

SIKON

Autism and Sleep



Programme

1. Research and clinical experience on sleep issues in autism
2. Assessment and data collection
3. Ways of encouraging sleep



Research on Sleep Issues and Autism

- Leung et al., 2023, *Frontiers in Psychiatry* 14
- Up to **80%** of autistic children have sleep problems, particularly difficulties with **sleep initiation** and **maintenance-**
- Hunter et al. (2020) *Research in ASD* 79
- **Parents** of autistic children who have sleep problems are more likely to have **higher levels of stress**, anxiety, depression and fatigue.

Research and Clinical Experience on Sleep Issues and Autism

Ming *et al.* (2009) *Clinical Medicine Insights: Pediatrics*

- **Sleep deprivation** can lead to **hyperactivity** during the day rather than feeling lethargic or sleepy

Buckley *et al.* (2010) *Arch. Pediatr. Adolesc. Med.*

- **REM** in ASD, **15%** of sleeping time,
- **Non-autistic children, 23%**
- Processing emotions

Quality versus Duration of Sleep

Vermeulen et al (2021) *Jr Child Psychology and Psychiatry* 62,

- Sleep **quality rather than duration** should be the primary target for intervention
- Role of restless REM sleep affects the quality of sleep and overnight emotion regulation.
- Restless sleep and REM sleep are more prevalent at the end of the night
- Short sleep curtails REM sleep

Research and Clinical Experience on Sleep Issues and Autism

Humphreys et al. 2013 *Archives of Diseases in Childhood*

- Longitudinal study
- 30 months to 11 years
- Autistic children **slept for 17-43 minutes less** each day
- Shortened by **later bedtimes** and **earlier waking**
- Frequent **waking in the night** (3 or more times each night)
- Richdale et al. (2024) *Autism Research* 17
- **Addressing sleep issues may lead to reduced autistic traits**

Sleep and Autistic Adults

Bishop-Fitzpatrick and Rubenstein (2019) *Research in ASD* 63

- 143 adults aged **40-88**
- Sleep disorders 85%
- Sleep can be a **life-long issue**, from infancy to old age

Clinical Experience of Sleep and Autism



- **Bedtime resistance**
- Bedtime routines becoming more **complex and taking longer** (to reduce anxiety)
- Insomnia associated with **prescribed medication** such as stimulants and SSRI medication (vivid dreams)
- When sleep improves, improvement in behaviour, attention span and mood
- **Sensory sensitivity**- Fuca et al., (2023) *Frontiers in Psychiatry* 14
- Lack of daylight

Clinical Experience of Sleep and Autism

- **Nocturnal seizures**
- May be an indicator of, or associated with, **depression**
- Gene mutations in autism affect levels of **melatonin**
- Many wake up frequently during the night, then **unable to return to sleep**
- Sleep less restorative
- Sleeping in a parent's bed (anxiety before falling asleep and when waking in the night, parental soothing and reassurance)

Clinical Experience of Sleep and Autism

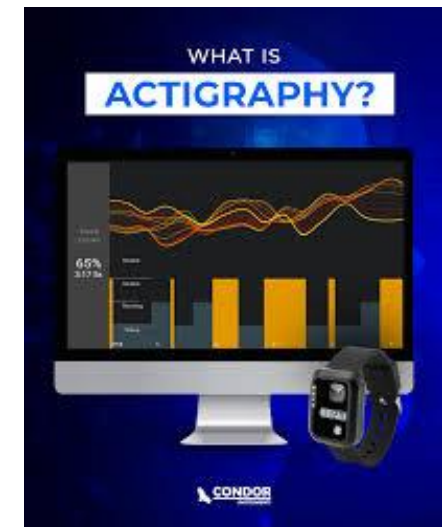
- Racing thoughts and ruminating inhibiting falling asleep
- Wake the next day in a completely different mood
- Becoming a recluse, living in a bedroom and switching the day/night cycle



Assessment and Data Collection

Sleep Actigraphy

Actigraphy with a wristwatch-like device – Records movements and amount of sleep.



Sleep Questionnaires: Sleep Assessment and Treatment Tool (SATT): Gregory Hanley

Sleep Assessment and Treatment Tool	
Developed by Gregory P. Hanley Ph.D. BCBA-D (2005)	
Step 1: Basic Information	
Date of interview/workshop:	
Child's name:	Child's birth date: Check one: Male Female
Name(s) of caregiver(s) who puts the child to bed:	
Phone:	Address:
Email:	
Child medical or educational diagnoses:	
Does your child engage in severe problem behavior like aggression towards adults or self-injury? Yes No	
If yes, please describe:	
Step 2: Sleep Problem and History	
Please provide a description of your child's sleep problem(s):	
How long have these problems occurred?	
If your child taking medication(s) for sleep? Yes No	
If yes, list the medication(s), dosage, and time of administration here:	
What have you done in the past to address your child's sleep problems?	

Ways of Encouraging Sleep Onset

Melatonin

- A natural sleep-promoting hormone
- **Defective metabolism** and secretion of melatonin associated with autism
- Dosage 1-10 mg, start at 2 mg.
- Needs to be pharmaceutical-grade melatonin
- Is a robust finding across 7 trials, e.g. Yan & Goldman (2020) *Canadian Family Physician*, 66



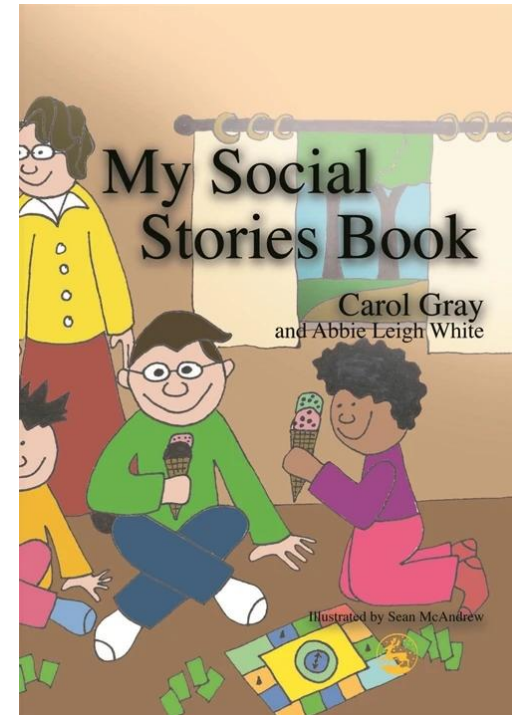
Ways of Encouraging Sleep Onset

- Preference for extended-release melatonin
- Positive response noted within days
- Andersen et al (2012) *Jr Autism and Developmental Disorders*
- **25% resolved sleep onset** problems and 60% had improved sleep onset

Information on Sleeping: Social Stories

When Do People Go to Bed?

- Usually, children need to sleep longer than mums and dads. That is why I go to bed before my mum or dad. My bedtime is at about ____
- My mum goes to bed at about ____
- My Dad goes to bed at about ____
- It is okay for me to sleep when mum and dad are awake. They will go to bed soon. They have a bedtime, too.
- Page 71.



Social Stories

What is a Dream?

- Sometimes I dream while I sleep. A dream is like a video my mind makes up all by itself.
- I can watch it with my eyes closed while I am asleep
- Sometimes a dream may be frightening. This is called a nightmare. Mum or Dad can help me if I have a nightmare. They can try to help me feel better.

Sensory Sensitivity

- **Lighting:** level and type of illumination
- **Sounds:** Quiet – startle reaction, music
- **Digestion sounds:** Sounds and sensations, mealtime and choice of food
- **Temperature** – less than 23 centigrade (not too hot or cold)
- **Tactile:** Sleeping clothes (texture, seems) Weighted blanket, sheets
- **Pain** such as constipation: medical assessment

Establishing a Sleep Cycle

- Be **outside in sunlight each day**, the earlier the better
- Being outside at midday may help re-set the sleep cycle (jet lag)



Bedtime Routine

Children

- Pre-arranged and **consistent bedtime**
- Regular bedtime **routine**, washing, brushing teeth, night clothes
- Doing the **same activities in the same order** becomes a sign for the mind and body that bedtime is soon
- **40 minutes before going to bed**, wind down, no exciting games, TV, DVD
- **Light level low** or lights off



Bedtime Routine



- **Teenagers**
- Avoid using the bedroom for **activities other than sleeping**
- **Avoid tea, coffee, energy drinks**, cola and heavy exercise
- **Computer games** as a thought blocker or suppressant for anxiety and depression
- When switched off, the thoughts and emotions return, inhibiting sleep
- Television, computers and social media switched off 30 minutes before bedtime

Falling and Staying Asleep Alone

- Achieved gradually over **several weeks**
- If you lie down with your child at bedtime, change the pattern by sitting on the bed for a few nights
- Then sitting on a chair beside the bed
- Gradually move the chair farther from the bed until you are **out of visual contact**
- During this process, gradually **reduce the amount of attention** by talking, facial expressions and eye contact and be calm and positive
- If the child wakes upset, wait a few minutes, go into the child's bedroom with **limited physical and verbal contact** e.g. a quick hug
- **Wait longer each time** you visit and briefer contact each time

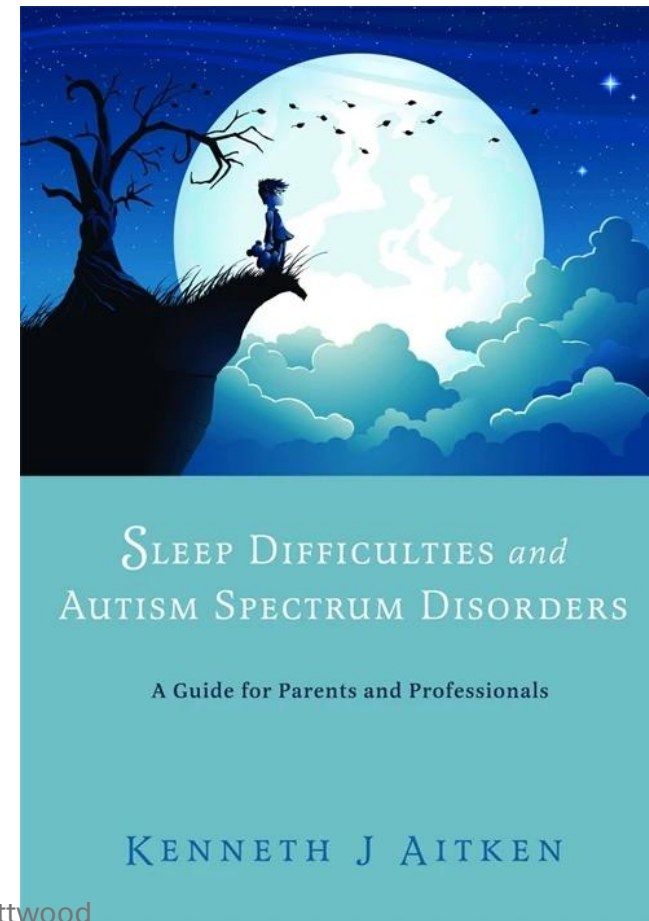
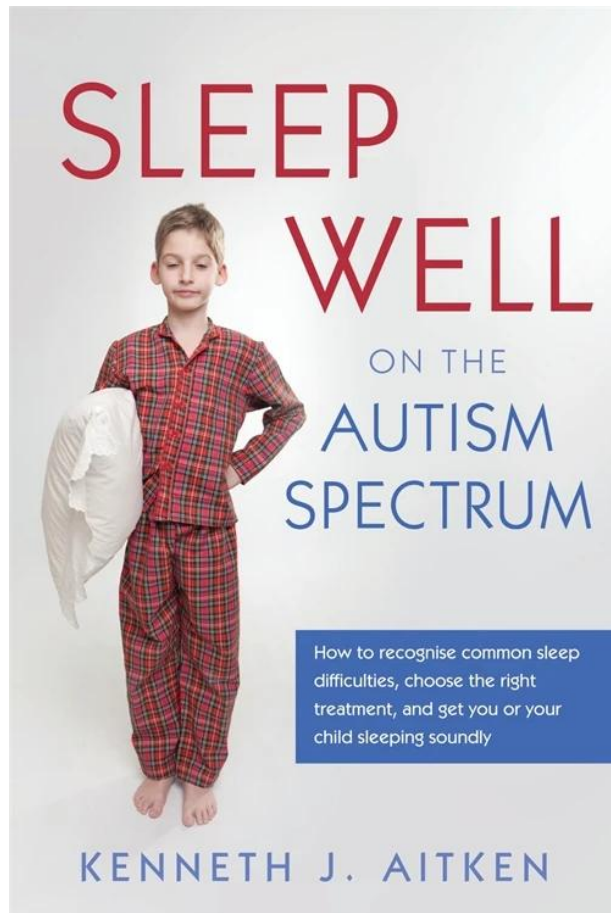
Sleep Clinic

- Sleep diary
- Sleep hygiene
- Recording the duration and quality of the stages of sleep

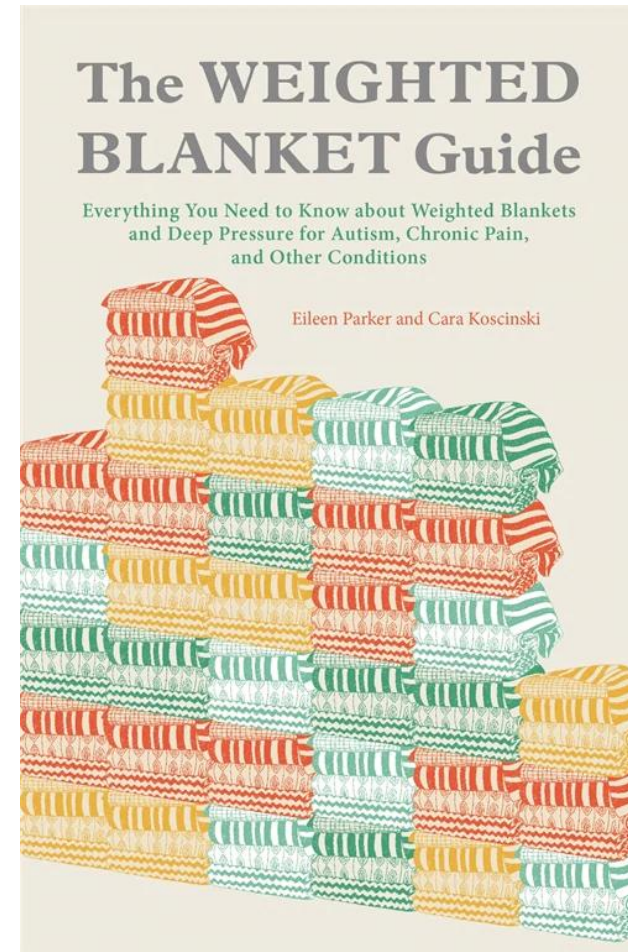
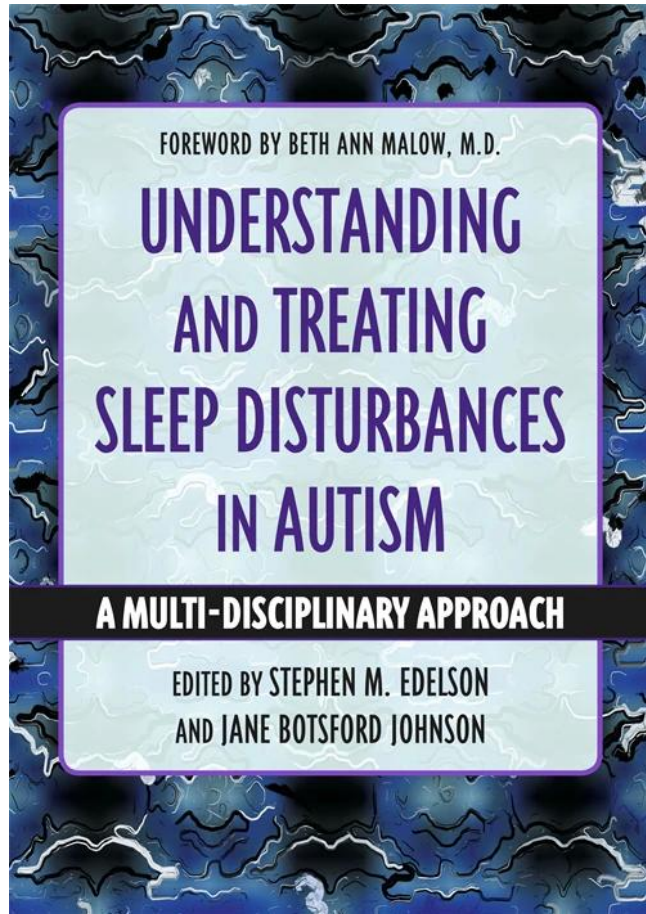


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Literature for Parents



Literature



Advice from Autistic Adolescents

Pavlopoulou (2020) *Frontiers in Psychology* 11
Article 583868

- 54 autistic adolescents
- **Evening/bedtime Factors**
- The right level of **sensory stimulation**
- Sensory comfort smell and tactile
- Clothing (labels)

Advice from Autistic Adolescents

Relaxation

- Relaxing music or **sounds/dialogue from familiar movies**
- Helps to ease worries and go into the sleep zone
- *Helps me push away the worries about the next day*
- *The sound of something familiar definitely helps me to sleep better*
- *I put an object on my belly and watch my belly as it goes up and down while the air goes in through my nose and out through my belly*

Advice from Autistic Adolescents

- Calming by **drawing** and the **special interest**
- *Dr. Who helps me sleep. Looking at the Tardis helps me to relax and forget all other thoughts in my head, and then I can go to bed easier.*
- *Harry Potter, watching parts of a movie, the movement of heroes, the colours on a particular scene, it excites me and calms me at the same time*
- *Reaching a state of calm happiness that cannot be compared with any other activity*



Advice from Autistic Adolescents

Parental company before bedtime

- Reassuring conversation before bedtime *to wind down and feel safe*
- To **review the day** in a gentle, compassionate way and make a plan for the day ahead

Physical activity

- *A short (15 minute) drumming session to release all energy*
- Enjoyable physical activity in the day
- *I sleep faster on days I had a swim*

Advice from Autistic Adolescents

Thoughts

- *Having fun during the day helps going to bed with less fear about the next day*

School

- Sleeping better when they know that they will **enjoy the following school day**
- Positive school experiences and sufficient time for interests associated with good sleep patterns
- Being able to have more control and choice on how to spend time at school and home cultivate positive feelings that promote better sleep