

Sleep

Introduction

Sleep is needed for health and wellbeing. Sleep is also important for dancers to reach their optimal performance. A number of vital tasks are carried out during sleep that help people stay healthy and function at their best. Sleep needs vary from person to person and change as a person ages. For adults, 7-9 hours of sleep is recommended.

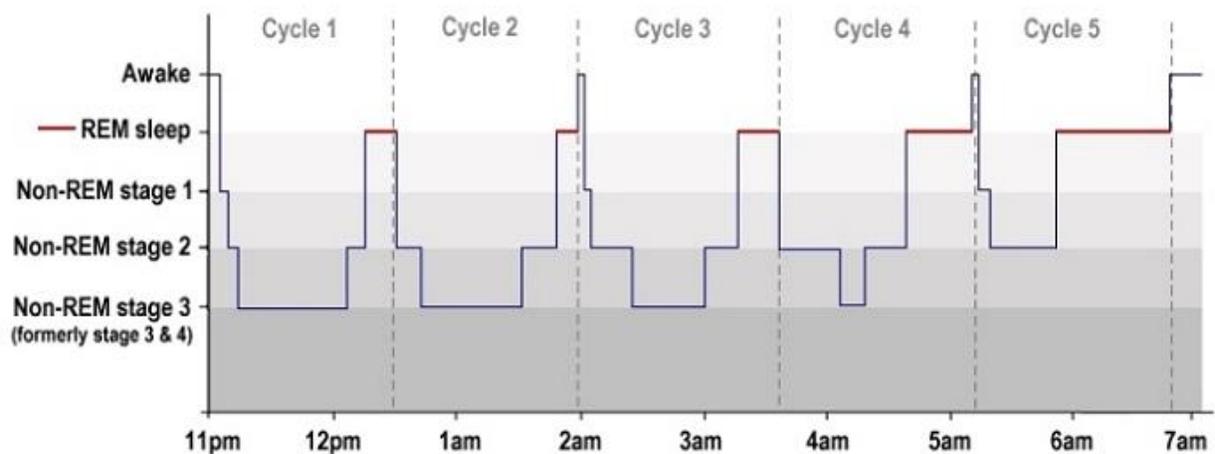
What is Normal Sleep?

Sleep consists of repeated cycles of wakefulness, light sleep, deep sleep, and REM (Rapid Eye Movement) sleep. In a full night's sleep, there are 4-5 full cycles, each an hour and a half to two hours in duration.

The average person spends about half their sleep time in light sleep. This part of the cycle is good for memory formation and learning. Deep sleep (20% of night) is good for the immune system, physical recovery, repair, and growth. REM sleep helps with mental restoration. It typically occurs when coming out of deep sleep.

Total sleep quality includes:

- *Sleep Latency*: how long it takes to fall asleep once in bed, ideally 15-20 minutes
- *Sleep Continuity*: the amount of sleep versus wakefulness in a given sleep period. This includes both the time it takes to fall asleep as well as any night time waking..
- *Sleep Efficiency*: percentage of time spent asleep while in bed, with the normal range being 85% or higher.



(Image by Luke Mastin in H. Thompson, How Sleep Cycle Works.)

Sleep and Athletic Performance

Dancers are athletes who appear to need more sleep than the general population, so more than 8 hours of sleep per night. Often dancers' schedules do not promote good sleep habits - late performance nights followed by early morning technique classes can limit the length and quality of sleep.

Dancers may experience poorer-than-average sleep before an important event and may experience daytime fatigue. In adolescent athletes, there is increased injury risk associated with a chronic lack of sleep. Although dancers may fall asleep easily, professional dancers report poor sleep quality. They sleep for shorter periods (sleep duration), have poorer sleep efficiency (time spent sleeping versus time spent in bed), and experience increased waking episodes.

Post-performance sleep has been shown to accelerate physical recovery from common inflammation, stimulate muscle recovery, and help restock an athlete's energy supply. Dancers need to aim for a schedule that allows for maximum sleep each night.

Sleep hygiene

Sleep hygiene refers to the ways in which you prepare both yourself and your environment for a good night's rest. This plays an important role in the length and quality of sleep. Good hygiene should address all factors of sleep quality.

- Maintaining a regular bedtime can help the body form a scheduled habit of unwinding and cooling down for the night. Thirty to 60 minutes before bed the dancer should begin to wind down and prepare for sleeping.
- Reading a book or magazine, meditating, taking a bath, writing down tomorrow's to-do list, listening to an audio book or calming podcast can help prepare the body and mind for sleep.
- A light snack may be appropriate before bed. Avoid full meals, as digesting a large meal can interfere with sleep. Avoid caffeine and other stimulants. Keep in mind that caffeine can stay in the system for many hours. A lunchtime coffee or tea, may impact your ability to fall asleep, even though it was consumed hours prior.
- While many believe that alcohol may aid the sleeping process, this is false. This is dependent on how much alcohol is consumed. 1-2 glasses typically acts as a Central Nervous System stimulant. Excess leads to intoxication with drowsiness. It also reduces REM sleep, with some decrease in memory formation of new information.
- A sleep area should be cool, dark, and quiet. Light including electronic should be kept to a minimum.
- Eye masks and earplugs can help in a less than ideal environment. There are also a variety of sleep inducing machines and apps for your phone.

Travel

Travel can negatively impact circadian rhythm (normal daylight/nighttime rhythm) leading to poor sleep. There may be jet lag which occurs more frequently when travelling eastward and losing "time" than when traveling west. High altitude can produce insomnia until the individual adjusts after a few days. Touring is stressful and the accompanying mood disturbance and anxiety can lead to sleep problems.

Napping

Napping can be helpful in improving performance, but not if used excessively. It is recommended that naps not exceed 20 minutes, and be taken no later than 3pm. Most people experience a dip in alertness in the mid-afternoon. Naps are also positive for memory. As at night, if there is enough non-REM sleep, there is improved memory retention and learning.

Exercise

It is suggested that exercise too close to bedtime can interfere with sleep. However, recent research by Michael Grander, PhD, MTR, director of the Sleep and Health Research Program at the University of Arizona College of Medicine, suggests that exercise before bed does not impact sleep as much as we once thought it did.

Some gentle exercise, such as yoga or mindfulness practice, actually helps prepare the body and mind for sleep.

These five yoga positions have been recommended as particularly helpful.

1. Double pigeon
2. Child's pose
3. Legs up the wall (up to 10 minutes)
4. Double knee restorative twist
5. Shavasana or corpse pose

The Impacts of Lack of Sleep or Poor Sleep Quality

1. Physical

Lack of sleep is associated with an increased risk for obesity, heart disease, and infections. It can impact how hunger/satiety hormones are released, affecting hunger cues and eating habits. The immune system also suffers when sleep is insufficient, putting a person at greater risk of catching an infection.

Recent research shows that a chronic lack of sleep results in reduced heart-rate recovery after a tough workout. Athletes who miss sleep exercise to fatigue faster than well-rested athletes. It is suggested today that athletes have a schedule that allows for maximum sleep each night, and that napping can be beneficial.

2. Emotional

Lack of sleep, or poor sleep, is often accompanied by psychological symptoms of anxiety and depression. The reverse is also often seen - insomnia can be a symptom of depression. When sleep improves, depression can lift. Less sleep is also associated with poor decision making, lower attentiveness, and poor judgement. Mood may be harder to stabilize, leading to increased ups and downs, and may impact interactions with others.

Sleep Abnormalities

1. Insomnia

Primary insomnia is defined as having sleep problems that are not directly associated with any other health condition or problem. Psychophysiologic insomnia occurs when a person has developed poor sleep as a behavioural disorder. This person may be stressed about getting to sleep (onset insomnia), or complain of waking early. Deep relaxation techniques such as mindfulness have been shown to increase sleep time, improve sleep quality, and make it easier to fall (and stay) asleep. There are also programs that utilize the principles of acceptance and commitment therapy (ACT).

There are risks in using sleep medications, both short and long term. Sleeping pills are not recommended by the AMA, as they sedate higher brain and cortex functioning.

2. Sleep Apnea

Sleep apnea is a sleep disorder in which breathing repeatedly stops and starts. It is found in approximately 4% of the population. It is not usually a problem for dancers as it is associated with increased body mass. For example, it has been reported in as much as 14% of football players.

3. Sleep Starts

These are brief muscular contractions at sleep onset that feel like falling. They are usually nothing to worry about, 70% of people have them. The individual should seek medical advice if this is seen to be a problem.

4. Periodic Limb Movements of Sleep

This consists of uncontrolled movements in the limbs (arms and/or legs) that occur every 20 to 40 seconds during sleep. This is usually diagnosed in a sleep lab. If it disrupts a person's sleep, the physician may prescribe a medication that works like a neurotransmitter to help ease symptoms.

5. Restless Leg Syndrome

A disorder described as having irresistible leg movements, often accompanied by an uncomfortable sensation (i.e. tingling, prickling, tension or aching). There is no cure and no understood cause, but it may be related to dietary supplement deficiency. Some people benefit from physical therapy, hot and cold baths, or massage.

Medical conditions and pain

Some medications prescribed for other conditions may have side effects that interfere with sleep. When a dancer is injured, the subsequent pain will affect sleep.

Joint Hypermobility and Hypermobility Disorder

Many dancers are hypermobile, with joints that have a greater than average range of motion. When under control, this can give a pleasing line in dance. Some dancers with hypermobile joints may have a disorder, though some do not. Most individuals with hypermobile disorder have sleep disturbances, usually prolonged time to get to sleep and awakening too early. It also appears that individuals with hypermobility may be at risk for restless leg syndrome. If a dancer is hypermobile, they may wish to check with their doctor. There is an informational paper in Dance USA Task Force on Dancer Health on hypermobility that gives more detail.

Disclaimer:

The information presented here is to help guide and inform the dancer and training staff, it is not meant to take the place of the advice of a medical professional. This information is provided by Dance USA Task Force on Dancer Health.

Resources:

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Milewski M.D. et al Chronic lack of sleep is associated with increase in sports injuries in adolescent athletes. Journal of Paediatric Orthopedics 2014, 34(2): 129-133.

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