

Getting better SLEEP

Why is sleep so important?

Sleep is vital for your physical and mental wellbeing.

During sleep your brain lays down new memories and 'cleans' itself of toxins that have built up over the day, and growth and repair processes occur throughout your body.

Without sleep all areas of your life suffer. Making decisions becomes difficult, and you can become a danger to yourself and the safety of others around you.

Lack of sleep has also been linked to lower resistance to infections, obesity, heart disease, high blood pressure, diabetes, strokes and an increased risk of Dementia in later life.

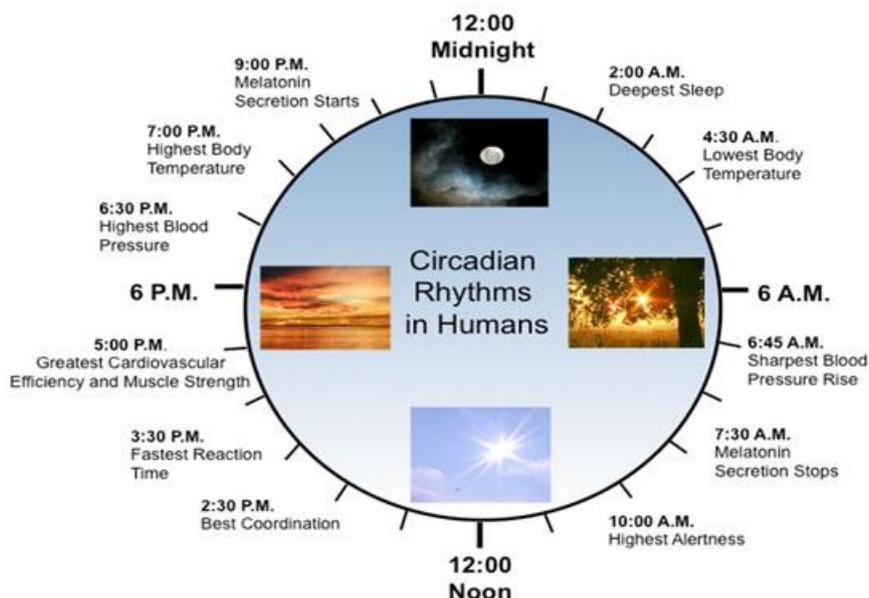
Good Sleep is an essential foundation for your Resilience to Stress ... your ability to adapt to situations, learn to manage them, and then grow from the experience. We can all cope with the occasional bad night, but a chronic lack of sleep will leave you unable to 'bounce back' from Stress, exposing you to the harmful effects in the long term.



The URGE to sleep ... The natural rhythm of your 'Body Clock'

We all have an internal 24 hour clock that sets the natural rhythm for our lives, set by a small area of cells within our brain.

This is known as the **Circadian Rhythm** and we all have periods in a day when we feel fully awake, and periods when we have the urge to sleep.



Our 'Internal Clock' is calibrated by changes in the world around us

- **Changes in Daylight:** moving from light to darkness causes the brain to release of Melatonin which readies us for Sleep. The return of daylight prompts the release of Cortisol to wake us
- **Changes in Temperature:** Night is normally associated with a drop in temperature, and that also acts to prompt us to prepare for Sleep

The NEED to sleep ... a pressure that builds

From the moment we wake a chemical called adenosine starts to build up within our brain. As the amount increases through the day it binds to receptors and builds a 'pressure' to sleep, which eventually makes us feel an overwhelming **need** to sleep.

The build up of adenosine is then removed while we sleep, allowing us to wake ready for the day.

So what can possibly go wrong?

If we don't override our natural rhythm the *urge and need* for sleep coincide at night (with another 'slump' between 1-3 p.m).

But ... work, family and social pressures often lead to us trying to ignore our natural 'body clock', fitting in sleep to the pattern we want ... rather than the pattern we need.

Also ... Late night exposure to the **blue light** from T.V's, mobiles and computer screens affects our body clock by reducing melatonin release, **affecting our urge to sleep** ... and **caffeine** blocks our brains receptors for adenosine, **affecting our need for sleep**.

Is there such a thing as being a Morning or Evening person?

Yes, these are genetic traits that scientists describe as your chronotype.

Think of the body clock being set forward for '**Larks**', or backward for '**Owls**', by up to 2 hours from 'standard time'. Each chronotype tends to cope differently with parts of the day

- **Morning ('Larks')** people tend to get up easily, enjoy breakfast, do their best work early, feel less tired in the day, and then prefer to go to bed early
- **Evening ('Owls')** people tend to wake up late / need an alarm, often skip breakfast, often feel tired early in the day, do their best work later, and prefer to go to bed late
- **The Inbetweeners** (most of us) work from the 'standard clock'. We can mix our routines with late nights AND early mornings ... but struggle if we do it too often.



Knowing your own chronotype can help you to set up a realistic sleep plan that fits in best with the way your body clock runs.

How much sleep do I need?

That varies through life, but if you are regularly feeling tired by late morning you probably need more. For most adults of us the recommendation is between 7 and 9 hours ... preferably through the night, but some appear to function well on less. However, **the quality of sleep is just as important as the quantity.**

Research has now shown that sleep actually occurs in **Sleep Cycles**, not as a continuous block, and this gives us much more understanding about how people who can't sleep for 7 to 9 hours at night can make up for what they are missing and avoid long term problems.

'Sleeping Smart is more important than Sleeping Long'

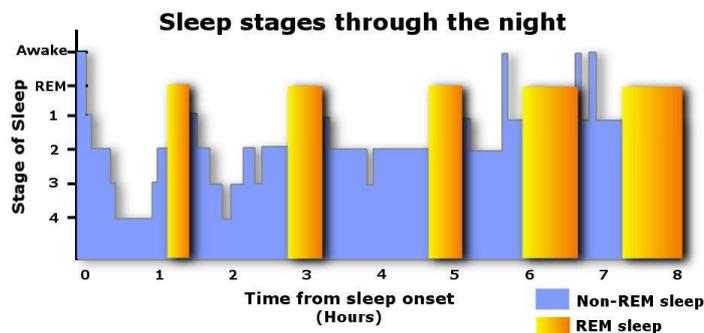
What are sleep cycles?

Sleep has now been shown to occur in cycles of around 90 minutes through the night.

Each cycle starts with very light sleep (known as Stage1 or N1) then moves through different phases into deep sleep (Stage4 or N4) where growth hormone is released, body tissues are repaired, memories are formed and brain toxins are flushed away.

These deep stages are followed by REM (Rapid Eye Movement) sleep during which we dream and complete the memory process by linking new and existing information.

The cycles then repeat through the night, but the phases of really deep sleep tend to be longest at the start of the night, with lighter sleep and longer phases of REM sleep towards the morning.



With each sleep cycle taking around 90 minutes to complete, an ideal nights sleep for most people would be made up of 5 cycles (plus a little time to get to sleep)

As we reach old age our sleep tends to change so that the last cycles become lighter and there is a tendency to wake more in the night.

How can I use the idea of sleep cycles to get better sleep?

The recommended number of hours of sleep most adults need can be thought of as 5 sleep cycles (5 x 90 mins = 7.5 hrs). Over the course of a week that would set us a target of 35 cycles (7 x 5).

If you can't fit in enough cycles each night, you can catch up to a certain extent through the week, or at the weekend. Research has shown that the best way to develop a good sleep pattern while catching up on a 'sleep debt' involves

- Keeping to the same wake-up time all week if possible
- Going to bed 90 min earlier to catch up on a full sleep cycle rather than sleeping-in
- Adding just one extra cycle to a night's sleep when you can, will give the best results if you are trying to catch up

- Perfecting the art of the nap!

Try to avoid having 3 consecutive nights where you get less than 5 cycles of sleep, and try to get at least 4 ideal routines each week.

How about lie-ins and naps during the day?



Often if you try to lie in for more than 2 hours beyond your normal wake up time, the sleep you get isn't very useful (extra quantity but no quality). Also, long lie-ins at the weekend will disrupt your body clock and make adjusting back to the working week more difficult.

Fitting in a 90 min sleep, or a 30 min nap during the day can give you a quality supplement towards your weekly sleep target, as well as improving your mood, alertness, performance and memory. Even a very short 5 - 10 min nap can leave you feeling refreshed.

The length of your nap is important. Taking a nap that lasts between 40 and 60 minutes can leave you feeling groggy for some time after (known as sleep inertia), because you'll be waking from the deepest phase of the sleep cycle.

Studies at NASA have shown the optimum nap to be 26 min long, which improved the alertness of pilots by 54% and their performance by 34%.

The most effective times for a nap lie between 1-3 p.m, as this is a 'recovery' period in the day (set by your Circadian Rhythm) where you tend to experience a natural 'slump'. Avoid naps after 3 p.m as they can make it harder to fall asleep later.

The 'Coffee Nap' : Having a Coffee just before a shorter nap can work well as it tends to take 20 minutes for the stimulating effect to kick in. So you get the boost from the caffeine starting as you wake from your refreshing nap. Don't take caffeine in the lead up to a night's sleep though, as it will still have a significant stimulant effect even 6 hours after which could stop you getting to sleep.

Should I try sleeping tablets?

Generally NO! ... Prescribed drugs can be useful to help with sleep on a very short term basis (up to 4 weeks) following a major upset or trauma... but, they can be habit forming, and have a number of side effects, so shouldn't be taken long term.

Non-prescription tablets (often containing an anti-histamine) and 'natural' herbal remedies that are widely available are also best avoided. They often produce drowsiness the next day, their safety is questionable, and their use can lead to a psychological dependence (thinking you can't sleep without them).

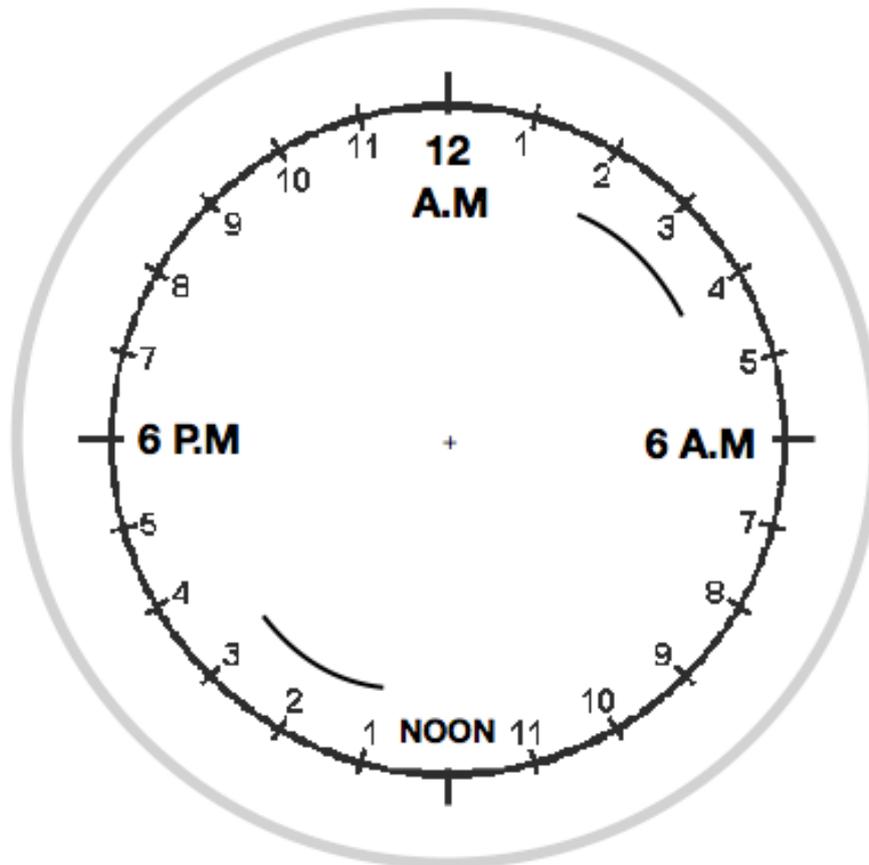
What can you do to get better sleep?

- **Stick to a schedule:** Go to bed and wake up at the same time each day

- **Understand more about how sleep works:** Use your knowledge of Circadian Rhythm and Sleep Cycles to help plan and improve your sleep. A string of very late nights or early mornings, as well as jet lag or shift work can disrupt your body clock.
- **Learn to control your worrying, stress and anxiety:** Intrusive thoughts and chronic stress can prevent natural sleep. Try giving yourself a 'worry time' earlier in the evening. Discover what YOU can do to help yourself using breathing exercises, mindfulness or self-hypnosis
- **Don't lie awake in bed for too long:** This can increase anxiety, so get up and do something relaxing or monotonous until you feel sleepy. Or learn techniques to help you 'drop off' to sleep or get back to sleep if you wake in the night. (Thought-stoppers, Body Scans, Progressive Tension / Relaxation)
- **Don't deal with work late at night:** It can delay your sleep routine and can also increase stress and anxiety ... so organise your time, deal with things earlier.
- **Beware the blue light at night:** Exposure to blue light from electronic devices such as mobile phones, i-pads and T.V's, reduces the natural release of melatonin. This is the hormone that 'signals' the brain to prepare for sleep.
- **Don't eat too late:** A light snack before bed is O.K, but finish any heavy meals at least 3 hours before sleep.
- **Don't exercise too late:** Strenuous exercise increases heart rate, body temperature and adrenaline levels so best avoided in the 2 hours before sleep (a walk or a stretching routine as part of your preparing for sleep routine can help though).
- **Go steady with caffeine and alcohol:** Caffeine is a stimulant, which blocks a neurotransmitter in the brain that normally makes us feel we need sleep. Alcohol might appear to help you get to sleep, but the quality of the sleep you get will be poor.
- **Think about your body / room temperature:** Your body needs to cool to prompt natural sleep, so don't keep your bedroom too warm. The natural cooling of the body following an earlier hot bath or shower can help though.

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Setting your Sleep Schedule worksheet



- 1. Shade in your Working Hours with Break Times***
- 2. Set a Regular Wake-Up Time ... Allowing for a 90 minute Wake-up Routine***
- 3. Draw in your Sleep Cycles***
- 4. Allow for a 90 minute Pre-Sleep Routine***
- 5. Consider the best times for Meals / Exercise / Naps***