

Understanding ADHD & SLEEP

Presentation

By the Neurodevelopmental Team



DHCFT



@derbyshcft

www.derbyshirehealthcareft.nhs.uk



Making a
positive
difference

We will cover.

- Why do we need sleep?
- Sleep stages
- Sleep and ADHD
- Bedroom environment
- Routines
- How to help
- Useful resources

Why do we need sleep?

It is important to understand why we need to have good quality sleep, so we can then be more empowered to make changes.

Share this information with your child so they know why changes need to be made. They are more likely to engage with a new routine when they are involved.

Remember to listen and take on board their ideas too, this is a team effort.

Why do we need sleep?

Sleep is as important to our bodies as food

- Growth hormones are released
- The immune system strengthens
- Consolidates memory and learning
- Memory and concentration functions are increased

Why do we need sleep?

- If you seem to catch every cold and flu that's going around, your bedtime could be to blame. Prolonged lack of sleep can disrupt your immune system, so you're less able to fend off bugs.
- Sleeping less may mean you put on weight! Studies have shown that people who sleep less than 7 hours a day tend to gain more weight and have a higher risk of becoming obese than those who get 7 hours of slumber.
- It's believed to be because sleep-deprived people have reduced levels of leptin (the chemical that makes you feel full) and increased levels of ghrelin (the hunger-stimulating hormone).
(nhs choices)

Why do we need sleep?

- When people with anxiety or depression were surveyed to calculate their sleeping habits, it turned out that most of them slept for less than 6 hours a night.
- Studies have suggested that people who usually sleep less than 5 hours a night have an increased risk of developing diabetes.
- It seems that missing out on deep sleep may lead to type 2 diabetes by changing the way the body processes glucose, which the body uses for energy.
- Long-standing sleep deprivation seems to be associated with increased heart rate, an increase in blood pressure and higher levels of certain chemicals linked with inflammation, which may put extra strain on your heart.

(nhs choices)

Sleep and ADHD

- Poor sleep can mimic some symptoms of ADHD, especially concentration/inattention levels
- It will effect your child's ability to learn and retain information
- Poor sleep will have an effect on your child/young persons behaviour response during the day, they may become more anxious, irritable and be more hyperactive
- Making small changes in routine can have a big impact in improving sleep.

- In a study involving 2,463 children aged 6-15, children with sleep problems were more likely to be inattentive, hyperactive, impulsive, and display oppositional behaviours.

(ref. [sleep foundation.org](http://sleepfoundation.org))

How much sleep do we need?

Age Range

Newborn 0-3 months old
Infant 4-11 months old
Toddler 1-2 years old
Preschool 3-5 years old
School-age 6-13 years old
Teen 14-17 years old
Young Adult 18-25 years old
Adult 26-64 years old
Older Adult 65 or more years old

(ref [sleep foundation.org](http://sleep.foundation.org))

Recommended hours of sleep

14-17 hours (including daytime naps)
12-15 hours (including daytime naps)
11-14 hours (including daytime naps)
10-13 hours
9-11 hours
8-10 hours
7-9 hours
7-9 hours
7-8 hours



Common sleep issues

- Sleep difficulties have been reported in up to 50% of children with ADHD.. They may have..
- Difficulty falling asleep
- Frequent waking at night/restless sleep
- Difficulty getting back to sleep/maintaining sleep
- Difficulty waking in the morning...
- All these will mean they become sleepy, irritable, hyperactive and have poor concentration during the day

Sleep thieves

- Being a couch potato and staying in with curtains and windows closed will slow the production of melatonin (sleep hormone)
- Natural light is essential to help regulate your body clock.
- Too much intensive exercise (exhaustion)
- Not enough exercise (no motivation)
- Crash diets (too few calories)
- Energy drinks/alcohol/coffee (contain caffeine and high sugar content)
- All of these effect your blood sugar levels which in turn impacts on your sleep quality.

Stages of sleep

REM Sleep rapid eye movement

- REM sleep is when we dream
- The brain is active
- The body switches off and the brain receives extra blood and processes the day's events.
- Eyes move quickly from side to side during sleep.
- Fast, irregular and shallow breathing
- Muscles relax
- REM sleep is important for learning and consolidation of memory
- The amount of time in REM sleep lessens throughout childhood

Stages of sleep

Non Rem

- Stage 1. transition between awake and light sleep (drifting off)
- Stage 2. lighter sleep stage, heart rate slows and body temp lowers.
- Stages 3/4. deeper sleep, hard to wake up from, deep slow rhythmic breathing. Body is repaired.

During Non REM sleep

- Your brain is quiet
- Your body may move
- Your immunity is strengthened
- It is the time when sleep becomes restful and muscles relax. The body is repaired
- Sleep terrors, sleepwalking and talking may occur during non REM sleep

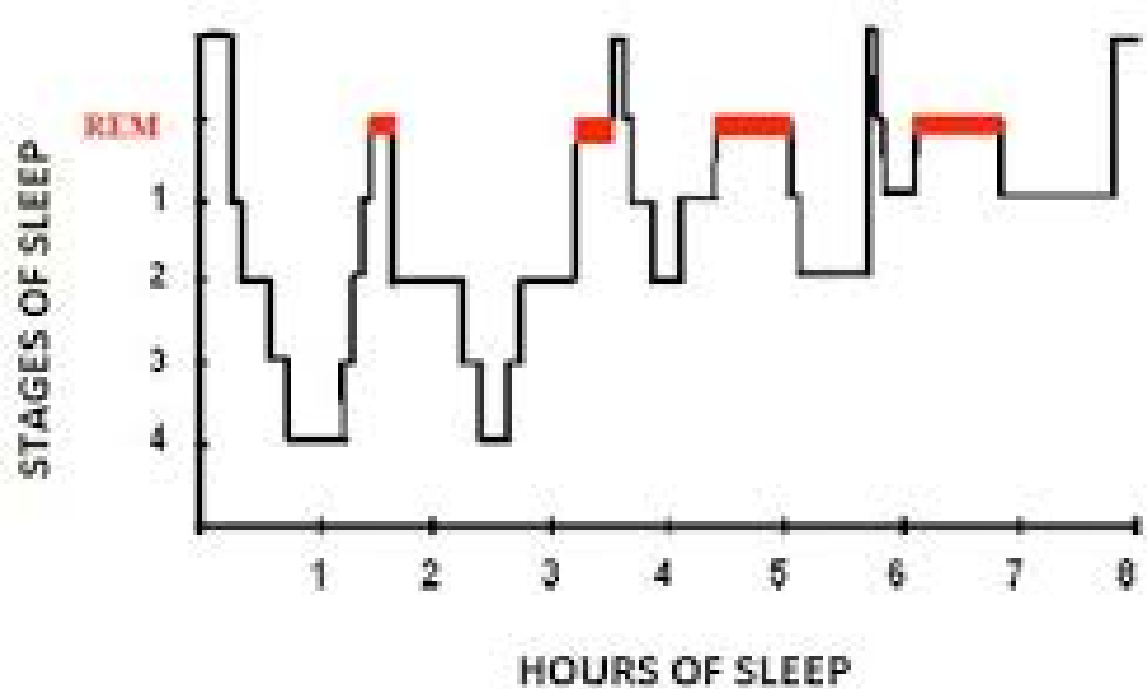
Micro wakening

- When we move through the stages we experience micro- wakening. Often we are not aware and just stir, roll over and go back to sleep
- Any changes within the bedroom environment will be noticed and your child will wake fully to investigate
- Eg..If the light was on when your child went to bed, leave it on!

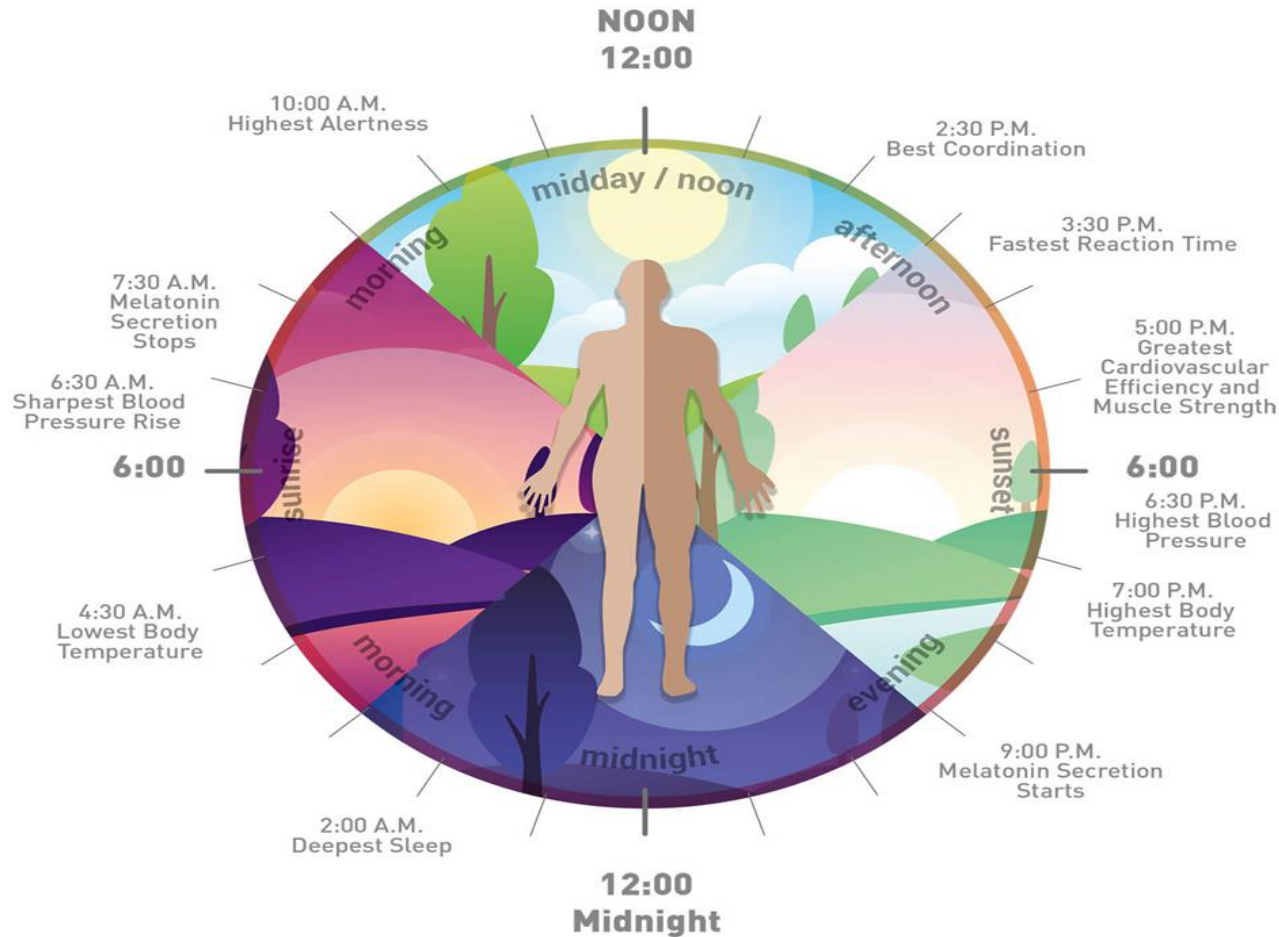
Hyponogram & Body Clock

- The amount of time spent in REM and Non REM sleep will vary throughout our lifetime, as does the amount of sleep we need.
- The body clock (also known as the circadian rhythm) will be affected by changes in routine, this is why setting a regular bedtime and wake time will improve your sleep quality.
- The following slides shows a typical sleep pattern for an adult
- Be aware that the times on the picture are for a guide only, ie melatonin release happens at different time for different ages. It is a guide only.

Hypnogram



Adult Body Clock (circadian rhythm)



Sleep Hormone

- Melatonin is a natural hormone produced by the pineal gland in the brain.
- Helps us fall asleep - **Sleep Inducer**. Helps support regular sleep pattern.
- Melatonin production is stimulated by darkness.
- Some foods naturally contain Melatonin, these known as Sleepy foods.
- Aim to give these foods 30 mins-60 mins before bedtime, maybe offering as supper during wind down time.

Sleepy foods

- Avoid sugary snacks and food containing caffeine.
- Almonds contains magnesium and help keep blood sugar level stable over night.
- Bananas contain magnesium, potassium and tryptophan which helps us to sleep.
- A cup of milk/soya milk with one banana...bedtime drink

Sleepy foods

- Dairy: Yogurts, Milk and Cheese.
- Oatmeal/porridge, you could add some sliced banana on top.
- Cherries, particularly tart cherries.
Fresh/frozen or dried cherries.
- Cereal such as Weetabix, Shreddies or porridge. Non-sugared.

Examples of sleepy foods

Food Group	Specific Foods
Milk and Milk products	Traditional milk products (warm), yoghurt and soya milk
Meat	Chicken and turkey
Fish	Cod, tuna. Mackerel and salmon
Cheese	Cheddar processed cheese, cottage cheese.
Fruits	Apples, bananas, blueberries, strawberries, avocados, pineapple, peaches and cherries
Vegetables	Spinach, asparagus, green peas, broccoli, tomatoes, cabbage, cauliflower, mushrooms, cucumber and potatoes
Nuts	Walnuts, peanuts, cashews, pistachios, chestnuts, almonds
Seeds	Ground flax, sesame, pumpkin, sunflower
Beans	Soy beans, kidney and chick peas
Grains	Wheat, brown rice, barley, corn oats
Bread	Whole wheat bread

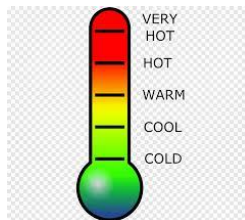
Sleep diary

- Keeping a sleep diary is a useful way of looking at patterns of behaviour and possible triggers for poor sleep
- The diary will help to pinpoint if your child is consistently waking at a similar time, what they've done that day, what they've eaten etc to see if there is any pattern.
- Can be downloaded from the following website
- <https://sleepcouncil.org.uk/>

Things to consider when starting
a new routine

Bedroom environment

- Suitable Bed/mattress/bedding, Is the bed the correct size for your child?
- Are their feet hanging off the end? Is the mattress sagging or showing signs of wear? Are they warm enough or too warm?
- Children who like to be wrapped up and end up tangled in their covers could use a sleeping bag or a cotton sheet pulled tightly over the quilt
- Minimal toys / uncluttered. Tidy toys away before bedtime (or cover with a sheet) your child can be easily distracted from sleeping if something catches their eye.
- Temperature Ideally 16 -18 °C, consider ventilation maybe open a window if necessary
- Blackout curtains or blind, remember melatonin is stimulated by darkness



Bedroom environment

- Use a nightlight if your child is afraid of the dark. (leave it on all night.. remember micro waking?)
- Is their bedtime appropriate to their age, consider changes in body clock for teenagers
- If sharing with sibling , consider re arranging the room or use a curtain/furniture between beds
- Don't use their bedroom as punishment/consequence, this will only make the room feel negative
- Ideally no technology or TV in bedroom! otherwise have in place good boundaries around times of use. (remember the no electronics rule 1 -2 hours before bedtime)
- There are a variety of apps out there which will help monitor and set timers on gadget use
- Back to basics... bedrooms are for sleeping in



Electronic Gadgets

- There is a strong link between tablet or any type of small screen that emits what is known as ‘blue light’
- The blue light stops the production of the sleepy hormone melatonin
- On all gadgets there is a blue light filter. This is a good way of reducing the amount of blue light your child is exposed to.
- Playing stimulating games before bedtime doesn’t give your child’s brain time to “calm” before sleep
- If brains are being stimulated before bedtime with electronic gadgets, the brain will not shut down in preparation for sleep
- Electronic devices should be switched off at **least 1** hour before bedtime but ideally 2 hours

What! No Gadgets

- It is important when removing tablets, phones, gaming stations before bedtime that your child/young person doesn't see this as a punishment
- They will need something to do to replace their gadget time, encourage fine motor activities such as crafting, colouring, lego, or puzzles. Find something that interests them
- Playing cards/board games, reading or listening to music all help to calm the mind.

No clocks

- Having clocks in the bedroom can be cause of anxiety and impact on sleep.
- There is nothing worse than staring at the clock working out that you only have 2 hours before the alarm goes off and counting down the minutes and hours
- If possible remove clocks from the bedroom and at the very least move it out of sight.

Bedtime routine

- Discuss with your child and family members their thoughts and ideas for new routine. Remember if they are involved they will be more engaged in making changes
- Write down a simple step by step routine with visual clues, make it visible to all the family
- A whole family approach is important, explain to your children that different bedtimes are acceptable dependant on age, (refer to previous chart for amount of sleep recommended)
- The hardest, but most important part of making changes is being **consistent**,
- Be **realistic**, expect that this will be a big change, if you have a difficult night, don't give up, get back into routine as quickly as possible
- Remember that the ADHD brain takes longer to learn new routines so give it time (months rather than weeks)
- Positive descriptive Praise and rewards in place for small steps and improvements.

Bedtime routine

- Gentle exercise late afternoon. Walk, trampoline or dancing are good.
- Sleepy foods - snack or drink.
- Wind-down time 1 hour before bedtime: reading, colouring books or relaxing music. Use a timer.
- Bath, not shower, and brush teeth.
- Once routine has started do not back track
- Bedtime story/chat

Some extra reminders

- Talk about any worries or concerns your child/ young person may have downstairs before bedtime routine starts.
- Get regular exercise.
- Don't go to bed hungry. (sleepy foods for supper)
- A calming bath, this will raise body temperature in preparation for sleep
- Wind down time- Hand, eye coordination games/craft/colouring.
- A chat or story with parent.
- Listening to music/story.. Not on phone or tablet
- Give sleep exchange card if needed.
- Maintain a regular sleep/wake up time.

Too much talk too much emotion

- Bedtimes can cause a great deal of conflict in families and have a huge impact with everyone being sleep deprived and emotional
- We can over talk the situation and get upset, frustrated and angry, this leads to more tension and the routine is disrupted
- To start a new routine you need to be in the “right place” and mentally prepared to make the necessary changes

Tips

- Keep the words you use the same every night.
eg “ John, it’s time for bed” use a statement rather than a question.. “are you ready for bed?”

Using the same words creates more consistency and cues for your child’s brain and less opportunity for them to answer back.

Night time waking

- Accept some periodic waking is normal
- Don't get drawn into talking, keep statements clear, "John, time for sleep"
- Try to keep your child/young person in their bedroom and not let them wander
- If bedwetting further support can be found from your GP/School Nurse

Early wakers

- If your child is an early waker and then waking up the whole house you can try this strategy..
- Have some twinkly lights set on a timer in their room, to switch on when it is ok for them to leave their room and wake others
- Explain how this will work... when the lights are OFF they stay in their room
- When the lights are ON they can get up
- A smart speaker can also help with this if you have one
- Your child/young person will need something to do if they wake before the lights come on
- They will need an “entertainment box” think fiddle toys, lego, books, colouring etc
- Remember to involve your child in any changes

Nightmare or Night Terror?

Nightmares and Night terrors are often confused.. Here's how to tell them apart

Night terrors..

- Happen shortly after sleep onset
- Child will appear terrified but actually asleep
- They won't take comfort from you
- They won't remember in the morning

What to do..

- Wait for the terror to pass and settle them back to sleep
- If they happen regularly at the same time every night, gently wake your child 15 minutes before they happen, then settle back to sleep, do this for 1-2 weeks.. This will hopefully break the cycle

Nightmares

- It is common for young children to have nightmares, it is their brain's way of processing the days events or if they have seen something scary.
- Nightmares are a bad dream that children wake from
- Your child will take comfort from you

What to do

- Reassure that it was a dream
- Don't reinforce the nightmare, don't look under the bed for monsters, they don't exist!!
- Children usually grow out of night terrors.. If unsure consult your GP
- More information on nightmares and night terrors can be found on the following link...
- <https://www.nhs.uk/conditions/night-terrors/>

Calming techniques

- NHS choices website has many useful resources to choose from to help your family manage their mental health, including mindfulness techniques, breathing exercises and raising self esteem

<https://www.nhs.uk/conditions/stress-anxiety-depression/>

Sleep exchange cards

- Does your child get out of bed with excuses?
- “I’m hungry, thirsty”
- “I need a hug”
- “I’m too hot/cold”
- Exchange cards can be effective in taking some control back by giving your child some ownership over their sleep routines
- Start by giving them 2-3 cards, when one is used you keep it, when all cards are used your child will not be able to get out of bed.
- This works well with younger children
- Remember to give it time to work

Example of sleep exchange card



John's sleep
Exchange
card



This card can be swapped for

1 hug from Mum

Or

1 hug from Dad

Snack Pack

- If your child is waking in the night and wanting food, you could supply them with a snack pack in their room.
- Offer the sleepy foods we have discussed.
- Ensure they know when it gone there will be no more.
- Prevents them from having an excuse to come and ask for food or sneaking to the fridge!!

Teenagers and Sleep

- Teenage children can also experience something called delayed sleep-phase disorder. The most notable symptom of this disorder is a desire to go to bed very late, resulting in difficulty waking up in the morning. The good news is that, most of the time, children grow out of these conditions.

([sleep foundation.org](http://sleepfoundation.org))



teenagers

- Make bedtime appropriate for their age.
- Is the room still dark?
- Do they need the toilet?
- Play in room instead of waking you / house up. Use chart so they knows what is expected of them if they wake up. Have a box of quiet toys.
- Build in rewards / deals / consequences.
- Immediate reward. Straight away Praise.

Teenagers

- Try to do the same things at around the same time each night so that their body has time to prepare for sleep and relax.
- Lack of sleep can cause havoc with your skin and result in spots and pimples.
- The right amount of sleep will make it easier to maintain a healthy weight.
- Growth hormones are released when you are asleep.
- Learning to drive is great but driving when sleep deprived is seriously dangerous

Fast facts

- Increasing your child's sleep by as little as half an hour can dramatically improve school performance
- By addressing sleep problems you may find that your child's ADHD symptoms improve
- Some studies suggests that better sleep will improve a child's concentration and ability to learn
- Regular sleep and wake time regulates the body clock

Useful links

- <https://sleepcouncil.org.uk/> for advice and support with everything sleep related.

References

- Sleep council
- Additude
- ADHD foundation
- NHS choices