Hypnotic Medications

Hypnotic medications are a class of psychoactives whose primary function is to induce sleep[1] and to be used in the treatment of insomnia and in surgical anesthesia. These drugs are called benzodiazepines and are related to Valium, which is the most common and earliest benzodiazepine. When used in anesthesia to produce and maintain unconsciousness “sleep” is metaphorical and there are no regular sleep stages or cyclical natural states; patients rarely recover from anesthesia feeling refreshed and with renewed energy. Because drugs in this class generally produce dose-dependent effects, ranging from anxiolysis to production of unconsciousness, they are often referred to collectively as sedative-hypnotic drugs.[2] Hypnotic drugs are regularly prescribed for insomnia and other sleep disorders.[3] Many hypnotic drugs are habit-forming and addictive. Due to a large number of factors known to disturb the human sleep pattern, a physician may instead recommend alternative sleeping patterns, sleep hygiene, and exercise before prescribing medication for sleep. Hypnotic medication when prescribed should be used for the shortest period of time possible.[4] These can be very dangerous medications when taken with other drugs and alcohol.

The benzodiazepine and nonbenzodiazepine hypnotic medications also have a number of side effects such as daytime fatigue, motor vehicle crashes, cognitive impairments, and falls and fractures. Elderly people are more sensitive to these side effects and a meta analysis found that the risks generally outweigh any marginal benefits of hypnotics in the elderly.[5] A review of the literature regarding benzodiazepine drugs concluded that these drugs caused an unjustifiable risk to the individual and to public health, and lack evidence of long-term effectiveness due to tolerance. The risks include dependence, accidents, and other adverse effects. Gradual discontinuation of hypnotics leads to improved health without worsening of sleep. Preferably they should be prescribed for only a few days at the lowest effective dose, and avoided altogether wherever possible in the elderly.[6]

Benzodiazepines are the most well-known and most frequently-prescribed hypnotic medications, although their use in recent years is being increasingly replaced by newer nonbenzodiazepine hypnotic drugs and the hormone melatonin. Benzodiazepines are effective in the short term but tolerance to their hypnotic effects develops after 1 or 2 weeks, thus making them ineffective for long-term use. They are also a cause of hospital admissions, especially in the elderly who are more sensitive to their effects[3].

Benzodiazepine withdrawal syndrome can also develop upon their discontinuation. This is characterized by rebound insomnia, anxiety, confusion, disorientation, insomnia, and perceptual disturbances. Prescription hypnotics are therefore best limited to short term use to avoid tolerance, drug dependence, and the adverse effects of long term use.[7] Benzodiazepines tend to exert their hypnotic effects at high dosage compared to the more moderate dosage needed for anxiolytic effects to be felt.[8] The downside of the hypnotic properties of benzodiazepines is that they actually worsen the sleep architecture and thus the quality of sleep.[9] They are also associated with an increased risk of road traffic accidents.[10]
Atypical benzodiazepines
Atypical benzodiazepines have demonstrated efficacy in treating some sleep disorders. Limited, inconclusive evidence suggests that tolerance to atypical benzodiazepines is slower to develop than with benzodiazepines. Data are also limited with regard to long-term effects of atypical benzodiazepines; further research into the safety and long-term effectiveness of atypical benzodiazepines has been recommended in a review of the literature.[11] However, these medications also can pose a great risk to patients using other drugs and alcohol. These drugs affect memory and patients have reported episodes of activities that they could not recall. For example, there are reported cases where patients cooked all night long without any memory of doing so.

These drugs include:
Barbiturates
Opioids

Examples of Benzodiazepines
- Estazolam
- Flunitrazepam
- Lormetazepam
- Midazolam
- Nitrazepam
- Quazepam
- Temazepam
- Triazolam

Examples of Atypical benzodiazepines
- Zolpidem
- Zaleplon
- Zopiclone
- Eszopiclone
- Antihistamines
- Diphenhydramine
- Doxylamine
- Hydroxyzine
- Promethazine
- Melatonin Agonists
- Ramelteon
- Melatonin
- Tasimelteon
gamma-hydroxybutyric acid (Xyrem)
Methaqualone
Glutethimide
Chloral hydrate
Ethchlorvynol
Levomepromazine
Chlormethiazole
Alcohol is also used as a hypnotic drug, though not medically. Alcohol is a poor hypnotic because its diuretic action interferes with sleep during the latter part of the night. Alcohol also disturbs sleep patterns, and so can worsen sleep disorders.

**References**

1. Dorlands Medical Dictionary: hypnotic”.


(Edited From Wikipedia)