Sleeping and Dreaming

AgeWell Plan Seminar

March 24, 2018

Topics

- Why we sleep – health benefits
- What happens when we sleep
- How sleep patterns change as we age
- Signs and symptoms of poor sleep/sleep deprivation
- Sleep stages
- Dreaming
- How to get enough healthy sleep

Why We Sleep

- To wake up feeling refreshed and alert for our daily activities
- Quality of life – to look, feel, and perform on a daily basis the best we can
- The night is sleep medicine and has healing power
- Good sleeping reduces our risk of developing certain diseases and conditions
- Body and mind restoration and repair
- Several immune agents go up during sleep; tumor necrosis factor increases 10 times

- Though one-third of our lives is spent sleeping, sleeping plays a direct role in how full, energetic and successful the other two-thirds of our lives can be

What Happens When We Sleep?

- Dreams occur, eyes dart back and forth
- Body becomes immobile and relaxed, as muscles are turned off
- Levels of the hormone cortisol dip at bedtime and increase over the night to promote AM alertness
- Healthy immune system maintenance
- Appetites are balanced thru regulation of ghrelin and leptin, impacting our feelings of hunger and fullness when awake; if sleep deprived, we tend to gain weight

Indications of Poor Sleep

Stuart Moody

- Forgetting things you had intended to do
- Feeling irritable over trivial events
- Staring at a book without any recollection of what you just read
- Nodding off at a concert or lecture
- Using an alarm clock to wake up in AM
- Drinking strong coffee to get started in the day
- Feeling drowsy after noontime meal
- Wondering where all your energy went

Health Risks of Inadequate Sleep

- 4 x risk of developing diabetes
- Alzheimer's disease
- 5 x risk of developing depression and anxiety
- 2 x risk of developing cardiovascular disease (CHF)
- 7 x more likely to abuse alcohol or drugs
- Inflammation
- High PULS score (10 year risk of having a heart attack)
- Accidents
- Increased risk for certain cancers? (melatonin increases REM sleep; deficiency=risk; adjunctive tx for breast and lung cancer)

When We Don’t Get Enough Sleep

- Physical performance declines
- Physical health decays
- Cognitive powers diminish
- Mental health suffers
- Decline in immune function and greater risk of infection
- Increased vulnerability to stress and disease
- Increase in pain and discomfort: less somatostatin (regulates food absorption and substance P)

Physical performance declines

- Decreased reaction time (a loss of 4 hours of sleep can decrease reaction time by 45%)
- Decreased balance
- Decreased coordination
- Increased risk of injury

Physical health declines

- Decreased immunity
- Increased susceptibility to infections
- Increased blood pressure
- Decreased growth hormone levels

Cognitive Power diminishes

- Decreased concentration
- Decreased memory
- Decreased analytic ability
- Decreased judgement

Mental health suffers

- Increased anxiety
- Increased irritability
- Increased pessimism, decreased optimism
- Decreased confidence

Societal Costs of Inadequate Sleep

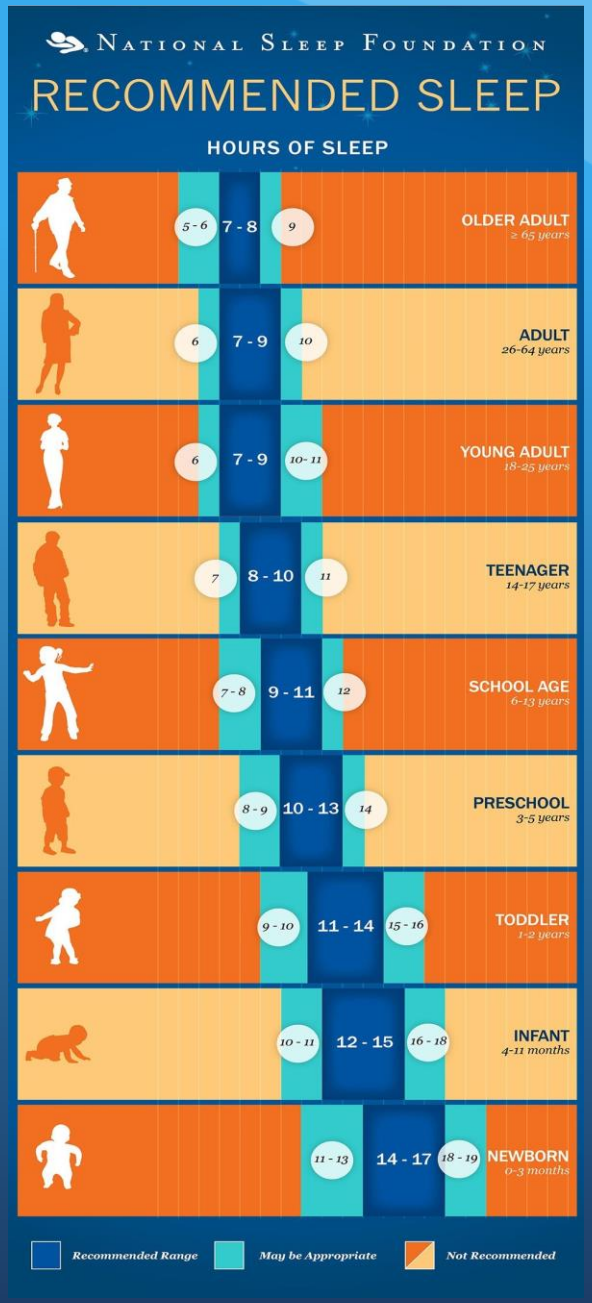
- Leading cause of transportation fatalities – cars, trucks, mass transit, buses, water vehicles, space shuttles
- Poor productivity
- Absence from work
- High health-care costs
- Is sleep deprivation an epidemic?

Compensating with Counterfeit Energies

- Sugar
- Caffeine
- Gratuitous drama
- Excessive light at night (increased breast CA risk)
- Artificial Wakening
- Dampened daylight

How much sleep do we need?

- Changes as we age
- Before invention of the electric light bulb, people slept 9-10 hours in addition to awakening around 3 am for an hour or more before going back to sleep


National Sleep Foundation
RECOMMENDED SLEEP
HOURS OF SLEEP
OLDER ADULT
≥ 65 years
5 - 6
7 - 8
9
ADULT
26-64 years
6
7 - 9
10
YOUNG ADULT
18-25 years
6
7 - 9
10 - 11
TEENAGER
14-17 years
7
8 - 10
11
SCHOOL AGE
6-13 years
7 - 8
9 - 11
12
PRESCHOOL
3-5 years
8 - 9
10 - 13
14
TODDLER
1-2 years
9 - 10
11 - 14
15 - 16
INFANT
4-11 months
10 - 11
12 - 15
16 - 18
NEWBORN
0-3 months
11 - 13
14 - 17
18 - 19
Recommended Range
May be Appropriate
Not Recommended


Sleep
March 12, 2018, 9:42 PM - 5:38 AM
fitbit
6 hr 22 min
9:42 PM
5:38 AM
1h 34m
Awake
1h 27m
REM
3h 48m
Light
1h 7m
Deep

12:05

Sleep

Monday, Mar 12

TIME ASLEEP

Edit Goal

6 hr 22 min

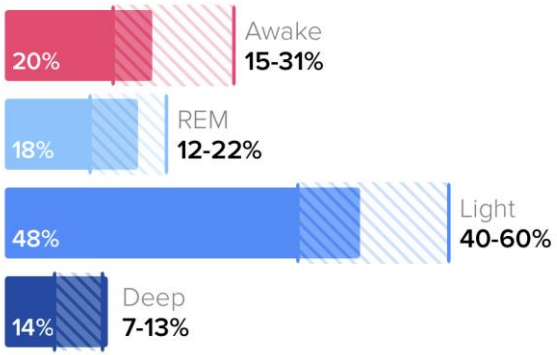
SLEEP STAGES

Learn More

Mar 12 | 30 Day Avg | Benchmark

Ranges for men your age

Mar 12 Typical Range



SLEEP SCHEDULE

Edit Schedule

9:42 pm bedtime — On target!

5:38 am wake up — On target!

Dashboard | Challenges | Guidance | Community | Notifications

Sleep Stages

- During sleep, our body goes through several sleep cycles of alternating REM and NREM sleep that last an average of 90 minutes
- During a sleep cycle, it is most common to go from light sleep to deep sleep, back to light sleep, and then into REM sleep. The cycle repeats itself, but patterns vary naturally
- During each cycle, we alternate between two types of sleep:
  - Light sleep and Deep sleep (NREM)
  - Rapid Eye Movement (REM)

- Light Sleep and Deep Sleep (NREM) - With less brain activity than REM sleep, non-rapid eye movement includes the stages of light sleep and deep sleep. Periods of deep sleep are typically longer early in the night.

- Rapid Eye Movement – The stage associated with vivid dreams, REM sleep periods are typically longer as the night goes on

Sleepfoundation.org

- NREM (75% of night): starts as we begin to fall asleep and is composed of these stages:
  - N1 – between awake and falling asleep, and light sleep
  - N2 – onset of sleep, becoming disengaged from surroundings, breathing and heart rate are regular, and body temperature drops (sleeping in a cool room is helpful)
  - N3 – deepest and most restorative sleep, blood pressure drops, breathing becomes slower, muscles are relaxed, blood supply to muscles increases, tissue growth and repair occurs, energy is restored, growth hormone is released (essential for growth and development, including muscle development

REM Sleep

- REM (25% of night): First occurs about 90 minutes after falling asleep and recurs about every 90 minutes, getting longer later in the night
- REM cycle provides energy to the brain and body, supports daytime performance, and brain is active and dreams occur, eyes dart back and forth, body becomes immobile and relaxed, as muscles are turned off; dreams
- A neurochemical transaction at the center of the brain inhibits our voluntary muscles
- Critical role in processing and healing emotion

What are Dreams?

- The time and space between sleep and twilight
- Melatonin mediates dreaming
- We all dream, normally 4-5 times every night
- We usually won't remember our dreams if we don't "value" them, attend to, and understand them

Importance of Dreaming

- Dream deprivation may lead to cancer (Jung) if excessive exposure of light at night – depletes melatonin levels
- Repressed material if decreased dreaming eventually diverted into somatic channels
- Melatonin increases dreaming and REM sleep
- “Dreaming is to waking as the atmosphere is to the earth”
- Dreaming offers us essential containment and spiritual life support

Most sleep disorders and substances used to sleep create dream disorders

- Obstructive sleep apnea
- Insomnia
- Medications and supplements that suppress REM (rx and OC sleeping pills)
- Sedating antidepressants and minor tranquilizers
- NSAIDs, aspirin, beta blockers, diuretics suppress melatonin
- Moderate alcohol consumption and nicotine can interfere with dreaming

Healing Dream Practices

- Guard against dream thieves – dream-suppressive substances and medications
- Open to dream life – set an intention to dream and to remember your dreams: think, talk, write and read about them
- Record your dreams – journal a written account upon arising; review periodically looking for interesting themes and patterns in your dream life
- Establish dream communities – routinely share your dreams with a spouse or partner as you arise, or written account with a friend later
- Shamanic ceremony/experiences to enhance dreaming

How to get enough healthy sleep

Healing Night by Rubin Naiman

- Restore a sense of sacredness to our nights and night consciousness
- Seminar 8 September 29, 2007 on Seven Steps to Mindful Sleep
- 1.Ride life's rhythms
- 2. Re-learn to rest
- 3. Create a sleep sanctuary
- 4. Be shady and cool as night
- 5. Surrender to sleep
- 6. Manage mid night waking
- 7. Arise with intention in the morning

- 1. Ride life’s rhythms
- - tune into life’s circadian rhythyms
- - consider regular 20 minute midday naps
- - practice breathing exercises

- 2. Re-learn how to rest
- - Avoid counterfeit energies
- - Slow down before you go down – rest in evening
- before bedtime
- - Practice true rest through meditation, prayer,
- breathing exercises

- 3. Create a sleep sanctuary
- - Keep your bedroom cool, dark, quiet, and
- psychologically safe
- - Get your clock away from your head and bed
- - Gradually move toward a “green” organic
- bedroom
- - REDUCE EMF BY REMOVING ELECTRONIC DEVICES

- 4. Be shady and cool as night
- - Go down gradually like the sun: dim your lights and
- use “blue blockers”
- - Use the evening for journaling, yoga, warm baths,
- and intimacy
- - Consider melationin (spray) replacement therapy
- at bedtime or early awakening (3-4 am) when
- levels are lowest

- 5. Surrender to sleep
- - Avoid sleeping pills and alcohol
- - Realize you cannot literally “go to sleep”
- - Practice “letting go of waking”

- 6. Manage mid night waking
- - God to bed only when you feel sleepy
- - Be especially kind to yourself if you awaken
- - Get out of bed if unable to sleep

- 7. Arise with intention in the morning
- - Awaken gradually and slowly – be mindful of
- grogginess
- - Set a conscious intention to guide your
- waking attention
- - Let the memories of your dreams come and
- note them

Gut health = sleep health?

- New research linking both (The Guardian)
- Relationship between lack of sleep and appetite, obesity (decreased leptin), weight gain, insulin resistance, and glucose regulation, ? our microbiome
- Our microbiome may affect shifting circadian rhythyms (sleep-wake cycle) and hormones that regulate sleep and wakefulness
- Prebiotics – improve quality of non-REM and REM sleep; in one study, after 5 days, awake in bed decreased from 21 to 8%

Gut health = sleep health (2)

- People with depression and people who sleep poorly have abnormal microbiomes
- If we eat badly, we sleep badly
- Gut-friendly nutrition: real food and no processed food; try vegetarian/vegan diet; double fiber intake; eat fermented foods daily including yoghurt and cheeses with fat; increase range of foods eaten (nutrtition rainbow)

A Sleep-Friendly Diet (cont)

- Berries
- Green tea
- 70%+ dark chocolate
- Decaffeinated coffee
- Nuts and seeds
- Don’t eat before going to bed (1-2 hours) and don’t go to bed hungry
- Natural and supplement probiotics = induce calming chemicals in our body

Other Dietary Considerations to Improve Sleep

- Low-glycemic index foods will release energy more slowly
- Always pair carbohydrate (high-glycemic) with some protein and/or fiber if eating a bedtime snack
- Don’t eat hard to digest foods before bedtime (for at least 2-3 hours) such as fried or spicy foods, or any red meat or eat such foods at lunch instead

Can deep relaxation or meditation replace sleep?

- Research is limited
- TM – decrease in metabolic rate
- Yoga – improved sleep quality
- Tai Chi – improved sleep quality, mood and perceived stress
- Deep breathing and somatic exercises?

Relaxing for Sleep

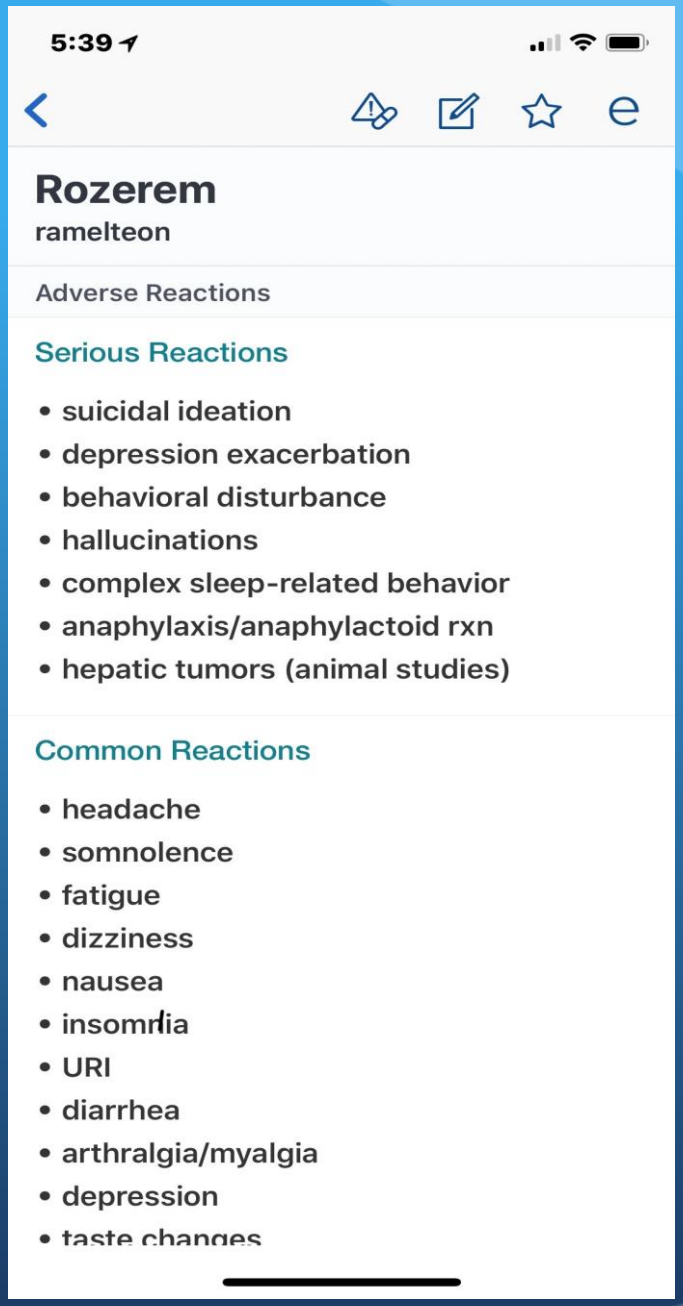
Sleep Techniques from Yoga

Stuart Moody

- Somatic release
- Focused breathing
- Meditation

Meditation and Mindfulness

- Reduces use of sleeping pills
- Reduces measures of arousal in the brain
- It's safe, its' easy, and has multiple health benefits
- Can be used with CBT, cognitive behavioral therapy, only treatment option found to have sufficient evidence by the NIH to be effective and safe (NIH also cites Roxeram)


5:39
Rozerem
ramelteon
Adverse Reactions
Serious Reactions
• suicidal ideation
• depression exacerbation
• behavioral disturbance
• hallucinations
• complex sleep-related behavior
• anaphylaxis/anaphylactoid rxn
• hepatic tumors (animal studies)
Common Reactions
• headache
• somnolence
• fatigue
• dizziness
• nausea
• insomnia
• URI
• diarrhea
• arthralgia/myalgia
• depression
• taste changes

Cognitive and Behavioral Therapy

- Uses psychological and behavioral methods such as relaxation techniques, sleep restriction, stimulus control,and education about sleep hygiene (eg, diet, exercise, and the bedroom environment).
- Highly effective in treating insomnia, no adverse side effects, long-lasting benefits
- This seminar focuses on CBT techniques

Tips for Getting a Good Night's Sleep*

- Keep a regular bedtime throughout the week
- Arise at a regular bedtime
- Avoid long daytime naps over 20 minutes (if insomnia a problem)
- Daily exercise, but nothing vigorous 1-3 hours before bedtime)
- Cut back on spicy foods at night
- Avoid heavy meals and alcohol within 3 hours of bedtime
- *UCB Wellness Letter

Tips for a Good Night's Sleep - 2

- Avoid chronic or frequent use of tranquilizers, sleeping pills, and antihistamines
- Cut out tobacco and caffeine (within 6 hours of bedtime)
- Relax for an hour before bed
- Go to bed only when sleepy
- Do not use your bed or bedroom for anything but sleep (or intimacy) and "non-stimulating" reading
- Reduce or eliminate EMF in bedroom

Tips - 3

- Backrub, gentle massage
- Use a gentle alarm (or Fitbit or smart watch) to awaken at the same time every morning (if unable to awaken naturally)
- Do not nap; only nap for 20 minutes if necessary
- Avoid caffeine after noon

Additional Tips - 4

- Toilet before going to bed
- If you do not fall asleep within about 20-30 minutes at the beginning of the night or after an awakening, exit the bedroom
- If you do not fall asleep within 20-30 minutes on returning to bed, return to # 2

Canadian Family Physician January, 2018

Tips - 5

- Guided imagery/visualization
- Reading before bed helps better sleep; reading doesn't stimulate the brain like TV; reduces stress levels by 68% (vs 61% listening go music and 43% taking a walk); only takes 6 minutes of reading to significantly relax
- Medical marijuana – CBD/THC combination

Sleep and Our Senses

- Touch: cool room around 65 degrees is best
- Sight: keep bedroom dark, keep electronics out of bedroom or at least off; awaken when the sun comes up; de-clutter; pick colors, artwork, blankets that are soothing to you
- Hearing: noises awaken us during light sleep (stages 1 and 2); white noise is a constant ambient sound that can mask activity from inside and outside the house; no TV

Sleep and Our Senses - 2

- Smell: lavender decreases heart rate and BP and relaxes; encourages deep sleep and more vigorous feeling in AM; reduce allergens in your bedroom – vacuum, room air filtration, fresh sheets
- Taste: tryptophan can make you drowsy (turkey, eggs, chicken, fish nuts); experiment with light snack of carbs before bedtime increase tryptophan to brain but stay away from acidic, spicy, fatty, and fried foods that may upset your stomach

Ayurveda for a Good Night's Sleep

- Cool foot bath
- Early supper
- Reducing alcohol consumption
- Adding weight
- Self-massage

- Larissa Hall Carlson, Kripalu School of Ayurveda

References

- Healing Night – Rubin Naiman
- Fitbit Charge2
- National Sleep Foundation
- Something to Sleep On – Stuart Moody
- Sleep Techniques from Yoga – Stuart Moody
- Dali Lama On Dreams
- Why We Sleep – Matt Walker

Dying, Death, and "Awakening" – Transpersonal Perspectives

- Breathing begins and permanent sleep ends our lives with cessation of breathing
- Preparing for dying and death can be an essential chapter or thread in our lives
- Dreaming and spiritual intention may impact upon our "transition" from physical to "spiritual" form, especially at the moment of death
- "Awakening" – a belief envisioning the transcendence and energy of one's soul re-appearing

Future Seminars

Resilience and Dynamic Aging

- May 5, 2018
- Improving our structure, balance, and functionality
- Attachment and Non-Attachment
- Improving our emotional health
- Minimalism
- What we really matters most as we age

Questions to Ponder

- Why do we sleep? – Answered
- Why do we die?
- How can we prepare for death?
- What happens when we die?
- What happens after we die?

Importance of Life Review

- Ongoing throughout life
- Being comfortable with one's sense of meaning and purposeful being
- Desire to pass on values and information, as in an ethical will
- Assessing whether such tasks and goals attained or will be attained prior to dying or comfort with non-attachment to meaning, purpose, tasks, goals