KAUFMAN
CHILDREN'S CENTER
Kids with Challenges Become Champions
Speech-Language • Sensory-Motor • Autism

Understanding and Resolving Sleep Challenges in ASD

ABA Parent Training Series

Together we will:

- Review what the research tells us about sleep and autism
- View sleep as a **behavior that is learned** and **a skill that can be taught**
- Evaluate components of ***Healthy Sleep Habits*** and ***Sleep Interfering Behaviors (SLIB)***
- Discuss interventions to improve your child's sleep habits starting **tonight!**

Resources:

- Autism Speaks /Autism Treatment Network (ATN)
- Autism Intervention Research Network on Physical Health
- Beth A Malow, MD, MS (Director, Sleep Disorders Division, Vanderbilt University Medical Center
- Gregory P. Hanley, Ph.D., BCBA-D Western New England University, University of Massachusetts Medical School

Resources:

https://www.actcommunity.ca/education/videos/solving-sleep-problems-in-children-with-asd

Understanding sleep challenges in ASD:

- Autism **does not** mean poor sleep!
- All children with ASD can learn to fall asleep alone and stay asleep through the night
- Establishing daytime and nighttime routines is important
- Data collection is necessary to establish any plan

(Dr. Gregory Hanley, Ph.D., BCBA-D)

Poor sleep results in child being:

- More irritable
- More easily fatigued
- More likely to engage in problem behavior (meltdowns, self-injury, aggression, stereotypy)

- More likely to suffer from unintentional injury
- Less likely to follow instructions
- Less likely to learn academic concepts

If untreated, poor sleep may also result in:

- Increased risk for childhood and adult obesity
- Adolescent behavioral and emotional problems
- Anxiety in adulthood
- Sleep problems through adulthood

Poor sleep affects the whole family:

- Increased parental sadness and depression
- Parental sleep problems
- Erosion of the parent's relationship with each other and with their children

Good sleep is important because it:

- Promotes growth
- Helps the heart
- Affects healthy weight
- Helps beat germs
- Reduces risk of injury
- Increases attention
- Supports learning

What IS good sleep?

- Falling asleep quickly
- Staying asleep through the night
- Waking easily in the morning
- Feeling rested throughout the day

How much sleep?

Age-based averages:

Adapted from: *Solve Your Child's Sleep Problems,* Richard Ferber, Simon & Schuster, 2006

Age	Total Sleep	Night Sleep	# Naps
2	11 hrs 30 min	9.5 hours	1 (2 hrs)
3	11 hrs 15 min	10 hours	1 (1hr15min)
4	11 hrs	10 -11 hours	0-1
5	10 hrs 45 min		
6	10 hrs 30 min		
9	10 hrs		
12	9 hrs 45 min		
15	9 hrs 15 min		
18	9 hrs		

Common misconceptions:

- Children with ASD have similar sleep challenges as peers (neurotypical)
- Pediatricians are comfortable with and well-trained in addressing sleep challenges
- Medications are an effective treatment for sleep difficulties in children with ASD
- Sleep problems **often resolve on their own**

What are the facts?

- 30-50% of children ages 2-7 years who are TD* have sleep problems (typically developing)
- **63-73% of children** ages 2-7 with **ASD have sleep problems**
- **Medication (not ASD) reduces REM sleep** (kids with ASD who were not on medications (even poor sleepers) showed no difference in REM sleep once asleep (Malow, 2006)
- Pediatricians have fewer than 5 hours total training on understanding and treating sleep problems in children

What are the facts?

- Parents often go to pediatrician to address a very complex behavioral problem in a brief twenty-minute office visit
- **81%** of the time children were seen for sleep difficulty they left **with a prescription**
- **NO FDA approval** exists for any medication for pediatric insomnia.
- All medications are **"off label use"**
- Little to no consistency in research to support the efficacy of medication for children to address poor sleep

National Academy of Sciences, Committee on Sleep Medicine and Research, Board on Health Sciences Policy (2006)

"There have been no large-scale trials examining the safety and efficacy of hypnotics in children and adolescents. Other pharmacological classes used for insomnia include sedating anti-depressants, antihistamines, and antipsychotics, but their efficacy and safety for treating insomnia have not been thoroughly studied."

In contrast:

- Many studies show a behavioral approach can **significantly improve** sleep for those with ASD.
- A much more comprehensive assessment of sleep habits/patterns needs to be done to identify **sleep interfering behaviors (SLIB)**

Journal of Applied Behavior Analysis

JOURNAL OF APPLIED BEHAVIOR ANALYSIS 2013, **9999**, 1–20 NUMBER 9999 (SUMMER 2013)

AN INDIVIDUALIZED AND COMPREHENSIVE APPROACH TO TREATING SLEEP PROBLEMS IN YOUNG CHILDREN

C. SANDY JIN, GREGORY P. HANLEY, AND LAUREN BEAULIEU

WESTERN NEW ENGLAND UNIVERSITY

Behavioral treatments

"Behavioral treatment of sleep problems in children with intellectual disabilities and challenging daytime behavior reduces parental stress, increases parent satisfaction with their own sleep, their child's sleep and heightens their sense of control and ability to cope with their child's sleep" *(Wiggs L, 2001)*

Behavioral approaches

- View sleep as a behavior we can teach
- Ensure the value of sleep is high for our “learner” when put to bed
- Eliminates anything that reduces the value of sleep
- Create an environment which is conducive to good sleep habits

Behavioral approaches

- Provide needed prompts and supports for successful sleep
- Fades **demands in** and **prompts out** systematically
- **Reinforce behaviors** we want to see **more often**
- Does not reinforce behaviors that interfere with sleep
- Considers caregiver priorities and concerns as a priority

What sleep problems might be happening for your child and family?

Sleep challenges might include:

- Child will not fall asleep on his/her own
- Child may take hours to fall asleep
- Child may wake in the night frequently
- Child may not fall back to sleep easily in the night (may require same things be present for initial bedtime/sleep)
- Child may wake very early without going back to sleep
- Child may fall back to sleep after hours awake and then wake much later than normal

Daytime habits to support sleep:

- Exercise
- Abundant Light
- Limit Caffeine
- Limit Napping
- Selective Use of Bedroom/Bed

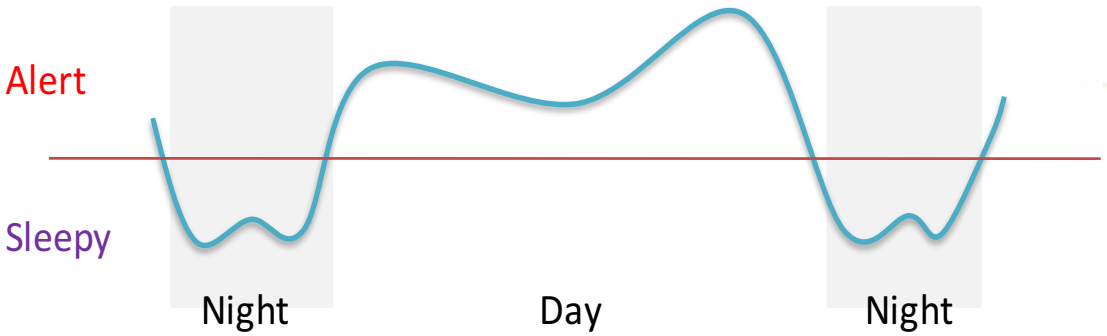
Five steps to addressing sleep challenges:

1. Identify best sleep schedule
2. Establish nighttime routines
3. Optimize bedroom environment
4. Optimize sleep dependencies
5. Address sleep interfering behaviors

1 Identify best sleep schedule

- Consider appropriate sleep amounts for age of child
- Consider current sleep times and adjust as appropriate
- Understand "forbidden zone" for sleep
- Start nighttime routine very close to the child's bed time (thirty minutes)

1 Identify best sleep schedule

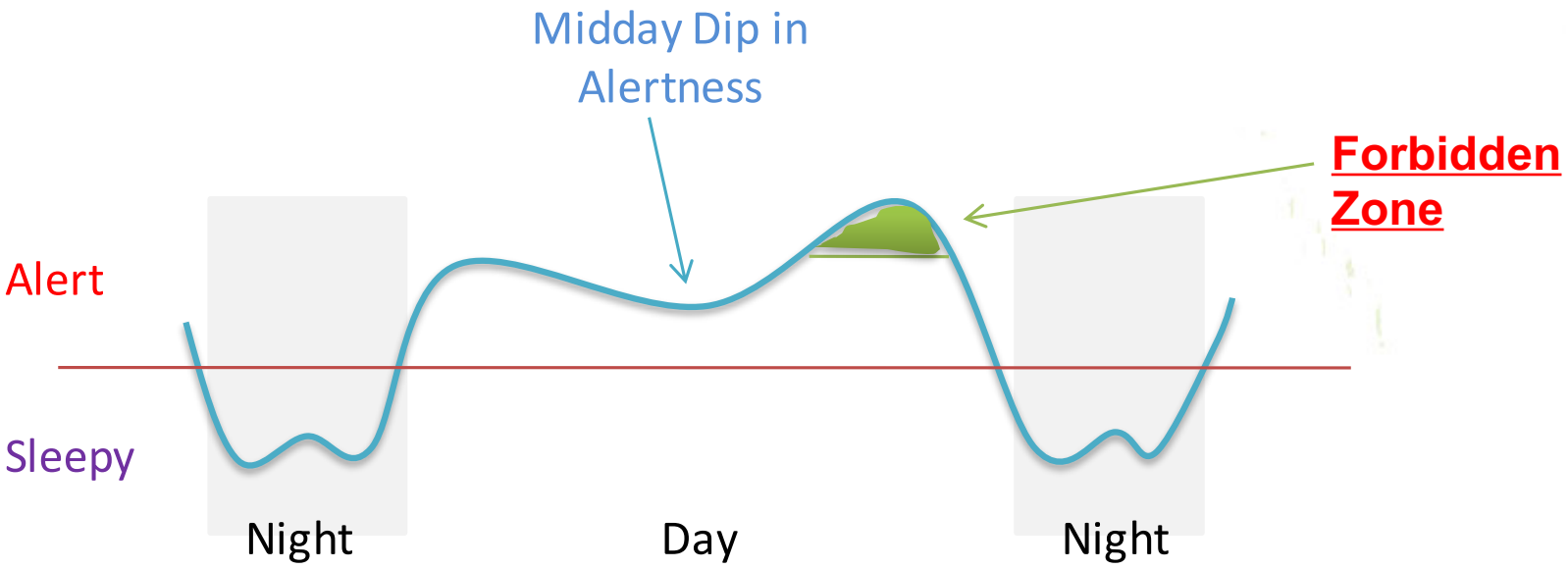


Adapted from: *Solve Your Child's Sleep Problems,* Richard Ferber, Simon & Schuster, 2006

1 Identify best sleep schedule

- There are natural fluctuations in “alertness” throughout the day
- There is a time we are **least likely** to fall asleep
- It is important to avoid putting child put to bed during this **least likely time for sleep = forbidden zone**

Avoid putting child to bed during the "Forbidden Zone"



Adapted from: *Solve Your Child's Sleep Problems,* Richard Ferber, Simon & Schuster, 2006

1 Identify best sleep schedule

Choosing the right bed time:

- Set the start of the **sleep routine** slightly later than the time the child **went to sleep** the night before.
- Gradually transition the sleep phase earlier each night.
- If the child falls asleep within 15 minutes move bedtime to 15 minutes earlier the next day until the desired bedtime is achieved (Piazza et al., 1991)
- **Goal One: We want the child ideally falling asleep within 15 minutes of being put to bed.**

1 Identify best sleep schedule

Sleep schedule may be a problem if:

- Child has difficulty falling asleep quickly
- Child has hard time waking up in the morning
- Child exhibits daytime tiredness; attempts to nap beyond when appropriate for their age to do so

Solution: Select the right sleep total and schedule for the child

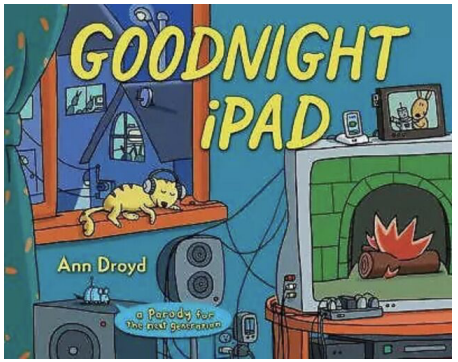
1 Identify best sleep schedule

Summary for scheduling sleep time:

- Children who are between three and four should no longer “need a nap”
- All sleep should be obtained during the night by age four
- Establish the value of sleep is **highest** at night by arranging the day accordingly (exercise, day light)
- Avoid anything that increases body temperature right before bed time
- Avoid “forbidden zone” when considering bedtime

2 Establish nighttime routines

- Time spent before bed is **important**
- Establish a routine that is calm and predictable before bed (lotion, pajamas, books, etc.)
- Use visual supports every night to teach routine
- Limit snacks to those without sugar or caffeine
- Limit liquids 90 minutes before bedtime (may wake child with need to urinate)
- Limit bright light (tablets)



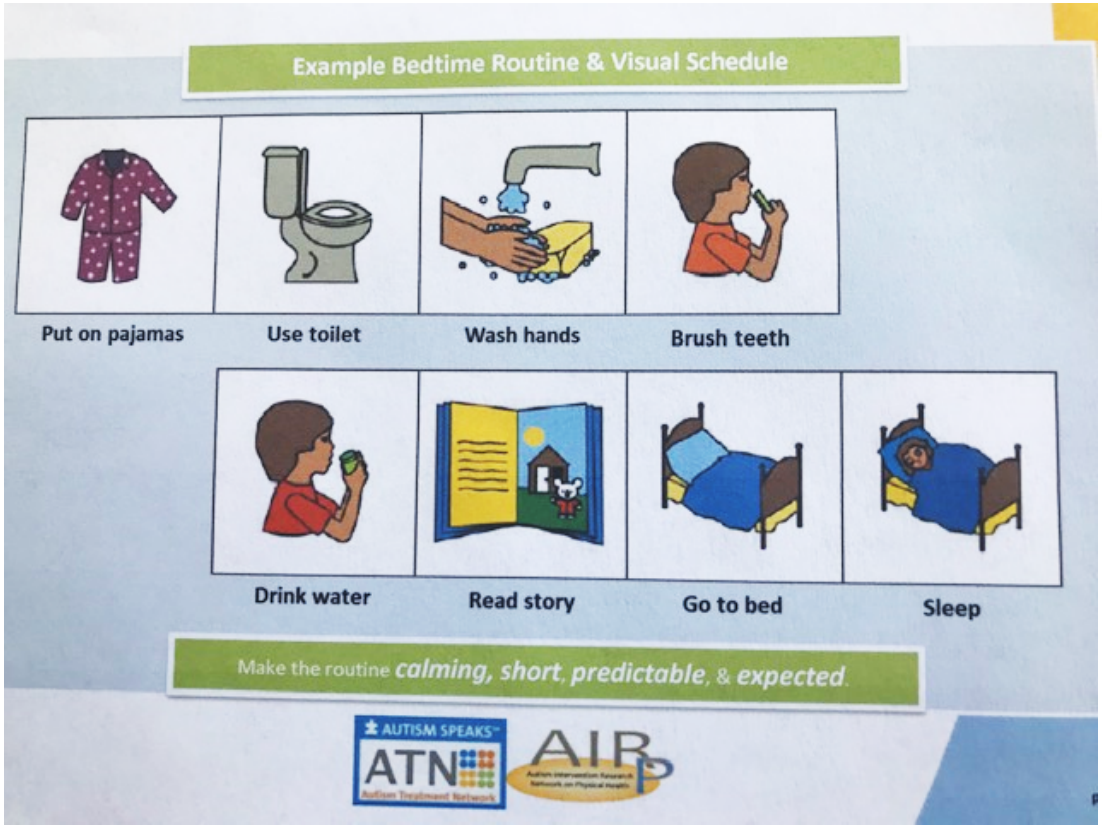
2 Establish nighttime routines

- Complete the Bedtime Routine Worksheet

2 Establish nighttime routines

- Determine what activities will be included and in what order based on worksheet
- Create a visual schedule to support the nighttime routine
- Follow the same predictable routine each evening right before bed (30 or so minutes before putting to bed)
- Use line drawings, real photos, objects to let your child know what to expect/do next
- Teach your child to follow the schedule by prompting and reinforcing each step as needed
- Routine should be ***short, predictable & expected***

2 Establish nighttime routines



2 Establish nighttime routines

My Bedtime Routine

___ Take a bath

___ Put on my pajamas

___ Brush my teeth

___ Wash my hands and face

___ Listen to a story

___ Get a drink of water

___ Use the potty

___ Say my good nights or prayers

___ Get tucked into bed with kisses and hugs

2 Establish nighttime routines

- https://www.autismspeaks.org/tool-kit/atnair-p-strategies-improve-sleep-children-autism
- FF to 3:05

2 Establish nighttime routines

https://www.pbslearningmedia.org/resource/e4057574-ad19-48f3-811f-52d04f7afffc/the-bedtime-song/#.XXN5MJNKiLI

2 Establish nighttime routines

Remember: Eliminate anything that may negatively affect value or likelihood of sleep

- Napping
- Putting to bed too early (*forbidden zone*)
- Drinking liquids right before bed
- Exercise or rough play too close to bed time
- Anything that **increases body temperature** (warm bath better done earlier in the day/routine)
- Caffeine or sugar
- Access to electronics (iPad, iPhone)

3 Optimize bedroom environment

- Limit non-sleep activities during the day in bedroom
- Plan for child to fall asleep in the bedroom in his/her bed
- Light blocking shades
- Cooler body temperature promotes sleepiness
- Avoid pajamas that will result in “overheating”
- Dimmer/indirect lights
- Steady white noise or quiet
- **Most preferred toys/items** not accessible/visible as they will compete with the value of going to sleep

4 Optimize sleep dependencies

- **Sleep Dependency** = whatever transitions us from “behavioral quietude” (just before sleep) to sleep
- Stimuli or conditions which are associated with falling asleep
- Examples: *rocking, patting back, blanket, stuffed animal, pacifier Others???*

4 Optimize sleep dependencies

- We **all** have sleep dependencies
- They help us transition to sleep predictably
- They help us return to sleep if we awake during the night

Stimuli that help us fall asleep must also be present when we wake several times per night so we fall back to sleep **quickly**

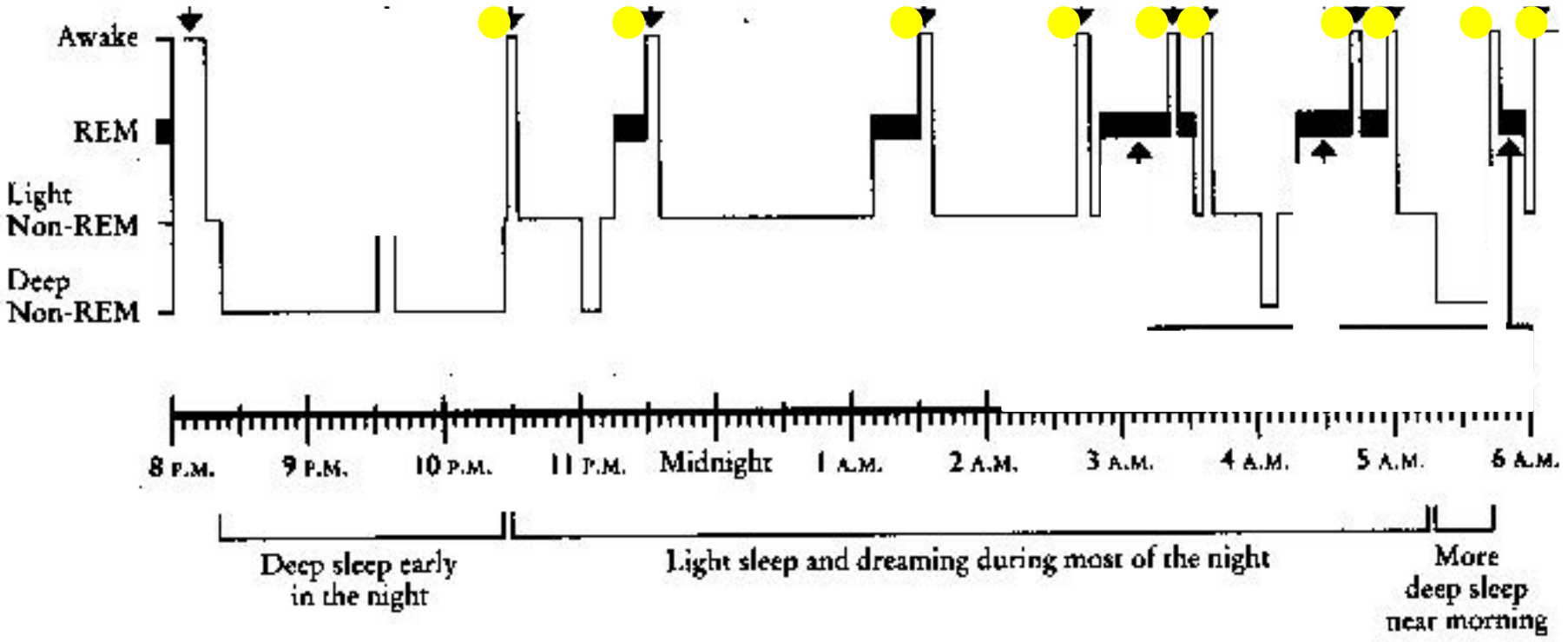


FIGURE 3. TYPICAL SLEEP STAGE PROGRESSION IN THE YOUNG CHILD

4 Optimize sleep dependencies

Sleep dependencies <u>should</u>…

- Be paired with the child's bedroom/bed **only** (pacifiers, comfort items, blankies)
- Be there in the middle of the night and readily accessed
- Be portable so child has success when in other places (vacation, grandma, sitter, etc.)
- **Good sleep dependencies:** *blanket, stuffed animal, sound machine, pacifier, special pillow*

4 Optimize sleep dependencies

Sleep dependencies should…

- To support healthy sleep habits, sleep dependencies have to be available to us in the event we wake in the night
- If sleep dependencies are **not present when we wake, we begin to seek them out**

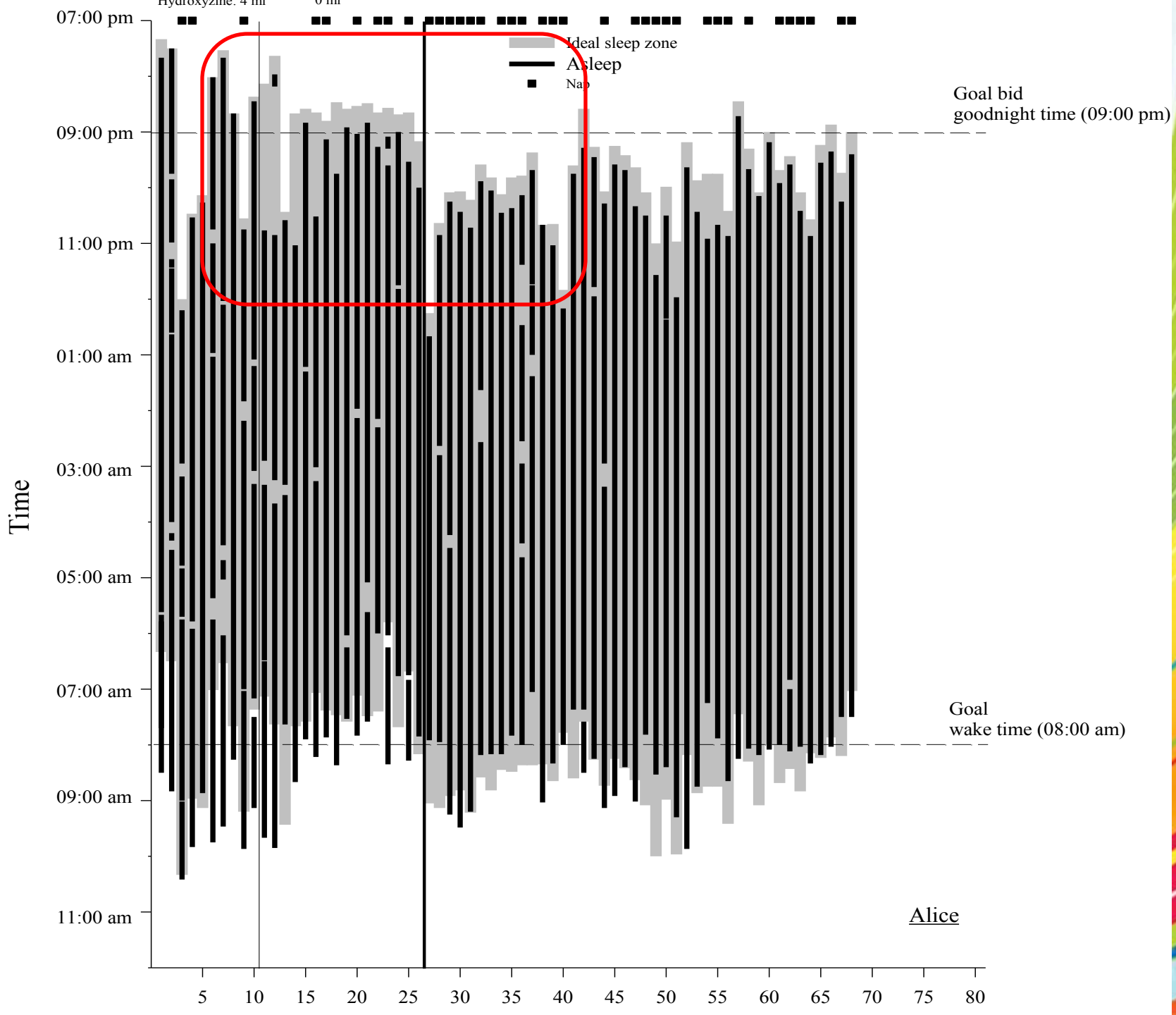
4 Optimize sleep dependencies

Sleep dependencies should NOT…

- Include rooms or places other than bedroom
- Require others to deliver them
- Bad Sleep Dependencies: *patting back, laying with child, rocking child to sleep, singing to child, falling asleep on couch, watching TV*
- Begin to eliminate “bad dependencies” and replace with “good dependencies”

4 Optimize sleep dependencies

- Child should learn to fall asleep on his/her own as a critical skill
- Even with medication or other supplement (melatonin) child is likely to wake in the night
- If he/she has not learned to fall asleep in bed they will awake fully and begin to engage in behaviors that will interfere with sleep


Hydroxyzine: 4 ml
0 ml
Ideal sleep zone
Asleep
Nap
Goal bid
goodnight time (09:00 pm)
Goal
wake time (08:00 am)
Alice
Time
07:00 pm
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11:00 pm
01:00 am
03:00 am
05:00 am
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4 Optimize sleep dependencies

- Take a moment to complete the worksheet on sleep dependencies now.
  - Are they “good” healthy sleep dependencies ?
  - Are they transportable?
  - Can they be available without requiring another person?
  - Take a moment to brainstorm how you might FADE IN a good sleep dependency to replace a bad sleep dependency

5 Address sleep interfering behaviors

- SLIB=Sleep Interfering Behaviors interfere with “behavioral quietude” that is necessary for falling asleep
- When we wake, if we don’t return to sleep, we all might engage in SLIB
- For adult this may look like *checking phone, getting up to do housework, thinking about the next day, worrying about LIFE*

5 Address sleep interfering behaviors

- Child will likely try to secure sleep dependencies if not present (*parent in the bed, rocking, get back to couch, TV time)*
- Child may seek other reinforcing activities or items once awake *(toys, self-stimulatory behaviors, wandering)*

5 Address sleep interfering behaviors

Identifying behaviors

- Four most common SLIB (in children): *leaving the bed; crying/calling out; playing or stimming in bed; talking to self in bed*

5 Address sleep interfering behaviors

Identifying behaviors

- We don't **REINFORCE** behaviors that interfere with sleep if good sleep is our goal!
- What the child is getting when they engage in SLIB?
- Attention (others), food/drink, TV, toys, avoidance of sleep, escaping bed or bedroom ?
- What parents/caregivers **do** in response to SLIB is **critical** to establishing healthier sleep habits

5 Address sleep interfering behaviors

Identifying behaviors

- Parent/Caregiver will likely need to change their **own behavior** despite established routines
- Consistency will be important for change to occur
- All caregivers must be willing and able to adopt a new way of responding to sleep-related behaviors
- Consider what barriers might exist to behavior change for each parent (night shift, own sleep difficulty, health)
- Perhaps one parent take the lead and the other supports without sabotage

5 Address sleep interfering behaviors

Addressing behaviors

1. Provide what child is "seeking" at high rates **before putting to bed and saying goodnight** (parent attention, access to toys, hugs, rocking, pats on back)
2. Once child is put to bed ("time to sleep" "night night") child **does not receive these things** if they have SLIB (calls out, gets out of bed, etc.)
3. Extinction=not reinforcing the behavior
4. Extinction WILL "work" (Ferber Sleep Method)
5. Does this seem possible to actually DO?

5 Address sleep interfering behaviors

Addressing behaviors

- Simply “ignoring” child and not responding to them is usually very difficult for a parent
- Parents often eventually go in and attend to their teaching child their behaviors eventually “work” despite what parent “says” they will do.
- Parents may know they are contributing but just “cannot see their child struggle at night”
- The promise of their own sleep may be too great

5 Address sleep interfering behaviors

Addressing behaviors

Other options may be more likely to be implemented consistently due to lower level of upset for the child.

Remove or fade the quality of what child is getting when they engage in SLIB

- Time-based visiting
- Progressive Waiting
- Quality Fading/Parent Fading
- Bed-time Pass

5 Address sleep interfering behaviors

Addressing behaviors

Time-based visiting is appropriate for child who comes out of room or calls to parent once put to bed

- Child is put to bed and bid "goodnight"
- Parent walks out and immediately returns **before** child engages in any SLIB
- Visit includes, tucking in, kiss goodnight then leave
- Parent gradually increases time before visits rendering the child's need to get out of bed to see parent unnecessary

5 Address sleep interfering behaviors

Addressing behaviors Time-based Visiting

Day	First visit	Second visit	Third visit	Fourth visit	Fifth visit	Sixth visit	Seventh visit
1	10 s	30 s	1 min	3 min	5 min	10 min	30 min
2	30 s	1 min	3 min	5 min	10 min	30 min	
3	30 s	3 min	5 min	10 min	30 min		
4	1 min	3 min	5 min	10 min	30 min		
5	1 min	5 min	10 min	30 min			
6	5 min	10 min	30 min				
7	5 min	30 min					

5 Address sleep interfering behaviors

Addressing behaviors

Progressive waiting is appropriate for child who comes out of room or calls to parent once put to bed

- Child is put to bed and bid “goodnight”
- Parent leaves room and does not go in unless there are SLIB **at or after a designated time**
- Parent gradually increases time before returning to the child (Ferber Method)
- *This requires the child is not able to come out of his/her room

5 Address sleep interfering behaviors

Addressing behaviors

Progressive Waiting: Example

Night One	**3**	**5**	**10**	**10**
Night Two	**5**	**10**	**12**	**12**
Night Three	**10**	**12**	**15**	**15**
Night Four	**12**	**15**	**17**	**17**
Fight Five	**15**	**17**	**20**	**20**
Night Six	**17**	**20**	**25**	**25**
Night Seven	**20**	**25**	**30**	**30**

5 Address sleep interfering behaviors

Addressing behaviors

Quality/Parent fading is appropriate for child who requires parent to sleep with or lay with before bed

- Parent reduces all additional reinforcement during laying (back rubbing, singing, talking) once child is bid “goodnight, time to sleep”
- Fades to sitting on edge of bed
- Fades to lying on floor next to bed
- Fades to sitting on chair near child, chair moves nearer the door

5 Address sleep interfering behaviors

Addressing behaviors

Bedtime Pass is appropriate for child who calls to parent or provides reasons to get out of bed (drink of water, etc.)

- Child is given a card with a special icon that permits them to come out of room one time for any reason
- Parent tells child if they keep their card until morning they get a special agreed upon reward (big boy/girl star, prize from a treasure chest, etc.

5 Address sleep interfering behaviors

Addressing behaviors Bedtime Pass

- Parent does not return to room once bid “goodnight”
- If child comes out of room, parent takes bedtime pass, delivers low level reinforcment then returns child to bed
- In the morning, parent asks child if they have their pass for their special big girl/boy_____ reward

5 Address sleep interfering behaviors

Addressing behaviors Bedtime Pass

- If child still has pass parent reinforces with social praise and reward
- If child does not have pass parent reminds child they can try again tonight

5 Address sleep interfering behaviors

Addressing behaviors Combining Bedtime Pass and Time-Based Visiting

- Parent can combine these two methods to address child's sleep interfering behavior

Remember: Five steps to addressing sleep challenges:

1. Identify best sleep schedule
2. Establish nighttime routines
3. Optimize bedroom environment
4. Optimize sleep dependencies
5. Address sleep interfering behaviors

Establishing healthy sleep habits

Next Steps

- Complete a Sleep Assessment and Treatment Tool
- Meet with your BCBA to identify what changes to make first
- Start with a Bedtime Routine Schedule (visual or written) **Tonight!**

Establishing healthy sleep habits

Summary/closing remarks

- Know what you **can** and **cannot do** as a parent and communicate your needs openly
- You are teaching your child a life long skill
- Reward yourself for coming today!

Establishing healthy sleep habits

Questions?

Resources: