

Altered states of consciousness

[Health & Medicine](#), [Sleep Disorders](#)



Altered states of consciousness 1- Sleeping: Sleeping is defined as: Altered state of consciousness meaning losing awareness, unresponsiveness to the surrounding environment. Normal people spend one third of their life-time sleeping. Sleeping has many functions such as: improving mental health and maintaining the body in its healthy state and avoid the damage of tissues.

Sleeping Hours: Age and condition | Sleep Needs | Newborns (0—2 months) | 12 to 18 hours | Infants (3—11 months) | 14 to 15 hours | Toddlers (1—3 years) | 12 to 14 hours | Preschoolers (3—5 years) | 11 to 13 hours | School-age children (5—10 years) | 10 to 11 hours | Adolescents (10—17 years) | 8.5 to 9.25 hours | Adults, including elderly | 7 to 9 hours | Pregnant women | 8(+) hours | On the other hand, Sleep deprivation may leads to mood alternation, increased irritability, reduced motor skills or reduced immunity.

Stages of sleep: Stage 1: It is the stage of transition between wakefulness and sleep, relatively rapid, low amplitude brain waves, Non Rapid Eye Movement, 4-5 % of sleep time. Stage 2: Is deeper than stage 1, characterized by slower, more regular wave pattern, momentary interruptions of “ sleep spindles”, Non Rapid Eye Movement, 45-55% of sleep time. Stage 3: Characterized by slow brain waves, greater peaks and valleys in wave pattern that that in stage 2, Non Rapid Eye Movement, 4-6 % of sleep time. Stage 4: The deepest stage of sleep and the sleeper has the least responsiveness to the outside stimulation, Non Rapid Eye Movement, 12-15 % of sleep time. Rapid Eye Movement Sleep: Consumes 20-25 % of adult’s sleep time, characterized by increasing heart rate, blood pressure and breathing rate, erections, eye movement and dreaming occurs in this stage. Dreams: Successions of images, ideas, emotions, and sensations that occur

involuntarily in the mind during the REM stage of sleeping. Freud: “ Every dream will reveal itself as a psychological structure, full of significance, and one which may be assigned to a specific place in psychic activity of waking state”. 2- Drug cases: Drugs change sensory perception and behavior.

Psychoactive drugs are also called recreational drugs and they are classified into: Stimulants (increase the activity of the central nervous system), Sedatives (decrease the activity of the central nervous system), Narcotics or Opiates (relieve pain) (such as morphine and heroin which causes relaxation, euphoria and lethargy), and Hallucinogens (cause sensory and perceptual distortions). 3- Hypnosis: It is a state of decreasing reaction to pain and focused attention. This state allows people to do things against their wills and it also improves their memory recall. But it is just a delusion. 4-

Meditation: It is a technique which promotes heightened sense of awareness, where the person focuses on a focal point, and controls his breathing. He is relaxed, has low blood pressure and may reach the sense of euphoria. Sleep Disorders If you suffer from a problem in getting sleep, hard waking up or of being overly tired during the day, you are suffering from a sleep disorder.

About 70 million Americans have troubles in sleeping. Normal children sleep at least 9 hours, but if they suffer from a sleep disorder they may have negative performance in school or in social relationships. As for adults, sleep disorders are serious enough to interfere with normal physical, mental and emotional functioning. Polysomnography is a common test ordered by people who suffer from sleep disorders. It is a comprehensive recording of the bio physiological changes that occur during sleep. There are many types of sleep disorders, such as: Snoring, Insomnia, Bedwetting, Teeth grinding

(Bruxism), Narcolepsy, Circadian Rhythm Sleep Disorder, Sleep apnea, Sleep paralysis, hypersomnia (excess sleep), Sleepwalking and Sleep talking, Night mares and Night terrors. We will address only the following sleep disorders: Narcolepsy, Sleep apnea, Insomnia, Sleepwalking, Sleep talking, Night mares and Night terrors. Insomnia It is a chronic difficulty in falling asleep and/or maintaining sleep (inability to sleep), it has no known causes till now, but some people think it is due to some reasons like: breaking a relationship, afraid of test score or loss of job. The patient wakes up frequently during night. One third of people are thin and depressed when they suffer from Insomnia. The point is that the patient thinks he hasn't slept but the fact is that he only recalls sounds and he sleeps all night and falls asleep in maximum 30 minutes! Sleep diary is a test used to diagnose Insomnia by tracking sleep wave patterns of the brain. There are two types of Insomnia: Primary: Where the person doesn't have a directly associated health problem to this disorder. Secondary: Where the person has Insomnia because of other problems, for example, cancer, taking certain medications or taking alcohol. Insomnia also varies in how long it lasts and how often it occurs. It can be short-term (acute insomnia) or can last a long time (chronic insomnia). It can also come and go, with periods of time when a person has no sleep problems. Acute insomnia can last from one night to a few weeks. Insomnia is called chronic when a person has insomnia at least three nights a week for a month or longer. Insomnia has a negative impact on the social life and the career life of the patient, he is always depressed and has increased irritability, couldn't concentrate well in his work, also it affects his health so that his weight decreases obviously. For a person to avoid/treat Insomnia he

has to choose regular bedtime, exercise during the day, avoid drinks with caffeine after lunch, drink a glass of warm milk at bed time, avoid sleeping pills and not to force him/herself to sleep and go to bed only when he feels tired. Night terrors Sleep terror or “ Pavor nocturnus” is a parasomnia disorder, where the person feels terror or dread, it is considered also as bad dreams which interrupt sleep, it could be also defined as abrupt awakening with behavior consistent with terror. It occurs in the first three hours of sleep, at stage three or four of non-rapid eye movement (NREM) sleep. It is believed that night terrors are caused by stressful events, sleep deprivation, medications that affect the brain or may be a fever. It usually attacks children between three and twelve years old, and about 1-6 % of children experience night terrors and it is usually resolved in adolescence. In children less than 3. 5 years old, it reaches its peak frequency of at least per week, while among older children its peak is about two episodes per month. What happens? 90 minutes after falling asleep, child sits in bed and screams, he appears awake but actually he is confused, disoriented, unresponsive to the external stimuli, does not talk and not aware if his parents are present. He is just up in bed and even does not respond to his parents’ comforting. This case lasts only for few minutes, and it may be up to thirty minutes before the child release and return to sleep again. Night terrors initially produce great agitations which sometimes reach shriek, but usually he gets back to sleep fairly quickly. Symptoms: The child, who has night terrors, suffers from frequent intense crying, panic and strong psychological arousal, also during sleep, an increase in the heart rate, increase in breathing rate and sweating. -Unlike night mares, child could not remember or recall what he had seen in

the night terror. -Night terrors are usually less frequent than night mares.

Narcolepsy Narcolepsy is a state of uncontrollable sleeping which occurs for short periods while person is awake, he could fall asleep during the day no matter what activity he was doing and no matter where he is. It could be also defined as excessive daytime sleepiness, where the patient falls spontaneously unwillingly. The normal person passes through five stages of sleep starting from stage 1 till the REM stage, but the Narcolepsy patient skip all these stages and go directly from wakefulness to REM sleep.

Narcolepsy has unknown causes, but it is observed that it runs in families which may explain a genetic interference, or it may be due to a deficiency in the production called hypocretin by the brain, or abnormalities in the part of the brain which regulates the REM stage of sleep. Narcolepsy usually occurs between the age of 15 to 25, but it can occur anytime, usually it misdiagnosed therefore it is not treated. Such a disorder may have a very negative impact on the patient's social and career life, it is not only the matter of embarrassing between the people, but it is also related to the important events in our lives. Imagine that the person falls asleep suddenly on his wedding or in the final exam; great opportunities may be gone from the patient because of this disorder! Symptoms of Narcolepsy are: 1- EDM (Excessive Daytime Sleepiness) which is accompanied by mental cloudiness, lack of concentration and extreme exhaustion. 2- Cataplexy which is the sudden loss of muscle control which makes him falls asleep suddenly. 3- Hallucinations where the patient can hallucinate visual frightening content asleep or awake. 4- Sleep paralysis which is temporary inability to move while falling asleep and waking up, it lasts for few seconds then the patient

rapidly recovers his full ability to move and speak. Sleep Apnea Sleep apnea is a serious sleep disorder which is the decrease in oxygen during sleep time, or difficulty of breathing during sleeping which disturbs the patient and leads to a difficult sleep and reawake when there is a great lack in oxygen, it may reaches 500 times of awakening per night course, although he may not be aware of that but he is really awake. Sleep apnea is less common than Insomnia but it is wide spread over 20 million people. Sleep apnea is more common in men than in women, and for women it is more likely at the menopause. Sleep apnea can cause dangerous health problems such obesity and diabetes. Sleep apnea is classified into two kinds: 1- Obstructive sleep apnea (OSA) or OSA Syndrome, which is the most common form of apnea, it is repeated episodes of total or partial blockage to the flow of oxygen in the trachea and lungs to the vital organs which may cause regular heart rhythms, this leads the person to snort (snore), that is why, in OSA, the patient is not the first one to realize the disorder, but it is the bed mate, and usually the patient has no sleep complaint! OSA has many symptoms, but the most common are: bedwetting, excessive sweating at night, behavioral and learning disorders, teeth grinding and unusual sleeping positions such as hyperextended neck or sleeping on the hands and knees. 2- Central sleep apnea (CSA) in which you do not try to breathe at all, unlike OSA where you breathe hardly, because of your brain functions where the brain does not send the impulse to the muscles to inhale or exhale, in infants this breathing pause may last to 20 seconds, which may lead to Sudden Infant Death Syndrome (SIDS) where child dies suddenly while sleeping. The most likely people to get CSA are the 40 year-old over weighed men, but of course

anyone is subjected to this disorder. CSA may be accompanied by some conditions such as congestive heart failure, damage to the brain stem, kidney failure or hypothyroid disease. Examples for symptoms of CSA are tiredness during the day, headache, poor memory and mood problems.

Nightmares Nightmares are obviously realistic; disturbing dreams that rattle you awake from a deep sleep, they often set your heart pounding from fear, it could be also defined as unusually frightening dream occurs fairly often. In a survey, almost half of group reported having at least one nightmare over two weeks; accordingly the normal person has about 24 nightmares per year. It is true that nightmares are more common among children, but one of every two adults has experienced nightmares and from 2-8 % of adults really suffers from nightmares. Nightmares occurs in the REM (Rapid Eye Movement) stage of sleep where the dreams take place, and because periods of REM become longer as sleep progresses, you may experience nightmares in the early morning, unlike night terrors which occur in Non-REM 3 and 4 sleep stages. Nightmares' content varies from one person to another, but there are some common nightmares such as running from some chasing person or jumping from a high edge, which are also common in the movies as well. Although nightmares and night terrors have the common feature of horror and fear, they are different. First according to the time of occurrence, as mentioned before, second is that night terrors are experienced as feelings, not dreams, that is why people cannot recall them when they are awake and terrified on their beds. Nightmares in adults take place spontaneously but sometimes it may have causes, such as change in medications taken, increase in the metabolism which activates the brain

therefore the brain waves, antidepressants and narcotics which act on chemicals in the brain, may be it occurs during the withdrawal period of some drugs from the patient's blood, depression, sleep deprivation, Post-traumatic stress disorder (PTSD), sleep apnea or maybe it is a hereditary disease. Nightmares have a great effect on person's life, he is physically and psychologically damaged and sometimes it may lead to committing suicide! Sleepwalking Sleepwalking or Somnambulism is a sleep disorder, more common in children than in adults but it can last till adulthood, where the child walks with agility around obstructions in crowded room. It can be also defined as immaturity in children's nervous system. It usually occurs in deep sleep stages especially stage 4. It is usually harmless unless the surrounding environment is dangerous so there is a risk. The children have no vague consciousness of the world around him. Dangerous sleepwalker is superstition. During sleepwalking, the child's eye is open with a glassy, staring appearance. If you tried to wake the child during the sleepwalking episode he might respond weakly or does not respond at all. But if no one tried to interrupt him, usually he does not remember the episode when he wakes up. Older children get awake faster, but they are more embarrassed, especially if they have done inappropriate behavior. Sleepwalking may be caused by conditions such as: -Genetic, sleepwalking occurs more frequently in identical twins, or if the first-degree relative is infected. That is why it is thought to be hereditary. -Environmental, such as, sleep deprivation, stress, chaotic sleep schedules or drugs (sedatives, neuroleptic, stimulants and antihistamine). -Medical, such as, fever, nighttime asthma, nighttime convulsions, obstructive sleep apnea or psychiatric disorder (panic attack or

multiple personality disorders). But it is not related to sleeping alone in a room or fear of dark or anger outbursts at all. Sleepwalking affects patient's life very much, he is stressed, exhausted and embarrassed. Sleep talking

Sleep talking, or somniloquy, is the act of speaking during sleep. It's a type of parasomnia -- an abnormal behavior that takes place during sleep. It's a very common occurrence and is not usually considered a medical problem. The nighttime chatter may be harmless, or it could be graphic, even R rated. Sometimes, listeners find the content offensive or vulgar. Sleep talkers normally speak for no more than 30 seconds per episode, but some people sleep talk many times during a night. The late-night diatribes may be exceptionally eloquent, or the words may be mumbled and hard to decipher. Sleep talking may involve simple sounds or long, involved speeches. Sleep talkers usually seem to be talking to themselves. But sometimes, they appear to carry on conversations with others. They may whisper, or they might shout. If you share a bedroom with someone who talks in his or her sleep, you might not be getting enough shut-eye.

-Who talks in their sleep?

Many people talk in their sleep. Half of all kids between the ages of 3 and 10 years old carry on conversations while asleep, and a small number of adults -- about 5% -- keep chit-chatting after they go to bed. The utterances can take place occasionally or every night. A 2004 poll showed that more than 1 in 10 young children converse in their sleep more than a few nights a week. Girls talk in their sleep as much as boys. And experts think that sleep talking may run in families.

-What are the symptoms of talking in your sleep? It's hard to tell if you've been talking in your own sleep. Usually, people will tell you they've heard you shout out during the night or while you were napping.

Or maybe someone might complain that your sleep talking is keeping him or her up all night.