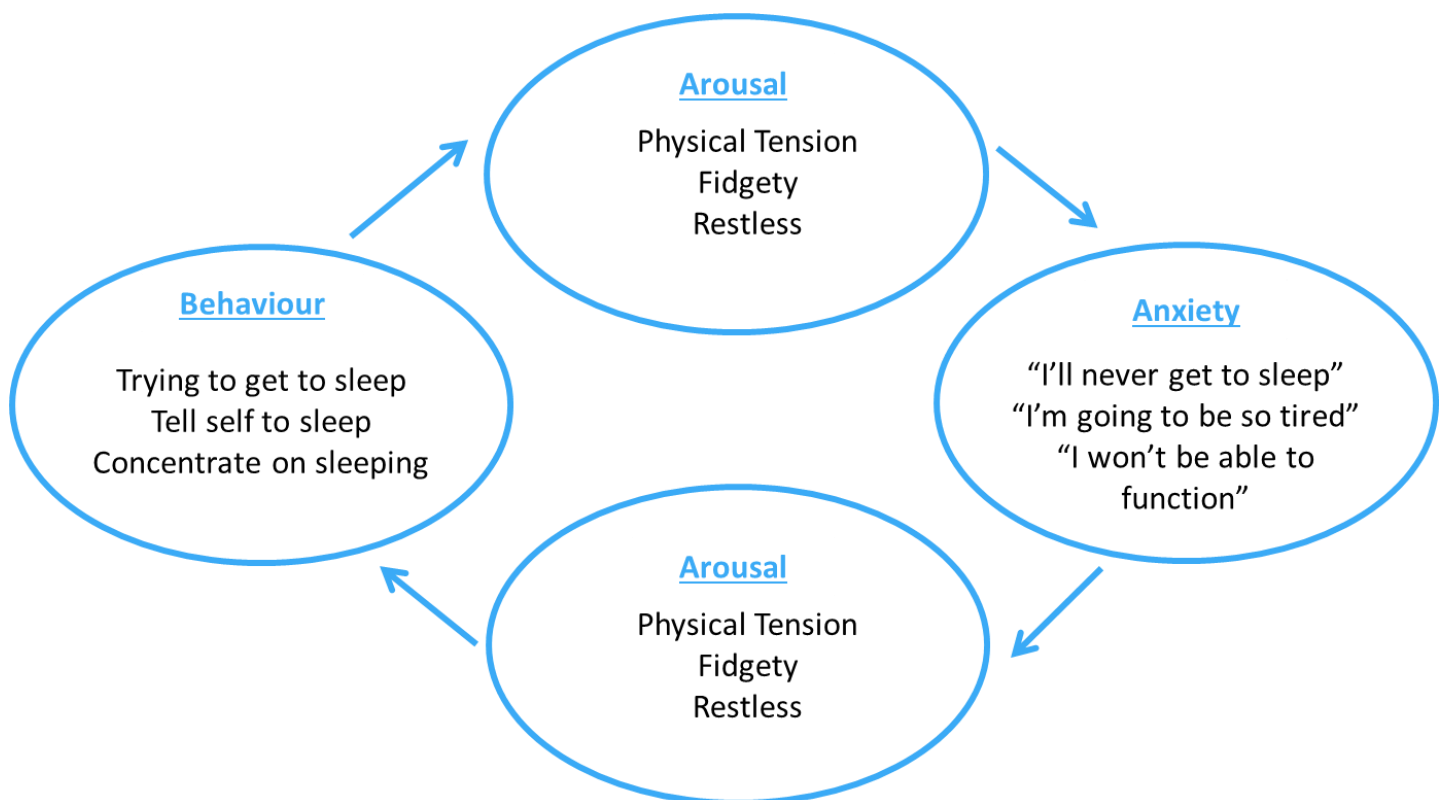
www.talkplus.org.uk

Introduction

Improving Sleep

CBT for Insomnia is an evidence based treatment including several different interventions which can be used in sequence or individually. It works by identifying unhelpful habits and routines which may be maintaining sleep problems. CBT for Insomnia improves quality and depth of sleep to help to feel less tired during the day.

Sleep is an essential part of our wellbeing, helping us to feel well and happy. It is normal for anyone to experience a sleep difficulty at some point in life, however sleep problems can sometimes lead us to feel low or anxious. In this way problems with sleep can have a big impact on day to day living. Sleep serves a restorative purpose, both psychologically and physiologically. Sleep is important for general health, memory, concentration, performance, well-being and mood. Due to the important nature of sleep, when it becomes disrupted it can be difficult to function day to day.



The Vicious Cycle of Insomnia

Arousal is the physiological and psychological state of being awake and responsive and plays a big part in a poor night's sleep. Our feelings, thoughts and health are all factors that cause us to be aroused which can prevent falling asleep. The harder we try to fall asleep, the more aroused we become, which in turn causes us to feel anxious about our sleep. Trying to fall asleep actually keeps us awake, as sleep is an automatic process which works best when we leave it on automatic.

PART ONE: Understanding Sleep

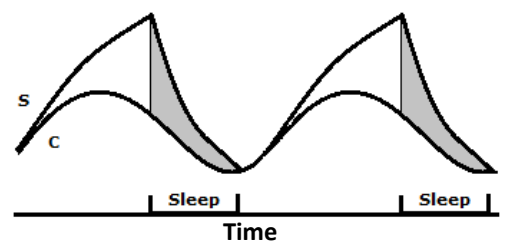
What is sleep?

Sleep is a period of restful unresponsiveness, it is a predictable and active process which is controlled by two independent systems in our bodies; homeostasis and circadian rhythm.

- **Homeostasis** (s) drives our desire or need for sleep. The longer we are awake the sleepier we become, being awake increases our need for sleep and once we have been asleep our need for sleep will have decreased.
- **Circadian rhythm** (c) is our internal biological clock which runs on an average 24 hour cycle. This also controls other bodily functions such as temperature, blood pressure and hormones.

Good quality sleep is more likely to happen when these two cycles are synchronised.

The graph opposite demonstrates the interaction between homeostasis and our circadian rhythm which results in our 24 hour wake-sleep cycle. The shaded area denotes time sleeping, which reduces our need for sleep over time. Sometimes situations or environmental factors can override the process and keep us awake when we should be sleeping.



The five stages of sleep

Sleep is made of five stages that occur in cycles throughout the night. Each cycle takes roughly 90 minutes and we have 4-5 cycles in each night of sleep.

Stage One: The initial stage of sleep is the transition between being awake and being asleep. In this stage our muscles begin to relax, during this stage we can be awoken easily.

Stage Two: In this stage we enter into a light sleep where our breathing and heart rate slow, we can still be quite easily woken in this stage. Adults spend 50-60% of each sleep cycle in this stage of sleep.

Stage Three: This stage is a deep sleep, our breathing and heart rate drop to their lowest levels.

Stage Four: A second stage of deep sleep, breathing and heart rate are rhythmic and there is limited muscle activity.

Stage Five (REM): This stage of sleep is known as Rapid Eye Movement (REM) sleep. This is the stage in which most dreams occur, our blood pressure and heart rate increase and our eye balls flicker while our bodies remain very still.

Following REM sleep we return to stage one again, and cycle through 4-5 times per night.

What is 'normal' sleep?

Most adults sleep between 5-10 hours per night, where the average duration is 7 hours, depending on a variety of factors. The biggest factor which varies our average sleep is age. As we age the stages of deep sleep (3 and 4) reduce whilst lighter stages (1 and 2) increase. Therefore as we age we are more easily disturbed during sleep and tend to sleep less.

PART ONE: Understanding Sleep

Sleep Hygiene

Sleep Hygiene is a set of rules for improving sleep. When we have been struggling with a sleep problem for a long time we have often searched online or asked for tips to help us sleep. Therefore it may be that you have tried one or more of the rules below, however it is important to try them all simultaneously, and for a lengthy period of time, to realise potential benefits.

1. Products containing caffeine (tea, coffee, chocolate) should not be consumed for at least four hours before bed time. Caffeine is a stimulant which keeps us awake.
2. Avoid nicotine (including patches, vaporisers and gum) at least an hour before bed time. Nicotine is a stimulant which can keep us awake.
3. Avoid alcohol around bed time, although alcohol may appear to help us sleep it can make our sleep less restful, and disrupt the deeper stages of sleep.
4. Avoid eating large amounts of food before bed time, do not go to bed too hungry or too full.
5. Engage in regular physical exercise, however do not exercise for at least two hours before bed time as it can keep us awake.
6. Maintain a calm and tidy bedroom, select bedding that is comfortable and try to make your bed every morning.
7. Keep the bedroom at a comfortable temperature, avoiding extreme hot or cold.
8. During the night keep the bedroom quiet and dark, try to get some sunlight during the day.
9. Keep the bedroom for sex and sleep, avoid reading, eating, using electronic devices or watching TV in bed.
10. Set regular times to go to bed and to get up each day.

Sleep Diary

To continue with the next step, and to see if any of the rules above help sleep, it is important to keep a sleep diary for the next fortnight. The diary records information regarding how long we spend in bed per night and how much of that time is spent sleeping. This information is used to calculate how efficient our sleep is and how much sleep we get on average per week.

To use the sleep diary fill in for each day;

- Time you went to bed at night and time you got up in the morning.
- Time you first fell asleep last night and time you woke up this morning.
- Length of time awake during the night (in minutes).

Use this information to calculate how long you were asleep in total, in minutes, through the night and the length of time, in minutes, you were in bed. Do not deduct from your time in bed if you got out of bed during the night.

SLEEP DIARY

	Time Sleeping				Time in Bed		
	Fell asleep	Woke up	Length of time awake in night	Minutes	Went to Bed	Got up	Minutes
Day 1							
Day 2							
Day 3							
Day 4							
Day 5							
Day 6							
Day 7							
					Add time in bed per night ÷ 7 = Average time in bed		
					Add time asleep per night ÷ 7 = Average time asleep		
					Sleep efficiency = average time asleep ÷ average time in bed x 100 =		

PART TWO: Sleep restriction

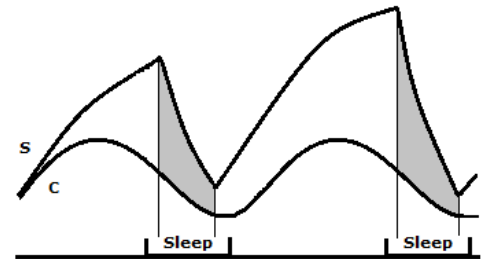
Why restrict sleep?

Sleep restriction helps us to improve the depth, continuity and quality of sleep by increasing the association between sleep and our bed and therefore resynchronising our natural sleep cycles. Sleep restriction involves keeping the number of hours we spend in bed as close as possible to the number of hours we actually spend asleep.

When we struggle to sleep over a long period of time we often feel that spending longer in bed can help to relieve our tiredness. This may be helpful in the short term, in that we feel less tired, however it is not effective in improving our sleep in the long term as sleep becomes fragmented and restless. The purpose of sleep restriction is to spend as long as possible *asleep* in bed, not as long as possible in bed. The aim of sleep restriction is to reset our natural sleep cycle so that our circadian rhythm (body clock) and homeostasis (need for sleep) are in synch, as below.

By decreasing our time in bed and time spent asleep we increase our need for sleep. As shown in the diagram below if we restrict our time in bed by going to bed later and getting up earlier our need for sleep will be greater the following day. Sleep restriction promotes a state of mild sleep deprivation which causes us to be more sleepy in the evening.

In turn this improves both the depth and continuity of our sleep. Although we may be sleeping for less time, the quality of our sleep has improved, meaning we feel more rested and refreshed in the morning. This increased sleepiness makes it easier for us to fall asleep, more likely that we will complete full sleep cycles and wake less in the night.



Setting our sleep window

Sleep restriction is carried out by initially calculating the 'sleep window' based on the information have gathered in the sleep diary. A sleep window sets the fixed times to go to bed at night and get up in the morning, this is the average number of hours per night spent asleep over the past two weeks.

The rules of sleep restriction are;

1. Do not go to bed before the window starts even if tired.
2. If still awake when the sleep window starts wait until becoming tired before going to bed.
3. The end of the sleep window, the time to get out of bed, is fixed. Get out of bed at the end of the sleep window even if still tired and sleepy.

To begin with it is normal to experience tiredness or increased sleepiness during the day, however this is temporary. It is possible that, even though time in bed is shorter, we function better during the day and quality of sleep is improved. This is what we are aiming to achieve and will be reflected in the sleep diary as 'sleep efficiency'.

Sleep efficiency is the percentage of time in bed spent asleep. A desirable sleep efficiency is 80-85%, this is average. Sleep efficiency guides the sleep window, if efficiency is below 80%, reduce the sleep window by 15 minutes. It is important not to have a sleep window of less than 5 hours, to prevent becoming more than mildly sleep deprived. If efficiency goes above 80%, then add an extra 15 minutes to the sleep window.

Continue with sleep restriction. When sleep efficiency drops stick to the previous sleep window. This is often the optimum amount of sleep time for both quality and quantity.

[See an example sleep diary and sleep restriction plan on the following pages.](#)

SLEEP DIARY EXAMPLE

	Time Sleeping				Time in Bed		
	Fell asleep	Woke up	Length of time awake in night	Minutes	Went to Bed	Got up	Minutes
Day 1	1:00	6:00	40	260	10:30	7:00	510
Day 2	1:15	6:30	55	260	11:00	7:00	540
Day 3	1:00	5:45	20	265	10:45	7:00	525
Day 4	3:00	7:00	40	200	11:00	7:00	540
Day 5	12:30	6:30	80	280	10:30	7:00	510
Day 6	1:00	11:30	120	510	11:30	12:30	660
Day 7	3:30	12:00	135	375	12:00	12:30	750
Add time asleep per night ÷ 7 = Average time asleep				307	Add time in bed per night ÷ 7 = Average time in bed		576
Sleep efficiency = average time asleep ÷ average time in bed x 100 =							
53%							

EXAMPLE: Sleep Diary & Sleep Restriction

Filling out the sleep diary

Each morning it is helpful to fill out the sleep diary. To do this, write down the time you went to bed and the time you got up in columns A and B. Also write the time you feel asleep and the time you woke up in columns D and E. In column F record an estimate of how long were awake during the night altogether.

	Time Sleeping				Time in Bed		
	Fell asleep D	Woke up E	Length of time awake in night F	Minutes G	Went to Bed A	Got up B	Minutes C
Day 1	1:00	6:00	40	260	10:30	7:00	510
Day 2	1:15	6:30	55	260	11:00	7:00	540
Day 3	1:00	5:45	20	265	10:45	7:00	525
Day 4	3:00	7:00	40	200	11:00	7:00	540
Day 5	12:30	6:30	80	280	10:30	7:00	510
Day 6	1:00	11:30	120	510	11:30	12:30	660
Day 7	3:30	12:00	135	375	12:00	12:30	750
Add time asleep per night + 7 = Average time asleep				H	Add time in bed per night + 7 = Average time in bed		
					Sleep efficiency = average time asleep + average time in bed x 100 =		
					I		
					J		

Calculating average time sleeping

In order to calculate the average time asleep first work out how long spent asleep each night. Do this by calculating each day the difference between the time we fell asleep and the time we woke up, minus the length of time we were awake in the night. Record this for each night in column G, it is important to calculate this in minutes. By adding all the totals in column G together and dividing that by 7 this shows the average time per night we slept in the week.

Calculating average time in bed

First work out the difference, in minutes, between going to bed and finally getting out of bed, record this in column C, this gives us the average time in bed each night. Then add the totals in column C together and divide by 7 to show average time in bed, per night over the week.

Calculating a sleep window

Our sleep window is the total displayed in box H, our average time asleep, per night over a week. In the example this is 307 minutes, or 5 hours 6 minutes. Hours can be calculated by dividing the minutes by 60.

Calculating sleep efficiency

Sleep efficiency is the percentage of time spent asleep while in bed. To calculate sleep efficiency divide the number in column H by the total in column I, then multiply by 100 and record in box J.

Carrying out sleep restriction

Sleep restriction is carried out by limiting our time in bed to our sleep window time, the average time we spend asleep. In this example it is 5 hours and 6 minutes. Our sleep window is also based on how efficient our sleep is. If our sleep efficiency is below 80% we reduce the window by 15 minutes. However as we cannot have a sleep window under 5 hours, in this example the sleep window would be 5 hours. Set your sleep window at whatever point in the night you choose, some people find it helpful to start with when they wake up and work backwards. For example if you need to be up for work at 7 set a 5 hour sleep window from 2am to 7am. This window is then fixed over the week, even at weekends.

PART THREE

Stimulus Control

Our beds and bedroom are important signals for sleep as they can make us feel sleepy. However, if we have difficulties with sleep, we can spend a lot of time in bed awake, which results in the signals being lost. The aim of stimulus control is to reduce the amount of time spent awake in bed, therefore strengthening our signals for sleep.

In order for us to associate our beds with sleepiness we should only allow ourselves to be in bed when we are going to sleep or are asleep. This increases the association between our beds and the physiological changes necessary for sleep. Once sleep has been disrupted for a period of time we can build negative association between sleep and our beds, as we spend a lot of time awake in bed. These negative associations can result in feeling more awake when we get into bed and can make it difficult getting off to sleep. There are seven rules of stimulus control which are important to follow.

1. Do not go to bed before the agreed time

It is important to spend the last hour before going to bed doing something outside of your bedroom that helps you unwind.

2. Go to bed only when you are tired, lie down with the intent to go to sleep

Only go to bed in your sleep window when feeling tired. If feeling tired before the sleep window starts try to delay going to bed until the agreed time.

3. If you are unable to fall asleep within 20 minutes, get up, go to another room and engage in a quiet and relaxing activity

Lying in bed awake will not increase how rested we feel, it can actually increase our arousal which disturbs sleep even more. It is important not to clock watch when trying to get to sleep, get up after approximately 20 minutes. Get out of bed and go to a different place, not in your bedroom, and return to bed only when you feel sleepy again. Don't worry that if you stay up too long you won't get back to sleep, the longer you stay up the sleepier you will be and the quicker you will get to sleep. Do not fall asleep in any other place than your bed.

4. If, having returned to bed, you do not fall asleep within 20 minutes - return to rule 3

If you have returned to bed and still find you cannot get to sleep, after approximately 20 minutes get out of bed again and only return once you feel sleepy enough to sleep.

5. Reserve your bed and bedroom for sleep and sex only

It is common that when we are awake in bed to check our phones, watch TV or read, however these activities can make sleep problems worse. This reinforces the negative association between our bed and being awake, perpetuating our sleep difficulties. Sexual activity is the only exception as this can be relaxing, however if this is not the case, engage in sexual activity in a different location.

6. Use an alarm clock to maintain a regular getting up time in the morning

Maintain a regular getting up time through the week and on weekends, regardless of how much sleep you have had or how tired you feel. By doing this we can regulate our internal body clock. Do not have a lie in even if you feel tired, this can disrupt the sleep-wake cycle.

7. Do not nap during the day

Napping diminishes the quality and quantity of sleep we have during the night time.

PART FOUR

Other Useful Techniques

It is important to practice sleep hygiene, sleep restriction and stimulus control for a number of weeks in order for our body clock to regulate. It may take several weeks for this to happen and to start feeling the benefits of CBT for Insomnia.

However, if after some time you are still experiencing significant sleep difficulties there are a few more skills, tips and techniques that have been shown to be beneficial in improving sleep.

Things to do if I get up in my sleep window

Things I could do	Things to avoid
Reading	Watching television
Doing crossword puzzles	Exercise
Knitting	Playing or working on the computer
Writing	Using my mobile phone
Drawing	Worrying
Listening to the radio or music	Relaxing in bed or in a chair

Relaxation

Arousal can maintain our sleep problems as it makes it difficult for us to fall asleep. As sleep is an automatic process, we cannot force it, and the more we try the more aroused we become. Arousal often involves an increase in our breathing rate and heart rate, fidgeting and muscle tension. These factors all work against the natural process our bodies require in order to achieve sleep. Relaxation can help slow our heart rate and breathing, decrease tension and stop our mind shifting.

There are several different types of guided relaxation, it is important to use one that makes you feel relaxed. Go to our website for some free mp3 downloads of guided meditation.

Cognitive Restructuring

Cognitive Restructuring is an evidence based treatment used to challenge unhelpful thoughts in low mood or anxiety. It works by identifying negative or unhelpful thoughts and gathering evidence to test the validity of the thought. This evidence then helps us to develop a more realistic and helpful thought. A workbook for this intervention can be found on our website at the above address.

Problem Solving

Problem Solving is an evidence based treatment used to tackle practical problems when low mood or anxiety is compromising natural problem solving ability. It works by tackling one problem at a time and developing a specific action, we do this by developing as many solutions as possible and evaluating each solution before choosing one to implement. A workbook for this intervention can be found on our website at the above address.

Workbooks for the above interventions and free mp3s available at www.talkplus.org.uk