Awakenings from sleep are a normal part of a healthy sleep pattern. It is normal for people to wake briefly from the light states of sleep although they may not be aware of this or remember it. As we age, these normal nighttime awakenings become longer and we are more likely to remember them in the morning. Awakenings across the night will not necessarily produce any ill effect on the way an individual feels or functions the following day.

The drive for sleep, or homeostatic sleep pressure, builds up the longer we are awake and dissipates during sleep. The propensity for sleep is also regulated by the endogenous circadian “body clock”. When the body clock is timed normally, sleepiness is high during the night time and low during the day, and night time sleep is well consolidated. The two processes of homeostatic pressure and circadian function work together to promote regular sleep patterns. Disturbance of the body clock (such as in jet lag and shift work) results in insomnia symptoms when the individual attempts to sleep and excessive sleepiness during wake time.

The amount of sleep we need varies with age. Newborn infants need about 16 hours of sleep per day, young children (5-9 years) about 10 hours, adolescents about 9 hours, young adults 8 hours and elderly about 7 hours a day. However, the need for sleep is not the same for all people of the same age. Some people may need 10 hours of sleep a night to feel refreshed and alert the next day, others may need just 5 hours a night.
Insomnia

Insomnia is a persistent and distressing disorder relating to a difficulty with:

- Sleep initiation: going to sleep takes more than 30 minutes
- Sleep maintenance: being awake during the night (more than 30-45 minutes),
- Early termination: waking earlier than intended without being able to resume sleep or
- A combination of the above difficulties.

Insomnia is usually accompanied by daytime fatigue. Individuals often report lack of energy and irritability. Poor performance at work, memory difficulties and concentration problems are also reported.

Insomnia is often co-morbid with medical or psychiatric illness. Insomnia also has a high co-morbidity (30-40%) with other sleep disorders such as Obstructive sleep apnoea, and restless legs syndrome.

Transient insomnia symptoms are common, and may arise from stress associated with work, finances, family, and medical and psychiatric conditions. Insomnia is reported to occur in 30-50% of the population in any one year. Transient insomnia may be considered an adaptive response to these challenges. Once the problem is resolved, sleep and daytime energy usually return to normal levels.

Some stresses or conditions may not resolve within a short duration and may continue to produce insomnia. Often the original source of stress is resolved, but a conditioned or habitual insomnia may develop. The worry about poor sleep may then become the major stress perpetuating chronic insomnia. In these cases the poor sleep and daytime impairments can last a long time (for decades in some people) if they are untreated.

Chronic insomnia (symptoms > 1 month) is less common than transient insomnia, but is still found in 10% of the total population. Chronic insomnia is more common in older people who often have other medical conditions. Chronic insomnia can significantly impair quality of life, and is associated with poor health. It is a disorder that warrants treatment.

Assessment of insomnia

Sleep quality and quantity varies from night to night. Different types of insomnia show different sleep patterns. Therefore, asking the patient to keep a sleep diary for at least a week will aid the assessment of the insomnia complaint. The sleep diary should document bed times, how long it took to fall asleep (sleep latency), number of awakenings, total time awake in bed, wake up times, as well as how sleepy and fatigued the individual felt across each day. Sleep diaries may be obtained from local sleep centres or from the web site:


Click on the “Sleep Diary” link.

A medical referral to a sleep centre is recommended if there is any concern about another sleep disorder such as sleep apnea (sleep/breathing disturbance), restless leg syndrome or excessive daytime sleepiness.
Treatment of insomnia

Pharmacological treatment (see below) may be useful in the short term (7-10 days). Such treatments will not, however, address the underlying cause of the insomnia. Cognitive Behaviour Therapy (CBTi) for insomnia is more effective long term than pharmacological treatments. CBTi programmes change the sleep/wake behaviour and inappropriate thoughts and beliefs about sleep that are maintaining the poor sleep patterns.

Pharmacological treatment approaches

Insomnia is frequently treated with medication, and most commonly involves ‘over the counter’ preparations. These are usually antihistamines and alcohol and can have adverse side effects. In Australia the most commonly prescribed medications for insomnia are the benzodiazepines (BZP) temazepam and diazepam. Although these medications are efficacious, they are associated with tolerance, dependence, residual daytime sedative effects, cognitive and psychomotor impairment, and discontinuation syndromes including rebound insomnia and withdrawal symptoms. For this reason, BZD use should be judicious and short-term.

The newer BZP receptor agonists, known as the three ‘Z’s, Zopiclone, Zolpidem and Zaleplon, are specifically designed to treat insomnia, and if used for a short time, are effective. Tricyclic antidepressants are often used, but their sedating effect tends to be short lived. Whilst they are not addictive, they do have more side effects.

Most studies indicate that psychological intervention (CBTi) is superior to medication in the treatment of long term insomnia.

Psychological treatment approaches

CBTi is a very effective psychological and behavioural intervention. Psychologists have the qualifications and training to provide this treatment option. These clinicians may be associated with a sleep disorders centre, or may be in independent private practice. To find a sleep service go to: http://www.sleep.org.au/servicesdirectory

In Australia and New Zealand, private health insurance may cover consultations with a psychologist. In Australia, GPs have the option of referring a patient with insomnia to a registered psychologist for treatment under the medicare Mental Health Care Program.

Cognitive Behavioural Therapy for Insomnia (CBTi). When individuals experience sleep initiation or maintenance insomnia, they often make their sleep worse by spending a long time in bed attempting to sleep. The bedroom environment becomes a place of being awake and worrying, often about not sleeping. The behavioural components of CBTi consist mainly of Bedtime Restriction Therapy and Stimulus Control Therapy.

Bed time restriction therapy reduces the conditioned insomnia response and re-associates the bed environment with sleep. It
reduces time awake across the night and consolidates and improves sleep as well as improving daytime functioning and feelings.

Keeping a sleep diary over a week shows how much sleep is reported compared with the greater amount of time spent in bed, much of it awake. The amount of time spent awake in bed needs to be reduced usually by 1-2 hours either

- going to bed later
- getting up earlier
- Or a combination of these two.

Over a period of 2-3 weeks this will usually increase sleepiness that will help to fill up the restricted time in bed mainly with sleep. When sleep fills up most of this time in bed (at least 85% of it), then time in bed can be extended by 30 minutes. This process of gradually extending time allowed in bed can continue until daytime sleepiness and fatigue diminish to an acceptable level.

The goal is not to get rid of night-time awakenings entirely (these are normal), but to enable quick returns to sleep after each awakening and easier onset of sleep at the beginning of the night.

**Stimulus Control Therapy** aims to make the bed a cue for sleep onset as opposed to being a cue for becoming alert and anxious! Therefore anything that interferes with sleep onset or return to sleep (working on a computer, talking with spouse, etc.) needs to be done somewhere else than the bedroom. Don’t have a fixed bedtime, go to bed when sleepy. If not asleep within around 1/4 of an hour, get up and go to another room to read or listen to music in dim light. When sleepy again, go back to bed and attempt to “let go”, and allow sleep to happen. It may be necessary to get up a number of times a night, and for a number of nights, to achieve greater ease of falling asleep and return sleep to a normal pattern. It is also important to have a consistent wake-up time across the week, even if less sleep is obtained in the first few nights of therapy.

The cognitive elements of CBTi address the thoughts, beliefs, and emotional reactions that exacerbate a poor sleep pattern. For example, the widely held belief that healthy sleep is one long period of unbroken sleep is incorrect and unnecessarily increases worry about sleep when awakenings are experienced. The belief that you cannot function if you get lighter, broken sleep also increases worry and contributes to poor sleep and daytime malaise.

**Relaxation and Thought Recognition** therapy has both a physical (e.g. progressive muscle relaxation) and mental component. Mental “relaxation” includes a variety of procedures including meditative, hypnotic, and mindfulness cognitive skills. The purpose of this focused attention is to reduce intrusive, worrisome, and alerting mental activity thus allowing a quicker onset of sleep. It is important first to practice these relaxation skills to develop proficiency before using it at night for sleep.

**Bright light therapy** can re-time the body clock. Blue and green wavelength of light seems to be the most effective at resetting the circadian cycle. It can be particularly helpful in the treatment of circadian rhythm disorders such as delayed sleep phase syndrome, which
is often described as initial insomnia, and advanced sleep phase syndrome indicated by early morning awakening insomnia. These therapies require careful evaluation by a trained sleep disorder professional to estimate the body clock timing, and recommend the appropriate timing of light therapy.

Further reading:


2. Sleep and Health Education Program. Division of Sleep Medicine, Harvard Medical School: http://healthysleep.med.harvard.edu/portal/

