Strategies for Addressing the Sleep Challenges of Persons with ASD

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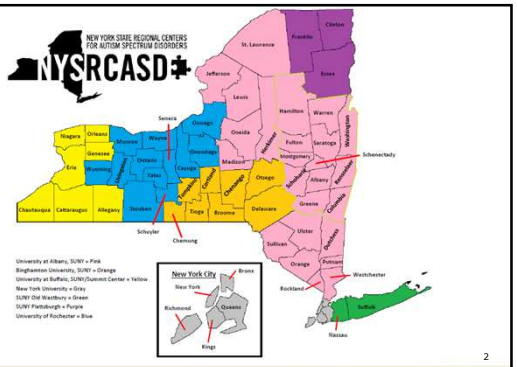

2

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3

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Rochester Regional Center for Autism Spectrum Disorder (RRCASD)

- Provides Community Education and Technical Assistance to increase knowledge of ASD and available resources
- Strives to enhance community resources through new activities and product development:
  - Information & Referral
  - Webinar Series
  - Newsletters
  - Information Sheets on ASD- related topics
  - Community Presentations & Events
  - Parent/Guardian & Professional Development Programs

http://www.golisano.urmc.edu/rrcasd-nyautism

4

Skirboll Family Autism Conference

Saturday, June 10th
8:30 a.m. - 2:00 p.m.
The Strong Museum of Play

Register at https://www.surveymonkey.com/r/skirbollreg

For more information, please contact the RRCASD at rrcasd@urmc.rochester.edu or 1-855-508-8485.

5

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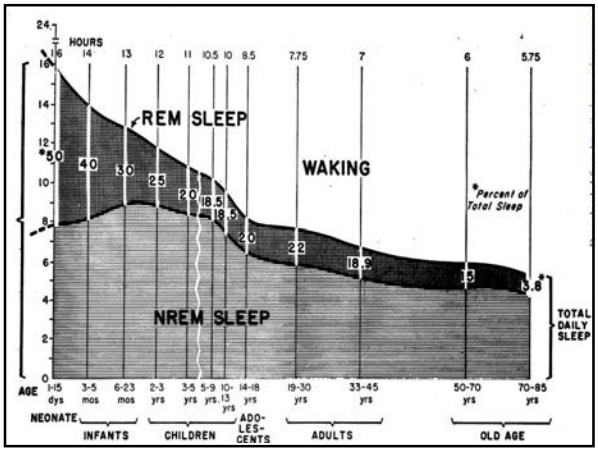
How Much Sleep Do We Need?

- Common belief is about 8 hours of uninterrupted sleep every night.
- True for most people. 75% of adults report that they feel well rested with 8 hours of sleep.
- Required number of hours of sleep decreases from early childhood (12 hours) to later adulthood (6 hours for people 50 years of age of older).
- Individual differences–8 hours is an average–this means that some people need more and some need less.
- A variety of factors influence the number of hours of sleep any individual needs in a given night:
  - Stress
  - Changes in schedules



Owls versus Larks

- People are biologically programmed to sleep at night and awake during the day.
- 10% of people are owls (people who have a preference for the latter part of the day or evening).
- 10 % of people are larks (people who prefer to do things during the early morning hours).
- During a logical reasoning skill test, owls peak performance was at 11 AM; Larks peak performance was at 8 AM.

Phases of Sleep

- Two main phases of sleep: Rapid eye movement (REM) and non-rapid eye movement (NREM; non-REM)
- Four stage of cycling from non-REM to REM sleep
- REM sleep is associated with dreaming
- Problems with a lack of REM sleep include: irritability and cognitive learning skills and memory
- Studies have demonstrated that people with developmental disabilities (e.g., ASD) and intellectual disabilities are more likely to have lower levels of REM sleep

Good Sleep

- Falling asleep quickly
- Remaining asleep through the night
- Rising without significant difficulty each morning
- Not feeling drowsy/sleepy during the day for most days

Why is it important to get a good night of sleep?

Lack of sleep associated with:

- Increased display of irritability (e.g., temper tantrums in young children; grumpiness in adults)
- Increased fatigue and depression
- Higher rates of non-compliance in children (i.e., less likely to follow instructions)
- Reduced rate of learning of new information (e.g., academic skills)
- Reduced motivation to do vocational or academic work
- Some evidence that lack of sleep is associated with higher rate of repetitive behavior particularly for individuals with ASD

How much sleep does your child need?

Centers for Disease Control and Prevention recommendations:

- 12 to 14 hours for children aged 1 to 3 years
- 11 to 13 hours for children aged 3 to 5
- 10 to 11 hours for children aged 5 to 10
- 8½ to 9½ hours for adolescents

No recommendations specifically for persons with Autism Spectrum Disorders

How common are sleep problems?

- One of every four otherwise healthy adults experience significant problems with sleep
- One of every four typically developing children also experience significant problems with sleep
- Sleep problems are persistent—they do not typically resolve without direct intervention (Jenkins, Owen, Bax, & Hart, 1984; Kataria et al., 1987; Pollock, 1992)

Sleep Problems of Person With Autism Spectrum Disorders

- Persons with ASD are among the most seriously affected groups.
- Parents of children with autism reported their children have significant sleeping problems more often than parents of other groups of children (e.g., typically developing children; children with intellectual disabilities).
- 80% of parents of children with ASD report concerns about sleep problems and 25% of parents of children with ASD describe them as being severe.

Common Sleep Problems Experienced by Persons with ASD

- Insomnia–term in our everyday language that is not preferred by sleep experts
- Difficulty initiating/falling asleep
- Difficulty maintaining sleep (waking frequently)
- Nonrestorative sleep (i.e., sleeping for what appears to be an adequate amount of time but not being well rested)

Assessment of Sleep Problems that Parents and Non-Sleep Experts Can Conduct

Understanding a Person's Sleep Problem

- Common first step if you are going to sleep expert would be keeping a sleep diary or log
- Sleep log typically tracks:
  - How long a child sleeps
  - What is the pattern of sleep?
  - What happens at problem times?

Advantage is that it prevents you from relying on your subjective memory

Day	Time went to bed	Time fell asleep	Night time Waking (time/how long)	Description of nighttime Waking	Time awoke for day	Naps (describe each; selpt in car for 15 mins
Sunday						
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						

Date	Time	Description of Challenging Behaviors	What did you do?	Description of Challenging Behaviors During Awakenings	What did you do?

Albany Sleep Problems Scale (ASPS)

46 question sleep scale. Sample questions:

- Does the child have a bedtime routine that is the same each evening?
- Does the child sleep poorly in his or her own bed, but better away from it?
- Does the child take more than an hour to fall asleep but does not resist?
- Does the child take naps during the day?

Sleep in Your Child's Room

- Many sleep experts recommend that a parent or caregiver sleep in a person's room for at least 3 hours to assess factors such as noise from other areas of the house or outdoors, outdoor light, and temperature of the room.

Interventions for Sleep Problems

Establish Good Sleep Habits

- Establish a set bedtime routine
- Develop a regular bedtime and regular time to awaken
- Eliminate 6 hours before bedtime all foods and drinks that contain caffeine
- Limit alcohol and tobacco (if age appropriate)
- Eat a balanced diet, limiting fat
- Do not exercise or participate in vigorous activities in the hours before bedtime

Establish Good Sleep Habits

- Have a weekly program of exercise during the day
- Restrict activities in bed to those that help induce sleep
- Reduce/limit noise in bedroom
- Reduce light in bedroom
- Avoid any extreme temperature change

Example of Bedtime Routine

- Brush teeth
- Wash up
- Change into pajamas
- Sit in bed with child and read to him or her for 15-20 minutes
- Rub/scratch back for a few minutes

Maybe beneficial to build in variation for individuals with ASD

Sleep and Diet

- Some evidence that drinking milk before bedtime brings on sleep (milk contains amino acid L-tryptophan).
- Some limited evidence for certain vitamins and minerals B-3; B-12, and folic acid.

- Foods that may disrupt sleep include:
  - Foods high in fat
  - Any food likely to upset the stomach (e.g., spicy dishes, cucumbers, beans)
  - Foods with monosodium glutamate (MSG)

Sleep and Daily Activity

- Time of day is critical with exercise. Exercise too close to bedtime (negative effect).
- Regular exercise during the day is associated with better sleep.
- Schedule regular exercise for children (aerobic; raising his or her heartbeat to produce heavy breathing for at least 20 minutes).

Caffeine and Sleep

- Caffeine is a naturally occurring chemical that acts as a stimulant to the brain.
- Caffeine has been used for centuries to provide people with more energy.
- Food and drinks that contain caffeine such as chocolate used in baking (e.g., too many chocolate chip cookies at night) may disrupt sleep.

Food/Drink	Average amount of caffeine (mg)
Brewed coffee (8 ounces)	137 mg
Instant coffee (8 ounces)	76 mg
Coffee ice cream or frozen yogurt (4 ounces)	2 mg
Brewed tea (8 ounces)	48 mg
Instant tea (8 ounces)	26 to 36 mg
Soft drinks (like cola) (12 ounces)	37 mg
Energy drinks (8 ounces)	100 mg
Hot cocoa mix (3 teaspoons or 1 packet)	8 to 12 mg
Chocolate milk (8 ounces)	5 to 8 mg
Dark chocolate (1.45 ounce bar)	30 mg
Milk chocolate (1.55 ounce bar)	11 mg
Chocolate syrup (1 tablespoon)	3 mg

Naps and Sleep

- Many people appropriately use naps to catch up on poor or lost sleep.
- Signs that naps might be a problem:
  - Is the person so tired during the day that it is difficult to keep them awake?
  - When a child is not allowed to sleep during the day and they become very cranky or display challenging behavior.
  - Naps might be a sign of breathing related sleep problem such as sleep apnea.
  - Excessive napping might be related to medications for seizures, antihistamines, and asthma medications.
  - Too much daytime sleep may decrease a person's tiredness at night.

Bedtime Fading

- Select a time when your child is likely to fall asleep with few problems within 15 minutes (e.g., 11:30 PM versus 9:30 PM).
- If your child falls asleep within 15 minutes of being put to bed at his or her new bedtime without resistance for two consecutive nights, move their bedtime back 15 minutes.
- If your child does not fall asleep within approximately 15 minutes, extend his or her bedtime for 1 more hour.
- Continue to move back the bedtime until the desired bedtime is achieved.

Graduated Extinction

- Increasing amount of time ignoring the cries and protests of a child at bedtime
- Establish a bedtime routine
- Establish a standard bedtime and be consistent about it
- Pick a good night to start the procedure (typically no one in the family gets much sleep for a few days)

Graduated Extinction, cont.

- On the first night, put your child to bed and wait the pre-specified period of time (for example, 2 minutes, 3 minutes).
- If after the pre-determined time period your child is still crying, go into his or her room and tell him or her to go to bed. Do not:
  - Engage in any extra conversation with your child
  - Give them any toys or other preferred items
  - Give them drink or food

Graduated Extinction, cont.

- Wait another two minutes and if your child is still crying, go back into their room and repeat the step above.
- On each subsequent night, extend the time between visits by 2 or 3 minutes.
- Common adjustments: reduce the time between visits, or increase the length of time between visits by a brief length of time (e.g., 15 secs).
- Procedure often needs to be restarted after major events (e.g., illness, lengthy stay with grandparents).

Sleep Restriction

- For non-disruptive awakening
- Child who wakes up does not cry out but engages in other behaviors such as wandering around the house, playing with preferred toys, disassembling things
- Involves restricting the amount of time that the a child is in bed to the total amount of time that the child seems to sleep

Sleep Restrictions, cont.

- Use sleep diary to estimate the number of hours on average your child sleep each night
- Calculate 90% of the child's sleep time (average number of hours of sleep multiplied by 0.9)
- Adjust either your child's bedtime or the time in which you wake them
- If you find your child awake in bed, get them out of bed and engage him or her in a soothing activity
- Adjust time after night waking is eliminated or significantly reduced

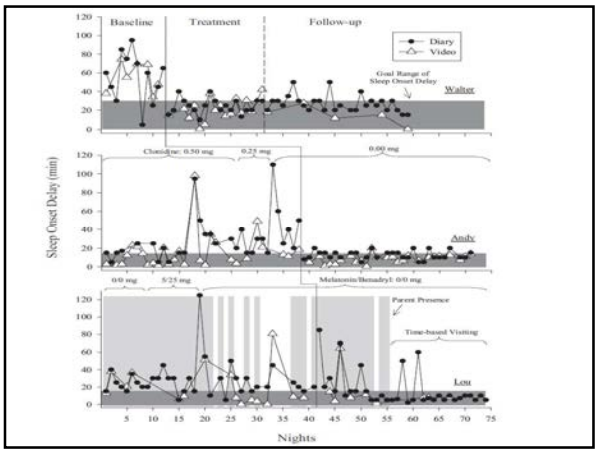
Sleep Problems from a Behavioral Perspective

- What are the likely reinforcers (rewards) for sleep problems?
  - Attention/positive interactions
  - Preferred food/drink
  - Access to TV or other electronic (e.g., IPAD)
  - Access to toys
  - Escape of avoidance of dark/bedroom

"Behavioral Quietude"

- Concept of creating an environment that promotes sleep
- Things that occasion sleep are not present when the child wakes up during the night = Night Awakening
- Things that occasion sleep are suddenly removed or inconsistently available = Sleep Onset Delay and possibly Interfering Behavior

Examples: **TV, radio, books, bottles, "full belly," presence of another person, being rocked or patted, lights, fallen stuffed animal or blanket**



Medications for Sleep

- Medication is the first thing most people think of when it comes to sleep difficulties.
- Many over-the-counter sleep medications (e.g., TYLENOL® PM.)
- About 21million prescriptions are written each year in the United States for prescription sleep medications.
- Most professionals only recommend sleep medications for short-term sleep problems.

Types of Medications

- Barbiturates (e.g., Amytal). Generally not recommended or prescribed due to concerns about addiction and issues when taken with other medications.
- Benzodiazepines (e.g., Restoril). Commonly used due to less risks of addiction.
- Antihistamines (e.g., Benadryl, variety of over-the- counter sleeping aides). Effectiveness has been questioned by many experts.
- Zolpidem (Ambien)
- Stimulants (e.g., Ritalin). Used for individuals with problem related to excessive sleep.

Melatonin

- Natural brain hormone that is related to the resetting of our biological clock
- Typically requires use of other strategies
- Professional organization (American Sleep Disorders Association)
- Melatonin appears to have two effects on sleep:
  - Acts as a soporific or a drug that makes you tired
  - Resets the biological clock

Concerns About Medications

- Insomnia rebound. Sleep problems return after you stop taking the medication and are often worse than before.
- Not a cure-effects only last as long as you take the medication.
- Interfere with REM Sleep. Lack of REM sleep causes cognitive impairments which may be particularly problematic for individuals with ASD or other developmental disabilities.
- Dependency
  - People can become tolerant of or become used to taking the sleep medication and require increasing larger doses across time.
  - Addiction (mainly associated with older sleep medications; barbiturates) and insomnia rebound.

Preventing Sleep Problems

- Establish good sleep habits from birth
  - Start exposing your child to morning light to trigger their biological clock
  - Create a night time routine at an early age
  - Avoid having your child falling asleep in your arms or outside of their crib or bed
  - Fade night time feedings as soon as possible

Preventing Sleep Problems, Cont.

- Work on sleeping through the night by 6 months of age.
- Start to fade naps around 2 years of age. Most children do not need an afternoon nap by 3-6 years of age.

Question & Answer

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47