

**Dr Sarah Blunden's Adolescent Sleep Facts Sheet**

I am Sleep Researcher and a Psychologist. As a Sleep Researcher, I investigate the effects of poor sleep on young children and adolescents. I also diagnose and treat sleep disorders in children at Paediatric Sleep Clinic, my private practice as I am Sleep Psychologist. This mixture of research and clinical practice allows me to really understand sleep and to disseminate this information for the community.

Over the last year, I have been asked by many senior school students to answer many questions about sleep that they have used for their school projects. Below, I have included the main questions in the hope that this will assist any senior school students who would like to use it for a school project.

**Why is sleep important?**

Sleep is important as it plays a role in the proper functioning of ALL body systems. Although we don't really know exactly the reason, we know that we must sleep or we can become very ill. Sleep is important for physical and mental health and without it, all body systems that are involved in either physical or mental health, do not function well. If you stop sleeping completely, you will eventually die. There is a sleep disorder called, Familial Fatal Insomnia, where the individual cannot sleep and eventually dies. Fortunately, this is very, very rare.

Sleep is important for the body to rest and repair its systems. This happens in two stages, Non Rapid Eye Movement Sleep and Rapid Eye Movement Sleep. Non REM sleep occurs in four stages and is vital to get the body systems back to being rested, this process is called homeostasis. For example, when someone is tired their communication and immune system decreases in efficiency, therefore, they are more likely to become sick and perform badly. Non REM sleep allows for these things to be repaired back to normal after each day. A growing Hormone is also produced during Non REM sleep, which causes children to grow and develop. REM Sleep allows us to dream, and studies have shown that dreaming allows us to learn. We find that people who don't dream or get REM sleep, will not learn as efficiently.

**What are the effects of getting a good nights sleep?**

As above – this is essentially the same question...!!

**What are the effects of getting a bad nights sleep?**

These can be divided into 4 main areas:

1. Physiological (body systems, like cardiovascular and endocrine systems and physical health)
2. Psychological (emotional and mental health)
3. Psychosocial (behaviour, peer relations, family relationships)
4. Cognitive (learning, attention, problem solving)

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### **Why do sleeping patterns change during the teenage years?**

Two main reasons

1. Social changes and pressures.  
Teenagers have a lot more going on in their lives (phone, TV, jobs, social activities, school, sports, more homework, worry). Sleep is low on the priority list and is often given up for these other things.  
These all compete for sleep and teenagers go to be later
2. Circadian (sleep/wake) rhythm factors  
During adolescence there is a delay in the time when melatonin (one of our sleep hormones which makes us sleepy) is released from our brains to our bodies.  
Therefore adolescents are not tired until later in the evening. So their bodies are not ready to fall asleep until later - so they do things to stop being bored (TV, phone).  
They find it hard to get up in the morning because they fell asleep later and have not had enough sleep.

### **Is sleep just as important for teenagers as it is during other stages of life?**

Short answer absolutely. In fact more important because of the pressure of schooling. Research says that teenagers actually need MORE sleep than younger and older people. But they usually don't get it.

### **How many hours of sleep per night should teenagers be getting?**

The current thoughts are that teenagers need about 9 hours per night. Most teenagers across the world get between 7-8 so they are in 'sleep debt'.

### **If people find it hard to get to sleep or to get enough sleep, what are some techniques they could try to improve this?**

First of all try and establish what is contributing to the problem Is it:

1. Psychological (are they worried, stressed, anxious or depressed?). This can be addressed with help from a psychological professional, school counsellor or even a good friend.  
Relaxation and exercise are excellent ways of learning to relax the mind and the body so sleep is easier.
2. Physiological (body and physical health). Are they sick? If so, it is important to see a health professional.
3. Environmental and behavioural: is the room too dark or light or noisy or hot? Have they drunk too much coffee or watched too much TV that can keep them awake?

*-Once you have decided what the problem is, it is easier to choose one of these solutions. -*

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### What is the definition of Sleep Deprivation?

The guidelines of Sleep Deprivation are very vague, meaning that it is different for each person. Therefore, when a person experiences a loss of sleep which results in them being tired, they have experienced Sleep Deprivation. Some people call it sleep loss, sleep deficits or reduced sleep duration.

### What are the effects of Sleep Deprivation?

There are two types of effects; physical and psychological.

The physical effects of sleep deprivation include:

- An increase in accidents, resulting from clumsiness.
- Increase in obesity; lack of sleep mixes up your appetite hormones, so you feel hungry when you shouldn't
- Sickness: the immune system cannot be repaired and rested, resulting in decreased efficiency. The psychological effects include:
  - Depression
  - Anxiety
  - Mood swings and changes
  - An increase in frustration
  - The decreased ability to concentrate, which results in the decreased ability to learn.

In Adolescents who experience Sleep Deprivation:

- Sleep pattern changes
- Depressive nature increases, along with tiredness
- Negative mood changes occur.

After many years of Chronic Sleep Deprivation occurring, like in shift workers, studies show that the risk of cancer and heart disease increases.

### How do these effects influence the schooling life of adolescents?

When adolescents experience a lack of sleep, there are three ways that this can affect their schooling life.

1. Sleepiness:

Sleepiness results in the decreased excitement and willingness to learn, as the body can only focus on being tired. This results in loss of the ability to remember things, like studying for a test or completing an assignment. These effects are cumulative, meaning that a person will not just suffer from one effect of sleep deprivation, they will all pile up, decreasing their knowledge base.

2. Prefrontal Cortex:

The prefrontal cortex is an area in the brain that controls important tools in the body that affect learning. This particular part of the brain needs lots of sleep to function efficiently. When the prefrontal cortex is affected by a loss of sleep, these things are affected greatly.

- Behaviour
- Mood swings
- The ability to regulate learning decreases

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- The ability to regulate how you feel
- The ability to plan your school work
- Frustration with school work

### 3. Motivation loss:

The prefrontal cortex cannot cope with a continuous loss of sleep, so it loses its ability to control the learning processes. This stimulates a feeling of frustration in students in relation to schoolwork as they get so behind, that they just feel like giving up.

### **Why are so many adolescents sleep deprived?**

The melatonin surge in the body is delayed in adolescents, meaning they will not feel sleepy enough to fall asleep until later at night. It is for this reason that so many adolescents are sleep deprived because they fall asleep later at night, but still have to wake up early in the morning in time for school, losing valuable sleeping hours. Adolescents are also very busy people; they juggle homework, part time jobs, sporting commitments and social lives which displaces the importance of sleep on their list of priorities. This means that the quality and duration of their sleeps decreased, meaning that adolescents are one of the most chronically sleep deprived people in the world.

### **Are there any preventative measures that combat these effects?**

Adolescents need to be sensible about sleep. For example, they should be planning their sleep adequately on school nights and weekends. Keeping a regular sleep time throughout the weekend and the week will help keep the bodies sleep pattern regular and allow it to remain in a constant rhythm. Adolescents should not be sleeping in too much on weekends to recover their accumulated sleep debt from the previous week. Sleeping in will only make the body less tired at night time, which will again cause adolescents to stay up later, resulting in more hours of lost sleep. Instead, I would recommend taking short 20-minute naps during the afternoon, as this is proven to provide the body with enough energy to get through the remainder of the day. Sleep hygiene and routine is also important; adolescents need to establish a regular and relaxing routine that they practice before bed each night, to help them fall asleep easier. They should not be drinking caffeine or playing video games/going on the computer straight before trying to get to sleep, as these activities keep the brain wired. Exercising every single day, but not straight before bed, will also help with this.