



FALL 2018

HALDIMAND-NORFOLK HEALTH UNIT

COMMUNICATION MATTERS

A NEWSLETTER FOR PARENTS, TEACHERS, EARLY LEARNING PROVIDERS AND CAREGIVERS OF PRESCHOOL-AGED CHILDREN.



BREATHING & *sleep*

Our Communication Matters newsletter may seem like an odd place for information on breathing during sleep. After all, a sleeping child is not a communicating child, right?

But the fact is that the amount and quality of sleep that a young child gets does have a significant impact on how he or she communicates. Sleep is the time when

our brain does its “filing,” says Toronto physician Dr. Peter Lin. It’s when the brain analyzes, consolidates and stores the experiences and information we encountered during the day. Without quality sleep, the brain can’t do its job.

Think of your own sleep patterns. Do you ever have a “bad night” because of congestion, and feel out of sorts, groggy and inattentive the next day? As adults, we try to push our way through those tough days, hoping to “catch up” on sleep when the unimaginable day arrives that we have time to do so!

Now think of having that experience as a toddler. Young children don’t have our understanding of the impact of sleep on how they feel and behave. In addition, they are at the stage in life when there is a tremendous amount of work the brain

needs to do in order to learn the basic cognitive, motor and social skills that life demands.

As adults, we have the responsibility of ensuring that our children get the best sleep they can get, and that their breathing isn’t disordered as they sleep. This edition of Communication Matters addresses an issue that many of us don’t often consider: the relationship between sleep-disordered breathing and a child’s daily behaviour and communication skills.

Much of the information contained here was taken from “Healthy Breathing, Round the Clock,” an article published in the February 2018 edition of The Leader, a publication of the American Speech and Hearing Association (ASHA); and from a 2018 Global News report by Laurel Gregory.



Research Shows...

...that shorter or disrupted sleep during the first two years of life affects toddlers' language development.

Dr. Pioush Mandhane, a University of Alberta associate professor, and a team of researchers analyzed the sleep patterns of hundreds of babies. They found 17 per cent of babies slept less than 12 hours in a 24-hour period. When assessed at two years old, Mandhane says those babies lagged behind in learning.

"We found that the children who were short nighttime sleepers — so really didn't have the time to consolidate their daytime learning and activities they were doing — they had a 10 point decrease in both cognitive outcomes and language outcomes," Mandhane said.

"One standard deviation is 15 points. So 10 is quite a substantial number. That's putting those children at a pretty significant disadvantage from a learning and language development perspective."

Babies who had disrupted sleep due to issues like snoring or sleep apnea also had lower language scores at two years old, but no difference in cognitive scores.

Mandhane hopes the research encourages parents to consult their pediatrician about any sleep concerns early.

"There's very few things you can intervene on to improve your children's learning growth

and development and this is one of them you can intervene on and it's worth working on."

What is Sleep-Disordered Breathing?

Sleep-disordered breathing (SDB) refers to abnormal breathing patterns during sleep related to collapse at any level of the upper airway. Children (and adults) with SDB aren't breathing steadily through the nose.

Why is Nasal Breathing Important?

We might notice that a child snores at night, and/or seems to breathe noisily through his or her mouth during the day. But lots of children seem to do that, so does it really matter?

Well, yes it does, and here's why. The ability to breathe quietly and without effort through your nose, with gently closed lips and the tongue suctioned up in the mouth is essential to the proper growth of the bones of your child's skull and face. Healthy nasal breathing supports effective chewing and swallowing patterns. It helps your child develop efficient motor movements for the very complex task of using spoken language. In short, it contributes immensely to your child's development as a happy, healthy social being.

Is Sleep-Disordered Breathing Common?

Yes, many children experience SDB. Listen to and watch how your child breathes during the day. If your child's daytime breathing is compromised, his or her nighttime breathing patterns are bound to be affected.

Think of it this way: Say a child typically breathes through the mouth during the day. When that child lies down at night to sleep, the muscles of the mouth and throat relax, making it even more difficult for air to get through the nose, and even more likely that breathing will continue through an open mouth.

The spectrum of SDB includes the following:

- Mouth breathing, in which a person ceases breathing solely through the nose, or supplements nasal breathing with oral breathing. According to a 2008 study by Abreu et al published in *Jornal de Pediatria*, this is seen in 55% of children. 55%!!
- Primary snoring (without obstructive sleep apnea), in which airway tissue vibrates, causing breathing noises during sleep. It is associated with effects on attention and the brain's ability to problem solve, and occurs in 6 to 34.5% of children (Bourke et al, *Sleep Medicine*, 2011).
- Upper airway resistance syndrome (UARS). This is characterized by increased efforts to breathe and frequent sleep arousals, leading to fragmented sleep. To date, its prevalence has not been studied
- Obstructive sleep apnea (OSA). A person experiencing OSA has repeated episodes of partial or complete upper-airway obstruction during sleep that cause an intermittent halt to breathing. It has been found in up to 5% of children, with the peak prevalence at 2 to 8 years old (K.C. Chang et al, *Sleep Medicine*, 2014).

You can see that SDB affects many children. Let's look more closely into why that matters.



What is the Impact of SDB on Daily Function

Take a look at the findings of studies into what the American Academy of Physiological Medicine called “the hidden airway epidemic” in 2016:

- 25 to 50% of preschoolers showed sleep problems, which were associated with behavior problems (Journal of Developmental and Behavioral Pediatrics).
- An estimated 50 to 80% of children with autism spectrum disorder (ASD) experience sleep problems (Seminars in Pediatric Neurology).
- Phonology (the systematic use of speech sounds) was affected in 62.7% of children with SDB (Clinical Linguistics and Phonetics).
- Children who mouth-breathe also exhibit daytime sleepiness, poor brain oxygenation, and immature auditory processing, which can lead to learning disabilities (Jornal de Pediatria).
- Mouth-breathing is associated with alterations in muscle activity for speaking, chewing and swallowing (American Journal of Orthodontics and Dentofacial Orthopedics).
- Approximately 62% of 6-year-old children with obstructive sleep disorders demonstrated moderate or greater difficulties with speech and swallowing (Archives of Otolaryngology-Head and Neck Surgery).
- Attention-deficit hyperactivity disorder (ADHD) symptoms may be related to SDB and improve after surgery to remove tonsils and adenoids (Sleep Medicine Reviews). The authors suggest that children showing signs of ADHD be screened for SDB.

When Should I be Concerned about SDB in my Child?

You can be an “SDB detective” by watching for the following signs:

Mouth-breathing red flags:

- Habitually open or pursed lips.
- Dry lips.



- Forward head posture. A child with SDB may unconsciously start to make a habit of holding the head slightly forward in an attempt to get more air.
- Frequent nasal congestion.
- Drooling.
- Bad breath.
- Dry mouth, frequent requests for water.
- Posterior crossbite, open bite or overjet identified by your dentist.
- Speech that always sounds “stuffed up,” even when your child doesn’t have a cold.
- Audible breathing (“he sounds like Darth Vader”).

Night-time red flags:

- Cessation of breathing or gasping for air in sleep. This is REALLY serious and needs rapid medical attention.
- Snoring.
- Open mouth posture in sleep.
- Grinding teeth in sleep. This is one of the ways the body tries to arouse a child to breathe.
- Bed-wetting, which can result from a diuretic hormone produced by an overworked heart.
- Sweating.
- Lots of changes in position during the night, and/or a stretched-out neck.
- Frequent arousals leading to fragmented sleep.
- Restless sleep.
- Night terrors, sleep walking.

Behavioural red flags:

- Excessive fidgeting, “hyperactivity,” diagnosed or observed.
- Decreased attention and focus
- Difficulty with visual-fine motor skills.
- Emotional outbursts.
- Poor short-term memory.
- Difficulty with problem solving.
- Decreased socialization skills.
- Trouble self-regulating (“He just doesn’t seem to know what he wants!”)
- Increased aggression.

How can I Help my Child?

If you do have concerns about your child’s breathing in sleep, speak to your family doctor or pediatrician. Check with your dentist about your child’s bite. Your child may benefit from referral to an ENT (Ear-Nose-Throat) specialist to investigate the status of his or her tonsils and adenoids.

Beyond enrolling the support of professionals, you can try these tips:

- Start young. Many infant and toddler board books incorporate a theme of sleep, Children have the ability from a very young age of connecting to the importance of sleep through early literacy.

- Talk about it. We often talk to our children about the importance of good food, clean hands, drinking water. We need to talk to them about the importance of good sleep as fuel for our bodies.
- Model healthy sleep habits. Children learn by watching what we do. Make sure your own “sleep hygiene” is healthy.
- Establish and maintain nightly bedtime routines that signal to the body that it’s sleep time.
- Keep bedtimes consistent Monday through Sunday to promote a natural sleep-wake cycle.
- Turn down the lights to prepare the body for sleep, as light exposure before bed can suppress sleep-promoting melatonin.
- Stay cool – lightweight bedding and pajamas and cool bedrooms help reduce core body temperature, which is essential for inducing sleep.
- Unwind the mind and body through relaxation activities: gentle massage, simple yoga poses, breathing exercises, child-based meditation.
- Share an attitude of gratitude. Talk to your children about what they’re grateful for from their day to help them calm for sleep.
- Empower your child. Even very young children can make appropriate choices related to their bedtime routines. Let your child set a timer for when the TV or iPad goes off. Allow your child to decide where his or her electronic device will sleep (preferably outside the bedroom). Even a two-year-old child can choose what pajamas to wear, what relaxation activity to do, what bedtime story to share. Use the real objects or pictures to let your toddler choose from two options.
- Reflect with your child. As children grow older, they can talk about the quality of their sleep, and identify



the habits that help best prepare their bodies for a good night.

- Limit daily screen time to prevent “tech neck,” the forward head posture that may compromise an obstructed airway.

We all want to live, learn and sleep with optimal airway function. We hope this

information will help you help your child experience healthy breathing ‘round the clock.

Details about any of the research studies cited above are available from Speech-Language Pathologist Rita Taylor, 905-318-6623, ext. 3319, rita.taylor@hnhss.ca.

NEWS FROM THE H-N PSL TEAM!

We’re delighted to announce that Speech-Language Pathologist Rita Taylor will be using the space at the Caledonia Early ON Centre in Notre Dame School on Tuesdays. Rita will be providing assessments and individual and group interventions in the space, as well as periodic drop-ins for any parent, on the waiting list or off, who has questions about their child’s communication skills.

Thank you to the Early ON Centre administrators and staff for enabling this exciting development, which we hope will help us move children more quickly on our assessment waiting list, and provide more flexible access to our services.

CALEDONIA EARLY ON DROP-IN DATES, FALL 2018

- Tuesday October 16th • 10 a.m. to 12 noon
- Tuesday November 20th • 10 a.m. to 12 noon
- Tuesday December 11th • 10 a.m. to 12 noon

Communication Matters is published biannually by the Haldimand-Norfolk Preschool Speech and Language program. It has been developed to increase awareness for services available and tips on the prevention of speech, language or hearing disorders in the preschool population. This newsletter is intended for parents, teachers and caregivers of preschool-aged children. You are invited to contact the Health Unit with your articles and ideas.

