



update in medication

A monthly newsletter for nurses about medicines and their safe administration

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Sleeping Drugs

Sleep requirements vary from person to person and so 'normal' sleep is what suits you under ordinary everyday circumstances. The amount of sleep you need is as much a part of you as your appetite or your conscience. If your sleep is disturbed for only a night or two, this is usually of no consequence; but if the disturbance persists for two or more weeks then you have a sleep problem, and need to take action.

Insomnia really means sleeplessness, but nowadays it is used to describe most sleeping difficulties. These include difficulty in getting off to sleep, inability to stay asleep, frequent awakenings, restless sleep – often with nightmares, early morning waking, and sleep which is not refreshing (you wake up and continue to feel as exhausted as you did when you went to bed).

There are many causes of sleep disturbance – these may be environmental, physical or mental. Among environmental causes are changes such as a strange bed or bedroom, changes in temperature, noise, motion, and changes of routine like going on night work. Pain from any cause, irritation of the skin, discomfort from indigestion and muscle cramps are some of the physical causes of disturbed sleep. Emotional disorders are a common cause of persistent insomnia.

However, remember that environmental, physical and mental factors are all interrelated. Problems at work may produce anxiety which may produce insomnia. Persistent noise at night may interfere with sleep which may cause you to worry about lack of sleep, which may then produce tension and irritability resulting in further difficulty in sleeping. The death of a close friend or relative, the loss of a job, failure at work or in an examination may trigger

off psychological symptoms, a prominent one of which may be disturbed sleep.

Insomnia must always be regarded as a symptom of some underlying environmental, physical or mental disorder. This is of particular importance in emotional disorders, especially in those patients who feel anxious, tense and/or miserable. In such patients insomnia may be only one of a group of mental and/or physical symptoms which they may experience. Therefore, it is inappropriate to take sleeping drugs as the only form of treatment.

Some drugs can cause insomnia. For example, caffeine in tea and coffee may keep you awake, particularly as you get older. Regular alcohol drinkers may find themselves waking early and people who take heroin or morphine may find their sleep impaired. Amphetamines, most slimming drugs, and some antidepressant drugs may keep you awake. So may certain drugs used to treat nasal catarrh, colds and asthma.

We really know very little about sleep and its function. It is related to various anatomical structures in the brain and to certain chemical changes. It produces electrical changes in the brain, eyes and muscles. These can be measured by electrical tracings of muscles (electromyograph, EMG), eye movements (electro-oculograph, EOG) and brain waves (electroencephalograph, EEG). From these tests two main kinds of 'normal' sleep activity have been defined: a stage of non-rapid eye movements (NREM sleep) which is followed by a stage of rapid eye movements (REM sleep). NREM sleep is called orthodox sleep and is the stage when we 'think'; REM sleep is called paradoxical sleep and is the stage when we 'dream'. It seems that both stages of sleep are essential for health.

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Dependence, Tolerance and Alcohol

Dependence - Sleeping drugs are drugs of dependence and you can become psychologically and physically dependent upon them. The insomnia, nightmares, dreaming and restless sleep which results when you stop these drugs may strengthen your belief that you need to go on taking them, but you should realize that your disturbed sleep is caused by withdrawal symptoms due to physical dependence on the drugs. Other symptoms of withdrawal which indicate physical dependence include anxiety, trembling, weakness and dizziness.

Tolerance may develop to sleeping drugs within 3–14 days of starting them. This means that you will get less effect from the same dose over time and therefore there is always the danger that you may increase the dose in order to obtain the same effects. With some of these drugs there may also be an increased breakdown in the liver, producing a decreased sleeping time and an increase in the average dose required to maintain sleep so that you start to wake earlier. Nevertheless, it is surprising how many patients stay on these drugs for years and years without increasing the dose.

Even so, tolerance is a danger and if you find yourself having to increase the dose of your sleeping drug to get the same effect then consult your doctor – you are in danger of becoming addicted.

If you drink alcohol regularly you ought not to take these drugs regularly. This is because alcohol is also a depressant of the brain and tolerance may develop to alcohol. It is quite easy to take an overdose of either and the combination may be fatal. Do not forget, therefore, that although you may be able to tolerate an increased dose of alcohol or sleeping drug the lethal dose of these drugs remains unaltered so that their combination can rapidly prove fatal. Another important point to remember is that sleeping drugs can actually make you anxious, irritable and depressed in the daytime. An increased dose will actually make you worse. This also applies to alcohol, so remember if you are getting anxious and miserable despite taking more alcohol and/or sleeping drugs, it is the drugs that are producing this effect. Many people have become trapped on this downward course which may end in suicide.

Breaking the sleeping drug habit

What about those patients who have developed the habit of taking sleeping drugs every night? They are often elderly and many of them live alone or in residential homes. I think it would be wrong to give them guilt feelings about being on drugs but it may be advisable to wean them gradually off sleeping drugs, particularly if they are depressed, anxious or tense, drink alcohol regularly, show signs of intoxication or have impaired kidney, heart or liver function.

If you have been taking sleeping drugs nightly for weeks, months or years and wish to stop them you must reduce the dose very slowly over many weeks and therefore it is better to consult your doctor, who will be able to advise you. A gradual reduction in dosage may enable you to break a long-lasting sleeping-drug habit. Even so, you are bound to have restless nights until your brain gets used to sleep without drugs – this may take several weeks or months.

In the treatment of insomnia there are many alternatives to sleeping drugs, such as a hot bath before retiring, reading a book, taking a walk, not having too large an evening meal, cutting down on coffee, tea or cocoa in the evening, reducing smoking, reducing alcohol intake, trying to get

some regular exercise and fresh air during the day and probably most important of all – being taught how to relax. The ritual just before going to bed may condition you to go to sleep – undressing, washing, etc. A milk-cereal drink may help you sleep more peacefully. A warm drink and a biscuit often helps the older patient to get off to sleep and, of course, patients with pain, discomfort and irritation of the skin need more specific treatment, as do those with other physical or psychological symptoms.



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Sleeping drugs

These drugs depress brain function; in small doses they are used as sedatives (to calm you down) and in larger doses as hypnotics (to send you to sleep).

Like alcohol, sleeping drugs cause intoxication if taken in a dosage above that normally recommended. Further, elderly and debilitated patients and patients with impaired heart, kidney or liver function may develop intoxication at 'normal' dosage. Signs of intoxication are similar to those of alcohol – confusion, difficulty in speaking, unsteadiness on the feet, poor memory, faulty judgement, irritability, over-emotion, hostility, suspiciousness and suicidal tendencies.

The deliberate taking of an overdose with suicidal intent accounts for most cases of overdose, but accidentally self-administered overdose may occur. If you take a dose of sleeping drug and fail to fall asleep you may reach out and take another dose. The effects of this increased dose may make you confused and you may take further doses without knowing (or remembering subsequently). Therefore, never keep sleeping drugs by your bedside, keep them locked in a drug cupboard. Only take the recommended dose and leave the bottle in the locked cupboard. If you are responsible for, or live with, someone who is elderly, debilitated or depressed, and on sleeping drugs, then supervise their administration.

Do not forget that if you are tense or miserable, alcohol and sleeping drugs, although helping you at first, may eventually make you feel worse. You may sleep all right and awake feeling less tense, only to become tired, irritable and bad-tempered later in the day. One more important point to remember about these drugs (especially alcohol) is that they may reduce the effects of antidepressant drugs.

Sleeping drugs impair learned behaviour and interfere with your power to concentrate, therefore watch your driving. These drugs depress a wide range of functions in many vital organs, particularly nerves, muscles, respiration, and the heart and circulation. They may produce any state from mild sedation to confusion and unconsciousness. Like alcohol they may produce different effects according to the situation in which they are taken. At a discotheque they may produce excitement, while if taken on retiring to bed they may

produce sleep. The combination of a strange environment (e.g. admission to a hospital ward) and a dose of sleeping drug may make elderly patients confused and disorientated. This is a warning against the habit of giving patients sleeping drugs as a routine just because they are in hospital; it is often not necessary and may lead to the development of a sleeping-drug habit when the patient returns home.

Do not forget that sleep produced by drugs is not natural. It may be appropriate to take sleeping drugs for a night or two during periods of stress (e.g. after a bereavement) or after periods of intense work when you just cannot relax, or intermittently through long periods of stress or when travelling overnight or working shifts. In such circumstances they should only be taken for a few nights in a row, because it is accepted that the sleeping-drug habit is a real risk after several nights of drug-induced sleep. If you have a persistent sleep problem then you ought to consult your doctor. But, of course, it does little good if you get a quick consultation and a prescription for sleeping drugs with instructions to get further prescriptions from the receptionist when you need them. Do not forget that emotional problems are a common cause of sleep disturbance and these may produce many symptoms in addition to insomnia; for example, frequent headaches, feeling anxious or tense, sad, depressed or tearful, backaches, pains in the chest, indigestion, dizziness, no energy, feeling fed up, feeling irritable, fears about your health or about going out by yourself, loss of appetite, loss of interest in sex, loss of weight, palpitations, feelings of guilt, feeling not wanted or feeling that other people are talking about you. These are only some of the group of symptoms which should help your doctor diagnose a psychological disorder and organize appropriate treatment.

If you have a psychological disorder, the use of sleeping drugs may aggravate your condition, especially if you are feeling sad or miserable. It is important to recognize what are labelled as 'depressive symptoms'. These include characteristic sleep disturbances, and antidepressant drugs may be effective in relieving them. This again highlights the importance of the initial treatment of insomnia. You and your doctor need to consider together as many as possible of the factors which may be causing your insomnia.





Sleeping drugs

Benzodiazepines

*Long-acting (6-10 hours):

flunitrazepam (Rohypnol)
flurazepam (Dalmane, Dalmepam)
nitrazepam (Mogadon)
triazolam (Halcion, Trilam)

Short-acting (up to 6 hours):

lormetazepam (Noctamid)
temazepam (Insomniger, Nortem, Tenox)

Other sleeping drugs

Melatonin (Circadin)
zaleplon (Sonata)
zolpidem (Nytamel, Stilnoct, Zoldem, Zolnod)
zopiclone (Zileze, Zimoclone, Zimovane, Zopitan, Zorclone).

Sedative antihistamines

promethazine (Phenergan).

***Note: Long-acting preparations in normal doses may produce hang-over effects the next day, especially in the elderly. These long-acting drugs can accumulate in the body and cause elderly patients to become confused and unsteady, particularly on their feet. This may cause them to fall and injure themselves.**

Benzodiazepines will be discussed in detail in a future edition of Medizine. They are the most commonly used sleeping drugs. Because of the risk of dependency they should only be used to treat insomnia that is causing distress and should only be taken nightly for no more than two to three weeks. It is best to take them intermittently.

Zaleplon (Sonata), zolpidem (Nytamel, Stilnoct, Zoldem, Zolnod) and **zopiclone (Zileze, Zimoclone, Zimovane, Zopitan, Zorclone)** act like the benzodiazepines, but are more sedative in their actions on sleep mechanisms. They are short-acting and act very rapidly with little or no hang-over effect. They may be used to help patients who have difficulty getting to sleep, or who wake in the night and

cannot get back to sleep. They should be taken nightly for no more than two to three weeks. Preferably, they should only be taken intermittently.

Sedative antihistamine drugs in addition to their antihistamine effects produce drowsiness as a side-effect and this is sometimes used to promote sleep. They may be useful for promoting sleep in patients with skin irritations or allergic symptoms. There are dangers in using them to treat insomnia because sleep cannot be improved just by increasing the dose. Rather, the reverse happens and after a large dose, excitation occurs which may result in restlessness and agitation. Sedative antihistamines have a long duration of action and may produce hangover effects the next day. Some experts consider that it is not appropriate to use them as sleeping drugs.

Melatonin (Circadin), in contrast to the other sleeping drugs, is not a sedative. It is a naturally occurring hormone produced in the pineal gland in the brain. It is an important regulator of the body's "sleep-wake" cycle and the levels of melatonin fluctuate according to the activity of the so-called "biological clock" in the brain. The level of melatonin is diminished by exposure to bright light and is lowest during the day in times of bright sunlight and is highest during darkness and whilst asleep. It is generally given in a modified release formulation for the short term relief of insomnia, to improve the quality of sleep by mimicking or re-setting the natural sleep rhythm.

Remember: All sleeping drugs and sedatives depress brain function and they may produce tolerance and dependence, increase the effects of alcohol, interfere with ability to drive motor vehicles and operate moving machinery, and produce intoxication like alcohol. They may produce hangover effects the next day especially in elderly patients who may become confused and unsteady on their feet and may fall and injure themselves.

Sleeping drugs should only be used occasionally, they should not be taken every night for more than two to three weeks because of the risk of withdrawal effects and dependence.

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