

Sleep: It's Effects on Aging, Weight Gain & Overall Health

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Interesting Facts

According to the National Institutes of Health:

- At least **60 MILLION** Americans are suffering from CHRONIC or intermittent sleep disorders
- We spend up to 1/3 of our lives asleep
- Sleep may play a more crucial role than diet or exercise in fostering optimal health
- Sleep Deprivation costs an estimated **\$150 billion** a year in higher stress and reduced workplace productivity

How much money is spent on sleeping pills, etc

Common meds prescribed:

- Ambien, Lunesta, Rozerem, Sonata, Anti-depressants
- **\$3.6 BILLION** on prescription sleep medication in 2006
- In 2006 Lunesta spent **\$298 MILLION** on advertising



SLEEP IS AN ACTIVE BEHAVIOR

- The brain & body are active when you sleep
- Healing & Regeneration occur during this time
- Fat burning occurs during this time
- Prepares you for the next day
- Immune system is strengthened



Sleep & Your Body's Ability to Heal

- During stage 4 is when delta sleep occurs
- Deepest stage of sleep which is necessary for regeneration of hormones & neurotransmitters
- T helper cells have specific receptor sites for Melatonin which will stimulate the production of immune cells
- GROWTH HORMONE
- SEROTONIN



Sleep & Your Blood Pressure

According to Dr. Christiane Northrup , MD:

- If you don't get enough sleep, your stress hormones stay elevated and increases inflammation throughout the body.
- Causes arteries to narrow and constrict, which results in higher blood pressure.
- Sleep is the body's most effective way of digesting excess stress hormones from your day.
- Chronic inflammation negatively affects the cardiovascular system.



Sleep & Your Creativity

According Dr. Jeffrey Ellenbogen, a neurologist at Harvard.:

“Sleep makes people 33% more likely to make new connections between previously unconnected ideas”.



Sleep & Athletic Performance

According to Dr. Eve Van Cauter from the University of Chicago Medical school:

- Increase in cortisol levels which impairs recovery in athletes
- Glucose metabolized least efficiently, which is the main source of energy for athletes
- Decrease the activity of Growth Hormone which is active during tissue repair
- Glucose is metabolized least efficiently which is the main source of energy for athletes



Sleep & Brain Acuity

Studies have demonstrated that **a lack of sleep** impairs one's ability to simultaneously focus on several different related tasks, reducing the speed as well as the efficiency of one's actions

The researchers at UCSD speculate that the brain is **adversely affected** by sleep deprivation because certain patterns of **electrical and chemical activity** that occur during sleep are interrupted, impeding the brain's ability to function normally.



The connection between sleep and weight loss/gain

2 Hormones that influence appetite contributing to weight loss or gain

- **Ghrelin** is made in GI tract & **stimulates** appetite
- **Leptin** is produced in fat cells & signals the brain when you are **full**

Lack of sleep will:



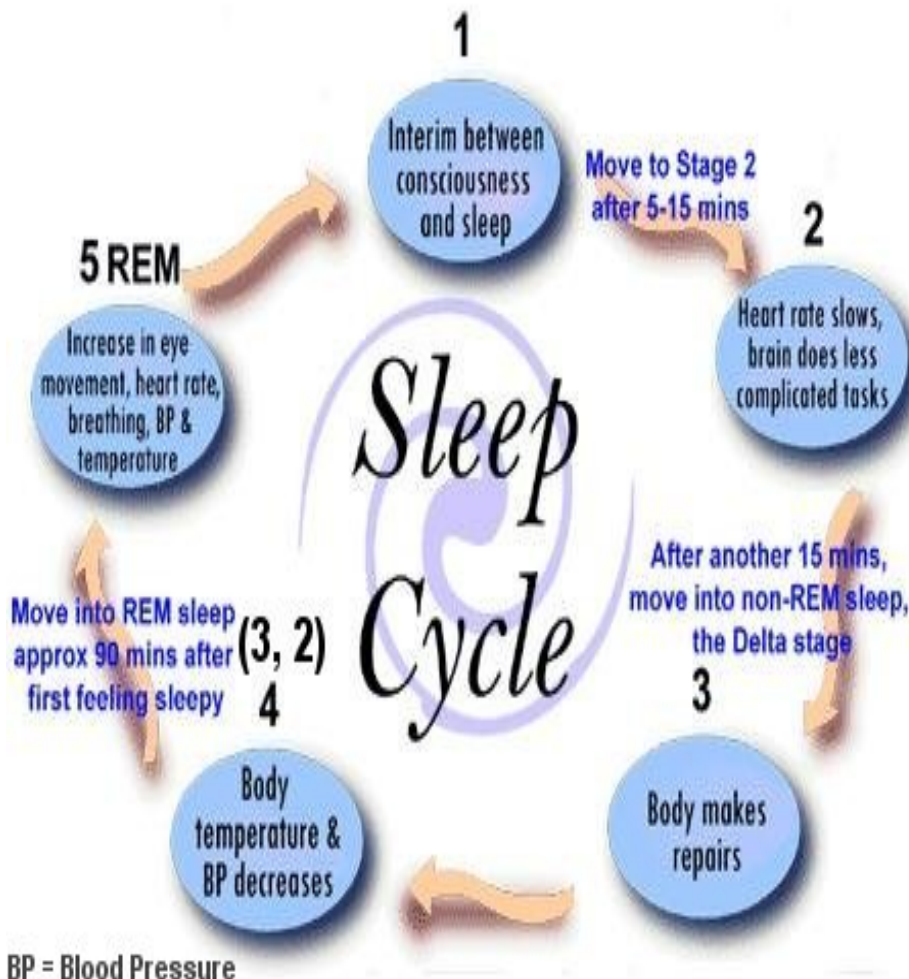
Ghrelin



Leptin



What happens during the sleep?



5 stages of sleep

I. Transition to sleep (5 minutes)

II. Light sleep (10-25 minutes)

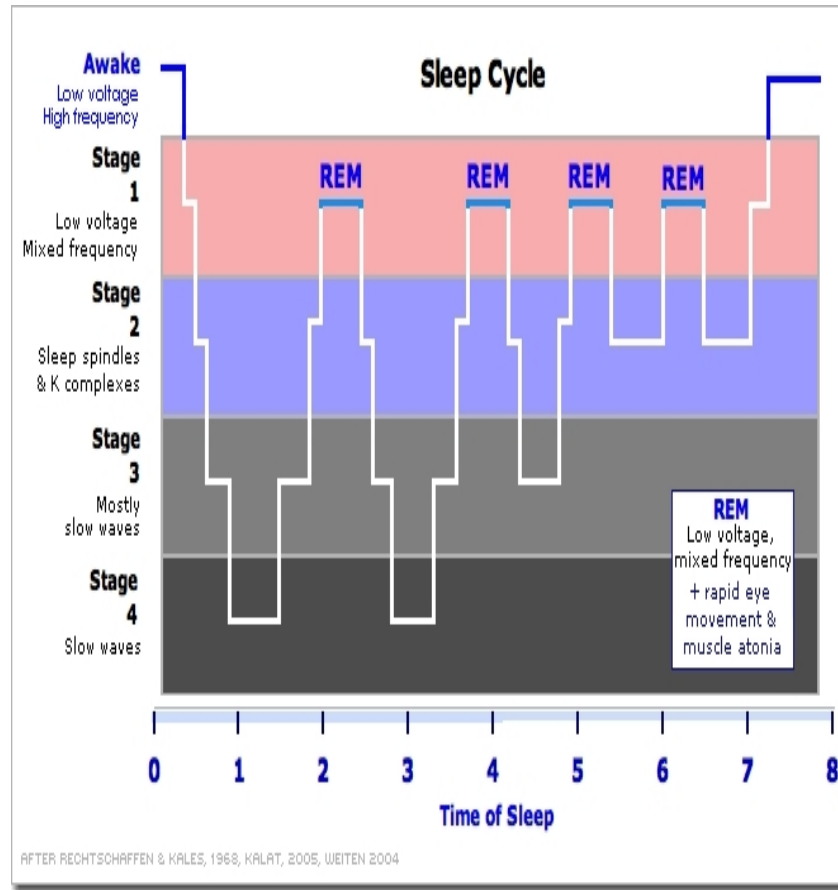
III. Deep sleep (restoration occurs and GH released)

IV. More intense deep sleep

V. REM sleep (70 – 90 minutes after falling asleep)

The body goes through about 5 sleep cycles

10 pm- 2 am



How much sleep do I need?

According the National Institutes of Health:

Newborns (0-2 months)	12-18 hrs
Infants (3 months – 1 year)	14-15 hrs
Toddlers (1-3 yrs)	12-14 hrs
Preschoolers (3-5 yrs)	11-13 hrs
School aged children (5-12 yrs)	10-11 hrs
Teens & preteens (12-18yrs)	8.5 -10 hrs
Adults (18+)	7.5- 9 hrs



UNDERLYING CAUSES

Underlying Causes - **Blood Sugar Imbalance**

- Cravings for sweets after meals
- Skipping breakfast
- Eating late dinners
- Going too long without eating
- Headaches and irritability if meals are skipped
- Creates insulin-cortisol dysfunction



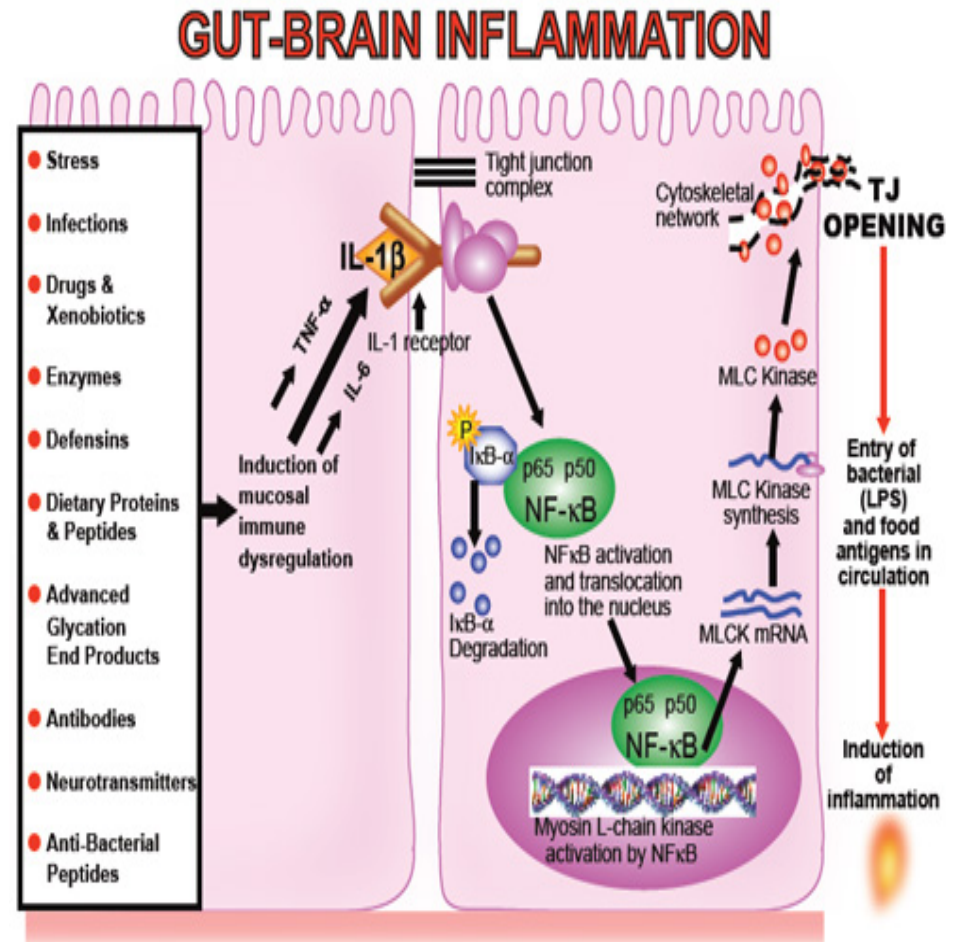
Underlying Causes – GI Dysfunction & Food Allergies

Destruction of intestinal
Lining resulting from:

- Antibiotics
- Sugar
- Caffeine
- Soda
- Stress



Neuronal Death (memory)



Underlying Causes — Stress

- Physical (too much exercise, fractures, exhaustion)
- Emotional (divorce, death, birth, irritability, depressed)
- Chemical (environmental toxins, chemicals, pollutants, personal hygiene products, hair and body products, nicotine, antibiotics, growth hormones in animal products, pesticides, herbicides, fungicides on fruit & veggies)
- Stress causes the release of cortisol

Underlying Causes – Inflammation

- Inflammation due to injuries
- Chronic pain
- Digestive issues (low grade inflammation)
- A body that is inflamed is on fire!!
- Inflammation releases cortisol and keeps the body from burning fat at night & creates Melatonin imbalance

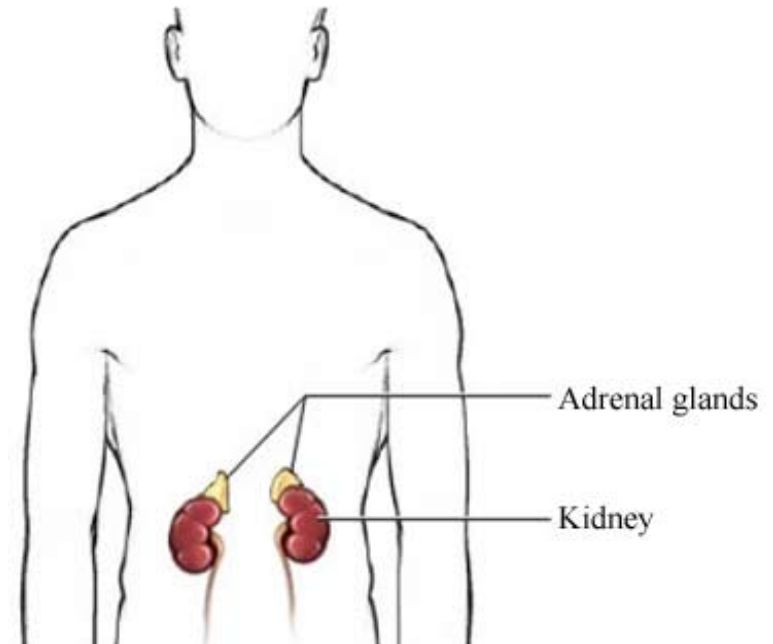


Underlying Causes – Adrenal Dysfunction

- Disrupts circadian rhythm
- Creates sugar imbalance
- Creates cortisol dysfunction



- Hormonal Imbalance



Connection Between Cortisol- Melatonin & Sleep

CORTISOL

- Adrenals make cortisol which is responsible for gluconeogenesis
- Insulin release for blood sugar maintenance
- Has an anti-inflammatory response
- Should be low at night & high in the morning

MELATONIN

- Melatonin is secreted by the pineal gland
- Peaks at about 2 am & 4 am
- Melatonin maintains circadian rhythm
- Has anti-oxidant effects & strengthens immune system
- Gets rid of free radicals
- Should be high at night & low in the morning
- Melatonin (almonds, sunflower seeds, cherries, plant sources)
- Tryptophan – Serotonin-Melatonin (milk, dairy products, meat)

Cortisol

High Cortisol Levels

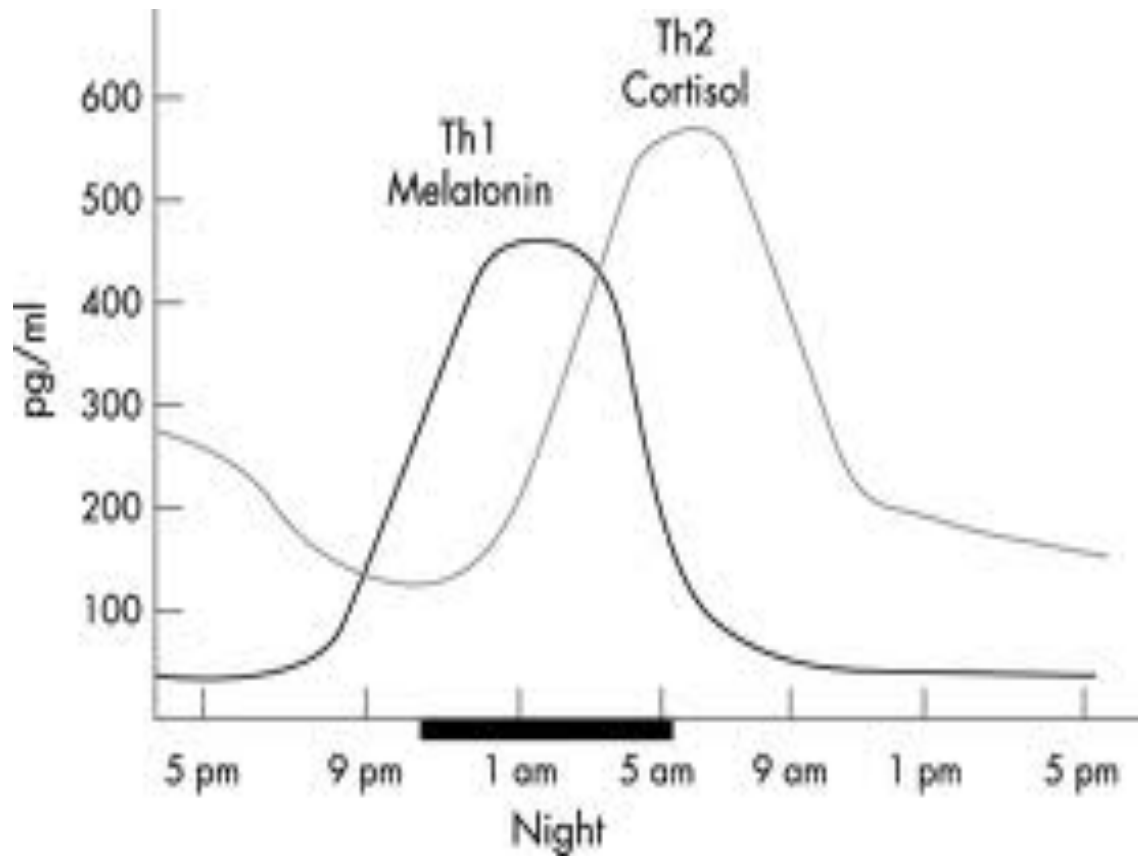
- Impaired cognitive performance
- Dampened thyroid function
- Blood sugar imbalances, such as hyperglycemia
- Decreased bone density
- **Sleep disruption**
- Decreased muscle mass
- Elevated blood pressure
- Lowered immune function
- Slow wound healing
- **Increased abdominal fat**, which has a stronger correlation to certain health problems than fat deposited in other areas of the body. ***Some of the health problems associated with increased stomach fat are heart attacks, strokes, higher levels of “bad” cholesterol (LDL) and lower levels of “good” cholesterol (HDL), which can lead to other health problems.****

Low Cortisol Levels

ADRENAL FATIGUE

- Brain fog, cloudy-headedness and mild depression
- Low thyroid function
- Blood sugar imbalances, such as hypoglycemia
- Fatigue – especially morning and mid-afternoon fatigue
- Sleep disruption
- Low blood pressure
- Lowered immune function
- Inflammation

Cortisol-Melatonin Relationship



SOLUTIONS



MAXIMIZE YOUR SLEEP FOR OVERALL HEALTH WEIGHT LOSS, BEAUTY AND ANTI-AGING



**Most of our sleep problems are self inflicted & we
can't regain sleep deficit**



Helpful Natural Therapies

- Dark cool quiet bedroom
- Comfy pillow (body pillow)
- Comfy mattress
- Eliminate coffee & alcohol 4 hours before bedtime
- Stop eating 4 hours before bedtime
- Control your stress levels (cortisol dysregulation)



Helpful Natural Therapies

- Eliminate sugar from your diet
- Don't exercise before bedtime but early in day
- Normalize your blood sugar levels (hypo or hyper)
- Set your alarm 30 minutes after the hour
- Avoid watching TV in bed



Helpful Natural Therapies

- Use lavender oil
- Sleep mask
- Normalize your blood sugar levels
- Remove electronics and/or turn off (emit EMF's)
- Gratitude Journal
- Hypnosis CD or Relaxation Music

