Crow Wing
energized

www.CrowWingEnergized.org

a guide to HEALTHY *Sleep*

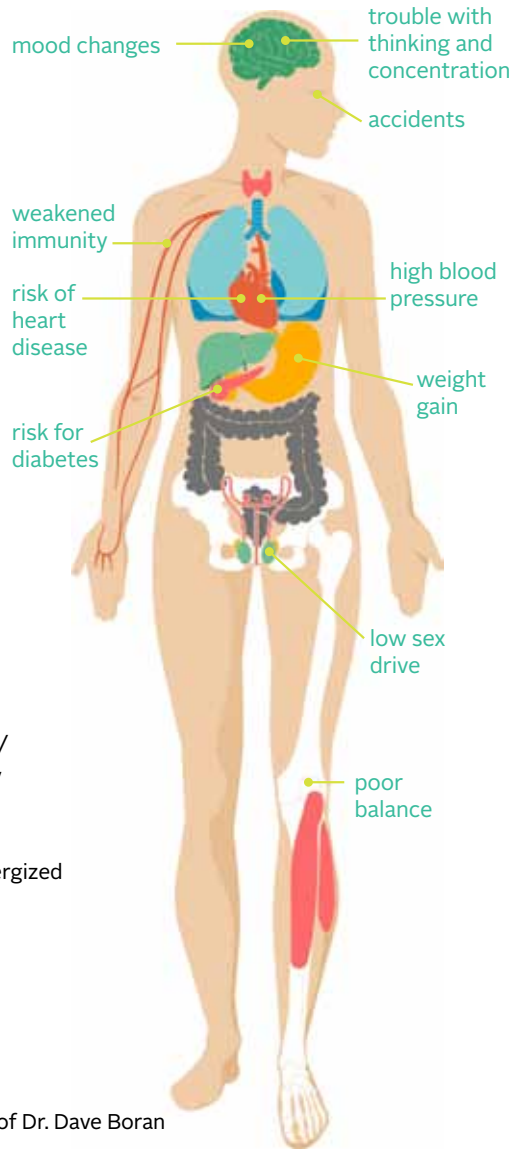
Crow Wing
energized

www.CrowWingEnergized.org

Over 40% of Americans regularly sleep less than 5 hours a night.

They are:
2 times as likely to die of heart disease and

1.7 times as likely to die of all other causes (Cappoccino, 2007)



BODY GRAPHIC SOURCE:
http://www.healthline.com/health/sleep-deprivation/effects-on-body

Copyright 2018 by Crow Wing Energized
This information may be shared.

Updated 2020

Cover photo of night sky courtesy of Dr. Dave Boran

Crow Wing Energized is a grassroots community health and wellness movement led and funded by

Crow Wing County Minnesota · Essentia Health · ship statewide health improvement partnership

www.CrowWingEnergized.org

a guide to HEALTHY *Sleep*

Table of Contents

WHY IS SLEEP IMPORTANT?

- Our bodies regulate sleep in a similar way that they regulate eating, drinking, and breathing. This suggests that sleep serves a critical role in our well-being.
- Studies of humans and other animals demonstrate that sleep plays a critical role in immune function and metabolism.
- Research has shown that sleep plays an important role in memory and learning, both before and after learning a new task.
- Lack of adequate sleep affects mood, motivation, judgment, and perception of events.

Consequences of Inadequate Sleep:

- Short term:
  - Increases daytime sleepiness.
  - Impairs judgment and decision-making.
  - Contributes to mood dysfunction and irritability.
  - Reduces ability to learn and retain information.
  - Elevates risk of serious accidents and injury, both with driving and in the workplace.
- Long term:
  - Increases risk of health problems including obesity, diabetes, cardiovascular disease, psychiatric illness, dementia and early mortality.

Research Indicates That Persons Getting More Sleep:

- Are better able to focus.
- Get sick less frequently.
- Experience fewer accidents.
- Get along with others well.
- Are less likely to be overweight.

Additionally, for students

- Have higher grade averages.
- Perform better on reasoning and mathematical skills.
- Have higher reading scores.

Every living creature needs to sleep. It is the primary activity of the brain during early development. We spend about a third of our lives sleeping.

Sleep-wake cycles are regulated by light and dark. These rhythms take time to develop into regular sleep schedules for newborns. The rhythms begin to develop at about six weeks, and by three to six months most infants have a regular sleep-wake cycle which typically includes one or two awakenings.

There are Two Alternating States of Sleep Needed:

Non-Rapid Eye Movement (NREM) or “quiet” sleep. During the deep states of NREM sleep, blood supply to the muscles increases, energy is restored, tissues grow and/or repair, and important hormones are released for growth and development.

Rapid Eye Movement (REM) or “active” sleep. During REM sleep, our brains are active and dreaming occurs. Our bodies become immobile, breathing and heart rates are irregular.

By the age of two, most children have spent more time asleep than awake. Overall, a child will spend 40 percent of his/her childhood asleep. Sleep is especially important for children as it directly impacts mental and physical development.

zzz 40% *Overall, a child will spend 40 percent of his/her childhood asleep*

MYTHS ABOUT CHILDREN AND SLEEP

Myth #1: Put babies to sleep on their stomach.
FACT Babies should be put to sleep on their back. According to the "Back to Sleep" program, this lowers the risk of Sudden Infant Death Syndrome (SIDS). The American Academy of Pediatrics also recommends that parents avoid placing young children to sleep on a water bed, sofa, pillow, soft mattress or other soft surfaces.

Myth #2: Parents should wait until a baby is fully asleep before putting him to bed.
FACT A baby should be put to bed when drowsy, but not asleep. This encourages babies to fall asleep on their own. When babies can soothe themselves to sleep, if they awaken will be able to fall back asleep on their own more easily. It takes time and practice for most babies to develop this skill. It is good practice to lay the drowsy baby down; then, if startled awake, pick the baby up until s/he falls back to sleep completely. Then lay the baby down again.

Myth #3: Children will sleep longer at night if they do not take a nap.
FACT For young children, both naps and nighttime sleep are necessary and independent of one another. Children who nap well are usually less cranky and sleep better at night. Although children differ, naps of (45 minutes) to three hours in duration are expected after six months of age. Naps may continue to age five.

Myth #4: Babies on solid foods sleep longer
FACT The American Academy of Pediatrics discourages feeding babies solid foods (including adding cereal to a baby's bottle) before four months of age. Their immature digestive systems cannot handle solid foods. It is normal for babies younger than 6 months to wake during the night to feed.

NAPS

What makes napping so important? Sleep is a major requirement for good health, and for young children daytime sleep is usually necessary. With physical and mental development at an all-time high in early childhood, naps provide the body with much-needed time for growth, repair and rejuvenation.

Naps also help keep children from becoming overtired, a state that not only takes a toll on their moods but may make it harder for them to fall asleep at night. Naptime gives parents a brief respite during the day – some time to tackle household chores or catch a nap of their own.

Unfortunately, there's no one-size-fits-all answer when it comes to how much daytime sleep a child needs. It all depends on the age, and the total amount of sleep a child receives in a 24-hour period. For example, one toddler may sleep 12 hours at night with only 1 hour of napping, while another gets 9 hours at night but takes a solid 2-3 hour nap each afternoon.

NAPTIME TIPS

- *Naps should not occur too close to bedtime.*
- *Don't let naptime become a battle.*
- *Let your child read books or play quietly in the bedroom for 45 minutes.*
- *If your child has given up daytime naps, adjust to an earlier bedtime.*

AGE	A.M. nap	P.M. nap	Early evening nap
0-3 mo.	4-5 naps on a variable schedule		
3-9 mo.	✓	✓	✓
9-18 mo.	✓	✓	
18mo -5yr		✓	
School-Age/ Teen/Adults		✓	

NIGHTTIME ROUTINE

The #1 tip for establishing good sleeping habits is to get up at the same time every morning and get exposure to light. In addition, following a nightly routine will make it easier for your child to relax, fall asleep and stay asleep through the night.

Typical Bedtime Routine

1. Have a light snack.
2. Take a bath (if a bath is too stimulating for your child, move it out of the bedtime routine).
3. Put on pajamas.
4. Brush teeth.
5. Read a story.
6. For older kids, establish an activity they can do themselves
7. Make sure the room is quiet and at a comfortable temperature (62-68 degrees F); remove toys/electronics.
8. Put your child to bed.
9. Say goodnight and gradually work with your child to fall asleep independently.

Helpful Tips

- Limit “screen time” to a maximum of 60 minutes per day and avoid it right before bed.
- Bedtime should be about the same time, seven days per week (no more than an hour difference on the weekends).
- Make bedtime a positive and relaxing experience without TV or videos.
- Save your child’s favorite relaxing, non-stimulating activities until last, and have them occur in the child’s bedroom.
- Care givers should take time to “connect” with the child at bedtime.

Responding to Nighttime Awakenings

Know your child. Everyone goes through sleep cycles during the night. Give your child a few minutes to see if s/he will go back to sleep. If not, first use your voice for soothing, then pat the child. Only if these steps do not work, pick the child up. When you go into your child’s room every time s/he wakes during the night, you are strengthening (a sleep onset association) the connection between you and sleep for your child. Except during conditions when the child is sick, has been injured or clearly requires your assistance, it is important to give your child a consistent message that s/he is expected to fall asleep on her/his own.

SLEEP AND NEWBORNS

Amount of Sleep Needed

- 14 – 18 hours of sleep in a 24-hour period
- Naps: nighttime and daytime sleep consist of many naps

Developmental Characteristics of Sleep

- Irregular sleep patterns until about 6 - 8 weeks that are interspersed with the need to be fed, changed and nurtured.
- Multiple sleep periods during the day and night may last a few minutes to several hours.
- Sleep may be active: smiling, sucking, body movements and /or more quiet.

Newborns awaken during the night for many different reasons... Parents need to respond, regardless of the time of day...

Sleep Tips

- Place newborns to sleep on their back, with face and head clear of blankets and other soft items to prevent Sudden Infant Death Syndrome (SIDS).
- For nighttime sleep, create an environment that is quiet with less activity and dark.
- Establish a difference between night and day by exposing baby to light and noise, and by playing more with him in the daytime.
- Create a peaceful, consistent and safe sleeping environment.
- Observe newborn's sleep patterns and identify signs of sleepiness such as: looking away, rubbing eyes, gazing or stilling of activity, fussing, crying or other gestures.
- Put newborns to bed when they are drowsy but not asleep. They will be more likely to fall asleep quickly and able to soothe themselves to sleep if awakened.

SLEEP AND INFANTS

Amount of Sleep Needed

- 14 – 15 hours of sleep in a 24-hour period
- Naps: 2.5 – 5 hours

Developmental Characteristics of Sleep

- Increasing nighttime sleep
- Sleep pattern emerges
- 30-minute to two hour naps occurring one to four times per day, changing to two naps by end of first year

Sleep Tips

- Create a regular bedtime schedule and routine (including reading to your infant).
- Nighttime awakenings are normal and usually correlate with daytime events, growth spurts, time changes, etc.
- Put infants to bed when they are drowsy, but not asleep. They will be more likely to fall asleep quickly and soothe themselves (to sleep) if awakened.
- Avoid sleep-onset associations. A child can associate the ability to fall asleep with something in their environment, or a specific person. If an infant falls asleep while being held, rocked or nursed, or listening to particular sounds (ie. mobiles), then they may require these things to transition back to sleep after waking up at night.
- Around six months of age, infants may start dropping nighttime feedings and may sleep through the night (20-30% will not yet be ready to do this).
- Illness, as well as social and developmental issues, can affect sleep. Infants who have formed an attachment bond with their caregiver may have fewer sleep problems, but some may also be reluctant to give up this engagement for sleep.
- From 6 – 12 months, infants may experience separation anxiety and may need more support falling asleep.

SLEEP AND TODDLERS

Amount of Sleep Needed

- 12 – 14 hours of sleep in a 24-hour period
- Naps: 1.5 – 3.5 hours

Developmental Characteristics of Sleep

- Around 18 months, toddlers may be ready to drop their morning nap.
- Afternoon naps continue lasting 2-3 hours.
- Most toddlers sleep through the night on a regular sleep schedule
- Toddlers can experience sleep problems including difficulty falling asleep and an increase in nighttime awakenings (nighttime fears, nightmares, sleep separation, and teething).
- A drive for independence and an increase in motor, cognitive and social abilities can interfere with sleep.
- Ability to get out of bed, separation anxiety, the need for autonomy and the development of a toddler's imagination can lead to sleep problems.
- Daytime sleepiness and behavior problems may signal poor sleep or a sleep problem.

Sleep Tips

- Maintain a consistent wake/nap/bedtime schedule.
- Follow a consistent and calming bedtime routine (including reading to your toddler).
- Encourage falling asleep independently.
- Create a peaceful, consistent and safe sleeping environment.
- Set consistent and clear limits.
- Encourage use of a security object, such as a blanket or stuffed animal.
- Maintain a regular meal and snack schedule during the day.

SLEEP AND PRESCHOOL

Amount of Sleep Needed

- 11 – 13 hours of nighttime sleep
- Naps: 1.5 – 2 hours

Developmental Characteristics of Sleep

- Naps usually end around 5 years of age.
- Nighttime fears may emerge due to the development of imagination, causing the child to have difficulty falling asleep and/or waking up during the night.
- Sleepwalking and sleep terrors peak during preschool years. If this occurs, talk to your doctor to discuss treatment options and to rule out associated conditions.

Sleep Tips

- Maintain a consistent wake/nap bedtime schedule.
- Naps should be in the early afternoon.
- If your child stops napping, consider quiet time in the early afternoon.
- Establish a bedtime routine (including reading with your child) that ends with the child in his/her room.
- Children should sleep in the same sleeping environment every night – in a cool, quiet and dark room without TV/electronics.

SLEEP AND SCHOOL-AGE

Amount of Sleep Needed

- 10 – 12 hours of nighttime sleep

Evolving Challenges to Getting Good Sleep

- Increasing demands on children's time (homework, extracurricular activities, chores) can lead to sleep deprivation.
- TV, computers, caffeine and medical conditions can impact a child's sleep, leading to difficulty falling asleep, nightmares and disruption to their sleep.
- Watching TV close to bedtime has been associated with bedtime resistance, difficulty falling asleep, anxiety around sleep, and sleeping fewer hours.
- Poor or inadequate sleep can lead to mood swings, behavioral problems such as hyperactivity and cognitive problems that impact a child's ability to learn in school.

Sleep Tips

- Establish lifetime sleep and health habits.
- Continue to emphasize the need for a regular and consistent sleep schedule and bedtime routine (include reading with your child).
- Make your child's bedroom conductive to sleep – dark, cool, quiet and no TV/electronics.
- Be alert for persistent sleep problems and daytime sleepiness.
- Select extracurricular activities that won't affect your child's wake/sleep schedule.

SLEEP AND TEENS/ YOUNG ADULTS

Amount of Sleep Needed

- 8 ½ - 9 ¼ hours of nighttime sleep

Consequences of Not Enough Sleep:

- Limits ability to learn, listen, concentrate and solve problems.
- Causes poor school performance/lower grades.
- Leads to aggressive or inappropriate behavior, such as yelling or impatience.
- Causes overeating and/or eating unhealthy foods, like sweets and fried foods which leads to weight gain.
- Promotes use of caffeine and nicotine to stay awake.
- Contributes to illness and accidents.
- Contributes to acne.

Sleep Tips

- Maintain a consistent sleep/wake schedule on school nights and weekends.
- Establish a regular, relaxing bedtime routine, such as taking a warm shower and reading a book, or listening to soothing music.
- Naps can help pick you up and make you work more efficiently if you plan them right (one hour or less, and not too close to bedtime).
- Keep your bedroom cool, quiet and dark.
- Avoid caffeine late in the day. Pills, nicotine, drugs and alcohol will all interfere with sleep.
- If possible, don't eat, drink or exercise within three hours of bedtime. Avoid TV, computer and telephone in the hour before bedtime.
- Drowsy driving causes more than 100,000 crashes each year. Recognize sleep deprivation and call someone for a ride.
- Try keeping a diary or to-do list. Jotting down notes before you go to sleep will make you less likely to stay awake worrying.

SLEEP AND ADULTS

Amount of Sleep Needed

- 7-9 hours of sleep

Sleep Tips

- Maintain a consistent sleep/wake schedule, including weekends.
- Establish a regular, relaxing bedtime routine (such as soaking in a hot bath, reading a book outside the bedroom, or listening to soothing music).
- Create a sleep-conducive environment that is cool, dark, quiet, and comfortable.
- Sleep on a comfortable mattress and pillow.
- Use your bedroom only for sleep (and intimacy) – omit any activities or items you associate with anxiety (television/electronics, work materials, computers).
- Finish eating at least two or three hours before your regular bedtime.
- Exercise regularly. It is best to complete your workout at least three hours before bedtime.
- Avoid caffeine (e.g. coffee, tea, soft drinks, chocolate) close to bedtime. It can lead to (difficulty falling and staying asleep) poor sleep.
- Avoid nicotine (e.g. cigarettes, tobacco products) close to bedtime. It can lead to poor sleep.
- Avoid alcohol close to bedtime (It may help initiate sleep, but increases sleep fragmentation and can worsen other sleep-related conditions, including sleep apnea, GERD, etc).
- Current research shows daytime napping (up to 30 minutes) can improve productivity in adults (however, excessive sleepiness or a pervasive need to take a nap may suggest presence of a sleep disorder).

If You Have Sleep Problems

Use a sleep diary and talk to your doctor. Note what type of sleep problem is affecting your sleep or if you are sleepy when you wish to be awake and alert. If problems continue, discuss the sleep diary with your doctor. Your doctor will help treat the problem or may refer you to a sleep specialist.

SLEEP AND AGING

- In addition to physical changes that occur as we age, changes to sleep patterns are a normal part of aging.
  - Common misconception that we need less sleep as we age; in fact, research suggests that sleep requirements remain constant throughout adulthood.
  - "Sleep architecture", or the amount of time spent in different sleep stages, changes as we age:
    - Percentage of time spent in lighter stages of sleep rather than deeper sleep stages increases as we age (more stage 1 and stage 2 sleep, reduced slow wave and REM sleep).
    - This may lead to a sense that sleep is less restorative/ satisfying.
  - Studies/polls on sleep habits of older Americans demonstrate increased time it takes to fall asleep (sleep latency), reduced time in REM sleep, and increased sleep fragmentation (more frequent wakefulness).
  - Changes to normal circadian rhythm also shift as we age, with a propensity to become sleepier earlier in the evening and wake earlier in the morning (advanced sleep phase).
    - Still may get 7-8 hours of sleep, but up at 3 a.m. because went to bed at 8 p.m.
    - This may be linked to amount and timing of light exposure, changes in vision as we age.

- Prevalence of sleep disorders also increases with age:
  - Insomnia is more common in older adults.
    - NSF Sleep in America Polls demonstrate 44% older persons experience at least one symptom of insomnia at least a few night per week.
    - May occur naturally, or be due to effects from pain, medications, depression/anxiety, or other medical/psychiatric conditions.
  - Snoring and sleep apnea can worsen with age (increased prevalence in conjunction with obesity, hypertension, congestive heart failure and other cardiovascular disease).
    - Sleep apnea may contribute to worsening hypertension, diabetes control, risk of cardiac rhythm disturbances and congestive heart failure, and memory decline.
  - Restless legs syndrome (RLS) prevalence increases with age; 10% of people in North America and Europe report RLS symptoms.
- Medical/physical conditions, psychiatric illnesses and medication side effects that may impact sleep are more likely with age.
  - Menopause and accompanying symptoms (hot flashes) increases sleep fragmentation and restlessness.
  - Heartburn (GERD), chronic pain from joint/arthritis and other disorders, frequent urination from prostate or other urologic conditions, respiratory diseases, movement disorders causing reduced mobility all impact sleep and are more common as we age.

SLEEP AND TECHNOLOGY

- Electronics are part of our connected 21st century lives.
  - Pros: able to stay linked to world at all times from privacy of home.
  - Cons: exposure to light emitted from devices and increased mental activity, promotes wakefulness and other sleep problems.
- 24/7 exposure to technology (TV, computer, phones, tablets) has led to the absence of the natural evening reduction in light that historically signaled brains to 'wind down' for sleep.
- Exposure to light promotes wakefulness.
  - Photoreceptors in the retina sense light/dark, and signal brain to align circadian rhythms with day-night cycle.
    - Natural cycle helps one to be alert during day and to get sleepy at night.
  - Electronic devices can emit sufficient light to 'trick' the brain and lead to delays in sleep onset or promote unwanted wakefulness.

- Impact of electronics on sleep in children:
  - Increase in electronics in children's bedrooms results in increased evening stimulation and light exposure.
    - Children using electronic media as sleep aids in general have later weekday bedtimes, get fewer hours of sleep/wk and report more daytime sleepiness.
    - TV in the bedroom of adolescents results in later bedtime, more difficulty with sleep onset and shorter total sleep time.
    - Texting/e-mailing after lights out significantly increases daytime sleepiness in teens, per self-report.
    - Homework burden (now often completed on computer) is a potential source for late night light exposure which is societally, not self-imposed.
    - Academic, extracurricular and social demands have led to increased electronic engagement later in the evening
  - Basic sleep requirements may not be fulfilled, with significant contributions potentially stemming from light and evening engagement.
  - Adequate sleep is essential for growth, mood, weight control learning and creativity.

Initiate a *digital curfew* for the entire family before bedtime

Technology for Tracking Sleep

There are various free sleep apps available for devices, some phones and wrist bands that include bedtime alarms and track sleep. Because the technology is fairly recent, there is not enough evidence to make recommendations at this time.

HOW TO FALL ASLEEP OR FALL BACK TO SLEEP

Do you have trouble falling asleep? We know we need 7-8 hours of sleep each night to protect against heart disease, diabetes, stroke, etc. But what if falling asleep is difficult?

4-7-8 Method

A little trick you might consider is called the "4-7-8" method which combines meditation with breathing. Here's how it works. Breathe in through your nose for 4 seconds; hold your breath for 7 seconds; exhale for 8 seconds. Repeat this a few times and you should fall into a relaxed state more easily. It calms your heart rate and relaxes your mind and body.

Restful Breathing

1. Counting the breath.
   Starting with deep intentional inhales and exhales. Starting to count the breaths. Inhaling for a count of 4 and exhaling for a count of 6. Continuing this breathing for 5 minutes, allowing the body to start naturally relaxing.

2. Legs up the wall, one hand on chest and one on belly...breathing in for 4, holding breath at top of inhale for a count of 4, and exhaling for a count of 6.

Gratitude

Count your blessings instead of sheep help a person to drift into sleep on a positive note.

Crow Wing Energized Guiding Principles

- We seek to create and sustain a united approach to improving health and wellness in our community and surrounding areas, helping to make the healthy choice the easy choice.
- We seek collaboration towards solutions with multiple stakeholders (e.g. schools, worksites, medical center) to improve community engagement and commitment focused on improving community health.
- We seek to prioritize evidence based efforts around greatest community good that can be achieved through our available resources.

The Crow Wing Energized steering committee has four main goal groups that help with implementation and drive partnerships within these collaborating goal groups: Healthy Choices, Mental Fitness, Workplace Wellness, and Community Connections.

ACKNOWLEDGEMENTS

Information used with permission from
ABC's of ZZZs... A Guide to Healthy Sleep
Southern Minnesota Regional Early Childhood Initiative Coordinators

Contributing editors
Dr. Jared Rustad, Physician Leader, Neurology
Essentia Health Sleep Clinic, Brainerd, MN

Brenda M. Wiener, LSH
EverydayWellnessSolutions.com
everydaywellnesssolutions@gmail.com or 320-492-4109

Beatrice Comty-Charnock, MA, LAMFT, LADC
Pathways Counseling, LLC
pathwayscounseling17@gmail.com or 218-838-3729

Resources

www.sleepfoundation.org
www.parentchildhelp.com
www.sleepforkids.org
Dr. Henry Emmons, Integrative Psychiatrist
University of Minnesota's Center for Spirituality and Healing

To learn more about
Crow Wing Energized, or to inquire about
speakers and presenters
please visit our website
www.CrowWingEnergized.org