Science Daily describes a circadian rhythm as a 24-hour cycle of living beings including plants, animals, fungi, bacteria, animals and humans. The rhythm involves brain waves, hormones and cell regeneration which are important in determining sleep and feeding patterns.

The NIH clarifies that circadian rhythms (CRs) and biological clocks are distinctly different. Our biological clocks drive circadian rhythms.

CRs influence sleep cycles, hormone release, body temperature and mood. They control the production of melatonin which makes you sleepy. This production is located behind the optic nerves which is why light plays such an important role in regulating sleep cycles.

Chronic sleep deprivation can increase our risk of hypertension, inflammation, heart disease, diabetes, obesity, cancer and depression. It can increase our stress and reduce our life expectancy, not to mention quality of life.

Sleep is a state of altered consciousness where senses and voluntary muscle activity are inhibited leaving us less able to react to stimuli. During this state, the body conducts assessments of the immune, nervous, skeletal and muscular systems, making repairs and growing new tissue. Some scientists hypothesize that sleep gives our brains time to reorganize synaptic connections and protect them from overload. A University of Rochester study published October 2013, suggests the brain cleans out toxins like beta-amyloid protein, the clumps that form plaque in Alzheimer’s patients. Some research also supports that sleep helps to cement memories and things we’ve learned throughout the day.

And then there’s the dreaming. Sigmund Freud theorized that dreams were representations of unconscious desires and repressed wishes. Other theories suggest dreaming could be a form of psychotherapy, linking thoughts and emotions and acting out in a safe environment. The Contemporary Theory of Dreaming suggests that dreams allow us to integrate memories into the brain that will help us adapt and cope with trauma or stressful events.

So sleep doesn’t just feel good. It’s actually a major player in the care and maintenance of a healthy mind and body and deserves our full attention.

Everyone at some point has had a sleepless night, and experienced the sluggish day that follows. A good night’s sleep restores our alertness and our energy. But there’s more to restorative sleep than just feeling awake. Sleep affects memory, attention and our ability to perform on tests. It can help us be more creative, avoid accidents and even sharpen athleticism. Even more importantly, sleep can have a major impact on our health.

The Power of Sleep

Finish each day before you begin the next, and interpose a solid wall of sleep between the two.

~Ralph Waldo Emerson
My Favorite Dream

My favorite dreams are the ones when I dream I’m flying, which apparently is not so uncommon. I’ve flown over oceans, skimming the water with my fingers, and I’ve flown vertically feeling the leaves of redwoods against my arms. I’m never in a plane or a space ship, but free, with only the power of my mind to get me airborne. I never wonder, “Gee, how am I able to do this?” It’s just a very natural thing as if I’ve always had the capability. What’s really strange to me is that I don’t recall most of my dreams for long. They are gone within a few minutes. But the dreams of flying linger with me and I can still feel the freedom and joy today as much as the night I had them.

Some sources say to dream of flying represents a desire to travel. Yeah, I can relate to that. They also suggest that 90% of flying dreams are “lucid” meaning you are fully aware and manipulating your dream experience. Flying low like over the water represents strength and determination. Flying in the tree tops suggests a new spiritual level.

Flying dreams are powerful experiences yet baffling at the same time. Some dream interpretation texts say flying is an escape from the pressures of the world. I prefer the interpretation that says flying dreamers are invincible and nothing will prevent them from achieving their goals.

There’s actually a website that claims to help you design a flying dream state. www.wikihow.com/Fly-in-Your-Dreams. If you do get a chance to try it, I highly recommend flying. It’s a dream you probably will never forget.

Editor’s Bites

Factors that increase your risk for insomnia

- Elderly age
- Being female
- Stressful or traumatic event
- Night or swing shift work
- Travel across time zones
- Substance abuse
- Asthma and bronchodilators
- Excessive computer work
- Depression
- Sedentary lifestyle

Also called sleeplessness, this sleep disorder is typified by the inability to fall asleep or to stay asleep, and it affects at least 1/3 of the adult population worldwide.

Because sleep is so vital to productive living, insomnia is accompanied by functional impairment during the waking hours. It is most common in women and the elderly, and is associated with memory problems, depression, irritability, heart disease, diabetes, cancer and auto accidents.

Sleep can be disrupted by restless leg syndrome, excessive release of cortisol, PMS, pregnancy or polyuria (excessive nighttime urination). Pain, jet lag, heartburn or constipation, shift work and dementia can also contribute to sleep disorders. Sleep disruptions of 3 or more nights per week lasting at least 3 months are criteria for an insomnia diagnosis, given they are not related to substance abuse or effects of other medications.

The National Sleep Foundation estimates 58% of US adults experience insomnia, nearly half related to psychiatric disorders. Whether this is a cause or an effect is unknown, since insomnia is a risk factor in the development of psychiatric disorders.

What can be done? Besides seeking medical help, you may want to try some alternative therapies. Visualization and meditation may help with mild cases of insomnia. Dr Andrew Weil suggests Mantram. This is the practice of repeating one syllable or word over and over in the mind.

The scent of lavender is associated with relaxation and can be sprayed on pillows or used in the evening bath. Other aromatherapy scents which may be helpful are chamomile and ylang ylang.

If you are living in an area that gets less sunlight in winter, you may consider purchasing a full-spectrum light that mimics outdoor sunlight. The Sleep Foundation recommends using the light for 30 minutes first thing in the morning. Just spending more time outdoors, particularly in the morning, can help reset your sleep clock so plan for a daily morning walk or outdoor yoga.
Walnuts are a source of tryptophan that makes serotonin and melatonin. Melatonin is a hormone that helps us sleep. Other sources of tryptophan include dairy, nuts, seeds, bananas, honey, eggs and hummus made from chickpeas.

Almonds have magnesium, which helps you stay asleep.

Dinner salad with dark greens contains lactucarium, which has sedative properties. Plus kale and spinach are loaded with calcium which helps the brain use tryptophan.

Tuna, garlic and pistachios are high in vitamin B6 which helps in the conversion of tryptophan to serotonin and melatonin.

Reduce caffeine, eliminate 6 hours before bedtime, and be careful of medications that contain caffeine like pain relievers, diuretics, cold medicines and weight-loss pills.

Tart cherry juice boosts melatonin.

Carbohydrate-rich foods increase tryptophan but minimize protein foods since they’re harder to digest. Try bowl of cereal and milk a few hours before bed.

Chamomile & passion fruit teas increase glycine that relaxes nerves and muscles.

Skip the alcohol. Although it may feel like it helps you fall asleep, it actually acts as a stimulant later in the evening and will reduce the restfulness of your sleep.

Put honey in your caffeine-free tea which allows tryptophan to enter the brain more easily.

High fat foods disrupt sleep cycles and a heavy meal activates digestion.

Hydrate throughout the day, not right before bed or you’ll be up several times to urinate.

Nicotine may seem relaxing before bed, but it is a really a stimulant. Plus it can cause night coughing.

Be careful of sleep supplements since they may interact with prescription medicines. Because supplements are not FDA regulated, their ingredients may not be consistent between manufacturers. Many herbal supplements are not sufficiently studied and may not work the same for everyone. On the other hand, some of these may work very nicely for you to get your sleep cycle restored. Just use caution.

- Melatonin a natural hormone that regulates the sleep-wake cycle. Since this is a hormone and not an herb, see your doctor for use and dosage
- Valerian root has been used as a sedative and anti-anxiety treatment for more than 2000 years
- The kava plant is a member of the pepper family and should be used for short term only
- Passionflower has been used for sleep, seizures, hysteria, asthma, menopause, fibromyalgia and pain relief. Discovered in Peru, it promotes calmness
- L-tryptophan is an amino acid which gets converted to serotonin. NIH studies show 1 gm or more helps those with mild insomnia and sleep apnea, but with mixed results in severe cases
- Coenzyme Q10, Siberian ginseng, Ashwaganda and Cordyceps along with magnesium and calcium are recommended sleep aids by Andrew Weil, medical doctor and naturopath

5 Most common dreams:
- Falling
- Being chased
- Teeth falling out
- Being back at school
- Spouse cheating

5 hours of sleep per night or less increases the risk of diabetes by 50%
How to Sleep Better

- Exercise in the am or early pm but not in the evening
- Expose your eyes to bright light in am, and avoid bright lights in pm
- Refrain from using electronic devices (including TV) at least 1 hour before bedtime, and dim your room lighting
- Have a tryptophan-rich snack before bed (see pg 3)
- Support a comfortable position of the body by maintaining the natural curve of the lower back, mid back and neck
- Sleeping on your side is healthiest sleep position but sleeping on your back increases the likelihood of sleep apnea
- Don’t eat within 4 hours of bedtime, especially high fat or high protein meals

Sleep & Weight Management

There is growing evidence to support the link between how many hours we sleep and body weight. The Nurses Health Study followed 60,000 women for 16 years and noted that those who slept 5 hours or less per night increased their risk of being obese by 15% compared to those who slept 7 hours per night.

There are several hypotheses for this data. Possibly those who sleep less are too tired to exercise. Or those who sleep less may consume more calories to compensate for being tired, or stay up longer hours, giving them more hours to consume calories. But an intriguing reason may be that levels of ghrelin, the hormone which stimulates appetite is increased in those with 5 hours or less sleep per night, and levels of leptin, the hormone that decreases appetite are decreased. To make matters worse, sleep deprivation increases your cravings for fatty foods and snacks.

Researchers at UC Berkely used functional magnetic resonance imaging to observe changes in the frontal lobe, which governs decision-making, and the reward centers of the brain in response to foods. They found that the less sleep you have, the less responsive the frontal lobe is to making choices. Add in the powerful rewards associated with high fat, sugar and salt foods, and you’ve got a recipe for disaster. Senior author of the research study, Matthew Walker, stated that our ability to make healthy food choices is “blunted by lack of sleep.”

In addition, your metabolism is slowed when you are sleep deprived. Your body temperature drops and your ability to digest foods slows. Combine all these reasons, and you’ve got an increased likelihood for weight gain and all the disease states that accompany obesity if you’re not sleeping.

The Best Cure for Insomnia is to Get a Lot of Sleep

According to The Sleep Foundation www.sleepfoundation.org
the need for sleep is individualized and varies across populations.
In general, these are the accepted guidelines:

- Newborn babies: 10.5-18 hours
- Infants: 14-15 hours
- Toddlers: 12-14 hours
- School aged: 10-11 hours
- Teens: 8.5-9.5 hours
- Adults: 7-9 hours
What is Sleep Apnea

Also called Obstructive Sleep Apnea, this is when the breathing airway is blocked during sleep, restricting airflow to the lungs. The person stops breathing during sleep for 10-30 seconds, then takes a deep snort or snore, often waking him/her up briefly.

This may be caused by a short lower jaw, collapsing palate, large tongue or tonsils, or most commonly, a large neck size (17” in men or 16” in women). Sleep apnea is common with obesity which can be a both a cause and a complication of sleep deprivation.

Sleep apnea is associated with high blood pressure, arrhythmia, stroke and heart failure. One in 5 adults suffer from sleep apnea.

Treatment for sleep apnea usually includes a sleep study followed by use of a CPAP device, which consists of a nasal mask connected to a machine that keeps pressure on air passages so they don’t close down.

Many apnea patients respond well to the CPAP machine, reversing blood pressure quickly and getting more restorative sleep.

Famous Insomniacs

Bill Clinton
Tallulah Bankhead
Napoleon Bonaparte
Sandra Bullock
George Clooney
Simon Cowell
Charles Dickens
Marlene Dietrich
Thomas Edison
W C Fields
Ben Franklin
Lady Gaga
Judy Garland
Cary Grant
Jimé Hendrix
Adrianna Huffington
Michael Jackson
Heath Ledger
Abraham Lincoln
Madonna
Groucho Marx
Marilyn Monroe
Marcel Proust
Theodore Roosevelt
Anna Nicole Smith
Margaret Thatcher
Mark Twain
Vincent Van Gogh

Symptoms of Sleep apnea

Loud snoring, snorting during sleep
Waking up feeling tired
Irritability, edginess
Inability to tolerate stress
Falling asleep within 5 minutes of lying down
Problems with concentration and memory
Behavioral, learning or social problems
Frequent infections
Blurred vision, eyes “playing tricks”
Vague discomfort
Alterations in appetite
Activity intolerance
Slurred speech and stuttering
Low libido
Unexplained depression
Weight gain

See your doctor if you suspect you have sleep apnea since it can lead to heart disease and stroke.

Parasomnia

is when a person is caught between sleeping and waking. Sufferers may experience sleep-walking, night terrors, sleep eating, sexual relations, talking or even arguing while asleep.

Coming In May

Conquering Cancer

Source: easynight.org

Source: remmedical.com

• 50% of people over age 64 suffer from some form of sleep disorder
• People can take cat naps with their eyes open and not be aware of it
• We are paralyzed during rapid eye movement sleep
• 12% of people dream only in black and white
• Shift workers are 2-5 times more likely to fall asleep on the job
• 50% of dream content is forgotten within 5 minutes, 90% forgotten after 10 minutes
• A 2 hour sleep-loss can impair performance as much as a 0.5 blood-alcohol level
• The average dream lasts 10-15 minutes
• A new baby deprives parents of 400-750 hours of sleep the first year
• A bright light shone on the backs of human knees can reset the brain’s sleep-wake clock
• 1 in 5 vehicle accidents is related to drowsiness and sleeping at the wheel
• 30-40% of menopausal women experience insomnia
• It should take between 10-15 minutes to fall asleep
• 10% of those who snore have sleep apnea
• Women may need one more hour of sleep more than men
  • You burn more calories sleeping than you do watching television
  • A cat sleeps 12 hours/day, a dog 10.5
LEAP is a collaboration with OSU Extension FCH, Southern Coos Hospital and the Bandon SDA Church to provide education in healthy eating for disease prevention. This program is a follow-up to the CHIP offered last season but with more cooking and food demos. The program will run April 21 through May 19 and includes 2-3 nights per week of instruction and cooking. Also included will be a pre/post blood screen and recipes. Attend the free information session either Wed, April 2nd or Mon, April 7th from 6:00 to 7:00 pm held at Southern Coos Hospital conference room. For registration information, contact Allyson at 541-551-1192 or e-mail: BandonLEAP@gmail.com

OSU Extension FCH and Bay Area Hospital are presenting a 2 hour workshop on inflammation and disease. Discover how inflammation affects our health and many strategies to put out the fire. Join us Thursday, April 22 from 6 to 8 pm at the Community Health Education Center (CHEC) on Sherman Ave in Coos Bay. Class is free but registration is required so call 541-269-8076 to reserve your seat.

The amount of sleep required by the average person is five minutes more.

~Wilson Mizener

“I toss and turn all night and you won’t count that as an eight-hour aerobic workout??”

~Leonardo da Vinci

This publication will be made available in accessible formats upon request. Please call 541-572-5263 ext 291 for more information.