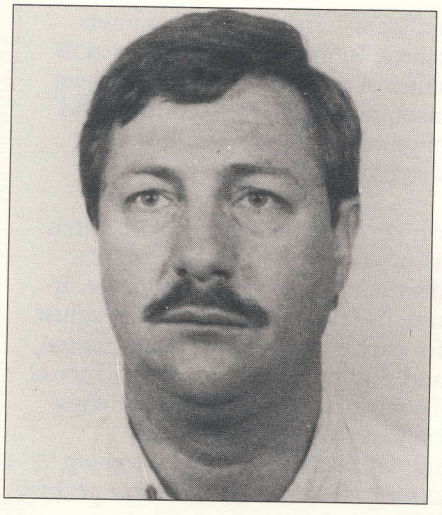
# Insomnia - Approach and Management

- Dr Felix Potocnik



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## Curriculum vitae

Dr Potocnik qualified at the University of the Witwatersrand in 1975, and obtained a Diploma in Midwifery of the College of Obstetrics and Gynaecology (SA) in 1978. He obtained the FF Psych (SA) in 1984. He is currently Senior Lecturer, Dept of Psychiatry, University of Cape Town and Consultant Psychiatrist, Psychogeriatric Unit, Valkenberg Hospital. He has specific interests in psychogeriatrics and Jungian Psychology, and has several publications to his credit.

*Summary*

*Sleep disorders encompass an extensive neuropsychiatric field, and should be regarded as a symptom indicating an underlying problem. The duration is an important guide to evaluation and treatment: transient, short-term or long-term. Incidence, diagnostic evaluation and management for each of them is dealt with, and the importance of a healthy life style and good doctor-patient relationship emphasized.*

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KEYWORDS:
Insomnia; Physician-patient Relations; Life Style; Drug Therapy.

## Introduction and Epidemiology

Sleep disorders encompass an extensive neuropsychiatric field, some of interest to the sleep-laboratory only. For the purpose of this article "insomnia" in the main, as it is understood in general terms, will be discussed.

Insomnia is the most common sleep problem, stemming from a variety of causes and varying in severity and duration from patient to patient. Insomnia is not a disease, but a symptom or complaint. It encompasses the time taken for the person to fall asleep, the periods of lying awake during the night, and the fact that the person arises unrefreshed.

Establishing the accuracy of the complaint is the first priority, as poor sleepers tend to exaggerate the degree of their insomnia. Most studies show that complainers are asleep within half an hour of retiring to sleep and that the so-called "4-hour sleeper" usually sleeps 6 hours. It is true, however, that on average, complainers sleep ½ an hour less per night than those who don't complain, and wake up twice as often.

Personality features investigated show that neurotic personalities tend to be poor sleepers while psychopathic personalities tend to be good sleepers. Women being by nature more feeling-sensitive are, therefore, more at risk of suffering from insomnia than their thinking-orientated male counterparts. Environmental stress can, however, offset this as stressed businessmen put insomnia as their first complaint ahead of indigestion. Though depression is most commonly thought of in association with insomnia in psychiatry, the Diagnostic and Statistical Manual of Mental Disorders Edition III-Revised (DSM III-R) lists 31 other mental disorders associated with insomnia. The commonest being neurotic problems, personality problems and alcohol problems.

### *The chronobiology of sleep and wakefulness*

The circadian pattern of sleep and wakefulness is governed by the interplay of internal biological "clocks", environmental influences, and the many processes that promote arousal or quiescence. The two peaks of daily propensity for sleep are nocturnal bedtime and mid-afternoon (the hour of siesta). Exposure to bright light (more than 1500 lux) in the evening (6-9 pm) tends to delay the phase position of the underlying circadian rhythm with reference to

## ... Insomnia

the environment, while exposure to bright light in the early morning (5-7 am) tends to advance it. In the absence of light and other cues, humans tend to choose a 25 hour day. For this reason humans adapt easier when their sleep-wake cycle is lengthened rather than shortened ie in travelling west rather than east, for example, or rotating from an afternoon to an evening shift rather than a morning shift.

Studies have shown that people sleeping 7-8 hours per night live longer than those sleeping less than 6 hours a night (ie the latter have a 1,3 times greater mortality than the former group). These findings are independent of smoking habits, social class, physical health status, weight and alcohol consumption. This factor may be due to the lack of "restoration time" that sleep affords. Similarly, regarding nutritional status, fatter people are happier and sleep longer than anorexics who have a shortened and broken sleep. With fattening up, anorexics will later on, show

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Insomnia is not a disease, it is a symptom and complaint

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improved sleep on their original diet. These findings relate poor sleep to weight loss, which may need to be pointed out to "crash" dieters.

Women tend to complain of poor sleep twice as often as men; and the elderly more than the young. Electrophysiological techniques show that the elderly have more broken sleep than the young and it is the actual quality of the sleep experienced that leaves them dissatisfied, rather than the number of hours slept. The prevalence of insomnia also increases with socioeconomic class.

Every year about 20 to 40 percent of adults have difficulty sleeping, and about 17 percent consider the pattern serious. In adolescents (14-24 years of age), 6-10 percent suffer from

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Poor sleepers tend to exaggerate the degree of insomnia

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insomnia, attributed to worry and tension, low self esteem, moodiness and depression. In middle-aged people insomnia is typically blamed on mental arousal rather than on bodily disorder. While the latter often features as a complaint in the elderly.

### *The evaluation of classification of insomnia*

The duration of insomnia is probably the most important guide to evaluation and treatment. *Transient insomnia* (no more than a few nights) and *short-term insomnia* (less than about three weeks) usually occur in people with no history of sleep abnormalities. *Long-term insomnia* (more than three weeks) may be associated with a variety of conditions.

### Transient and short-term insomnia

Acute stress and environmental disturbances - such as changes in time-zones or shift-work, ambient temperature, exams, bereavement, hospitalisation, recovery after surgery and pain - are the most common causes. In general, causes related to shifts in time will result in transient insomnias while the emotional and physical causes will tend towards short-term insomnia.

Air travel across time zones is often associated with insomnia, somatic disorders and poor performance. It usually takes about one day to adjust for each eastward time zone crossed, and slightly less after westward travel. People planning to stay a few days only in a new time zone may minimize these effects by sleeping during the bimodial circadian peaks of home time.

Travellers wishing to minimize the loss of sleep can also use a judicious dose of a short- to intermediate-acting hypnotic agent; while those wishing rapid acclimatization to the new environment may use exposure to bright light (in the morning on eastward trips and in the evening on westward trips). People doing shift work will find the rotation forward (ie lengthening of cycle) from an afternoon to an evening shift easier to adapt to, than backwards to an early morning shift.

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Women (feeling - sensitive) sleep poorly
Men (thinking - orientated) sleep better

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Life stress can best be assessed by looking for the indicators mentioned in the Holmes and Rahe Social Readjustment Rating Scale depicted below. Studies using the Life Change Scale have found a consistent

## ... Insomnia

Holmes and Rahe Social Readjustment rating scale (1967)

| Life event | Life-change value |
|---|---|
| Death of spouse | 100 |
| Divorce | 73 |
| Marital separation | 65 |
| Jail term | 63 |
| Death of close family member | 63 |
| Personal injury or illness | 53 |
| Marriage | 50 |
| Fired from job | 47 |
| Marital reconciliation | 45 |
| Retirement | 45 |
| Change in health of family member | 44 |
| Pregnancy | 40 |
| Sex difficulties | 39 |
| Gain of new family member | 39 |
| Business readjustment | 39 |
| Change in financial state | 38 |
| Death of close friend | 37 |
| Change to different line of work | 36 |
| Change in number of arguments with spouse | 35 |
| Mortgage over $10,000 | 31 |
| Foreclosure of mortgage or loan | 30 |
| Change in responsibilities at work | 29 |
| Son or daughter leaving home | 29 |
| Trouble with in-laws | 29 |
| Outstanding personal achievement | 28 |
| Wife begins or stops work | 26 |
| Begin or end school | 26 |
| Change in living conditions | 25 |
| Revision of personal habits | 24 |
| Trouble with boss | 23 |
| Change in work hours or conditions | 20 |
| Change in residence | 20 |
| Change in schools | 20 |
| Change in recreation | 19 |
| Change in church activities | 19 |
| Change in social activities | 18 |
| Mortgage or loan less than $10,000 | 17 |
| Change in sleeping habits | 16 |
| Change in number of family get-togethers | 15 |
| Change in eating habits | 15 |
| Vacation | 13 |
| Christmas | 12 |
| Minor violations of the law | 11 |

relationship between the number of stressful events in a person's life and that person's emotional and physical health. When the life-change units totalled between 200 and 300 over a period of a year, more than half of the people had health problems the following year. When the scores totalled over 300, 27 percent of the people became ill the following year. Insomnia is a very sensitive indicator of excess arousal or stress and usually the first symptom to indicate an underlying problem.

Medical causes would include pain, nocturia eg from prostatic enlargement and respiratory difficulties owing to diseases affecting the chest or heart.

Pharmacologically induced insomnia can be caused by the use of stimulants such as coffee and nicotine, as well as the ingestion of

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If you sleep 7-8 hours, you will live longer than your friend who sleeps less than 6 hours

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alcohol or the rebound effects following the withdrawal or reduction of benzodiazepines. Excess alcohol at night is a potent and common cause of insomnia.

### Long-term insomnias

Diagnostic evaluation should include a review of the disorder and the use of medications, alcohol and other substances, medical and psychiatric history, and examination of both physical and mental status. Specific issues of inquiry should include the onset, duration and natural history of

the insomnia; the timing of sleep and wakefulness and the pattern of the sleep disturbance ie difficulty in falling asleep, maintaining sleep, or early morning awakening. Bedtime anxieties and pre-occupations should be delved into, as well as the daytime results of poor sleep, such as fatigue, naps, behaviour and functioning. A two-week sleep diary and an interview with the sleep partner may be informative. The commonest cause of chronic insomnia is depression. The symptoms of depression must always

"Crash dieters" may harm their sleep pattern!

be fully explored, remembering that an underlying depression may be masked by the overriding symptoms of anxiety or tension, irritability or aggression, and physical symptoms, if not insomnia. Other causes of chronic insomnia are conditioned insomnia and sleep disturbances.

*Sleep Disturbances*

These include (a) sleep apnoea, (b) restless legs syndrome, (c) sleep-walking, (d) excessive daytime sleepiness, (e) idiopathic narcolepsy with cataplexy, (f) hypersomnia, (g) sleep drunkeness, (h) snoring, (i) nightmares, (j) night-terrors, (k) enursesis, (l) rhythmic rocking and head-banging, and (m) sleep loss.

Awareness of these disorders is indicated in the differential diagnosis of other disorders usually encountered with chronic insomnia. Sleep disturbances may, owing to their complexity, require referral to a neurologist or psychiatrist, or someone specialising in sleep disorders.

## The general treatment of insomnia

*Counselling*

Counselling and the doctor-patient relationship are of paramount importance. Not only are empathy and understanding a therapeutic ingredient, but a foundation is established for observation and trust, through which a core problem may rise to the surface shedding light on the origins of the insomnia. Further,

Low self-esteem, worry, depression and moodiness are the usual causes of insomnia in adolescents

the causes of and recipes for insomnia are numerous, and patience and endurance by both the doctor and his patient may be indicated until a solution to the problem is found.

*Sleep Hygience*

(a) Strengthening the regular sleep-wakefulness cycle by implementing "sleep hygiene", is done by enforcing the normal Zeitgebers or "time-givers" (appropriately timed bright lights, social activities and meals). It includes waking up and going to bed at the same time every day, even on weekends; avoiding long periods of wakefulness in bed and not using the bed as a place to read, watch television, or work. Also, leaving the bed and not returning until drowsy, if sleep does not begin within a set period, say 20-30 minutes. By avoiding napping during the day, onset of sleep at night is enhanced.

## ... Insomnia

(b) Exercising regularly (at least 3-4 times a week), but not in the evening if this interferes with sleep.

(c) Discontinuing smoking. Nicotine is a stimulant promoting wakefulness for many hours after the last cigarette. It will also aggravate an existing bronchitis and coughing may further disrupt sleep.

(d) Avoiding other stimulants such as tea and coffee before bed-time as these promote wakefulness, especially in the elderly who are more sensitive to these effects.

(e) About 10-15 percent of the patients with chronic insomnia have an underlying problem of substance abuse, especially alcohol and other sedatives. Although alcohol in low-to-moderate amounts initially promotes sleep, it may ultimately disrupt and fragment sleep as a result of either partial tolerance and withdrawal during the night or somatic effects (eg gastric irritation and headache). In addition, alcohol may exacerbate sleep-related breathing disorders by increasing muscle atonia in the upper airways, resulting in airway obstruction, hypoxaemia, hypercapnia and fragmented sleep. By and large alcohol reduces the amount of stage 3 and 4 sleep and the duration of REM sleep during the night.

Empathy and understanding in itself is a therapeutic ingredient

*The biological clock and drugs*

The inner clock (though powerful) cannot compete with long-acting benzodiazepines (eg diazepam, flurazepam and nitrazepam) taken regularly to the extent where tissue concentrations reach a plateau that varies little between day and night. At this stage sleepiness with impairment of skill and judgement will occur during the day. In addition, on withdrawal of these drugs rebound phenomena (consisting of insomnia, anxiety, irritability and restlessness, with a decrease in daily functioning) lasting up to six weeks may result owing to the modifications in the brain that have occurred.

Insomnia is a very sensitive indicator of an underlying problem

Then again, short-acting benzodiazepines (eg triazolam and lorazepam) may lead to daytime anxiety and restlessness in other patients, owing to the immediacy of the rebound caused by the very rapid metabolism of the drugs.

Intermediate-acting benzodiazepines, (eg temazepam 'Normison', lormetazepam 'Noctamid' and loprazolam 'Dormonoct') if a benzodiazepine is required, are ideal in the treatment of transient and short-term insomnia. An exception would be their use in chronic insomnia arising from sleep disturbances such as sleep-walking and restless legs syndome, where they are specifically indicated. It is well to note that the sleep-walking of the young may re-emerge in the elderly, particularly if they are dementing. In the latter, a benzodiazepine would then be necessary rather than the usual phenothiazine.

Recently, a non-addictive benzodiazepine-like drug, buspirone 'Buspar', has been introduced on the market. As this drug is not immediately effective, it is more suitable in the treatment of chronic insomnia. It is currently under clinical evaluation.

Tricyclic antidepressants and tetracyclic antidepressants (mianserin 'Lantanon') with or without a major tranquillizer, are the drug of choice in chronic insomnia where an underlying element of depression or excess arousal or chronic stress are encountered. These antidepressants will diminish both day-time anxiety and act as an hypnotic for the patient at night.

In addition, the 25mg capsule of dothiepin 'Prothiaden' can be screwed apart, a portion of the ingredient discarded, and the two halves of the capsule put together again. This allows for a more selective dosage monitoring to take "the edge off the stress", without the occurrence of undue sedation as a side-effect. In other cases, larger and more standard dosages may be

The commonest use of chronic insomnia, is depression, often masked by symptoms of anxiety, tension, irritability or aggression

## ... Insomnia

required, even though anxiety or irritability and not the usual features of depression present themselves as additional symptoms to insomnia. Some patients prefer a fraction of a clothiapine 'Etomine' 40mg tablet, ranging from a 'nibble' to a quarter of a tablet. Other patients again, will prefer a set dose of 10 or 25 mg of thioridazine 'Melleril' at night. A few patients titrate their nocturnal dose against the prevailing amount of stress experienced. The above medications are preferable to using a benzodiazepine in chronic insomnia, mainly because of the problems of drug-tolerance and addiction.

A purist might disagree with a perceived element of neuroticism and potential abuse of using psychotropic drugs in substandard dosages for ill-defined psychiatric entities. In practice, however, humans were not designed to cope with the stresses that they often encounter or thrust upon themselves in modern life. With this kind of medication goes a practical appraisal of the stress-related issues as well as an exploration of possible avenues for changing the current life-style to a more adaptive level.

### Suggested reading and Bibliography


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