

## The Basics of Sleep

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### What You Must Know About Sleep

You may think you know everything there is to know about sleep - after all, you have been doing it all your life. But is there something you could be missing?

Understanding the mechanics of sleep can provide a lot of insight into why it is an important part of human needs, precisely how it happens, and what may be disturbing it.

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## What Is Sleep?

It might seem too obvious to even ask ourselves that question. After all, it has always been a part of our lives, and it comes just as naturally as other indispensable activities in life, such as eating or moving. Some things are so normal that only when a disturbance occurs, do we start to wonder how they work.

Sleep is a physiological process, without which we can't survive. Although it seems like your muscular activity and consciousness have shut down, while you are sleeping, because they're not aware of the external environment, all major organs of the body are actively working during sleep. Therefore, contrary to how it may appear, sleep is far from being a passive process.

## Circadian Rhythm

The human mind and body are driven by the sleep-wake cycle. Here is how it works:

Surely you've heard that our bodies have "internal clocks", right? Well, this phrase refers to the circadian rhythms of our minds and bodies – this is something that nearly all living being, except for very simple organisms, on Earth have.

The term circadian rhythm includes all the processes that occur in our organisms within a 24-hour period, are cyclic. This system is regulated by the hypothalamus- the brain's area that connects the nervous system to the endocrine system. Sleep is one of these cyclic occurrences and is, therefore, a part of the circadian rhythm. Our 24-hour rhythms are calibrated to the external physical environment, more precisely, to the sunrise and sunset. In other words, the amount of light you get, can program your internal clock.

Unless the circadian rhythm is disrupted, our bodies rest, restore themselves, and can perform well during the hours we're awake. For plenty of people, this is not the case, as we'll see further on.

## Stages of Sleep

There are two different types of sleep. The first type is made up of four different physiological stages. Each one of these stages, and both types of sleep serve different purposes but, in the end, they keep our brain and body rested and healthy.

### Non-REM Sleep

The first type of sleep is called NREM (non-REM) or quiet sleep; it consists of three stages:

- Stage I: is that drowsy feeling when you're falling asleep, and your brain activity starts to slow down, while your muscles relax.
- Stage II: is a period of light sleep, in which muscle activity also slows down, as does the heart rate.
- Stage III: sleep is now deeper, the low brain and muscle activity continue; there is a decrease in body temperature and blood pressure. In this stages, your body gets a fulfilling rest. Dreaming sometimes happens during this stage, although that is rare, and

if does happen – the dreams are less vivid and seem scattered.

## **REM Sleep**

The second type of sleep is called Rapid Eye Movement or REM.

REM sleep is unique to mammals. During REM sleep, most of the body may be still, but the mind is very active. In fact, the similarities between brain activity in the waking hours, and that during REM sleep, is striking. Besides that, the eyes move constantly and rapidly, and the heart rate increases, as breathing becomes shallow. Of course, this is also the time when we dream.

## **Interchange Between Stages**

To have restorative sleep for your mind and body, you need to go through both stages of sleep. Usually, sleep cycles consist of that mix of NREM and REM sleep, in which both types alternate, creating what is known as a complete sleep cycle. This cycle takes between 90 to 110 minutes and is repeated throughout the night, in sometimes varied patterns.

## **And Now You Know!**

So, this is, in basic terms, how sleep works.

It's completely normal to have a bad, sleepless night once in a while, but if you get them too often, and have been struggling with them for three months or longer, it will inevitably have a negative effect on your health and daily life.

It's important to keep these basic facts in mind because sleep disorders interfere with the circadian rhythm and the regular sleep cycle. This distortion can easily cause significant changes - not only to the body and its daily performance but also to a person's mood and mental health.

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