

# The Science Behind Getting Your Beauty Sleep

Sleep is something we know we all need. An essential component of life. Although sleep patterns tend to vary widely between species, sleep is a requirement for all mammals and for the majority of other animals. Sleep allows us to rest our minds, helps our muscles to recover from the days activities, whilst enabling us to hit the 'recharge' button. Some people love it, some people struggle with it and some people claim they simply can't get enough of it. But, however we look at it, it seems that sleep (or lack of sleep in some cases) is leaving us all feeling a little confused.

When it comes to sleep, there are so many different variables between each persons independent sleeping habits. This includes the time we go to sleep, the duration of sleep we get each night and the level of depth our sleep usually reaches. We all seem to want answers to the same list of questions:-

- *Why do we actually need sleep?;*
- *How much of it do we actually need?;*
- *Does the time we go to sleep each night, actually matter?;*
- *What are the different stages of sleep and how do we know if we've had a 'good nights sleep'?; and*
- *If we're struggling to sleep - why are we and, how can we fix it?*

So let's look into some of these questions. Firstly, why we need it - this is a mystery that Scientists still don't fully understand. Sleep is a phenomenon that strikes debate amongst health experts right across the world. Its mysterious nature still remains relatively unknown. All we do know, is that sleep is essential to our overall wellbeing. We can compare sleeping to something in physical existence. Let's take our mobile phones for example. Imagine your brain as a huge electronic network, running and translating everything the eyes see whilst also controlling the body. Millions of different messages and instructions are being programmed by the brain and sent around the body without us even being conscious of it. All electronic devices (such as our phones) end up eventually running low on battery. This is usually once they've been running for a long period of time. It's the phones way of telling us they're getting close to the 'burn out' stage and require sufficient rest, before being used again at full capacity. When we get the 'low battery' message we allow our phone some sufficient down time to recharge, so that when we next pick it up, it's fully rested and ready to work again (i.e. recharged). Our minds seem to work in exactly the same way. Without the ability to recharge, we too would burn out and not be able to perform our usual daily tasks.

When it comes to the amount of sleep we need, most articles seem to tell us the golden rule for sleep is to '*aim for 8 hours per night*'. If we go into our sleep

with an 8 hour intention then (according to Science) we should wake up feeling fresh, energised and ready to face the day. This sleep bracket seems to have broadened in recent years and we are now told to aim for somewhere between 7-9 hours of sleep. Some people may need a little more, others may need a little less and this often depends on your genetic make up(i.e. how much your parents need). But, we should all aim to fall within the recommended window of 7-9.

You may be wondering whether it matters when in the night these hours are achieved. There's a popular saying stating 'every hour before midnight counts for 2 hours after.' The night owls out there are rolling their eyes at this concept... But, that being said, the reasons as to why the pre-midnight hours are so important do tend to make sense. We all have a natural circadian rhythm. This means that our bodies know what time it is, depending on the light outside. An example would be when the sun goes down, signals are sent to the brain to make us feel tired, naturally preparing us for sleep. When the sun comes back up, our body clock kicks back in and we wake up to sunlight. This is a natural 24 hour schedule that our bodies have been using for thousands of years. When the sun goes down, we start to produce Melatonin. This is the chemical that tells us it's time to sleep. Melatonin levels reach a certain threshold (prior to midnight) and if we fight the sleepy feeling and continue to stay up we actually start messing with our bodies natural sleep cycle. In addition to this, the later we go to bed, the later we'll get up the next morning meaning that we will be robbing our bodies of the first few hours of sunlight which again, goes on to disturb the natural circadian rhythm our bodies have tried so hard to install.

It's also crucial that we try and stick to a scheduled sleep routine. Going to bed at the same time each night and waking up at the same time each morning, allows us to maintain a regular cycle. Getting enough sleep helps us to achieve our best self the next day. Without the appropriate sleep we become irritable, unmotivated and are often on the search to find the next delicious snack. There have been strong links between eating unhealthy and lack of sleep. The day after a bad nights sleep, we are constantly on the look out for something full of sugar, to provide us with a quick burst of energy to get through the day. There is also evidence to suggest that people who fail to achieve a regular sleep pattern, or who fail to reach the recommended amount of sleep (7-9 hours), are more likely to suffer from different conditions such as depression, anxiety and are at higher risk of later developing dementia.

When it comes to assessing whether we achieved a '*good nights sleep*', we need to understand the way in which sleep actually works. There are 4 main levels of sleep. Whilst moving through these different levels, we experience changes in our brain waves, eye movements (under closed eyelids), muscle activity, breathing and heart rate. When you start to fall asleep, your breathing will begin to slow. Your eyes will close and you'll start to drift off. At this stage,

a small noise could bring you back to consciousness, whereas in comparison, in the middle of the night you could be so asleep that even a small earthquake couldn't wake you. So, where does the level of sleep change and why do we venture through different levels of sleep?:-

- **N1** - A light sleep where we feel dazed and relaxed. This is the first stage of sleep. Imagine dozing off on the sofa to a good movie, but if someone tries to change the channel you're instantly aware of it. You're semi-conscious. You often twitch and could have a thought induced, light dream. Often you won't remember if your dream was actually real or if you just dreamt something life-like happening...
- **N2** - You remain in a light sleep but you start becoming harder to wake up. Your heart and your breathing is now start to slow down.
- **N3** - This is a deep sleep. You are far less responsive when you get to this stage and this is where your body is put to work. Numerous repairs are taking place whilst you rest including tissue and muscle repairs, whilst also allowing your body to grow. During this stage, your immune system will also be being revamped.
- **Stage R** - This stage of sleep is not achieved for some time after you have fallen asleep. Usually over 70 minutes. Your breathing turns fast but unpredictable and irregular and your eyes move rapidly beneath your eyelids. Your muscles are also paralysed. We're advised that this stage is the 'deep dream stage'. Scientists believe that the body becomes paralysed during this stage as a natural preventative measure to stop us from harming ourselves. Our brain thinks that the dreams we are experiencing are so real, that we'd otherwise be likely to get up and start running. The paralysis stops injury from occurring as we would likely otherwise react to the dream due to it feeling so real.

All 4 stages of sleep are said to be essential when trying to achieve sufficient rest. Each stage is necessary and just as important as the next. We go through these 4 stages of sleep numerous times during a single night. Some of us may go through the cycle 6 times or more. So why is it that sometimes we wake up feeling tired or lacking in energy? It's likely that somewhere along the way, as we were venturing to and from the different sleep-stages, there was a disruption. This means that level changes weren't seamless and the disruption had resulted in the tired, lethargic feeling that lingers around the next day (i.e. we had a bad night's sleep, overall).

In modern day society, we tend to consume things within our environment that can also have an impact on our sleep. An example of this could be having a strong coffee in the middle of the afternoon. Putting a highly caffeinated item into the body a few hours before intending to sleep may prevent a person from sleeping at all. As the caffeine then starts to wear off hours later, it causes us to 'crash', leading us into a deep sleep straight away, skipping the initial lighter stages of sleep altogether. As mentioned earlier, when we don't venture

thorough the sleep levels properly we end up in a tired, lethargic state the next day. Alcohol on the other hand is a depressant (opposite to caffeine) which naturally causes us to feel sleepy. A night out on the town can really impact sleep, as you'll find yourself jumping straight into the deepest stage of sleep straight away, waking up in a groggy energy-less state of fatigue as the other crucial stages of sleep were again not achieved. The process of working our way through the 4 levels of sleep is therefore essential to achieving the necessary rest, so we must be conscious what external items we put into our body as we near to bedtime.

Sleep experts suggest a few rules to follow, in order to get a better nights sleep:-

- Do not consume caffeine in the afternoon (past 12.00pm);
- Do not drink alcohol 2 hours before bed (and only drink in moderation / avoid a binging session);
- Lay in a dark room before falling asleep(avoid light);
- Lay in a quiet room (avoid noise);
- Only get into bed to go to sleep;
- Reduce your fluid intake as your near to your bedtime;
- If you do not fall asleep after 20 minutes, do a light exercise and avoid light. This should make you feel tired when you next try to fall asleep;
- Wear socks to bed (as this can help improve circulation);
- Don't let your room get too hot (this can startle us and wake us up in the night); and
- Have a hot bath or shower before bed (heat automatically makes us feel sleepy).

So these rules all sound pretty simple, right? However, an estimated 1 in 5 Australians are still subject to some sort of sleep condition - whether that be needing too much sleep or not being able to sleep at all. Sleep is something we need and do innately, without really understanding why. It's something that should be simple, natural and basic for us all to master and yet many of us still don't seem to be getting the right amount of it If you feel like you could be feeling the impacts of a sleep condition, whether it's never wanting to wake up in a morning, always feeling tired or if you just can't seem to stay asleep at night, you should seek advice and guidance from your local GP.

Overall, sleep still remains a phenomenon that many experts still doesn't full understand. The\ things we do in our day to day life can really impact the sleep that we get at night. When looking at how to achieve a good nights sleep, it appears to be a balancing act of maintaining a regular sleep schedule, aiming for 7-9 hours per night, following our bodies natural circadian rhythm and ensuring that the items that we consume as part of our daily routines are not having a detrimental impact on our sleep. By implementing a few simple rules into each evening as we near to bedtime, we can all help to improve the hours

of sleep we get each night, as well as the quality of sleep that we achieve. If, after trying all of the suggestions made by Scientists, your sleep experience does not improve then a discussion with your GP may be the best way to find out what other factors may be preventing you from achieving a quality nights sleep.

### Inspiration

<https://www.aastweb.org/blog/how-to-diagnose-treat-the-5-most-common-sleep-disorders>

<https://www.mayoclinic.org/diseases-conditions/sleep-disorders/symptoms-causes/syc-20354018>

<https://my.clevelandclinic.org/health/articles/11429-common-sleep-disorders>