Behaviour Support

Parent Workshops

3. Sleep

Sleep issues

* Autism spectrum disorder (ASD) affects 0.5 to 1% of children [1–3] and has an early onset, typically before age 2 [4–6]. ASD is often characterised by severe deficiencies in social interaction and communication, accompanied by repetitive behaviour. Children with ASD frequently suffer from comorbid psychopathologies [1, 7–9]. Among those, sleep problems, defined as difficulties falling asleep or nightmares, are common [10] occurring in 40–80% of cases across all ages [11–17] in comparison to 25–50% in normally developing children

Recognition of age-appropriate day and night sleep amounts

How Much Sleep Do You Really Need?	
Age	**Sleep Needs**
Newborns (0-2 months)	12-18 hours
Infants (3 to 11 months)	14 to 15 hours
Toddlers (1-3 years)	12 to 14 hours
Preschoolers (3-5 years)	11 to 13 hours
School-age children (5-10 years)	10 to 11 hours
Teens (10-17)	8.5-9.25 hours
Adults	7-9 hours

Source: National Sleep Foundation

Types of sleep problems

* Sleep Problems
* Sleep Onset and Maintenance
* Early Morning Awakenings
* Unwillingness to fall asleep in own bed
* Restless sleep
* Nightmares/ night terrors
* Excessive daytime sleepiness

Effects of sleep problems

* **Sleep problems have been found to adversely affect :**
* Cognitive functioning (Taylor, Schreck, & Mulick, 2012)
* Daytime/adaptive behaviour (Taylor, Schreck, & Mulick, 2012)
* Increases aggression & irritability (Malow et al., 2006)

* **Children's sleep Problems can lead to:**
* Parental sleep problems
* Parental relationships with each other and with their children.

Research

* Researchers have been investigating sleep problems in children with autism for some time now. It is accepted that sleep problems are more common in autism than most other developmental disorders but we still do not know why. Some think that is it because children with autism find it difficult to learn the normal sleep associations or respond to changes in their routine or environment. Some studies have found that parents of children with autism report that their children sleep long enough but that the quality of their sleep is different to other children. Another hypothesis is that the behaviour of children with autism "may affect the hypothalamic-pituitary-adrenal axis regulating basic circadian rhythms and alterations in hormone/neurotransmitter (melatonin/serotonin) production (Richdale and Prior, 1995). (Melatonin is secreted during darkness and makes us sleepy and is suppressed by exposure to light). The sleep-wake cycle is a circadian rhythm (light-dark cycle) but humans also use social cues to entrain circadian rhythms. For example, social cues and routine are thought to help infants develop the pattern of having the longest sleep at night (as for the rest of the family). For children with autism, it may be that the social and communication difficulties they have are influencing their ability to "read" the social cues and understand the instructions about going to bed and sleeping. Children with autism are often anxious. It may be that sleeping problems, particularly insomnia, are due to fears and anxiety in some children with autism. Sleep problems seem to occur in children with autism at all IQ levels including those who do not have an intellectual disability. The sleep difficulties reported in children with autism include problems with: Sleep onset and maintenance, irregular sleep-wake patterns, poor sleep, early waking, alterations in sleep onset and wake times and night waking.

Causes

* **What causes sleep disorders?**

* The answer to this is likely to be different for every person. Unfortunately, it seems that virtually all children with autism are likely to suffer from disturbed sleep patterns at some point or another, but we don't know why.
* The exact cause(s) of sleep problems is not yet known, however, many researchers have put forward a variety of factors
  * *Serotonin and Melatonin*
  * *Sensory*
  * *Social and Communication difficulties*
  * *Anxiety*
  * *Environmental Factors*

* Sleep problems can be divided into the following:

Waking problems, where a child wakes repeatedly during the night

* Waking problems may in some cases be a continuation of settling problems - like the child who wakes up to go to the toilet but then finds it difficult to fall asleep again.
* In very young children waking problems are an indication that they still haven't developed mature sleep patterns. As babies they woke up to feed every couple of hours and this pattern has persisted. In the older child with autism there may be an indication that they suffer from sleep disturbances. This could mean anxiety making it difficult for them to fall into a deep sleep or acute nightmares waking them up.

Social cueing problems where your child doesn't make the connection between the family going to bed and their own need to sleep

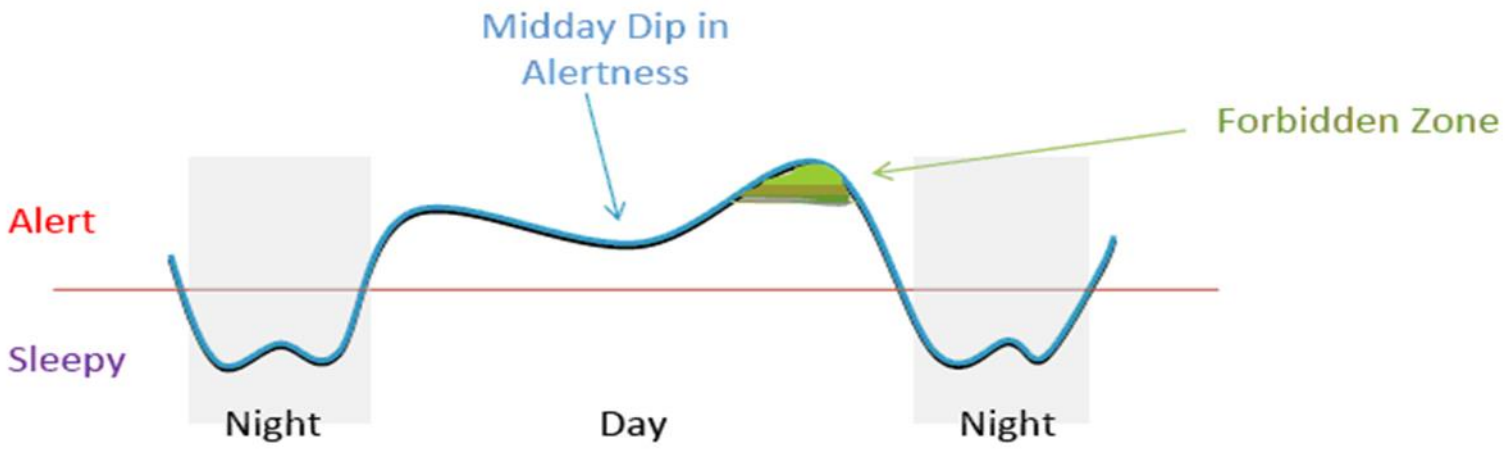
* Children may have difficulty understanding why and when they need to sleep. Problems with 'social cueing' - that is learning why and in what order things should happen - are common and this may mean your child does not make the connection between their family going to bed and their own need to sleep. Some children may find the transition from sleeping in their parent's room to their own room by themselves difficult. This can be related to difficulty with change but also the need for reassurance around bedtime and sleeping

Sensory Issues

* Some children exhibit proprioceptive needs or vestibular needs before or during the night.
* This can manifest itself as
* rocking,
* bouncing,
* climbing.

The Forbidden Zone

* Recognise your child's current sleep phase and capitalise on sleep pressure when beginning to treat any sleep problem



What changes can be useful

* **Sleep Environment**
  * Lower levels of lighting. Replace bulbs in lamps with the lowest wattage available. Nightlights plugged into the wall are a good method of keeping bedroom light to a minimum without complete darkness.
  * Remove any lamps or other sources of light such as hallway or downstairs light.

What changes can be useful

* **Sleep Environment**
* Curtains are closed so no external light can come into the room.
* Any sounds are removed such as alarms, phones (ringing and keypad clicks), sensory toys, external sources like TV noise, kitchen doors closed, flushing toilets downstairs.

What changes can be useful

* **Sleep Environment**
* Curtains are closed so no external light can come into the room.
* Remove visual stimuli from eye-line to decrease any unwanted distractions, the lower lighting should make this easier. If (x) wants to remain sat up in the bed perhaps move the nightlight to an extension lead that is placed in the doorway at night so the level of light is reduced and can be reduced further if need be. I would check with OT if changing (x)s bed linen to heavier materials would be an option.

What changes can be useful

* **Sleep Environment**
* When sitting beside (x) (using a book or something noiseless) encourage him to lie in the bed without any physical contact. This may take a few days for him to get used to this but ultimately if he still has a foot or leg touching he will cling to this as a sleep dependency cue that will be more difficult to remove after other strategies may have worked. If (x) is protesting initially and is looking for that contact then in that instance bring (x) back to the bed and remain focused on your book if he starts repeated questions. Again the behavior may increase but should subside soon after.

What changes can be useful

* **Sleep Environment**
* Use soft tone of voice at a low level when putting (x) to bed. Lower amounts of language at this time reduce to cognitive processing that can be demanding at a time of anxiety when (x) is anxious about falling asleep or being in the room on his own. Visuals are a good way of using gestural prompts if he is protesting at the transitions at bedtime.

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What changes can be useful

* **Sleep Environment**

1. Consider whether your child is too hot or too cold. Assess the temperature of the room, bedding and sleep clothes to decide what combination is best for your child. Remember that your child's sense of temperature may be different then your own. Recall what temperature your child seems to prefer and/or seek during the day, and consider when making decisions.

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What changes can be useful

* **Sleep Environment**
* 2. Consider tactile sensitivities that may be affecting your child's ability to sleep. Certain textures can relax or arouse your child. Look at bedding and pajama textures. Your child may prefer his/her feet covered or uncovered with footed pajamas, socks and or even the covers themselves. How tight or loose the clothing fits, and whether or not there is elastic or seams can be an issue for some children. Also bedding should provide the optimum level of pressure.

What changes can be useful

* **Sleep Environment**
* 3. Consider noises and how they affect your child. At night, when trying to relax and fall asleep, the noises your child hears may be over powering and impossible for the child to filter out. These noises, such as water running or an animal scratching may not affect you or other household members but can be disrupting for a child with an autism spectrum disorder. Can certain household noises be monitored for the effect on your child? Sometimes a fan, air filter, TV or soft music in the child's room can help mask other noises and provide a consistent sound that is comforting and/or soothing for the child.

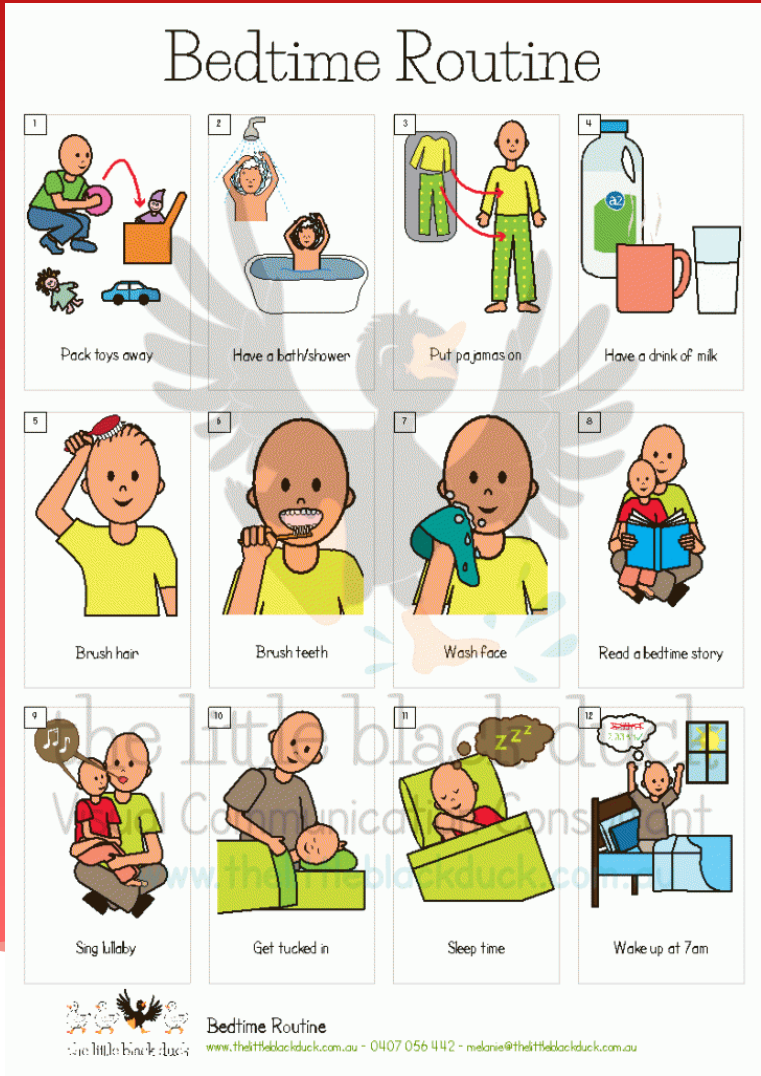
What changes can be useful

* **Sleep Environment**
* 4. Also consider visual stimuli that may be causing problems for your child at bedtime. Is your child afraid of the dark?. Streetlights, the moon, or car lights shining in the room at intermittent intervals may be affecting your child's sleep. Providing a room that is consistently light or dark may be very important, depending on your child's needs.

Bedtime Routine

* Bedtime routines and rituals are very important for most children in establishing positive sleep patterns.
* 1. Your child will benefit from a set bedtime. Pick a time for bed that is reasonable and which you can consistently provide.
* 2. Children need to know what is going to happen next. Establish a bedtime routine for (x) that can provide predictability and a comforting, familiar pattern. For further understanding and structure, a visual bedtime schedule can help. The visual schedule can provide reminders and consistency for the whole family.

Bedtime Routine



Bedtime Routine

* 3. A good bedtime routine will help teach a child to calm down, relax and get ready to sleep. For example, if bathing is stimulating or frightening for your child, even though you may want him/her to bathe before bed, it may be best to bathe at a completely different time of the day. Likewise, there may be sensory integration activities that have proven to be relaxing to your child during the day that you can also use as part of the bedtime routine. I would avoid highly stimulating activities for (x) in the 1/2 hours in the run up to bedtime. These might be action films, programs with lots of noise and or flashing lights. IPads and computer games could be used before the wind down time.
* 4. A bedtime routine should be the same everyday and should include activities that are pleasant and relaxing as well as special and individualized to fit your child's needs and interests.
* .

Bedtime Routine

* A bedtime routine should realistically consist of 3 to 7 steps that do not take more time then is reasonable on a nightly basis.
* 5. Some activities to consider as part of a bedtime routine or ritual include looking at the same book or story each night, saying good night to favorite objects, toileting, bathing, getting pajamas on, brushing teeth, having a glass of water, singing a favorite song or prayer, listening to calming music that the child enjoys, hugging and kissing family members and/or engaging in a calming sensory integration activity. Your child's OT may have recommended activities to place into this routine.

Bedtime Routine

* 6. On days when you are away from home and/or get home late, it is still important to follow bedtime routines and rituals. You can shorten each step significantly and potentially eliminate nightlong frustrations due to the change. If your child is away from home for a night or two you may see old sleeping patterns emerge. Even in a temporary new environment, routines may help. Upon returning home the bedtime routine will continue to be effective, though the excitement from the change may take a night or more to fade depending on you child and how long you have been away.

Exercise before bedtime

* Exercise is generally agreed to be a good method of regulation in the evenings in the run up to bed.. Exercise can increase dopamine levels so it important to be aware of the effects on your child's energy and focus levels after exercise. It may be the case that exercise would not be beneficial to your child and may indeed keep him alert at a time when he should be winding down so again I would check this with the OT.
* Lots of exercise in the hours before evening time would however be of benefit as (x) is using up energy that otherwise would be kept for the evening so high intensity activities may be of use. Check this with your OT.

Keep a record

* 2. Keep a sleep diary
* Recording a sleep diary is an excellent way of tracking the length and quality of sleep. It is also a useful way of seeing if any routines, behavioural modifications, or dietary changes that you are trying are working. A
* sleep diary should include as much accurate detail as possible about a night's sleep. Useful information to put in a sleep diary includes:
* • What time your child went to bed and what time the got up
* • The total number of hours that they were asleep for
* • How easily your child fell asleep
* • How many times, and for how long, they woke up during the night
* • How they felt when they woke up and how they felt during the day (for example, if they felt sleepy in the afternoon)
* • What their bedtime routine included
* • What their diet consisted of (including caffeinated drinks) and how much they exercised
* Sleep diaries are useful documents to show to professionals involved in your child's life, such as teachers,
* GPs, and social workers. Make sure that you keep the diary over a significant period of time (at least two weeks) so you can see any patterns that emerge.
* For more able children, sleep diaries can also be used as a visual reminder of their sleeping patterns. They can be used to offer incentives, such as a treat for not getting out of bed for three nights in a row.

Know what to target

Evening Routine

Day & Date

Time	Action	Foods/Liquids	Behaviours	Environmental Issues
State the time of the action	What is happening now, i.e. pyjamas, tooth brushing, tea, tv, ipad, etc		• How is your child responding to the action • Who instigated the action, i.e. child decided to watch TV, mum asked child to brush teeth • How long did this last	Are there any other factors, is this particular action new to routine, illness, visitors,

Know what to target

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Day Nap When did child fall asleep	Day Nap What was the child doing before sleeping		Behaviour Reasons for nap, is it routine? Issues sleeping previous night?	Environment Where did the nap take place

Know what to target

Sleep Diary

Name : _____

Date week starting: _____

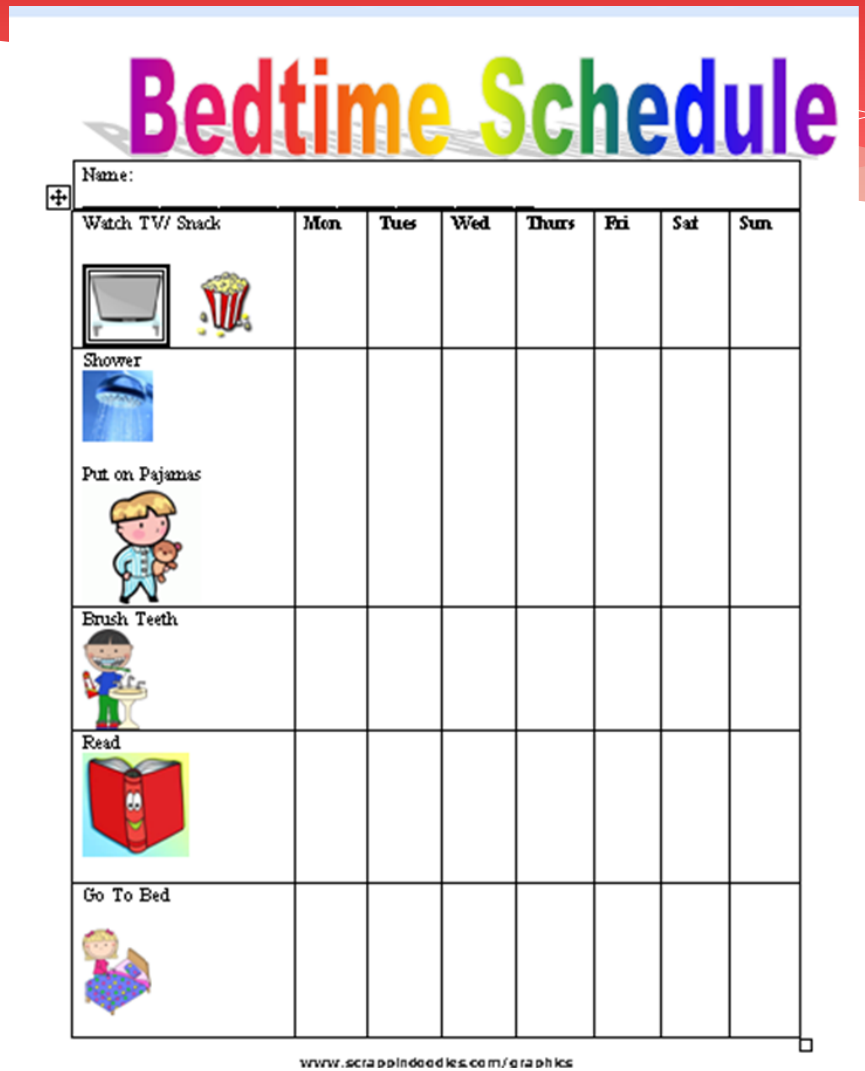
Time → Day ↓	7pm	8pm	9pm	10pm	11pm	12pm mid	1am	2am	3am	4am	5am	6am	7am	8am	9am	10am	11am	12am noon	1pm	2pm
Mon																				
Tues																				
Wed																				
Thur																				
Fri																				
Sat																				
Sun																				

Bedtime routine Started
in and out of Bedroom
Settled/ Sleeping
Awake

Comments:

Social Comics

Schedules



Bedtime Schedule

Name:

Watch TV/ Snack	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Shower							
Put on Pajamas							
Brush Teeth							
Read							
Go To Bed							

www.scrappindoodles.com/graphics

Recording

Instructions

Record your child's progress by filling in the smiley faces depending on how well behaved the child is for each stage of bedtime. Average out your child's success in the right hand column and make any additional comments you think necessary.
If your child manages to average 7 "smiley nights" then they earn a reward.

My bedtime progress chart	Getting into pyjamas	Brushing teeth	Washing face	Going to sleep	Nighttime	Comments and overall behaviour
Monday						Got up once before going to sleep.

My reward for getting 7 smiley nights will be a new story book.

Recording

My bedtime progress chart	Getting into pyjamas	Brushing teeth	Washing face	Going to sleep	Nighttime	Comments and overall behaviour
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Sunday						

My reward for getting 7 smiley nights will be _____

Case Study

Subject

Giles was a 5-year and 9-month-old boy with a non-verbal mental age, as assessed by the Merrill-Palmer Scales, of 6 years and 1 month. His language ability on the Reynell Language Scales was 3 years 7 months for Expression and 3 years 8 months for Comprehension.

He was diagnosed as autistic according to the criteria of Rutter, 1977, viz., onset prior to 30 months, abnormal and delayed language development, abnormal social behaviour and obsessional interests. In addition he was under medication for grand-mal epilepsy.

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Case Study

Treatment method

Baseline

A brief 2 week baseline period was initiated, during which the mother continued to sleep all night in Giles' bed as before. No changes in sleeping patterns were reported.

Treatment

A "graded change approach" (Marchant, Howlin, Yule and Rutter *et al.*, 1974) was instigated, whereby mother gradually increased her sleeping distance from the child. The stages of treatment are outlined below.

Month one

1st week. Inflatable mattress introduced into child's bedroom (which was too small to accommodate an additional bed). This was placed immediately next to child's bed so that when he woke mother could reach out and cuddle him as usual.

2nd week. Mattress removed few inches from bed. Mother could speak to and touch child when he woke but could no longer cuddle him. No distress shown by child at this stage.

3rd week. Distance between bed and mattress increased gradually. Mother changes her position so that her head is at opposite end of mattress to Giles' head.

4th week. As distance increased mother is no longer able to touch child if

Case Study

he wakes, but he can see and hear her clearly when he does so. Child continues to settle within a few moments of waking.

Month two

1st week. Mattress moved to door of child's bedroom.

2nd week. Mattress placed immediately outside child's bedroom. Mother comforts him verbally when he awakes.

3rd week. Days 1–3. Mattress placed in centre of upstairs hallway at an equal distance from child's and parents' room. Days 4–7. Mattress placed immediately outside parents' room.

4th week. Days 1–2. Mattress placed immediately inside parents' room. Day 3 onwards. Mother abandons mattress and returns to marital bed. Waking dealt with by briefly calling to child and encouraging him to go back to sleep.

Follow-up

Three months later (i.e. 5 months after beginning of intervention) Mother is still sleeping in her own bed. Wakings are still frequent, but have reduced from every night to 3–4 times per week. Child settles again within minutes of being spoken to, and has made no effort to return to parents' bed.

Teaching your child to fall asleep alone

* Your child should learn to fall asleep alone in his own bed without you being present. This is because both children and adults naturally wake up several times each night. Each time we wake up, we briefly check out our sleep environment and then quickly go back to sleep. These waking are so brief, that we are not aware in the morning that we woke at all. However, if your child can't fall asleep alone, then each time he/she wakes up, it is hard to fall back asleep without your help. If your child learns to fall asleep alone, then he/she will also be able to learn to fall back asleep at times of natural night waking, and wake more rested in the morning.

Teaching your child to fall asleep alone

* If your child is not able to fall asleep alone, you need to slowly teach him/her to do this. You will find may find techniques in parenting books about sleep. The idea of these techniques is that over time (usually 1-3 weeks) you give your child the message that you are still present but reducing your contact at bedtime. An example of how you might do this is the following. If you usually lie down with your child at night at bedtime, you could change your pattern by sitting on the bed for a few nights and then in a chair beside the bed. Continue sitting in the chair but moving it farther from the bed each night until you are out of the room and out of visual contact with your child and out of the bedroom. While you are making these changes, reduce the amount of attention you pay to your child such as talking, facial expressions, or eye contact.

Teaching your child to fall asleep alone

* Once you are out of your child's bedroom, if he/she is upset and not sleeping, you can wait a few minutes, and then go back into the room to check. When you go into the room, make it a brief visit (less than a minute) and only give limited physical or verbal contact (for example,. a quick hug). Gently but firmly say something like "It is time for bed. You are OK. Good night." and then leave the room. If you need to go back into the room, wait longer each time and make each visit with your child brief. .

Teaching your child to fall asleep alone

* Once your child is able to fall asleep alone, then you can use the same techniques you used to teach him to fall asleep, if he/she wakes in the night, or before wake time in the morning.
* With older children who wake up many times, you can use a bedtime pass. This can be a card that your child can present to you if he/she wakes at night. It can be traded for something brief, such as a quick hug or a drink of water. Your child should be taught that they may only use the pass one time during the night, and that once the pass is used, it will be given to you. You will return the pass to the child the following night to use again for one time during the night. Your child should also be taught that if the pass isn't used all night, it can be used for a morning present. You can also give the child a sticker that can be used for a present once a certain number of stickers (e.g. five) have been earned.

Questions

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Behaviour Support

Workshops

Week 1	Introduction	A brief overview of the workshops
Week 2	Autism	Understanding a diagnosis
Week 3	Sleep	Issues around Bedtime Routines
Week 4	Visuals	How to make them and use them
Week 5	Prompting	When to step in and when to step back
Week 6	Rewards	A look at maximising the effect of reinforcers
Week 7	ABC	How to record and interpret your child's behaviour
Week 8	Communication/Sensory	Is it sensory or is it behaviour, communication methods
Week 9	Toileting	Advice and Guidance on when and how to start