KNOW THOU BIOLOGICAL CLOCK NEWSLETTER - Volume 2, Issue 9

(*Saur Agrahayan* 1941 / November – December 2019)

Circadian clocks in the ovary govern fertility and reproduction

Our circadian rhythm helps to set our daily cycles, determining when we wake and sleep. However, recent studies suggest that our circadian rhythm and other internal clocks are more important to whole-body health than previously known. The circadian rhythm has an effect on digestion, our immune systems and even cardiovascular health. According to new research on how circadian clocks in the ovary function, internal clocks may also affect fertility and reproduction.

Monthly rhythm of reproductive cycle in females is extremely important as we all know. However, new research suggests that daily, or circadian, rhythms also are important in helping to support female health and fertility. Several new studies have shed light on this topic, suggesting that circadian clocks in the ovary may be more important to fertility and reproduction than previously known. The exact relationship between circadian rhythm and fertility has yet to be determined, but it is clear that these two systems interact with each other.

Although circadian clocks appear to be important in female fertility, this does not mean that they play a similar role in male reproduction. On the contrary, male reproductive organs do not seem to have as strong of a connection to timing and internal clocks. Although men can experience a variety of negative effects when their circadian rhythm is off time, there is no evidence to suggest that their fertility takes a hit.

https://www.chronobiology.com/circadian-clocks-in-the-ovary-govern-fertility-and-reproduction/

KNOW THOU BIOLOGICAL CLOCK NEWSLETTER - Volume 2, Issue 8

(*Saur Kartik* 1941 / October – November 2019)

Too much or too little sleep linked to stiffer arteries

People who sleep too much or too little may be more likely to have early signs of heart disease, according to a study of more than 47,000 apparently healthy young and middle-aged adults.

The study volunteers filled out sleep questionnaires and underwent tests to assess the arteries in their hearts and legs. Researchers found that people who slept for nine or more hours per night had more calcium buildup in their heart artery walls and stiffer leg arteries than those who slept seven hours per night.

These early signs of heart disease were also more prevalent in people who logged five or fewer hours of sleep per night and in people who reported poor sleep quality.

The authors, whose study was published online September 10 by *Arteriosclerosis, Thrombosis, and Vascular Biology*, note that many studies have linked insufficient sleep to high blood pressure and other factors that boost heart disease risk. It's less clear how excess sleep might contribute to early heart disease.

One possibility is that people who sleep longer than normal might have fragmented, poor-quality sleep, which may boost levels of inflammation, a known risk factor for heart disease.

Sleep is essential for a healthy heart. People who don't get enough sleep are at higher risk for cardiovascular disease and coronary heart disease — regardless of age, weight, smoking and exercise habits. Over time, this can lead to higher blood pressure during the day and a greater chance of cardiovascular problems.

https://www.alaskasleep.com/blog/too-much-or-too-little-sleep-linked-to-stiffer-arteries

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KNOW THOU BIOLOGICAL CLOCK NEWSLETTER - Volume 2, Issue 7

(*Saur Ashwin* 1941 / September – October 2019)

Is Artificial Daytime Light Making You Sleepy?

There was a time when most humans spent their days in the sun. In modern times, however, most of us work indoors under artificial lighting. How is this affecting our health and energy levels? A new study looks closely at how natural daytime light of different wavelengths affects us differently from indoor light.

Humans evolved to have circadian rhythms that mirror the rhythms of the sun. The presence (or absence) of sunlight tells our brains when it is time to wake and sleep as well as serving as a cue for a variety of other biological processes.

When our eyes are exposed to light, several different processes occur. First, our pupils change size, either dilating (getting larger) or constricting (getting smaller) to allow in just the right amount of light for good vision. Second, our retinas send messages to specialized areas of our brains that we are in light, and thus should remain awake. Our brains release hormones associated with wakefulness and suppress the release of melatonin to help us to feel as alert as possible.

Although this is the way we evolved, our lives have changed immensely in the past few hundred years. Most of us no longer are exposed to bright natural light throughout the day. Instead, we spend our days indoors, with artificial lighting such as lamps and fluorescent lights. How is this affecting our lives? Researchers set out to find the answer to this question.

Modern people have traded natural sunlight for fluorescent lamps and other artificial lighting. Does this affect us on a physiological level? Do our bodies react the same way to artificial light as they do to natural sunlight?

In order to find out, researchers took a group of volunteers and had them make several visits to a special lab. They were exposed to a variety of different light wavelengths for three hours at a time. All participants spent a block of time in very dim light, followed by time spent in light of varying wavelengths. Some of these lights were designed to perfectly mimic natural outdoor light while others were more similar to indoor lights. Their pupillary responses, or how our pupils dilate and constrict in response to light,

were measured. In addition, the test subjects had to report how sleepy or alert they felt throughout the different light exposures.

It was found that test subjects had a greater pupillary response to light that mimicked natural outdoor light. In addition, they reported feeling far less sleepy than they did in the dim and artificial lights. This raises a lot of questions about how we are all affected by exposure throughout the day to artificial rather than natural light. Are we all spending much of our days sleepier than we would be with a simple change in lighting? The research suggests that we all could benefit from a little more sunshine.

Although most of us would love to spend more time outside, obligations such as work and school often keep us indoors. How can artificial lighting be adjusted to have the right effects on our bodies? Several studies have been performed to answer this question.

One study looked at whether white light (the usual color of indoor light) could improve alertness when people were exposed to more intense and bright light. The researchers found that the brightness of white light actually does not make a difference. However, switching to a cooler white light rather than the more common warm-tinted white lights may improve alertness and performance.

Blue light, the wavelength emitted by most computers and devices, has been found in several studies to increase both alertness and performance. However, this wavelength of light also can interfere with sleep, which may decrease alertness in the long run. This is the reason that most sleep experts recommend turning off smartphones and other devices for several hours before bedtime.

Red wavelengths of light similarly have been found to improve wakefulness and performance. However, we still do not know how these lights can affect health and the circadian rhythm over a longer time period. People using these lights to feel more awake should do so with caution.

If you want the full effects of natural light, getting more sunlight appears to be the answer. Even short amounts of time spent outdoors can stimulate your brain to wake up and be more productive. In addition, people who feel sleepy when indoors can try to sit next to a window or otherwise get more sunlight exposure throughout their days. There are also lamps created to mimic natural sunlight. These appear to have effects that are similar to the real thing.

Many of us are forced to spend much of our days sitting at a desk indoors. Despite this, getting a little sunlight throughout the day will help us to maintain good health and to feel our best.

https://www.chronobiology.com/is-artificial-daytime-light-making-you-sleepy/

KNOW THOU BIOLOGICAL CLOCK NEWSLETTER - Volume 2, Issue 6
(*Saur Bhadrapad* 1941 / August – September 2019)

Skipping a few meals with intermittent fasting may help people avoid cancer, diabetes, and heart disease

- Intermittent fasting has many forms, but usually involves letting the gut rest without food for at least several hours a day.
- People around the world have known intuitively for centuries that some sporadic intermittent fasting is good for the body.
- Scientists now have some of the first laboratory evidence about why fasting can be beneficial: it temporarily shuts off the monocyte cells in our bodies that cause inflammation.
- Dr. Miriam Merad, lead author of a new fasting study, said two meals a day may be ideal for human health.

Dr. Miriam Merad, director of the Precision Immunology Institute at Mount Sinai School of Medicine, said the typical modern diet of constant eating is making our immune system cells work overtime, and it's not good for long term health. Her team's small study (in both people and mice) out in the journal Cell today provides some of the first essential clues about why letting our guts spend many hours of the day without food can do a body good.

The reason why fasting is good for us has to do with a type of immune cell called a monocyte, which our bodies typically release to fight off infections and wounds. Monocytes are inflammatory, and the white blood cells can cluster to heal the body when we're injured. But any time we eat food, monocytes are also standing guard in case we ingest any threatening microorganisms. This is especially true when we eat (and drink) sugar. Monocytes also accumulate in fat tissue, contributing to chronic disease.

Merad's new study provides some of the first evidence that intermittent fasting can help calm these inflammatory cells, making them less active. By taking blood samples from 12 healthy adults who were asked to fast for 19 hours in a day (and performing similar experiments with similar results on mice, too), Merad's team of scientists discovered that the subjects' circulating monocyte levels were astonishingly low while fasting. "That scared us, because we thought maybe when you diet like this, if you have an infection, this monocyte won't be able to react to it," Merad said. This turned out not to be the case.

Her hunch is that by being well-fed every day, we are creating a perfect storm of inflammatory monocytes running on overdrive in the body, setting people up for chronic diseases like diabetes, heart disease, and liver issues, especially if we run on lots of sugar. When we fast, though, we deprive our bodies of glycogen, a simple energy source that often comes from carbohydrates like sugar.

https://www.insider.com/how-intermittent-fasting-prevents-cancer-diabetes-2019-8

KNOW THOU BIOLOGICAL CLOCK NEWSLETTER - Volume 2, Issue 5
(*Saur Shravan* 1941 / July – August 2019)

Could Light Therapy Reduce the Toxins That Cause Alzheimer's Disease?

Alzheimer's disease and similar forms of dementia are among the most-feared diseases of aging. Research suggests that these conditions are caused by plaques and other build-ups of toxins in the neurons of our brains. New studies on how light therapy protects the brain found that light therapy — and even sound therapy — may help to reduce the plaques and toxin build-up that can lead to memory loss, cognitive decline and other symptoms associated with dementia.

Although Alzheimer's disease is most commonly seen in old age, it is not a normal part of the aging process. While it is normal to suffer slow and mild cognitive decline, neurodegenerative diseases like Alzheimer's present much more rapid and serious symptoms.

The direct cause of Alzheimer's disease is known, yet finding a cure is more complicated. The toxins involved in Alzheimer's disease do not come from our environment, but rather from our brain cells themselves. They are metabolic wastes that most people are able to clear from their bodies. For various reasons, some do not appear to get rid of these metabolic wastes as

efficiently, leading to the development of the disease. However, new breakthroughs may offer new avenues for preventing and treating this and other causes of dementia.

Our neurons communicate in oscillating electrical activity; waves of electrical impulse that are sent throughout the brain and our nerves. In a clinical study, researchers decided to see if exposing mice with Alzheimer's disease to flickering light could stimulate their neurons to work more effectively.

Light therapy has been shown to have other benefits for people suffering from Alzheimer's disease and other forms of dementia. Bright light therapy during the day has been shown to reduce restlessness and other unpleasant psychological symptoms in elderly people who have dementia. Light therapy also has been shown to be effective in treating many of the sleep disturbances that are common in people with Alzheimer's disease.

There is still a great deal that we do not understand about how light affects the human body and brain. Although we may not yet be able to effectively use light to prevent and treat Alzheimer's disease, it remains a promising treatment for the future. Getting the right amount of light at the right time appears to be an important way to maintain good health and prevent disease.

https://www.chronobiology.com/light-therapy-protects-the-brain-against-toxic-buildup-that-leads-to-alzheimers/

KNOW THOU BIOLOGICAL CLOCK NEWSLETTER - Volume 2, Issue 4
(*Saur Ashadha* 1941 / June – July 2019)

What is Periodic Limb Movement Disorder?

Periodic limb movement disorder is a sleep disorder in which a person experiences periodic, involuntary movement of their legs (and sometimes other limbs) during their sleep. These movements are often described as twitches, spasms, jerks, or flexing of the legs and feet muscles.

The movements last for approximately 1-5 seconds at a time and recur every 5-90 seconds. These movements often cluster together at periodic intervals throughout the first part of non-REM sleep and can last anywhere from a few minutes to a few hours. Severity of symptoms can also vary from night to night. PLMD does not occur during REM sleep because of muscle atonia during this phase of sleep, during which the body is paralyzed to prevent people from acting out their dreams.

Many patients suffering from PLMD experience other symptoms as well including excessive daytime sleepiness (EDS), chronic insomnia, and restless leg syndrome (RLS).

Causes of Periodic Limb Movement Disorder

Scientists are still trying to determine what exactly causes PLMD. However, while the exact causes are not known, there are many indicators that have been identified that may contribute to PLMD or exacerbate the symptoms such as Parkinson's disease, narcolepsy, sleep apnea, use of hypnotics, drug dependency, antidepressant withdrawal, iron deficiency, caffeine use, and spinal cord injury. PLMD is sometimes seen as an indicator of other serious medical problems such as Parkinson's disease, kidney disease, diabetes, and anemia.

Prevalence of Periodic Limb Movement Disorder

PLMD is believed to prevalent in roughly 4-11% of adults, although it is more common in elderly women. PLMD is frequently a symptom of restless leg syndrome (RLS). Approximately 80% of patients with RLS have PLMD. However, while having RLS is a strong indication that a patient will also have PLMD, having PLMD is not a strong indicator of having RLS.

Treatment of Periodic Limb Movement Disorder

In many cases where excessive daytime sleepiness and chronic insomnia are not present, treatment is not often necessary for PLMD. Unless the patient or the bedpartner are experiencing negative symptoms of sleep loss or other medical issues due to the nocturnal movements, treatment may not be necessary.
The most common form of treatment for PLMD is prescribing the same medications as those for Parkinson's disease, anticonvulsant medications, benzodiazepines, dopaminergic drugs, and narcotics.

There is no cure for periodic limb movement disorder and treatment for the disorder must be continued to reduce symptoms. Patients with PLMD should also avoid certain substances that can exacerbate symptoms such as caffeine, alcohol, or antidepressants.

https://www.alaskasleep.com/blog/what-is-periodic-limb-movement-disorder-plmd-and-how-is-it-treated

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KNOW THOU BIOLOGICAL CLOCK NEWSLETTER - Volume 2, Issue 3
(*Saur Jyeshtha* 1941 / May – June 2019)

What is insufficient sleep syndrome?

There are more than 70 recognized sleep disorders that can plague people's nightly slumber. Many of these sleep disorders are caused by physiological problems, neurological disorders, medical problems, psychiatric troubles, environmental factors, and even disruptions to one's biological clock.

Unlike these other disorders, Insufficient sleep syndrome (commonly referred to as sleep restriction, sleep deprivation, and inadequate sleep) is a behavioral induced sleep disorder in which the sufferer simply fails to make adequate time for sufficient sleep. While insufficient sleep syndrome is a voluntary sleep disorder, it is also an unintentional one. Many of the sufferers simply fail to recognize that their symptoms of sleep deprivation are caused by their own actions, and not precipitated by other factors or other sleep disorders. People today are sleeping 25% less than our ancestors did just a century ago

Insufficient sleep is listed in the International Classification of Sleep Disorders third edition (ICSD-3) under the category of Central Disorders of Hypersomnolence.

These group of sleep disorders are characterized as "primary complaint is daytime sleepiness not caused by disturbed nocturnal sleep or misaligned circadian rhythms."

Classifications of this disorder are:

- Patient sleeps less than expected for their age for a period of 3 months or longer
- No medical, medication, mental, or other sleep disorder is causing symptoms
- Excessive daytime sleepiness
- Falling asleep during sedentary activities (reading, watching TV, driving, etc)
- Daytime cognitive troubles (concentration, attention, memory)
- General lack of energy
- Reduced alertness
- Easily distracted
- Irritability
- Muscle weakness
- Muscle pain

Once other sleep disorders are ruled out, treatment is generally very simple: patients need to make more of a conscious effort to get more sleep. Other sleep treatments include practicing sleep hygiene to maximize sleep quality.

Sleep hygiene is a set of practices and habits that help patients achieve quality sleep. It includes creating a sleep friendly environment, eating foods that promote sleep and avoiding foods and drinks that disrupt sleep, tips for relaxing before bedtime, and much more.

https://www.alaskasleep.com/blog/what-is-insufficient-sleep-syndrome-definition-symptoms-treatment

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KNOW THOU BIOLOGICAL CLOCK NEWSLETTER - Volume 2, Issue 2
(*Saur Vaishakh* 1941 / Apr – May 2019)

Napping Lowers Blood Pressure as Much as Medication

Millions of people throughout the world struggle with high blood pressure, or hypertension. Hypertension becomes more common as people grow older and their arteries grow more brittle. Although it is normal for blood pressure to rise as we age, the negative effects of hypertension are undeniable.

High blood pressure is a crucial health risk. Our veins and arteries are like pipes. Increased pressure increases the chance of leaks, which can be fatal in human anatomy. When the delicate, thin-walled vessels of our brain have a leak, the result is a stroke. In other areas of the body, this can lead to a deadly heart attack or a serious bleed.

People with high blood pressure are at higher risk of a variety of diseases, from stroke and heart attack to kidney failure, eye damage and sexual dysfunction. We depend on our cardiovascular system to deliver blood to all of our organs, so a compromise of this system can have a variety of effects on almost every system of our body.

Controlling high blood pressure is essential to maintaining good health. Most modern doctors rely on lifestyle changes and medications to keep blood pressure within a healthy range. However, simply taking a nap may have similar effects

Exactly how much can napping reduce blood pressure? Just sixty minutes of sleeping in the afternoon can lead to a decrease of about 3 mmHg. Even a short nap may have huge health effects. Although this decrease may seem small, it can have a significant effect on health risk. A decrease of just 2 mmHg can mean as much as a 10 percent decrease in the risk of heart attack and other deadly complications. People who are taking the gold standard of anti-hypertensive medications may have the same reduction in blood pressure seen in people who merely sneak a few minutes of slumber in the afternoon.

This is significant because the most common blood pressure medications have serious side effects. They can cause dehydration, severe coughs and a variety of other unwanted health effects. Napping, on the other hand, does not have negative side effects. In fact, according to a wide body of recent research, napping may actually be good for you in a variety of ways.

Albert Einstein and Thomas Edison are famous fans of the mid-afternoon sleep. This is not surprising to modern researchers. Napping has been found to make us more alert and to improve alertness.

The many evidence-based benefits include:

- increased alertness
- better memory, both long-term and short-term
- reduced risk of heart disease
- less stress, including lower levels of stress hormones
- lower weight, with a lower risk of weight gain
- increased immune response to bacteria and viruses
- improved physical performance
- better response to sensory input
- improved decision-making
- enhanced creativity

https://www.chronobiology.com/napping-lowers-blood-pressure-as-much-as-medication-says-new-study/

KNOW THOU BIOLOGICAL CLOCK NEWSLETTER - Volume 2, Issue 1
(*Saur Chaitra* 1941 / Mar – Apr 2019)

Sleep Debt: The Real National Debt

Most people at least have an inkling that the human body needs seven to nine hours of sleep every night for good health. However, in reality, a large (and growing!) number of people do not achieve this magic number. Work, errands, housekeeping, laundry and social obligations all keep us from our pillows every night, leaving us feeling depleted in the morning. Many people sleep late on weekends to make up for this sleep debt. However, a new study has found that sleeping in on the weekend may not help us to repay our sleep debt from the work week.

In a world where debts are commonly discussed, sleep debt remains largely hidden. We discuss our student loans, credit cards and even the national debt while ignoring that we

simply are not getting enough sleep to survive. Many people assume that they can sleep more on the weekends and “catch up” on much needed hours of shut-eye. After all, the weekend sleep-in and nap are almost an institution in the Western world. However, our bodies may not work quite so simply.

Researchers took a group of volunteers and divided them into three groups. One got five hours of sleep every night regardless of the day of the week. The second group got five hours a night on weekdays followed by unlimited sleep on weekends. The third and last group was allowed unlimited sleep, up to nine hours, on all days. Study participants in the first two groups gained weight, in part because of increased eating late at night. In addition, they both began to show unhealthy changes in their circadian rhythm. However, even more concerning was that these groups also showed changes in their blood work. Participants who had limited sleep exhibited increased insulin resistance and changes in their liver function.

Although the people who slept in on the weekends got more sleep on average, they appeared to suffer from the same health effects as people who got less sleep consistently. According to the author Kenneth Wright, the key take-home message from this study is that ad libitum weekend recovery or catch-up sleep does not appear to be an effective countermeasure strategy to reverse sleep-loss-induced disruptions of metabolism.

Our circadian rhythm appears to be an essential part of our metabolic health. Even if we can catch up on sleep, we cannot catch up on the positive health effects of having our internal clocks in sync.

https://www.chronobiology.com/new-research-finds-sleeping-in-on-the-weekend-wont-pay-off-sleep-debt/

KNOW THOU BIOLOGICAL CLOCK NEWSLETTER - Volume 1, Issue 6
(*Saur Falgun* 1940 / Feb – Mar 2019)

Sleep – The Best Natural Painkiller

Managing pain is one of the greatest challenges to modern medicine. Although opioids and similar narcotic pain medications were once viewed as the answer to this issue, we now know that these do not help in the long term. How can we treat pain effectively and safely? According to new research, sleep is the best painkiller of all of the options available — and the safest as well.

When opioid pain medications were introduced, they were seen as a solution to pain. They could immediately relieve all types of pain from a headache to cancer pain to chronic pain from

arthritis. However, we now know that narcotic pain medications are often not the best answer. Over long periods of time, the brain and nerves adjust, and the drugs lose their pain-relieving effects. People then need to take increasing amounts to get the same relief. At the same time, these drugs come with a variety of negative side effects.

Most modern pain relievers are addictive and lose effectiveness over a short period of time. In addition, they can have devastating side effects as well as a high risk of overdose and other unwanted events. Doctors and researchers are now searching for new ways to treat pain, particularly chronic pain. According to new research, sleep may play an important role in pain relief.

Getting enough sleep can be a challenge. However, the benefits are worth the effort. People who get more sleep not only have a lower perception of pain, but also a lower risk of cancer, heart disease, diabetes, and a variety of other devastating diseases.
In a world where addiction to painkillers is a major public health issue, researchers are looking at every possible way to reduce pain and other symptoms. According to many recent studies, simple lifestyle changes are an important part of the answer to our woes. Keeping a healthy circadian rhythm appears to be an important way of living a long and healthy life – and a good night of sleep is the first step.

https://www.chronobiology.com/sleep-the-best-natural-painkiller/

KNOW THOU BIOLOGICAL CLOCK NEWSLETTER - Volume 1, Issue 5
(*Saur Magha* 1940 / Jan – Feb 2019)

CHRONOBIOLOGY FOR PROFESSIONALS

Circadian meal – Chronoprakriti diet

There are lots of lifestyle management workshops and nutrition diet plans available in market. Urbanites want to outsource everything in their life (thank god still there are breathing themselves!) due to their lifestyle and obviously market will try to encash upon it. We want people should take responsibility of their own. Money cannot buy certain things in life.

Chronoprakriti diet plan is a guideline for what and when to eat according to your chronotype and prakriti type. This diet plan will insist on local and seasonal varieties as the body is constantly changing and getting tune to the immediately surrounding environmental conditions.

Chronotype will tell you when to eat and Prakriti type will tell you what to eat.

Chronotype will tell only in the form of carbohydrates/proteins/fats. Prakriti type will tell you type of carbohydrates/proteins/fats.

KNOW THOU BIOLOGICAL CLOCK NEWSLETTER - Volume 1, Issue 4
(*Saur Pausha* 1940 / Dec 2018-Jan 2019)

CHRONOBIOLOGY FOR PROFESSIONALS

Circadian activity

The effect of circadian rhythms on sporting performance is well documented, and there is evidence to suggest that the rhythmicity of physiological and behavioural processes is correlated with peak performance times. Most of the current research suggests that optimal athletic performance occurs in the late afternoon-early evening, coinciding with the peak of core body temperature. A higher core body temperature has been shown to facilitate actin-myosin cross bridging in skeletal muscle and thus is thought to be associated with enhanced physical performance.
Although much of the research into the physical elements of athletic performance have been shown to occur during the early evening, there has been controversy surrounding the diurnal variation of cognitive performance in sports. Accuracy has been reported to be better during the morning.
Knowledge of the potential impact that an individual's chronotype may have on both cognitive and physical performance could have significant beneficial implications within the general population. This information could also provide new insight to sectors that require individuals to achieve optimal performance such as military personnel, first responders (firefighters, police and paramedics) and professional athletes. Hence chronotype assessment need to be an integral part of professional carrier for optimal performance.

https://sportsmedicine-open.springeropen.com/articles/10.1186/s40798-018-0162-z

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KNOW THOU BIOLOGICAL CLOCK NEWSLETTER - Volume 1, Issue 3
(*Saur Agrahayan* 1940 / Nov-Dec 2018)

CHRONOBIOLOGY FOR PROFESSIONALS

Circadian Lighting

Carefully scheduled exposure to light in the workplace, school, hospital and home can reduce the physiological, cognitive and health consequences associated with disruptions in our circadian clock. Our circadian clock is important as it coordinates much of our physiology and behaviour, including when we sleep, when we eat, and when we perform best.

Here is the link for free software for you which will adjust light from the screen according to the outside environmental conditions.

https://justgetflux.com/

KNOW THOU BIOLOGICAL CLOCK NEWSLETTER - Volume 1, Issue 2
(*Saur Kartik* 1940 / Oct-Nov 2018)

CHRONOBIOLOGY FOR PROFESSIONALS

Weight management with Chronodiet

Chronobiology is all about the right thing at the right time. Subsequently, the Chronodiet is the most simply about adjusting your meals in tune with the times your body optimally absorbs and processes particular foods and supplements.

The key to the Chronodiet is consuming carbohydrates in the morning, a mixture of protein and carbohydrates for lunch and just protein for dinner. This prevents an overproduction of insulin (provided you abstain from snacks). The insulin is out of the bloodstream by nighttime, thus triggering fat burning. Fat then becomes free fatty acids that are converted into energy.

The time schedule will be:
Breakfast – five hours fasting – Lunch – five hours fasting – Dinner – 12 hours fasting

https://www.chronobiology.com/chronodiet/

KNOW THOU BIOLOGICAL CLOCK NEWSLETTER - Volume 1, Issue 1
(*Saur Ashwin* 1940 / Sept-Oct 2018)

CHRONOBIOLOGY FOR PROFESSIONALS

Taking Work Home With You Can Be Hazardous to Your Health

The modern world is more connected than ever before, which can be a blessing and a curse at the same time. People can connect with loved ones while thousands of miles apart with just the click of an app. However, this connectivity comes with a downside as well. Millions of people throughout the world now answer emails or otherwise work even when they have finished their shift. The result is that people are working more than ever, with little separation between their office and their personal space. Could this constant infringement of work on our private lives be taking a toll?

Although technology should make it easier for people to find flexible jobs that offer a healthy balance, just the opposite appears to have happened. In fact, several agencies have called on the federal government to pass legislation encouraging employers to help their employees find that middle ground. This is not merely a sociological issue, but a public health one as well. Having a good work-life balance with flexible hours is actually good for your health, while bringing work home can be physically harmful. With millions of people in the world checking work emails and taking calls even from their own bedroom, our collective health may be suffering. Bringing home work, or even bringing home work stress, leaves people at greater risk of insomnia, with both sleep quality and sleep quantity affected. Over time, insomnia can have devastating health effects. Researchers have found that not getting enough sleep can contribute to a diverse range of diseases, from heart disease to cancer. The World Health Organization has gone so far as to call shift work a carcinogen due to its impact on sleep and the circadian rhythm.

We all are either one type of shift worker whether it is due to frequent traveling across time zones (chronic jet lag), due to different weekends and weekdays schedule (social jet lag), when our body is one time zone and mind in another time zone (digital jet lag), due to daily work schedule other than normal working hours of 8 am to 5 pm (primary shift worker) or the spouses / loved ones of shift workers (secondary shift worker)

Is it possible to get the work-life balance that you need in order to enjoy optimal health? For many people, this can be a huge challenge. However, there are a few small changes that experts claim can make a difference:

- Develop rituals to separate work time and home time. Mr. X changed sweaters and shoes for a reason, to create a dividing line between work and home.
- Use technology to your advantage. Smart phones and other devices can definitely help many people to take a work-at-home day or otherwise make their schedules more flexible.
- Learn when to turn off the devices. It is okay to be unreachable during your off hours in most careers.
- Know your company policies. Many companies have policies that can help you find balance.
- Learn to say no when needed. You cannot have any kind of balance if you are constantly overloading your schedule with optional activities.

- Protect your private time. Everyone deserves breaks and small pockets of personal time to let your brain rest.

As we develop new technologies, achieving the right balance between career and home will likely become more complicated and yet more possible at the same time. It is important to take steps to keep your off-work life as personal and secluded from work as possible. This will allow you to enjoy the good physical and psychological health needed to enjoy both career and home for decades to come.

https://www.chronobiology.com/taking-work-home-with-you-can-be-hazardous-to-your-health/
