

SLEEP

supporting with
nutrition, herbs
and lifestyle



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How Lack of Sleep Affects Children

- Impulsivity
- Attention Deficits
- Forgetfulness
- Learning Deficits
- Obesity
- Impaired immune function
- Anxiety
- Depression

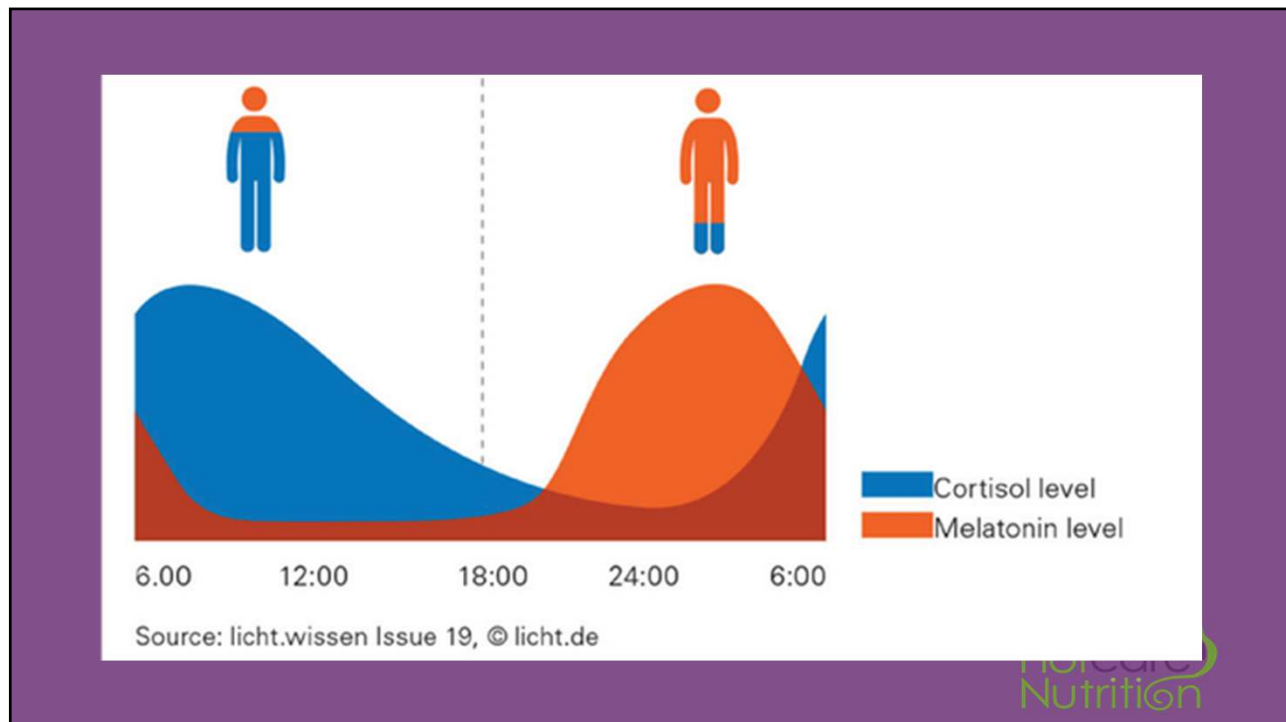
How Much Sleep Do We Need?

	Age Range	Recommended Hours of Sleep
Newborn	0-3 months old	14-17 hours
Infant	4-11 months old	12-15 hours
Toddler	1-2 years old	11-14 hours
Preschool	3-5 years old	10-13 hours
School-age	6-13 years old	9-11 hours
Teen	14-17 years old	8-10 hours
Young Adult	18-25 years old	7-9 hours
Adult	26-64 years old	7-9 hours
Older Adult	65 or more years old	7-8 hours



CIRCADIAN RHYTHM

- The body maintains a biological rhythm called circadian rhythm which oscillate in cycles of 24 hours. Circadian rhythm influences [rpduction of cortisol (awake) and melatonin (sleep)
- Healthy sleep patterns in children are associated with their physiological and mental health as well as cognition development and behaviors



TEMPERATURE

- An ideal sleep temperature is 65-68 degrees. Decreasing that core temperature 2-3 degrees will help initiate and maintain sleep
- wearing socks or putting a hot water bottle on your feet will cause vasodilation and can bring more blood flow from the core body to the extremities to radiate out heat.
- take a hot shower, sauna or warm bath 60-90 min before bedtime

RELAXATION

- Cortisol is at it's lowest upon entering bedtime.
- Anything that increases cortisol (anxiety) will prevent sleep.
- How to wind down?
 - avoid electronics 1-2 hours before bedtime
 - do some form of relaxing body movements like stretching
 - meditation shows very strong data with insomnia patients
 - writing/journaling 60 minutes before bed: write down all your worries at the moment and then
 - write 3 things that you are grateful for. Studies show this decreases the time it takes to fall asleep by 50%

LIGHTING

- Avoid LED lights if you can. An easy fix is to dim lights at least 50% about 1.5 hours before bedtime.
- Blackout curtains
- Sleep Mask
- Blublocker glasses
- Use Night Shift on the iPhone and F.LUX on the computer to eliminate blue wavelength light which is activating, and which will shut off melatonin production, your natural hormone to signal sleep.

TIMING

- Try to avoid food at least 3 hours before bedtime. You want to avoid any rise in core body temperature. If you have to eat, avoid simple carbs.
- You are governed by your circadian rhythm in many aspects. Sleep is part of that so have a rhythm and have consistent bedtime and wakeup times during weekday and weekend.

EXERCISE

- Because of the rise in core temperature, you want to avoid this at least 2 hours before bedtime
- Activity can also raise cortisol levels
- However, exercise earlier in the day is HELPFUL.

SLEEP OBSTRUCTION



- Congestion
- Apnea
- Snoring
- Lack of Oxygen
- Daytime Fatigue
- Attention Deficit

NUTRITION and SLEEP

- Research shows that nutrient consumption is important for sleep.
- NHANES study showed that a lack of key nutrients, such as calcium, magnesium, and vitamins A, C, D, E, and K were associated with sleep problems
- Likely affects the hormonal pathways that regulate sleep
- Amino acids, B vitamins and macronutrient balance also involved

<https://pubmed.ncbi.nlm.nih.gov/31581561/>





NUTRITION

- CARBOHYDRATES?
- Calcium
- Vitamin D
- Magnesium
- Amino Acids-Tryptophan, GABA, 5 HTP, L-theanine
- B6 and B12

CARBOHYDRATES

-
- Supports melatonin production
 - Best to consume before 3-4 hours bed.
 - Increased glycemc load can increase time to sleep
 - CHO can increase drowsiness but increase night waking
 - Research is mixed

 - Mediterranean type diet can benefit sleep

CALCIUM and VITAMIN D

Calcium

- Necessary to convert tryptophan to melatonin
- Monitor with dairy free diet
- Dairy, fish with bones, almonds, broccoli, sesame seeds, blackstrap molasses

Vitamin D

- Low Vitamin D linked to insomnia BUT taken at night reduces melatonin
- Sunlight, egg yolks, fatty fish

MAGNESIUM

-
- Low levels associated with poor sleep quality and insomnia
 - Supports calming neurotransmitters, helps the body relax
 - Easier to fall asleep
 - Improved sleep quality
 - Reduces Restless Leg syndrome
-
- Leafy greens, nuts, seeds, whole grains, soy

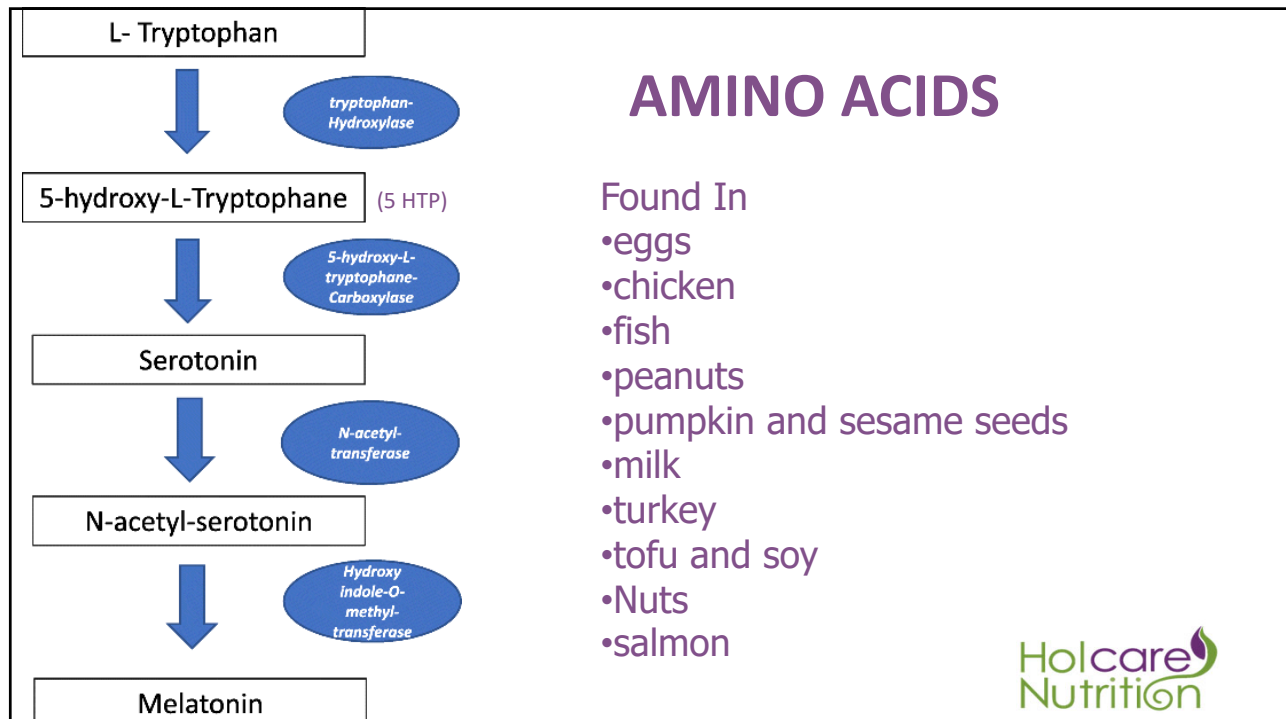
B6 and B12

B6

- Linked to insomnia and depression
- Necessary for melatonin production
- Careful as high doses are not safe
- Bananas, carrots, spinach, potatoes, eggs, fish whole grains, milk, cheese

B12

- Regulates sleep/wake cycle
- dairy, eggs, meat, fish, and shellfish



AMINO ACIDS

- GABA- main inhibitory neurotransmitter – favors sleep when activated.
- L-THEANINE-Anti- anxiety, increased relaxation
- Combination of GABA and Theanine can decrease time to sleep and improve sleep quality better than either alone



HERBS/SUPPLEMENTS for Sleep

- Melatonin
- Valerian
- Lemon Balm
- Zyziphus
- Passionflower
- Chamomile
- Skullcap
- Lavendar

MELATONIN

- 2 hours before desired bedtime
- 1-3mg to start
- Long term appears safe
- Careful with meds/supplements that increase drowsiness
- Potent anti oxidant
- May help with reflux
- Helps to fall asleep but does not keep you asleep

VALERIAN

- Also maintains sleep
- Reduces time to sleep
- Act on GABA receptors
- Can increase sedative effects of medications



LEMON BALM

- Works well combined with valerian
- Positive outcomes in children
- Teas, tincture, supplement
- Also helpful for anxiety



ZYZIPHUS (JUJUBE)

- Can increase sleep time
- Can improve sleep quality
- Reduces anxiety



PASSIONFLOWER

- Can increase total sleep time
- Improve sleep efficiency, (the percentage of time spent sleeping as opposed to lying awake in bed)
- Improves wake time after sleep onset
- Teas, extracts



CHAMOMILE

- Contains apigenin which relaxes muscles and improves sleep
- Better for sleep quality
- Not as helpful for insomnia
- Teas, tinctures



SKULLCAP


- Baicalin, a compound found in both American and Chinese skullcap, is used to treat insomnia in traditional medicine practices.
- Research evidence mixed, but long history of traditional use



LAVENDAR


- Improved sleep quality
- More restful sleep
- Longer duration
- Long term used linked to breast growth in males





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Beneficial effects of Silexan on sleep are mediated by its anxiolytic effect

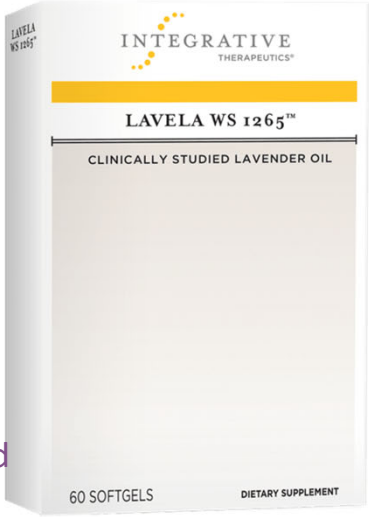
Erich Seifritz ^a, Sandra Schläpke ^b, Edith Holsboer-Trachsler ^c


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<https://doi.org/10.1016/j.jpsychires.2019.04.013>
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Anxiety related sleep disruption responds well to lavender. Silexan™ has been well studied





Adaptogens

“A compound which can intervene in the stress reaction and alter it
Helps us deal with both emotional and physical stress. This has a positive effect on our ability to sleep well.”

- Rhodiola
- Ashwagandha (Withanolides)
- Holy Basil
- Ginkgo Biloba

RHODIOLA

- Can reduce fatigue
- Increase attention and focus during the day and improve sleep at night



AHWAGANDHA

- Withanolides
- Improved sleep quality
- More restful sleep
- Increased mental alertness



HOLY BASIL (TULSI)

- Calming, reduces stress and anxiety
- Can lower cortisol
- Supports blood sugar regulation



IN SUMMARY

- Good sleep requires proper regulation of cortisol and melatonin
- Anxiety, depression and blood glucose regulation can all impact sleep
- Poor sleep impacts daily function- energy, attention, blood sugar, hormonal balance, etc.
- Habits, diet, herbs and supplements which reduce stress and modulate cortisol can enhance sleep onset, duration and quality
- Identify the “low hanging fruit” and start there (electronics? Sugary bedtime snacks? Not enough protein? Stress?)