## Sleep

## The 4 Stages of Sleep



NREM Stage 1

- transition period between wakefulness and sleep
- lasts around 5 to 10 minutes

NREM Stage 3

- muscles relax
- blood pressure and breathing rate drop
- deepest sleep occurs


NREM Stage 2

- body temperature drops and heart rate begins to slow
- brain begins to produce sleep spindles
- lasts approximately 20 minutes


REM Sleep

- brain becomes more active
- body becomes relaxed and
immobilized
- dreams occur
- eyes move rapidly
verywell


## The 4 Stages of Sleep

You need to aim for around 8-9 hours of sleep a night, the reason for this is because we sleep in cycles, so it is important we go through the different stages. The quality of your sleep is just as important as the length, stage 3 (sometimes also known as stage 4) is where the good stuff occurs, we need to achieve 1.5-2 hours in this phase for optimal sleep. A complete cycle takes around 90-110 minutes and you will only stay in stage 3 for around 15-20 minutes per cycle.

## Hormone Release

During stage 3, human growth hormone (HGH) is released. HGH is vital for muscle repair and building, bone growth and oxidation of fats. Remember, we train very hard to break down the body so it will repair itself during rest, making us stronger and more efficient than before. If you keep breaking the body down through hard training and then do not get enough sleep and HGH to repair itself, you will never get the performance level you want.

Cortisol (stress hormone) is also regulated in deep sleep. We ideally want cortisol higher in the daytime and then low in the evening and while we sleep. When experiencing high levels of stress through overtraining, exams etc. you may find it harder to sleep because cortisol remains elevated. Cortisol levels directly impact the body's ability to digest glucose. Since endurance is based on our body's ability to metabolize and synthesize glucose for later use, the quality of sleep we achieve becomes very important.

## Immune System

Less than 7 hours of sleep has shown higher injury and illness rates, while asleep, the body releases proteins called cytokines. Some of these cytokines help you sleep while others help fight inflammation, infection and stress brought on by your hard training sessions and your daily life.

## Learning and Memory

Earlier stages of sleep have been known to consolidate our muscle memory which allows us to perform movements without utilizing any conscious efforts. When we are tired our focus and attention decreases making it more difficult for us to receive and apply new and existing information.

## A Better Night's Sleep

## The 10-3-2-1 Rule

This is very basic but if you need to improve your sleep it is not the worst place to start.
10 hours before bed: No more caffeine.
3 hours before bed: Last big meal, no sugary snacks etc.
$\underline{2}$ hours before bed: No more work, try not to do any work in your bedroom ever.
1 hours before bed: No more screen time, blue light on electronic devices will disrupt sleep. Ideally the less screen time in the evening the better. You should keep all electrical equipment out of your room at night to make it a good environment for sleeping. I am currently looking into glasses that block blue light, most people using them swear by them, I will get back to you on these.

## Bedtime

Go to bed at the same time every night, e.g. 10pm, this way your body gets used to this and you will find it easier to get the sleep.

## Light and Temperature

Both can affect sleep so try to make sure there are no lights on in your bedroom including turning off all electronic equipment and do not have your bedroom too hot, you will find it easier to sleep in a cool temperature.

## Oura Smart Ring

If you are interested in monitoring and seeing how you sleep and how much deep sleep you achieve then the Oura Smart Ring is very good. It's not cheap but don't use your phone for tracking this as we want your phone off and out of your room.

## https://ouraring.com/

