

DISCLOSURE

- ADVISORY BOARD – Boehringer Ingelheim, CHIESI, Novartis, Astra Zeneca, Pfizer
- SPEAKER for - Astra Zeneca, Boehringer-Ingelheim, CHIESI, Berlin Chemie, PFIZER, Terapia, Sandoz, Novartis, J&J, Servier, Sun WAVE, Medochemie, Antibiotice Iasi, KRKA, Zentiva, Linde, VitalAire
- CLINICAL STUDIES – CHIESI, ASTRA ZENECA, SANOFI
- NO FINANCIAL RELANTIONSHIP or other nature to tabacco industry

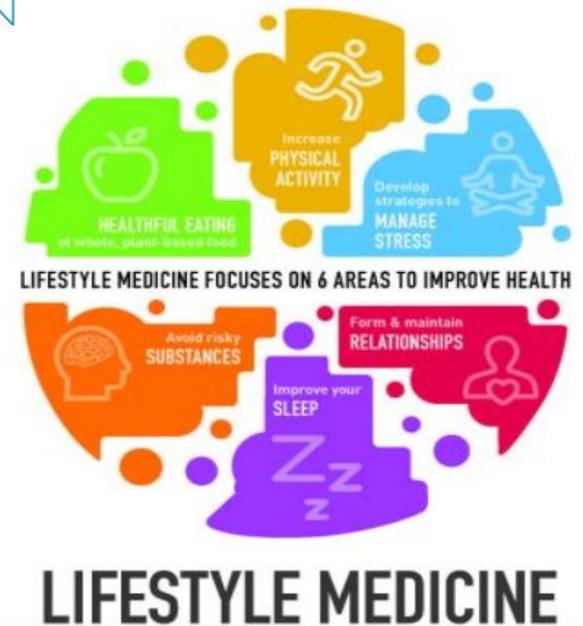
The six pillars of lifestyle medicine are

Healthy eating
Physical activity
Manage stress
Maintain relationship
Avoid risky substances
and..... **Improvement of SLEEP**



EUROPEAN LIFESTYLE
MEDICINE ORGANIZATION

Sleep is a fundamental **pillar of health**, and the quality of our sleep can impact not just **our physical energy** in the morning but **our mental and emotional health**





SLEEP...



Sleep is a **important element of human biology and a requirement for life**...is a normal physiological condition

The sleep-wake cycle is part of the essential circadian rhythm of the human body

We spend a third of our lives sleeping

Sleep allows you to restore the body's energy and functional potential, in order to resume its normal activity with the transition to the waking state.

Other examples of circadian rhythms

hormonal activity
body temperature
digestion
immune function

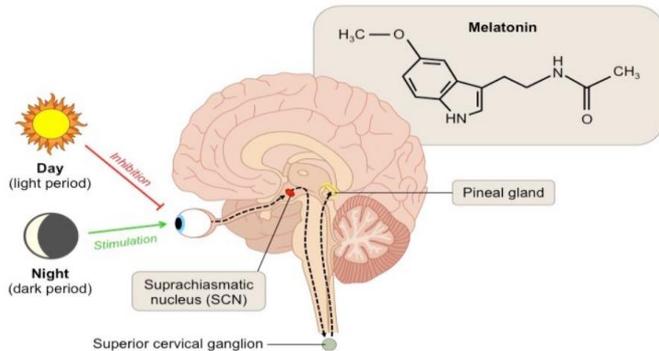
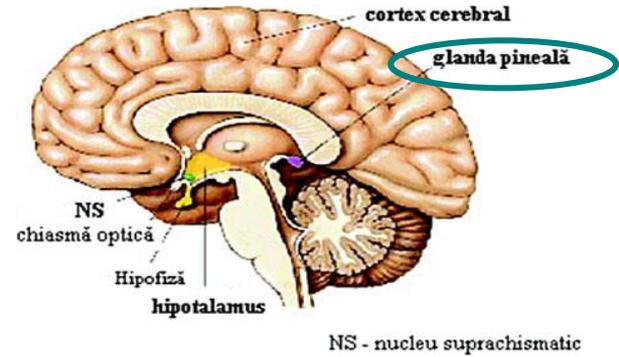
<http://www.google.ro/images?hl=ro&biw=1259&bih=559&tbs=isch%3A1&sa=1&q=ciclul+somn-veghe&aq=f&aqi=&aql=&oq=>

McKay LC, Atalla, Morrell. *Eur Respir Mon*, 2010

Melatonin Secretion by the Pineal Gland

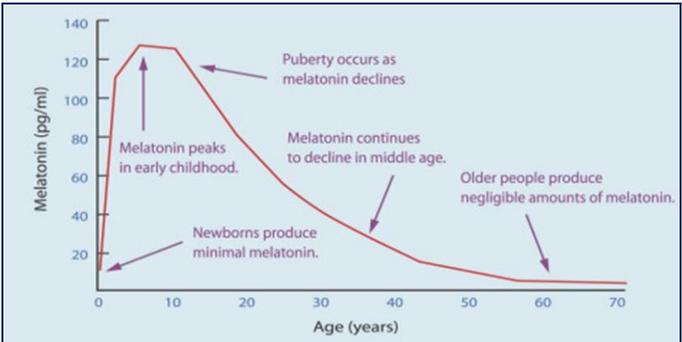
Melatonin is a hormon of "DARKNESS"
Melatonin is a "lunatic" molecule...

Melatonin is a hormone produced by the pineal gland within the brain in response to changes in light

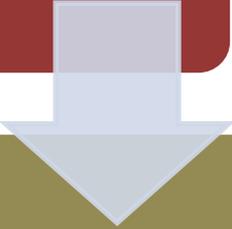


The production and release of melatonin in the brain is connected to time of day, increasing when it's dark and decreasing when it's light.

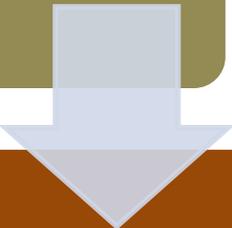
The Melatonin Level is related to the age → declining as we get older → in the olders... due the calcification of the pineal gland the melatonin release is decreased



Sleep is essential for physical and mental well-being and is one of the most important factors responsible for the maintenance of a healthy organism



Recent advancements in technology show us one of the major points... **lifelong goal → to live healthier and to have longer lives**



The improvement in global life expectancy was among the greatest achievements of the 21th century

SLEEP!!!

Both rapid eye movement (REM) and non-REM (NREM) sleep have **crucial roles** in the quality of **our lives!!!**

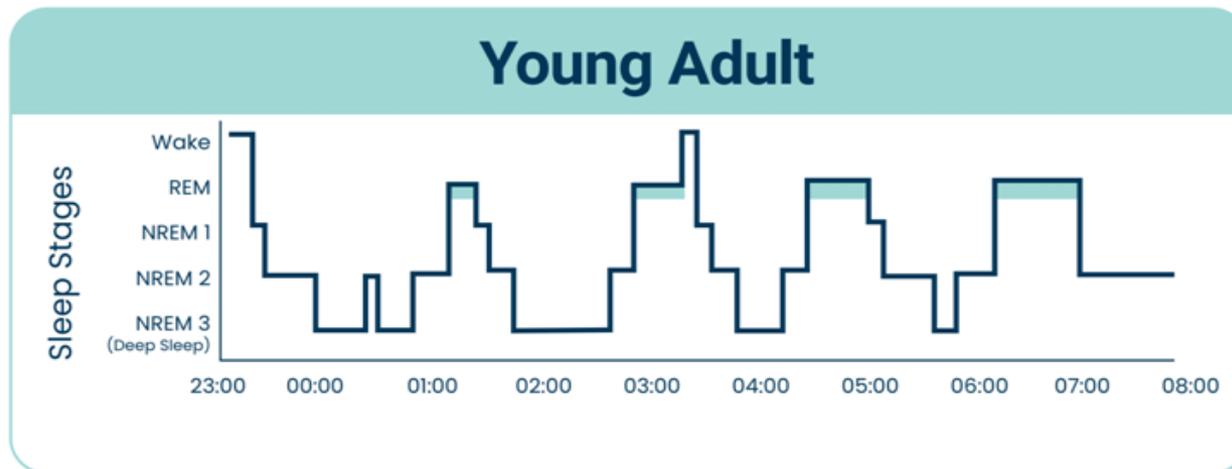
Changes in their **quantity and distribution** are associated with **physical, behavioral, metabolic and cognitive impairment** → in turn linked to increased risk of developing chronic diseases

it's important to first understand how sleep changes throughout
Can be seen on the **HYPNOGRAMME!!!**

Levy et al., 2009; Czeisler, 2011; Pack and Pien, 2011; Lal et al., 2012

Hypnogram of Young Adults

- The young adults tend to have a rhythmic and systematic amount of sleep stages during the night
- The night begins with plenty of deep sleep (NREM-3)
- followed by an increase in REM sleep/ when we are most likely to dream during the second half of the night

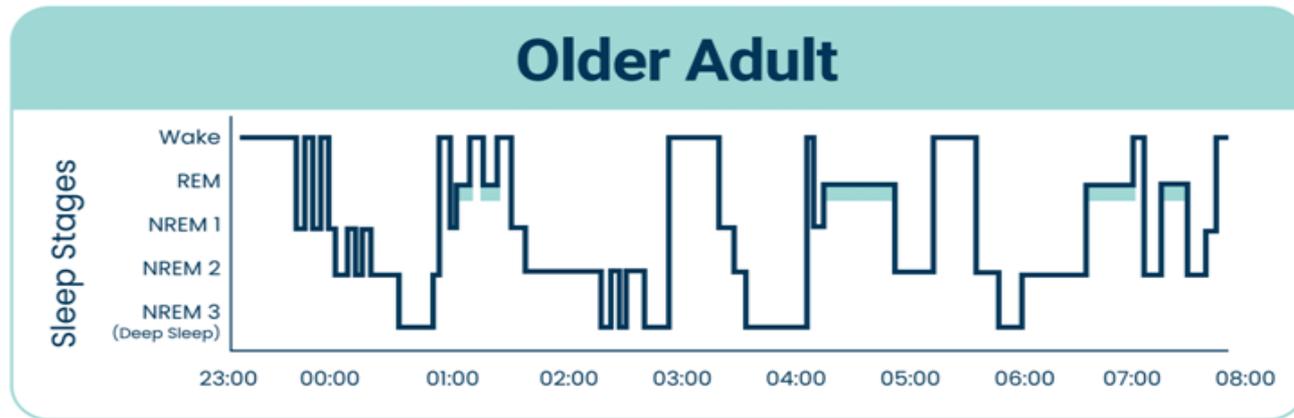


The Power of Sleep and Its Impact on Our Longevity early-late 2021

Hypnogram of older adults

In older adults **this pattern becomes disrupted** and overall sleep becomes **significantly fragmented...**

- **spent less time in deep and REM sleep** and the amount of time spent awake throughout the night increases



The factors underlying sleep disorders in the elderly are complex and a large body of evidence ...**are explained by interrelationships between changes in sleep architecture...**
... **Can increase risk for medical and psychiatric conditions and medication use**

Needs of sleep and health

The association between sleep and health is different in many parts of the world...in special in the Western European Countries ... because of the cultural diversity which involves:

- * **behavioral habits** - diet, physical activity, smoking
- * **environmental exposures** - smoking, toxins, pollution
- * **sleep-related health risks** - diabetes, heart disease, infectious disease....

*Dr. Ann E. Rogers
Content 2022*

Optimal Sleep Pattern Associated With Longevity

what are the optimal sleep characteristics of those that live long?

Study - examined the association between sleep patterns and health in families with exceptional longevity...

* centenarians → certain **genes** may be protective against the harmful effects of sleep disruption.



Japanese

researchers examined sleep patterns and lifestyle habits of **people living in Ogimi, a village of longevity.**

With “good sleep health” were more likely to take short naps, and were more likely to exercise regularly
BLUE ZONE !!!

Clearly, **sleep is a major cornerstone for health and wellness** → optimal sleep can reset and restore our body....
while insufficient sleep affects nearly every **physiological function in the body and is associated with the development and evolution of chronic disease**

Why Are People Living Longer? BLUE ZONE!!!

Reggio di Calabria in southern Italy residents of Molochio live long lives



In 2013 a small village called Molochio on Italy's southern Mediterranean coast which comprised of about 2000 people....a large proportion of people live over 100 years old.

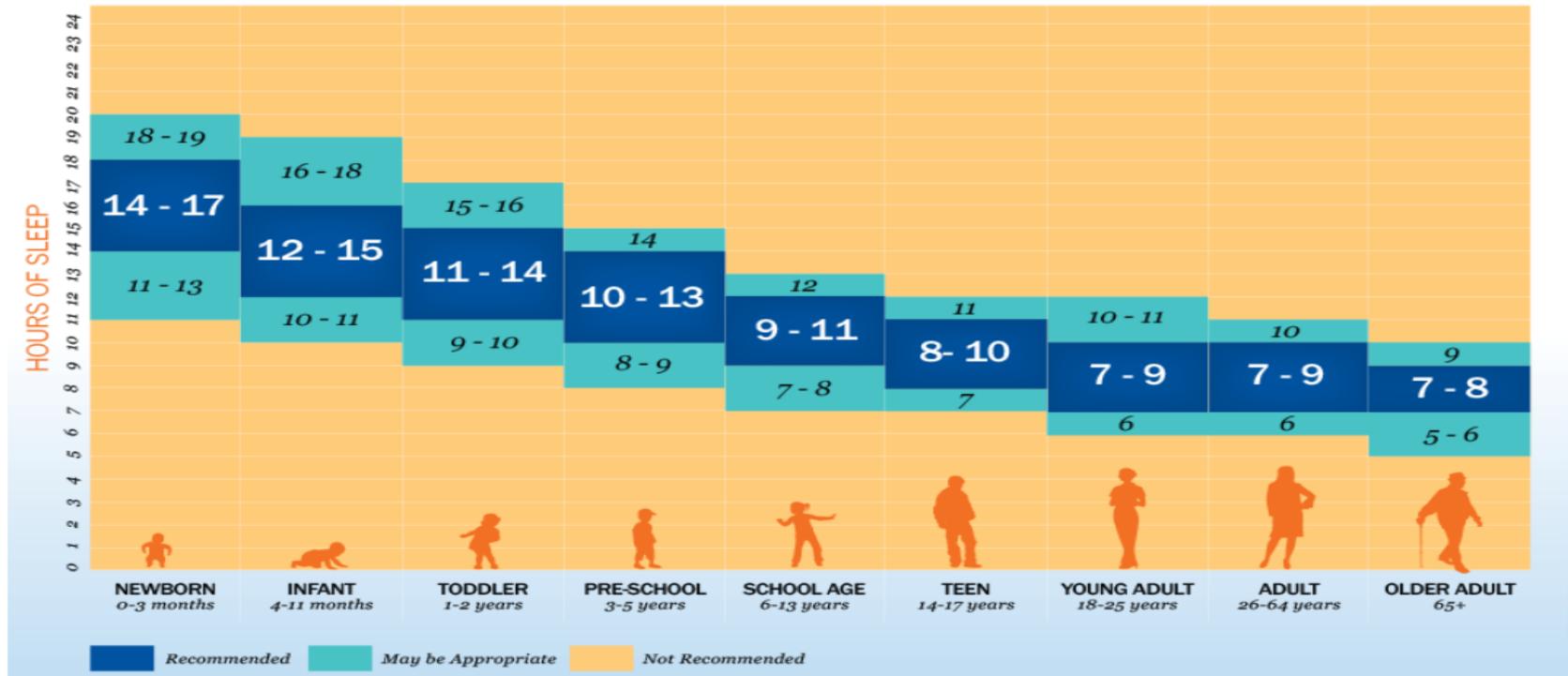
Molochio is in a "blue zone"/ a non-scientific term for an area of the world where people are **LIVING LONGER AND WITH LOWER RATES OF CHRONIC DISEASE**
Icaria Greece is one and the **Nicoya Peninsula in Costa Rica** is another

They enjoy strong red wine, late-night domino games and a relaxed pace of life that ignores clocks!!!
... People who nap regularly have up to 35 % lower chances of dying from heart disease→ It may be because napping lowers stress hormones or rests the heart



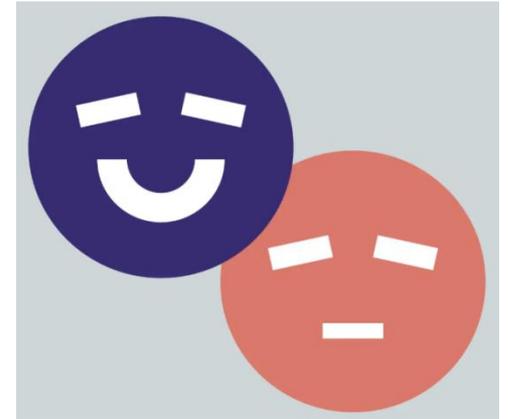
How Much Sleep Do We Really Need?

SLEEP DURATION RECOMMENDATIONS



You see how the number of hours of sleep per night is reduced...from almost 20 hours at birth....7-9 hours of sleep are enough for an adult, while for the elderly it is 6-8 hours

Sleep Health: What Is Good Sleep vs. Bad Sleep/ QUALITY OF SLEEP!



- 1. Sleep Duration.** The total amount of sleep obtained in a 24-hour period/it is recommended that adults get 7-9 hours of sleep per night.
- 2. Sleep Efficiency.** The ratio of total time spent asleep to time spent in bed. It is recommended that >85% of one's time in bed... is spent sleeping. Adequate sleep efficiency leads to deeper, higher quality sleep and improved feelings of being well-rested... to be restorative.
- 3. Number of awakenings.** More continuous sleep results in more restful sleep. Sleep periods should be seamless without fragmentation

How Long Should we Nap?

Napping during the day can make it harder to fall asleep later and may make you more prone to waking up during the night.

If you do need to nap: **30 minutes or less.**
Avoiding napping later in the afternoon.

Napping may affect the sleep pattern of older adults more than younger people
.... but the extent of this is still unclear.

Medically reviewed by [Raj Dasgupta, MD](#) Written by [Erica Hersh](#) on August 17, 2020

THE IMPORTANCE OF SLEEP

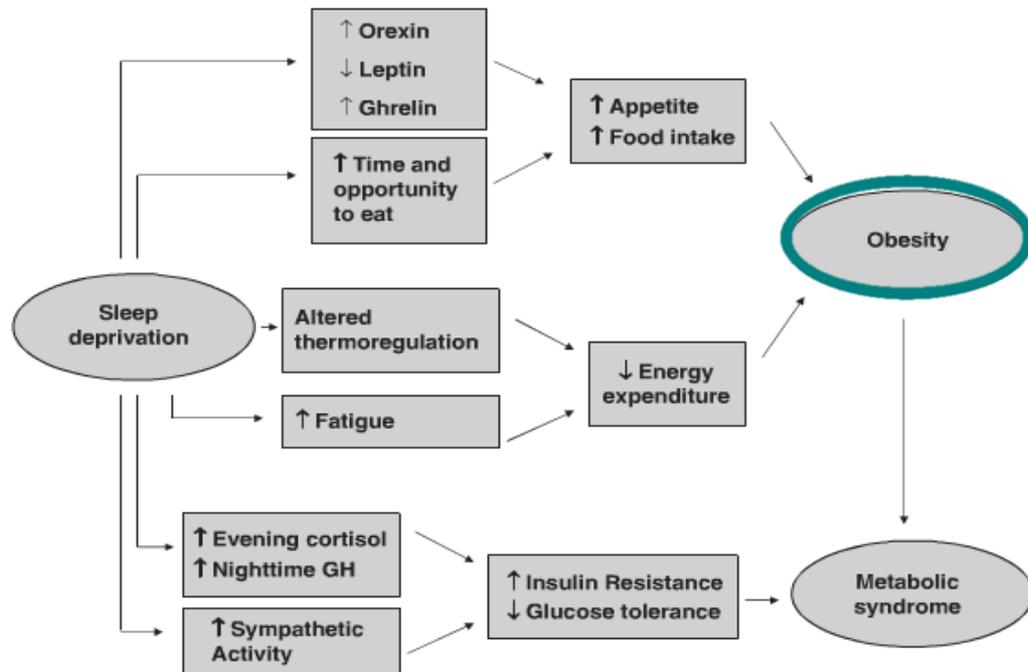


The sleep deprivation is associated to many medical conditions!!!

Reasons Why Good Sleep Is Important

1. Poor sleep is linked to higher body weight

Less than 6 hours of sleep was defined as a “short sleep duration,” as evidence has linked this cutoff to increased health risks
→ is one of the strongest risk factors for obesity

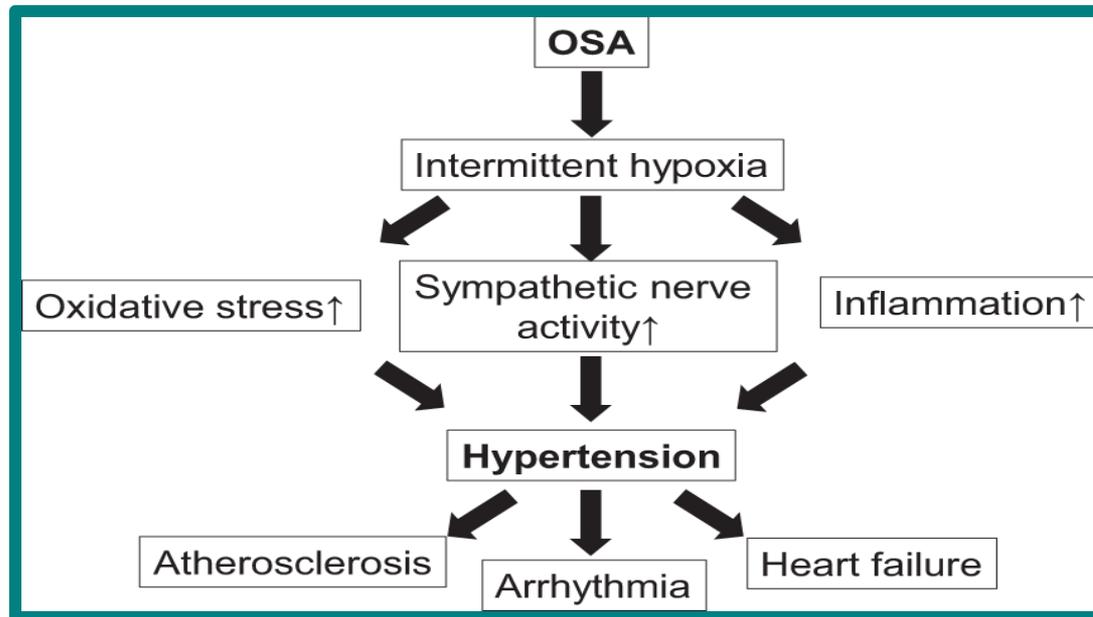


International Journal of Obesity
2019

2. Poor sleepers have a greater risk of heart disease

Review of 15 studies found that people who don't get enough sleep are at far greater risk of heart disease and stroke than those who sleep 7–8 hours per night

Pathophysiology of cardiovascular disease in obstructive sleep apnea

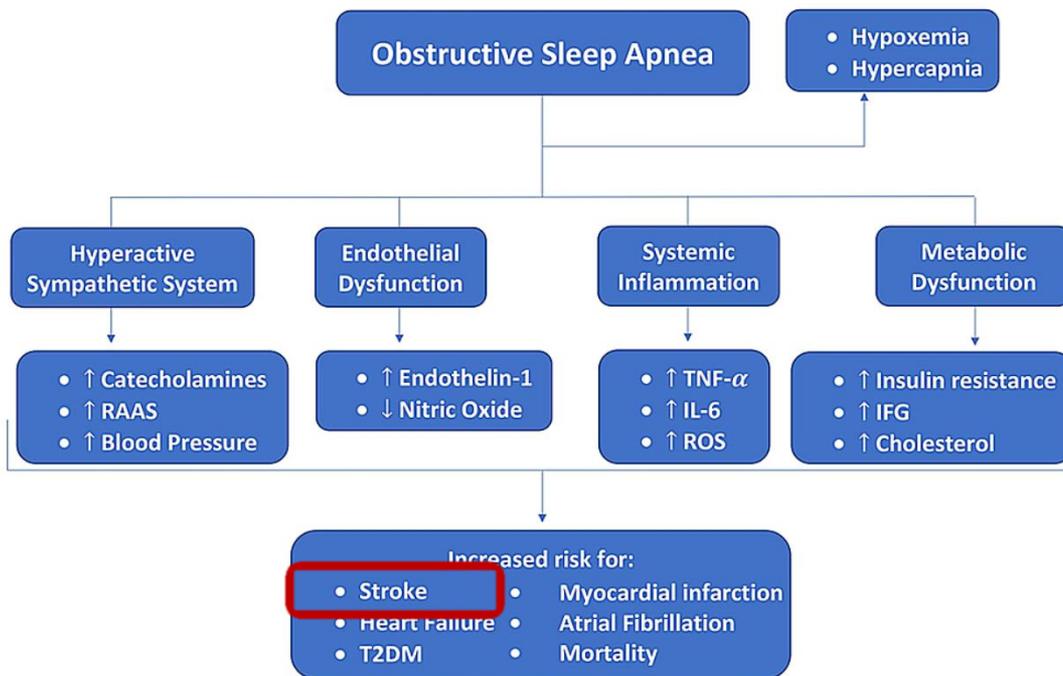


The nighttime hypoxia/changes of the architectural structure with sympathetic nerve stimulation in severe OSA patients → is responsible for the **early morning elevation of BP** → this phenomenon is called nondipper type nocturnal hypertension or morning hypertension

2. Poor sleepers have a greater risk of stroke

Review of 15 studies found that people who don't get enough sleep are at far greater risk of heart disease and stroke than those who sleep 7–8 hours per night

In a normal physiological process the parasympathetic system is dominant during sleep → due to increased carbon dioxide and decreased oxygen from the frequent collapse of the upper airway, peripheral and central chemoreceptor activation leads to increased sympathetic output



E. Kasasbeh, MD, David S. Chi Southern Medical Journal January 2018
Enrique Arredondo, Obstructive Sleep Apnea in Adults. September 2021

There is also growing evidence of a connection between sleep loss caused by obstructive sleep apnea and an increased risk of cardiovascular diseases, including hypertension, stroke, coronary heart disease!!!

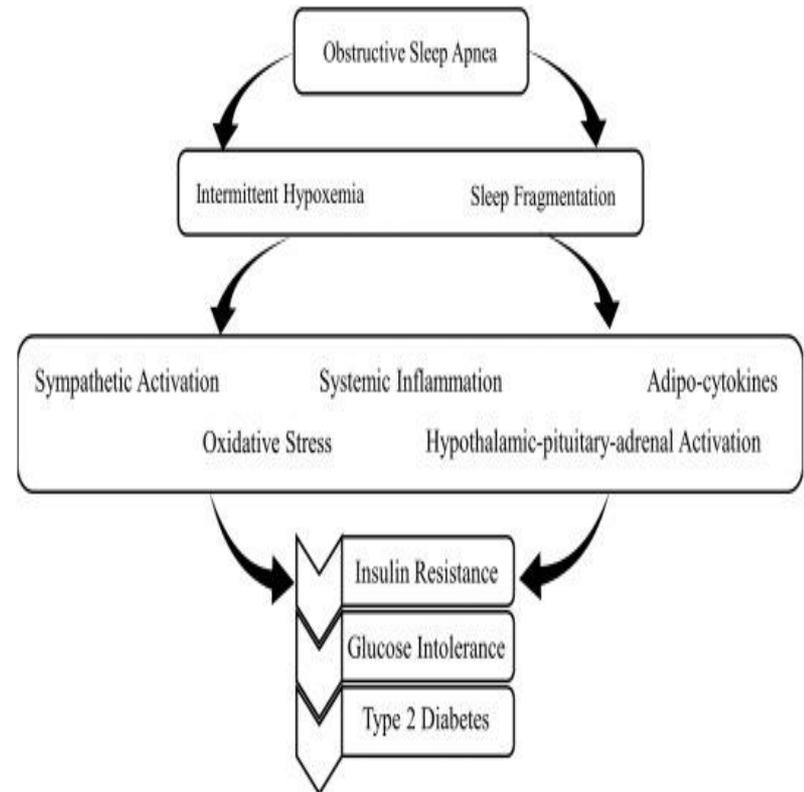
3. Sleep affects glucose metabolism/intolerance and type 2 diabetes risk/metabolic syndrome

Experimental sleep restriction affects blood sugar and reduces insulin sensitivity

In a study in healthy young men, restricting sleep to 4 hours/night for 6 nights in a row caused symptoms of prediabetes

Studies have shown that people who reported sleeping fewer than 5 hours/night → increased risk of having or developing type 2 diabetes.

- BUT....studies have also found that improved sleep can positively influence blood sugar control and reduce the effects of type 2 diabetes



Gottlieb DJ, *Archives of Internal Medicine*. 2015;
Nilsson PM, et al. *Diabetes Care*. 2014;

4. Immune function/Immunohealth - Interactions between sleep and the immune system/inflammation

- Sleep deprivation **increases the levels of many inflammatory cytokines**, IL-1 β , IL-6, TNF alfa, CRP → activation of the inflammatory cascade and infections in turn affect the amount and patterns of sleep.
- **Common Cold – people who averaged < 7 hours of sleep a night → 3X more** to develop cold symptoms than those with 8 hours or more of sleep
- In addition, those individuals who got better quality sleep were the least likely to come down with a cold

Long-term reduction in sleep can also lead to persistent low-level inflammation throughout the body, which underlies many chronic medical conditions.... increased risk of cardiovascular disorders, arthritis, diabetes mellitus, and mortality.

Opp, MR, Front Biosci. 2013 May Cohen S, et al. Arch of Intern Med. 2019 Jan

5. Good sleep can improve concentration and productivity

Sleep is important for various aspects of brain function → cognition, concentration, productivity, and performance
→ All of these are negatively affected by sleep deprivation

A study on medical interns provides a good example → Interns on a traditional schedule with extended work hours > 24 hours
made 36% more serious medical errors than interns on a schedule that allowed more sleep

Another study found that short sleep can **negatively impact some aspects of brain function**
to a similar degree as alcohol intoxication

individuals with a sleep disorder are 29% more likely to be inattentive while driving
vs drivers without a sleep disorder.....
OSA with EDS/excessive daytime sleepiness
is a high-risk factor to workplace and road accidents



6. Good sleep can maximize athletic performance

- In a study on basketball players → longer sleep was shown to significantly improve speed, accuracy, reaction times, and mental well-being
- A study >2.800 women → poor sleep was linked to slower walking, lower grip strength, and greater difficulty performing independent activities
- **Study - Less sleep duration has also been associated with poor exercise performance and functional limitation in elders.**

Can Sleep Improve Your Athletic Performance?

By [R. Morgan Griffin](#)

Reviewed by [Brunilda Nazario, MD](#) 2021

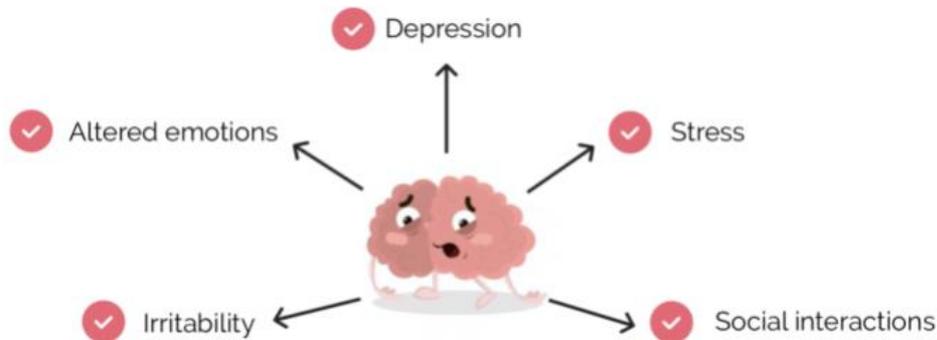


Sleep has been shown to enhance athletic performance

7. Sleep affects emotions and social interactions

- Sleep loss reduces our ability to interact socially.
- One study found that people who hadn't slept had a reduced ability to recognize expressions of anger and happiness
- Researchers → **poor sleep affects ability to recognize important social cues and process emotional information.**

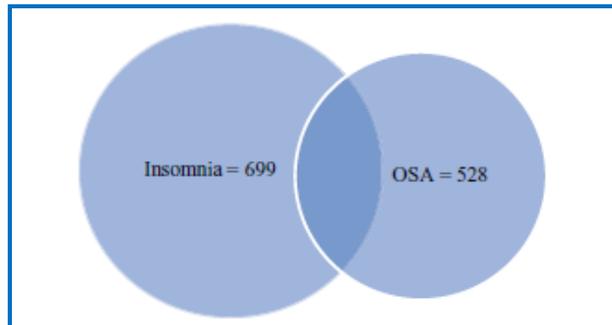
PSYCHOLOGICAL CONSEQUENCES



8. Poor sleep is linked to depression

Sleep duration is also associated with important symptoms related to depression, such as suicidal ideation and psychological distress

Sleep deprived-subjects tend to have more negative emotional reactions and are at a higher risk of developing depression.... anxiety and panic disorders !!!



Comorbid insomnia and OSA

Insomnia, OSA and comorbid insomnia-OSA are associated with **significant depressive symptomology** among this large population-based sample of adults.

COVID-19 is wrecking our sleep with coronasomnia – tips to fight back

The coronavirus may be causing a second pandemic of insomnia

(SACRAMENTO) — COVID-19 has given us plenty of reasons to lose sleep. Here is another one: Because of the pandemic and the stress, more people than ever are fighting a serious loss of sleep.



It's being called "coronasomnia." It's very real and very widespread.

not long ago we passed through
COVID pandemic.....

Figure 1. The 'coronasomnia' phenomenon has been recently described as COVID-19-related sleep disorders, including insufficient sleep, poor sleep quality, insomnia, and disturbances of sleep-wake schedules associated with physical and emotional morbidity in the COVID-19 pandemic.

How the war in Ukraine affects our mental health

Psychiatrists and readers share their feelings about the war in Ukraine. Some are experiencing unusual levels of alertness and vigilance, while others fear the future, have anxiety disorders or insomnia.

By Florence Rosier

Published on March 29, 2022 at 16h38, updated at 15h17 on May 9, 2022 · 8 min. · [Lire en français](#)



EUROPE POLITICS

‘People are literally afraid to sleep’: Living under Russian bombs in Ukraine

PUBLISHED FRI, FEB 25 2022-11:33 AM EST | UPDATED SAT, FEB 26 2022-10:00 PM EST

 **Natasha Turak**
@NATASHATURAK

SHARE    

- **Another global problem...and for my country which is very close.... the [crisis in Ukraine](#) is very hard to understand.... what is going on!!!**
- **Mental health experts...**
- **Including Paul Salkovskis, professor of clinical psychology at the University of Oxford, said:**

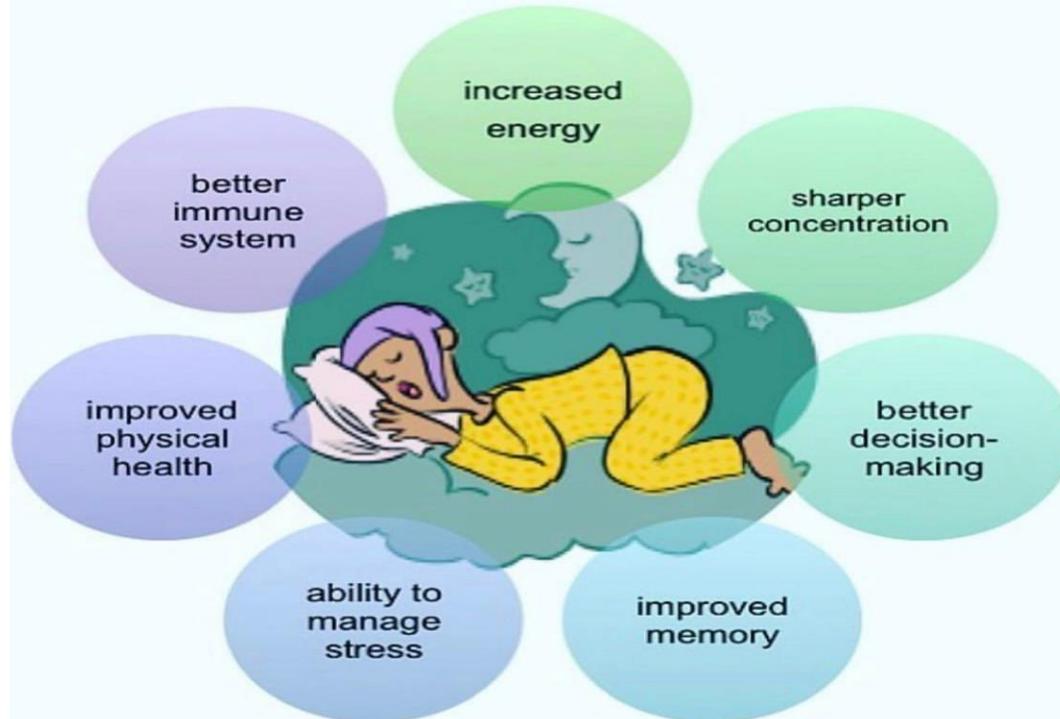
“Clearly there are some people who are already anxious, who will be significantly more anxious.....as happened in Covid!”

Is Sleep an important Cornerstone in Longevity of Life?

YES!!!

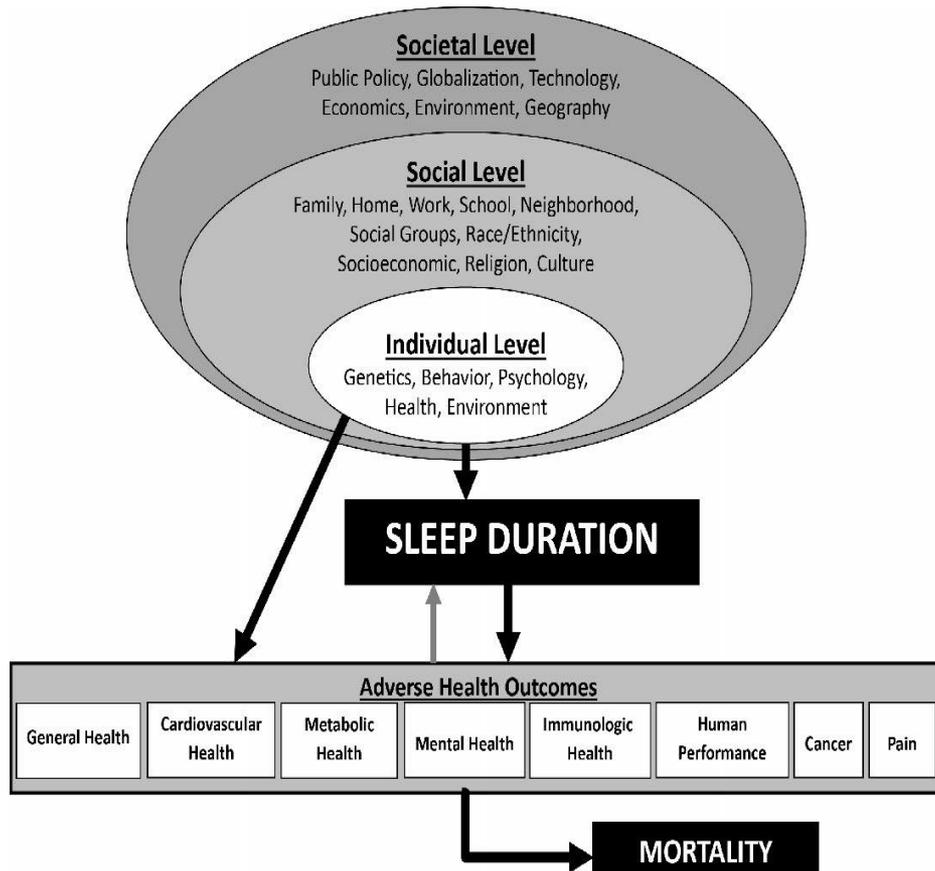
Good Sleep for Good Health

Sleep has a myriad of essential physiological functions including



Biopsychosocial model of sleep duration drivers

Sleep is a biological imperative



Our sleep duration, timing, regularity and quality → is dictated by genetic and physiologic factors/individual, social, societal level!!!



Sleep disorders which are frequently undiagnosed and/or untreated... contribute to chronic diseases and rise the risk of mortality.

AHA PRESIDENTIAL ADVISORY

Life's Essential 8: Updating and Enhancing the American Heart Association's Construct of Cardiovascular Health: A Presidential Advisory From the American Heart Association

Donald M. Lloyd-Jones, MD, ScM, FAHA, Chair; Norrina B. Allen, PhD, MPH, FAHA; Cheryl A.M. Anderson, PhD, MPH, MS, FAHA; Terrie Black, DNP, MBA, CRRN, FAHA; LaPrincess C. Brewer, MD, MPH; Randi E. Foraker, PhD, MA, FAHA; Michael A. Grandner, PhD, MTR, FAHA; Helen Lavretsky, MD, MS; Amanda Marma Perak, MD, MS, FAHA; Garima Sharma, MD; Wayne Rosamond, PhD, MS, FAHA; on behalf of the American Heart Association



THE NEW CONCEPT OF CARDIOVASCULAR HEALTH has a new one concept

Life's Essential 8 now includes the 8 components of cardiovascular healththrough which is included

- healthy diet,
- participation in physical activity,
- avoidance of nicotine,
- **HEALTHY SLEEP!!!**
- healthy weight, and
- healthy levels of blood lipids, blood glucose, and blood pressure.



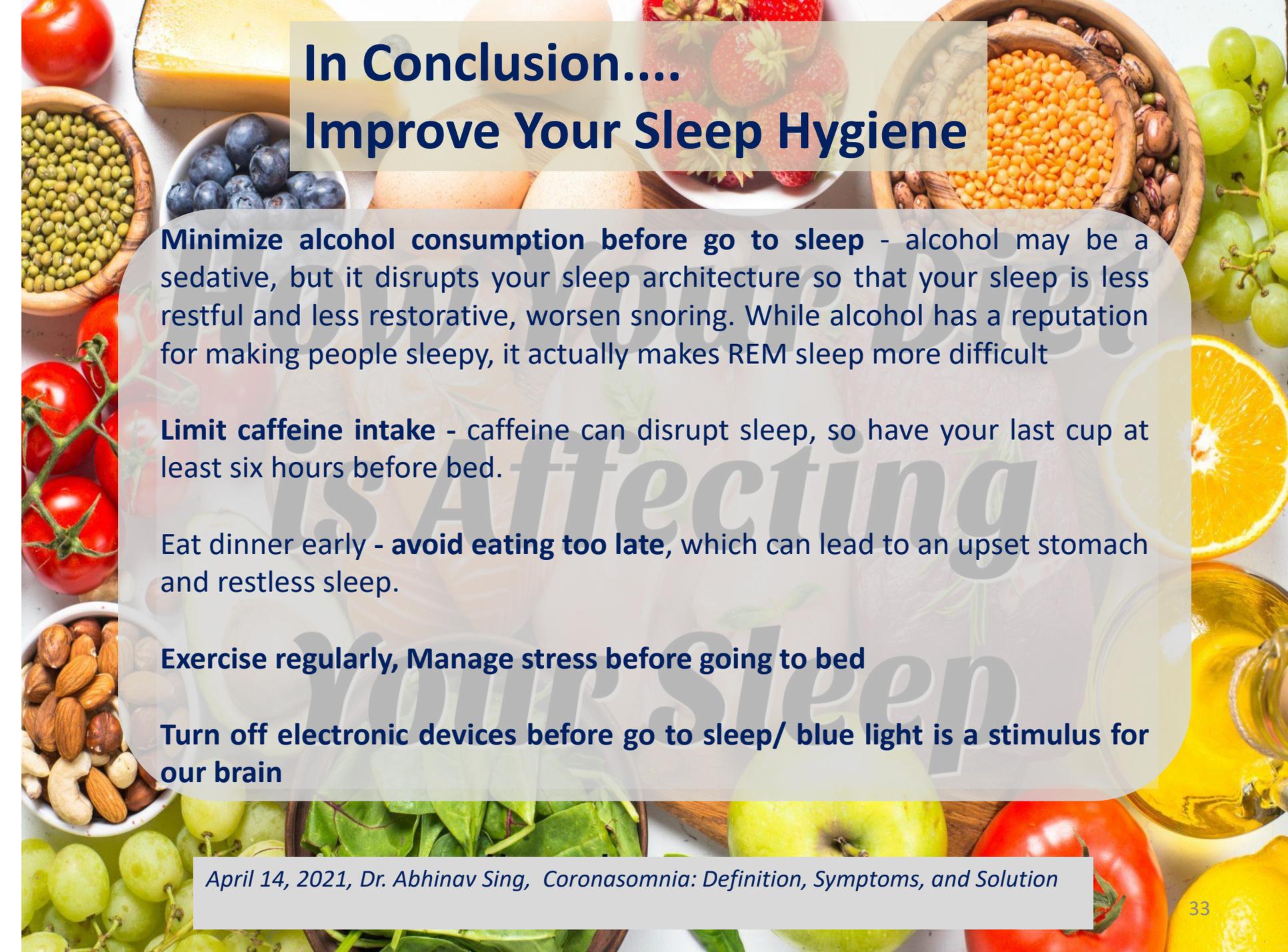
In Conclusion.... Improve Our Sleep Hygiene

Stick to a **regular sleep schedule** - set bedtimes and wake times that allow for seven to nine hours of sleep, and follow them every day, including weekends.

To avoid long naps - a short nap of 20 to 30 minutes can refresh and energize you, but anything longer can make it harder to fall asleep at night.

Get our daily dose of sunlight - light is the strongest regulator of our circadian rhythm. Spend time outside or near a window in the morning to wake yourself up and reset your circadian rhythms.

Make our bedroom dark, quiet and cool - clear your bedroom of clutter and anything that reminds you of stress, such as work papers or your computer.



In Conclusion.... Improve Your Sleep Hygiene

Minimize alcohol consumption before go to sleep - alcohol may be a sedative, but it disrupts your sleep architecture so that your sleep is less restful and less restorative, worsen snoring. While alcohol has a reputation for making people sleepy, it actually makes REM sleep more difficult

Limit caffeine intake - caffeine can disrupt sleep, so have your last cup at least six hours before bed.

Eat dinner early - **avoid eating too late**, which can lead to an upset stomach and restless sleep.

Exercise regularly, Manage stress before going to bed

Turn off electronic devices before go to sleep/ blue light is a stimulus for our brain

Why Is Sleep Hygiene Important?

Obtaining healthy sleep is important for both physical and mental health, improving productivity and overall quality of life!!!

THREE ELEMENTS OF QUALITY SLEEP

DURATION

The length of sleep should be sufficient for the sleeper to be rested and alert the following day.

CONTINUITY

Sleep periods should be seamless without fragmentation.

DEPTH

Sleep should be deep enough to be restorative.

#WorldSleepDay
Regular Sleep, Healthy Future



Good Sleep, Exercise and balance diet
changed my life!

THANK YOU!