

# The importance of being sleepy

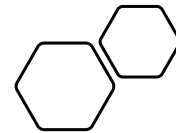
My day starts backwards..... I wake up  
Tired and go to bed awake!!

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**WHEN YOU  
CAN'T FALL ASLEEP**



**AND YOU START HEARING BIRDS OUTSIDE**



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- Sleep is an essential aspect of our lives, and yet so many of us struggle to get a good night's rest.
- Whether it's due to stress, anxiety, or simply bad habits, the effects of poor sleep can be far-reaching and detrimental..



*"Early to bed, early to rise makes a person healthy, wealthy, and wise."  
(Benjamin franklin)*

*"My day starts backwards..... I wake up tired and go to bed awake!! (Anon)*

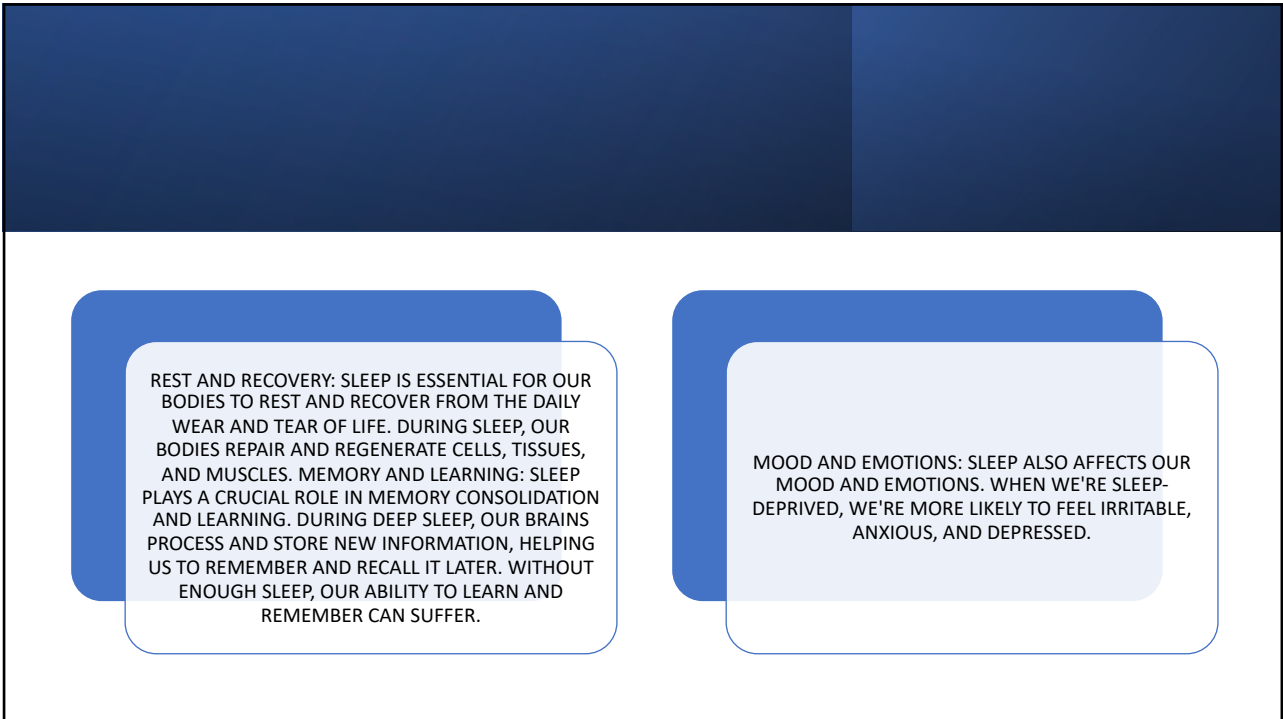
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## Importance of sleep

- Sleep is a crucial component of our overall health and well-being. It is a time when our body and mind can rest, repair, and rejuvenate. Sleep is essential for our physical and mental health, and it plays a vital role in our quality of life.
- Sleep deprivation can have a significant impact on our health and daily life.
- Lack of sleep can lead to a range of problems, including:fatigue, irritability, poor concentration, and memory problems. It can also increase the risk of accidents, depression, and anxiety.
- Long-term sleep deprivation has been linked to a range of health problems, including obesity, diabetes, heart disease, and stroke.



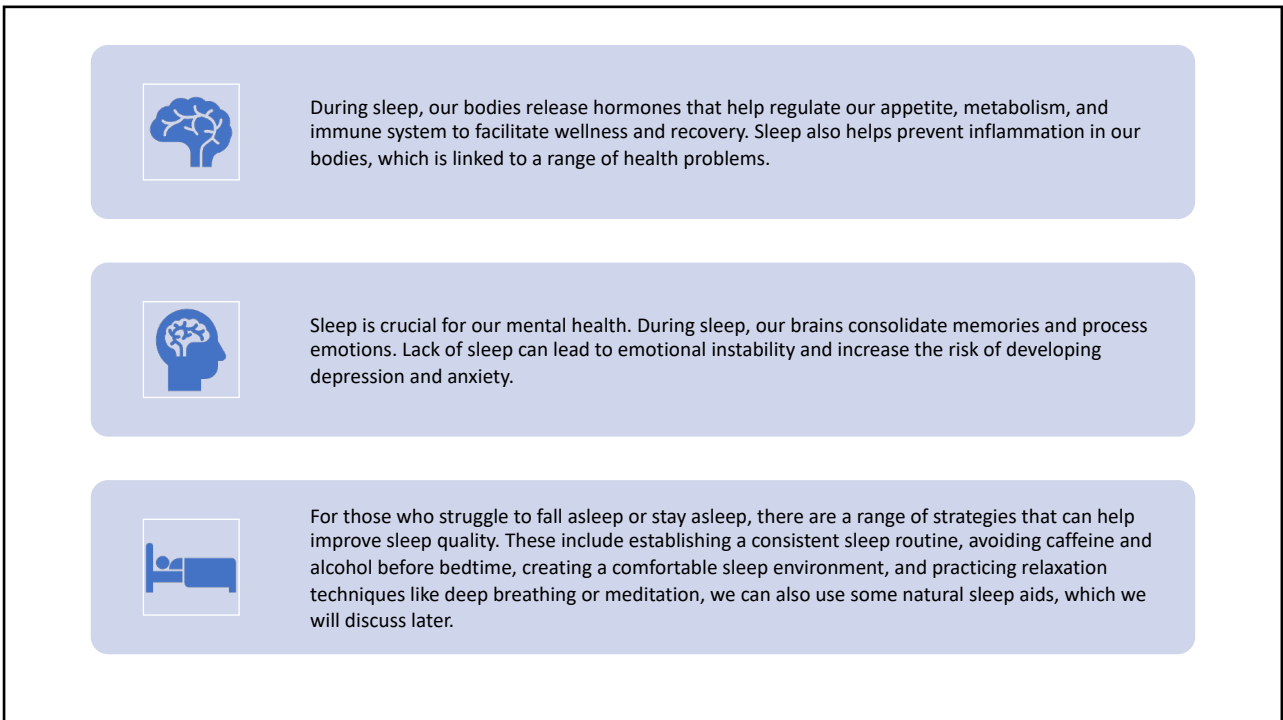
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**REST AND RECOVERY:** SLEEP IS ESSENTIAL FOR OUR BODIES TO REST AND RECOVER FROM THE DAILY WEAR AND TEAR OF LIFE. DURING SLEEP, OUR BODIES REPAIR AND REGENERATE CELLS, TISSUES, AND MUSCLES. **MEMORY AND LEARNING:** SLEEP PLAYS A CRUCIAL ROLE IN MEMORY CONSOLIDATION AND LEARNING. DURING DEEP SLEEP, OUR BRAINS PROCESS AND STORE NEW INFORMATION, HELPING US TO REMEMBER AND RECALL IT LATER. WITHOUT ENOUGH SLEEP, OUR ABILITY TO LEARN AND REMEMBER CAN SUFFER.


**MOOD AND EMOTIONS:** SLEEP ALSO AFFECTS OUR MOOD AND EMOTIONS. WHEN WE'RE SLEEP-DEPRIVED, WE'RE MORE LIKELY TO FEEL IRRITABLE, ANXIOUS, AND DEPRESSED.

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 During sleep, our bodies release hormones that help regulate our appetite, metabolism, and immune system to facilitate wellness and recovery. Sleep also helps prevent inflammation in our bodies, which is linked to a range of health problems.

 Sleep is crucial for our mental health. During sleep, our brains consolidate memories and process emotions. Lack of sleep can lead to emotional instability and increase the risk of developing depression and anxiety.

 For those who struggle to fall asleep or stay asleep, there are a range of strategies that can help improve sleep quality. These include establishing a consistent sleep routine, avoiding caffeine and alcohol before bedtime, creating a comfortable sleep environment, and practicing relaxation techniques like deep breathing or meditation, we can also use some natural sleep aids, which we will discuss later.

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## Benefits of Sleep zzzzzz

Sharpens mind and increases learning.

Sleep improves the ability to learn and recall information. ...

Improves focus and reaction time.

...

Refuels the heart and vascular system. ...

Repairs cells and releases growth hormones. ...

Boosts immune system. ...

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## Benefits of Sleep zzzzzz

Regulates appetite.

Get sick less often.

Stay at a healthy weight.

Lower your risk for serious health problems, like diabetes and heart disease.

Reduce stress and improve your mood.

Think more clearly and do better in school and at work.

Get along better with people.

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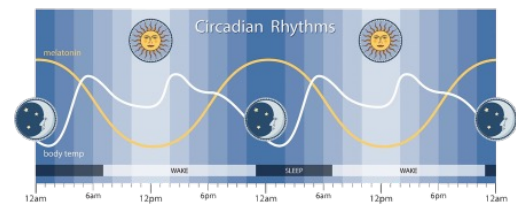
# Sleep Science

## Sleep Mechanisms

**Two internal biological mechanisms**—circadian rhythm and homeostasis—work together to regulate when you are awake and sleep.

### Circadian rhythms

- Direct a wide variety of functions from daily fluctuations in wakefulness to body temperature, metabolism, and the release of hormones. They control your timing of sleep and cause you to be sleepy at night and your tendency to wake in the morning without an alarm.



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**CIRCADIAN RHYTHM DISRUPTION**

Irregular working hours and social jet lag alter the sleep-wake cycle, leading to shortened and disrupted sleep.<sup>6</sup>

OFFSET WITH

**REGULATE CIRCADIAN RHYTHM**

Meta Mag<sup>®</sup> enhances restorative slow wave sleep.<sup>7</sup>  
Withania (Sensoril<sup>™</sup> Ashwagandha) and L-ornithine induce non-REM sleep.<sup>4</sup>

**ARTIFICIAL LIGHT EXPOSURE**

Excessive blue light exposure reduces melatonin secretion, prolonging wakefulness and diminishing sleep quality.<sup>28</sup>

OFFSET WITH

**SUPPORT MELATONIN PRODUCTION**

Lutein and Zeaxanthin improve macular pigment optical density, which filters blue light and enhances melatonin synthesis.<sup>5</sup>

**Circadian Rhythm**  
The sleep-wake cycle is regulated by the circadian rhythm and the rise and fall of hormones, cortisol (involved in wakefulness) and melatonin (involved in sleep onset).<sup>1,2</sup>

**• Meta Mag<sup>®</sup>**  
**• Sensoril<sup>™</sup>**  
**• Ashwagandha**  
**• L-ornithine**  
**• Lutein**  
**• Zeaxanthin**

**• Zizyphus**  
**• California poppy**  
**• Lavender Oil**

**• Sensoril<sup>™</sup>**  
**• Ashwagandha**  
**• L-ornithine**  
**• Lutein**  
**• Zeaxanthin**

**Sleep is critical for brain health**  
The glymphatic system, a glial-dependent waste clearance pathway in the brain, is active during slow wave sleep, eliminating neurotoxic waste products that

**HYPOTHALAMIC-PITUITARY-ADRENAL (HPA) OVERACTIVITY**

Physiological stress stimulates cortisol and suppresses melatonin, increasing HPA axis dysfunction and chronic stress.<sup>43,44</sup>

OFFSET WITH

**ENHANCE STRESS ADAPTATION**

Meta Mag<sup>®</sup> reduces elevated cortisol.<sup>16,27</sup>  
Zizyphus,<sup>18</sup> Lavender Oil<sup>19</sup> and California poppy<sup>20</sup> enhance gamma-aminobutyric acid (GABA) activity, reducing HPA overactivity.

**EXCESS STIMULANTS**

Alcohol and caffeine inhibit melatonin production<sup>23,31</sup> and prolong HPA axis activity.<sup>44,45</sup>

OFFSET WITH

**REDUCE STIMULANT**

L-ornithine reduces alcohol-induced cortisol rise.<sup>27</sup>  
Withania (Sensoril<sup>™</sup> Ashwagandha) offsets cortisol peaks.<sup>22,23</sup>

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## Sleep-wake homeostasis

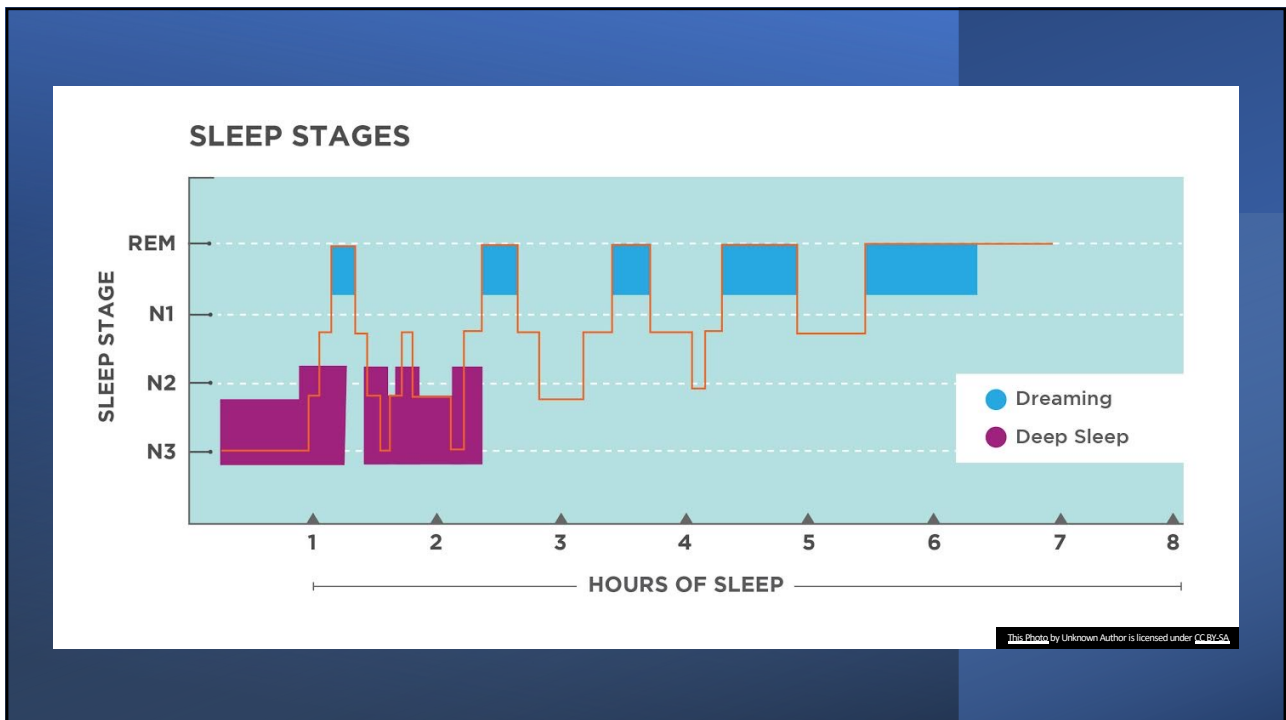
Keeps track of your need for sleep.

The homeostatic sleep drive reminds the body to sleep after a certain time and regulates sleep intensity. This sleep drive gets stronger every hour you are awake and causes you to sleep longer and more deeply after a period of sleep deprivation.

Night shift workers often have trouble falling asleep when they go to bed, and also have trouble staying awake at work because their natural circadian rhythm and sleep-wake cycle is disrupted.

In the case of jet lag, circadian rhythms become out of sync with the time of day when people fly to a different time zone, creating a mismatch between their internal clock and the actual clock

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## Sleep stages

There are two basic types of sleep: rapid eye movement (REM) sleep and non-REM sleep (which has three different stages). Each is linked to specific brain waves and neuronal activity.

- You cycle through all stages of non-REM and REM sleep several times during a typical night, with increasingly longer, deeper REM periods occurring toward morning.
- **Stage 1** non-REM sleep is the changeover from wakefulness to sleep. During this short period (lasting several minutes) of relatively light sleep, your heartbeat, breathing, and eye movements slow, and your muscles relax with occasional twitches.
- Your brain waves begin to slow from their daytime wakefulness patterns

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## Sleep stages

- Stage 2 non-REM sleep is a period of light sleep before you enter deeper sleep. Your heartbeat and breathing slow, and muscles relax even further. Your body temperature drops and eye movements stop. Brain wave activity slows but is marked by brief bursts of electrical activity. You spend more of your repeated sleep cycles in stage 2 sleep than in other sleep stages
- Stage 3 non-REM sleep is the period of deep sleep that you need to feel refreshed in the morning. It occurs in longer periods during the first half of the night. Your heartbeat and breathing slow to their lowest levels during sleep. Your muscles are relaxed and it may be difficult to awaken you. Brain waves become even slower

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## REM – STAGE 4?

- **REM sleep** first occurs about 90 minutes after falling asleep.
- Your eyes move rapidly from side to side behind closed eyelids.
- Mixed frequency brain wave activity becomes closer to that seen in wakefulness.
- Your breathing becomes faster and irregular, and your heart rate and blood pressure increase to near waking levels.
- Most of your dreaming occurs during REM sleep, although some can also occur in non-REM sleep.
- Your arm and leg muscles become temporarily paralyzed, which prevents you from acting out your dreams. As you age, you sleep less of your time in REM sleep. Memory consolidation most likely requires both non-REM and REM sleep.

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## SUMMARY

When we sleep, our bodies go through a series of cycles that help us restore and rejuvenate. These cycles are broken down into four stages, with each stage having a unique function.

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Stage one is the lightest stage of sleep, and it is where we begin to relax and drift off.

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Stage two is where our brains begin to produce sleep spindles, which help us stay asleep.

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Stage three is the deep sleep stage, where our bodies repair and regenerate.

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Stage four is the REM (rapid eye movement) stage, where our brains are active and we dream.

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## HOW CAN WE AFFECT OUR QUALITY OF SLEEP

- 1 Establishing a regular sleep schedule
- 2 Creating a relaxing bedtime routine
- 3 Avoiding caffeine and alcohol before bedtime
- 4 Keeping our bedroom cool, dark, and quiet
- 5 Limiting screen time before bed

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With the entire sleep cycle typically lasting between 90 and 110 minutes and repeating itself several times throughout the night. It is important to complete multiple sleep cycles each night to ensure that we are getting the rest we need to function at our best during the day. There are some good sleep apps that can help monitor your sleep activity.



Lack of sleep can weaken our immune system and make us more susceptible to illnesses. Sleep also plays a crucial role in maintaining healthy brain function. During sleep, our brain consolidates memories, processes emotions, and deals with stress.



Sleep deprivation can lead to a number of health problems. It can increase the risk of obesity, diabetes, heart disease, and high blood pressure. Lack of sleep can also affect our mental health, leading to depression, anxiety, and other mood disorders.

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## COMMON SLEEP DISORDERS

### Insomnia

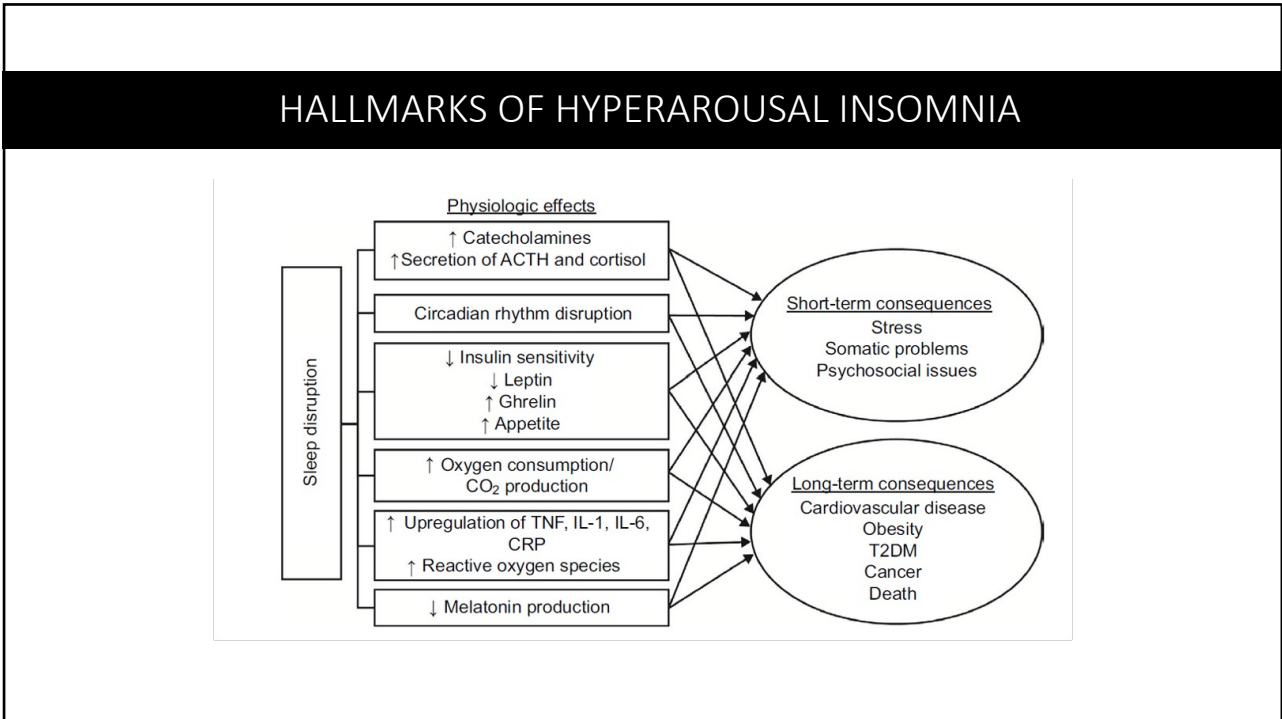
- Insomnia is the most common sleep disorder, affecting up to 30% of adults at some point in their lives. It is characterized by difficulty falling asleep, staying asleep, or waking up too early and not being able to go back to sleep.
- If you suffer from insomnia, there are several lifestyle changes you can make to improve your sleep quality. First, establish a regular sleep schedule by going to bed and waking up at the same time every day, even on weekends. This can help regulate your body's internal clock and improve sleep quality over time.
- Another way to improve sleep quality is to create a sleep-conducive environment. This means keeping your bedroom cool, dark, and quiet, and avoiding distractions such as televisions, computers, and smartphones. Consider investing in a comfortable mattress and pillows to ensure optimal comfort.

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## *Hyperarousal Theory of Insomnia*

- Research has also suggested that people who suffer from insomnia have an underlying issue with hyperarousal in the brain, which is when an individual's alertness level is constantly high. This can lead to difficulty calming down and preparing for sleep as well as increased levels of stress and anxiety throughout the day. People who experience this type of insomnia often report feeling tired but wired at the same time, a symptom caused by poor sleeping patterns and disrupted circadian rhythms.
- **Cognitive-behavioral therapy** techniques such as relaxation techniques, stimulus control therapies, sleep restriction strategies, and cognitive restructuring to identify negative thought patterns associated with sleeplessness can all help reduce the effects of hyperarousal and get you back on track to a good night's sleep.

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## SLEEP APNEA

Sleep apnea is a common sleep disorder that affects millions of people around the world. It is a condition in which a person's breathing is disrupted during sleep, causing them to wake up frequently throughout the night. This disruption can lead to poor quality of sleep, which can have a negative impact on a person's health and well-being.

The symptoms of sleep apnea include loud snoring, gasping or choking during sleep, and excessive daytime sleepiness. People with sleep apnea may also experience headaches, dry mouth, and difficulty concentrating during the day. If left untreated, sleep apnea can lead to serious health problems such as high blood pressure, heart disease, and stroke.

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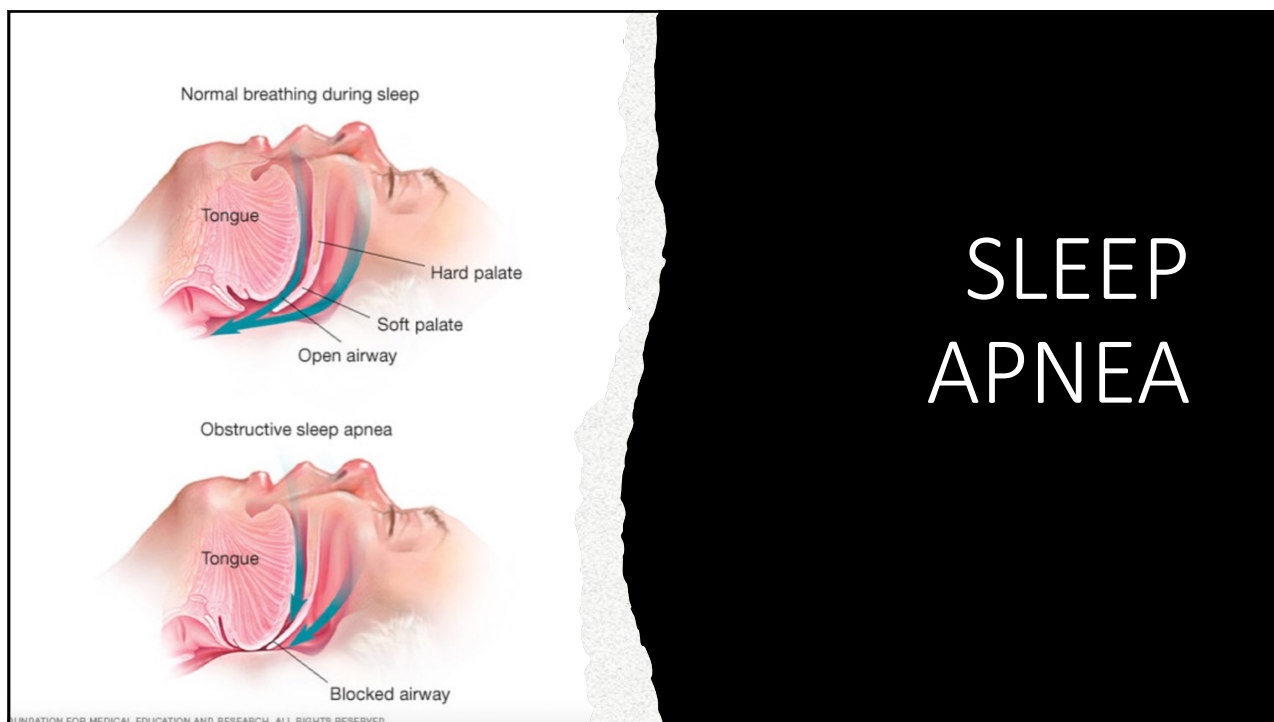
## SLEEP APNEA

- There are several different types of sleep apnea, including obstructive sleep apnea, central sleep apnea, and complex sleep apnea syndrome.
- Obstructive sleep apnea is the most common type, and is caused by a blockage in the airway during sleep.
- Central sleep apnea is caused by a failure of the brain to send the proper signals to the muscles that control breathing.
- Complex sleep apnea syndrome is a combination of obstructive and central sleep apnea.

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- Treatment for sleep apnea depends on the type and severity of the condition.
- Mild cases may be treated with lifestyle changes such as losing weight, avoiding alcohol and sedatives, and sleeping on your side instead of your back.
- More severe cases may require the use of a continuous positive airway pressure (CPAP) machine, which delivers a steady stream of air to keep the airway open during sleep.

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## RESTLESS LEG SYNDROME

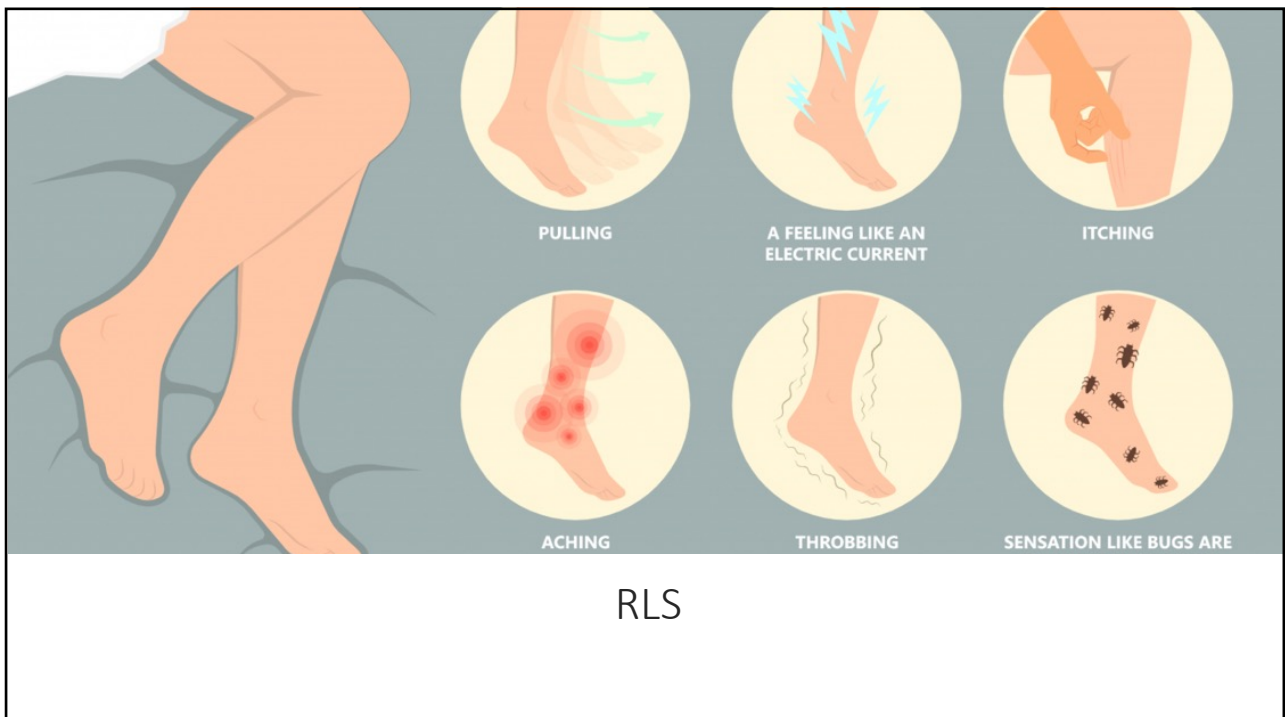
- Restless leg syndrome (RLS), also known as Willis-Ekbom disease (WED), is a neurological disorder that affects the legs and causes an irresistible urge to move them.
- This can interfere with sleep and lead to daytime fatigue and irritability. The symptoms of restless leg syndrome can vary from person to person, but often include a tingling, crawling, or itching sensation in the legs, accompanied by an urge to move them.
- Symptoms may worsen in the evening or at night, making it difficult to fall asleep or stay asleep.

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## RESTLESS LEG SYNDROME

- Restless leg syndrome can be caused by a number of factors, including genetics, underlying health conditions, and certain medications. It can also be triggered by lifestyle factors, such as stress, caffeine, and lack of exercise. While there is no cure for restless leg syndrome, there are several strategies that can help manage the symptoms and improve sleep.
- One of the most effective treatments for restless leg syndrome is regular exercise. Exercise helps to improve circulation and reduce stress, which can help alleviate symptoms.
- Gentle stretching, yoga, and walking are all good options for people with restless leg syndrome.

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## PHYSICAL HEALTH

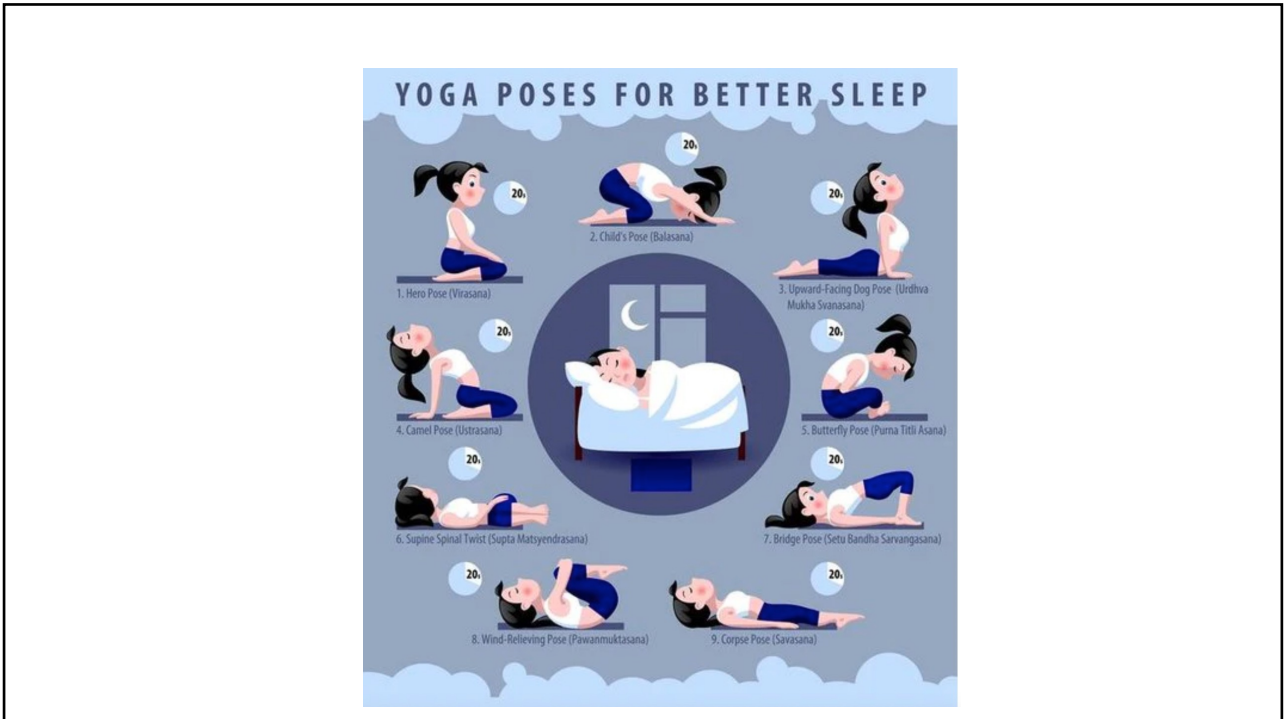


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## Physical health

- Exercise regularly: Exercise can help improve sleep quality and duration by reducing stress and anxiety. However, it is essential to avoid exercising close to bedtime as it can stimulate the body and make it difficult to fall asleep.
- Maintain a healthy diet: Eating a well-balanced diet can help improve overall health and promote better sleep. Avoid consuming heavy meals before bedtime as it can cause discomfort and disrupt sleep.
- Manage stress: Stress and anxiety are major contributors to sleep disorders. Engage in activities like yoga, meditation, or deep breathing exercises to manage stress and promote relaxation.
- Avoid nicotine, caffeine, and alcohol: Nicotine and caffeine are stimulants that can interfere with sleep. Alcohol, on the other hand, can cause fragmented sleep and disrupt the sleep cycle.
- Get regular check-ups: Regular check-ups with a healthcare provider can help identify any underlying health conditions that may be affecting sleep quality.

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## Mental Health & Sleep



Getting adequate rest is also crucial for maintaining good mental health.

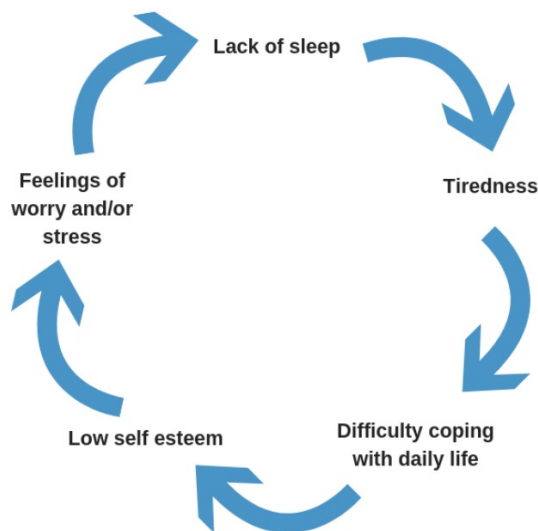


Sleep deprivation can lead to symptoms such as feeling irritable, difficulty concentrating, and a decreased ability to handle stress.



research has shown that lack of sleep can increase the risk of developing mental health conditions like depression and anxiety.

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## Menomoments!!!

- Menopause is a natural process that occurs in women as they age, and it can cause a range of symptoms such as mood changes, hot flashes, and night sweats.
- It can also interfere with sleep, leading to insomnia or frequent waking during the night.
- There are steps you can take to help minimise the impact of menopause on your sleep quality such as limiting caffeine and alcohol intake and avoiding sugary or spicy foods before bedtime. Additionally, if you are experiencing hot flashes at night, try sleeping in loose clothing or using a fan to cool down the room temperature and reduce discomfort.
- Mood disorders such as anxiety or depression are associated with sleep disorders in postmenopausal women.

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## Menomoments!!

Ovarian hormones have been reported to affect sleep disorders. Progesterone has both sedative and anxiolytic features. It stimulates the production of the NREM associated gamma-aminobutyric acid receptors by stimulating benzodiazepine receptors.

In addition, progesterone also acts as a respiratory stimulant and has been used to treat mild obstructive sleep apnea (OSA).

The effect of oestrogen on sleep structure is complex as oestrogen has a wide range of effects that potentially affects sleep structure. It is associated with metabolism of norepinephrine, serotonin, and acetylcholine-neurotransmitters that affect sleep pattern.

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## Menomoments!!

Oestrogen has been proved to decrease sleep latency, the number of awakening after sleep occurs, and cyclic spontaneous arousals; and increase total sleep time.

Oestrogen has a regulating effect on body temperature. During the night, Oestrogen plays a role in keeping the central body temperature low. Oestrogen regulates the temperature of the lowest body temperature during the night.

When decreased Oestrogen, this time shift forward and the depth of the temperature drop changes. It also effects mood by affecting the norepinephrine activity and serotonin response and uptake in the brain. All of these effects mean that oestrogen would have an antidepressant effect.

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## Temperature & Humidity



Temperature and humidity play a crucial role in getting a good night's sleep. If the temperature and humidity levels are not optimal, it can cause discomfort and disrupt your sleep cycle.



Research suggests that the ideal temperature for most people is between 60 and 67 degrees Fahrenheit (15.6 to 19.4 degrees Celsius).



Humidity refers to the amount of moisture in the air. The ideal humidity level for sleeping is between 30% and 50%. If the humidity level is too high or too low, it can cause discomfort and disrupt your sleep.



Ventilate your bedroom by opening windows or using a fan.



Avoid using air conditioning or heating that can dry out the air in your bedroom.

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## Noise & Light

There are many types of noise that can disrupt our sleep, from snoring partners to honking cars. Use earplugs: Earplugs are an effective way to block out noise. There are many types available, from foam to silicone, so experiment to find the ones that work best for you.



White noise machines or apps can create a soothing background sound that can help mask other noises. Some people find the sound of a fan or air conditioner to be effective as well.



Soundproofing: If you live in a noisy area, consider soundproofing your bedroom. This might involve adding insulation to walls or installing soundproof curtains.

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## Noise & Light

- Light can also interfere with our sleep, especially if it's bright or blue-toned. Here are some ways to minimize the effects of light:
- Use blackout curtains: Blackout curtains are designed to block out light and can be an effective way to create a dark sleeping environment.
- Dim the lights: In the hours leading up to bedtime, try to dim the lights in your home. This will signal to your body that it's time to start winding down **LOOK UP AT THE NIGHT SKY.**

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## Décor & Ambience

- When it comes to getting a good night's rest, creating the right atmosphere can make all the difference. The décor and ambience of your bedroom can impact the quality of your sleep, as well as your overall mood and well-being.
- Choose soothing colors: Soft, muted colors like blues, greens, and grays can help create a calming atmosphere in your bedroom. Avoid bright, bold colors that can stimulate your brain and make it harder to fall asleep.
- Invest in comfortable bedding: Your bedding plays a big role in your sleep quality. Choose sheets and blankets that are soft and comfortable, and make sure your pillows are supportive and comfortable as well.

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## Décor & Ambience

- Declutter your space: A cluttered bedroom can create stress and anxiety, which can make it harder to fall asleep. Keep your space clean and organized to promote a sense of calm and relaxation.
- Add some greenery: Plants can help improve air quality and create a more calming atmosphere in your bedroom. Consider adding some plants like lavender, jasmine, or aloe vera to help promote relaxation and better sleep.

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## Sleep Hygiene

### Develop a Sleep Routine

- Sleep is an essential part of our lives, and it is crucial to establish a regular bedtime to ensure that we get the rest we need. A regular bedtime is a routine that you follow every night before going to bed. It helps your body to recognise when it's time to sleep, and it also helps you to fall asleep faster.
- The first step to establishing a regular bedtime is to determine what time you need to wake up in the morning. Once you know what time you need to wake up, you can work backward to determine what time you need to go to bed. For example, if you need to wake up at 6 am, you should aim to be in bed by 10 pm.

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## Sleep Hygiene

- It's essential to be consistent in your bedtime routine. Try to go to bed and wake up at the same time every day, even on weekends. This will help your body to establish a natural sleep-wake cycle, which can improve the quality of your sleep.
- Creating a bedtime routine can also be helpful in establishing a regular bedtime. This can include activities such as taking a warm bath, reading a book, or listening to calming music. Avoid activities that can stimulate your brain, such as watching TV or using electronic devices, at least an hour before bedtime.
- Creating a sleep-friendly environment can also be beneficial for establishing a regular bedtime. This includes keeping your bedroom cool, dark, and quiet. Invest in comfortable bedding and pillows to ensure that you are comfortable while sleeping.

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# Relaxation Techniques

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## *Deep Breathing*

- Deep breathing is a simple yet effective technique to relax your body and mind. Sit or lie down comfortably, close your eyes, and take a deep breath through your nose. Hold your breath for a few seconds and then exhale slowly through your mouth. Repeat this process for a few minutes, and you will feel more relaxed and calm.

## *Progressive Muscle Relaxation*

- Progressive muscle relaxation is a technique that involves tensing and relaxing different muscle groups in your body. Start by tensing the muscles in your feet and then slowly work your way up to your head. Hold each muscle group for a few seconds and then release the tension. This technique can help you release physical tension and relax your body. Yoga nidra.

## *Visualization*

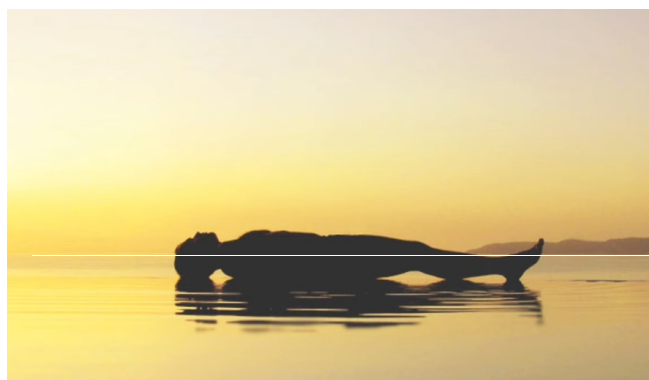
- Visualization is a technique that involves creating a mental image of a peaceful and calming scene. Imagine a place that makes you feel relaxed and happy, such as a beach or a forest. Focus on the details of the scene, such as the sound of the waves or the rustling of leaves. This technique can help you calm your mind and reduce stress levels.

## *Yoga and Stretching*

- Yoga and stretching are great ways to relax your body and mind before bedtime. These practices can help you release physical tension and calm your mind. You can try simple yoga poses or stretches, such as the child's pose or the butterfly pose.

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# Yoga Nidra



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## *Breathing Exercises*

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### 4-7-8 method

- There are several different breathing techniques you can try, but one of the most popular is the 4-7-8 method. To do this exercise, first find a comfortable position in bed. Then, breathe in deeply through your nose for four seconds. Hold your breath for seven seconds, and then exhale slowly through your mouth for eight seconds. Repeat this cycle four times, or as many times as you need to feel relaxed and calm. This exercise is particularly effective for those who struggle with anxiety or racing thoughts at bedtime.

### Box breath

- Another breathing exercise to try is called the "box breath." To do this exercise, start by inhaling through your nose for four seconds. Hold your breath for four seconds, and then exhale through your nose for four seconds. Hold your breath for another four seconds, and then repeat the cycle.
- This exercise helps to regulate your breathing and slow down your heart rate. It's also a great way to focus your mind and calm your thoughts.

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## *Breathing Exercises*

### Calming breath

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## The Role of Diet and Exercise

### *Exercise and Sleep*

- Exercise is one of the key factors that can improve the quality of your sleep. Studies have shown that people who exercise regularly tend to sleep better and feel more rested than those who do not. This is because exercise helps to regulate your body's natural sleep-wake cycle, also known as your circadian rhythm.

### *Avoiding Caffeine and Alcohol*

- If you're someone who loves to have a cup of coffee before bed or a glass of wine to wind down, you might want to reconsider those habits if you're having trouble sleeping. Caffeine and alcohol can both disrupt your sleep patterns, making it harder for you to get the rest you need.

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## Technology

- In today's fast-paced world, technology is everywhere. It's in our hands, our homes, and even in our bedrooms. While technology has made our lives easier in many ways, it can also have a negative impact on our sleep.
- The blue light emitted from electronic devices such as smartphones, tablets, and laptops can disrupt our body's natural sleep-wake cycle. This is because it suppresses the production of melatonin, a hormone that regulates sleep. Exposure to blue light before bedtime can make it harder to fall asleep and can lead to a less restful night's sleep.

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## Traveling and Sleeping

- For many of us, traveling can be an exciting adventure, but it can also wreak havoc on our sleep patterns.
- Whether you're traveling for work or pleasure, it's important to make sure you're getting enough rest to enjoy your trip fully.
- Plan ahead: Before you leave, research your destination and make sure you have everything you need to be comfortable. This might mean packing a travel pillow or ensuring that your hotel room is quiet and dark.
- Stick to your routine: If possible, try to maintain your usual bedtime routine while traveling. This might mean bringing along your favorite book or taking a warm bath before bed.

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## Neurotransmitters involved in Sleep and Mood Regulation

Serotonin regulates mood and GUT function, which may be upregulated with 5-HTP, Saffron, Withania, Rhodiola, Hypericum, Lavender, Turmeric, Tryptophan, Ornithine, Glycine, Serine, Magnesium, B3 & B6 + EPA DHA

AcetylCholine works on the parasympathetic nervous system, attention span and REM sleep. Can be combined with Acetyl carnitine, Choline, Phosphatidylcholine, B Vitamins, EPA DHA, Alpha Lipoic Acid, Lemon Balm, Withania, Saffron.

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## Neurotransmitters cont....

- Adenosine regulates sleep initiation, a main sleep molecule of the brain, neuromodulator, neuroprotective. Combine with Magnesium, Glycine, Lavender, Kava, Zizyphus, Passiflora.

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## Neurotransmitters cont...

GABA has a role in sleep maintenance and is a main inhibitory neurotransmitter, particularly with anxiety. Works well with Kava, Zizyphus, Passiflora, Lemon Balm, Glutamine, Taurine, Zinc, P5P, Saffron, Lavender & Turmeric. Frequent panic attacks may be a sign of low GABA.

Melatonin regulates circadian rhythms, sleep promotion and regulates GABA receptors. Works well with L-Tryptophan, Ornithine, Serine, Glycine, Magnesium, P5P Vitamin B3, 5-HTP, SAME, Saffron, Lavender, Withania, St Johns Wort.

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## Neurotransmitters cont...

### Tryptophan

- L-tryptophan (Trp) has been documented to aid sleep, Trp supplementation, especially at  $\geq 1$  g can help improve sleep quality (Sutanto 2022). Natural sources of tryptophan are milk, oatmeal, turkey, tuna, cheese, nuts, seeds, banana & chocolate.

### L-Theanine

- L-Theanine ( $\gamma$ -glutamylethylamide), is an amino acid naturally found abundant in tea leaves, has anxiolytic effects via the induction of  $\alpha$  brain waves without additive and other side effects associated with conventional sleep inducers.

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## *Mighty Magnesium – the right sort!*

Magnesium is valuable for countless actions in the body, including supporting healthy nervous system function so you are less affected by stress; or relaxing sore, tense muscles that may be disturbing your sleep.

Magnesium levels may be low in those suffering from insomnia, so addressing this insufficiency can help improve sleep. Magnesium benefits

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## *Magnesium and its effect on hormones*

If your estrogen levels are too high or too low, then magnesium can help bring them back to stable levels, which will positively impact testosterone and progesterone.

Taking magnesium may improve quality of sleep, by helping your mind and body relax. This relaxation helps you fall asleep faster and may improve your sleep quality (Wienecke, 2016)

In a study in 46 older adults, those taking a magnesium supplement daily fell asleep faster. They also noticed improved sleep quality and decreased insomnia symptoms. (Abbasi, 2012)

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## *Magnesium and its effect on hormones*

- What's more, animal studies have found that magnesium can regulate melatonin production, which is a hormone that guides your body's sleep-wake cycle. (Meng 2017)
- Magnesium has also been shown to bind to gamma-aminobutyric (GABA) receptors. The hormone GABA helps calm down nerve activity, which may otherwise affect sleep (Poleeszak, 2008)
- Best form for sleep: Magnesium Glycinate has been found to reduce symptoms of insomnia and anxiety, which are often major contributors to sleep issues. It works by promoting relaxation and calmness in the body, which can help individuals fall asleep more easily and stay asleep throughout the night.

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**Phytomedicine  
– Plant  
Therapy**

*Passion flower*

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**Phytomedicine  
– Plant  
Therapy**

*Lavender*

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## Phytomedicine – Plant Therapy

### *Saffron*

- A saffron extract has been found to be effective in the context of depression and anxiety. Six weeks of saffron supplementation led to an increased time in bed, an improved ease of getting to sleep evaluated by the LSEQ questionnaire and to an improved sleep quality, sleep latency, sleep duration, and global scores evaluated by the PSQI questionnaire, whereas those parameters were not modified by the placebo. In conclusion, those results suggest that a saffron extract could be a natural and safe nutritional strategy to improve sleep duration and quality. (Pachikian, 2021)

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## Phytomedicine – Plant Therapy

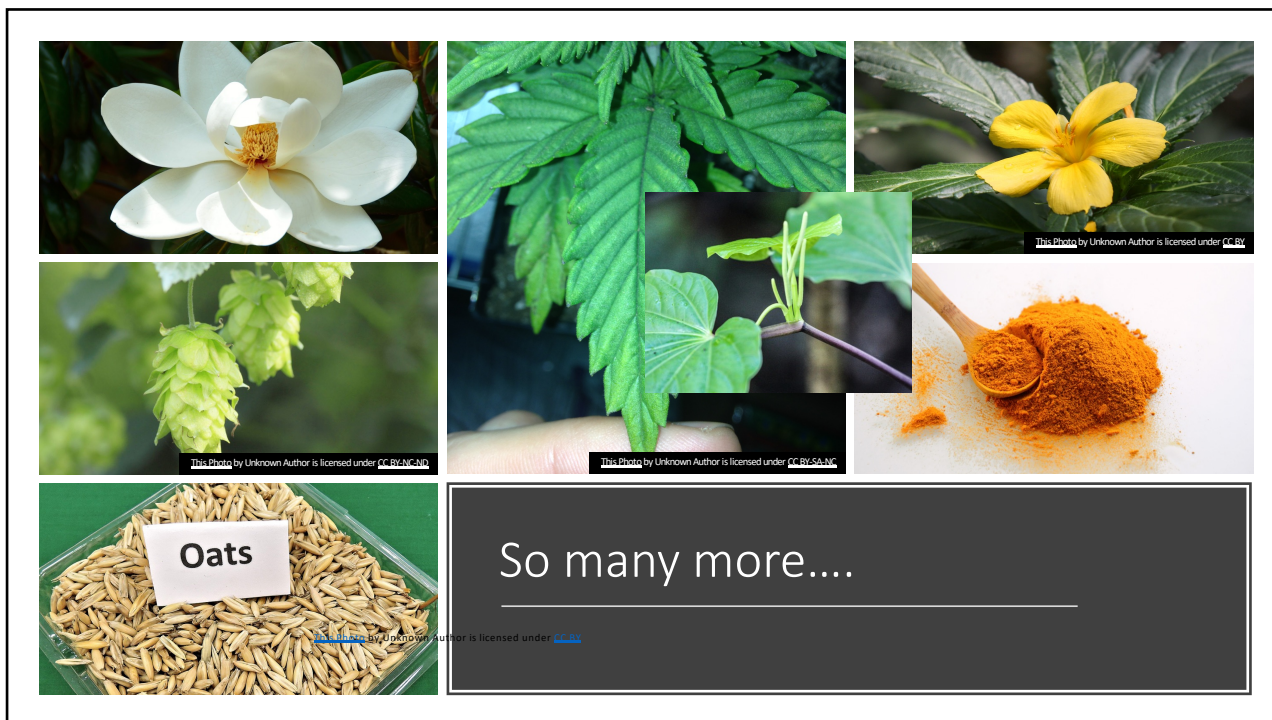
### *Chamomile*

- Traditionally, chamomile preparations such as tea and essential oil aromatherapy have been used to treat insomnia and to induce sedation (calming effects).

### *Herbitonin – alfalfa/chlorella*

- Herbatonin is the world's first plant melatonin (phyto-melatonin) made from unique varieties of rice, alfalfa and chlorella all in a vegan capsule. All other melatonin on the market is from synthetic or animal sources.

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## Foods that Promote Sleep

### Sour (Tart) Cherries

- Cherries are an excellent source of melatonin, a hormone that regulates sleep and wake cycles. They also contain antioxidants that help reduce inflammation and improve overall health. You can eat cherries fresh, dried, or in juice form to help improve your sleep.

### Almonds

- Almonds are a great source of magnesium, a mineral that helps to relax muscles and promote sleep. They also contain protein and healthy fats that help keep you feeling full and satisfied throughout the night. You can eat almonds as a snack or add them to your favorite recipes for a healthy boost of nutrients.

### Banana

- Bananas are an excellent source of potassium, a mineral that helps to relax muscles and promote sleep. They also contain magnesium and vitamin B6, which are both important for healthy sleep. You can eat bananas as a snack or add them to smoothies and other recipes to help improve your sleep.

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# Foods that Promote Sleep

## Oatmeal

- Oatmeal is a great source of complex carbohydrates, which can help to regulate blood sugar levels and promote sleep. It also contains melatonin, which can help improve your sleep quality. You can enjoy oatmeal as a warm breakfast or snack to help you get the rest you need.

## Milk

- Ok if you aren't lactose intolerant and you grew up with a warm glass of milk and cinnamon – bingo it's a great source of tryptophan which helps with sleep maintenance.
- Avoid alcohol, carbs, spicy foods before bed

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# Foods for Sleep

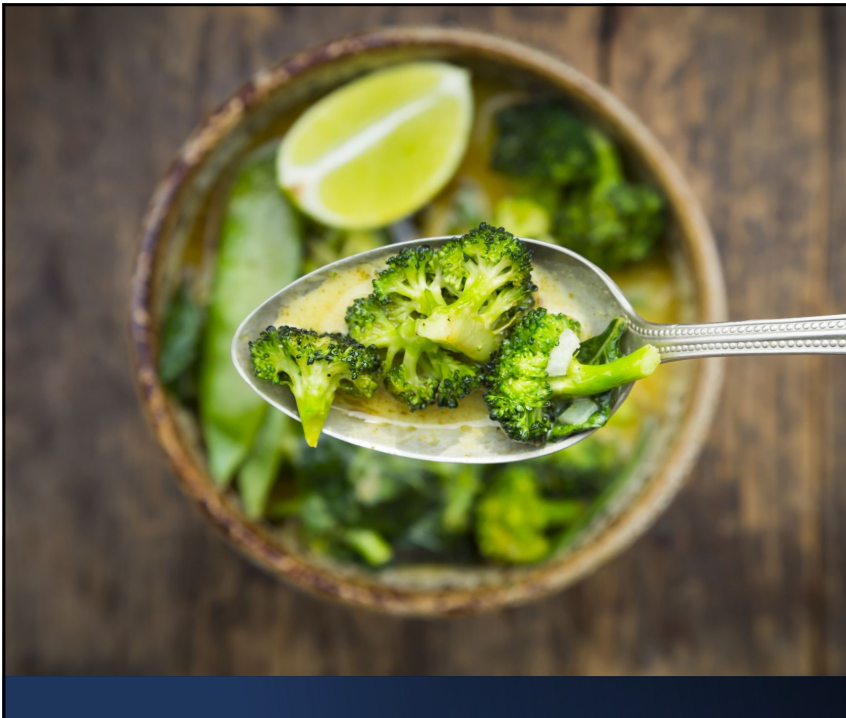
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## Sources of Tryptophan

- Poultry (turkey, chicken)
- Seafood (shrimp, salmon, halibut, tuna, sardines, cod)
- Nuts and seeds (flax, sesame, pumpkin, sunflower, cashews, peanuts, almonds, walnuts)
- Legumes (kidney beans, lima beans, black beans split peas, chickpeas)
- Fruits (apples, bananas, peaches, avocado)
- Vegetables (spinach, broccoli, turnip greens, asparagus, onions, seaweed)
- Grains (wheat, rice, barley, corn, oats)



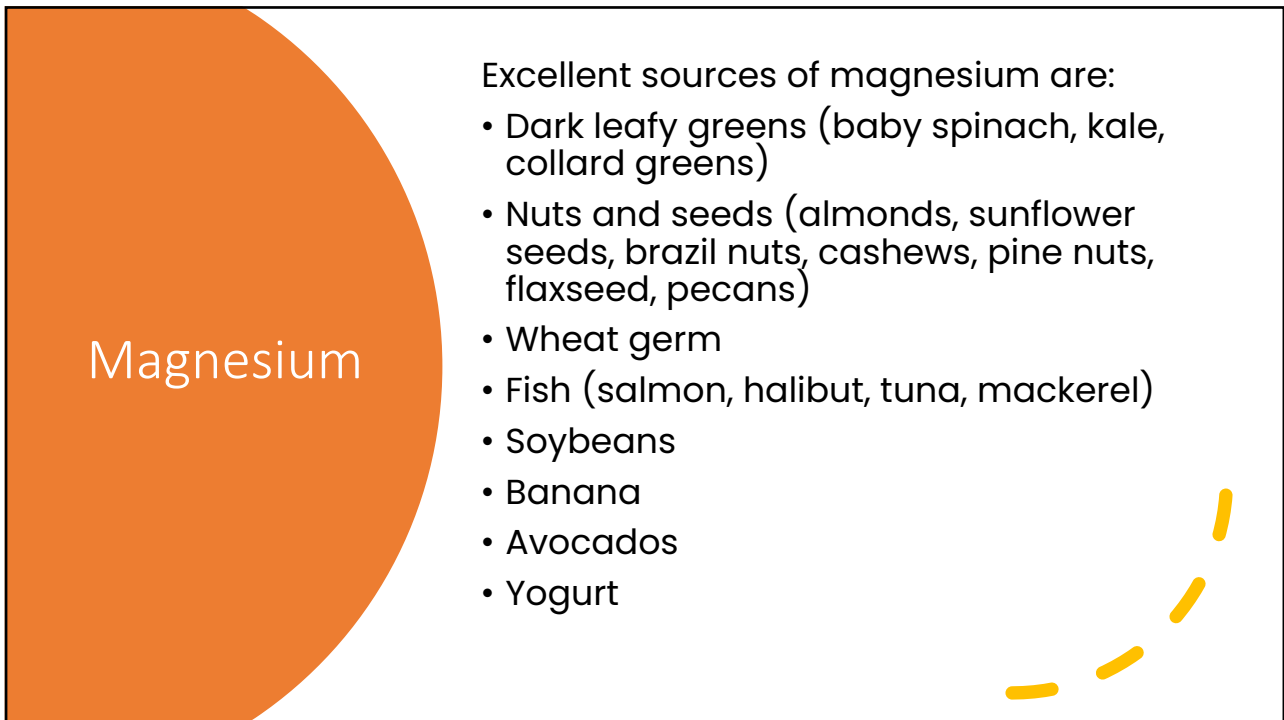
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## Calcium

- Dark leafy greens
- Milk
- Cheeses
- Yogurt
- Sardines
- Fortified cereals
- Soybeans
- Green snap peas
- Okra
- Broccoli

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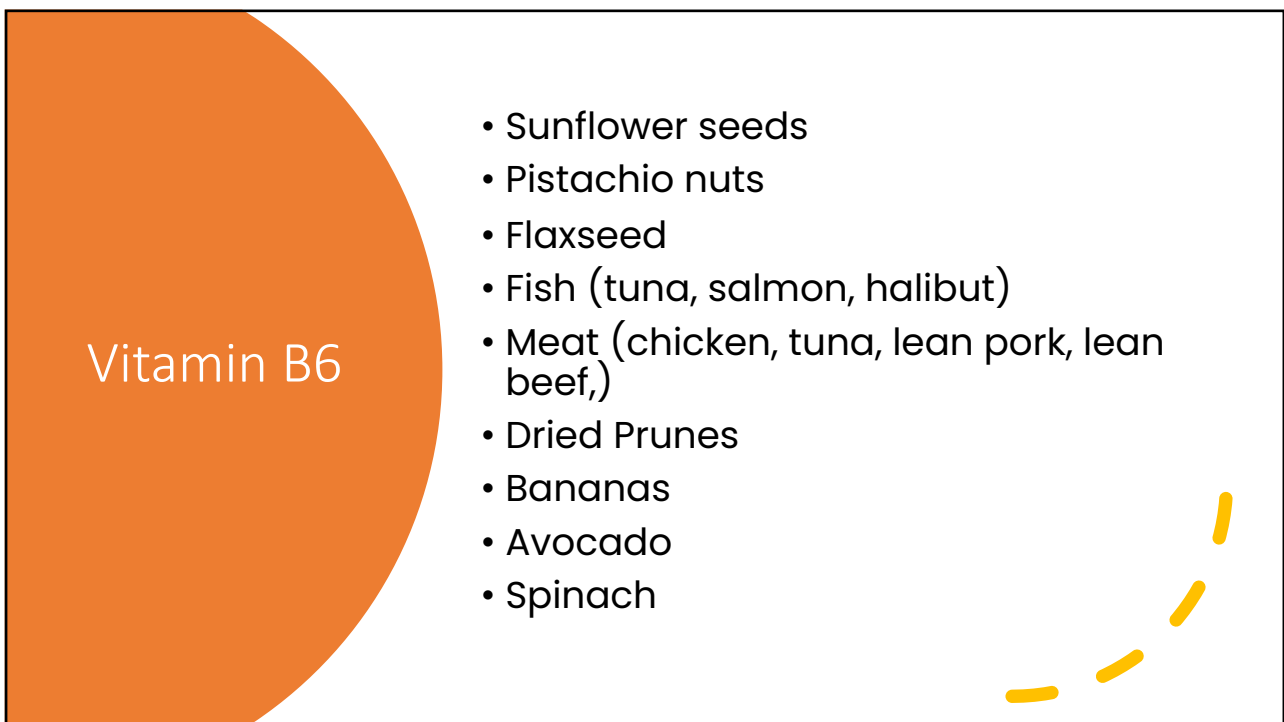
The slide features a large orange semi-circle on the left side with the word "Magnesium" written in white. To the right of the semi-circle is a list of food sources. In the bottom right corner, there are several yellow curved lines.

Magnesium

Excellent sources of magnesium are:

- Dark leafy greens (baby spinach, kale, collard greens)
- Nuts and seeds (almonds, sunflower seeds, brazil nuts, cashews, pine nuts, flaxseed, pecans)
- Wheat germ
- Fish (salmon, halibut, tuna, mackerel)
- Soybeans
- Banana
- Avocados
- Yogurt

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The slide features a large orange semi-circle on the left side with the words "Vitamin B6" written in white. To the right of the semi-circle is a list of food sources. In the bottom right corner, there are several yellow curved lines.

Vitamin B6

- Sunflower seeds
- Pistachio nuts
- Flaxseed
- Fish (tuna, salmon, halibut)
- Meat (chicken, tuna, lean pork, lean beef,)
- Dried Prunes
- Bananas
- Avocado
- Spinach

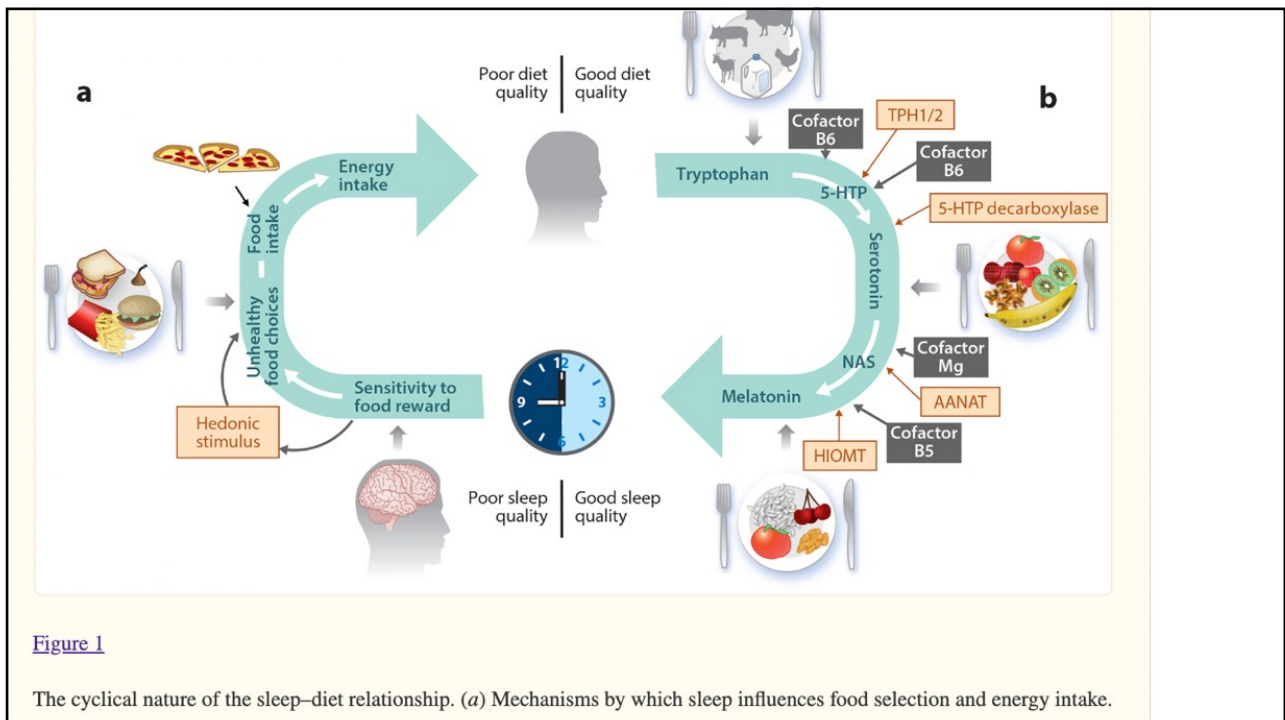
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## Naturally Occurring Melatonin

- Fruits and vegetables (tart cherries, corn, asparagus, tomatoes, pomegranate, olives, grapes, broccoli, cucumber)
- Grains (rice, barley, rolled oats)
- Nuts and Seeds (walnuts, peanuts, sunflower seeds, mustard seeds, flaxseed)



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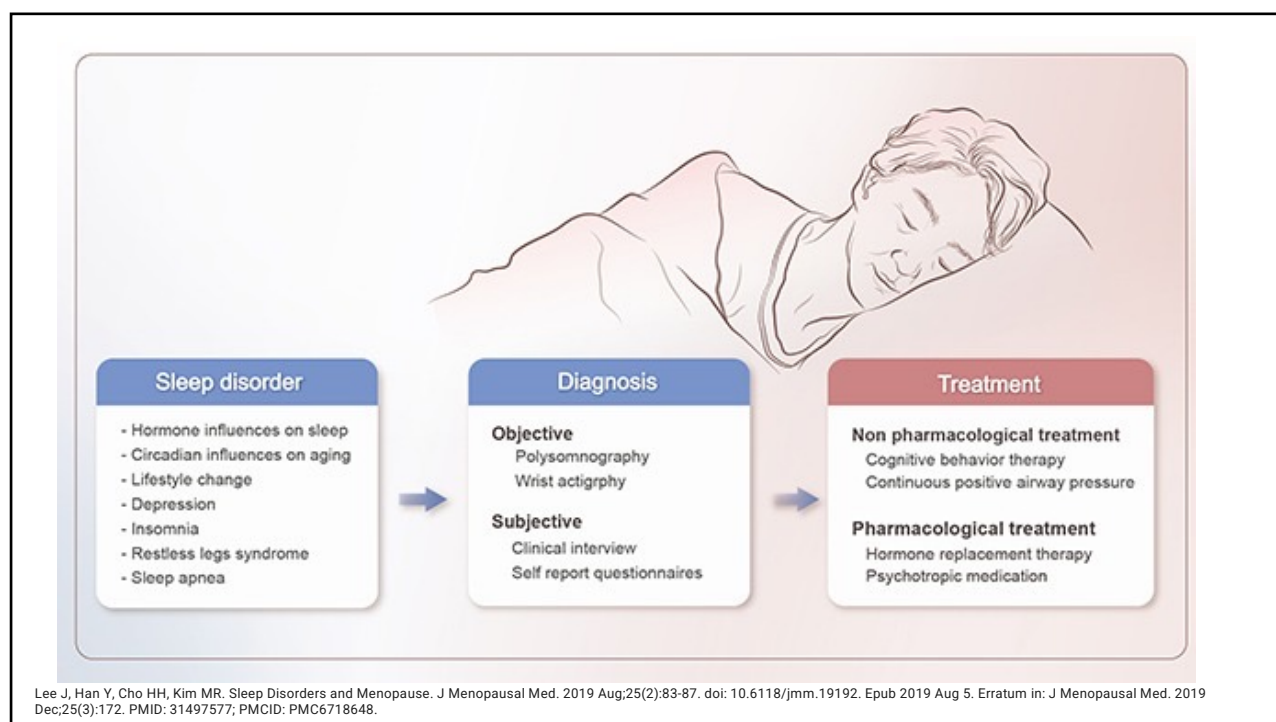
## HRT or not to HRT

HRT is a treatment that can reduce symptoms of menopause by changing hormone levels in the body. Hormones are chemical messengers. They can affect things like growth, fertility, and mood. Menopause is a natural part of ageing where periods stop.

The main types of are:

- Combined HRT, which has both oestrogen and progesterone
- Oestrogen-only HRT
- Bio-Identical HRT

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## Summary



Relieve



Restore



Rebuild

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## Relieve

This is also an important stage to focus on addressing common drivers of sleep disruption such as pain, anxiety and low mood. The frequency, intensity and duration of these symptoms can affect sleep initiation and/or maintenance.

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## Restore

Using the appropriate medication or supplementation

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## Rebuild

The rebuilding phase focusing on diet and lifestyle factors helps to rebuild a healthy stress response and regulate healthy sleeping patterns

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# Sleep Hygiene



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## Tips for creating healthy sleep habits and improving sleep

Set	Establish	Don't lie in	Create	Exercise	Avoid	Try
Set a bedtime that is early enough for you to get at least 7 hours of sleep. However, don't go to bed unless you are sleepy.	Establish a relaxing bedtime routine that helps to transition from your day.	If you're having trouble falling asleep, don't lie in bed awake. If you can't get to sleep, get out of bed, and do something relaxing until you feel tired.	Create a healthy sleep environment—avoid bright lights and loud sounds, keep the room at a comfortable cool temperature, and try to limit electronics in your bedroom.	Exercise regularly (but not within the few hours before going to bed).	Avoid caffeine and nicotine late in the day and limit alcoholic drinks before bed.	Try to keep a consistent sleep schedule, waking up around the same time even on weekends.

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